State of Florida

Public Service Commission

CAPITAL CIRCLE OFFICE CENTER ● 2540 SHUMARD OAK BOULEVARD
TALLAHASSEE, FLORIDA 32399-0850

-M-E-M-O-R-A-N-D-U-M-

DATE: August 2, 2011

TO: Ann Cole, Commission Clerk, Office of Commission Clerk

FROM: Suzanne M. Ollila, Economic Analyst, Division of Economic Regulation S.M.O.

RE: Docket No. 110131-EI - Petition for Approval of Tampa Electric Company's 2011 Depreciation Study and Annual Dismantlement Accrual Amounts

Tampa Electric copied the Office of the Commission Clerk on a letter to David Dowds (document number 05375-11); however, Tampa Electric did not provide the Office of the Commission Clerk with the enclosure. Please place the attached enclosure in the above docket file. I have included a copy of the letter (document number 05375-11) for your reference.

If you have any questions, please do not hesitate to let me know. Thank you.

AUSLEY & MCMULLEN

ATTORNEYS AND COUNSELORS AT LAW

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August 1, 2011

HAND DELIVERED

Mr. David Dowds
Division of Economic Regulation
Florida Public Service Commission
Room 105D – Gerald L. Gunter Bldg.
2540 Shumard Oak Boulevard
Tallahassee, FL 32399-0850

Re: Petition for Approval of Tampa Electric Company's 2011 Depreciation Study and Annual Dismantlement Accrual Amounts; FPSC Docket No. 110131-EI

Dear Mr. Dowds:

Enclosed are Tampa Electric Company's responses to Staff's First Data Request Nos. 1-110 dated June 9, 2011.

Sincerely,

James D. Beasley

JDB/pp
Enclosure

cc: Office of Commission Clerk (w/o enc.)
Office of General Counsel (Klancke, w/o enc.)
Patty Christensen (w/enc.)

ECONOMIC REGULATION
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PUBLIC SERVICE

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FPSC-COMMISSION CLERK

Production

1. Please explain TECO's methodology (including the use of stratified investment) used to determine the curve shape, average service life, future net salvage, and average remaining life for production plant. Please provide an example with sample calculations.

A. Tampa Electric's investment is stratified in the Continuing Property Record ("CPR") into homogeneous life categories for each generating unit and account number in compliance with Rule 25-6.04361, Subcategorization of Electric Plant for Depreciation Studies and Rate Design, of the Florida Administrative Code. Stratification allows recovery provisions to be more closely matched to the life characteristics of specific categories of investment made to provide for the generation of electric power.

Tampa Electric developed the life category stratification as the result of collaboration between Tampa Electric's accounting and engineering departments and first used it in its 1991 Depreciation Study. These life categories have been updated and used in each subsequent production depreciation study.

Tampa Electric developed truncated survivor curves based on the plant account, life category and unit capital recovery date also as a result of collaboration between Tampa Electric's accounting and engineering departments. These curves were first used in Tampa Electric's 1991 Depreciation Study and have been updated for changes in generating units and vintage years in each subsequent study. Due to the complexity of the depreciation model, Tampa Electric believes a walk-through of a sample life category would be more beneficial and productive than an attempt to describe it here in a narrative.

2. Please explain how the stratified life categories for each production plant site were determined. Please provide an example, such as for the SCR Systems.

A. Tampa Electric developed the life category stratification as the result of collaboration between Tampa Electric's accounting and engineering departments and first used it in its 1991 Depreciation Study. These life categories have been updated and used in each subsequent production depreciation study. Due to the complexity of the depreciation model, Tampa Electric believes a walk-through of a sample life category would be more beneficial and productive than an attempt to describe it here in a narrative. Attached is an example.

Function	Production
Station	Big Bend
Unit	SCR4

2011 Cost Row Labels	Column Labels LONG	MEDIUM	SHORT	Grand Total
311.54 Str & Improvements-SCR4	**16,274,180**	**583,070**		**16,857,250**
A20-Plant Water|S				
Piping 6" & larger		190,956		190,956
A28-Service Water|S				
Piping 6" & larger		3,270		3,270
A38-Waste Water Treatment|S				
Piping 6" & larger		188,009		188,009
Pump - Complete		41,553		41,553
Sump Pump		33,904		33,904
C50-Sel Cat Reduction|S				
Foundation	2,586,179			2,586,179
Platform & Ladder	255,772			255,772
Structural Support Steel	13,432,229			13,432,229
C51-Anhydrous AMM System|S				
Platform & Ladder		125,378		125,378
312.54 Boiler Plant Eq-SCR4	**865,706**	**24,295,900**	**7,834,524**	**32,996,130**
B02-Air Prheater|S				
Basket			2,923,662	2,923,662
B10-Boiler Safety Valve Discharge|S				
Control Valve		170,280		170,280
B29-Feedwater|S				
Piping 6" & larger		76,694		76,694
B44-Main Steam|S				
Control Valve		73,620		73,620
Pump - Complete		3,267,965		3,267,965
Thermoprobe / Thermocouple		3,346		3,346
C50-Sel Cat Reduction|S				
Catalyst			4,910,862	4,910,862
Control System		858,233		858,233
Control Valve		7,340		7,340
Ductwork		10,611,711		10,611,711
Piping 6" & larger		42,809		42,809
Probe		468,318		468,318
Sampler		104,699		104,699
Screen		1,042,678		1,042,678
C51-Anhydrous AMM System|S				
Control System	865,706			865,706
Control Valve		911,661		911,661
Expansion Joint		65,593		65,593
Piping 6" & larger		918,693		918,693
Skid		5,598,587		5,598,587
Tank		73,674		73,674
315.54 Accessory Electric Eq-SCR4		**7,377,151**	**3,264,876**	**10,642,027**
C50-Sel Cat Reduction|S				
Monitor			5,961	5,961
Thermoprobe / Thermocouple			42,197	42,197
C51-Anhydrous AMM System|S				
Control Valve		6,020		6,020
Vaporizer		1,658,226		1,658,226
E02-Cable / Wire|S				
Wire & Cable		2,731,585		2,731,585
E06-Control / Monitoring Devices|S				
Monitor			2,266,640	2,266,640
E10-Protective Equipment|S				
Circuit Breaker		210,745		210,745
E14-Switching Equipment|S				
Motor - Complete		2,770,574		2,770,574
E15-Transformers|S				
Transformer			950,078	950,078
316.54 Misc Power Plant Eq-SCR4		**687,934**		**687,934**
E08-Instrument Air|S				
Control System		26,450		26,450
Dryer		102,109		102,109
Piping 6" & larger		74,376		74,376
Receiver		69,242		69,242
Tubing - Instrument / Station Air		3,901		3,901
Wire & Cable		3,107		3,107
E12-Station Air|S				
Piping 6" & larger		408,750		408,750
Grand Total	**17,139,887**	**32,944,054**	**11,099,400**	**61,183,341**

3. How is the average age of each life category determined?

A. Each vintage year original cost survivors is multiplied times the vintage year age to equal the average age weighted dollars. The sum of all vintage years average age weighted dollars for the life category is divided by the sum of the vintage year original cost survivors to determine the average age for the life category.

4. If an interim retirement rate is used, how was it derived? Please provide both a quantitative explanation as well as a narrative explanation.

A. An interim retirement rate was not used.

5. If a future estimated retirement rate is used, how was it derived? Please provide both a quantitative explanation as well as a narrative explanation.

A. Tampa .Electric developed truncated survivor curves based on the plant account, life category and unit capital recovery date as a result of collaboration between Tampa Electric's accounting and engineering departments. These curves were first used in Tampa Electric's 1991 Depreciation Study and have been updated for changes in generating units and vintage years in each subsequent study.

For example, in the 1991 Depreciation Study schedules entitled "TAMPA ELECTRIC COMPANY – Determination of Weighted Interim Retirement Rate for Life Span Categories for BIG BEND COMMON – 31140 65 YEAR LIFE" under column Percent Surviving Life Span is the number 0.9563. This means that the expected survivors for the 65-year lifespan of the facility is 95.6 percent of the investment. The expected interim retirements over the lifespan of the facility is therefore 4.4 percent of the investment. The expectation is that no retirements will be made in the first five years, so the lifespan of 65 years less the 5 years of zero retirements results in the 4.4 percent interim retirements occurring over 60 years which results in a 0.1 percent future estimated retirement rate.

6. Are the stratified life categories used for each production plant site the same as those used in the 2007 depreciation study? If the categories are different from the 2007 study, please identify the specific reasons justifying each life category change.

A. No changes were made in how life categorization was assigned at Bayside, Polk, Phillips and the City of Tampa stations between studies.

There were some life category movements made within the Big Bend station. The net changes between categories were approximately;

Long decreased	($76 million)
Medium increased	$56 million
Short increased	$20 million

Big Bend station management reviewed the preliminary life categorizations and provided updates based their engineering expertise.

7. Please provide an example of assets contained in each stratified life category.

A. Long – buildings and enclosures, superstructures, concrete foundations, support steel, roads, reservoirs, steel piping, conduit, waste ponds, etc.

Medium – boiler tubes, ductwork, waterwall tubes, rotors, stators, pump systems, conveyors, compressors, control systems, transformers, etc.

Short – computer equipment, monitors, exhaust systems, expansion joints, SCR and FGD catalyst, steam turbine parts, etc.

CSA – combustion turbine parts; nozzle tips, baskets, transition pieces, etc.

8. For production plant, is TECO proposing any curve shapes (e.g., S3-25) different from what are currently prescribed? If so, please explain, by account, the quantitative and qualitative reasons for the change.

A. The production curve shapes associated with the long, medium and short life categories have not changed.

Yes, the production curves that changed since the last study relate to:

Square - 14 at Bayside Power Station Units 1-2 (Intermediate)
Square - 11 at Polk Power Station Unit 1 (Base Load)
Square - 25 at Polk Units 2-5 (Peakers)

These curves types are associated specifically with the long-term GE Contractual Service Agreements (a standalone life category) for parts replacement on the natural gas-fired combustion turbines. Life analysis was performed to determine the average service life of the parts replaced. The analysis yielded results for the average service life based on unit dispatch and the parts survivability for reuse. The Square curve type was chosen based on a day 1 installed wear and tear concept. No other curve type (L,S,R) could predict the timing of the GE service intervals. If the unit is dispatched more or less than planned, this would accelerate or delay the next GE service interval and consume more or less of the remaining life left on the parts.

9. Please refer to Bates-stamped page 7, "Capital Recovery Dates." What changes, if any, have been made to the Capital Recovery year in the 2011 depreciation study? If changes have been made since the last depreciation study, please explain the specific reasons for each capital recovery date revision.

A. No changes were made since the last study related to capital recovery dates. Some units were retired or sold and new units were place in-service, since the last study.

10. Please explain how production plant investment and reserve balances were estimated and developed for the budget year ending December 31, 2011.

A. Capital expenditures are budgeted monthly for existing open and in-service CWIP and RWIP projects. New 2011 projects would be created and are budgeted with capital expenditures.

All projects have estimated in-service dates or actual in-service dates. Based on these dates, total project costs can then be unitized to the 106 Completed Construction Not Classified ("CCNC") plant accounts for depreciation purposes or the 108 Reserve plant accounts for net salvage on a monthly basis.

Also, retirements are projected monthly for depreciation purposes. Transmission, Distribution and General Depreciable plant accounts are retired using a 4-year average of actual retirements. The General Amortizable plant accounts are retired based on the end of the amortization period. The production plant accounts are retired based on a percentage of the additions that were modeled to go in-service.

Monthly depreciation accrual calculations simulate the actual depreciation methods and rates configured in the fixed assets system for each plant account.

This mechanics of the budget process historically have proven to be accurate and within a tolerable range of variance to actuals. Variances between budgeted and actual depreciation accruals result from timing differences between the estimated and actual in-service date of the assets and when the retirements were posted.

11. On Bates-stamped pages 36–42, "Comparison of Reserve-Actual vs. Theoretical," please explain why the "Post Transfer Accumulated Reserve" is shown and compared to the calculated theoretical reserve rather than the estimated actual reserve as of 12/31/11 as shown on Bates-stamped pages 43–49.

A. Corrective reserve transfers address imbalances that affect Tampa Electric's investments and reserves between accounts of a given unit or function, or between accounts and units at the same site. Such transfers bring each affected account's reserve in line with its theoretical correct position. Prior to submission Tampa Electric analyzes the Before Transfers Reserve comparison to theoretical. Prior Commission Staff requested that Tampa Electric propose its own recommended reserve transfers to correct for imbalances, negative or inappropriate rates and creation of new plant accounts prior to submission. If no production reserve transfers were made, the proposed annual accrual would decrease ($281,822) and cause significant imbalances to exist.

12. Please explain how TECO calculated the amount of reserve associated with its proposed transfer of the Big Bend SCR units.

A. The SCR asset and reserve balances are independently tracked and calculated through the Environmental Cost Recovery Clause (ECRC).

Tampa Electric is required to submit annually an ECRC projection for the following year. The pages used to support this reserve calculation were a draft version of the attached filing.

This is an excerpt of the 2011 ECRC Calculation of the Projected Period Amount for January 1, 2011 to December 31, 2011, filed on August 29, 2010 under Docket No. 100007-EI.

No 1. SCR System - Form 42 4P – Page 20
No 2. SCR System - Form 42 4P – Page 21
No 3. SCR System - Form 42 4P – Page 22
No 4. SCR System - Form 42 4P – Page 23

Tampa Electric Company
Environmental Cost Recovery Clause (ECRC)
Calculation of the Projected Period Amount
January 2011 to December 2011

Return on Capital Investments, Depreciation and Taxes
For Project: Big Bend Unit 1 SCR
(in Dollars)

Line	Description	Beginning of Period Amount	Projected January	Projected February	Projected March	Projected April	Projected May	Projected June	Projected July	Projected August	Projected September	Projected October	Projected November	Projected December	End of Period Total
1.	Investments														
	a. Expenditures/Additions		$5,000	$15,000	$22,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$42,000
	b. Clearings to Plant		0	0	42,000	0	0	0	0	0	0	0	0	0	42,000
	c. Retirements		0	0	0	0	0	0	0	0	0	0	0	0	
	d. Other		0	0	0	0	0	0	0	0	0	0	0	0	
2.	Plant-in-Service/Depreciation Base (A)	$84,809,021	$84,809,021	$84,809,021	$84,851,021	$84,851,021	$84,851,021	$84,851,021	$84,851,021	$84,851,021	$84,851,021	$84,851,021	$84,851,021	84,851,021	
3.	Less: Accumulated Depreciation	(1,477,570)	(1,664,189)	(1,850,808)	(2,037,427)	(2,224,161)	(2,410,895)	(2,597,629)	(2,784,363)	(2,971,097)	(3,157,831)	(3,344,565)	(3,531,299)	(3,718,033)	
4.	CWIP - Non-Interest Bearing	0	5,000	20,000	0	0	0	0	0	0	0	0	0	0	
5.	Net Investment (Lines 2 + 3 + 4)	$83,331,451	83,149,832	82,978,213	82,813,594	82,626,860	82,440,126	82,253,392	82,066,658	81,879,924	81,693,190	81,506,456	81,319,722	81,132,988	
6.	Average Net Investment		83,240,641	83,064,022	82,895,903	82,720,227	82,533,493	82,346,759	82,160,025	81,973,291	81,786,557	81,599,823	81,413,089	81,226,355	
7.	Return on Average Net Investment														
	a. Equity Component Grossed Up For Taxes (B)		604,799	603,515	602,294	601,018	599,661	598,304	596,947	595,591	594,234	592,877	591,520	590,164	$7,170,924
	b. Debt Component (C)		203,412	202,981	202,570	202,141	201,684	201,228	200,772	200,315	199,859	199,403	198,946	198,490	2,411,801
8.	Investment Expenses														
	a. Depreciation (D)		186,619	186,619	186,619	186,734	186,734	186,734	186,734	186,734	186,734	186,734	186,734	186,734	2,240,463
	b. Amortization		0	0	0	0	0	0	0	0	0	0	0	0	0
	c. Dismantlement		0	0	0	0	0	0	0	0	0	0	0	0	0
	d. Property Taxes		0	0	0	0	0	0	0	0	0	0	0	0	0
	e. Other		0	0	0	0	0	0	0	0	0	0	0	0	0
9.	Total System Recoverable Expenses (Lines 7 + 8)		994,830	993,115	991,483	989,893	988,079	986,266	984,453	982,640	980,827	979,014	977,200	975,388	11,823,188
	a. Recoverable Costs Allocated to Energy		994,830	993,115	991,483	989,893	988,079	986,266	984,453	982,640	980,827	979,014	977,200	975,388	11,823,188
	b. Recoverable Costs Allocated to Demand		0	0	0	0	0	0	0	0	0	0	0	0	0
10.	Energy Jurisdictional Factor		0.9933091	0.9780148	0.9917797	0.9906489	0.9908908	0.9927556	0.9928640	0.9922011	0.9938509	0.9951954	0.9910567	0.9923774	
11.	Demand Jurisdictional Factor		0.9674819	0.9674819	0.9674819	0.9674819	0.9674819	0.9674819	0.9674819	0.9674819	0.9674819	0.9674819	0.9674819	0.9674819	
12.	Retail Energy-Related Recoverable Costs (E)		988,174	971,281	983,333	980,636	979,078	979,121	977,428	974,976	974,796	974,310	968,461	967,953	11,719,547
13.	Retail Demand-Related Recoverable Costs (F)		0	0	0	0	0	0	0	0	0	0	0	0	0
14.	Total Jurisdictional Recoverable Costs (Lines 12 + 13)		$988,174	$971,281	$983,333	$980,636	$979,078	$979,121	$977,428	$974,976	$974,796	$974,310	$968,461	$967,953	$11,719,547

Notes:
(A) Applicable depreciable base for Big Bend; account 311.41 ($22,573,533), 312.41 ($47,375,714), 315.41 ($14,043,372), and 316.41 ($858,402).
(B) Line 6 x 8.7188% x 1/12. Based on ROE of 11.25% and weighted income tax rate of 38.575% (expansion factor of 1.63490).
(C) Line 6 x 2.9324% x 1/12
(D) Applicable depreciation rate is 1.4%, 3.3%, 2.5% and 1.2%
(E) Line 9a x Line 10
(F) Line 9b x Line 11

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TAMPA ELECTRIC COMPANY
DOCKET NO. 110131-EI
STAFF'S FIRST DATA REQUEST
FILED: AUGUST 1, 2011

DOCKET NO. 100007-EI
ECRC 2011 PROJECTION FILING
EXHIBIT NO. HTB-3, PAGE 1-26
DOCUMENT NO. 4

Tampa Electric Company
Environmental Cost Recovery Clause (ECRC)
Calculation of the Projected Period Amount
January 2011 to December 2011

Return on Capital Investments, Depreciation and Taxes
For Project: Big Bend Unit 2 SCR
(in Dollars)

Line	Description	Beginning of Period Amount	Projected January	Projected February	Projected March	Projected April	Projected May	Projected June	Projected July	Projected August	Projected September	Projected October	Projected November	Projected December	End of Period Total
1.	Investments														
	a. Expenditures/Additions		$5,000	$15,000	$22,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$42,000
	b. Clearings to Plant		0	0	42,000	0	0	0	0	0	0	0	0	0	42,000
	c. Retirements		0	0	0	0	0	0	0	0	0	0	0	0	
	d. Other		0	0	0	0	0	0	0	0	0	0	0	0	
2.	Plant-in-Service/Depreciation Base (A)	$91,494,865	$91,494,865	$91,494,865	$91,536,865	$91,536,865	$91,536,865	$91,536,865	$91,536,865	$91,536,865	$91,536,865	$91,536,865	$91,536,865	$91,536,865	
3.	Less: Accumulated Depreciation	(3,058,383)	(3,254,290)	(3,450,197)	(3,646,104)	(3,842,120)	(4,038,136)	(4,234,152)	(4,430,168)	(4,626,184)	(4,822,200)	(5,018,216)	(5,214,232)	(5,410,248)	
4.	CWIP - Non-Interest Bearing	0	5,000	20,000	0	0	0	0	0	0	0	0	0	0	
5.	Net Investment (Lines 2 + 3 + 4)	$88,436,482	88,245,575	88,064,668	87,890,761	87,694,745	87,498,729	87,302,713	87,106,697	86,910,681	86,714,665	86,518,649	86,322,633	86,126,617	
6.	Average Net Investment		88,341,028	88,155,121	87,977,714	87,792,753	87,596,737	87,400,721	87,204,705	87,008,689	86,812,673	86,616,657	86,420,641	86,224,625	
7.	Return on Average Net Investment														
	a. Equity Component Grossed Up For Taxes (B)		641,856	640,506	639,217	637,873	636,449	635,025	633,600	632,176	630,752	629,328	627,904	626,479	$7,611,165
	b. Debt Component (C)		215,876	215,422	214,988	214,536	214,057	213,578	213,099	212,620	212,141	211,662	211,183	210,704	2,559,866
8.	Investment Expenses														
	a. Depreciation (D)		195,907	195,907	195,907	196,016	196,016	196,016	196,016	196,016	196,016	196,016	196,016	196,016	2,351,865
	b. Amortization		0	0	0	0	0	0	0	0	0	0	0	0	0
	c. Dismantlement		0	0	0	0	0	0	0	0	0	0	0	0	0
	d. Property Taxes		0	0	0	0	0	0	0	0	0	0	0	0	0
	e. Other		0	0	0	0	0	0	0	0	0	0	0	0	0
9.	Total System Recoverable Expenses (Lines 7 + 8)		1,053,639	1,051,835	1,050,112	1,048,425	1,046,522	1,044,619	1,042,715	1,040,812	1,038,909	1,037,006	1,035,103	1,033,199	12,522,896
	a. Recoverable Costs Allocated to Energy		1,053,639	1,051,835	1,050,112	1,048,425	1,046,522	1,044,619	1,042,715	1,040,812	1,038,909	1,037,006	1,035,103	1,033,199	12,522,896
	b. Recoverable Costs Allocated to Demand		0	0	0	0	0	0	0	0	0	0	0	0	0
10.	Energy Jurisdictional Factor		0.9933091	0.9780148	0.9917797	0.9906489	0.9908908	0.9927556	0.9928640	0.9922011	0.9938509	0.9951954	0.9910567	0.9923774	
11.	Demand Jurisdictional Factor		0.9674819	0.9674819	0.9674819	0.9674819	0.9674819	0.9674819	0.9674819	0.9674819	0.9674819	0.9674819	0.9674819	0.9674819	
12.	Retail Energy-Related Recoverable Costs (E)		1,046,589	1,028,710	1,041,480	1,038,621	1,036,989	1,037,051	1,035,274	1,032,695	1,032,521	1,032,024	1,025,846	1,025,323	12,413,123
13.	Retail Demand-Related Recoverable Costs (F)		0	0	0	0	0	0	0	0	0	0	0	0	0
14.	Total Jurisdictional Recoverable Costs (Lines 12 + 13)		$1,046,589	$1,028,710	$1,041,480	$1,038,621	$1,036,989	$1,037,051	$1,035,274	$1,032,695	$1,032,521	$1,032,024	$1,025,846	$1,025,323	$12,413,123

Notes:
(A) Applicable depreciable base for Big Bend; account 311.42 ($25,276,351), 312.42 ($49,342,307), 315.42 ($15,957,028), and 316.42 ($961,179).
(B) Line 6 x 8.7188% x 1/12. Based on ROE of 11.25% and weighted income tax rate of 38.575% (expansion factor of 1.63490).
(C) Line 6 x 2.9324% x 1/12
(D) Applicable depreciation rates are 1.6%, 3.1%, 2.5% and 2.0%.
(E) Line 9a x Line 10
(F) Line 9b x Line 11

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TAMPA ELECTRIC COMPANY
DOCKET NO. 110131-EI
STAFF'S FIRST DATA REQUEST
FILED: AUGUST 1, 2011

DOCKET NO. 100007-EI
ECRC 2011 PROJECTION FILING
EXHIBIT NO. HTB-3, PAGE 1-26
DOCUMENT NO. 4

Tampa Electric Company
Environmental Cost Recovery Clause (ECRC)
Calculation of the Projected Period Amount
January 2011 to December 2011

Return on Capital Investments, Depreciation and Taxes
For Project: Big Bend Unit 3 SCR
(In Dollars)

Line	Description	Beginning of Period Amount	Projected January	Projected February	Projected March	Projected April	Projected May	Projected June	Projected July	Projected August	Projected September	Projected October	Projected November	Projected December	End of Period Total
1.	Investments														
	a. Expenditures/Additions		$0	$0	$400,000	$0	$0	$0	$0	$0	$0	$0	$1,600,000	$0	$2,000,000
	b. Clearings to Plant		0	0	0	0	0	0	0	0	0	0	2,000,000	0	2,000,000
	c. Retirements		0	0	0	0	0	0	0	0	0	0	0	0	
	d. Other		0	0	0	0	0	0	0	0	0	0	0	0	
2.	Plant-in-Service/Depreciation Base (A)	$78,714,883	$78,714,883	$78,714,883	$78,714,883	$78,714,883	$78,714,883	$78,714,883	$78,714,883	$78,714,883	$78,714,883	$78,714,883	$80,714,883	$80,714,883	
3.	Less: Accumulated Depreciation	(4,645,109)	(4,789,282)	(4,933,455)	(5,077,628)	(5,221,801)	(5,365,974)	(5,510,147)	(5,654,320)	(5,798,493)	(5,942,666)	(6,086,839)	(6,231,012)	(6,379,518)	
4.	CWIP - Non-Interest Bearing	0	0	0	400,000	400,000	400,000	400,000	400,000	400,000	400,000	400,000	0	0	
5.	Net Investment (Lines 2 + 3 + 4)	$74,069,774	73,925,601	73,781,428	74,037,255	73,893,082	73,748,909	73,604,736	73,460,563	73,316,390	73,172,217	73,028,044	74,483,871	74,335,365	
6.	Average Net Investment		73,997,688	73,853,515	73,909,342	73,965,169	73,820,996	73,676,823	73,532,650	73,388,477	73,244,304	73,100,131	73,755,958	74,409,618	
7.	Return on Average Net Investment														
	a. Equity Component Grossed Up For Taxes (B)		537,643	536,595	537,001	537,406	536,359	535,311	534,264	533,216	532,169	531,121	535,886	540,635	$6,427,606
	b. Debt Component (C)		180,826	180,473	180,610	180,746	180,394	180,042	179,689	179,337	178,985	178,632	180,235	181,832	2,161,801
8.	Investment Expenses														
	a. Depreciation (D)		144,173	144,173	144,173	144,173	144,173	144,173	144,173	144,173	144,173	144,173	144,173	148,506	1,734,409
	b. Amortization		0	0	0	0	0	0	0	0	0	0	0	0	0
	c. Dismantlement		0	0	0	0	0	0	0	0	0	0	0	0	0
	d. Property Taxes		0	0	0	0	0	0	0	0	0	0	0	0	0
	e. Other		0	0	0	0	0	0	0	0	0	0	0	0	0
9.	Total System Recoverable Expenses (Lines 7 + 8)		862,642	861,241	861,784	862,325	860,926	859,526	858,126	856,726	855,327	853,926	860,294	870,973	10,323,816
	a. Recoverable Costs Allocated to Energy		862,642	861,241	861,784	862,325	860,926	859,526	858,126	856,726	855,327	853,926	860,294	870,973	10,323,816
	b. Recoverable Costs Allocated to Demand		0	0	0	0	0	0	0	0	0	0	0	0	0
10.	Energy Jurisdictional Factor		0.9933091	0.9780148	0.9917797	0.9906489	0.9908908	0.9927556	0.9928640	0.9922011	0.9938509	0.9951954	0.9910567	0.9923774	
11.	Demand Jurisdictional Factor		0.9674819	0.9674819	0.9674819	0.9674819	0.9674819	0.9674819	0.9674819	0.9674819	0.9674819	0.9674819	0.9674819	0.9674819	
12.	Retail Energy-Related Recoverable Costs (E)		856,870	842,306	854,700	854,261	853,084	853,299	852,002	850,044	850,068	849,823	852,600	864,334	10,233,391
13.	Retail Demand-Related Recoverable Costs (F)		0	0	0	0	0	0	0	0	0	0	0	0	0
14.	Total Jurisdictional Recoverable Costs (Lines 12 + 13)		$856,870	$842,306	$854,700	$854,261	$853,084	$853,299	$852,002	$850,044	$850,068	$849,823	$852,600	$864,334	$10,233,391

Notes:
(A) Applicable depreciable base for Big Bend; account 311.43 ($21,689,422), 312.43 ($44,509,823), 315.43 ($13,690,954), and 316.43 ($824,684).
(B) Line 6 x 8.7188% x 1/12. Based on ROE of 11.25% and weighted income tax rate of 38.575% (expansion factor of 1.63490).
(C) Line 6 x 2.9324% x 1/12
(D) Applicable depreciation rates are 1.2%, 2.6%, 2.5%, and 2.7%
(E) Line 9a x Line 10
(F) Line 9b x Line 11

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TAMPA ELECTRIC COMPANY
DOCKET NO. 110131-EI
STAFF'S FIRST DATA REQUEST
FILED: AUGUST 1, 2011

DOCKET NO. 100007-EI
ECRC 2011 PROJECTION FILING
EXHIBIT NO. HTB-3, PAGE 1-26
DOCUMENT NO. 4

Tampa Electric Company
Environmental Cost Recovery Clause (ECRC)
Calculation of the Projected Period Amount
January 2011 to December 2011

Return on Capital Investments, Depreciation and Taxes
For Project: Big Bend Unit 4 SCR
(in Dollars)

Line	Description	Beginning of Period Amount	Projected January	Projected February	Projected March	Projected April	Projected May	Projected June	Projected July	Projected August	Projected September	Projected October	Projected November	Projected December	End of Period Total
1.	Investments														
	a. Expenditures/Additions		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	b. Clearings to Plant		0	0	0	0	0	0	0	0	0	0	0	0	
	c. Retirements		0	0	0	0	0	0	0	0	0	0	0	0	
	d. Other		0	0	0	0	0	0	0	0	0	0	0	0	
2.	Plant-in-Service/Depreciation Base (A)	$61,183,337	$61,183,337	$61,183,337	$61,183,337	$61,183,337	$61,183,337	$61,183,337	$61,183,337	$61,183,337	$61,183,337	$61,183,337	$61,183,337	$61,183,337	
3.	Less: Accumulated Depreciation	(5,114,785)	(5,220,043)	(5,325,301)	(5,430,559)	(5,535,817)	(5,641,075)	(5,746,333)	(5,851,591)	(5,956,849)	(6,062,107)	(6,167,365)	(6,272,623)	(6,377,881)	
4.	CWIP - Non-Interest Bearing	0	0	0	0	0	0	0	0	0	0	0	0	0	
5.	Net Investment (Lines 2 + 3 + 4)	$56,068,552	55,963,294	55,858,036	55,752,778	55,647,520	55,542,262	55,437,004	55,331,746	55,226,488	55,121,230	55,015,972	54,910,714	54,805,456	
6.	Average Net Investment		56,015,923	55,910,665	55,805,407	55,700,149	55,594,891	55,489,633	55,384,375	55,279,117	55,173,859	55,068,601	54,963,343	54,858,085	
7.	Return on Average Net Investment														
	a. Equity Component Grossed Up For Taxes (B)		406,993	406,228	405,463	404,699	403,934	403,169	402,404	401,640	400,875	400,110	399,345	398,581	$4,833,441
	b. Debt Component (C)		136,884	136,627	136,370	136,113	135,855	135,598	135,341	135,084	134,827	134,569	134,312	134,055	1,625,635
8.	Investment Expenses														
	a. Depreciation (D)		105,258	105,258	105,258	105,258	105,258	105,258	105,258	105,258	105,258	105,258	105,258	105,258	1,263,096
	b. Amortization		0	0	0	0	0	0	0	0	0	0	0	0	0
	c. Dismantlement		0	0	0	0	0	0	0	0	0	0	0	0	0
	d. Property Taxes		0	0	0	0	0	0	0	0	0	0	0	0	0
	e. Other		0	0	0	0	0	0	0	0	0	0	0	0	0
9.	Total System Recoverable Expenses (Lines 7 + 8)		649,135	648,113	647,091	646,070	645,047	644,025	643,003	641,982	640,960	639,937	638,915	637,894	7,722,172
	a. Recoverable Costs Allocated to Energy		649,135	648,113	647,091	646,070	645,047	644,025	643,003	641,982	640,960	639,937	638,915	637,894	7,722,172
	b. Recoverable Costs Allocated to Demand		0	0	0	0	0	0	0	0	0	0	0	0	-
10.	Energy Jurisdictional Factor		0.9933091	0.9780148	0.9917797	0.9906489	0.9908908	0.9927556	0.9928640	0.9922011	0.9938509	0.9951954	0.9910567	0.9923774	
11.	Demand Jurisdictional Factor		0.9674819	0.9674819	0.9674819	0.9674819	0.9674819	0.9674819	0.9674819	0.9674819	0.9674819	0.9674819	0.9674819	0.9674819	
12.	Retail Energy-Related Recoverable Costs (E)		644,792	633,864	641,772	640,029	639,171	639,359	638,415	636,975	637,019	636,862	633,201	633,032	7,654,491
13.	Retail Demand-Related Recoverable Costs (F)		0	0	0	0	0	0	0	0	0	0	0	0	0
14.	Total Jurisdictional Recoverable Costs (Lines 12 + 13)		$644,792	$633,864	$641,772	$640,029	$639,171	$639,359	$638,415	$636,975	$637,019	$636,862	$633,201	$633,032	$7,654,491

Notes:

(A) Applicable depreciable base for Big Bend; account 311.44 ($16,857,250), 312.44 ($32,996,126), 315.44 ($10,642,027), and 316.44 ($687,934).
(B) Line 6 x 8.7188% x 1/12. Based on ROE of 11.25% and weighted income tax rate of 38.575% (expansion factor of 1.63490).
(C) Line 6 x 2.9324% x 1/12
(D) Applicable depreciation rate is 1.4%, 2.4%, 2.1%, and 1.7%.
(E) Line 9a x Line 10
(F) Line 9b x Line 11

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TAMPA ELECTRIC COMPANY
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13. Bates-stamped pages 43–49 contain TECO's Summary of Reserve Transfers for production plant. Please explain TECO's philosophy for transferring reserve among production plant units and accounts. The explanation should include any information describing how TECO determined the "to" and "from" generating stations, units, and accounts for reserve transfers, as well as the amounts. In addition, the explanation should describe the significance, if any, of TECO's proposed reserve transfer of $5,400,317 from the Bayside generating station to the Polk generating station.

A. Tampa Electric proposes corrective reserve transfers within the singular function between plant accounts. Reserves transfers may be proposed to correct negative or inappropriate depreciation rates, to correct for average service life changes and to correct for net salvage changes. Also, reserve transfers are proposed to contain recovery of deficiencies or flow back surpluses in each of the functions primary plant accounts. In addition, similar units and like-kind plant accounts should have similar, like-kind recovery through depreciation rates so neither wholesale nor retail customers are benefitted or disadvantaged going forward.

The transfers between Polk and Bayside Power Stations are appropriate due to the reclassification of life categories and curve types associated with the GE Contractual Service Agreements (CSA's). In the last 2007 study, Polk Unit Nos. 1-3 was modeled with a shorter life expectancy assumption for CSA's than 2011 study filing.

As a result of the new life analysis performed in 2011, the Polk CSA's have a longer life expectancy. These life extensions generated theoretical reserve surpluses. However, 2011 modeling of Bayside Unit Nos. 1-2 required a significant shift of gross plant balances from the short-term life category to the standalone CSA category. The majority of those gross plant balances were depreciating since the last study under a 20-year life assumption. The 2011 shift was from a 20-year life to a 14-year life assumption indicating theoretical reserve deficiencies.

In addition, Polk Unit Nos. 4-5 and Bayside Unit Nos. 3-6 were placed in-service in between studies. Initially, a 4.3 percent depreciation start rate is used for new generating units. As a result, the 2011 study indicates theoretical reserve surpluses when these new units are modeled in detail. Therefore, it is reasonable to offset the theoretical reserve deficiencies at Bayside Unit Nos. 1-2 with both the CSA theoretical surpluses from Polk

Unit Nos. 1-3 and the theoretical surpluses generated by the lower depreciation rates modeled for the new generating Polk Unit Nos. 4-5 and Bayside Unit Nos. 3-6.

14. Please refer to "Summary of Reserve Transfers," Bates-stamped page 43. TECO's proposed reserve transfers, as shown on this page, are less than $3 million for Big Bend Common and Units 1 and 3. Please explain, by account, why TECO's proposed reserve transfers for Units 2 and 4 are so much greater, i.e., between $23 - $29 million.

A. For all the accounts, Big Bend Common and Unit Nos. 1 and 3 have an operating history more in line with the theoretical. Big Bend Big Unit No. 4 had an operating history less susceptible to failures and outages indicating theoretical surpluses. Big Bend Unit No. 2 had an operating history of multiple failures and abnormal retirements made against the reserve causing the reserve deficiencies. The large surpluses at Big Bend Unit No. 4 were used to offset the large deficiencies at Big Bend Unit No. 2.

15. Are there any major overhauls or upgrades planned for production plant during 2011 – 2015? If so, please include a description of the work to be performed, any retirement units expected to be replaced as a direct result, and identify the year(s) each overhaul or upgrade is planned to take place. Please provide the January 1, 2012 estimated investment and reserve associated with the equipment currently planned for replacement during each overhaul, by account by plant site.

A. Tampa Electric has scheduled overhauls of major units so as not to conflict or diminish reserves. Overhauls of Big Bend 2 and Bayside 1 are scheduled in 2011, Polk 1 and Bayside 2 are scheduled in 2012, Big Bend 3 is scheduled in 2013, Big Bend 4 is scheduled in 2014, and Big Bend 1 and Polk 1 are scheduled in 2015.

The gross plant costs and reserve balances associated with each of these outages cannot be quantified this far in advance. Only dollar estimates can be projected for securing the needed capital to perform the outages. Historical replacements in major overhauls have been predicted by the life categories precluding the need for recovery schedules. Until the units are removed from service and actual work begins, the actual scope of the outage cannot be determined and gross plant costs and reserve balances associated with them.

16. Are there any substantial retirements or additions for production plant expected in connection with current or proposed state or federal regulations, including environmental regulations, during 2011–2015? If so, please include a description of the regulation and the work to be performed, any retirement units expected to be replaced as a direct result, and identify the year(s) each retirement or addition is planned to take place. Please provide the January 1, 2012 estimated investment and reserve associated with the equipment currently planned for replacement, by account by plant site.

A. No.

17. For each production account where TECO's proposed interim future net salvage differs from what is currently prescribed, please explain the reasons for changing the future net salvage. The explanation should include relevant quantitative data and analysis as well as a brief narrative explanation for each account.

A. Interim future net salvage used by all production plant accounts is based on the stratification categories listed below.

The only change in the 2011 Study is within the Medium category.

	2007 Study Net Salvage	2011 Study Net Salvage
Long	(15 percent)	(15 percent)
Medium	(21 percent)	(15 percent)
Short	(8 percent)	(8 percent)
CSA	(8 percent)	(8 percent)

Usage of these 2011 Study factors in conjunction with the future interim retirements generated by the model creates the Net Salvage portion of the proposed annual depreciation accrual.

The proposed production annual accrual indicated on Bates-stamped page 21 is $125,655,302. This amount is split between Life Only and Net Salvage at $115,974,021 and $9,681,281, respectively.

The mechanics for the quantification of the Net Salvage factor is different than the method used for Transmission and Distribution. The Annual Status Report ("ASR") data for production plant accounts is the same as Transmission and Distribution plant accounts. This causes a disconnect in the mechanics of the production study model, thus the Net Salvage factors are at the stratification category level.

In 2009, Tampa Electric expended $13.2 million in negative net salvage. This was unusually high due to installation of new generating units and the SCR systems.

In 2010, Tampa Electric expended $8.8 million in negative net salvage. This is reflective of normal operations and is in line with the proposed Net Salvage accrual.

18. On Bates-stamped page 4 TECO explains that it stratified the SCR systems, and that "as a result" TECO proposes to transfer the SCR investment and reserve to new plant accounts. Please explain exactly what is meant by "result," i.e., what were the specific reasons that caused TECO to propose new accounts?

A. Tampa Electric has an Environmental Cost Recovery Clause (ECRC) for retail customers. The majority of the ECRC assets relate to the Nos. 1-4 SCR (Selective Catalytic Recovery) Systems and Nos. 1-4 FGD (Flue Gas Desulfurization) Systems.

The Nos. 1-4 SCR Systems were placed in-service after the last 2007 Depreciation Study within the existing plant accounts of the coal-fired Big Bend Unit Nos. 1-4.

The Nos. 1-4 SCR Systems are new plant accounts needed to segregate environmental assets from the coal-fired unit boilers.

This is similar to the existing Nos. 1-4 FGD Systems segregation.

19. When did each unit of the Gannon Power Station retire? Please also identify, where applicable, the renamed generating station and unit.

A. The Gannon Power Station was repowered (from coal-fired to natural gas-fired generation) and transferred to the newly named Bayside Power Station in 2003 and 2004. The 2007 Depreciation Study is where the Gannon assets were shown as retired or repowered to Bayside. The closure of the Gannon plant accounts is reflected in the 2011 Depreciation Study. Gannon Unit Nos. 3-4 steam turbines were fully recovered and placed on long-term reserve standby in the 2007 study. Since then, plans for those steam turbines changed and they were retired on the books.

20. Please explain why there are two 25-year life categories for Polk Units 2, 3, 4, and 5 (Bates-stamped pages 411, 432, 453, and 474).

A. See the response to Request No. 8.

21. Please explain why Phillips is being retained on standby and not retired.

A. The Phillips units are in operable condition but have not been needed for economic dispatch due to the cost of fuel (#6 oil versus natural gas and coal). Phillips units may be used in the future if: the relative price of fuels changes, a renewable energy requirement is enacted (they are capable of using bio-diesel with some modifications) or they are needed for load growth and/or voltage support.

22. Does TECO expect any additions to Phillips between 2011 and 2015? If so, please explain how TECO plans to depreciate those additions.

A. Tampa Electric expects no future additions other than maintaining Phillips while in standby awaiting final disposition or redeployment. This station will be fully recovered in 2011 and a rate of 0 percent was shown to stop the 2011 calculations of the annual accruals.

Tampa Electric agrees a rate must be provided in the event assets are added to the Phillips station in the future.

If and when that happens, Tampa Electric recommends use of the previously approved rates. Tampa Electric requests in this case that the final order authorizes the use of the previously approved rates at that time.

23. What is TECO's ownership percentage in the shared facility with the City of Tampa?

A. 100 percent.

24. Please describe the types of amortizable property included for each production site.

A. The amortizable plant accounts at the production sites are related to small tools and equipment. These assets turnover at a rapid pace, thus these plant accounts have a 7-year amortizable life which yields a 14.3 percent rate.

25. Please explain how the amortization expense for production plant accounts is calculated.

A. All amortizable plant accounts are configured in the fixed assets system to record vintage monthly additions for amortization walk forwards. The amortization formula is the Net Cost over the Remaining Life:

$$\frac{\text{(Asset Cost – Reserve)}}{\text{\# of Remaining Months}}$$

26. Please explain how TECO is complying with the vintage group concept.

A. See the response to Request No. 25.

This amortization formula forces the vintage asset to be fully recovered by the end of the amortization period, which then equals $0 net book value. Retirements are not required to stop the amortization expense calculations. Retirements are made in a timely manner shortly after the amortization period has finished.

TAMPA ELECTRIC COMPANY
DOCKET NO. 110131-EI
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REQUEST NO. 27
BATES STAMPED PAGE: 33
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2010 Annual Status Report – Production

27. Please explain, by account, why adjustments and transfers booked to production plant accounts do not net to zero in Schedules B-7 and B-9 for 2010.

A. They do not net to zero because of a reclassifying of assets from 31140 and 31540 to 39000. This reclassification was to remove all assets associated with the Manatee Viewing Center from production to general.

28. There are several production plant accounts that show negative additions in Schedule B-7 for 2010. Please explain, by account, the reason for each negative addition. (Bates-stamped pages 1092–1098)

A.

1) Page 1092 – 31240- Work Order F0475-2004 was placed into service as 31240 for $15,420,837 but was unitized as 31140. The negative $8,755,322 was the difference between this work order and all the other 31240 work orders completed in 2010.

2) Page 1092 – 31142 – This was the SCR project that some dollars were reclassified from 31142 as the work orders were collapsed to one work order from multiple work orders.

3) Page 1092 – 31243 – The work order B1724 was classified while in 10600 as 31243 but was classified to 31543 when unitized (10100).

4) Page 1093 – 31145 – Work order L7722-2007 had accruals of $3,173 that accrued in 2010, and completed in 2011 but the overall project was for $794,433.

5) Page 1093 – 31245 – This was caused by projects being reclassified to other utility accounts. (312.40, 315.45, 314.41, 315.46, 312.46).

6) Page 1095 – 34628 – Reclassified to 34687 tools.

7) Page 1095 – 34282 – Work order A8202-2009 for $63,520, consisted of accrual reversals of $30,000, and the balance was reclassified to 34281.

8) Page 1096 – 34530 – This was caused by projects being reclassified to other utility accounts (303.00, 346.30, 345.30).

9) Page 1097 – 34631 - Reclassified to 345.31.

29. Bayside Common Account 343.30 has seen significant growth since 2006, with the plant balance increasing from $9,455,470 at beginning-of-year 2007 to $33,845,452 at end-of-year 2010 (Bates-stamped pages 1046 and 1096). Please explain the reasons for the growth.

A. The main reason for the growth was the emergency reserve combustion turbine spare assets that were placed into service in 2008 for $16,444,234, and the project replacing the Bayside outfall flume that was placed into service in 2010 for $ 9,253,721.

30. The beginning-of-year 2010 balance for Polk Common, Account 342.80, was $1,573,552. Please explain the reason for the addition of $959,687 in 2010 (Bates-stamped page 1095).

A. The additions are related to the following projects:

• ASU Adorbent Replacement	$432,299
• Gasifier Throat Brick Replacement	199,484
• ARC Flash Project Addition	106,654
• Brine Condensate Pump Replacement	66,403
• Cat 914 Front End Loader	58,927
• Gasifier Startup Slurry Recirc Valve	51,183
• Variable Speed Drive Scrubber Pump	44,737
Total	$959,687

2011 Budget – Production

31. Please explain the reasons for the adjustments or transfers shown for the Bayside units on Schedule B-7, 2011 budget, Bates-stamped pages 1118-1119.

A. During the budget process a project addition was made in December 2011 to Bayside Unit No. 1 for $21,000,000 related to the GE Contractual Service Agreements (CSA's). The full amount was shown on B-9 as a Bayside Unit No. 1 addition.

This addition should have been split between Bayside Unit 1 and Unit 2. A $12,000,000 adjustment was needed to reflect this reclassification.

Bayside Unit No. 1 dispatches 3 combustion turbines:
$21,000,000 / 7 * 3 = $9,000,000

Bayside Unit No. 2 dispatches 4 combustion turbines:
$21,000,000 / 7 * 4 = $12,000,000

32. Schedule B-7, 2011 budget, shows adjustments and transfers for Bayside Units 1 and 2, Prime Movers accounts 34331 and 34332, respectively. (Bates-stamped page 1118) Please explain why there are no corresponding adjustments and transfers in Schedule B-9.

A. See the response to Request No. 31.

The fixed assets system is configured to calculate actual depreciation expense based on the beginning month gross plant balances. The budget process simulates the configuration of the fixed assets system. Thus, December additions do not calculate depreciation expense in the current year. No Schedule B-9 reserve adjustments were necessary.

33. Schedule B-9, 2011 budget, shows adjustments and transfers for the Phillips Power Station, Accounts 34128, 34228, 34328, 34528, and 34628. (Bates-stamped page 1127) Please explain why there are no corresponding adjustments and transfers in Schedule B-7.

A. Phillips Power Station was a purchased acquisition from another utility and a negative acquisition adjustment was imputed on the purchase. This negative acquisition adjustment was transferred into the reserve and fully recovers the station.

Transmission and Distribution

34. On Bates-stamped page 587, the narratives for transmission and distribution plant state that a common trend in the structures, station equipment, towers (for transmission plant), poles and conductor accounts is longer expected lives. "Industry experience and technology changes have contributed to this phenomenon."

a. For each account where technology changes have impacted or are expected to impact the life of a given account, please indicate the account, the technology change, and how the change is impacting or expected to impact the life of the account.

b. Please explain specifically how each change has contributed to a longer expected life for each account identified in (a).

c. Please explain the specific industry experience referenced.

A. a. For Account 355 – Transmission Poles the standard has changed to concrete rather than wood. As wood poles are replaced with concrete poles the life is expected to lengthen. For Account 370 – Metering Equipment the replacement of mechanical meter equipment with digital meter equipment like AMR meters is expected to shorten the life.

b. See the response to Request No. 34.a.

c. The predominate reason for longer lives for many transmission and distribution accounts is comparing the existing lives to Commission decisions on those lives for the other three Florida Electric IOU's (see Bates Stamp page numbers 596 through 599 Comparative Analysis of the depreciation parameters for all Florida Electric IOU's).

35. On Bates-stamped page 587, the narrative for distribution plant states that a significant change made in the instant study relates to automated meter reading technology.

a. What portion of the meters account (Account 370) is associated with AMR meters and other digital metering assets?

b. Please explain what is meant by "other digital metering assets." Please list examples of these assets.

c. Please explain the reasons why AMR meters and other metering assets should be expected to have shorter lives than the traditional electro-mechanical metering assets.

d. What expected life has TECO assumed for the AMR meters and other digital metering assets? Please explain the basis and support for the assumed life.

e. What expected life has TECO assumed for the electro-mechanical meters? Please explain the basis and support for the assumed life.

f. Please explain specifically how the shorter digital lives and longer traditional electro-mechanical lives were blended for a composite life for the meters category.

g. Does TECO have a replacement program for its electro-mechanical meters? If affirmative, please explain the program.

h. Please identify the December 31, 2010 investment and reserve associated with electro-mechanical meters planned for retirement during the 2011-2015 period.

i. When meters are retired, are they junked for scrap salvage?

j. Are meters refurbished as new meters? If affirmative, what is the accounting treatment for the costs of refurbishment?

k. Are meters accounted for as cradle-to-grave? If negative, please explain why not.

l. The meters account has experienced growth in investment of almost 26% during the 2006-2011 period. Please explain the specific reasons for this growth.

m. When did TECO begin adding AMR meters?

n. Retirements in the meters account during the 2006-2011 period represent approximately 48% of the retirements booked historically. Is this increase in retirements due to the AMR meter replacement program? If negative, please explain what caused such an increase in retirements.

A. a. The percentage associated with digital metering equipment is 84 percent.

b. All the digital metering equipment is meters.

c. The AMR meters are fully electronic devices. Florida's heat and humidity will have detrimental effects on the components of the circuit board. In addition, the LCD display in the sun will not last as long as traditional dial meter registers.

d. The expected life of a digital meter is 15 years based upon discussions with engineering.

e. The expected life of an electro-mechanical meter is 25 years based upon field observations and industry acceptance.

f. A weighted average of the CPR retirement units was performed to derive the blended average service life of 18 years.

g. Yes, Tampa Electric has a replacement plan that follows the meter test plan filed with the Commission in 1997. This plan identifies the replacement of meters based upon the statistical performance of the meter population and obsolescence of metering technology. In addition, Tampa Electric has been changing out electro-mechanical meters with AMR meters over time.

h. An investment of $10.3 million would be associated with the single-phase electro-mechanical meters. This plant account is maintained as a mass asset in the CPR. The reserve amount is not readily identifiable because vintage in-service dates are unknown.

i. Yes

j. No

k. Yes, meters are accounted for as cradle-to-grave.

l. The growth experienced in the investment is due to Tampa Electric's program to change-out electro-mechanical meters with AMR meters.

m. September 2003

n. Yes

36. For each transmission and distribution account where TECO is proposing a change in average service life and/or curve shape, please explain the specific reasons justifying the change, other than it results from statistical analyses.

A. In addition to the results from statistical analyses Tampa Electric also took into consideration the state averages and compared them to where Tampa Electric falls into that range for that particular account which provides the best fit possible (see Bates Stamp page numbers 596 through 599 Comparative Analysis of the depreciation parameters for all Florida Electric IOU's).

37. For each transmission and distribution account in which the Simulated Plant-Record Method was used in developing the company's proposed curve shape and average service life, please provide the Conformance Index, Index of Variation, and Retirement Experience Index measures.

A. See attached.

TEC - 2011 CASE
REPORT DATE: 07/08/11 SIMULATED PLANT-RECORD METHOD

35001 Land Rights

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 3 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
R5	***** YRS.	0.3143E+13	117	0.00
R4	***** YRS.	0.3143E+13	117	0.00
R3	***** YRS.	0.3143E+13	117	0.00
R2.5	***** YRS.	0.3143E+13	117	0.00
R2	***** YRS.	0.3143E+13	117	0.00
L5	***** YRS.	0.3143E+13	117	0.00
L4	***** YRS.	0.3143E+13	117	0.00
L3	***** YRS.	0.3143E+13	117	0.00
L2	***** YRS.	0.3143E+13	117	0.00
L1.5	***** YRS.	0.3143E+13	117	0.00
L1	***** YRS.	0.3143E+13	117	0.00
L0.5	***** YRS.	0.3143E+13	117	0.00
L0	***** YRS.	0.3143E+13	117	0.00
SQ	***** YRS.	0.3143E+13	117	0.00
S6	***** YRS.	0.3143E+13	117	0.00
S5	***** YRS.	0.3143E+13	117	0.00
S4	***** YRS.	0.3143E+13	117	0.00
S3	***** YRS.	0.3143E+13	117	0.00
S2	***** YRS.	0.3143E+13	117	0.00
S1.5	***** YRS.	0.3143E+13	117	0.00
S1	***** YRS.	0.3143E+13	117	0.00
S0.5	***** YRS.	0.3143E+13	117	0.00
S0	***** YRS.	0.3143E+13	117	0.00
R1.5	***** YRS.	0.3143E+13	117	0.00
R1	***** YRS.	0.3143E+13	117	0.00
S-.5	***** YRS.	0.3143E+13	117	0.00
R0.5	***** YRS.	0.3143E+13	117	0.00
SC	***** YRS.	0.3143E+13	117	0.00

REPORT DATE: 07/08/11 TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

35001 Land Rights

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 2 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
R5	***** YRS.	0.3897E+13	113	0.00
R4	***** YRS.	0.3897E+13	113	0.00
R3	***** YRS.	0.3897E+13	113	0.00
R2.5	***** YRS.	0.3897E+13	113	0.00
R2	***** YRS.	0.3897E+13	113	0.00
R1.5	***** YRS.	0.3897E+13	113	0.00
R1	***** YRS.	0.3897E+13	113	0.00
L5	***** YRS.	0.3897E+13	113	0.00
L4	***** YRS.	0.3897E+13	113	0.00
L3	***** YRS.	0.3897E+13	113	0.00
L2	***** YRS.	0.3897E+13	113	0.00
L1.5	***** YRS.	0.3897E+13	113	0.00
L1	***** YRS.	0.3897E+13	113	0.00
L0.5	***** YRS.	0.3897E+13	113	0.00
L0	***** YRS.	0.3897E+13	113	0.00
SQ	***** YRS.	0.3897E+13	113	0.00
S6	***** YRS.	0.3897E+13	113	0.00
S5	***** YRS.	0.3897E+13	113	0.00
S4	***** YRS.	0.3897E+13	113	0.00
S3	***** YRS.	0.3897E+13	113	0.00
S2	***** YRS.	0.3897E+13	113	0.00
S1.5	***** YRS.	0.3897E+13	113	0.00
S1	***** YRS.	0.3897E+13	113	0.00
S0.5	***** YRS.	0.3897E+13	113	0.00
S0	***** YRS.	0.3897E+13	113	0.00
S-.5	***** YRS.	0.3897E+13	113	0.00
R0.5	***** YRS.	0.3897E+13	113	0.00
SC	***** YRS.	0.3897E+13	113	0.00

TAMPA ELECTRIC COMPANY
DOCKET NO. 110131-EI
STAFF'S FIRST DATA REQUEST
FILED: AUGUST 1, 2011

REPORT DATE: 07/08/11

TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

35001 Land Rights

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 1 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
R5	***** YRS.	0.6075E+13	114	0.00
R4	***** YRS.	0.6075E+13	114	0.00
R3	***** YRS.	0.6075E+13	114	0.00
R2.5	***** YRS.	0.6075E+13	114	0.00
R2	***** YRS.	0.6075E+13	114	0.00
R1.5	***** YRS.	0.6075E+13	114	0.00
R1	***** YRS.	0.6075E+13	114	0.00
L5	***** YRS.	0.6075E+13	114	0.00
L4	***** YRS.	0.6075E+13	114	0.00
L3	***** YRS.	0.6075E+13	114	0.00
L2	***** YRS.	0.6075E+13	114	0.00
L1.5	***** YRS.	0.6075E+13	114	0.00
L1	***** YRS.	0.6075E+13	114	0.00
L0.5	***** YRS.	0.6075E+13	114	0.00
L0	***** YRS.	0.6075E+13	114	0.00
SQ	***** YRS.	0.6075E+13	114	0.00
S6	***** YRS.	0.6075E+13	114	0.00
S5	***** YRS.	0.6075E+13	114	0.00
S4	***** YRS.	0.6075E+13	114	0.00
S3	***** YRS.	0.6075E+13	114	0.00
S2	***** YRS.	0.6075E+13	114	0.00
S1.5	***** YRS.	0.6075E+13	114	0.00
S1	***** YRS.	0.6075E+13	114	0.00
S0.5	***** YRS.	0.6075E+13	114	0.00
S0	***** YRS.	0.6075E+13	114	0.00
S-.5	***** YRS.	0.6075E+13	114	0.00
R0.5	***** YRS.	0.6075E+13	114	0.00
SC	***** YRS.	0.6075E+13	114	0.00

TAMPA ELECTRIC COMPANY
DOCKET NO. 110131-EI
STAFF'S FIRST DATA REQUEST
FILED: AUGUST 1, 2011

TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

REPORT DATE: 07/08/11

35001 Land Rights

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 1   INTERVAL BETWEEN TEST POINTS= 0   LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
R5	***** YRS.	0.6212E+12	84	0.00
R4	***** YRS.	0.6212E+12	84	0.00
R3	***** YRS.	0.6212E+12	84	0.00
R2.5	***** YRS.	0.6212E+12	84	0.00
R2	***** YRS.	0.6212E+12	84	0.00
L5	***** YRS.	0.6212E+12	84	0.00
L4	***** YRS.	0.6212E+12	84	0.00
L3	***** YRS.	0.6212E+12	84	0.00
L2	***** YRS.	0.6212E+12	84	0.00
L1.5	***** YRS.	0.6212E+12	84	0.00
L1	***** YRS.	0.6212E+12	84	0.00
L0.5	***** YRS.	0.6212E+12	84	0.00
SQ	***** YRS.	0.6212E+12	84	0.00
S6	***** YRS.	0.6212E+12	84	0.00
S5	***** YRS.	0.6212E+12	84	0.00
S4	***** YRS.	0.6212E+12	84	0.00
S3	***** YRS.	0.6212E+12	84	0.00
S2	***** YRS.	0.6212E+12	84	0.00
S1.5	***** YRS.	0.6212E+12	84	0.00
S1	***** YRS.	0.6212E+12	84	0.00
S0.5	***** YRS.	0.6212E+12	84	0.00
S0	***** YRS.	0.6212E+12	84	0.00
R1.5	***** YRS.	0.6212E+12	84	0.00
L0	***** YRS.	0.6212E+12	84	0.00
R1	***** YRS.	0.6212E+12	84	0.00
S-.5	***** YRS.	0.6212E+12	84	0.00
R0.5	***** YRS.	0.6212E+12	84	0.00
SC	***** YRS.	0.6212E+12	84	0.00

REPORT DATE: 07/08/2011

TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

35001 Land Rights

PERIOD RETIREMENTS METHOD

RETIREMENT BAND: 2006 THROUGH 2011   ACTUAL RETIREMENTS: 23237.

DISPERSION	AVERAGE SERVICE LIFE	SIMULATED RETIREMENTS	DIFFERENCE	INDEX OF VARIATION	RET. EXP. INDEX
L5	64.0 YRS.	23,243.50	(6.50)	1,606	1.61
R5	63.1 YRS.	23,220.50	16.50	1,607	1.71
S4	66.6 YRS.	23,203.00	34.00	1,608	1.71
L4	78.4 YRS.	23,235.50	1.50	1,619	1.95
S3	82.9 YRS.	23,238.50	(1.50)	1,624	2.07
R4	82.1 YRS.	23,226.00	11.00	1,631	2.28
S2	105.2 YRS.	23,234.00	3.00	1,638	2.39
L3	97.5 YRS.	23,232.00	5.00	1,641	2.46
S1.5	128.4 YRS.	23,231.50	5.50	1,647	2.51
S1	152.1 YRS.	23,236.50	0.50	1,651	2.54
L2	138.2 YRS.	23,235.00	2.00	1,653	2.55
L0	494.6 YRS.	23,235.50	1.50	1,654	2.35
R3	118.0 YRS.	23,230.50	6.50	1,655	2.41
L1.5	188.8 YRS.	23,236.00	1.00	1,657	2.43
S0.5	210.6 YRS.	23,233.50	3.50	1,658	2.47
R2.5	170.5 YRS.	23,235.00	2.00	1,660	2.32
S-.5	564.9 YRS.	23,237.50	(0.50)	1,660	2.24
L1	242.7 YRS.	23,238.50	(1.50)	1,662	2.37
R2	237.0 YRS.	23,233.00	4.00	1,662	2.27
S0	275.4 YRS.	23,234.50	2.50	1,663	2.45
R1	519.9 YRS.	23,235.00	2.00	1,663	2.22
SC	964.8 YRS.	23,236.50	0.50	1,663	2.20
R0.5	739.0 YRS.	23,235.00	2.00	1,663	2.21
R1.5	372.1 YRS.	23,237.50	(0.50)	1,663	2.23
L0.5	369.4 YRS.	23,237.00	-	1,665	2.35
S5	56.8 YRS.	23,231.00	6.00	1,692	1.58
S6	50.7 YRS.	22,913.50	323.50	2,028	1.58
SQ	45.6 YRS. LOCAL	-	23,237.00	2,083	-

REPORT DATE: 07/08/11 TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

35200 Structures & Improvements

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 3 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
S6	35.2 YRS.	0.2085E+11	24	100.00
S5	35.4 YRS.	0.2432E+11	26	100.00
R5	35.5 YRS.	0.2526E+11	26	100.00
L5	35.9 YRS.	0.2593E+11	26	100.00
S4	35.9 YRS.	0.2762E+11	27	100.00
R4	36.4 YRS.	0.2822E+11	28	100.00
L4	37.1 YRS.	0.2850E+11	28	100.00
R3	39.1 YRS.	0.2978E+11	28	100.00
S3	37.2 YRS.	0.2998E+11	28	100.00
L3	39.9 YRS.	0.3060E+11	29	99.92
S2	39.5 YRS.	0.3097E+11	29	100.00
R2.5	42.0 YRS.	0.3104E+11	29	100.00
S1.5	41.8 YRS.	0.3139E+11	29	100.00
S1	44.5 YRS.	0.3204E+11	29	99.85
L2	45.0 YRS.	0.3212E+11	29	96.34
R2	45.5 YRS.	0.3248E+11	30	100.00
L1.5	49.3 YRS.	0.3284E+11	30	91.18
S0.5	49.2 YRS.	0.3317E+11	30	95.29
L1	55.1 YRS.	0.3385E+11	30	83.16
S0	55.0 YRS.	0.3421E+11	30	84.58
R1.5	51.9 YRS.	0.3422E+11	30	94.67
L0.5	64.1 YRS.	0.3487E+11	31	72.18
R1	60.9 YRS.	0.3556E+11	31	76.72
L0	76.5 YRS.	0.3570E+11	31	60.75
S-.5	69.6 YRS.	0.3591E+11	31	62.66
R0.5	74.9 YRS.	0.3654E+11	31	56.61
SC	92.3 YRS.	0.3697E+11	32	45.75
SQ	38.3 YRS.	0.5565E+11	39	100.00

TEC - 2011 CASE

REPORT DATE: 07/08/11 SIMULATED PLANT-RECORD METHOD

35200 Structures & Improvements

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 2 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
S6	34.5 YRS.	0.1212E+11	15	100.00
S5	35.0 YRS.	0.1417E+11	16	100.00
R5	35.1 YRS.	0.1505E+11	17	100.00
L5	35.5 YRS.	0.1551E+11	17	100.00
S4	35.5 YRS.	0.1680E+11	18	100.00
R4	36.4 YRS.	0.1775E+11	18	100.00
L4	36.8 YRS.	0.1776E+11	18	100.00
S3	36.8 YRS.	0.1915E+11	19	100.00
R3	38.7 YRS.	0.1942E+11	19	100.00
L3	39.5 YRS.	0.1989E+11	20	99.94
S2	39.1 YRS.	0.2045E+11	20	100.00
R2.5	41.5 YRS.	0.2084E+11	20	100.00
S1.5	41.4 YRS.	0.2109E+11	20	100.00
L2	44.6 YRS.	0.2179E+11	20	96.64
S1	44.0 YRS.	0.2193E+11	21	99.92
R2	45.0 YRS.	0.2243E+11	21	100.00
L1.5	48.8 YRS.	0.2275E+11	21	91.66
S0.5	48.7 YRS.	0.2321E+11	21	95.84
L1	54.6 YRS.	0.2393E+11	21	83.78
R1.5	51.3 YRS.	0.2436E+11	22	95.28
S0	54.4 YRS.	0.2438E+11	22	85.42
L0.5	63.5 YRS.	0.2505E+11	22	72.83
R1	59.7 YRS.	0.2585E+11	22	78.75
L0	75.0 YRS.	0.2599E+11	22	61.91
S-.5	68.9 YRS.	0.2625E+11	23	63.39
R0.5	73.4 YRS.	0.2696E+11	23	58.09
SC	90.5 YRS.	0.2746E+11	23	46.68
SQ	37.2 YRS.	0.3383E+11	26	100.00

REPORT DATE: 07/08/11 TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

35200 Structures & Improvements

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 1 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
S6	35.4 YRS.	0.2290E+11	17	100.00
S5	35.5 YRS.	0.2687E+11	18	100.00
R5	35.6 YRS.	0.2857E+11	19	100.00
L5	36.2 YRS.	0.2904E+11	19	100.00
S4	36.1 YRS.	0.3141E+11	20	100.00
L4	37.5 YRS.	0.3279E+11	20	100.00
R4	36.9 YRS.	0.3328E+11	20	100.00
S3	37.8 YRS.	0.3511E+11	21	100.00
R3	39.6 YRS.	0.3631E+11	21	100.00
L3	40.3 YRS.	0.3643E+11	21	99.89
S2	40.2 YRS.	0.3743E+11	22	100.00
S1.5	42.4 YRS.	0.3860E+11	22	100.00
R2.5	42.6 YRS.	0.3870E+11	22	100.00
L2	45.5 YRS.	0.3941E+11	22	96.03
S1	45.1 YRS.	0.3986E+11	22	99.69
L1.5	50.3 YRS.	0.4101E+11	23	90.22
R2	46.6 YRS.	0.4109E+11	23	99.98
S0.5	50.4 YRS.	0.4176E+11	23	93.82
L1	56.3 YRS.	0.4268E+11	23	81.93
S0	56.4 YRS.	0.4332E+11	23	82.49
R1.5	53.2 YRS.	0.4382E+11	23	93.09
L0.5	66.1 YRS.	0.4431E+11	24	70.28
L0	78.1 YRS.	0.4555E+11	24	59.61
R1	62.8 YRS.	0.4581E+11	24	73.69
S-.5	72.1 YRS.	0.4614E+11	24	60.21
R0.5	78.0 YRS.	0.4722E+11	24	53.78
SC	95.6 YRS.	0.4783E+11	25	44.18
SQ	38.5 YRS.	0.7102E+11	30	100.00

REPORT DATE: 07/08/11

TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

35200 Structures & Improvements

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 1 INTERVAL BETWEEN TEST POINTS= 0 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
L1.5	44.7 YRS.	0.1677E+06	0	95.20
L5	33.8 YRS.	0.3624E+06	0	100.00
R0.5	62.0 YRS.	0.5119E+06	0	71.59
R2.5	38.7 YRS.	0.7517E+06	0	100.00
R1	51.9 YRS.	0.9092E+06	0	91.54
L0.5	55.8 YRS.	0.1097E+07	0	80.71
L1	48.9 YRS.	0.1487E+07	0	89.79
L4	34.6 YRS.	0.1632E+07	0	100.00
S4	33.8 YRS.	0.2929E+07	0	100.00
S-.5	59.0 YRS.	0.3570E+07	0	75.05
R2	41.2 YRS.	0.4707E+07	0	100.00
SC	74.8 YRS.	0.4926E+07	0	56.48
L0	64.3 YRS.	0.5362E+07	0	70.92
S0	48.5 YRS.	0.5910E+07	0	94.14
R1.5	46.0 YRS.	0.7521E+07	0	99.24
R5	33.6 YRS.	0.9330E+07	0	100.00
S0.5	44.3 YRS.	0.9397E+07	0	99.44
S3	35.0 YRS.	0.9474E+07	0	100.00
L2	41.2 YRS.	0.9948E+07	0	98.46
S1.5	38.8 YRS.	0.1005E+08	0	100.00
S1	40.8 YRS.	0.1293E+08	0	100.00
R3	36.4 YRS.	0.1316E+08	0	100.00
S5	33.7 YRS.	0.2191E+08	0	100.00
L3	36.8 YRS.	0.2193E+08	0	100.00
S6	33.1 YRS.	0.2277E+08	0	100.00
S2	36.7 YRS.	0.2424E+08	0	100.00
R4	34.4 YRS.	0.2616E+08	0	100.00
SQ	36.1 YRS.	0.7687E+10	13	100.00

REPORT DATE: 07/08/2011

TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

35200 Structures & Improvements

PERIOD RETIREMENTS METHOD

RETIREMENT BAND: 2006 THROUGH 2011 ACTUAL RETIREMENTS: 192920.

DISPERSION	AVERAGE SERVICE LIFE	SIMULATED RETIREMENTS	DIFFERENCE	INDEX OF VARIATION	RET. EXP. INDEX
SC	62.9 YRS.	192,918.80	1.25	913	67.15
R0.5	53.6 YRS.	192,917.00	3.00	916	83.81
R1	46.5 YRS.	192,914.30	5.75	923	98.12
S-.5	51.7 YRS.	192,911.80	8.25	927	85.60
R1.5	42.3 YRS.	192,917.00	3.00	929	100.00
S6	29.4 YRS.	192,916.00	4.00	933	100.00
R2	39.0 YRS.	192,908.50	11.50	938	100.00
R2.5	37.1 YRS.	192,909.30	10.75	943	100.00
L0	56.4 YRS.	192,916.80	3.25	944	78.41
L0.5	50.2 YRS.	192,912.00	8.00	944	86.61
L1	45.2 YRS.	192,919.50	0.50	945	93.33
L1.5	41.7 YRS.	192,908.80	11.25	949	97.18
R3	35.4 YRS.	192,919.00	1.00	949	100.00
S2	35.4 YRS.	192,915.50	4.50	950	100.00
S1.5	36.9 YRS.	192,910.30	9.75	951	100.00
L2	38.6 YRS.	192,916.00	4.00	952	99.34
S1	38.6 YRS.	192,911.50	8.50	952	100.00
S0.5	41.0 YRS.	192,912.80	7.25	953	100.00
S0	44.0 YRS.	192,917.50	2.50	953	99.22
S3	33.5 YRS.	192,913.30	6.75	953	100.00
L3	35.1 YRS.	192,917.30	2.75	953	100.00
L4	32.8 YRS.	192,915.50	4.50	956	100.00
R4	33.9 YRS.	192,921.30	(1.25)	958	100.00
L5	31.3 YRS.	192,913.00	7.00	962	100.00
S4	32.3 YRS.	192,921.30	(1.25)	965	100.00
S5	31.0 YRS.	192,873.80	46.25	969	100.00
R5	32.4 YRS.	192,920.00	-	981	100.00
SQ	28.5 YRS.	234,453.00	(41,533.00)	1,060	100.00

REPORT DATE: 07/08/2011

TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

35300 Station Equipment

PERIOD RETIREMENTS METHOD

RETIREMENT BAND: 2006 THROUGH 2011

ACTUAL RETIREMENTS: 9521008.

DISPERSION	AVERAGE SERVICE LIFE	SIMULATED RETIREMENTS	DIFFERENCE	INDEX OF VARIATION	RET. EXP. INDEX
SC	33.9 YRS.	9,520,768.00	240.00	105	24.35
R0.5	28.2 YRS.	9,520,744.00	264.00	105	25.34
R1	23.5 YRS.	9,520,768.00	240.00	108	27.44
S-.5	27.4 YRS.	9,520,632.00	376.00	110	26.78
R1.5	20.7 YRS.	9,520,648.00	360.00	113	30.50
L0	31.0 YRS.	9,520,720.00	288.00	117	27.30
L0.5	26.8 YRS.	9,520,520.00	488.00	118	29.65
S0	23.2 YRS.	9,520,680.00	328.00	122	30.41
L1	23.7 YRS.	9,520,536.00	472.00	126	32.82
R2	18.6 YRS.	9,520,616.00	392.00	126	35.01
S0.5	20.9 YRS.	9,520,384.00	624.00	127	33.32
L1.5	21.3 YRS.	9,520,664.00	344.00	136	36.14
S1	19.3 YRS.	9,520,536.00	472.00	142	37.13
R2.5	17.3 YRS.	9,519,904.00	1,104.00	147	39.86
L2	19.6 YRS.	9,520,616.00	392.00	153	40.97
S1.5	18.1 YRS.	9,520,112.00	896.00	156	40.86
S2	17.2 YRS.	9,520,200.00	808.00	181	45.49
R3	16.4 YRS.	9,520,904.00	104.00	182	46.16
L3	17.3 YRS.	9,520,696.00	312.00	205	50.02
S3	16.0 YRS.	9,519,608.00	1,400.00	227	54.60
R4	15.4 YRS.	9,518,616.00	2,392.00	270	59.19
L4	15.9 YRS.	9,520,528.00	480.00	298	60.66
S4	15.4 YRS.	9,519,536.00	1,472.00	319	66.13
L5	15.4 YRS.	9,520,064.00	944.00	411	71.30
R5	15.1 YRS.	9,519,688.00	1,320.00	425	74.78
S5	15.1 YRS.	9,520,224.00	784.00	502	77.39
S6	15.1 YRS.	9,517,872.00	3,136.00	781	88.29
SQ	15.4 YRS.	14,196,700.00	**********	2,520	100.00

REPORT DATE: 07/08/11 TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

35400 Towers & Fixtures

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 3 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
R2.5	137.4 YRS.	0.3772E+10	4	4.98
L1	198.8 YRS.	0.3817E+10	4	5.30
L0.5	295.8 YRS.	0.3962E+10	4	4.54
L0	396.1 YRS.	0.4029E+10	4	4.40
R2	185.9 YRS.	0.4048E+10	4	4.39
S0	226.3 YRS.	0.4073E+10	4	5.06
L1.5	156.9 YRS.	0.4203E+10	4	5.92
S0.5	175.1 YRS.	0.4229E+10	4	5.50
S-.5	436.8 YRS.	0.4506E+10	4	3.89
R1.5	287.8 YRS.	0.4521E+10	4	3.89
R3	99.6 YRS.	0.4688E+10	5	6.74
R1	397.1 YRS.	0.4700E+10	5	3.78
R0.5	564.5 YRS.	0.4849E+10	5	3.67
SC	736.8 YRS.	0.4901E+10	5	3.63
S1	129.4 YRS.	0.5953E+10	5	6.93
L2	118.3 YRS.	0.6196E+10	5	7.32
S1.5	110.2 YRS.	0.6710E+10	6	7.60
S2	91.4 YRS.	0.1043E+11	7	9.72
L3	86.6 YRS.	0.1056E+11	7	9.96
R4	72.9 YRS.	0.1145E+11	7	11.09
S3	74.4 YRS.	0.1671E+11	9	13.13
L4	69.8 YRS.	0.1821E+11	9	14.00
R5	59.3 YRS.	0.2639E+11	11	21.92
S4	62.9 YRS.	0.2652E+11	12	19.91
L5	60.0 YRS.	0.2810E+11	12	23.82
S5	56.9 YRS.	0.3588E+11	13	31.05
S6	53.8 YRS.	0.4336E+11	15	47.03
SQ	58.6 YRS.	0.6519E+11	18	0.00

TEC - 2011 CASE

REPORT DATE: 07/08/11 SIMULATED PLANT-RECORD METHOD

35400 Towers & Fixtures

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 2 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
R3	102.1 YRS.	0.2438E+10	3	6.29
L1.5	163.2 YRS.	0.2447E+10	3	5.44
S0.5	182.2 YRS.	0.2591E+10	3	5.09
L1	206.7 YRS.	0.2743E+10	3	4.91
S0	237.8 YRS.	0.2821E+10	3	4.66
S1	133.4 YRS.	0.2978E+10	4	6.43
L2	121.9 YRS.	0.3104E+10	4	6.72
R2.5	143.7 YRS.	0.3203E+10	4	4.58
S1.5	112.9 YRS.	0.3378E+10	4	7.10
L0.5	313.8 YRS.	0.3483E+10	4	4.16
L0	420.3 YRS.	0.3605E+10	4	4.05
R2	198.3 YRS.	0.4001E+10	4	3.99
S-.5	475.8 YRS.	0.4788E+10	5	3.52
R1.5	310.2 YRS.	0.4837E+10	5	3.56
R1	436.6 YRS.	0.5106E+10	5	3.41
R0.5	620.7 YRS.	0.5319E+10	5	3.33
SC	810.4 YRS.	0.5391E+10	5	3.30
S2	92.7 YRS.	0.6092E+10	5	9.24
L3	87.4 YRS.	0.6172E+10	5	9.56
R4	73.3 YRS.	0.6853E+10	6	10.82
S3	74.7 YRS.	0.1163E+11	7	12.88
L4	69.7 YRS.	0.1311E+11	8	14.04
R5	59.0 YRS.	0.2118E+11	10	22.76
S4	62.6 YRS.	0.2122E+11	10	20.73
L5	59.9 YRS.	0.2287E+11	11	23.91
S5	56.5 YRS.	0.3164E+11	13	32.74
S6	53.5 YRS.	0.4150E+11	14	50.14
SQ	58.2 YRS.	0.6790E+11	19	0.00

REPORT DATE: 07/08/11

TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

35400 Towers & Fixtures

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 1 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
S1	130.8 YRS.	0.3690E+10	4	6.76
L2	119.5 YRS.	0.3777E+10	4	7.12
R3	100.6 YRS.	0.3922E+10	4	6.56
S1.5	110.7 YRS.	0.4026E+10	4	7.51
L1.5	160.0 YRS.	0.4042E+10	4	5.68
S0.5	178.6 YRS.	0.4212E+10	4	5.28
S0	230.8 YRS.	0.4669E+10	5	4.89
L1	202.7 YRS.	0.4705E+10	5	5.10
R2.5	140.2 YRS.	0.5386E+10	5	4.79
L0.5	304.6 YRS.	0.5754E+10	5	4.35
L0	407.9 YRS.	0.5920E+10	5	4.22
R2	189.6 YRS.	0.6407E+10	5	4.26
S2	91.8 YRS.	0.6600E+10	5	9.57
L3	85.7 YRS.	0.6710E+10	6	10.41
S-.5	445.7 YRS.	0.7391E+10	6	3.80
R1.5	293.6 YRS.	0.7434E+10	6	3.80
R1	409.1 YRS.	0.7767E+10	6	3.66
R0.5	575.8 YRS.	0.8025E+10	6	3.59
SC	751.7 YRS.	0.8113E+10	6	3.56
R4	72.2 YRS.	0.8288E+10	6	11.61
S3	73.2 YRS.	0.1413E+11	8	14.16
L4	69.0 YRS.	0.1599E+11	9	14.82
S4	62.0 YRS.	0.2944E+11	12	22.11
R5	58.7 YRS.	0.2948E+11	12	23.73
L5	59.4 YRS.	0.3213E+11	13	25.89
S5	56.0 YRS.	0.4693E+11	15	35.55
S6	53.0 YRS.	0.6315E+11	18	55.22
SQ	57.7 YRS.	0.9993E+11	23	0.00

REPORT DATE: 07/08/11

TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

35400 Towers & Fixtures

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 1 INTERVAL BETWEEN TEST POINTS= 0 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
L2	128.2 YRS.	0.4290E+04	0	5.80
L1	209.0 YRS.	0.6400E+04	0	4.81
S1.5	119.4 YRS.	0.1156E+05	0	6.04
L0	404.2 YRS.	0.1538E+05	0	4.28
R3	106.6 YRS.	0.1521E+06	0	5.59
R0.5	531.0 YRS.	0.1760E+06	0	3.90
S-.5	421.6 YRS.	0.2093E+06	0	4.05
R1	381.1 YRS.	0.2304E+06	0	3.96
R2.5	142.8 YRS.	0.2751E+06	0	4.63
R1.5	278.9 YRS.	0.2836E+06	0	4.03
L0.5	304.8 YRS.	0.2862E+06	0	4.35
S2	99.0 YRS.	0.3534E+06	0	7.27
SC	683.4 YRS.	0.4290E+06	0	3.91
R2	187.4 YRS.	0.4449E+06	0	4.34
S0.5	185.9 YRS.	0.5761E+06	0	4.89
L1.5	168.3 YRS.	0.6757E+06	0	5.08
S1	140.2 YRS.	0.8696E+06	0	5.67
S0	237.9 YRS.	0.1205E+07	0	4.65
L4	74.1 YRS.	0.3064E+07	0	10.16
R4	77.3 YRS.	0.3914E+07	0	8.49
S5	58.0 YRS.	0.4926E+07	0	25.73
L3	92.9 YRS.	0.6116E+07	0	7.40
S3	79.0 YRS.	0.8057E+07	0	9.74
S4	64.9 YRS.	0.1052E+08	0	16.12
R5	61.6 YRS.	0.1654E+08	0	16.06
L5	62.7 YRS.	0.3218E+08	1	16.52
S6	53.8 YRS.	0.5307E+08	1	46.98
SQ	58.6 YRS.	0.1746E+11	30	0.00

REPORT DATE: 07/08/11

TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

35500 Poles & Fixtures

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10   INTERVAL BETWEEN TEST POINTS= 3   LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
SC	46.4 YRS.	0.6194E+14	39	96.35
R0.5	41.1 YRS.	0.6833E+14	41	100.00
L0	44.6 YRS.	0.7101E+14	41	92.36
S-.5	40.3 YRS.	0.7164E+14	42	100.00
R1	37.2 YRS.	0.7812E+14	43	100.00
L0.5	40.7 YRS.	0.7829E+14	43	96.73
S0	36.5 YRS.	0.8406E+14	45	100.00
L1	37.2 YRS.	0.8751E+14	46	99.38
R1.5	34.6 YRS.	0.8904E+14	46	100.00
S0.5	34.3 YRS.	0.9323E+14	47	100.00
L1.5	35.0 YRS.	0.9510E+14	48	99.88
R2	32.6 YRS.	0.1008E+15	49	100.00
S1	32.8 YRS.	0.1036E+15	50	100.00
L2	33.1 YRS.	0.1038E+15	50	100.00
R2.5	31.1 YRS.	0.1090E+15	51	100.00
S1.5	31.6 YRS.	0.1103E+15	52	100.00
L3	30.8 YRS.	0.1160E+15	53	100.00
R3	30.0 YRS.	0.1167E+15	53	100.00
S2	30.5 YRS.	0.1171E+15	53	100.00
S3	29.5 YRS.	0.1236E+15	55	100.00
R4	29.0 YRS.	0.1245E+15	55	100.00
L4	29.0 YRS.	0.1252E+15	55	100.00
S4	28.4 YRS.	0.1272E+15	56	100.00
L5	28.2 YRS.	0.1289E+15	56	100.00
R5	28.3 YRS.	0.1301E+15	56	100.00
S5	28.0 YRS.	0.1310E+15	56	100.00
S6	27.9 YRS.	0.1351E+15	57	100.00
SQ	30.3 YRS.	0.1901E+15	68	100.00

TEC - 2011 CASE

REPORT DATE: 07/08/11 SIMULATED PLANT-RECORD METHOD

35500 Poles & Fixtures

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 2 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
SC	46.9 YRS.	0.8091E+14	37	95.39
R0.5	41.4 YRS.	0.8874E+14	38	100.00
L0	45.4 YRS.	0.9251E+14	39	91.75
S-.5	40.7 YRS.	0.9296E+14	39	100.00
R1	37.4 YRS.	0.1007E+15	41	100.00
L0.5	41.0 YRS.	0.1013E+15	41	96.58
S0	36.5 YRS.	0.1084E+15	43	100.00
L1	37.8 YRS.	0.1125E+15	43	99.22
R1.5	34.8 YRS.	0.1142E+15	44	100.00
S0.5	34.5 YRS.	0.1195E+15	45	100.00
L1.5	35.2 YRS.	0.1216E+15	45	99.86
R2	32.8 YRS.	0.1286E+15	46	100.00
L2	33.3 YRS.	0.1316E+15	47	100.00
S1	33.0 YRS.	0.1320E+15	47	100.00
R2.5	31.3 YRS.	0.1382E+15	48	100.00
S1.5	31.8 YRS.	0.1398E+15	48	100.00
L3	31.0 YRS.	0.1453E+15	49	100.00
R3	30.2 YRS.	0.1467E+15	50	100.00
S2	30.7 YRS.	0.1474E+15	50	100.00
S3	29.3 YRS.	0.1537E+15	51	100.00
R4	29.2 YRS.	0.1542E+15	51	100.00
L4	29.1 YRS.	0.1549E+15	51	100.00
S4	28.6 YRS.	0.1562E+15	51	100.00
L5	28.4 YRS.	0.1578E+15	51	100.00
R5	28.4 YRS.	0.1590E+15	52	100.00
S5	28.2 YRS.	0.1597E+15	52	100.00
S6	28.0 YRS.	0.1644E+15	53	100.00
SQ	30.2 YRS.	0.2200E+15	61	100.00

TAMPA ELECTRIC COMPANY
DOCKET NO. 110131-EI
STAFF'S FIRST DATA REQUEST
FILED: AUGUST 1, 2011

REPORT DATE: 07/08/11

TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

35500 Poles & Fixtures

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 1 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
SC	47.4 YRS.	0.9553E+14	32	94.43
R0.5	41.7 YRS.	0.1038E+15	34	100.00
L0	45.7 YRS.	0.1077E+15	34	91.44
S-.5	41.2 YRS.	0.1081E+15	34	100.00
R1	37.7 YRS.	0.1164E+15	36	100.00
L0.5	41.3 YRS.	0.1170E+15	36	96.38
S0	36.8 YRS.	0.1242E+15	37	100.00
L1	38.1 YRS.	0.1290E+15	38	99.13
R1.5	35.1 YRS.	0.1299E+15	38	100.00
S0.5	35.0 YRS.	0.1359E+15	39	100.00
L1.5	35.5 YRS.	0.1377E+15	39	99.84
R2	33.0 YRS.	0.1437E+15	40	100.00
L2	33.6 YRS.	0.1475E+15	40	100.00
S1	33.2 YRS.	0.1484E+15	40	100.00
R2.5	31.5 YRS.	0.1513E+15	41	100.00
S1.5	32.1 YRS.	0.1552E+15	41	100.00
R3	30.5 YRS.	0.1580E+15	42	100.00
L3	31.2 YRS.	0.1604E+15	42	100.00
S2	31.0 YRS.	0.1617E+15	42	100.00
R4	29.4 YRS.	0.1628E+15	42	100.00
S3	29.6 YRS.	0.1654E+15	43	100.00
S4	28.8 YRS.	0.1664E+15	43	100.00
L4	29.4 YRS.	0.1676E+15	43	100.00
R5	28.7 YRS.	0.1685E+15	43	100.00
L5	28.6 YRS.	0.1698E+15	43	100.00
S5	28.4 YRS.	0.1711E+15	43	100.00
S6	28.3 YRS.	0.1778E+15	44	100.00
SQ	30.5 YRS.	0.2330E+15	51	100.00

TEC - 2011 CASE

REPORT DATE: 07/08/11 SIMULATED PLANT-RECORD METHOD

35500 Poles & Fixtures

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 1 INTERVAL BETWEEN TEST POINTS= 0 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
SC	48.8 YRS.	0.7840E+07	0	91.63
R5	29.7 YRS.	0.5118E+09	0	100.00
L0	46.9 YRS.	0.6802E+09	0	90.39
R4	30.5 YRS.	0.1186E+10	0	100.00
S0	37.9 YRS.	0.2193E+10	0	100.00
L1.5	36.8 YRS.	0.2228E+10	0	99.70
L1	39.1 YRS.	0.3785E+10	0	98.80
S-.5	42.4 YRS.	0.5918E+10	0	100.00
S2	32.1 YRS.	0.6814E+10	0	100.00
R2	34.2 YRS.	0.8184E+10	0	100.00
R1	38.7 YRS.	0.8224E+10	0	100.00
S6	29.3 YRS.	0.8370E+10	0	100.00
R0.5	43.3 YRS.	0.8887E+10	0	100.00
S4	29.9 YRS.	0.1209E+11	0	100.00
S0.5	36.0 YRS.	0.1476E+11	0	100.00
L2	34.9 YRS.	0.1510E+11	0	99.99
S5	29.5 YRS.	0.1551E+11	0	100.00
R3	31.6 YRS.	0.2182E+11	0	100.00
S3	31.0 YRS.	0.2184E+11	0	100.00
L3	32.2 YRS.	0.2676E+11	0	100.00
S1	34.1 YRS.	0.2985E+11	1	100.00
L0.5	42.4 YRS.	0.3087E+11	1	95.69
S1.5	33.2 YRS.	0.3303E+11	1	100.00
R1.5	36.4 YRS.	0.3328E+11	1	100.00
L4	30.8 YRS.	0.3486E+11	1	100.00
R2.5	32.7 YRS.	0.3746E+11	1	100.00
L5	29.7 YRS.	0.6900E+11	1	100.00
SQ	31.9 YRS.	0.1314E+14	21	100.00

REPORT DATE: 07/08/2011

TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

35500 Poles & Fixtures

PERIOD RETIREMENTS METHOD

RETIREMENT BAND: 2006 THROUGH 2011

ACTUAL RETIREMENTS: 11060940.

DISPERSION	AVERAGE SERVICE LIFE	SIMULATED RETIREMENTS	DIFFERENCE	INDEX OF VARIATION	RET. EXP. INDEX
SC	42.0 YRS.	11,060,770.00	176.00	577	100.00
R0.5	38.1 YRS.	11,060,960.00	(16.00)	580	100.00
R1	35.3 YRS.	11,060,700.00	248.00	585	100.00
S-.5	37.4 YRS.	11,060,750.00	192.00	586	100.00
R1.5	33.5 YRS.	11,060,640.00	304.00	590	100.00
L0	40.4 YRS.	11,060,740.00	208.00	592	95.56
R2	31.9 YRS.	11,060,670.00	272.00	596	100.00
L0.5	37.6 YRS.	11,060,880.00	64.00	596	98.29
R2.5	30.9 YRS.	11,060,460.00	480.00	597	100.00
R4	29.5 YRS.	11,061,030.00	(88.00)	598	100.00
S3	29.7 YRS.	11,060,940.00	8.00	599	100.00
S0	34.1 YRS.	11,060,730.00	216.00	599	100.00
R3	30.1 YRS.	11,060,700.00	240.00	599	100.00
L3	30.7 YRS.	11,060,860.00	80.00	601	100.00
L1	35.1 YRS.	11,060,860.00	80.00	601	99.75
S0.5	32.8 YRS.	11,060,830.00	112.00	602	100.00
S4	28.9 YRS.	11,060,580.00	360.00	602	100.00
L1.5	33.7 YRS.	11,060,730.00	216.00	602	99.95
L2	32.5 YRS.	11,060,820.00	128.00	602	100.00
S2	30.5 YRS.	11,060,730.00	216.00	603	100.00
S1.5	31.1 YRS.	11,060,510.00	432.00	604	100.00
S1	31.7 YRS.	11,060,850.00	96.00	605	100.00
L4	29.4 YRS.	11,060,680.00	264.00	606	100.00
R5	28.9 YRS.	11,060,860.00	80.00	612	100.00
L5	28.5 YRS.	11,060,900.00	40.00	615	100.00
S5	28.1 YRS.	11,060,350.00	592.00	624	100.00
S6	26.6 YRS.	11,060,420.00	528.00	643	100.00
SQ	27.4 YRS.	11,700,460.00	(639,512.00)	955	100.00

TEC - 2011 CASE
REPORT DATE: 07/08/11 SIMULATED PLANT-RECORD METHOD

35600 Overhead Conductors & Devices

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 3 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
R1	37.0 YRS.	0.1058E+14	17	100.00
R1.5	34.8 YRS.	0.1097E+14	17	100.00
S0	36.4 YRS.	0.1153E+14	18	100.00
S0.5	34.8 YRS.	0.1165E+14	18	100.00
L1	37.8 YRS.	0.1170E+14	18	99.22
R0.5	40.6 YRS.	0.1183E+14	18	100.00
S-.5	40.3 YRS.	0.1202E+14	18	100.00
L0.5	40.6 YRS.	0.1206E+14	18	96.83
L1.5	35.5 YRS.	0.1230E+14	18	99.84
R2	33.3 YRS.	0.1264E+14	18	100.00
S1	33.3 YRS.	0.1277E+14	18	100.00
L0	44.4 YRS.	0.1285E+14	19	92.52
L2	33.9 YRS.	0.1314E+14	19	100.00
SC	45.1 YRS.	0.1359E+14	19	99.30
S1.5	32.4 YRS.	0.1418E+14	19	100.00
R2.5	32.1 YRS.	0.1508E+14	20	100.00
S2	31.6 YRS.	0.1608E+14	21	100.00
L3	31.6 YRS.	0.1651E+14	21	100.00
R3	31.3 YRS.	0.1804E+14	22	100.00
S3	30.5 YRS.	0.1976E+14	23	100.00
L4	30.2 YRS.	0.2136E+14	24	100.00
R4	29.9 YRS.	0.2182E+14	24	100.00
S4	29.8 YRS.	0.2429E+14	26	100.00
L5	29.4 YRS.	0.2601E+14	27	100.00
R5	29.5 YRS.	0.2648E+14	27	100.00
S5	29.3 YRS.	0.2835E+14	28	100.00
S6	29.2 YRS.	0.3228E+14	30	100.00
SQ	31.5 YRS.	0.7820E+14	46	100.00

REPORT DATE: 07/08/11

TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

35600 Overhead Conductors & Devices

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10   INTERVAL BETWEEN TEST POINTS= 2   LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
R1.5	35.0 YRS.	0.8667E+13	13	100.00
R1	37.3 YRS.	0.8906E+13	13	100.00
L1.5	35.7 YRS.	0.9133E+13	13	99.82
S0.5	34.8 YRS.	0.9158E+13	13	100.00
L2	34.1 YRS.	0.9183E+13	13	100.00
L1	37.8 YRS.	0.9312E+13	13	99.23
S0	36.8 YRS.	0.9341E+13	13	100.00
S1	33.6 YRS.	0.9438E+13	14	100.00
R2	33.5 YRS.	0.9820E+13	14	100.00
S1.5	32.4 YRS.	0.1020E+14	14	100.00
L0.5	41.0 YRS.	0.1020E+14	14	96.59
L3	31.8 YRS.	0.1049E+14	14	100.00
S-.5	40.3 YRS.	0.1050E+14	14	100.00
R0.5	40.8 YRS.	0.1060E+14	14	100.00
S2	31.6 YRS.	0.1106E+14	15	100.00
R2.5	32.3 YRS.	0.1136E+14	15	100.00
L0	44.4 YRS.	0.1149E+14	15	92.52
SC	45.1 YRS.	0.1270E+14	16	99.30
S3	30.5 YRS.	0.1276E+14	16	100.00
R3	31.2 YRS.	0.1300E+14	16	100.00
L4	30.4 YRS.	0.1325E+14	16	100.00
R4	30.1 YRS.	0.1449E+14	17	100.00
S4	29.8 YRS.	0.1477E+14	17	100.00
L5	29.6 YRS.	0.1558E+14	18	100.00
R5	29.4 YRS.	0.1650E+14	18	100.00
S5	29.3 YRS.	0.1713E+14	18	100.00
S6	29.2 YRS.	0.1974E+14	20	100.00
SQ	31.4 YRS.	0.7756E+14	40	100.00

REPORT DATE: 07/08/11 TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

35600 Overhead Conductors & Devices

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 1 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
L3	31.8 YRS.	0.8113E+13	10	100.00
R4	30.3 YRS.	0.8177E+13	10	100.00
L2	34.1 YRS.	0.8194E+13	10	100.00
S2	31.6 YRS.	0.8398E+13	10	100.00
S1	33.6 YRS.	0.8453E+13	10	100.00
S1.5	32.4 YRS.	0.8509E+13	10	100.00
S3	30.5 YRS.	0.8537E+13	10	100.00
R2	33.4 YRS.	0.8555E+13	10	100.00
R1.5	34.9 YRS.	0.8555E+13	10	100.00
R5	29.5 YRS.	0.8581E+13	10	100.00
L4	30.4 YRS.	0.8670E+13	11	100.00
L1.5	35.7 YRS.	0.8722E+13	11	99.82
S0.5	34.8 YRS.	0.8790E+13	11	100.00
S4	29.8 YRS.	0.8844E+13	11	100.00
R2.5	32.2 YRS.	0.9115E+13	11	100.00
R3	31.4 YRS.	0.9129E+13	11	100.00
R1	36.9 YRS.	0.9247E+13	11	100.00
L1	37.8 YRS.	0.9317E+13	11	99.23
S0	36.8 YRS.	0.9473E+13	11	100.00
S5	29.6 YRS.	0.9597E+13	11	100.00
L5	29.9 YRS.	0.9725E+13	11	100.00
L0.5	41.0 YRS.	0.1068E+14	12	96.59
S-.5	40.3 YRS.	0.1112E+14	12	100.00
R0.5	40.4 YRS.	0.1117E+14	12	100.00
S6	29.5 YRS.	0.1180E+14	12	100.00
L0	44.4 YRS.	0.1203E+14	12	92.52
SC	45.1 YRS.	0.1345E+14	13	99.30
SQ	32.1 YRS.	0.1038E+15	38	100.00

REPORT DATE: 07/08/11

TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

35600 Overhead Conductors & Devices

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 1 INTERVAL BETWEEN TEST POINTS= 0 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
R2.5	31.2 YRS.	0.1908E+08	0	100.00
L2	32.8 YRS.	0.1111E+10	0	100.00
L4	29.5 YRS.	0.1305E+10	0	100.00
L3	30.8 YRS.	0.2352E+10	0	100.00
L1.5	34.3 YRS.	0.2752E+10	0	99.92
L0	41.4 YRS.	0.2922E+10	0	94.85
L5	28.7 YRS.	0.3255E+10	0	100.00
SC	41.4 YRS.	0.3438E+10	0	100.00
S-.5	37.8 YRS.	0.4795E+10	0	100.00
L1	35.9 YRS.	0.4899E+10	0	99.64
S6	28.2 YRS.	0.8366E+10	0	100.00
S0.5	33.6 YRS.	0.8658E+10	0	100.00
R4	29.4 YRS.	0.1088E+11	0	100.00
R0.5	38.0 YRS.	0.1380E+11	0	100.00
S0	34.8 YRS.	0.1859E+11	1	100.00
S3	29.8 YRS.	0.1980E+11	1	100.00
R1.5	33.5 YRS.	0.2147E+11	1	100.00
S5	28.3 YRS.	0.2194E+11	1	100.00
L0.5	38.6 YRS.	0.2810E+11	1	97.85
R5	28.7 YRS.	0.3180E+11	1	100.00
S1	32.4 YRS.	0.3199E+11	1	100.00
R3	30.4 YRS.	0.4069E+11	1	100.00
R1	35.4 YRS.	0.4131E+11	1	100.00
S2	30.8 YRS.	0.4560E+11	1	100.00
R2	32.4 YRS.	0.4975E+11	1	100.00
S1.5	31.6 YRS.	0.5032E+11	1	100.00
S4	28.7 YRS.	0.6524E+11	1	100.00
SQ	30.4 YRS.	0.1474E+14	28	100.00

REPORT DATE: 07/08/2011

TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

35600 Overhead Conductors & Devices

PERIOD RETIREMENTS METHOD

RETIREMENT BAND: 2006 THROUGH 2011

ACTUAL RETIREMENTS: 11828140.

DISPERSION	AVERAGE SERVICE LIFE	SIMULATED RETIREMENTS	DIFFERENCE	INDEX OF VARIATION	RET. EXP. INDEX
S6	24.9 YRS.	11,828,500.00	(360.00)	483	100.00
R5	25.2 YRS.	11,827,990.00	152.00	486	100.00
S5	25.1 YRS.	11,827,070.00	1,072.00	487	100.00
SC	33.3 YRS.	11,827,960.00	184.00	488	100.00
L5	25.7 YRS.	11,827,610.00	536.00	489	100.00
R0.5	31.7 YRS.	11,827,950.00	192.00	492	100.00
L4	26.5 YRS.	11,828,020.00	120.00	495	100.00
R1	30.3 YRS.	11,828,130.00	16.00	496	100.00
S4	25.9 YRS.	11,827,780.00	368.00	497	100.00
S-.5	31.6 YRS.	11,827,940.00	200.00	497	100.00
L3	27.8 YRS.	11,827,850.00	296.00	499	100.00
R1.5	29.1 YRS.	11,827,910.00	232.00	499	100.00
S3	26.8 YRS.	11,828,030.00	112.00	499	100.00
R2	28.1 YRS.	11,828,050.00	96.00	502	100.00
R2.5	27.5 YRS.	11,827,950.00	192.00	503	100.00
L2	29.2 YRS.	11,827,940.00	208.00	503	100.00
S2	27.5 YRS.	11,828,090.00	56.00	503	100.00
R3	26.9 YRS.	11,827,930.00	216.00	504	100.00
L0	33.6 YRS.	11,828,050.00	96.00	504	98.97
R4	26.1 YRS.	11,827,670.00	472.00	504	100.00
L1.5	29.9 YRS.	11,828,040.00	104.00	504	100.00
L0.5	32.1 YRS.	11,828,070.00	72.00	505	99.68
S1.5	27.9 YRS.	11,827,940.00	208.00	505	100.00
L1	30.8 YRS.	11,828,000.00	144.00	506	99.99
S1	28.4 YRS.	11,828,010.00	136.00	507	100.00
S0.5	29.2 YRS.	11,828,050.00	96.00	507	100.00
S0	30.1 YRS.	11,828,070.00	72.00	507	100.00
SQ	25.5 YRS.	10,583,480.00	1,244,664.00	568	100.00

TEC - 2011 CASE

REPORT DATE: 07/08/11 SIMULATED PLANT-RECORD METHOD

35601 Clearing Rights-of-way

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 3 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
L4	78.2 YRS.	0.1431E+09	2	5.57
S3	83.3 YRS.	0.1432E+09	2	5.41
S2	111.6 YRS.	0.1659E+09	2	3.73
R4	86.4 YRS.	0.1678E+09	2	3.92
L3	104.7 YRS.	0.1686E+09	2	3.63
R5	63.2 YRS.	0.1983E+09	2	7.96
S4	67.1 YRS.	0.2032E+09	2	7.91
S1.5	147.9 YRS.	0.2224E+09	2	2.74
L5	64.2 YRS.	0.2231E+09	2	8.32
L2	163.8 YRS.	0.2310E+09	2	2.57
S1	181.9 YRS.	0.2359E+09	2	2.50
R3	151.6 YRS.	0.3131E+09	3	2.01
S0.5	291.9 YRS.	0.3140E+09	3	1.84
L1.5	256.1 YRS.	0.3282E+09	3	1.85
S0	402.8 YRS.	0.3296E+09	3	1.72
S5	59.4 YRS.	0.3637E+09	3	10.33
L1	367.8 YRS.	0.3731E+09	3	1.56
L0	839.0 YRS.	0.3840E+09	3	1.44
L0.5	626.4 YRS.	0.3856E+09	3	1.42
R2.5	289.8 YRS.	0.4056E+09	3	1.37
R2	457.7 YRS.	0.4249E+09	3	1.24
S-.5	***** YRS.	0.4350E+09	3	1.19
R1.5	803.3 YRS.	0.4385E+09	3	1.17
R1	***** YRS.	0.4419E+09	3	1.16
R0.5	***** YRS.	0.4442E+09	3	1.14
SC	***** YRS.	0.4450E+09	3	1.14
S6	54.8 YRS.	0.5529E+09	4	15.09
SQ	59.7 YRS.	0.1320E+10	6	0.00

TEC - 2011 CASE

REPORT DATE: 07/08/11 SIMULATED PLANT-RECORD METHOD

35601 Clearing Rights-of-way

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 2 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
L4	79.0 YRS.	0.1497E+09	2	5.25
R5	63.9 YRS.	0.1504E+09	2	7.28
S4	67.1 YRS.	0.1535E+09	2	7.87
L5	64.3 YRS.	0.1596E+09	2	8.26
S3	85.0 YRS.	0.1605E+09	2	4.83
S2	115.0 YRS.	0.2247E+09	2	3.31
L3	108.0 YRS.	0.2285E+09	2	3.22
R4	89.0 YRS.	0.2285E+09	2	3.42
S5	58.9 YRS.	0.2514E+09	2	11.62
S1.5	155.6 YRS.	0.3054E+09	2	2.37
L2	172.3 YRS.	0.3152E+09	2	2.24
S1	191.3 YRS.	0.3215E+09	2	2.19
S0.5	319.4 YRS.	0.4121E+09	3	1.55
R3	165.2 YRS.	0.4177E+09	3	1.65
S0	440.8 YRS.	0.4279E+09	3	1.47
L1.5	282.0 YRS.	0.4325E+09	3	1.52
S6	54.6 YRS.	0.4402E+09	3	16.15
L1	415.5 YRS.	0.4786E+09	3	1.28
L0	957.3 YRS.	0.4847E+09	3	1.20
L0.5	707.8 YRS.	0.4867E+09	3	1.20
R2.5	333.8 YRS.	0.5092E+09	3	1.13
R2	532.6 YRS.	0.5257E+09	3	1.04
S-.5	***** YRS.	0.5338E+09	3	0.99
R1.5	944.0 YRS.	0.5370E+09	3	0.98
R1	***** YRS.	0.5398E+09	3	0.97
R0.5	***** YRS.	0.5416E+09	3	0.96
SC	***** YRS.	0.5423E+09	3	0.96
SQ	59.5 YRS.	0.1325E+10	6	0.00

REPORT DATE: 07/08/11 TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

35601 Clearing Rights-of-way

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 1 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
L4	78.2 YRS.	0.2262E+09	2	5.55
R5	63.2 YRS.	0.2422E+09	2	7.93
S3	84.6 YRS.	0.2432E+09	2	4.98
S4	66.8 YRS.	0.2458E+09	2	8.25
L5	64.3 YRS.	0.2639E+09	2	8.28
S2	113.2 YRS.	0.3353E+09	2	3.52
L3	106.9 YRS.	0.3394E+09	2	3.35
R4	88.1 YRS.	0.3417E+09	2	3.58
S5	58.5 YRS.	0.4251E+09	3	12.45
S1.5	153.2 YRS.	0.4502E+09	3	2.47
L2	170.5 YRS.	0.4643E+09	3	2.30
S1	188.3 YRS.	0.4728E+09	3	2.28
S0.5	308.3 YRS.	0.5927E+09	3	1.66
R3	160.3 YRS.	0.5952E+09	3	1.77
S0	429.6 YRS.	0.6135E+09	3	1.54
L1.5	272.0 YRS.	0.6149E+09	3	1.64
L1	396.8 YRS.	0.6729E+09	3	1.38
L0	905.3 YRS.	0.6842E+09	4	1.29
L0.5	676.0 YRS.	0.6864E+09	4	1.28
R2.5	315.7 YRS.	0.7116E+09	4	1.22
R2	493.8 YRS.	0.7335E+09	4	1.14
S-.5	***** YRS.	0.7445E+09	4	1.09
R1.5	875.3 YRS.	0.7485E+09	4	1.07
R1	***** YRS.	0.7522E+09	4	1.06
R0.5	***** YRS.	0.7547E+09	4	1.05
SC	***** YRS.	0.7556E+09	4	1.05
S6	54.3 YRS.	0.7654E+09	4	17.86
SQ	59.1 YRS.	0.1973E+10	6	0.00

REPORT DATE: 07/08/11

TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

35601 Clearing Rights-of-way

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 1 INTERVAL BETWEEN TEST POINTS= 0 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
S0	343.1 YRS.	0.3906E+02	0	2.26
S-.5	793.8 YRS.	0.1266E+03	0	1.86
R3	137.2 YRS.	0.9610E+03	0	2.53
R2	319.3 YRS.	0.1332E+04	0	1.93
S0.5	256.2 YRS.	0.1425E+04	0	2.36
R1	743.2 YRS.	0.1463E+04	0	1.83
R4	86.9 YRS.	0.1661E+04	0	3.82
L0.5	483.4 YRS.	0.1958E+04	0	2.05
R0.5	***** YRS.	0.2916E+04	0	1.81
L5	65.6 YRS.	0.7268E+04	0	6.93
R2.5	218.9 YRS.	0.8100E+04	0	2.06
SC	***** YRS.	0.9120E+04	0	1.79
R1.5	522.8 YRS.	0.1428E+05	0	1.85
L4	79.9 YRS.	0.1967E+05	0	4.95
L3	104.9 YRS.	0.2426E+05	0	3.61
L0	653.9 YRS.	0.2690E+05	0	2.03
L1	300.0 YRS.	0.3294E+05	0	2.21
L1.5	226.3 YRS.	0.3754E+05	0	2.38
S1.5	142.9 YRS.	0.7480E+05	0	3.03
S1	172.2 YRS.	0.7687E+05	0	2.88
S3	85.5 YRS.	0.8137E+05	0	4.67
L2	156.0 YRS.	0.8866E+05	0	2.92
S2	111.7 YRS.	0.1018E+06	0	3.72
R5	64.9 YRS.	0.3258E+06	0	6.38
S6	55.2 YRS.	0.3585E+06	0	13.32
S5	59.8 YRS.	0.8213E+06	0	9.51
S4	68.9 YRS.	0.1378E+07	0	6.32
SQ	44.7 YRS.	0.2285E+12	226	100.00

REPORT DATE: 07/08/2011

TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

35601 Clearing Rights-of-way

PERIOD RETIREMENTS METHOD

RETIREMENT BAND: 2006 THROUGH 2011

ACTUAL RETIREMENTS: 22630.

DISPERSION	AVERAGE SERVICE LIFE	SIMULATED RETIREMENTS	DIFFERENCE	INDEX OF VARIATION	RET. EXP. INDEX
L3	6.1 YRS.	22,628.42	1.58	15,470	100.00
L2	5.6 YRS.	22,625.66	4.34	15,478	100.00
L1	5.2 YRS.	22,629.75	0.25	15,482	100.00
L1.5	5.3 YRS.	22,628.31	1.69	15,483	100.00
L0.5	4.9 YRS.	22,630.69	(0.69)	15,489	100.00
L0	4.7 YRS.	22,628.05	1.95	15,493	100.00
L4	6.9 YRS.	22,620.42	9.58	15,495	100.00
SQ	7.7 YRS. LOCAL	-	22,630.00	15,502	100.00
S1.5	6.2 YRS.	22,624.57	5.43	15,507	100.00
S0.5	5.8 YRS.	22,629.75	0.25	15,515	100.00
S1	6.0 YRS.	22,618.87	11.13	15,517	100.00
L5	7.6 YRS.	22,629.99	0.01	15,520	100.00
S2	6.5 YRS.	22,615.52	14.48	15,522	100.00
R1.5	6.0 YRS.	22,628.59	1.41	15,522	100.00
R2.5	6.6 YRS.	22,614.87	15.13	15,533	100.00
R1	5.7 YRS.	22,624.80	5.20	15,536	100.00
S3	7.0 YRS.	22,605.10	24.90	15,542	100.00
R2	6.3 YRS.	22,617.70	12.30	15,550	100.00
S0	5.6 YRS.	22,625.59	4.41	15,558	100.00
R3	6.9 YRS.	22,597.09	32.91	15,580	100.00
R0.5	5.4 YRS.	22,625.51	4.49	15,584	100.00
S4	7.6 YRS.	22,611.28	18.72	15,587	100.00
R4	7.5 YRS.	22,629.29	0.71	15,640	100.00
S5	8.1 YRS.	22,577.09	52.91	15,641	100.00
S-.5	5.3 YRS.	22,630.27	(0.27)	15,643	100.00
R5	8.0 YRS.	22,563.40	66.60	15,668	100.00
S6	8.6 YRS.	22,602.89	27.11	15,682	100.00
SC	5.1 YRS.	22,635.89	(5.89)	15,694	100.00

REPORT DATE: 07/08/11

TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

35700 Underground Conduit

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 3 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
SC	16.8 YRS.	0.4705E+13	325	100.00
L0	17.6 YRS.	0.5407E+13	348	100.00
R0.5	16.4 YRS.	0.5439E+13	349	100.00
S-.5	16.5 YRS.	0.5643E+13	355	100.00
L0.5	17.1 YRS.	0.6218E+13	373	100.00
R1	16.0 YRS.	0.6370E+13	378	100.00
S0	16.1 YRS.	0.6756E+13	389	100.00
L1	16.7 YRS.	0.7151E+13	400	100.00
R1.5	15.9 YRS.	0.7358E+13	406	100.00
S0.5	16.0 YRS.	0.7688E+13	415	100.00
L1.5	16.6 YRS.	0.8198E+13	429	100.00
R2	15.8 YRS.	0.8492E+13	436	100.00
S1	16.1 YRS.	0.8738E+13	442	100.00
L2	16.5 YRS.	0.9413E+13	459	100.00
R2.5	16.0 YRS.	0.9575E+13	463	100.00
S1.5	16.0 YRS.	0.9670E+13	465	100.00
S2	16.1 YRS.	0.1071E+14	490	100.00
R3	16.0 YRS.	0.1078E+14	491	100.00
L3	16.6 YRS.	0.1152E+14	508	100.00
S3	16.3 YRS.	0.1241E+14	527	100.00
R4	16.4 YRS.	0.1268E+14	533	100.00
L4	16.9 YRS.	0.1331E+14	546	100.00
S4	16.6 YRS.	0.1419E+14	564	100.00
R5	16.6 YRS.	0.1470E+14	574	100.00
L5	17.0 YRS.	0.1471E+14	574	100.00
S5	16.8 YRS.	0.1536E+14	587	100.00
S6	16.9 YRS.	0.1579E+14	595	100.00
SQ	18.4 YRS.	0.2036E+14	676	100.00

REPORT DATE: 07/08/11 TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

35700 Underground Conduit

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 2 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
L0	18.3 YRS.	0.2167E+14	489	99.99
SC	17.7 YRS.	0.2171E+14	489	100.00
S-.5	16.7 YRS.	0.2232E+14	496	100.00
R0.5	16.7 YRS.	0.2237E+14	497	100.00
L0.5	17.3 YRS.	0.2248E+14	498	100.00
S0	16.1 YRS.	0.2310E+14	505	100.00
R1	16.1 YRS.	0.2324E+14	506	100.00
L1	16.7 YRS.	0.2338E+14	508	100.00
S0.5	15.8 YRS.	0.2411E+14	516	100.00
R1.5	15.7 YRS.	0.2422E+14	517	100.00
L1.5	16.5 YRS.	0.2458E+14	521	100.00
S1	15.8 YRS.	0.2525E+14	528	100.00
R2	15.6 YRS.	0.2538E+14	529	100.00
L2	16.2 YRS.	0.2600E+14	536	100.00
S1.5	15.7 YRS.	0.2642E+14	540	100.00
R2.5	15.5 YRS.	0.2661E+14	542	100.00
S2	15.8 YRS.	0.2773E+14	553	100.00
R3	15.6 YRS.	0.2799E+14	556	100.00
L3	16.3 YRS.	0.2871E+14	563	100.00
S3	15.8 YRS.	0.2998E+14	575	100.00
R4	15.9 YRS.	0.3046E+14	580	100.00
L4	16.4 YRS.	0.3117E+14	587	100.00
S4	16.2 YRS.	0.3237E+14	598	100.00
L5	16.6 YRS.	0.3323E+14	606	100.00
R5	16.3 YRS.	0.3324E+14	606	100.00
S5	16.5 YRS.	0.3417E+14	614	100.00
S6	16.7 YRS.	0.3526E+14	624	100.00
SQ	18.2 YRS.	0.4022E+14	666	100.00

REPORT DATE: 07/08/11

TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

35700 Underground Conduit

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 1 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
SC	15.9 YRS.	0.6467E+13	227	100.00
L0	16.8 YRS.	0.7296E+13	241	100.00
R0.5	15.5 YRS.	0.7465E+13	244	100.00
S-.5	15.5 YRS.	0.7644E+13	247	100.00
L0.5	16.2 YRS.	0.8423E+13	259	100.00
R1	15.1 YRS.	0.8837E+13	265	100.00
S0	15.2 YRS.	0.9156E+13	270	100.00
L1	15.7 YRS.	0.9752E+13	279	100.00
R1.5	15.0 YRS.	0.1040E+14	288	100.00
S0.5	15.1 YRS.	0.1065E+14	291	100.00
L1.5	15.6 YRS.	0.1151E+14	303	100.00
R2	14.9 YRS.	0.1223E+14	312	100.00
S1	15.0 YRS.	0.1236E+14	314	100.00
L2	15.5 YRS.	0.1357E+14	329	100.00
S1.5	15.1 YRS.	0.1404E+14	335	100.00
R2.5	15.0 YRS.	0.1414E+14	336	100.00
S2	15.1 YRS.	0.1592E+14	356	100.00
R3	15.1 YRS.	0.1627E+14	360	100.00
L3	15.6 YRS.	0.1744E+14	373	100.00
S3	15.4 YRS.	0.1920E+14	391	100.00
R4	15.5 YRS.	0.1999E+14	399	100.00
L4	15.8 YRS.	0.2100E+14	409	100.00
S4	15.6 YRS.	0.2278E+14	426	100.00
L5	16.0 YRS.	0.2410E+14	439	100.00
R5	15.9 YRS.	0.2421E+14	440	100.00
S5	16.0 YRS.	0.2558E+14	452	100.00
S6	16.2 YRS.	0.2753E+14	469	100.00
SQ	17.7 YRS.	0.3421E+14	523	100.00

REPORT DATE: 07/08/11

TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

35700 Underground Conduit

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 1 INTERVAL BETWEEN TEST POINTS= 0 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
S0.5	19.3 YRS.	0.1024E+04	0	100.00
R0.5	19.9 YRS.	0.1964E+07	0	100.00
S0	19.8 YRS.	0.8006E+07	0	100.00
S3	17.8 YRS.	0.1026E+08	0	100.00
S-.5	20.5 YRS.	0.1428E+08	1	100.00
L0.5	21.9 YRS.	0.1497E+08	1	99.80
S1.5	18.5 YRS.	0.1539E+08	1	100.00
L3	18.9 YRS.	0.1804E+08	1	100.00
L1	21.2 YRS.	0.2466E+08	1	100.00
S2	18.2 YRS.	0.2786E+08	1	100.00
L0	22.7 YRS.	0.5515E+08	2	99.39
SC	21.5 YRS.	0.6171E+08	2	100.00
R1.5	18.2 YRS.	0.7148E+08	2	100.00
L4	17.8 YRS.	0.7381E+08	2	100.00
S5	17.1 YRS.	0.8848E+08	2	100.00
L5	17.4 YRS.	0.1285E+09	3	100.00
L2	20.1 YRS.	0.1472E+09	3	100.00
R1	18.9 YRS.	0.1721E+09	3	100.00
S4	17.3 YRS.	0.2774E+09	4	100.00
R2	17.9 YRS.	0.3877E+09	5	100.00
R3	17.4 YRS.	0.3894E+09	5	100.00
L1.5	20.4 YRS.	0.3995E+09	5	100.00
S1	19.0 YRS.	0.4299E+09	5	100.00
R2.5	17.5 YRS.	0.6317E+09	7	100.00
R4	17.1 YRS.	0.1741E+10	11	100.00
R5	17.1 YRS.	0.4215E+10	18	100.00
S6	16.8 YRS.	0.4894E+10	19	100.00
SQ	18.3 YRS.	0.4680E+13	612	100.00

REPORT DATE: 07/08/2011

TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

35700 Underground Conduit

PERIOD RETIREMENTS METHOD

RETIREMENT BAND: 2006 THROUGH 2011 ACTUAL RETIREMENTS: 7125.

DISPERSION	AVERAGE SERVICE LIFE	SIMULATED RETIREMENTS	DIFFERENCE	INDEX OF VARIATION	RET. EXP. INDEX
L0	***** YRS.	7,125.50	(0.50)	2,234	1.42
R0.5	***** YRS.	7,124.50	0.50	2,235	1.18
SC	***** YRS.	7,125.00	-	2,236	1.17
R1.5	981.7 YRS.	7,124.50	0.50	2,236	1.20
R1	***** YRS.	7,127.00	(2.00)	2,238	1.19
R2	560.0 YRS.	7,126.00	(1.00)	2,238	1.28
S-.5	***** YRS.	7,124.50	0.50	2,242	1.23
R2.5	359.3 YRS.	7,124.50	0.50	2,243	1.40
L0.5	766.3 YRS.	7,125.50	(0.50)	2,249	1.48
L1	455.9 YRS.	7,127.00	(2.00)	2,255	1.60
L1.5	312.0 YRS.	7,124.50	0.50	2,256	1.97
S0	493.6 YRS.	7,125.00	-	2,260	1.80
R3	186.9 YRS.	7,122.50	2.50	2,265	2.10
S0.5	355.4 YRS.	7,124.50	0.50	2,266	1.96
S1	208.9 YRS.	7,125.00	-	2,282	3.16
S1.5	172.8 YRS.	7,123.00	2.00	2,285	3.39
S2	132.6 YRS.	7,128.00	(3.00)	2,287	4.64
L3	121.9 YRS.	7,119.50	5.50	2,291	4.91
R4	107.3 YRS.	7,122.50	2.50	2,291	4.13
L2	188.0 YRS.	7,124.00	1.00	2,297	3.26
S3	107.1 YRS.	7,118.00	7.00	2,297	4.80
L4	101.2 YRS.	7,125.50	(0.50)	2,298	4.73
R5	84.6 YRS.	7,124.50	0.50	2,338	4.64
S4	89.7 YRS.	7,126.00	(1.00)	2,343	4.64
L5	86.4 YRS.	7,120.50	4.50	2,346	4.61
S5	79.2 YRS.	7,117.00	8.00	2,422	4.66
SQ	65.3 YRS. LOCAL	-	7,125.00	2,449	-
S6	72.6 YRS.	7,111.00	14.00	2,579	4.84

35800 Underground Conductors & Devices

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 3 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
L4	47.5 YRS.	0.6624E+11	22	91.07
S3	47.4 YRS.	0.6852E+11	22	91.54
L3	50.5 YRS.	0.7055E+11	22	79.24
SC	128.6 YRS.	0.7108E+11	22	24.69
R0.5	103.9 YRS.	0.7234E+11	23	26.60
S4	46.6 YRS.	0.7454E+11	23	98.27
R1	82.0 YRS.	0.7536E+11	23	31.76
S2	49.6 YRS.	0.7553E+11	23	80.44
L5	46.8 YRS.	0.7561E+11	23	97.18
R4	46.7 YRS.	0.7682E+11	23	98.29
S-.5	94.1 YRS.	0.7796E+11	23	30.86
R1.5	68.7 YRS.	0.7810E+11	23	40.07
R5	46.0 YRS.	0.7996E+11	24	100.00
R2	58.5 YRS.	0.8232E+11	24	55.03
S5	46.4 YRS.	0.8241E+11	24	99.94
L2	56.5 YRS.	0.8256E+11	24	65.62
R3	49.7 YRS.	0.8405E+11	24	84.75
S1.5	52.4 YRS.	0.8431E+11	24	71.33
R2.5	53.9 YRS.	0.8444E+11	24	68.56
L1.5	62.5 YRS.	0.8612E+11	25	56.27
L1	69.8 YRS.	0.8666E+11	25	48.15
L0.5	84.2 YRS.	0.8723E+11	25	39.00
L0	101.5 YRS.	0.8888E+11	25	33.10
S6	46.2 YRS.	0.8986E+11	25	100.00
S1	55.7 YRS.	0.9152E+11	25	62.55
S0.5	62.3 YRS.	0.9342E+11	26	51.60
S0	71.0 YRS.	0.9544E+11	26	42.69
SQ	50.3 YRS.	0.1791E+12	36	100.00

TEC - 2011 CASE

REPORT DATE: 07/08/11 SIMULATED PLANT-RECORD METHOD

35800 Underground Conductors & Devices

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 2 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
S6	34.3 YRS.	0.8188E+13	227	100.00
R5	32.6 YRS.	0.8288E+13	228	100.00
S5	33.5 YRS.	0.8308E+13	229	100.00
L5	33.6 YRS.	0.8322E+13	229	100.00
S4	32.6 YRS.	0.8334E+13	229	100.00
L4	33.8 YRS.	0.8399E+13	230	99.97
S3	33.5 YRS.	0.8442E+13	230	100.00
R4	33.4 YRS.	0.8465E+13	231	100.00
L3	36.3 YRS.	0.8606E+13	233	97.35
S2	36.3 YRS.	0.8732E+13	234	99.67
R3	36.2 YRS.	0.8883E+13	236	100.00
L2	41.4 YRS.	0.8914E+13	237	87.48
S1.5	39.4 YRS.	0.8967E+13	238	96.03
S1	42.3 YRS.	0.9130E+13	240	88.97
L1.5	46.2 YRS.	0.9140E+13	240	78.35
R2.5	39.3 YRS.	0.9175E+13	240	98.63
SQ	41.1 YRS.	0.9181E+13	240	100.00
L1	52.2 YRS.	0.9268E+13	242	67.83
S0.5	47.3 YRS.	0.9326E+13	242	76.06
R2	43.9 YRS.	0.9350E+13	243	89.41
L0.5	60.7 YRS.	0.9448E+13	244	57.55
S0	52.8 YRS.	0.9457E+13	244	63.88
R1.5	50.1 YRS.	0.9483E+13	244	71.12
S-.5	65.6 YRS.	0.9547E+13	245	48.07
R1	57.7 YRS.	0.9548E+13	245	54.74
L0	72.4 YRS.	0.9560E+13	245	48.21
R0.5	70.2 YRS.	0.9587E+13	246	42.71
SC	84.8 YRS.	0.9605E+13	246	37.44

REPORT DATE: 07/08/11 TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

35800 Underground Conductors & Devices

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 1 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
SQ	38.3 YRS.	0.7764E+13	150	100.00
S6	35.5 YRS.	0.8330E+13	156	100.00
R5	34.2 YRS.	0.8427E+13	156	100.00
L5	35.3 YRS.	0.8446E+13	157	100.00
S5	35.0 YRS.	0.8447E+13	157	100.00
S4	34.1 YRS.	0.8460E+13	157	100.00
L4	35.5 YRS.	0.8486E+13	157	99.88
S3	35.0 YRS.	0.8529E+13	157	100.00
R4	35.1 YRS.	0.8583E+13	158	100.00
L3	38.1 YRS.	0.8641E+13	158	95.75
S2	38.4 YRS.	0.8767E+13	160	98.74
L2	43.0 YRS.	0.8916E+13	161	85.18
R3	38.5 YRS.	0.8967E+13	161	99.99
S1.5	41.2 YRS.	0.8979E+13	162	93.54
L1.5	48.1 YRS.	0.9121E+13	163	75.68
S1	44.3 YRS.	0.9123E+13	163	85.15
R2.5	42.1 YRS.	0.9196E+13	163	95.87
L1	53.7 YRS.	0.9229E+13	164	65.80
S0.5	49.0 YRS.	0.9302E+13	164	72.85
R2	46.2 YRS.	0.9314E+13	165	84.36
L0.5	63.5 YRS.	0.9393E+13	165	54.78
R1.5	52.6 YRS.	0.9408E+13	165	65.61
S0	54.7 YRS.	0.9420E+13	165	61.07
R1	60.6 YRS.	0.9451E+13	166	50.70
S-.5	68.6 YRS.	0.9456E+13	166	45.52
R0.5	73.0 YRS.	0.9472E+13	166	40.67
SC	88.7 YRS.	0.9482E+13	166	35.79
L0	75.8 YRS.	0.9494E+13	166	45.95

REPORT DATE: 07/08/11 TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

35800 Underground Conductors & Devices

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 1 INTERVAL BETWEEN TEST POINTS= 0 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
S0	80.9 YRS.	0.8208E+05	0	35.21
R1	96.4 YRS.	0.2450E+06	0	25.10
R2	65.7 YRS.	0.8658E+06	0	42.56
SC	155.6 YRS.	0.1118E+07	0	20.41
R5	51.2 YRS.	0.1430E+07	0	97.90
S1	61.0 YRS.	0.1994E+07	0	53.69
R0.5	124.6 YRS.	0.2316E+07	0	21.62
S2	53.4 YRS.	0.2455E+07	0	71.50
L0	117.9 YRS.	0.2523E+07	0	27.67
L1.5	69.1 YRS.	0.2814E+07	0	48.60
R2.5	59.4 YRS.	0.4028E+07	0	54.42
L0.5	96.9 YRS.	0.5406E+07	0	32.33
R1.5	79.2 YRS.	0.6150E+07	0	30.75
S0.5	70.3 YRS.	0.6180E+07	0	42.32
S-.5	110.5 YRS.	0.6343E+07	0	25.25
L3	54.2 YRS.	0.6520E+07	0	73.19
R4	51.5 YRS.	0.1415E+08	0	88.79
L1	78.0 YRS.	0.1417E+08	0	41.39
L2	61.2 YRS.	0.1667E+08	0	58.88
S3	51.1 YRS.	0.1756E+08	0	83.35
L5	51.6 YRS.	0.1887E+08	0	91.38
L4	51.3 YRS.	0.2471E+08	0	84.88
S6	51.8 YRS.	0.2516E+08	0	99.88
S1.5	56.8 YRS.	0.2526E+08	0	62.19
S4	51.3 YRS.	0.3902E+08	0	91.22
R3	54.2 YRS.	0.4112E+08	0	71.15
S5	51.6 YRS.	0.4707E+08	0	97.57
SQ	56.4 YRS.	0.3308E+11	25	100.00

REPORT DATE: 07/08/2011

TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

35800 Underground Conductors & Devices

PERIOD RETIREMENTS METHOD

RETIREMENT BAND: 2006 THROUGH 2011 ACTUAL RETIREMENTS: 34790.

DISPERSION	AVERAGE SERVICE LIFE	SIMULATED RETIREMENTS	DIFFERENCE	INDEX OF VARIATION	RET. EXP. INDEX
R0.5	497.8 YRS.	34,790.00	-	1,447	4.97
SC	647.2 YRS.	34,789.50	0.50	1,447	4.91
R1	354.9 YRS.	34,786.50	3.50	1,447	5.17
L0	371.7 YRS.	34,789.50	0.50	1,449	6.08
S-.5	394.0 YRS.	34,790.50	(0.50)	1,450	5.35
R1.5	258.1 YRS.	34,788.50	1.50	1,451	5.45
L0.5	279.1 YRS.	34,790.00	-	1,452	6.41
R2	172.5 YRS.	34,789.00	1.00	1,453	6.43
R2.5	130.4 YRS.	34,789.50	0.50	1,456	7.76
L1	187.3 YRS.	34,787.00	3.00	1,456	8.41
S0	215.3 YRS.	34,787.50	2.50	1,461	7.34
S0.5	166.5 YRS.	34,791.00	(1.00)	1,461	8.44
L1.5	148.7 YRS.	34,787.00	3.00	1,463	9.81
R3	98.2 YRS.	34,789.50	0.50	1,465	11.45
S3	82.3 YRS.	34,784.00	6.00	1,468	18.23
S1.5	106.5 YRS.	34,792.50	(2.50)	1,470	13.60
S2	91.6 YRS.	34,791.50	(1.50)	1,471	17.41
S1	122.2 YRS.	34,787.00	3.00	1,471	12.16
L2	116.2 YRS.	34,790.50	(0.50)	1,472	13.02
R4	78.8 YRS.	34,794.50	(4.50)	1,473	16.91
L3	90.0 YRS.	34,786.00	4.00	1,476	17.64
L4	79.0 YRS.	34,785.00	5.00	1,478	18.12
S4	76.1 YRS.	34,773.00	17.00	1,487	17.44
L5	74.0 YRS.	34,780.50	9.50	1,500	17.37
R5	72.4 YRS.	34,790.50	(0.50)	1,501	17.40
S5	71.7 YRS.	34,804.00	(14.00)	1,529	16.99
S6	68.5 YRS.	34,780.00	10.00	1,630	16.84
SQ	63.4 YRS.	172,964.00	(138,174.00)	12,304	100.00

REPORT DATE: 07/08/11

TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

35900 Roads & Trails

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 3 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
R1.5	73.4 YRS.	0.1417E+11	14	49.11
R2	60.9 YRS.	0.1420E+11	14	71.71
R1	90.2 YRS.	0.1446E+11	15	35.70
S-.5	104.6 YRS.	0.1453E+11	15	33.56
L0.5	91.6 YRS.	0.1456E+11	15	43.63
L0	111.5 YRS.	0.1465E+11	15	36.26
R0.5	116.6 YRS.	0.1466E+11	15	28.44
SC	147.2 YRS.	0.1476E+11	15	25.64
R2.5	53.9 YRS.	0.1478E+11	15	90.44
S0	76.6 YRS.	0.1478E+11	15	49.03
S0.5	66.5 YRS.	0.1505E+11	15	60.76
L1	75.2 YRS.	0.1508E+11	15	54.58
L1.5	66.0 YRS.	0.1551E+11	15	65.28
S1	58.3 YRS.	0.1625E+11	15	75.35
S1.5	53.8 YRS.	0.1721E+11	16	86.42
R3	49.2 YRS.	0.1727E+11	16	99.20
L2	57.9 YRS.	0.1727E+11	16	76.99
S2	50.1 YRS.	0.1949E+11	17	94.87
L3	50.3 YRS.	0.2114E+11	18	91.03
S3	46.1 YRS.	0.2404E+11	19	99.76
R4	44.9 YRS.	0.2437E+11	19	100.00
L4	45.4 YRS.	0.2645E+11	20	99.36
S4	44.1 YRS.	0.3088E+11	22	100.00
L5	43.8 YRS.	0.3297E+11	22	99.99
R5	43.4 YRS.	0.3466E+11	23	100.00
S5	43.0 YRS.	0.3696E+11	24	100.00
S6	42.3 YRS.	0.4085E+11	25	100.00
SQ	46.1 YRS.	0.1073E+12	41	100.00

TEC - 2011 CASE

REPORT DATE: 07/08/11 SIMULATED PLANT-RECORD METHOD

35900 Roads & Trails

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 2 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
R2.5	54.2 YRS.	0.1279E+11	11	90.03
R3	49.4 YRS.	0.1304E+11	11	99.08
L1.5	66.6 YRS.	0.1346E+11	12	64.58
S1.5	54.3 YRS.	0.1346E+11	12	85.49
S1	58.9 YRS.	0.1349E+11	12	74.33
L2	58.4 YRS.	0.1355E+11	12	76.33
R2	61.8 YRS.	0.1380E+11	12	69.86
S0.5	67.2 YRS.	0.1395E+11	12	59.86
L1	76.7 YRS.	0.1409E+11	12	53.30
S2	50.6 YRS.	0.1449E+11	12	94.24
S0	78.1 YRS.	0.1470E+11	12	47.66
L0.5	93.4 YRS.	0.1503E+11	12	42.60
R1.5	75.2 YRS.	0.1543E+11	12	46.90
L3	50.2 YRS.	0.1555E+11	13	91.07
L0	114.8 YRS.	0.1583E+11	13	35.06
S-.5	107.8 YRS.	0.1641E+11	13	32.33
R1	93.4 YRS.	0.1650E+11	13	33.89
R0.5	120.7 YRS.	0.1717E+11	13	27.33
SC	151.7 YRS.	0.1746E+11	13	24.88
R4	45.1 YRS.	0.1779E+11	13	100.00
S3	46.6 YRS.	0.1779E+11	13	99.68
L4	45.8 YRS.	0.1969E+11	14	99.25
S4	43.8 YRS.	0.2429E+11	16	100.00
L5	43.8 YRS.	0.2617E+11	16	99.99
R5	43.1 YRS.	0.2778E+11	17	100.00
S5	43.2 YRS.	0.3070E+11	18	100.00
S6	42.5 YRS.	0.3445E+11	19	100.00
SQ	46.3 YRS.	0.1067E+12	34	100.00

REPORT DATE: 07/08/11 TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

35900 Roads & Trails

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 1 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
S2	50.1 YRS.	0.9661E+10	8	94.87
R3	48.7 YRS.	0.9819E+10	8	99.42
L3	50.0 YRS.	0.9930E+10	8	91.29
L2	58.2 YRS.	0.9951E+10	8	76.63
S1.5	53.8 YRS.	0.1007E+11	8	86.41
R2.5	53.9 YRS.	0.1088E+11	8	90.45
S1	58.3 YRS.	0.1094E+11	8	75.34
S3	46.2 YRS.	0.1118E+11	9	99.76
L1.5	65.7 YRS.	0.1141E+11	9	65.65
S0.5	66.5 YRS.	0.1259E+11	9	60.75
L1	75.6 YRS.	0.1267E+11	9	54.25
R2	60.9 YRS.	0.1277E+11	9	71.71
R4	44.9 YRS.	0.1281E+11	9	100.00
L4	45.7 YRS.	0.1326E+11	9	99.30
S0	77.3 YRS.	0.1397E+11	10	48.34
L0.5	92.1 YRS.	0.1455E+11	10	43.36
R1.5	74.1 YRS.	0.1528E+11	10	48.20
L0	113.2 YRS.	0.1577E+11	10	35.64
S-.5	105.7 YRS.	0.1660E+11	11	33.14
R1	91.1 YRS.	0.1675E+11	11	35.16
S4	43.7 YRS.	0.1738E+11	11	100.00
R0.5	117.8 YRS.	0.1767E+11	11	28.12
SC	148.7 YRS.	0.1806E+11	11	25.38
L5	43.6 YRS.	0.2008E+11	12	99.99
R5	42.9 YRS.	0.2272E+11	12	100.00
S5	42.6 YRS.	0.2569E+11	13	100.00
S6	41.9 YRS.	0.3209E+11	15	100.00
SQ	45.2 YRS.	0.1140E+12	28	100.00

TAMPA ELECTRIC COMPANY
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35900 Roads & Trails

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 1 INTERVAL BETWEEN TEST POINTS= 0 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
L0.5	90.1 YRS.	0.2352E+04	0	44.50
S-.5	101.0 YRS.	0.4422E+04	0	35.06
R5	44.8 YRS.	0.1960E+05	0	100.00
L1.5	66.2 YRS.	0.4410E+05	0	64.99
S0	76.2 YRS.	0.4631E+06	0	49.40
L5	45.4 YRS.	0.4907E+06	0	99.97
L3	51.5 YRS.	0.5837E+06	0	89.71
R0.5	111.3 YRS.	0.6691E+06	0	30.05
R1	87.0 YRS.	0.1063E+07	0	37.77
SC	138.0 YRS.	0.1954E+07	0	27.36
R2	60.5 YRS.	0.2503E+07	0	72.58
R1.5	72.2 YRS.	0.3121E+07	0	50.69
L0	108.6 YRS.	0.3213E+07	0	37.35
S1.5	54.5 YRS.	0.3746E+07	0	85.10
R4	46.4 YRS.	0.4962E+07	0	100.00
R2.5	54.6 YRS.	0.5394E+07	0	89.21
L1	75.5 YRS.	0.7193E+07	0	54.32
S2	51.3 YRS.	0.7958E+07	0	93.31
L2	59.3 YRS.	0.1094E+08	0	75.27
L4	47.0 YRS.	0.1095E+08	0	98.86
S0.5	66.1 YRS.	0.1107E+08	0	61.25
R3	49.9 YRS.	0.1140E+08	0	98.83
S1	58.6 YRS.	0.1575E+08	0	74.91
S3	47.8 YRS.	0.2728E+08	0	99.40
S4	45.6 YRS.	0.2802E+08	0	100.00
S5	44.5 YRS.	0.3080E+08	1	100.00
S6	44.3 YRS.	0.5595E+08	1	100.00
SQ	48.2 YRS.	0.7193E+10	15	100.00

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TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

35900 Roads & Trails

PERIOD RETIREMENTS METHOD

RETIREMENT BAND: 2006 THROUGH 2011

ACTUAL RETIREMENTS: 101493.

DISPERSION	AVERAGE SERVICE LIFE	SIMULATED RETIREMENTS	DIFFERENCE	INDEX OF VARIATION	RET. EXP. INDEX
SC	152.2 YRS.	101,493.50	(0.50)	199	24.80
R0.5	122.4 YRS.	101,490.50	2.50	200	26.87
R1	96.7 YRS.	101,493.50	(0.50)	205	32.15
S-.5	112.2 YRS.	101,494.00	(1.00)	207	30.77
R1.5	80.3 YRS.	101,491.50	1.50	211	41.41
L0	122.0 YRS.	101,492.00	1.00	216	32.66
L0.5	101.3 YRS.	101,489.00	4.00	219	38.42
R2	68.2 YRS.	101,486.50	6.50	222	57.35
L1	85.0 YRS.	101,486.50	6.50	224	46.67
S0	85.7 YRS.	101,489.50	3.50	225	41.77
S0.5	75.1 YRS.	101,493.00	-	229	50.42
L1.5	75.1 YRS.	101,490.50	2.50	230	55.39
R2.5	61.6 YRS.	101,489.00	4.00	232	74.50
S1	66.8 YRS.	101,485.00	8.00	235	61.71
L2	67.5 YRS.	101,487.50	5.50	237	65.23
S1.5	62.2 YRS.	101,475.00	18.00	239	71.49
S2	58.4 YRS.	101,480.50	12.50	244	81.41
R3	56.8 YRS.	101,483.00	10.00	248	89.79
L3	59.2 YRS.	101,493.00	-	250	80.38
S3	54.7 YRS.	101,487.00	6.00	256	93.95
R4	52.8 YRS.	101,465.50	27.50	272	99.79
L4	54.4 YRS.	101,488.50	4.50	276	93.49
S4	52.6 YRS.	101,489.00	4.00	282	99.53
L5	52.6 YRS.	101,460.50	32.50	314	98.83
R5	51.6 YRS.	101,453.50	39.50	314	100.00
S5	51.8 YRS.	101,491.50	1.50	328	100.00
S6	51.2 YRS.	101,477.50	15.50	414	100.00
SQ	49.5 YRS.	45,801.00	55,692.00	741	100.00

REPORT DATE: 07/08/2011

TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

36100 Structures Improvement

PERIOD RETIREMENTS METHOD

RETIREMENT BAND: 2006 THROUGH 2011

ACTUAL RETIREMENTS: 77829.

DISPERSION	AVERAGE SERVICE LIFE	SIMULATED RETIREMENTS	DIFFERENCE	INDEX OF VARIATION	RET. EXP. INDEX
L3	44.6 YRS.	77,833.13	(4.13)	2,465	99.20
L2	44.7 YRS.	77,828.88	0.13	2,472	96.89
S2	42.2 YRS.	77,827.50	1.50	2,477	100.00
S3	42.8 YRS.	77,828.38	0.63	2,479	100.00
S1.5	42.7 YRS.	77,828.50	0.50	2,482	100.00
S1	43.4 YRS.	77,826.00	3.00	2,486	99.99
L1.5	47.3 YRS.	77,829.50	(0.50)	2,487	93.55
L1	50.0 YRS.	77,824.38	4.63	2,499	89.32
R3	42.4 YRS.	77,829.00	-	2,501	100.00
S0.5	46.0 YRS.	77,828.88	0.13	2,502	98.72
R2.5	43.6 YRS.	77,826.75	2.25	2,506	100.00
R2	45.1 YRS.	77,820.50	8.50	2,510	100.00
S4	43.9 YRS.	77,823.75	5.25	2,512	100.00
R4	42.2 YRS.	77,829.13	(0.13)	2,513	100.00
L4	44.2 YRS.	77,835.13	(6.13)	2,514	99.99
S0	49.1 YRS.	77,827.50	1.50	2,515	94.05
L0.5	56.3 YRS.	77,827.25	1.75	2,518	80.87
R1.5	48.9 YRS.	77,823.00	6.00	2,521	98.05
R1	54.0 YRS.	77,827.75	1.25	2,529	89.29
S-.5	59.6 YRS.	77,826.75	2.25	2,530	75.29
L0	63.5 YRS.	77,828.50	0.50	2,532	72.25
R0.5	62.9 YRS.	77,826.00	3.00	2,538	71.33
SC	74.3 YRS.	77,827.50	1.50	2,543	57.54
R5	43.2 YRS.	77,825.38	3.63	2,559	100.00
L5	44.1 YRS.	77,828.63	0.38	2,561	100.00
S5	43.9 YRS.	77,789.75	39.25	2,597	100.00
S6	43.1 YRS.	77,780.00	49.00	2,729	100.00
SQ	41.5 YRS.	73,258.00	4,571.00	3,629	100.00

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TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

36200 Station Equipment

PERIOD RETIREMENTS METHOD

RETIREMENT BAND: 2006 THROUGH 2011

ACTUAL RETIREMENTS: 10092260.

DISPERSION	AVERAGE SERVICE LIFE	SIMULATED RETIREMENTS	DIFFERENCE	INDEX OF VARIATION	RET. EXP. INDEX
SC	25.3 YRS.	10,092,080.00	184.00	330	30.68
R0.5	21.5 YRS.	10,092,120.00	144.00	339	32.37
S-.5	21.3 YRS.	10,092,220.00	48.00	346	33.93
L0	24.0 YRS.	10,091,940.00	324.00	347	34.26
R1	18.6 YRS.	10,091,830.00	432.00	358	35.54
L0.5	21.5 YRS.	10,091,950.00	312.00	359	36.85
S0	18.7 YRS.	10,092,160.00	100.00	368	38.31
L1	19.5 YRS.	10,092,030.00	236.00	370	39.90
R1.5	16.9 YRS.	10,092,160.00	100.00	383	39.59
S0.5	17.3 YRS.	10,092,000.00	260.00	387	41.59
L1.5	18.0 YRS.	10,091,660.00	600.00	402	43.66
S1	16.3 YRS.	10,091,690.00	572.00	408	45.45
R2	15.7 YRS.	10,091,790.00	472.00	417	44.83
L2	16.9 YRS.	10,091,350.00	912.00	441	47.96
S1.5	15.6 YRS.	10,091,930.00	336.00	441	49.26
R2.5	14.9 YRS.	10,091,150.00	1,112.00	461	50.67
S2	15.1 YRS.	10,092,230.00	32.00	478	53.47
R3	14.3 YRS.	10,091,300.00	968.00	516	57.43
L3	15.4 YRS.	10,091,120.00	1,140.00	545	57.34
S3	14.3 YRS.	10,091,170.00	1,092.00	588	62.50
R4	13.8 YRS.	10,089,570.00	2,692.00	648	71.19
L4	14.2 YRS.	10,091,320.00	944.00	686	69.40
S4	13.8 YRS.	10,089,980.00	2,288.00	769	76.00
L5	13.7 YRS.	10,092,260.00	8.00	862	81.37
R5	13.5 YRS.	10,089,660.00	2,600.00	882	87.92
S5	13.5 YRS.	10,089,750.00	2,516.00	966	89.89
S6	13.3 YRS.	10,091,040.00	1,220.00	1,151	98.49
SQ	13.4 YRS.	11,930,340.00	**********	1,528	100.00

REPORT DATE: 07/08/11

TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

36400 Poles, Towers, & Fixtures

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 3 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
SC	54.0 YRS.	0.2980E+15	50	100.00
R0.5	47.5 YRS.	0.3244E+15	52	100.00
L0	52.1 YRS.	0.3391E+15	53	94.84
S-.5	46.9 YRS.	0.3395E+15	53	100.00
R1	43.0 YRS.	0.3634E+15	55	100.00
L0.5	47.1 YRS.	0.3679E+15	55	98.33
S0	41.9 YRS.	0.3925E+15	57	100.00
L1	43.4 YRS.	0.4034E+15	58	99.83
R1.5	40.0 YRS.	0.4081E+15	58	100.00
S0.5	39.8 YRS.	0.4276E+15	60	100.00
L1.5	40.4 YRS.	0.4341E+15	60	99.99
R2	37.6 YRS.	0.4610E+15	62	100.00
L2	38.0 YRS.	0.4671E+15	62	100.00
S1	37.8 YRS.	0.4678E+15	62	100.00
S1.5	36.2 YRS.	0.4976E+15	64	100.00
R2.5	35.9 YRS.	0.5058E+15	65	100.00
L3	35.0 YRS.	0.5132E+15	65	100.00
S2	35.3 YRS.	0.5269E+15	66	100.00
R3	34.7 YRS.	0.5464E+15	68	100.00
L4	33.1 YRS.	0.5542E+15	68	100.00
S3	33.7 YRS.	0.5590E+15	68	100.00
L5	32.3 YRS.	0.5676E+15	69	100.00
S4	32.5 YRS.	0.5726E+15	69	100.00
S6	31.5 YRS.	0.5735E+15	69	100.00
S5	31.7 YRS.	0.5739E+15	69	100.00
R5	32.0 YRS.	0.5789E+15	70	100.00
R4	33.2 YRS.	0.5796E+15	70	100.00
SQ	34.4 YRS.	0.7470E+15	79	100.00

TEC - 2011 CASE

REPORT DATE: 07/08/11 SIMULATED PLANT-RECORD METHOD

36400 Poles, Towers, & Fixtures

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 2 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
SC	54.5 YRS.	0.2893E+15	41	100.00
R0.5	48.3 YRS.	0.3153E+15	42	100.00
S-.5	47.4 YRS.	0.3295E+15	43	100.00
L0	52.7 YRS.	0.3297E+15	43	94.50
R1	43.2 YRS.	0.3539E+15	45	100.00
L0.5	47.6 YRS.	0.3560E+15	45	98.16
S0	42.4 YRS.	0.3812E+15	47	100.00
L1	43.4 YRS.	0.3882E+15	47	99.82
R1.5	40.2 YRS.	0.3988E+15	48	100.00
S0.5	39.8 YRS.	0.4142E+15	49	100.00
L1.5	40.9 YRS.	0.4159E+15	49	99.98
L2	38.4 YRS.	0.4422E+15	50	100.00
R2	37.8 YRS.	0.4517E+15	51	100.00
S1	37.7 YRS.	0.4518E+15	51	100.00
L3	35.4 YRS.	0.4784E+15	52	100.00
S1.5	36.4 YRS.	0.4791E+15	52	100.00
R2.5	36.1 YRS.	0.4963E+15	53	100.00
S2	35.1 YRS.	0.5045E+15	54	100.00
L4	33.3 YRS.	0.5141E+15	54	100.00
S6	31.4 YRS.	0.5182E+15	54	100.00
L5	32.5 YRS.	0.5194E+15	55	100.00
S5	31.9 YRS.	0.5222E+15	55	100.00
S3	33.6 YRS.	0.5276E+15	55	100.00
S4	32.4 YRS.	0.5291E+15	55	100.00
R5	32.2 YRS.	0.5333E+15	55	100.00
R3	34.9 YRS.	0.5340E+15	55	100.00
R4	33.0 YRS.	0.5542E+15	56	100.00
SQ	34.2 YRS.	0.7144E+15	64	100.00

REPORT DATE: 07/08/11

TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

36400 Poles, Towers, & Fixtures

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 1 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
SC	55.6 YRS.	0.2335E+15	30	100.00
R0.5	48.9 YRS.	0.2550E+15	31	100.00
S-.5	48.3 YRS.	0.2680E+15	32	100.00
L0	53.4 YRS.	0.2701E+15	32	94.06
R1	43.8 YRS.	0.2874E+15	33	100.00
L0.5	48.3 YRS.	0.2923E+15	34	97.93
S6	32.2 YRS.	0.3079E+15	35	100.00
S0	43.2 YRS.	0.3135E+15	35	100.00
L1	44.5 YRS.	0.3210E+15	35	99.72
R1.5	40.8 YRS.	0.3248E+15	36	100.00
S5	32.7 YRS.	0.3316E+15	36	100.00
L1.5	41.4 YRS.	0.3392E+15	36	99.97
S0.5	40.7 YRS.	0.3404E+15	36	100.00
L5	32.9 YRS.	0.3455E+15	37	100.00
R5	32.9 YRS.	0.3531E+15	37	100.00
L2	39.0 YRS.	0.3565E+15	37	100.00
S4	33.2 YRS.	0.3664E+15	38	100.00
L3	35.9 YRS.	0.3674E+15	38	100.00
R2	38.3 YRS.	0.3682E+15	38	100.00
L4	34.1 YRS.	0.3713E+15	38	100.00
S1	38.6 YRS.	0.3715E+15	38	100.00
S1.5	36.9 YRS.	0.3892E+15	39	100.00
S3	34.4 YRS.	0.3995E+15	40	100.00
R2.5	36.6 YRS.	0.4005E+15	40	100.00
S2	36.0 YRS.	0.4037E+15	40	100.00
R4	33.8 YRS.	0.4108E+15	40	100.00
R3	35.4 YRS.	0.4222E+15	41	100.00
SQ	35.1 YRS.	0.5825E+15	48	100.00

REPORT DATE: 07/08/11

TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

36400 Poles, Towers, & Fixtures

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 1 INTERVAL BETWEEN TEST POINTS= 0 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
R1	48.7 YRS.	0.2153E+06	0	100.00
SC	63.1 YRS.	0.9834E+07	0	89.18
R5	35.9 YRS.	0.1438E+08	0	100.00
L2	42.9 YRS.	0.5727E+08	0	100.00
L4	37.2 YRS.	0.7604E+08	0	100.00
S0.5	44.7 YRS.	0.9155E+08	0	100.00
S5	35.6 YRS.	0.1508E+10	0	100.00
R4	37.2 YRS.	0.1621E+10	0	100.00
R0.5	55.0 YRS.	0.1740E+10	0	100.00
R2.5	40.3 YRS.	0.3281E+10	0	100.00
L1	49.0 YRS.	0.3639E+10	0	98.85
L0	60.0 YRS.	0.5485E+10	0	89.70
S1.5	40.6 YRS.	0.1014E+11	0	100.00
S2	39.2 YRS.	0.1761E+11	0	100.00
L1.5	45.6 YRS.	0.1808E+11	0	99.76
R1.5	44.9 YRS.	0.1899E+11	0	100.00
R3	38.9 YRS.	0.3214E+11	0	100.00
S-.5	54.2 YRS.	0.3449E+11	0	100.00
R2	42.2 YRS.	0.3784E+11	0	100.00
S0	47.6 YRS.	0.5335E+11	0	100.00
L0.5	53.7 YRS.	0.6866E+11	1	95.51
S1	42.1 YRS.	0.7924E+11	1	100.00
S3	37.5 YRS.	0.8893E+11	1	100.00
S6	35.4 YRS.	0.1322E+12	1	100.00
L3	39.5 YRS.	0.1457E+12	1	100.00
L5	36.2 YRS.	0.1482E+12	1	100.00
S4	36.2 YRS.	0.1589E+12	1	100.00
SQ	38.2 YRS.	0.3552E+14	25	100.00

REPORT DATE: 07/08/2011

TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

36400 Poles, Towers, & Fixtures

PERIOD RETIREMENTS METHOD

RETIREMENT BAND: 2006 THROUGH 2011

ACTUAL RETIREMENTS: 9603392.

DISPERSION	AVERAGE SERVICE LIFE	SIMULATED RETIREMENTS	DIFFERENCE	INDEX OF VARIATION	RET. EXP. INDEX
R4	44.9 YRS.	9,603,664.00	(272.00)	224	100.00
R3	46.2 YRS.	9,602,912.00	480.00	224	100.00
R2.5	47.7 YRS.	9,603,040.00	352.00	224	100.00
R0.5	64.8 YRS.	9,603,024.00	368.00	225	91.34
SC	74.8 YRS.	9,603,232.00	160.00	225	75.23
R2	49.6 YRS.	9,603,264.00	128.00	225	100.00
R1.5	52.9 YRS.	9,602,912.00	480.00	225	100.00
R1	57.3 YRS.	9,603,072.00	320.00	225	99.89
S2	46.5 YRS.	9,603,344.00	48.00	225	100.00
S1.5	48.1 YRS.	9,602,912.00	480.00	225	100.00
S-.5	64.0 YRS.	9,602,912.00	480.00	225	91.34
S3	44.6 YRS.	9,603,232.00	160.00	225	100.00
S1	50.1 YRS.	9,603,088.00	304.00	225	100.00
L1	58.3 YRS.	9,603,184.00	208.00	225	94.57
L1.5	54.2 YRS.	9,602,976.00	416.00	225	97.74
L2	50.7 YRS.	9,603,280.00	112.00	225	99.46
S0.5	53.0 YRS.	9,603,296.00	96.00	225	100.00
L0.5	64.0 YRS.	9,602,912.00	480.00	225	88.67
S0	56.6 YRS.	9,603,248.00	144.00	226	99.97
L0	71.4 YRS.	9,603,040.00	352.00	226	81.18
L3	46.5 YRS.	9,603,168.00	224.00	226	100.00
R5	44.4 YRS.	9,604,608.00	(1,216.00)	226	100.00
L4	44.2 YRS.	9,603,232.00	160.00	226	100.00
S4	43.6 YRS.	9,603,552.00	(160.00)	227	100.00
L5	43.4 YRS.	9,603,424.00	(32.00)	230	100.00
S5	44.0 YRS.	9,604,128.00	(736.00)	231	100.00
S6	45.6 YRS.	9,603,952.00	(560.00)	232	100.00
SQ	48.7 YRS.	9,556,944.00	46,448.00	281	100.00

REPORT DATE: 07/08/11 TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

36500 Overhead Conductors & Devices

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 3 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
SC	73.3 YRS.	0.3481E+15	46	76.73
R0.5	62.6 YRS.	0.3781E+15	48	93.74
S-.5	61.4 YRS.	0.4170E+15	50	94.35
R1	54.4 YRS.	0.4328E+15	51	100.00
L0	68.6 YRS.	0.4367E+15	51	83.26
L0.5	60.8 YRS.	0.4923E+15	54	91.02
R1.5	49.6 YRS.	0.4998E+15	55	100.00
S0	53.4 YRS.	0.5241E+15	56	100.00
L1	54.4 YRS.	0.5737E+15	59	96.74
S0.5	49.2 YRS.	0.5907E+15	60	100.00
R2	45.8 YRS.	0.5954E+15	60	100.00
L1.5	50.7 YRS.	0.6404E+15	62	98.90
S1	46.2 YRS.	0.6787E+15	64	100.00
R2.5	43.7 YRS.	0.6854E+15	64	100.00
L2	47.2 YRS.	0.7338E+15	67	99.87
S1.5	44.2 YRS.	0.7423E+15	67	100.00
R3	41.8 YRS.	0.7985E+15	69	100.00
S2	42.2 YRS.	0.8232E+15	71	100.00
L3	42.6 YRS.	0.8655E+15	72	100.00
S3	40.4 YRS.	0.9380E+15	75	100.00
R4	39.5 YRS.	0.9560E+15	76	100.00
L4	40.1 YRS.	0.9755E+15	77	100.00
S4	39.0 YRS.	0.1036E+16	79	100.00
L5	38.7 YRS.	0.1054E+16	80	100.00
R5	38.2 YRS.	0.1067E+16	80	100.00
S5	38.0 YRS.	0.1088E+16	81	100.00
S6	37.8 YRS.	0.1114E+16	82	100.00
SQ	41.2 YRS.	0.1403E+16	92	100.00

TEC - 2011 CASE
REPORT DATE: 07/08/11 SIMULATED PLANT-RECORD METHOD

36500 Overhead Conductors & Devices

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 2 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
SC	74.8 YRS.	0.3603E+15	40	75.20
R0.5	63.6 YRS.	0.3912E+15	41	92.72
S-.5	62.1 YRS.	0.4320E+15	43	93.61
R1	55.2 YRS.	0.4486E+15	44	100.00
L0	69.0 YRS.	0.4522E+15	44	83.00
L0.5	61.1 YRS.	0.5111E+15	47	90.80
R1.5	49.9 YRS.	0.5205E+15	48	100.00
S0	53.9 YRS.	0.5446E+15	49	100.00
L1	55.2 YRS.	0.5976E+15	51	96.33
S0.5	49.7 YRS.	0.6160E+15	52	100.00
R2	46.0 YRS.	0.6240E+15	52	100.00
L1.5	50.9 YRS.	0.6699E+15	54	98.83
S1	46.3 YRS.	0.7115E+15	56	100.00
R2.5	44.0 YRS.	0.7247E+15	56	100.00
L2	47.4 YRS.	0.7714E+15	58	99.85
S1.5	44.2 YRS.	0.7822E+15	58	100.00
R3	41.6 YRS.	0.8519E+15	61	100.00
S2	42.7 YRS.	0.8719E+15	62	100.00
L3	42.8 YRS.	0.9189E+15	63	100.00
S3	40.4 YRS.	0.1004E+16	66	100.00
R4	39.7 YRS.	0.1034E+16	67	100.00
L4	39.9 YRS.	0.1047E+16	68	100.00
S4	39.0 YRS.	0.1120E+16	70	100.00
L5	38.5 YRS.	0.1140E+16	71	100.00
R5	38.4 YRS.	0.1160E+16	71	100.00
S5	38.0 YRS.	0.1181E+16	72	100.00
S6	37.8 YRS.	0.1213E+16	73	100.00
SQ	41.2 YRS.	0.1595E+16	84	100.00

REPORT DATE: 07/08/11

TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

36500 Overhead Conductors & Devices

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 1 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
SC	77.1 YRS.	0.2781E+15	30	72.97
R0.5	65.9 YRS.	0.3025E+15	31	90.20
S-.5	64.0 YRS.	0.3335E+15	33	91.36
L0	71.1 YRS.	0.3477E+15	33	81.39
R1	56.6 YRS.	0.3481E+15	33	99.97
L0.5	63.0 YRS.	0.3950E+15	36	89.45
R1.5	51.2 YRS.	0.4072E+15	36	100.00
S0	55.0 YRS.	0.4211E+15	37	100.00
L1	56.4 YRS.	0.4645E+15	39	95.71
S0.5	50.7 YRS.	0.4801E+15	39	100.00
R2	46.7 YRS.	0.4939E+15	40	100.00
L1.5	51.4 YRS.	0.5248E+15	41	98.68
S1	47.2 YRS.	0.5592E+15	43	100.00
R2.5	44.2 YRS.	0.5815E+15	43	100.00
L2	47.9 YRS.	0.6085E+15	44	99.81
S1.5	45.1 YRS.	0.6211E+15	45	100.00
R3	42.2 YRS.	0.6910E+15	47	100.00
S2	43.1 YRS.	0.6989E+15	48	100.00
L3	43.3 YRS.	0.7340E+15	49	100.00
S3	40.8 YRS.	0.8152E+15	52	100.00
L4	40.3 YRS.	0.8437E+15	52	100.00
R4	40.1 YRS.	0.8446E+15	52	100.00
S4	39.4 YRS.	0.9082E+15	54	100.00
L5	38.9 YRS.	0.9155E+15	55	100.00
R5	38.7 YRS.	0.9335E+15	55	100.00
S5	38.4 YRS.	0.9432E+15	55	100.00
S6	37.8 YRS.	0.9550E+15	56	100.00
SQ	41.2 YRS.	0.1400E+16	68	100.00

REPORT DATE: 07/08/11 TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

36500 Overhead Conductors & Devices

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 1 INTERVAL BETWEEN TEST POINTS= 0 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
L0	83.8 YRS.	0.3299E+08	0	72.14
R3	47.3 YRS.	0.6349E+08	0	100.00
R2	53.1 YRS.	0.1785E+09	0	100.00
S0.5	58.0 YRS.	0.4136E+09	0	99.73
L4	45.2 YRS.	0.8129E+09	0	100.00
S0	63.6 YRS.	0.2497E+10	0	95.16
R1	65.7 YRS.	0.4791E+10	0	95.14
SC	92.3 YRS.	0.4840E+10	0	60.91
S-.5	75.1 YRS.	0.5920E+10	0	78.66
S5	42.8 YRS.	0.6596E+10	0	100.00
S6	42.1 YRS.	0.1914E+11	0	100.00
R0.5	77.6 YRS.	0.2023E+11	0	76.79
R2.5	50.0 YRS.	0.2758E+11	0	100.00
L0.5	72.7 YRS.	0.4071E+11	0	81.93
R1.5	58.2 YRS.	0.4741E+11	0	99.85
L1	65.1 YRS.	0.5365E+11	0	89.84
L1.5	58.8 YRS.	0.6892E+11	1	95.57
S1	53.5 YRS.	0.7591E+11	1	100.00
S4	43.9 YRS.	0.7683E+11	1	100.00
S2	48.4 YRS.	0.8425E+11	1	100.00
S1.5	51.1 YRS.	0.8935E+11	1	100.00
L5	43.6 YRS.	0.1069E+12	1	100.00
L2	54.2 YRS.	0.1184E+12	1	98.64
L3	49.0 YRS.	0.1328E+12	1	100.00
R5	42.9 YRS.	0.1622E+12	1	100.00
S3	45.9 YRS.	0.1781E+12	1	100.00
R4	44.9 YRS.	0.1850E+12	1	100.00
SQ	45.4 YRS.	0.5773E+14	32	100.00

REPORT DATE: 07/08/2011

TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

36500 Overhead Conductors & Devices

PERIOD RETIREMENTS METHOD

RETIREMENT BAND: 2006 THROUGH 2011

ACTUAL RETIREMENTS: 5988592.

DISPERSION	AVERAGE SERVICE LIFE	SIMULATED RETIREMENTS	DIFFERENCE	INDEX OF VARIATION	RET. EXP. INDEX
SC	120.0 YRS.	5,988,528.00	64.00	293	46.87
R0.5	100.3 YRS.	5,988,384.00	208.00	294	56.26
S-.5	97.8 YRS.	5,988,448.00	144.00	296	58.97
L0	110.4 YRS.	5,988,480.00	112.00	296	56.22
R1	84.5 YRS.	5,988,624.00	(32.00)	296	72.65
L0.5	95.9 YRS.	5,988,576.00	16.00	299	64.79
R1.5	74.8 YRS.	5,988,384.00	208.00	299	88.80
S0	83.2 YRS.	5,988,432.00	160.00	300	73.74
L1	85.1 YRS.	5,988,384.00	208.00	303	73.58
S0.5	75.5 YRS.	5,988,544.00	48.00	303	85.13
R2	67.7 YRS.	5,988,080.00	512.00	304	98.51
L1.5	76.8 YRS.	5,988,160.00	432.00	306	82.52
S1	69.7 YRS.	5,988,112.00	480.00	307	94.18
R2.5	63.0 YRS.	5,987,984.00	608.00	308	99.95
S1.5	65.5 YRS.	5,988,176.00	416.00	311	98.43
L2	70.4 YRS.	5,988,368.00	224.00	311	89.65
R3	59.4 YRS.	5,988,096.00	496.00	315	100.00
S2	62.1 YRS.	5,988,176.00	416.00	317	99.91
L3	62.2 YRS.	5,987,904.00	688.00	321	98.20
S3	57.6 YRS.	5,988,176.00	416.00	327	100.00
R4	55.6 YRS.	5,987,968.00	624.00	331	100.00
L4	56.9 YRS.	5,988,048.00	544.00	332	100.00
S4	54.6 YRS.	5,988,000.00	592.00	338	100.00
L5	54.4 YRS.	5,988,160.00	432.00	342	100.00
S5	53.4 YRS.	5,988,160.00	432.00	345	100.00
R5	53.6 YRS.	5,988,416.00	176.00	346	100.00
SQ	52.8 YRS.	5,659,744.00	328,848.00	360	100.00
S6	53.2 YRS.	5,988,592.00	-	361	100.00

REPORT DATE: 07/08/11

TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

36600 Underground Conduit

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 3 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
S5	45.2 YRS.	0.2531E+13	7	100.00
S6	44.1 YRS.	0.2561E+13	7	100.00
L5	47.4 YRS.	0.2703E+13	7	100.00
R5	46.7 YRS.	0.2733E+13	7	100.00
S4	48.5 YRS.	0.2738E+13	7	100.00
L4	52.0 YRS.	0.3039E+13	7	99.69
S3	54.3 YRS.	0.3125E+13	7	99.81
R4	53.2 YRS.	0.3255E+13	8	100.00
L3	61.4 YRS.	0.3344E+13	8	89.36
S2	63.7 YRS.	0.3467E+13	8	89.66
S1.5	74.9 YRS.	0.3696E+13	8	69.79
L2	80.1 YRS.	0.3700E+13	8	65.06
S1	85.3 YRS.	0.3795E+13	8	54.42
R3	68.7 YRS.	0.3840E+13	8	87.26
L1.5	103.5 YRS.	0.3958E+13	8	44.02
S0.5	113.2 YRS.	0.4014E+13	9	33.57
L1	129.9 YRS.	0.4070E+13	9	32.23
S0	144.8 YRS.	0.4100E+13	9	24.43
R2.5	91.2 YRS.	0.4138E+13	9	43.41
L0.5	189.4 YRS.	0.4218E+13	9	19.96
L0	251.2 YRS.	0.4246E+13	9	16.39
R2	122.1 YRS.	0.4272E+13	9	23.14
R1.5	185.3 YRS.	0.4382E+13	9	13.40
S-.5	279.5 YRS.	0.4383E+13	9	12.21
R1	255.7 YRS.	0.4415E+13	9	11.17
R0.5	363.5 YRS.	0.4438E+13	9	9.86
SC	471.5 YRS.	0.4446E+13	9	9.49
SQ	48.0 YRS.	0.5988E+13	11	100.00

REPORT DATE: 07/08/11

TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

36600 Underground Conduit

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 2 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
S5	46.1 YRS.	0.3497E+13	6	100.00
S6	44.5 YRS.	0.3548E+13	6	100.00
L5	48.0 YRS.	0.3677E+13	7	100.00
S4	49.5 YRS.	0.3700E+13	7	100.00
R5	47.5 YRS.	0.3729E+13	7	100.00
L4	53.2 YRS.	0.4037E+13	7	99.50
S3	55.8 YRS.	0.4116E+13	7	99.57
R4	54.7 YRS.	0.4261E+13	7	100.00
L3	63.4 YRS.	0.4352E+13	7	87.39
S2	66.0 YRS.	0.4463E+13	7	86.45
S1.5	77.5 YRS.	0.4696E+13	7	65.87
L2	83.3 YRS.	0.4710E+13	7	61.87
S1	89.2 YRS.	0.4793E+13	8	50.25
R3	71.8 YRS.	0.4850E+13	8	81.26
L1.5	109.3 YRS.	0.4964E+13	8	40.10
S0.5	119.5 YRS.	0.5010E+13	8	30.43
L1	139.9 YRS.	0.5075E+13	8	28.57
S0	154.5 YRS.	0.5089E+13	8	22.07
R2.5	98.1 YRS.	0.5148E+13	8	35.56
L0.5	206.1 YRS.	0.5211E+13	8	17.52
L0	273.3 YRS.	0.5235E+13	8	14.67
R2	132.6 YRS.	0.5272E+13	8	19.45
S-.5	312.2 YRS.	0.5369E+13	8	10.67
R1.5	205.4 YRS.	0.5370E+13	8	11.55
R1	286.2 YRS.	0.5398E+13	8	9.77
R0.5	406.9 YRS.	0.5419E+13	8	8.75
SC	531.7 YRS.	0.5425E+13	8	8.42
SQ	48.4 YRS.	0.6062E+13	9	100.00

REPORT DATE: 07/08/11

TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

36600 Underground Conduit

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10   INTERVAL BETWEEN TEST POINTS= 1   LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
S5	46.6 YRS.	0.3654E+13	5	100.00
S6	44.9 YRS.	0.3687E+13	5	100.00
L5	48.8 YRS.	0.3819E+13	5	100.00
S4	50.0 YRS.	0.3840E+13	5	100.00
R5	48.3 YRS.	0.3918E+13	5	100.00
L4	54.0 YRS.	0.4163E+13	5	99.33
S3	56.4 YRS.	0.4212E+13	6	99.44
R4	55.6 YRS.	0.4401E+13	6	100.00
L3	64.4 YRS.	0.4443E+13	6	86.38
S2	67.4 YRS.	0.4525E+13	6	84.37
S1.5	79.1 YRS.	0.4773E+13	6	63.54
L2	85.5 YRS.	0.4797E+13	6	59.69
S1	92.0 YRS.	0.4866E+13	6	47.52
R3	74.4 YRS.	0.4968E+13	6	75.54
L1.5	113.3 YRS.	0.5084E+13	6	37.59
S0.5	124.5 YRS.	0.5124E+13	6	28.28
S0	160.8 YRS.	0.5214E+13	6	20.70
L1	145.0 YRS.	0.5216E+13	6	26.89
R2.5	102.7 YRS.	0.5308E+13	6	31.36
L0.5	215.7 YRS.	0.5364E+13	6	16.31
L0	288.9 YRS.	0.5387E+13	6	13.63
R2	140.3 YRS.	0.5444E+13	6	17.34
S-.5	331.6 YRS.	0.5546E+13	6	9.91
R1.5	219.4 YRS.	0.5550E+13	6	10.52
R1	308.9 YRS.	0.5580E+13	6	8.94
R0.5	434.7 YRS.	0.5602E+13	6	8.17
SC	570.5 YRS.	0.5608E+13	6	7.84
SQ	48.4 YRS.	0.6067E+13	7	100.00

REPORT DATE: 07/08/11

TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

36600 Underground Conduit

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 1 INTERVAL BETWEEN TEST POINTS= 0 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
R1	174.8 YRS.	0.2409E+07	0	17.88
S-.5	195.9 YRS.	0.6472E+07	0	18.97
R1.5	130.5 YRS.	0.2754E+08	0	23.36
R0.5	241.1 YRS.	0.3736E+08	0	15.27
S0	116.1 YRS.	0.7857E+08	0	34.27
R2	92.7 YRS.	0.9968E+08	0	42.49
S1	75.3 YRS.	0.1119E+09	0	66.75
L1.5	88.3 YRS.	0.1494E+09	0	56.07
L0	189.8 YRS.	0.1642E+09	0	23.49
S4	46.4 YRS.	0.1764E+09	0	100.00
S1.5	66.7 YRS.	0.2586E+09	0	82.12
L0.5	145.4 YRS.	0.3577E+09	0	29.61
R4	49.9 YRS.	0.3854E+09	0	100.00
SC	312.5 YRS.	0.4000E+09	0	14.32
L4	49.2 YRS.	0.4188E+09	0	99.92
R2.5	74.7 YRS.	0.5509E+09	0	71.21
L5	45.4 YRS.	0.7804E+09	0	100.00
L2	71.8 YRS.	0.8443E+09	0	73.66
S0.5	93.5 YRS.	0.1019E+10	0	46.56
L1	107.5 YRS.	0.1251E+10	0	42.72
S5	43.9 YRS.	0.1918E+10	0	100.00
L3	57.3 YRS.	0.2257E+10	0	93.05
R3	60.1 YRS.	0.2264E+10	0	98.25
S3	51.3 YRS.	0.2612E+10	0	99.98
R5	44.6 YRS.	0.2980E+10	0	100.00
S2	59.1 YRS.	0.4373E+10	0	95.12
S6	42.8 YRS.	0.1025E+11	0	100.00
SQ	46.1 YRS.	0.3454E+13	11	100.00

REPORT DATE: 07/08/2011

TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

36600 Underground Conduit

PERIOD RETIREMENTS METHOD

RETIREMENT BAND: 2006 THROUGH 2011

ACTUAL RETIREMENTS: 3562704.

DISPERSION	AVERAGE SERVICE LIFE	SIMULATED RETIREMENTS	DIFFERENCE	INDEX OF VARIATION	RET. EXP. INDEX
SQ	39.4 YRS.	3,907,272.00	(344,568.00)	1,145	100.00
S6	40.2 YRS.	3,561,680.00	1,024.00	1,190	100.00
S5	40.9 YRS.	3,562,328.00	376.00	1,207	100.00
R5	41.0 YRS.	3,562,608.00	96.00	1,216	100.00
L5	41.6 YRS.	3,562,096.00	608.00	1,217	100.00
S4	42.0 YRS.	3,562,616.00	88.00	1,225	100.00
L4	43.7 YRS.	3,562,392.00	312.00	1,226	100.00
R4	42.9 YRS.	3,562,008.00	696.00	1,234	100.00
S3	44.4 YRS.	3,561,992.00	712.00	1,235	100.00
L3	48.1 YRS.	3,562,112.00	592.00	1,240	98.74
S2	48.1 YRS.	3,562,264.00	440.00	1,243	99.97
R3	46.9 YRS.	3,562,200.00	504.00	1,245	100.00
L2	55.6 YRS.	3,562,448.00	256.00	1,247	90.07
S1.5	51.6 YRS.	3,562,592.00	112.00	1,247	98.70
S1	55.7 YRS.	3,562,624.00	80.00	1,250	93.92
S0.5	62.8 YRS.	3,562,504.00	200.00	1,253	81.31
L1.5	62.5 YRS.	3,562,528.00	176.00	1,253	81.13
R2.5	51.2 YRS.	3,562,280.00	424.00	1,254	99.85
S0	71.9 YRS.	3,562,608.00	96.00	1,255	66.77
L1	71.0 YRS.	3,562,512.00	192.00	1,257	70.24
L0.5	84.9 YRS.	3,562,616.00	88.00	1,260	57.99
R2	57.1 YRS.	3,562,528.00	176.00	1,261	95.73
L0	102.6 YRS.	3,562,776.00	(72.00)	1,262	47.94
R1.5	67.6 YRS.	3,562,640.00	64.00	1,269	75.99
S-.5	94.6 YRS.	3,562,664.00	40.00	1,272	46.80
R1	81.6 YRS.	3,562,512.00	192.00	1,274	54.42
R0.5	103.5 YRS.	3,562,672.00	32.00	1,278	40.40
SC	128.8 YRS.	3,562,568.00	136.00	1,280	34.75

REPORT DATE: 07/08/11

TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

36700 Underground Conductors and Devic

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 3 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
S4	27.7 YRS.	0.2248E+14	16	100.00
L5	27.4 YRS.	0.2315E+14	17	100.00
S5	27.0 YRS.	0.2318E+14	17	100.00
R5	27.3 YRS.	0.2362E+14	17	100.00
R4	28.0 YRS.	0.2367E+14	17	100.00
L4	28.4 YRS.	0.2499E+14	17	100.00
S6	26.9 YRS.	0.2572E+14	17	100.00
S3	28.4 YRS.	0.2579E+14	17	100.00
R3	29.3 YRS.	0.2877E+14	18	100.00
L3	30.2 YRS.	0.3106E+14	19	100.00
S2	29.7 YRS.	0.3270E+14	20	100.00
R2.5	30.6 YRS.	0.3672E+14	21	100.00
S1.5	31.1 YRS.	0.3837E+14	21	100.00
L2	33.0 YRS.	0.4246E+14	23	100.00
S1	32.6 YRS.	0.4547E+14	23	100.00
R2	32.4 YRS.	0.4730E+14	24	100.00
L1.5	35.5 YRS.	0.5119E+14	25	99.99
S0.5	34.6 YRS.	0.5507E+14	26	100.00
L1	38.5 YRS.	0.6060E+14	27	99.85
R1.5	35.1 YRS.	0.6156E+14	27	100.00
S0	37.6 YRS.	0.6487E+14	28	100.00
L0.5	43.0 YRS.	0.7038E+14	29	97.97
R1	38.9 YRS.	0.7526E+14	30	100.00
L0	49.1 YRS.	0.7943E+14	31	93.13
S-.5	44.1 YRS.	0.8105E+14	31	100.00
R0.5	45.2 YRS.	0.8732E+14	33	100.00
SC	53.2 YRS.	0.9430E+14	34	94.48
SQ	29.3 YRS.	0.1445E+15	42	100.00

TAMPA ELECTRIC COMPANY
DOCKET NO. 110131-EI
STAFF'S FIRST DATA REQUEST
FILED: AUGUST 1, 2011

TEC - 2011 CASE

REPORT DATE: 07/08/11 SIMULATED PLANT-RECORD METHOD

36700 Underground Conductors and Devic

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 2 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
S4	27.9 YRS.	0.2910E+14	15	100.00
R4	28.2 YRS.	0.2973E+14	15	100.00
L5	27.8 YRS.	0.3038E+14	15	100.00
S5	27.4 YRS.	0.3087E+14	16	100.00
L4	28.5 YRS.	0.3121E+14	16	100.00
R5	27.5 YRS.	0.3124E+14	16	100.00
S3	28.9 YRS.	0.3177E+14	16	100.00
S6	27.0 YRS.	0.3383E+14	16	100.00
R3	29.6 YRS.	0.3478E+14	17	100.00
L3	30.3 YRS.	0.3731E+14	17	100.00
S2	30.2 YRS.	0.3868E+14	17	100.00
R2.5	30.9 YRS.	0.4372E+14	19	100.00
S1.5	31.3 YRS.	0.4527E+14	19	100.00
L2	33.6 YRS.	0.4939E+14	20	100.00
S1	32.7 YRS.	0.5306E+14	21	100.00
R2	32.9 YRS.	0.5569E+14	21	100.00
L1.5	36.0 YRS.	0.5917E+14	22	99.99
S0.5	35.2 YRS.	0.6387E+14	23	100.00
L1	39.1 YRS.	0.6978E+14	24	99.80
R1.5	35.7 YRS.	0.7180E+14	24	100.00
S0	38.1 YRS.	0.7504E+14	25	100.00
L0.5	44.1 YRS.	0.8107E+14	26	97.51
R1	39.9 YRS.	0.8731E+14	27	100.00
L0	49.8 YRS.	0.9124E+14	27	92.59
S-.5	44.8 YRS.	0.9328E+14	27	100.00
R0.5	46.4 YRS.	0.1005E+15	28	100.00
SC	55.1 YRS.	0.1081E+15	30	91.23
SQ	29.4 YRS.	0.1560E+15	36	100.00

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TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

36700 Underground Conductors and Devic

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10   INTERVAL BETWEEN TEST POINTS= 1   LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
S4	28.0 YRS.	0.3304E+14	13	100.00
R4	28.5 YRS.	0.3360E+14	13	100.00
L5	27.9 YRS.	0.3436E+14	13	100.00
S3	29.0 YRS.	0.3518E+14	13	100.00
L4	28.6 YRS.	0.3521E+14	13	100.00
S5	27.5 YRS.	0.3560E+14	13	100.00
R5	27.5 YRS.	0.3645E+14	14	100.00
R3	29.8 YRS.	0.3863E+14	14	100.00
S6	27.1 YRS.	0.4003E+14	14	100.00
L3	30.8 YRS.	0.4115E+14	14	100.00
S2	30.3 YRS.	0.4312E+14	15	100.00
R2.5	31.2 YRS.	0.4827E+14	16	100.00
S1.5	31.7 YRS.	0.4999E+14	16	100.00
L2	33.7 YRS.	0.5482E+14	17	100.00
S1	33.2 YRS.	0.5857E+14	17	100.00
R2	33.0 YRS.	0.6105E+14	18	100.00
L1.5	36.5 YRS.	0.6538E+14	18	99.98
S0.5	35.7 YRS.	0.7019E+14	19	100.00
L1	39.6 YRS.	0.7666E+14	20	99.73
R1.5	36.1 YRS.	0.7786E+14	20	100.00
S0	38.7 YRS.	0.8204E+14	21	100.00
L0.5	44.3 YRS.	0.8833E+14	21	97.42
R1	40.4 YRS.	0.9391E+14	22	100.00
L0	50.5 YRS.	0.9875E+14	23	92.07
S-.5	45.7 YRS.	0.1003E+15	23	100.00
R0.5	47.3 YRS.	0.1074E+15	24	100.00
SC	55.6 YRS.	0.1150E+15	24	90.32
SQ	29.2 YRS.	0.1864E+15	31	100.00

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TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

36700 Underground Conductors and Devic

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 1 INTERVAL BETWEEN TEST POINTS= 0 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
SC	44.4 YRS.	0.1717E+10	0	100.00
S-.5	38.2 YRS.	0.2444E+10	0	100.00
R1	34.5 YRS.	0.3533E+10	0	100.00
R1.5	32.1 YRS.	0.8818E+10	0	100.00
L1.5	32.8 YRS.	0.9336E+10	0	100.00
L1	34.9 YRS.	0.1324E+11	0	99.99
S6	26.1 YRS.	0.1351E+11	0	100.00
R2	30.2 YRS.	0.1599E+11	0	100.00
L0.5	38.2 YRS.	0.1603E+11	0	99.36
S2	28.3 YRS.	0.1940E+11	0	100.00
L3	28.7 YRS.	0.1983E+11	0	100.00
L2	30.8 YRS.	0.2401E+11	0	100.00
S3	27.3 YRS.	0.2818E+11	0	100.00
S1.5	29.3 YRS.	0.3889E+11	0	100.00
R5	26.5 YRS.	0.4493E+11	0	100.00
R0.5	38.9 YRS.	0.5127E+11	1	100.00
L0	42.3 YRS.	0.5338E+11	1	97.25
S0	33.8 YRS.	0.5479E+11	1	100.00
S0.5	31.8 YRS.	0.7088E+11	1	100.00
S1	30.4 YRS.	0.8214E+11	1	100.00
S4	26.7 YRS.	0.8681E+11	1	100.00
L4	27.2 YRS.	0.9792E+11	1	100.00
L5	26.7 YRS.	0.1110E+12	1	100.00
R4	26.9 YRS.	0.1323E+12	1	100.00
R2.5	28.9 YRS.	0.1371E+12	1	100.00
R3	28.1 YRS.	0.1412E+12	1	100.00
S5	26.5 YRS.	0.2386E+12	2	100.00
SQ	28.4 YRS.	0.5928E+14	36	100.00

TAMPA ELECTRIC COMPANY
DOCKET NO. 110131-EI
STAFF'S FIRST DATA REQUEST
FILED: AUGUST 1, 2011

REPORT DATE: 07/08/2011

TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

36700 Underground Conductors and Devices

PERIOD RETIREMENTS METHOD

RETIREMENT BAND: 2006 THROUGH 2011

ACTUAL RETIREMENTS: 22155620.

DISPERSION	AVERAGE SERVICE LIFE	SIMULATED RETIREMENTS	DIFFERENCE	INDEX OF VARIATION	RET. EXP. INDEX
SQ	24.3 YRS.	22,413,550.00	(257,936.00)	707	100.00
S6	24.0 YRS.	22,155,740.00	(128.00)	709	100.00
S5	23.6 YRS.	22,156,460.00	(848.00)	734	100.00
R5	23.4 YRS.	22,156,020.00	(400.00)	736	100.00
L5	23.5 YRS.	22,156,640.00	(1,024.00)	741	100.00
R4	23.1 YRS.	22,155,280.00	336.00	742	100.00
L1	26.5 YRS.	22,155,500.00	112.00	743	100.00
S0.5	25.2 YRS.	22,155,300.00	320.00	743	100.00
S0	26.0 YRS.	22,155,070.00	544.00	743	100.00
S1	24.5 YRS.	22,155,250.00	368.00	744	100.00
L1.5	25.5 YRS.	22,155,140.00	480.00	745	100.00
L0.5	28.0 YRS.	22,155,220.00	400.00	745	100.00
S1.5	24.0 YRS.	22,155,380.00	240.00	745	100.00
R2	24.6 YRS.	22,155,440.00	176.00	746	100.00
R1.5	25.4 YRS.	22,155,340.00	272.00	746	100.00
R2.5	24.1 YRS.	22,155,300.00	320.00	746	100.00
R3	23.6 YRS.	22,155,260.00	352.00	746	100.00
L0	29.8 YRS.	22,155,170.00	448.00	746	99.97
L2	24.5 YRS.	22,155,220.00	400.00	746	100.00
R1	26.2 YRS.	22,155,200.00	416.00	746	100.00
S-.5	27.4 YRS.	22,155,040.00	576.00	746	100.00
S2	23.5 YRS.	22,155,420.00	192.00	747	100.00
R0.5	27.5 YRS.	22,155,090.00	528.00	747	100.00
S4	23.1 YRS.	22,155,730.00	(112.00)	749	100.00
SC	29.2 YRS.	22,155,260.00	352.00	749	100.00
L4	23.3 YRS.	22,155,890.00	(272.00)	750	100.00
S3	23.0 YRS.	22,155,410.00	208.00	750	100.00
L3	23.5 YRS.	22,155,420.00	192.00	751	100.00

REPORT DATE: 07/08/11 TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

36800 Line Transformers - OH

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 3 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
SC	33.4 YRS.	0.1181E+16	54	100.00
R0.5	30.7 YRS.	0.1351E+16	58	100.00
L0	33.7 YRS.	0.1388E+16	59	99.97
S-.5	30.8 YRS.	0.1422E+16	60	100.00
L0.5	31.4 YRS.	0.1560E+16	63	100.00
R1	28.5 YRS.	0.1566E+16	63	100.00
S0	28.6 YRS.	0.1715E+16	66	100.00
R1.5	27.3 YRS.	0.1758E+16	67	100.00
L1	29.5 YRS.	0.1769E+16	67	100.00
S0.5	27.4 YRS.	0.1896E+16	69	100.00
L1.5	28.2 YRS.	0.1950E+16	70	100.00
R2	26.1 YRS.	0.1975E+16	71	100.00
S1	26.4 YRS.	0.2097E+16	73	100.00
R2.5	25.4 YRS.	0.2140E+16	74	100.00
L2	27.0 YRS.	0.2165E+16	74	100.00
S1.5	25.8 YRS.	0.2233E+16	75	100.00
R3	24.8 YRS.	0.2330E+16	77	100.00
S2	25.1 YRS.	0.2390E+16	78	100.00
L3	25.4 YRS.	0.2468E+16	79	100.00
R4	24.2 YRS.	0.2582E+16	81	100.00
S3	24.5 YRS.	0.2590E+16	81	100.00
L4	24.5 YRS.	0.2674E+16	82	100.00
S4	23.9 YRS.	0.2767E+16	84	100.00
R5	23.8 YRS.	0.2811E+16	84	100.00
L5	23.9 YRS.	0.2821E+16	85	100.00
S5	23.7 YRS.	0.2877E+16	85	100.00
S6	23.6 YRS.	0.2949E+16	86	100.00
SQ	25.5 YRS.	0.3735E+16	97	100.00

REPORT DATE: 07/08/11 TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

36800 Line Transformers - OH

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 2 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
SC	33.9 YRS.	0.1232E+16	45	100.00
R0.5	31.1 YRS.	0.1410E+16	49	100.00
L0	33.9 YRS.	0.1461E+16	49	99.96
S-.5	30.9 YRS.	0.1488E+16	50	100.00
R1	29.0 YRS.	0.1635E+16	52	100.00
L0.5	31.6 YRS.	0.1644E+16	53	100.00
S0	28.8 YRS.	0.1806E+16	55	100.00
R1.5	27.4 YRS.	0.1829E+16	55	100.00
L1	29.7 YRS.	0.1871E+16	56	100.00
S0.5	27.5 YRS.	0.1998E+16	58	100.00
R2	26.5 YRS.	0.2050E+16	59	100.00
L1.5	28.4 YRS.	0.2058E+16	59	100.00
S1	26.5 YRS.	0.2208E+16	61	100.00
R2.5	25.5 YRS.	0.2210E+16	61	100.00
L2	27.1 YRS.	0.2288E+16	62	100.00
S1.5	25.9 YRS.	0.2341E+16	63	100.00
R3	24.9 YRS.	0.2398E+16	64	100.00
S2	25.2 YRS.	0.2499E+16	65	100.00
L3	25.5 YRS.	0.2587E+16	66	100.00
R4	24.3 YRS.	0.2638E+16	67	100.00
S3	24.6 YRS.	0.2683E+16	67	100.00
L4	24.6 YRS.	0.2758E+16	68	100.00
S4	24.0 YRS.	0.2829E+16	69	100.00
R5	23.9 YRS.	0.2843E+16	69	100.00
L5	24.0 YRS.	0.2872E+16	70	100.00
S5	23.9 YRS.	0.2905E+16	70	100.00
S6	23.7 YRS.	0.2947E+16	71	100.00
SQ	25.9 YRS.	0.5210E+16	94	100.00

TEC - 2011 CASE

REPORT DATE: 07/08/11 SIMULATED PLANT-RECORD METHOD

36800 Line Transformers - OH

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 1 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
SC	34.5 YRS.	0.6767E+15	27	100.00
R0.5	31.4 YRS.	0.8036E+15	30	100.00
L0	34.6 YRS.	0.8433E+15	31	99.94
S-.5	31.5 YRS.	0.8650E+15	31	100.00
R1	29.3 YRS.	0.9680E+15	33	100.00
L0.5	32.2 YRS.	0.9910E+15	33	100.00
S0	29.4 YRS.	0.1113E+16	35	100.00
R1.5	28.0 YRS.	0.1121E+16	35	100.00
L1	30.3 YRS.	0.1183E+16	36	100.00
S0.5	28.1 YRS.	0.1269E+16	38	100.00
R2	26.7 YRS.	0.1302E+16	38	100.00
L1.5	28.6 YRS.	0.1351E+16	39	100.00
R2.5	26.1 YRS.	0.1454E+16	40	100.00
S1	27.1 YRS.	0.1455E+16	40	100.00
L2	27.6 YRS.	0.1564E+16	42	100.00
S1.5	26.4 YRS.	0.1584E+16	42	100.00
R3	25.2 YRS.	0.1637E+16	43	100.00
S2	25.7 YRS.	0.1738E+16	44	100.00
L3	26.0 YRS.	0.1855E+16	46	100.00
R4	24.5 YRS.	0.1896E+16	46	100.00
S3	24.9 YRS.	0.1942E+16	47	100.00
L4	24.8 YRS.	0.2029E+16	48	100.00
S4	24.2 YRS.	0.2114E+16	49	100.00
R5	24.2 YRS.	0.2138E+16	49	100.00
L5	24.2 YRS.	0.2162E+16	49	100.00
S5	24.1 YRS.	0.2208E+16	50	100.00
S6	24.0 YRS.	0.2262E+16	50	100.00
SQ	26.1 YRS.	0.4927E+16	75	100.00

REPORT DATE: 07/08/11 TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

36800 Line Transformers - OH

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 1 INTERVAL BETWEEN TEST POINTS= 0 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
S-.5	31.8 YRS.	0.1285E+08	0	100.00
L0	34.9 YRS.	0.4071E+10	0	99.93
S1	27.9 YRS.	0.1700E+11	0	100.00
R1.5	28.6 YRS.	0.2149E+11	0	100.00
S4	25.5 YRS.	0.3818E+11	0	100.00
R2	27.6 YRS.	0.4704E+11	0	100.00
R0.5	31.8 YRS.	0.5805E+11	0	100.00
L1	30.9 YRS.	0.5805E+11	0	100.00
R2.5	26.9 YRS.	0.6965E+11	0	100.00
S0	29.9 YRS.	0.9294E+11	0	100.00
R3	26.2 YRS.	0.1160E+12	0	100.00
R1	29.9 YRS.	0.1503E+12	0	100.00
R4	25.6 YRS.	0.1795E+12	0	100.00
S0.5	28.9 YRS.	0.2322E+12	1	100.00
L0.5	32.8 YRS.	0.2883E+12	1	99.99
SC	34.5 YRS.	0.2990E+12	1	100.00
L4	26.0 YRS.	0.3317E+12	1	100.00
S2	26.8 YRS.	0.3969E+12	1	100.00
S1.5	27.2 YRS.	0.4266E+12	1	100.00
L2	28.5 YRS.	0.4722E+12	1	100.00
R5	25.2 YRS.	0.8224E+12	2	100.00
L3	26.9 YRS.	0.8487E+12	2	100.00
L1.5	29.5 YRS.	0.8742E+12	2	100.00
S3	26.1 YRS.	0.1255E+13	2	100.00
L5	25.4 YRS.	0.1331E+13	2	100.00
S5	25.3 YRS.	0.1889E+13	3	100.00
S6	25.2 YRS.	0.2120E+13	3	100.00
SQ	27.5 YRS.	0.6396E+15	58	100.00

REPORT DATE: 07/08/2011

TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

36800 Line Transformers - OH

PERIOD RETIREMENTS METHOD

RETIREMENT BAND: 2006 THROUGH 2011

ACTUAL RETIREMENTS: 53260260.

DISPERSION	AVERAGE SERVICE LIFE	SIMULATED RETIREMENTS	DIFFERENCE	INDEX OF VARIATION	RET. EXP. INDEX
L3	26.8 YRS.	53,260,060.00	192.00	169	100.00
L4	26.4 YRS.	53,259,680.00	576.00	170	100.00
S3	26.1 YRS.	53,259,550.00	704.00	170	100.00
S2	26.0 YRS.	53,259,520.00	736.00	171	100.00
S1.5	26.0 YRS.	53,259,200.00	1,056.00	172	100.00
R2.5	25.7 YRS.	53,258,820.00	1,440.00	172	100.00
R3	25.7 YRS.	53,259,070.00	1,184.00	172	100.00
R2	25.8 YRS.	53,259,580.00	672.00	172	100.00
SC	27.5 YRS.	53,259,100.00	1,152.00	172	100.00
R1.5	25.9 YRS.	53,259,260.00	992.00	172	100.00
R0.5	26.8 YRS.	53,260,320.00	(64.00)	172	100.00
R1	26.2 YRS.	53,259,330.00	928.00	172	100.00
S4	26.2 YRS.	53,259,620.00	640.00	172	100.00
S1	26.0 YRS.	53,259,970.00	288.00	173	100.00
L2	26.9 YRS.	53,260,000.00	256.00	173	100.00
S-.5	26.9 YRS.	53,259,360.00	896.00	173	100.00
L1.5	27.0 YRS.	53,260,420.00	(160.00)	173	100.00
S0.5	26.2 YRS.	53,260,160.00	96.00	174	100.00
R4	25.8 YRS.	53,258,560.00	1,696.00	174	100.00
L1	27.2 YRS.	53,259,420.00	832.00	174	100.00
S0	26.3 YRS.	53,259,550.00	704.00	174	100.00
L0.5	27.8 YRS.	53,259,870.00	384.00	174	100.00
L0	28.4 YRS.	53,259,550.00	704.00	175	100.00
L5	26.4 YRS.	53,258,430.00	1,824.00	176	100.00
R5	26.0 YRS.	53,256,510.00	3,744.00	182	100.00
S5	26.2 YRS.	53,258,620.00	1,632.00	185	100.00
S6	26.1 YRS.	53,260,130.00	128.00	203	100.00
SQ	26.3 YRS.	54,520,800.00	**********	263	100.00

TEC - 2011 CASE

REPORT DATE: 07/08/11 SIMULATED PLANT-RECORD METHOD

36901 Services - OH

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 3 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
SC	56.2 YRS.	0.8304E+14	70	100.00
R0.5	49.5 YRS.	0.9111E+14	74	100.00
S-.5	48.8 YRS.	0.9701E+14	76	100.00
L0	54.6 YRS.	0.9806E+14	76	93.36
R1	44.3 YRS.	0.1039E+15	79	100.00
L0.5	49.3 YRS.	0.1085E+15	80	97.54
S0	44.1 YRS.	0.1160E+15	83	100.00
R1.5	41.6 YRS.	0.1183E+15	84	100.00
L1	45.0 YRS.	0.1219E+15	85	99.66
S0.5	41.5 YRS.	0.1285E+15	88	100.00
L1.5	42.3 YRS.	0.1343E+15	90	99.95
R2	39.2 YRS.	0.1359E+15	90	100.00
S1	39.2 YRS.	0.1434E+15	93	100.00
L2	40.2 YRS.	0.1493E+15	94	100.00
R2.5	37.4 YRS.	0.1513E+15	95	100.00
S1.5	37.9 YRS.	0.1548E+15	96	100.00
S2	36.9 YRS.	0.1676E+15	100	100.00
R3	36.1 YRS.	0.1682E+15	100	100.00
L3	37.1 YRS.	0.1721E+15	101	100.00
S3	35.3 YRS.	0.1858E+15	105	100.00
R4	34.9 YRS.	0.1910E+15	107	100.00
L4	35.2 YRS.	0.1920E+15	107	100.00
S4	34.4 YRS.	0.2022E+15	110	100.00
L5	34.0 YRS.	0.2060E+15	111	100.00
R5	34.0 YRS.	0.2095E+15	112	100.00
S5	33.9 YRS.	0.2127E+15	113	100.00
S6	33.4 YRS.	0.2187E+15	114	100.00
SQ	36.3 YRS.	0.2532E+15	123	100.00

REPORT DATE: 07/08/11

TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

36901 Services - OH

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 2 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
SC	56.2 YRS.	0.9949E+14	65	100.00
R0.5	49.5 YRS.	0.1087E+15	68	100.00
S-.5	48.8 YRS.	0.1151E+15	70	100.00
L0	54.2 YRS.	0.1161E+15	71	93.56
R1	44.3 YRS.	0.1232E+15	73	100.00
L0.5	49.0 YRS.	0.1279E+15	74	97.66
S0	43.7 YRS.	0.1363E+15	77	100.00
R1.5	41.2 YRS.	0.1396E+15	78	100.00
L1	45.2 YRS.	0.1427E+15	79	99.63
S0.5	41.5 YRS.	0.1505E+15	81	100.00
L1.5	42.5 YRS.	0.1568E+15	82	99.94
R2	38.8 YRS.	0.1596E+15	83	100.00
S1	39.0 YRS.	0.1672E+15	85	100.00
L2	40.0 YRS.	0.1736E+15	87	100.00
R2.5	37.4 YRS.	0.1771E+15	88	100.00
S1.5	37.6 YRS.	0.1803E+15	88	100.00
S2	36.7 YRS.	0.1948E+15	92	100.00
R3	36.1 YRS.	0.1962E+15	92	100.00
L3	36.8 YRS.	0.1997E+15	93	100.00
S3	35.1 YRS.	0.2157E+15	97	100.00
R4	34.5 YRS.	0.2220E+15	98	100.00
L4	34.8 YRS.	0.2226E+15	98	100.00
S4	34.2 YRS.	0.2343E+15	101	100.00
L5	34.0 YRS.	0.2385E+15	102	100.00
R5	33.7 YRS.	0.2428E+15	103	100.00
S5	33.7 YRS.	0.2462E+15	103	100.00
S6	33.2 YRS.	0.2535E+15	105	100.00
SQ	36.1 YRS.	0.3005E+15	114	100.00

TEC - 2011 CASE

REPORT DATE: 07/08/11 SIMULATED PLANT-RECORD METHOD

36901 Services - OH

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 1 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
SC	57.9 YRS.	0.8651E+14	52	97.12
R0.5	50.8 YRS.	0.9424E+14	54	100.00
S-.5	50.3 YRS.	0.9965E+14	56	100.00
L0	56.2 YRS.	0.1004E+15	56	92.32
R1	45.4 YRS.	0.1066E+15	58	100.00
L0.5	50.3 YRS.	0.1103E+15	59	97.15
S0	45.0 YRS.	0.1174E+15	60	100.00
R1.5	42.3 YRS.	0.1208E+15	61	100.00
L1	46.3 YRS.	0.1227E+15	62	99.45
S0.5	42.3 YRS.	0.1295E+15	63	100.00
L1.5	43.1 YRS.	0.1346E+15	65	99.92
R2	39.4 YRS.	0.1380E+15	66	100.00
S1	39.8 YRS.	0.1436E+15	67	100.00
L2	40.6 YRS.	0.1489E+15	68	100.00
R2.5	38.0 YRS.	0.1529E+15	69	100.00
S1.5	38.4 YRS.	0.1549E+15	69	100.00
S2	37.1 YRS.	0.1674E+15	72	100.00
R3	36.7 YRS.	0.1691E+15	73	100.00
L3	37.4 YRS.	0.1717E+15	73	100.00
S3	35.8 YRS.	0.1856E+15	76	100.00
R4	35.1 YRS.	0.1910E+15	77	100.00
L4	35.4 YRS.	0.1925E+15	77	100.00
S4	34.6 YRS.	0.2027E+15	80	100.00
L5	34.5 YRS.	0.2077E+15	81	100.00
R5	34.2 YRS.	0.2110E+15	81	100.00
S5	34.0 YRS.	0.2153E+15	82	100.00
S6	33.9 YRS.	0.2243E+15	84	100.00
SQ	36.5 YRS.	0.2673E+15	91	100.00

REPORT DATE: 07/08/11 TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

36901 Services - OH

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 1 INTERVAL BETWEEN TEST POINTS= 0 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
L2	48.8 YRS.	0.2849E+07	0	99.72
L0	71.1 YRS.	0.9761E+08	0	81.41
L0.5	63.0 YRS.	0.1893E+09	0	89.47
S2	44.0 YRS.	0.4380E+09	0	100.00
S0.5	51.2 YRS.	0.6326E+09	0	100.00
SC	75.6 YRS.	0.9034E+09	0	74.45
S-.5	63.3 YRS.	0.1363E+10	0	92.13
L4	41.5 YRS.	0.1594E+10	0	100.00
L1.5	52.5 YRS.	0.2254E+10	0	98.37
R2.5	44.8 YRS.	0.2403E+10	0	100.00
R0.5	64.8 YRS.	0.2410E+10	0	91.33
R1	56.3 YRS.	0.3833E+10	0	99.99
R5	39.9 YRS.	0.3989E+10	0	100.00
R1.5	50.9 YRS.	0.4028E+10	0	100.00
L1	56.9 YRS.	0.4261E+10	0	95.40
R2	47.4 YRS.	0.5388E+10	0	100.00
R4	40.9 YRS.	0.5650E+10	1	100.00
S0	55.0 YRS.	0.6690E+10	1	100.00
S6	39.3 YRS.	0.1060E+11	1	100.00
S3	42.0 YRS.	0.1121E+11	1	100.00
S1	47.7 YRS.	0.1468E+11	1	100.00
S4	40.6 YRS.	0.1550E+11	1	100.00
R3	42.8 YRS.	0.1552E+11	1	100.00
S1.5	46.0 YRS.	0.1811E+11	1	100.00
L3	44.6 YRS.	0.2070E+11	1	100.00
S5	39.5 YRS.	0.3211E+11	2	100.00
L5	40.5 YRS.	0.3657E+11	2	100.00
SQ	42.4 YRS.	0.1048E+14	44	100.00

REPORT DATE: 07/08/2011

TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

36901 Services - OH

PERIOD RETIREMENTS METHOD

RETIREMENT BAND: 2006 THROUGH 2011 ACTUAL RETIREMENTS: 759790.

DISPERSION	AVERAGE SERVICE LIFE	SIMULATED RETIREMENTS	DIFFERENCE	INDEX OF VARIATION	RET. EXP. INDEX
SC	322.6 YRS.	759,782.00	8.00	117	17.44
R0.5	253.6 YRS.	759,782.00	8.00	117	18.54
R1	190.9 YRS.	759,734.00	56.00	120	21.52
S-.5	219.9 YRS.	759,790.00	-	121	21.84
R1.5	148.5 YRS.	759,678.00	112.00	123	27.78
L0	231.3 YRS.	759,814.00	(24.00)	128	24.41
L0.5	182.0 YRS.	759,742.00	48.00	131	29.78
R2	114.7 YRS.	759,766.00	24.00	131	44.05
S0	151.3 YRS.	759,710.00	80.00	137	32.46
R2.5	96.6 YRS.	759,790.00	-	140	66.94
L1	141.2 YRS.	759,766.00	24.00	141	40.12
S0.5	125.7 YRS.	759,726.00	64.00	142	41.65
L1.5	119.4 YRS.	759,710.00	80.00	147	50.48
S1	104.9 YRS.	759,766.00	24.00	155	56.60
R3	83.0 YRS.	759,718.00	72.00	158	91.81
S1.5	93.5 YRS.	759,758.00	32.00	161	70.49
L2	100.4 YRS.	759,750.00	40.00	161	65.31
S2	83.7 YRS.	759,838.00	(48.00)	173	85.57
L3	81.3 YRS.	759,630.00	160.00	180	86.17
R4	70.8 YRS.	759,702.00	88.00	183	100.00
S3	73.2 YRS.	759,614.00	176.00	192	98.88
L4	70.5 YRS.	759,678.00	112.00	201	98.74
S4	66.2 YRS.	759,566.00	224.00	213	100.00
R5	63.7 YRS.	759,406.00	384.00	225	100.00
L5	64.9 YRS.	759,550.00	240.00	230	99.99
S5	62.8 YRS.	759,502.00	288.00	240	100.00
S6	61.2 YRS.	759,686.00	104.00	285	100.00
SQ	60.6 YRS.	701,094.00	58,696.00	437	100.00

TEC - 2011 CASE

REPORT DATE: 07/08/11 SIMULATED PLANT-RECORD METHOD

36902 Services - UG

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 3 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
SC	107.3 YRS.	0.8761E+14	66	24.46
R0.5	86.1 YRS.	0.8861E+14	66	26.51
R1	68.0 YRS.	0.9097E+14	67	31.61
S-.5	78.6 YRS.	0.9197E+14	68	30.49
R1.5	55.9 YRS.	0.9447E+14	69	41.37
L0	84.9 YRS.	0.9579E+14	69	32.63
L0.5	69.7 YRS.	0.9906E+14	70	38.89
R2	46.8 YRS.	0.1018E+15	71	58.96
S0	58.7 YRS.	0.1020E+15	71	42.71
L1	57.9 YRS.	0.1066E+15	73	48.01
S0.5	50.9 YRS.	0.1068E+15	73	52.44
R2.5	41.5 YRS.	0.1089E+15	74	78.93
L1.5	50.8 YRS.	0.1114E+15	75	57.63
S1	45.1 YRS.	0.1154E+15	76	64.58
R3	37.8 YRS.	0.1204E+15	78	93.91
S1.5	41.6 YRS.	0.1205E+15	78	75.74
L2	45.0 YRS.	0.1210E+15	78	68.64
S2	38.7 YRS.	0.1288E+15	80	86.36
L3	38.7 YRS.	0.1341E+15	82	84.90
R4	34.5 YRS.	0.1386E+15	83	100.00
S3	35.7 YRS.	0.1407E+15	84	97.48
L4	34.9 YRS.	0.1460E+15	85	97.12
S4	33.6 YRS.	0.1533E+15	88	99.98
R5	33.0 YRS.	0.1575E+15	89	100.00
L5	33.4 YRS.	0.1577E+15	89	99.83
S5	32.7 YRS.	0.1630E+15	90	100.00
S6	32.6 YRS.	0.1708E+15	92	100.00
SQ	35.5 YRS.	0.1995E+15	100	100.00

TEC - 2011 CASE
REPORT DATE: 07/08/11 SIMULATED PLANT-RECORD METHOD

36902 Services - UG

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 2 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
SC	105.2 YRS.	0.7801E+14	49	24.95
R0.5	84.9 YRS.	0.7924E+14	50	26.95
R1	66.4 YRS.	0.8214E+14	51	32.78
S-.5	77.0 YRS.	0.8329E+14	51	31.26
R1.5	55.1 YRS.	0.8653E+14	52	42.51
L0	82.9 YRS.	0.8772E+14	52	33.57
L0.5	68.8 YRS.	0.9190E+14	53	39.61
S0	57.5 YRS.	0.9541E+14	54	43.97
R2	46.1 YRS.	0.9574E+14	55	60.72
L1	57.1 YRS.	0.1014E+15	56	48.91
S0.5	50.4 YRS.	0.1015E+15	56	53.28
R2.5	40.9 YRS.	0.1047E+15	57	80.82
L1.5	50.0 YRS.	0.1075E+15	58	58.71
S1	44.2 YRS.	0.1124E+15	59	66.60
S1.5	41.2 YRS.	0.1191E+15	61	76.83
R3	37.3 YRS.	0.1194E+15	61	95.04
L2	44.3 YRS.	0.1198E+15	61	69.76
S2	38.0 YRS.	0.1300E+15	64	88.27
L3	38.1 YRS.	0.1370E+15	65	85.85
R4	34.1 YRS.	0.1431E+15	67	100.00
S3	35.0 YRS.	0.1457E+15	67	98.21
L4	34.8 YRS.	0.1526E+15	69	97.27
S4	33.1 YRS.	0.1624E+15	71	99.99
R5	32.5 YRS.	0.1681E+15	72	100.00
L5	32.9 YRS.	0.1681E+15	72	99.89
S5	32.3 YRS.	0.1752E+15	74	100.00
S6	32.1 YRS.	0.1852E+15	76	100.00
SQ	35.0 YRS.	0.2233E+15	84	100.00

REPORT DATE: 07/08/11 TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

36902 Services - UG

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 1 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
SC	109.5 YRS.	0.4159E+14	28	23.97
R0.5	87.1 YRS.	0.4257E+14	28	26.16
R1	68.1 YRS.	0.4495E+14	29	31.54
S-.5	78.6 YRS.	0.4577E+14	29	30.48
R1.5	55.4 YRS.	0.4881E+14	30	42.04
L0	84.2 YRS.	0.4907E+14	30	32.97
L0.5	69.1 YRS.	0.5294E+14	32	39.33
S0	58.1 YRS.	0.5565E+14	32	43.32
R2	46.0 YRS.	0.5731E+14	33	61.23
S0.5	50.5 YRS.	0.6153E+14	34	53.25
L1	57.4 YRS.	0.6174E+14	34	48.57
R2.5	40.7 YRS.	0.6635E+14	35	81.35
L1.5	49.8 YRS.	0.6792E+14	36	59.06
S1	44.3 YRS.	0.7208E+14	37	66.56
S1.5	40.8 YRS.	0.7967E+14	39	77.85
L2	44.1 YRS.	0.8090E+14	39	70.11
R3	37.2 YRS.	0.8175E+14	39	95.34
S2	37.6 YRS.	0.9205E+14	42	89.13
L3	37.9 YRS.	0.1015E+15	44	86.14
R4	33.6 YRS.	0.1101E+15	46	100.00
S3	34.7 YRS.	0.1124E+15	46	98.50
L4	34.3 YRS.	0.1222E+15	48	97.72
S4	32.8 YRS.	0.1361E+15	51	99.99
L5	32.8 YRS.	0.1445E+15	52	99.90
R5	32.1 YRS.	0.1446E+15	52	100.00
S5	32.0 YRS.	0.1549E+15	54	100.00
S6	31.8 YRS.	0.1697E+15	57	100.00
SQ	34.3 YRS.	0.2082E+15	63	100.00

REPORT DATE: 07/08/11

TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

36902 Services - UG

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 1 INTERVAL BETWEEN TEST POINTS= 0 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
S0.5	62.3 YRS.	0.2310E+07	0	37.58
R1	93.1 YRS.	0.4326E+07	0	20.29
R4	37.3 YRS.	0.1943E+08	0	99.55
L2	51.5 YRS.	0.1964E+08	0	57.40
S2	43.5 YRS.	0.4441E+08	0	73.50
R0.5	123.5 YRS.	0.5547E+08	0	17.70
L3	42.7 YRS.	0.6426E+08	0	77.42
R3	42.5 YRS.	0.9185E+08	0	79.95
R1.5	72.8 YRS.	0.2700E+09	0	25.48
SC	157.2 YRS.	0.4090E+09	0	16.70
S3	38.9 YRS.	0.4659E+09	0	92.15
L1	70.8 YRS.	0.6702E+09	0	36.13
S-.5	106.7 YRS.	0.6777E+09	0	20.81
L0	112.4 YRS.	0.8368E+09	0	23.20
S4	35.8 YRS.	0.8629E+09	0	99.75
L0.5	88.7 YRS.	0.1309E+10	0	27.97
R2	56.9 YRS.	0.1310E+10	0	38.42
S1.5	47.6 YRS.	0.1517E+10	0	60.66
S0	74.3 YRS.	0.1623E+10	0	30.05
S1	52.7 YRS.	0.1679E+10	0	49.68
R2.5	48.9 YRS.	0.2349E+10	0	55.00
L1.5	59.9 YRS.	0.2505E+10	0	45.07
R5	34.7 YRS.	0.4301E+10	0	100.00
L4	37.8 YRS.	0.4430E+10	0	93.44
S5	34.6 YRS.	0.1647E+11	1	100.00
L5	35.6 YRS.	0.1906E+11	1	99.29
S6	34.1 YRS.	0.2886E+11	1	100.00
SQ	37.1 YRS.	0.2128E+14	40	100.00

REPORT DATE: 07/08/2011

TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

36902 Services - UG

PERIOD RETIREMENTS METHOD

RETIREMENT BAND: 2006 THROUGH 2011

ACTUAL RETIREMENTS: 322412.

DISPERSION	AVERAGE SERVICE LIFE	SIMULATED RETIREMENTS	DIFFERENCE	INDEX OF VARIATION	RET. EXP. INDEX
L5	49.0 YRS.	322,268.00	144.00	1,007	71.23
S4	51.0 YRS.	322,316.00	96.00	1,010	56.42
R5	48.3 YRS.	322,252.00	160.00	1,010	72.84
L4	59.0 YRS.	322,316.00	96.00	1,020	31.95
S3	62.9 YRS.	322,404.00	8.00	1,023	25.75
S5	44.9 YRS.	321,876.00	536.00	1,032	92.31
R4	63.4 YRS.	322,356.00	56.00	1,039	19.12
S2	81.3 YRS.	322,396.00	16.00	1,042	13.71
L3	75.9 YRS.	322,348.00	64.00	1,044	16.18
S1.5	102.5 YRS.	322,380.00	32.00	1,056	8.87
L2	111.4 YRS.	322,356.00	56.00	1,059	8.29
S1	122.9 YRS.	322,420.00	(8.00)	1,059	7.54
R3	97.8 YRS.	322,372.00	40.00	1,067	6.72
S0.5	179.7 YRS.	322,388.00	24.00	1,068	5.04
L1.5	159.7 YRS.	322,412.00	-	1,071	5.47
S0	239.8 YRS.	322,372.00	40.00	1,072	4.44
L1	213.0 YRS.	322,420.00	(8.00)	1,076	4.47
S6	41.5 YRS.	321,444.00	968.00	1,078	99.98
L0.5	338.3 YRS.	322,372.00	40.00	1,079	3.62
L0	455.0 YRS.	322,396.00	16.00	1,080	3.54
R2.5	155.2 YRS.	322,372.00	40.00	1,081	3.85
R2	225.9 YRS.	322,388.00	24.00	1,085	3.23
S-.5	560.5 YRS.	322,396.00	16.00	1,087	2.86
R1.5	371.1 YRS.	322,396.00	16.00	1,088	2.83
R1	526.2 YRS.	322,420.00	(8.00)	1,088	2.74
SC	991.6 YRS.	322,396.00	16.00	1,089	2.65
R0.5	756.2 YRS.	322,388.00	24.00	1,089	2.67
SQ	38.4 YRS.	444,812.00	(122,400.00)	2,059	100.00

REPORT DATE: 07/08/11 TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

37000 Meters

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 3 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
S6	19.6 YRS.	0.9301E+14	81	100.00
S5	19.5 YRS.	0.9744E+14	83	100.00
R5	19.6 YRS.	0.9792E+14	83	100.00
L5	19.5 YRS.	0.1056E+15	87	100.00
S4	19.6 YRS.	0.1064E+15	87	100.00
R4	19.5 YRS.	0.1074E+15	87	100.00
L4	19.6 YRS.	0.1207E+15	93	100.00
R3	19.6 YRS.	0.1215E+15	93	100.00
S3	19.5 YRS.	0.1227E+15	93	100.00
SQ	21.3 YRS.	0.1290E+15	96	100.00
R2.5	19.7 YRS.	0.1308E+15	96	100.00
S2	19.8 YRS.	0.1398E+15	100	100.00
R2	20.0 YRS.	0.1417E+15	100	100.00
L3	19.9 YRS.	0.1454E+15	102	100.00
S1.5	19.9 YRS.	0.1484E+15	103	100.00
R1.5	20.3 YRS.	0.1519E+15	104	100.00
S1	20.0 YRS.	0.1583E+15	106	100.00
R1	20.8 YRS.	0.1633E+15	108	100.00
S0.5	20.5 YRS.	0.1655E+15	109	100.00
L2	20.4 YRS.	0.1662E+15	109	100.00
L1.5	21.0 YRS.	0.1732E+15	111	100.00
S0	20.8 YRS.	0.1739E+15	111	100.00
R0.5	21.6 YRS.	0.1756E+15	112	100.00
S-.5	21.6 YRS.	0.1802E+15	113	100.00
L1	21.5 YRS.	0.1823E+15	114	100.00
L0.5	22.3 YRS.	0.1858E+15	115	100.00
SC	22.6 YRS.	0.1876E+15	116	100.00
L0	23.1 YRS.	0.1908E+15	117	100.00

REPORT DATE: 07/08/11 TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

37000 Meters

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 2 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
S6	19.6 YRS.	0.9854E+14	70	100.00
S5	19.7 YRS.	0.1050E+15	72	100.00
R5	19.6 YRS.	0.1060E+15	73	100.00
L5	19.5 YRS.	0.1163E+15	76	100.00
S4	19.6 YRS.	0.1178E+15	77	100.00
R4	19.5 YRS.	0.1200E+15	77	100.00
L4	19.6 YRS.	0.1359E+15	82	100.00
R3	19.6 YRS.	0.1390E+15	83	100.00
S3	19.7 YRS.	0.1392E+15	83	100.00
SQ	21.3 YRS.	0.1419E+15	84	100.00
R2.5	19.9 YRS.	0.1511E+15	87	100.00
S2	19.8 YRS.	0.1611E+15	90	100.00
R2	20.0 YRS.	0.1650E+15	91	100.00
L3	20.1 YRS.	0.1668E+15	91	100.00
S1.5	20.1 YRS.	0.1723E+15	93	100.00
R1.5	20.5 YRS.	0.1780E+15	94	100.00
S1	20.2 YRS.	0.1846E+15	96	100.00
R1	20.8 YRS.	0.1922E+15	98	100.00
L2	20.7 YRS.	0.1931E+15	98	100.00
S0.5	20.5 YRS.	0.1941E+15	98	100.00
L1.5	21.2 YRS.	0.2024E+15	100	100.00
S0	21.0 YRS.	0.2048E+15	101	100.00
R0.5	21.8 YRS.	0.2072E+15	102	100.00
S-.5	21.8 YRS.	0.2125E+15	103	100.00
L1	21.5 YRS.	0.2139E+15	103	100.00
L0.5	22.3 YRS.	0.2186E+15	104	100.00
SC	22.8 YRS.	0.2215E+15	105	100.00
L0	23.3 YRS.	0.2249E+15	106	100.00

REPORT DATE: 07/08/11

TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

37000 Meters

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 1 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
S6	19.6 YRS.	0.1138E+15	66	100.00
S5	19.5 YRS.	0.1216E+15	68	100.00
R5	19.6 YRS.	0.1224E+15	68	100.00
L5	19.5 YRS.	0.1356E+15	72	100.00
S4	19.6 YRS.	0.1374E+15	72	100.00
R4	19.5 YRS.	0.1393E+15	73	100.00
L4	19.6 YRS.	0.1604E+15	78	100.00
R3	19.6 YRS.	0.1624E+15	79	100.00
S3	19.7 YRS.	0.1648E+15	79	100.00
R2.5	19.7 YRS.	0.1765E+15	82	100.00
SQ	21.3 YRS.	0.1817E+15	83	100.00
S2	19.8 YRS.	0.1924E+15	86	100.00
R2	20.0 YRS.	0.1929E+15	86	100.00
L3	20.1 YRS.	0.2007E+15	88	100.00
S1.5	19.9 YRS.	0.2060E+15	89	100.00
R1.5	20.3 YRS.	0.2071E+15	89	100.00
S1	20.2 YRS.	0.2215E+15	92	100.00
R1	20.8 YRS.	0.2235E+15	93	100.00
S0.5	20.5 YRS.	0.2319E+15	94	100.00
L2	20.7 YRS.	0.2341E+15	95	100.00
R0.5	21.6 YRS.	0.2407E+15	96	100.00
S0	20.8 YRS.	0.2441E+15	97	100.00
L1.5	21.0 YRS.	0.2446E+15	97	100.00
S-.5	21.6 YRS.	0.2500E+15	98	100.00
SC	22.6 YRS.	0.2577E+15	99	100.00
L1	21.5 YRS.	0.2581E+15	99	100.00
L0.5	22.3 YRS.	0.2613E+15	100	100.00
L0	23.1 YRS.	0.2666E+15	101	100.00

REPORT DATE: 07/08/11 TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

37000 Meters

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 1 INTERVAL BETWEEN TEST POINTS= 0 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
S6	15.1 YRS.	0.3345E+08	0	100.00
R2	16.2 YRS.	0.1073E+09	0	100.00
S0.5	16.3 YRS.	0.2041E+09	0	100.00
R2.5	16.0 YRS.	0.2281E+09	0	100.00
S4	15.2 YRS.	0.2606E+09	0	100.00
L3	15.5 YRS.	0.4882E+09	0	100.00
S0	16.5 YRS.	0.6012E+09	0	100.00
L5	15.2 YRS.	0.7084E+09	0	100.00
L1	16.6 YRS.	0.8290E+09	0	100.00
R0.5	17.1 YRS.	0.9217E+09	0	100.00
SC	17.5 YRS.	0.1040E+10	0	100.00
R3	15.7 YRS.	0.1288E+10	0	100.00
S5	15.1 YRS.	0.2737E+10	0	100.00
L4	15.3 YRS.	0.4052E+10	0	100.00
R4	15.3 YRS.	0.4058E+10	0	100.00
S1.5	15.8 YRS.	0.4561E+10	0	100.00
S1	16.0 YRS.	0.6664E+10	1	100.00
L2	15.9 YRS.	0.9028E+10	1	100.00
L0	17.6 YRS.	0.1122E+11	1	100.00
R5	15.1 YRS.	0.1250E+11	1	100.00
R1.5	16.4 YRS.	0.1515E+11	1	100.00
L1.5	16.1 YRS.	0.1876E+11	1	100.00
S3	15.5 YRS.	0.2458E+11	2	100.00
S2	15.5 YRS.	0.2846E+11	2	100.00
L0.5	17.2 YRS.	0.2920E+11	2	100.00
S-.5	16.9 YRS.	0.3064E+11	2	100.00
R1	16.7 YRS.	0.3814E+11	2	100.00
SQ	16.4 YRS.	0.3646E+13	25	100.00

REPORT DATE: 07/08/2011

TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

37000 Meters

PERIOD RETIREMENTS METHOD

RETIREMENT BAND: 2006 THROUGH 2011

ACTUAL RETIREMENTS: 25520490.

DISPERSION	AVERAGE SERVICE LIFE	SIMULATED RETIREMENTS	DIFFERENCE	INDEX OF VARIATION	RET. EXP. INDEX
SC	6.2 YRS.	25,520,930.00	(440.00)	264	100.00
L0	6.6 YRS.	25,520,340.00	154.00	271	100.00
S-.5	6.1 YRS.	25,520,160.00	336.00	278	100.00
R0.5	6.0 YRS.	25,520,310.00	184.00	279	100.00
L0.5	6.3 YRS.	25,520,460.00	32.00	284	100.00
S0	5.9 YRS.	25,520,310.00	180.00	295	100.00
R1	5.8 YRS.	25,520,280.00	210.00	297	100.00
L1	6.2 YRS.	25,520,200.00	294.00	299	100.00
S0.5	5.8 YRS.	25,520,350.00	144.00	313	100.00
L1.5	6.0 YRS.	25,520,230.00	264.00	317	100.00
R1.5	5.7 YRS.	25,520,240.00	248.00	319	100.00
S1	5.7 YRS.	25,520,360.00	136.00	332	100.00
L2	5.9 YRS.	25,520,330.00	162.00	337	100.00
R2	5.6 YRS.	25,520,360.00	132.00	342	100.00
S1.5	5.7 YRS.	25,520,090.00	402.00	351	100.00
R2.5	5.5 YRS.	25,520,120.00	374.00	366	100.00
S2	5.6 YRS.	25,520,320.00	172.00	372	100.00
L3	5.7 YRS.	25,520,350.00	142.00	373	100.00
R3	5.5 YRS.	25,520,160.00	328.00	391	100.00
S3	5.5 YRS.	25,520,370.00	120.00	407	100.00
L4	5.5 YRS.	25,520,660.00	(168.00)	414	100.00
R4	5.5 YRS.	25,520,250.00	242.00	430	100.00
S4	5.4 YRS.	25,520,460.00	36.00	439	100.00
L5	5.4 YRS.	25,521,010.00	(518.00)	442	100.00
R5	5.4 YRS.	25,520,110.00	384.00	457	100.00
S5	5.4 YRS.	25,520,460.00	30.00	459	100.00
S6	5.4 YRS.	25,521,660.00	(1,164.00)	472	100.00
SQ	5.5 YRS.	27,644,450.00	***********	520	100.00

REPORT DATE: 07/08/11

TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

37300 Street Lighting & Signal Systems

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 3 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
SC	38.0 YRS.	0.1493E+15	56	100.00
R0.5	33.8 YRS.	0.1634E+15	58	100.00
S-.5	33.3 YRS.	0.1734E+15	60	100.00
L0	37.0 YRS.	0.1759E+15	61	99.80
R1	30.5 YRS.	0.1821E+15	62	100.00
L0.5	33.8 YRS.	0.1920E+15	63	99.98
R1.5	28.4 YRS.	0.1972E+15	64	100.00
S0	30.1 YRS.	0.2045E+15	65	100.00
L1	30.8 YRS.	0.2127E+15	67	100.00
R2	26.7 YRS.	0.2144E+15	67	100.00
S0.5	28.6 YRS.	0.2195E+15	68	100.00
R2.5	25.8 YRS.	0.2267E+15	69	100.00
L1.5	29.0 YRS.	0.2275E+15	69	100.00
S1	27.2 YRS.	0.2364E+15	70	100.00
R3	24.9 YRS.	0.2438E+15	71	100.00
S1.5	26.2 YRS.	0.2454E+15	72	100.00
L2	27.4 YRS.	0.2467E+15	72	100.00
S2	25.3 YRS.	0.2569E+15	73	100.00
L3	25.6 YRS.	0.2700E+15	75	100.00
R4	24.0 YRS.	0.2706E+15	75	100.00
S3	24.2 YRS.	0.2734E+15	76	100.00
L4	24.3 YRS.	0.2858E+15	77	100.00
S4	23.6 YRS.	0.2934E+15	78	100.00
R5	23.4 YRS.	0.3018E+15	80	100.00
L5	23.7 YRS.	0.3029E+15	80	100.00
S5	23.5 YRS.	0.3122E+15	81	100.00
S6	23.3 YRS.	0.3250E+15	83	100.00
SQ	25.4 YRS.	0.4369E+15	96	100.00

REPORT DATE: 07/08/11 TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

37300 Street Lighting & Signal Systems

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 2 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
SC	38.0 YRS.	0.1872E+15	50	100.00
R0.5	33.8 YRS.	0.2036E+15	53	100.00
S-.5	33.7 YRS.	0.2153E+15	54	100.00
L0	37.0 YRS.	0.2184E+15	54	99.80
R1	30.5 YRS.	0.2252E+15	55	100.00
L0.5	33.8 YRS.	0.2369E+15	57	99.98
R1.5	28.4 YRS.	0.2421E+15	57	100.00
S0	30.1 YRS.	0.2516E+15	58	100.00
R2	26.7 YRS.	0.2607E+15	60	100.00
L1	30.9 YRS.	0.2610E+15	60	100.00
S0.5	28.6 YRS.	0.2685E+15	60	100.00
R2.5	25.8 YRS.	0.2728E+15	61	100.00
L1.5	29.0 YRS.	0.2774E+15	61	100.00
S1	26.9 YRS.	0.2874E+15	63	100.00
R3	24.9 YRS.	0.2904E+15	63	100.00
S1.5	26.0 YRS.	0.2964E+15	64	100.00
L2	27.4 YRS.	0.2989E+15	64	100.00
S2	25.3 YRS.	0.3083E+15	65	100.00
R4	23.8 YRS.	0.3175E+15	66	100.00
L3	25.6 YRS.	0.3231E+15	66	100.00
S3	24.2 YRS.	0.3236E+15	66	100.00
L4	24.0 YRS.	0.3365E+15	68	100.00
S4	23.6 YRS.	0.3425E+15	68	100.00
R5	23.4 YRS.	0.3495E+15	69	100.00
L5	23.4 YRS.	0.3527E+15	69	100.00
S5	23.2 YRS.	0.3605E+15	70	100.00
S6	23.1 YRS.	0.3736E+15	71	100.00
SQ	25.2 YRS.	0.5089E+15	83	100.00

TEC - 2011 CASE

REPORT DATE: 07/08/11 SIMULATED PLANT-RECORD METHOD

37300 Street Lighting & Signal Systems

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 1 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
SC	38.4 YRS.	0.1938E+15	40	100.00
R0.5	34.1 YRS.	0.2118E+15	42	100.00
S-.5	33.7 YRS.	0.2252E+15	43	100.00
L0	37.0 YRS.	0.2288E+15	44	99.80
R1	30.5 YRS.	0.2352E+15	44	100.00
L0.5	33.8 YRS.	0.2506E+15	46	99.98
R1.5	28.4 YRS.	0.2536E+15	46	100.00
S0	30.1 YRS.	0.2662E+15	47	100.00
R2	26.7 YRS.	0.2751E+15	48	100.00
L1	30.9 YRS.	0.2793E+15	48	100.00
S0.5	28.6 YRS.	0.2859E+15	49	100.00
R2.5	25.8 YRS.	0.2909E+15	49	100.00
L1.5	29.0 YRS.	0.2998E+15	50	100.00
S1	26.9 YRS.	0.3087E+15	51	100.00
R3	24.9 YRS.	0.3154E+15	51	100.00
S1.5	26.0 YRS.	0.3211E+15	52	100.00
L2	27.5 YRS.	0.3276E+15	52	100.00
S2	25.3 YRS.	0.3381E+15	53	100.00
R4	23.8 YRS.	0.3566E+15	55	100.00
L3	25.6 YRS.	0.3620E+15	55	100.00
S3	24.2 YRS.	0.3634E+15	55	100.00
L4	24.0 YRS.	0.3831E+15	57	100.00
S4	23.6 YRS.	0.3949E+15	58	100.00
R5	23.4 YRS.	0.4069E+15	59	100.00
L5	23.4 YRS.	0.4095E+15	59	100.00
S5	23.2 YRS.	0.4224E+15	60	100.00
S6	23.1 YRS.	0.4412E+15	61	100.00
SQ	25.2 YRS.	0.6389E+15	73	100.00

REPORT DATE: 07/08/11

TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

37300 Street Lighting & Signal Systems

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 1 INTERVAL BETWEEN TEST POINTS= 0 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
R1.5	32.4 YRS.	0.5457E+07	0	100.00
S2	28.3 YRS.	0.2153E+08	0	100.00
SC	44.6 YRS.	0.2213E+08	0	100.00
R5	25.6 YRS.	0.2078E+09	0	100.00
L3	28.5 YRS.	0.8860E+10	0	100.00
L0.5	38.7 YRS.	0.9657E+10	0	99.81
S-.5	38.7 YRS.	0.1122E+11	0	100.00
S6	25.3 YRS.	0.1414E+11	0	100.00
L1	35.3 YRS.	0.1470E+11	0	100.00
R0.5	39.3 YRS.	0.1536E+11	0	100.00
S0.5	32.3 YRS.	0.1571E+11	0	100.00
S1.5	29.3 YRS.	0.1664E+11	0	100.00
R2.5	28.8 YRS.	0.1799E+11	0	100.00
L5	25.9 YRS.	0.2032E+11	0	100.00
S4	26.1 YRS.	0.3045E+11	1	100.00
S1	30.7 YRS.	0.3117E+11	1	100.00
S3	27.0 YRS.	0.3329E+11	1	100.00
L0	42.8 YRS.	0.3820E+11	1	98.82
R4	26.3 YRS.	0.4248E+11	1	100.00
L4	26.8 YRS.	0.4857E+11	1	100.00
R1	35.1 YRS.	0.4990E+11	1	100.00
S0	34.3 YRS.	0.5257E+11	1	100.00
L1.5	32.9 YRS.	0.5795E+11	1	100.00
L2	30.9 YRS.	0.6275E+11	1	100.00
R2	30.1 YRS.	0.6313E+11	1	100.00
R3	27.8 YRS.	0.1160E+12	2	100.00
S5	25.7 YRS.	0.1728E+12	2	100.00
SQ	27.3 YRS.	0.3919E+14	38	100.00

TAMPA ELECTRIC COMPANY
DOCKET NO. 110131-EI
STAFF'S FIRST DATA REQUEST
FILED: AUGUST 1, 2011

REPORT DATE: 07/08/2011

TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

37300 Street Lighting & Signal Systems

PERIOD RETIREMENTS METHOD

RETIREMENT BAND: 2006 THROUGH 2011

ACTUAL RETIREMENTS: 8743464.

DISPERSION	AVERAGE SERVICE LIFE	SIMULATED RETIREMENTS	DIFFERENCE	INDEX OF VARIATION	RET. EXP. INDEX
SC	61.6 YRS.	8,743,488.00	(24.00)	262	91.37
R0.5	52.8 YRS.	8,743,168.00	296.00	264	100.00
S-.5	52.2 YRS.	8,743,200.00	264.00	266	100.00
R1	46.2 YRS.	8,743,088.00	376.00	267	100.00
L0	58.8 YRS.	8,743,232.00	232.00	268	90.53
R1.5	42.2 YRS.	8,742,992.00	472.00	270	100.00
L0.5	52.1 YRS.	8,743,488.00	(24.00)	271	96.29
S0	45.8 YRS.	8,743,328.00	136.00	273	100.00
R2	39.0 YRS.	8,743,344.00	120.00	275	100.00
L1	47.0 YRS.	8,743,200.00	264.00	275	99.32
S0.5	42.4 YRS.	8,743,104.00	360.00	276	100.00
R2.5	36.9 YRS.	8,743,184.00	280.00	277	100.00
L1.5	43.2 YRS.	8,743,216.00	248.00	279	99.92
S1	39.7 YRS.	8,743,216.00	248.00	281	100.00
R3	35.0 YRS.	8,743,072.00	392.00	282	100.00
S1.5	37.7 YRS.	8,742,976.00	488.00	284	100.00
L2	40.2 YRS.	8,742,928.00	536.00	285	100.00
S2	36.0 YRS.	8,743,296.00	168.00	288	100.00
R4	32.5 YRS.	8,742,800.00	664.00	290	100.00
S3	33.7 YRS.	8,742,848.00	616.00	295	100.00
L3	35.9 YRS.	8,743,248.00	216.00	296	100.00
L4	32.9 YRS.	8,742,768.00	696.00	302	100.00
S4	31.7 YRS.	8,741,904.00	1,560.00	312	100.00
R5	30.7 YRS.	8,741,840.00	1,624.00	314	100.00
L5	31.2 YRS.	8,741,680.00	1,784.00	321	100.00
S5	30.4 YRS.	8,741,664.00	1,800.00	334	100.00
S6	29.6 YRS.	8,742,512.00	952.00	371	100.00
SQ	28.5 YRS.	10,655,710.00	***********	519	100.00

38. For each transmission and distribution account where TECO is proposing a change in net salvage, please explain the specific reasons justifying the change.

A. Proposed changes in net salvage result from the actual net salvage experience tempered by Commission decisions for the other three Florida Electric IOU's (see Bates Stamp page numbers 596 through 599 Comparative Analysis of the depreciation parameters for all Florida Electric IOU's).

39. Please refer to Bates-stamped pages 614-640, Account 350.01, Land Rights.

a. Please identify in what year the $600,000 retirement shown for age 0.5 on Bates-stamped page 614 was booked.

b. The $600,000 retirement shown for age 0.5 on page 614 is located on Bates-stamped page 639 and appears to have been installed in 1949 and retired in 1950. Is this correct? If not, what were the installation and retirement years?

c. For the observed life table shown on Bates-stamped pages 614-616, please explain why an experience band of 1950 to 2011 was used.

d. For the observed life table shown on Bates-stamped pages 614-616, please identify the placement band selected.

e. For the observed life table shown on Bates-stamped pages 614-616, please explain why the placement band identified in (d) was selected.

f. There is no net salvage analysis found in the instant study for Account 350.01. Please provide.

g. Please explain what comprises the investment in account 350.01.

A. a. This particular retirement was booked in 1950.

b. This is correct, the installation year was 1949 and it was retired in 1950.

c. This specific experience band of 1950 to 2011 was used because it is the total amount of data available that pertains to this particular account.

d. The placement band is 1919 to 2011.

e. This placement band of 1919 to 2011 was used because it is the total amount of data available that pertains to this particular account.

f. See attached.

g. Account 350.01 comprises of land easements/transmission easements.

Tampa Electric Company
Net Salvage Analysis
Account - 350.01 - Land Rights
Annual

PER BOOKS

Year	Retirements	Cost of Removal	Cost of Removal %	Gross Salvage	Gross Salvage %	Net Salvage	Net Salvage Percent
2010	10,434	299	3	0	0	299	3
2009	8,569	0	0	0	0	0	0
2008	220	220	100	0	0	220	100
2007	0	0	0	0	0	0	0
2006	0	0	0	0	0	0	0
2005	0	0	0	0	0	0	0
2004	0	0	0	0	0	0	0
2003	0	0	0	0	0	0	0
2002	0	0	0	0	0	0	0
2001	0	0	0	0	0	0	0
2000	990	0	0	0	0	0	0
1999	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0
1996	11	0	0	0	0	0	0
1995	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0
1993	0	0	0	0	0	0	0
1992	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0
1984	0	0	0	0	0	0	0
1983	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0
	20,223	**519**	**3**	**0**	**0**	**519**	**3**

Tampa Electric Company
Net Salvage Analysis
Account - 350.01 - Land Rights
5 Year Averages

PER BOOKS

5-yr ended Year	Retirements	Cost of Removal	Cost of Removal %	Gross Salvage	Gross Salvage %	Net Salvage	Net Salvage Percent
2010	19,223	519	3	0	0	519	3
2009	8,789	220	3	0	0	220	3
2008	220	220	100	0	0	220	100
2007	0	0	0	0	0	0	0
2006	0	0	0	0	0	0	0
2005	0	0	0	0	0	0	0
2004	990	0	0	0	0	0	0
2003	990	0	0	0	0	0	0
2002	990	0	0	0	0	0	0
2001	990	0	0	0	0	0	0
2000	1,000	0	0	0	0	0	0
1999	11	0	0	0	0	0	0
1998	11	0	0	0	0	0	0
1997	11	0	0	0	0	0	0
1996	11	0	0	0	0	0	0
1995	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0
1993	0	0	0	0	0	0	0
1992	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0

TAMPA ELECTRIC COMPANY
DOCKET NO. 110131-EI
STAFF'S FIRST DATA REQUEST
REQUEST NO. 40
BATES STAMPED PAGES: 143 - 145
FILED: AUGUST 1, 2011

40. There is no net salvage analysis found in the instant study for Account 352, Structures & Improvements. Please provide.

A. See attached.

Tampa Electric Company
Net Salvage Analysis
Account - 352.00 - Structures and Improvements
Annual

PER BOOKS

Year	Retirements	Cost of Removal	Cost of Removal %	Gross Salvage	Gross Salvage %	Net Salvage	Net Salvage Percent
2010	110,450	(260)	(0)	0	0	(260)	(0)
2009	0	0	0	0	0	0	0
2008	24,387	0	0	0	0	0	0
2007	24,924	0	0	0	0	0	0
2006	31,731	0	0	0	0	0	0
2005	100,569	0	0	0	0	0	0
2004	0	0	0	0	0	0	0
2003	10,092	0	0	0	0	0	0
2002	32,011	0	0	0	0	0	0
2001	10,042	0	0	0	0	0	0
2000	8,907	0	0	0	0	0	0
1999	4,540	0	0	0	0	0	0
1998	3,000	0	0	0	0	0	0
1997	8,960	0	0	0	0	0	0
1996	2,972	0	0	0	0	0	0
1995	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0
1993	0	0	0	0	0	0	0
1992	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0
1984	0	0	0	0	0	0	0
1983	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0
	372,584	**(260)**	**(0)**	**0**	**0**	**(260)**	**(0)**

Tampa Electric Company
Net Salvage Analysis
Account - 352.00 - Structures and Improvements
5 Year Averages

PER BOOKS

5-yr ended Year	Retirements	Cost of Removal	Cost of Removal %	Gross Salvage	Gross Salvage %	Net Salvage	Net Salvage Percent
2010	191,492	(260)	(0)	0	0	(260)	(0)
2009	181,610	0	0	0	0	0	0
2008	181,610	0	0	0	0	0	0
2007	167,315	0	0	0	0	0	0
2006	174,402	0	0	0	0	0	0
2005	152,713	0	0	0	0	0	0
2004	61,051	0	0	0	0	0	0
2003	65,591	0	0	0	0	0	0
2002	58,500	0	0	0	0	0	0
2001	35,449	0	0	0	0	0	0
2000	28,379	0	0	0	0	0	0
1999	19,472	0	0	0	0	0	0
1998	14,932	0	0	0	0	0	0
1997	11,932	0	0	0	0	0	0
1996	2,972	0	0	0	0	0	0
1995	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0
1993	0	0	0	0	0	0	0
1992	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0

TAMPA ELECTRIC COMPANY
DOCKET NO. 110131-EI
STAFF'S FIRST DATA REQUEST
REQUEST NO. 41
BATES STAMPED PAGES: 146 - 147
FILED: AUGUST 1, 2011

41. The following requests relate to transmission and distribution station equipment accounts, Account 353 and Account 362.

a. Please list the major items comprising the investment in Accounts 353 and 362.

b. Please explain the differences and similarities between transmission station equipment (Account 353) and distribution station equipment (Account 362).

c. Have there been any changes in the operation or design of equipment contained in Account 353 or Account 362 since TECO's last depreciation study? If affirmative, please detail the changes and explain how each is expected to impact the life of the given account.

d. Please explain TECO's transformer replacement policy.

e. Are there any transformer change-out programs in effect currently or will be in effect in the next four years? If affirmative, please explain the programs and identify the December 21, 2011 investment and reserve associated with these near term retirements.

f. Have any operational procedures changed since the last depreciation study that would affect the life of station equipment (transmission or distribution)? If affirmative, please explain what operational procedures changed, how they changed, and how the changes are expected to impact the life of account 353 and account 362.

A. a. Some of the major items within Accounts 353 and 362 are power transformers, circuit breakers, conductors and bus, structures, foundations, relay and control equipment, poles, metering equipment, and any other such materials needed in order to run the substation and keep it functioning properly.

b. The equipment looks and functions similarly, with transmission being larger. Transmission equipment is rated 69, 138 and 230 kV, and distribution is rated 13 kV.

c. Operation and design of equipment essentially has not changed in this time period.

d. Most often, transformers are replaced when they fail. Occasionally, older transformers will be replaced when they start to have operational issues such as oil leaks and load tap change ("LTC") problems.

e. No

f. No

42. The following refers to transmission station equipment, Account 353.

a. Account 353 has experienced a 25% growth rate in the last four years and a 50% growth rate in the last eight years. Please explain what has caused this growth. Please include in your response whether this type of growth is expected during the next four years, and why or why not.

b. Net salvage for Account 353 has historically averaged negative 1%, with the most recent five years averaging 11%. Please explain what caused the gross salvage realized in 2007, 2008, and 2010. Also, please explain why gross salvage should not be expected to be realized in the future.

c. Please refer to Bates-stamped page 596. Please explain the basis for proposing a future net salvage percentage of (5).

d. When transmission station equipment is retired, is the physical removal performed by contract or in-house labor?

e. Please refer to Bates-stamped page 664. Please explain what caused the removal costs incurred in 2009 for Account 353.

A. a. Substation investment such as GSUs associated with the addition of Polk 4&5 CTs and the 4 Bayside and 1 Big Bend Aero derivative CT units have led to additional plant in service. Tampa Electric has made significant transmission substation investment during this period in several new switching stations (Handcart, Whitehurst, Wilderness), 230kV auto transformers spares, a station rebuild (Gannon), and the construction of a large new station (Davis). Transmission substation investment will continue at a slower pace during the next four years and will not include any generation-related projects.

b. In 2010, the majority of the salvage is associated with the response to Request No. 42.a. For years 2007-2008, the high salvage is related to insurance recoveries from two substation fires. These two fires were unusual and are not expected to reoccur.

c. The high salvage values from Request No. 42.b. are unusual and not expected to recur and the proposed negative net salvage of 5 percent is within range of the other Florida Electric IOU's approvals. (see Bates Stamp page numbers 596 through 599 Comparative Analysis of the depreciation parameters for all Florida Electric IOU's).

d. The equipment is removed from service by internal labor or electrical contract crews depending on the job assignment. The dismantling or transporting to be salvaged is usually done by a contracted salvage company.

e. In response to this question, see the response to Request No. 42.a. Due to the massive costs of the large scale projects listed in the response to Request No. 42.a., as well as the costs from the Big Bend Rail project, large cost of removal occurred in 2009. This cost of removal was higher than normal. Furthermore, due to the timing of Tampa Electric's methods for retirements in which retirements are executed after the projects are complete, a larger than normal ratio of retirements versus cost of removal occurred in 2009. Cost of removal is booked each month as the work is being done and the retirements are made later after the project is near completion.

43. The following refers to distribution station equipment, Account 362.

a. Account 362 experienced growth in investment of nearly 27% in the last four years and approximately 44% during the 2003-2010 period. In fact, 25% of additions booked during the 1990-2010 period were incurred during the last four years, 2007-2010. Please explain what caused the growth in the 2007-2010 period and the 2001-2010 period. Please explain in your response whether this rate of growth is expected during the next four years.

b. Retirements have increased during the 2007-2010 period, even though the retirement rate continues to average less than 1%. About 46% of the 1990-2010 retirements were incurred during 2003-2010 and nearly 30% were incurred in the last four years. What has caused the increased retirement activity?

c. When distribution station equipment is retired, is the physical removal performed by contract or in-house labor?

A. a. Tampa Electric experienced customer growth over the 2001-2010 timeframe that was higher in volume than in any prior periods. This growth did not subside until approximately 2008, requiring additional investment to serve the load through 2010. In the 2007-2010 period, specific investment in new distribution substations (Silver Dollar), transformer upgrades (Hyde Park, McDill, USF), and added station transformers (Sun City, Caloosa, Fishhawk, Gibsonton, Tampa Bay, Boyscout) are examples of the investment made to meet the demand. Tampa Electric also invested in distribution substation transformer spares and breaker upgrades. The expected rate of customer growth over the next four-year period is not expected to be as great as the annual rate experienced over the last decade.

b. See the response to Request No. 43.a.

c. The equipment is removed from service by internal labor or electrical contract crews depending on the job assignment. The dismantling or transporting to be salvaged is usually done by a contracted salvage company.

TAMPA ELECTRIC COMPANY
DOCKET NO. 110131-EI
STAFF'S FIRST DATA REQUEST
REQUEST NO. 44
BATES STAMPED PAGES: 151- 154
FILED: AUGUST 1, 2011

44. The following questions relate to Account 354, Towers and Fixtures, and Account 355, Poles and Fixtures.

a. Please provide a list of the major items that comprise the investment in Accounts 354 and 355.

b. Are all poles and towers contained in Account 354 comprised of steel? If negative, please identify the portion of investment associated with wood.

c. No net salvage analysis has been provided for Account 354. Please provide.

d. What portion of the poles in Account 355 are steel? What percent are wood?

e. What portion of new poles in Account 355 are steel? Wood?

f. Please explain the major causes for tower and pole retirements.

g. Do poles tend to experience longer life expectancies than conductors? Please explain.

h. Is TECO experiencing any corrosion problems in Accounts 354 and 355? If affirmative, please explain.

i. Please refer to Bates-stamped page 596, Account 355. Please explain the basis for proposing a future net salvage percentage of (40).

A. a. For Account 354, the major items that comprise the account are steel towers and foundations. For Account 355, the major items that comprise the account are concrete, steel, and wood poles.

b. Yes, all the towers contained in Account 354 are comprised of steel.

c. See attached.

d. There are various sizes and types of poles utilized throughout the system.

For Account 355, based on quantity, the percentage of steel poles is 18 percent, concrete poles is 26 percent and wood poles is 56 percent.

For Account 355, based on dollars, the percentage of steel poles is 50 percent, concrete poles is 35 percent and wood poles is 15 percent.

e. For Account 355, based on quantity, the percentage of installed steel poles is 65 percent, a concrete poles is 35 percent and wood poles is 0 percent.

   For Account 355, based on dollars, the percentage of installed steel poles is 59 percent, concrete poles is 41 percent and wood poles is 0 percent.

f. The major causes for tower retirements would be deterioration from rust due to harsh environments (i.e. salt water), and shore erosion.

   The major causes for wood transmission poles retirements include ground rot, woodpecker damage, overloading, road widenings, conductor upgrades, auto accidents, and violent weather. These poles are replaced with either steel or concrete. Concrete and steel transmission poles are retired due to road widenings, conductor upgrades, and auto accidents. Steel transmission poles are retired due to road widenings, conductor upgrades, and auto accidents.

g. Conductors tend to have longer life expectances than wood poles. Wood poles are more susceptible to deterioration caused by natural elements and animals (i.e. woodpeckers).

   Concrete and steel poles typically experience a similar life span as the conductor. Neither of these poles will deteriorate as rapidly as wood poles when subjected to the same natural elements and animals.

h. Tampa Electric has experienced a few corrosion problems on transmission poles and towers located near salt and brackish water. Most of the transmission structures are located in-land and experience few corrosion problems.

i. The basis for proposing a future net salvage percentage of (40) is that it is within the range of the other utility companies' for the state of Florida.

Tampa Electric Company
Net Salvage Analysis
Account - 354.00 - Towers and Fixtures
Annual

PER BOOKS

Year	Retirements	Cost of Removal	Cost of Removal %	Gross Salvage	Gross Salvage %	Net Salvage	Net Salvage Percent
2010	0	0	0	0	0	0	0
2009	0	0	0	0	0	0	0
2008	0	0	0	0	0	0	0
2007	0	0	0	0	0	0	0
2006	0	0	0	0	0	0	0
2005	0	0	0	0	0	0	0
2004	0	1,521	0	0	0	1,521	0
2003	67,646	(12,808)	(19)	0	0	(12,808)	(19)
2002	0	0	0	0	0	0	0
2001	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0
1993	0	0	0	0	0	0	0
1992	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0
1984	0	0	0	0	0	0	0
1983	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0
	67,646	**(11,287)**	**(17)**	**0**	**0**	**(11,287)**	**(17)**

Tampa Electric Company
Net Salvage Analysis
Account - 354.00 - Towers and Fixtures
5 Year Averages

PER BOOKS

5-yr ended Year	Retirements	Cost of Removal	Cost of Removal %	Gross Salvage	Gross Salvage %	Net Salvage	Net Salvage Percent
2010	0	0	0	0	0	0	0
2009	0	0	0	0	0	0	0
2008	0	1,521	0	0	0	1,521	0
2007	67,646	(11,287)	(17)	0	0	(11,287)	(17)
2006	67,646	(11,287)	(17)	0	0	(11,287)	(17)
2005	67,646	(11,287)	(17)	0	0	(11,287)	(17)
2004	67,646	(11,287)	(17)	0	0	(11,287)	(17)
2003	67,646	(12,808)	(19)	0	0	(12,808)	(19)
2002	0	0	0	0	0	0	0
2001	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0
1993	0	0	0	0	0	0	0
1992	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0

TAMPA ELECTRIC COMPANY
DOCKET NO. 110131-EI
STAFF'S FIRST DATA REQUEST
REQUEST NO. 45
BATES STAMPED PAGES: 155 - 167
FILED: AUGUST 1, 2011

45. The following relates to distribution poles, towers, and fixtures, Account 364.

a. What percent of the December 31, 2010, investment in Account 364 is comprised of poles? What percent is comprised of towers?

b. Please provide a percent breakdown of the investment in Account 364 by pole type.

c. Are distribution poles expected to live as long as transmission poles? Please explain why or why not.

d. Please explain the major causes of the retirement of distribution poles.

e. What percent of the December 31, 2010, investment in Account 364 is comprised of steel poles? What percent is comprised of wood poles? What percent is comprised of concrete poles?

f. Does TECO have a pole replacement program in place? If affirmative, please explain the program.

g. Cost of removal increased dramatically in the 2006–2009 period, averaging about 191%. In 2010 and years prior to 2005, cost of removal averaged 57%. Please explain what caused the cost of removal to escalate during 2006–2009.

h. Gross salvage of 79% was realized in 2010 and 20% was realized in 2009. Nominal gross salvage was realized during 1989 – 2008, averaging 9%, with higher amounts realized during 1982-1988, averaging 67%. Please explain what caused the high gross salvage to be realized in 2009 and 2010. If the high salvage was due to reimbursements or reuse, does TECO expect this type of activity to continue in the future? Please explain.

i. Please explain how TECO disposes its distribution poles.

j. Is pole replacement performed by contract labor or in-house labor? Please provide the average cost rates per pole, identifying the overhead amount separately.

k. Does TECO have a pole treatment program? If affirmative, please explain.

l. The investment in Account 364 has experienced 61% growth during the past decade and 29% growth since 2006. Please explain what has caused the growth during the past decade and since 2006. Have the number of poles in service grown since 2006? Approximately how much has the cost per pole increased since 2006?

m. Please explain TECO's pole inspection program including what the program entails.

n. Please refer to Bates-stamped page 597, Account 364. Please explain the basis for proposing a future net salvage percentage of (50).

A. a. 100 percent of the December 31, 2010 investment is Account 364 is poles.

b. See the response to Request No. 45.e.

c. Distribution poles are not expected to last as long as transmission poles. Transmission poles are designed to withstand NESC extreme wind load requirements, hence the poles are stronger. Distribution poles are generally closer to the public, causing more damage. Additionally, distribution poles are more likely to be placed adjacent to roadways and be affected by road widening projects.

d. The major causes of the retirement of distribution poles are ground line rot, road widenings, animal damage, public interaction, overloading due to joint users, non-compliance with NESC pole strength requirements, and damage due to weather (i.e. lightning strike, wind storms).

e. There are various sizes and types of poles utilized throughout the system.

For Account 364, based on quantity, the percentage of steel poles is 0 percent, concrete poles is 2 percent, and wood poles is 98 percent.

For Account 364, based on dollars, the percentage of steel poles is 0 percent, concrete poles is 4 percent, and wood poles is 96 percent.

f. Yes, Tampa Electric has a program to inspect and replace poles in accordance with FPSC Order No. PSC-06-0144-PAA-EI. As required, Tampa Electric inspects 1/8 of its pole population each year and remediates those poles that fail the inspection.

g. In the 2006–2009 period, the FPSC-required pole change-out program has led to additional volume of overhead work, as well as more disposal costs for Tampa Electric. Removal costs for pole change-outs are also a greater percentage of the single job performed.

h. The high salvage is for scrap metal related to Request No. 45.g. Also, salvage is lagging behind the recognition of 2009 retirements and 2009 cost of removal causing 2010 to indicate unusually high gross salvage percentages.

i. Wood distribution poles are disposed of at Cedar Trail Landfill in Bartow, Florida. Concrete poles are disposed of at various concrete recycling facilities in the Tampa Bay area.

j. Pole replacements are performed by both internal and contract line crews. The average cost to change out a pole from 2007 through YTD May 2010 has been $3,319 per pole. This includes $2,476 of direct costs of labor and material to replace the pole, plus $844 of indirect costs which include supervisory labor/vehicle, administrative staffing, design, scheduling, permitting, and benefits.

k. Yes, Tampa Electric does have a pole treatment program. During the eight (8) year wood pole inspection cycle, all southern pine poles are excavated to about eighteen inches; all rotten wood chipped away; the pole is treated with a protective paste; and finally wrapped with a protective paper to hold the paste in place before backfilling with dirt. In the event the pole cannot be excavated (pole incased in cement), holes are bored into the pole and a fume is injected into the pole to kill destructive insects.

l. Tampa Electric experienced customer growth over the past decade that was higher in volume than in any prior periods. Construction requirements through 2008 were especially high. Some examples of projects requiring large investment in 13kV overhead circuit construction were Lake Ruby, Riverview South, Madison, Clarkwild/Peach reconfiguration, under-build for Hampton to Alexander, and the Lois Ave 13kV conversion.

Yes, the number of poles in service has grown since 2006. The average cost of a pole has remained steady since 2006.

m. See attached. Section III is an excerpt of the 2010 Storm Implementation Plan & Annual Reliability Performance Reports filed on March 1, 2011.

n. The proposal is no change to the currently approved net salvage rate.

TECO.
TAMPA ELECTRIC

2010
STORM IMPLEMENTATION PLAN
&
ANNUAL RELIABILITY PERFORMANCE REPORTS

FILED: MARCH 1, 2011

2010 Storm Implementation Plan and Annual Reliability Reports

SECTION III - Wood Pole Inspection Program

A) Wood Pole Inspection Program

1) Program Summary

Tampa Electric's Wood Pole Groundline Inspection Program is part of a comprehensive program initiated by the Florida Public Service Commission for Florida investor-owned electric utilities to harden the electric system against severe weather and unauthorized and unnoticed non-electric pole attachments which affect the loadings on poles.

This inspection program complies with Order No. PSC-06-0144-PAA-EI, issued February 27, 2006 in Docket No. 060078-EI which requires each investor-owned electric utility to implement an inspection program of its wooden transmission and distribution poles on an eight-year cycle based on the requirements of the NESC. This program provides a systematic identification of poles that require repair or replacement to meet strength requirements of NESC.

2) Inspection Cycle

Tampa Electric performs inspections of all wood poles on an eight-year cycle. Tampa Electric has approximately 392,000 distribution and 26,500 transmission poles included in a total in-service pole population of approximately 418,500. Approximately 12.5 percent of the known system will be targeted for inspections annually although the actual number of poles may vary from year to year due to the construction of new transmission and distribution circuits.

3) Inspection Method and Procedure

Tampa Electric will utilize three basic inspection procedures for determining the condition of wooden poles. These procedures include a visual inspection, sound and bore and excavation if required.

a) Inspection in Conjunction with Other Field Work

As part of day-to-day operations, personnel are sometimes required to climb poles to perform different types of field work. Prior to climbing any pole, personnel will make an assessment of the condition of the pole. This will include a visual check and may include sounding to determine pole integrity. This type of inspection will supplement the systematic inspection approach otherwise outlined in this pole inspection program.

b) Visual Inspection

An initial visual inspection shall be made on all poles from the groundline to the pole top to determine the condition of the pole before any additional inspection work is completed. The visual inspection shall include a review of the pole condition itself and any attachments to the pole for conditions that jeopardize reliability and are in need of replacement, repair or minor follow-up. After a pole has passed the initial visual inspection, the balance of the required inspection method will be performed.

c) Sound and Bore

After passing the visual inspection, the pole shall be sounded to a minimum height of seven feet above the groundline to locate any rotten conditions or pockets of decay inside the pole. Borings shall be made to determine the location and extent of internal decay or voids. All borings shall be plugged with preservative treated wooden dowels. After the pole has passed the sound and bore inspection, an excavation inspection will be performed, if required.

d) Excavation

For poles requiring excavation, the pole shall be excavated to a minimum depth of 18 inches below the groundline. Any external decay shall be removed to expose the remaining sound wood. The remaining pole strength shall be determined.

For a pole in concrete or pavement where excavation is not possible, Tampa Electric will utilize the Osmose Utility Services, Inc. shell boring technique. This will consist of boring two 3/8 inch holes at a 45-degree angle to a depth of 16 to 18 inches below ground level. The technician will determine the pole strength by the resistance while drilling. Upon withdrawing the drill bit, the technician will examine the condition of the wood shavings to determine whether decay is present. All borings shall be plugged as previously described.

e) Hardware Inspection

The inspector shall inspect all of Tampa Electric's guying, grounding provisions and hardware that is visible from the ground.

f) Inspection and Treatment Labeling

After completion of the groundline inspection, an aluminum tag identifying the contractor and date of inspection shall be attached to the pole above the birthmark. Additionally, a tag shall be attached identifying any preservative treatments applied and the date of application.

g) Pole Attachment/Loading Analysis

In some circumstances, Tampa Electric will conduct a pole loading data collection and analysis as part of the groundline inspection. The analysis will ensure that the condition of the pole meets the requirements in Table 261-1A of the NESC. The analysis will not be performed on poles having only Tampa Electric attachments since these facilities were addressed in the original design.

h) Data Collection

The collected data shall be managed in a database and include information related to pole class, material, vintage, location, joint use attachments, and any pole deficiencies that required follow-up actions, if any.

4) Disposition of Poles

Poles with early stage decay that do not require remediation to meet the NESC strength requirements shall be treated with an appropriate preservative treatment. Poles with moderate decay that have substantial sound wood shall be considered for reinforcement. Analysis shall be performed to determine if reinforcement will bring the deficient pole into compliance with the requirements of the NESC. If it is determined that the pole can be reinforced, the pole shall be treated with an appropriate preservative treatment and reinforced. Poles with advanced decay shall fail the inspection and be replaced.

5) Routing of Inspections

a) Distribution

Tampa Electric's distribution system is a radial system with many laterals and service drops. The company has determined the most cost-effective and reasonable approach for routing the work of the annual inspection program is by geographic location. Therefore, inspectors will be given an area that is defined by specific boundaries and distribution poles within that area will be systematically inspected.

b) Transmission

Tampa Electric's transmission system is primarily a network system with few laterals. The company has determined the most cost-effective and reasonable approach for routing the inspection work to be on a circuit basis. Therefore, annual inspections will be performed sequentially from substation to substation completing an entire circuit in the process.

6) Shared Poles

Tampa Electric supports the Commission's effort to establish pole inspection requirements on the owners of all utility poles. Tampa Electric will coordinate with third party owners of utility poles that carry the company's facilities. With regard to the third party's inspection process, the company will rely upon the third party's inspection requirements and share data requested by the third party to be utilized in their inspection procedure. Tampa Electric will cooperate, as requested, in the work associated with pole replacement where joint use exists.

7) Standards Superseding NESC Requirements

Tampa Electric's Wood Pole Groundline Inspection Program complies with NESC requirements.

8) Pole Inspection Program Performance Verification

Qualified Tampa Electric personnel or an independent contractor will conduct a quality control audit on the pole inspection work to verify compliance with the pole inspection services contract. This quality control audit shall consist of selecting random poles, determining the proper course of action per the inspection services contract and comparing the independent audit recommendation against the proposed recommendation by the pole inspection service.

9) Reporting

Tampa Electric will file an annual Pole Inspection Report by March 1 of each year in full accordance with the reporting requirements set forth in Docket No. 070634-EI, Order No. PSC-07-0918-PAA-PU, issued November 14, 2007. The report will contain the methods used to determine the strength and structural integrity of wooden poles, the selection criteria for inspected poles, a summary of the results of the inspections, the cause(s) of inspection failures, and the corrective action taken for the failures.

10)2010 Accomplishments

Tampa Electric's Groundline Pole Inspection Program was conducted by three contracted crews and one supervisor who inspected a total of 53,185 poles which was 10,554 inspections above plan. The pole failure rate for distribution was 13.3 percent due to the vintage of poles inspected. Of these failures, 1.4 percent were reinforced; therefore, the overall distribution wooden pole replacement rate was 11.9 percent. The groundline pole failure rate for transmission poles was 11.6 percent. Tampa Electric's spending levels for the Groundline Pole Inspection Program, which included distribution pole reinforcements, exceeded $1.9 million.

The 2010 Groundline Pole Inspection Program results include:
38,895 planned distribution pole inspections with 49,545 completed
3,736 planned transmission poles inspections with 3,640 completed
42,631 planned transmission & distribution groundline pole inspections with a total of 53,185 completed.

Expenditures for the 2010 Groundline Pole Inspection Program include:
Distribution groundline pole inspections - \$1.4 million
Transmission groundline pole inspections - \$141,000
Distribution pole reinforcements - \$310,000
Inspection-related distribution maintenance - \$25,000

11)2011 Activities and Budget Levels

For 2011, Tampa Electric will start the year with three contractor crews and one supervisor in place. Pole inspection targets by service area are established with a goal of completing approximately 12.5 percent of the system.

The 2011 Groundline Pole Inspection Program goals include:
49,068 distribution pole inspections
3,607 transmission pole inspections
52,675 total transmission & distribution groundline pole inspections

Established funding levels for the 2011 Groundline Pole Inspection Program are:

Distribution groundline pole inspections - \$1.4 million
Transmission groundline pole inspections - \$149,000
Distribution pole reinforcements - \$286,000
Inspection-related distribution maintenance - \$50,000

Tampa Electric's Groundline Inspection Program strategy takes a balanced approach and has produced excellent results in a cost effective manner. The future inspections coupled with its pole replacement program will enhance the storm resilience of Tampa Electric's transmission and distribution poles.

12)Chromated Copper Arsenate Pole Inspections

In Docket No. 080219-EI, Order No. PSC-08-0615-PAA-EI, issued September 28, 2008 the Florida Public Service Commission approved a modification to Tampa Electric's Wood Pole Inspection Program involving chromated copper arsenate ("CCA") poles. Specifically, the modification requires CCA treated poles less than 16 years of age to be sound and selectively bored. Selective boring shall be performed on poles suspected of internal decay. Additionally, one percent of the annual number of CCA treated poles inspected less than 16 years of age shall be excavated to validate this inspection method. Finally, all CCA treated poles over 16 years of age shall be excavated.

TAMPA ELECTRIC COMPANY
DOCKET NO. 110131-EI
STAFF'S FIRST DATA REQUEST
REQUEST NO. 46
BATES STAMPED PAGES: 168 - 179
FILED: AUGUST 1, 2011

46. The following questions refer to transmission and distribution conductors, Accounts 356, 358, 365, and 367.

a. Please explain the equipment types comprising the investment in each account.

b. Please provide a percentage breakdown of the kinds of conductors in each account.

c. Please explain TECO's reconductoring policy.

d. Does TECO have any injection programs? If affirmative, please explain whether injection is expected to increase the life of conductors and why.

e. Please explain the causes of retirement of conductors in each account.

f. Please explain any environmental impacts on the life expectancy of conductors in each account.

g. Is underground cable abandoned in place or cut and sealed?

h. About 40% of the 1982-2010 retirements occurred during the past five years with 68% of the 2006-2010 retirements occurring in 2009 and 2010. Please explain what caused such an increase in retirements in 2009 and 2010 and if this type of activity is expected to continue in the future.

i. Please explain how retired overhead conductors are disposed.

j. Please explain how retired underground conductors are disposed.

k. No net salvage analysis has been provided for Account 358, Underground Conductors and Devices. Please provide.

l. The 2010 retirements in Account 367, Underground Conductors and Devices, represent about 28% of retirements booked in the 1982-2010 period. In fact, 55% of the retirements booked during 1982-2010 occurred during the last five years. Please explain what caused the increase in retirements during the last five years and especially in 2010. Is this level of retirement activity expected to continue in the future? Please explain why or why not.

m. What portion of the December 31, 2010, investment in Account 367, Underground Conductors and Devices, is associated with duct system conductors? What portion is associated with direct buried conductors?

n. Please explain the difference between duct system and direct buried conductors.

o. Are duct system underground conductors abandoned in place when retired or are they physically removed?

p. Are direct buried underground conductors abandoned in place when retired or are they physically removed?

q. Please explain what caused the 18.8% growth in Account 367, Underground and Devices, during the 2006-2010 period.

A. a. Account 356 – wires, cables, insulators, and switches
Account 358 – wires, cables, and potheads
Account 365 – wires, cables, reclosers, and switches
Account 367 – wires, cables, potheads, and switchgears

b. See attached.

c. Tampa Electric will reconductor feeders when it has been determined that the existing conductor has reached or is approaching its maximum load carrying capacity. Reconductoring may also take place when a conductor has experienced numerous failures and found to be in a deteriorated state, increasing the chances of a safety incident or unacceptable service interruption level. In this case the conductors may be upgraded to a larger conductor if the predicted loads are increasing, or replaced with the same size conductor if the loads will remain the same in the foreseeable future.

d. Tampa Electric does not have an injection program.

e. Conductors are typically retired due to lightning, road widenings, animal or human damage, overloading, or deterioration.

f. The life expectancy of conductors can be negatively impacted by environmental factors including lightning strikes, moisture intrusion, or animal damage.

g. Neither

h. Reconducturing jobs, such as those overhead circuit projects outlined in Request No. 45.l., along with more underground jobs to meet the load growth demands, are the primary reason for the increase in retirements. Most of these jobs were put into service during the 2008-2010 timeframe. The conductor that was in place was retired with the installation of new conductor.

   The expected growth in demand in the near term is not expected to be as high as recently experienced.

i. Overhead conductors are separated by wire type and sold to Fortune Plastics and Metals for recycling.

j. Underground conductors are separated by wire type and sold to Fortune Plastics and Metals for recycling.

k. See attached.

l. Tampa Electric has had several large underground projects in the last few years, including two 13kV circuits at Boyscout and three 13kV circuits to TIA from Tampa Bay substation. This, along with a commitment to the timely reconductoring of failed underground cables, has increased the rate of conductor retirements at Tampa Electric.

   Underground conductor retirements in the near term are not expected to be as high as recently experienced because customer growth expectations are not as high.

m. 100 percent of the investment in Account 367 is associated with duct system conductors.

n. A duct system is comprised of conduit (usually pvc), pull boxes, hand holes, and/or manholes, etc. The duct system is buried and the conductor is pulled through the duct system. Direct buried conductors are placed in a dug trench and covered directly by dirt.

o. Duct system underground conductors are physically removed from the duct when retired.

p. Tampa Electric does not direct bury distribution conductors.

q. As explained in the Request No. 46.I., Tampa Electric has had several large projects during this period. In addition, feeder and line extension construction for new customer growth remained high through 2008 compared to historical periods. This was especially prevalent in the downtown Tampa area. Finally, the raw material pricing over this period continually escalated, which increased the cost of cable.

ACCOUNT 356 OH CONDUCTOR COSTS

utility_account_id	135600

		2010	
PAC Code	property_unit	Investment	% Total
B14	SW AIR 15KV SPST: B14	$1,333	0.0011%
B21	SW 69KV 3PST 1-WAY: B21	$1,994,077	1.7077%
B25	SW MATERIALS TRANS: B25	$251,814	0.2156%
B26	Remote Terminal Unit: B26	$1,967,274	1.6847%
B27	OPT MOTOR MECH: B27	$976,071	0.8359%
B28	Insulators (SET): B28	$18,935,652	16.2158%
B31	Wire CU 2 1/C: B31	$143,710	0.1231%
B33	Wire CU 2/0 1/C: B33	$189,055	0.1619%
B35	Wire CU 4/0 1/C: B35	$355,317	0.3043%
B38	Wire CU 350M 1/C: B38	$5,536	0.0047%
B39	Wire CU 400M 1/C: B39	$503,337	0.4310%
B40	Wire CU 500M 1/C: B40	$184	0.0002%
B50	Wire ACSR 2 1/C: B50	$70	0.0001%
B52	Wire ACSR 336M 1/C: B52	$1,205,611	1.0324%
B53	Wire ASCR 636M 1/C: B53	$1,656,375	1.4185%
B57	Wire AL 7957 1/C: B57	$1,942,338	1.6633%
B65	Wire AL 2 1/C: B65	$19,514	0.0167%
B67	Wire AL 2/0 1/C: B67	$141,415	0.1211%
B68	Wire AL 4/0 1/C: B68	$64,769	0.0555%
B70	Wire AL 1/C 395 & 397M: B70	$72,635	0.0622%
B71	Wire AL 636 1/C: B71	$935,226	0.8009%
B72	Wire AL 1/C 740 & 795M: B72	$1,255,032	1.0748%
B73	Wire AL 954M 1/CC: B73	$26,073,664	22.3285%
B75	Wire AL 1590 1/C: B75	$1,550,042	1.3274%
B89	Recloser 4H 1P: B89	$46,847	0.0401%
d:	Non-unitized:	$19,301,146	16.5288%
I51	Relay & Control Equip: I51	$16,550	0.0142%
I71	Telemetering: I71	$13,179	0.0113%
I90	Panels & Cabinets: I90	$15,456	0.0132%
I91	Batteries: I91	$10,073	0.0086%
I92	Battery Charger: I92	$6,770	0.0058%
B55	Wire ACSR & ACSS 1590 1/C: B55	$25,724,875	22.0298%
B54	Wire ACSR 954M 1/C: B54	$5,115,260	4.3805%
B59	Wire ACSR 2800 M 1/C FT: B59	$1,828,499	1.5659%
OUC	OUC: OUC	$435,484	0.3729%
B82	Static Wire - Transmission: B82	$2,431,507	2.0823%
B22	SW 69KV 3PST 2-WAY: B22	$737,764	0.6318%
B24	SW 230KV 3PST 1200A: B24	$302,215	0.2588%
B41	Wire CU 600M 1/C: B41	$171,427	0.1468%
B20	SW 138KV 3PST: B20	$275,752	0.2361%
B74	Wire AL 1272M 1/C: B74	$61,410	0.0526%
B23	SW 69KV 3PST 3-WAY: B23	$33,829	0.0290%
B36	Wire CU 250M: B36	$4,854	0.0042%
Grand Total		**$116,772,945**	100.0000%

ACCOUNT 358 UG CONDUCTOR COSTS

utility_account_id	135800

		2010	
PAC Code	property_unit	Investment	% Total
D51	Cable 6 1/C DB: D51	$5,280	0.0753%
D52	Cable 4 1/C DB: D52	$8,235	0.1175%
F13	Cable CU 4/0 3C: F13	$1,308	0.0187%
F15	Cable CU 250M 1C: F15	$17,970	0.2564%
F17	Cable CU 350M 3C: F17	$374,491	5.3428%
F30	Cable CU 2500 KCMIL 1/C: F30	$2,817,704	40.1998%
F28	Cable CU 1500M 1C: F28	$3,219,910	45.9380%
L80	Specialty Structures: L80	$340,921	4.8639%
F82	Pothead 1C 69KV: F82	$223,427	3.1876%
Grand Total		**$7,009,246**	100.0000%

ACCOUNT 365 OH CONDUCTOR COSTS

utility_account_id	136500

		2010	
PAC Code	property_unit	Investment	% Total
F40	Cable AL 1/0 1C DB: F40	$813	0.0004%
H97	Cable AL 1/0 4/C OVHD SER: H97	$587	0.0003%
F48	Cable AL 1000M 3C: F48	$7,893	0.0036%
H01	Cable AL 2 3/C OVHD SERV: H01	$34,767	0.0157%
H02	Cable AL 2 4/C OVHD SERV: H02	$5,240	0.0024%
H04	Cable AL 2/0 3/C OVHD SERVFT: H04	$16,704	0.0076%
H95	Cable AL 4 3/C OVHD SER: H95	$5,722	0.0026%
H06	Cable AL 4/0 3/C OVHD SER: H06	$30,643	0.0139%
H07	Cable AL 4/0 4/C OVHD SERVFT: H07	$5,656	0.0026%
F46	Cable AL 500M 3/C: F46	$8,646	0.0039%
E33	Conduit PVC 2IN: E33	$136,277	0.0617%
E34	Conduit PVC 3IN: E34	$44,942	0.0204%
E35	Conduit PVC 4IN: E35	$82,344	0.0373%
E37	Conduit PVC 6IN: E37	$53,939	0.0244%
E06	Conduit STL 2IN: E06	$13,939	0.0063%
E08	Conduit STL 3IN: E08	$0	0.0000%
E09	Conduit STL 4IN: E09	$10,440	0.0047%
E11	Conduit STL 6IN: E11	$5,808	0.0026%
d:	Non-unitized:	$3,097,534	1.4032%
B98	Phase Converter: B98	$1,044	0.0005%
B93	Recloser 3H 3P: B93	$152,601	0.0691%
B89	Recloser 4H 1P: B89	$52,275	0.0237%
B94	Recloser 6H 3P: B94	$326,113	0.1477%
B97	Recloser D 1PH: B97	$286,049	0.1296%
B91	Recloser E 1P: B91	$599,031	0.2714%
B88	Recloser H 1P: B88	$479,717	0.2173%
B96	Recloser KWB 3P: B96	$13,623	0.0062%
B90	Recloser L 1P: B90	$99,333	0.0450%
B95	Recloser R 3P: B95	$3,409,830	1.5447%
B26	Remote Terminal Unit: B26	$7,271,941	3.2942%
B83	Sectionilizer 70A DRY: B83	$30,173	0.0137%
B85	Sectionilizer GN3: B85	$23,933	0.0108%
B86	Sectionilizer GS: B86	$736	0.0003%
B87	Sectionilizer KGN: B87	$2,409	0.0011%
B16	SW AIR 15KV 2PDT: B16	$7,700	0.0035%
B15	SW AIR 15KV 2PST: B15	$470,410	0.2131%
B17	SW AIR 15KV 3PST: B17	$515,155	0.2334%
B14	SW AIR 15KV SPST: B14	$23,442,335	10.6195%
B11	SW AIR 5KV 3PST: B11	$405	0.0002%
B10	SW AIR 5KV SPST: B10	$8,672	0.0039%
B12	SW AIR 7. 5KV SPST: B12	$7,919	0.0036%
B04	SW OIL 15KV SPDT: B04	$162,756	0.0737%
B03	SW OIL 15KV SPST: B03	$36,030	0.0163%
B06	SW OIL Auto Transfer: B06	$10,912	0.0049%
B50	Wire ACSR 2 1/C: B50	$2,243,162	1.0162%
B52	Wire ACSR 336M 1/C: B52	$44,268,637	20.0539%
B51	Wire ACSR 4/0 1/C: B51	$1,047,281	0.4744%
B66	Wire AL 1/0 1/C: B66	$1,243,992	0.5635%
B70	Wire AL 1/C 395 & 397M: B70	$28,065	0.0127%
B72	Wire AL 1/C 740 & 795M: B72	$1,314,567	0.5955%

ACCOUNT 365 OH CONDUCTOR COSTS

utility_account_id	136500

		2010	
PAC Code	property_unit	Investment	% Total
B75	Wire AL 1590 1/C: B75	$4,834	0.0022%
B65	Wire AL 2 1/C: B65	$65,765,528	29.7920%
B67	Wire AL 2/0 1/C: B67	$17,951,674	8.1322%
B78	Wire AL 2/0 3/C: B78	$13,760,495	6.2336%
B79	Wire AL 2/0 4/C: B79	$1,341,236	0.6076%
B77	Wire AL 4 2/C: B77	$11,404,223	5.1662%
B68	Wire AL 4/0 1/C: B68	$2,662,162	1.2060%
B80	Wire AL 4/0 3/C: B80	$2,357,196	1.0678%
B81	Wire AL 4/0 4/C: B81	$712,684	0.3228%
B71	Wire AL 636 1/C: B71	$4,991	0.0023%
B57	Wire AL 7957 1/C: B57	$91,414	0.0414%
B73	Wire AL 954M 1/CC: B73	$172,223	0.0780%
B53	Wire ASCR 636M 1/C: B53	$13,444	0.0061%
B32	Wire CU 1/0 1/C: B32	$163,280	0.0740%
B31	Wire CU 2 1/C: B31	$3,358,416	1.5214%
B33	Wire CU 2/0 1/C: B33	$3,236,570	1.4662%
B38	Wire CU 350M 1/C: B38	$50	0.0000%
B29	Wire CU 4 1/C: B29	$318,016	0.1441%
B35	Wire CU 4/0 1/C: B35	$3,586,432	1.6247%
B39	Wire CU 400M 1/C: B39	$2,141	0.0010%
B40	Wire CU 500M 1/C: B40	$936,318	0.4242%
B42	Wire CU 500M 1/C: B42	$11,477	0.0052%
B30	Wire CU 6 1/C: B30	$1,775,246	0.8042%
Grand Total		**$220,748,752**	100.0000%

ACCOUNT 367 UG CONDUCTOR COSTS

utility_account_id	136700

		2010	
PAC Code	property_unit	Investment	% Total
D52	Cable 4 1/C DB: D52	$49,644	0.0244%
D51	Cable 6 1/C DB: D51	$185,935	0.0913%
D53	Cable 6 3C CU UND ST LGHT: D53	$50	0.0000%
D50	Cable 8 1/C DB: D50	$76,886	0.0378%
F39	Cable AL 1/0 1/C: F39	$48,299,819	23.7215%
F40	Cable AL 1/0 1C DB: F40	$769,420	0.3779%
H09	Cable AL 1/0 3/C UNDG SERV: H09	$1,926,082	0.9460%
F42	Cable AL 1/0 3C DB: F42	$17,023,010	8.3605%
F41	Cable AL 1/0 3C: F41	$3,371	0.0017%
F48	Cable AL 1000M 3C: F48	$30,492,542	14.9758%
F38	Cable AL 2/0 1/C: F38	$62,539	0.0307%
F54	Cable AL 300M2/C-4/0 2/C: F54	$4,396	0.0022%
F51	Cable AL 4/0 1/C-2/0 1/C: F51	$150,775	0.0741%
F43	Cable AL 4/0 1C: F43	$167,934	0.0825%
F50	Cable AL 4/0 2/C 2/0 1/C: F50	$3,665,429	1.8002%
F44	Cable AL 4/0 3C: F44	$9,618,197	4.7238%
F45	Cable AL 500 1C: F45	$276,241	0.1357%
F46	Cable AL 500M 3/C: F46	$5,517,195	2.7097%
F47	Cable AL 750MCM 1/C: F47	$29,891	0.0147%
F01	Cable CU 2 1/C: F01	$231,498	0.1137%
F02	Cable CU 2 1C DB: F02	$167,971	0.0825%
F04	Cable CU 2 2C 4 1C DB: F04	$33,204	0.0163%
F03	Cable CU 2 2C 4 1C: F03	$3,890	0.0019%
F05	Cable CU 2 3C: F05	$386,806	0.1900%
F06	Cable CU 2 4C: F06	$4,177	0.0021%
F08	Cable CU 2/0 1C: F08	$31,958	0.0157%
F11	Cable CU 2/0 2C 2 1C DB: F11	$106,286	0.0522%
F09	Cable CU 2/0 3/C: F09	$2,600	0.0013%
F10	Cable CU 2/0 3C DB: F10	$29,227	0.0144%
F15	Cable CU 250M 1C: F15	$9,818	0.0048%
F18	Cable CU 350M 3C DB: F18	$84,722	0.0416%
F17	Cable CU 350M 3C: F17	$470,872	0.2313%
F13	Cable CU 4/0 3C: F13	$55,119	0.0271%
F14	Cable CU 4/0 4C: F14	$13,694	0.0067%
F12	Cable CU 4/0Z1/C: F12	$98,944	0.0486%
F19	Cable CU 500M 1C: F19	$1,485,241	0.7294%
F21	Cable CU 500M 3C DB: F21	$187,034	0.0919%
F20	Cable CU 500M 3C: F20	$2,568,131	1.2613%
F23	Cable CU 500M 4C: F23	$1,305,131	0.6410%
F25	Cable CU 750M 3C 4/0 1C: F25	$156,837	0.0770%
F24	Cable CU 750M 3C: F24	$1,361,930	0.6689%
F68	ENCL SWGEAR 3PH 15KV 200A: F68	$218,419	0.1073%
F69	ENCL SWGEAR 3PH 15KV 600A: F69	$173,391	0.0852%
F71	ENCL SWGEAR AUTO TRANSFER: F71	$334,616	0.1643%
F70	ENCLOSED SWITCHGEAR: F70	$24,464,795	12.0154%
B08	METAL CLAD SW GEAR 15KV: B08	$45,874	0.0225%
F89	Modules - Cable Transition 15K: F89	$873,977	0.4292%
d:	Non-unitized:	$5,248,617	2.5778%
F81	Pothead 1/C: F81	$44,087,638	21.6528%
F83	Pothead 3/C: F83	$111,235	0.0546%

ACCOUNT 367 UG CONDUCTOR COSTS

utility_account_id	136700

		2010	
PAC Code	property_unit	Investment	% Total
F87	Spreaderhead 3C: F87	$29,218	0.0143%
F60	Supervisory EQUIP: F60	$11,170	0.0055%
B14	SW AIR 15KV SPST: B14	$133,629	0.0656%
F57	v AL 500M2/C-300M1/C: F57	$36,520	0.0179%
B31	Wire CU 2 1/C: B31	$417,580	0.2051%
B33	Wire CU 2/0 1/C: B33	$52,495	0.0258%
B34	Wire CU 3/0 1/C: B34	$2,877	0.0014%
B35	Wire CU 4/0 1/C: B35	$176,398	0.0866%
B40	Wire CU 500M 1/C: B40	$78,804	0.0387%
Grand Total		**$203,611,701**	100.0000%

Tampa Electric Company
Net Salvage Analysis
Account - 358.00 - Underground Conductors and Devices
Annual

PER BOOKS

Year	Retirements	Cost of Removal	Cost of Removal %	Gross Salvage	Gross Salvage %	Net Salvage	Net Salvage Percent
2010	0	0	0	0	0	0	0
2009	20,495	(265,642)	(1,296)	60,322	294	(205,320)	(1,002)
2008	0	0	0	0	0	0	0
2007	14,294	0	0	0	0	0	0
2006	0	0	0	0	0	0	0
2005	0	0	0	0	0	0	0
2004	0	0	0	0	0	0	0
2003	0	0	0	0	0	0	0
2002	0	848	0	0	0	848	0
2001	0	(5,648)	0	0	0	(5,648)	0
2000	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0
1993	0	0	0	0	0	0	0
1992	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0
1984	0	0	0	0	0	0	0
1983	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0
	34,789	**(270,442)**	**(777)**	**60,322**	**173**	**(210,120)**	**(604)**

Tampa Electric Company
Net Salvage Analysis
Account - 358.00 - Underground Conductors and Devices
5 Year Averages

PER BOOKS

5-yr ended Year	Retirements	Cost of Removal	Cost of Removal %	Gross Salvage	Gross Salvage %	Net Salvage	Net Salvage Percent
2010	34,789	(265,642)	(764)	60,322	173	(205,320)	(590)
2009	34,789	(265,642)	(764)	60,322	173	(205,320)	(590)
2008	14,294	0	0	0	0	0	0
2007	14,294	0	0	0	0	0	0
2006	0	848	0	0	0	848	0
2005	0	(4,800)	0	0	0	(4,800)	0
2004	0	(4,800)	0	0	0	(4,800)	0
2003	0	(4,800)	0	0	0	(4,800)	0
2002	0	(4,800)	0	0	0	(4,800)	0
2001	0	(5,648)	0	0	0	(5,648)	0
2000	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0
1993	0	0	0	0	0	0	0
1992	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0

TAMPA ELECTRIC COMPANY
DOCKET NO. 110131-EI
STAFF'S FIRST DATA REQUEST
REQUEST NO. 47
BATES STAMPED PAGES: 180 - 182
FILED: AUGUST 1, 2011

47. The following requests refer to transmission and distribution underground conduit, Accounts 357 and 366.

a. Please explain the causes for the retirement of transmission and distribution underground conduit.

b. Is conduit expected to experience a longer life than conductors? Please explain.

c. When conduit is retired, is it cut and sealed, abandoned in place, or physically removed?

d. No net salvage analysis has been provided for transmission underground conduit, Account 357. Please provide.

e. About 56% of the 1982-2010 retirements booked to distribution underground conduit, Account 366, were experienced in 2010. In fact 80% of the 1982-2010 retirements were experienced in the 2008-2010 period. Please explain the reasons for these large retirements booked in the 2008-2010 period.

A. a. The causes for the retirement of transmission and distribution underground conduit are usually related to the need to relocate the underground transmission and/or distribution conductors. It is typically more expensive to remove underground conduit and not practical to reuse.

b. Yes, the conduit is expected to experience a longer life than conductors. The conduit is not subjected to the same electrical stresses placed on conductors. Also, the materials used to make conduit are not susceptible to the elements (water, lightning, etc.).

c. When conduit is retired it may be cut and sealed, abandoned in place, or physically removed.

d. See attached.

e. Conduit retirements are generally following the retirements of underground conductor.

Tampa Electric Company
Net Salvage Analysis
Account - 357.00 - Underground Conduit
Annual

PER BOOKS

Year	Retirements	Cost of Removal	Cost of Removal %	Gross Salvage	Gross Salvage %	Net Salvage	Net Salvage Percent
2010	0	0	0	0	0	0	0
2009	0	0	0	0	0	0	0
2008	0	0	0	0	0	0	0
2007	7,125	0	0	0	0	0	0
2006	0	0	0	0	0	0	0
2005	0	0	0	0	0	0	0
2004	0	0	0	0	0	0	0
2003	0	0	0	0	0	0	0
2002	0	848	0	0	0	848	0
2001	0	(5,648)	0	0	0	(5,648)	0
2000	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0
1993	0	0	0	0	0	0	0
1992	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0
1984	0	0	0	0	0	0	0
1983	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0
	7,125	**(4,800)**	**(67)**	**0**	**0**	**(4,800)**	**(67)**

Tampa Electric Company
Net Salvage Analysis
Account - 357.00 - Underground Conduit
5 Year Averages

			PER BOOKS				
5-yr ended Year	Retirements	Cost of Removal	Cost of Removal %	Gross Salvage	Gross Salvage %	Net Salvage	Net Salvage Percent
2010	7,125	0	0	0	0	0	0
2009	7,125	0	0	0	0	0	0
2008	7,125	0	0	0	0	0	0
2007	7,125	0	0	0	0	0	0
2006	0	848	0	0	0	848	0
2005	0	(4,800)	0	0	0	(4,800)	0
2004	0	(4,800)	0	0	0	(4,800)	0
2003	0	(4,800)	0	0	0	(4,800)	0
2002	0	(4,800)	0	0	0	(4,800)	0
2001	0	(5,648)	0	0	0	(5,648)	0
2000	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0
1993	0	0	0	0	0	0	0
1992	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0

TAMPA ELECTRIC COMPANY
DOCKET NO. 110131-EI
STAFF'S FIRST DATA REQUEST
REQUEST NO. 48
BATES STAMPED PAGES: 183 - 184
FILED: AUGUST 1, 2011

48. The following questions relate to Account 368, Line Transformers.

a. Additions during the 2007-2011 period increased nearly 60% over the 2000-2006 period. Please explain what caused the growth during the 2007-2011 period. Does TECO expect this level of growth to continue in the future?

b. Retirements during the 2007-2011 period increased nearly 27% over those experienced in the 2000-2006 period. Please explain what caused the increase in retirement activity.

c. Does TECO have a replacement program for line transformers? If affirmative, please explain the program.

d. Please refer to Bates-stamped page 598. Please explain the basis for proposing a future net salvage percentage of 10 for Account 368.

A. a. One reason for the increase is that transformer prices were higher over the 2007-2011 period than in the 2000-2006 period. Also, as mentioned in prior responses, Tampa Electric has had more large line construction projects to increase capacity since 2007, and the FPSC-required pole replacement program began in late 2006. Finally, as previously mentioned, customer-driven new construction demand remained high through 2008.

Tampa Electric does not expect customer-driven demand to continue at the pace experienced in the recent past, but will continue a relatively high pace of pole change-out construction as Tampa Electric continues through its first FPSC-required 8-year cycle of pole inspections. Transformer pricing may continue to escalate, but it depends on the global economy.

b. Retirements have increased due to more reconductoring jobs. Tampa Electric also made an effort in several of the years since 2007 to replace rusty padmount transformers, and has been changing out more overhead transformers as a part of the pole replacement program.

c. Tampa Electric does not have a replacement program for line transformers. The transformers are replaced after failure, or replaced due to overload conditions.

d. Line Transformer accounting is based on location life and reuse (rather than cradle to grave and scrapped). The costs to remove have been escalating due to inflation. See Bates-stamped page 903, moving from the mid-1990's at 35 percent to single digit net salvage factors in the mid-2000's.

49. The following questions relate to Account 373, Street Lighting.

a. Are there any technology changes on the horizon that may affect the life of Account 373? If affirmative, please explain the technology and how it may impact the expected life of the account.

b. Please explain the causes for the retirement of street lights.

c. Have there been any changes to TECO's retirement units for street lights? If affirmative, please explain the changes.

d. Please identify different kinds of street lights contained in Account 373 and the percent of the account's December 31, 2010 investment associated with each.

A. a. Yes. There is LED lighting that provides energy and maintenance efficiency that could increase the expected fixture life by 50 percent. There is induction lighting that provides energy and maintenance efficiency that could increase the expected fixture life by 75 percent. And there is remote detection that identifies component failures in progress, which might enable utilities to perform preventative maintenance extending the life of the unit. Tampa Electric has yet to file tariffs for LED or induction lighting, and has not yet implemented any remote detection technology.

b. The unit is damaged/ knocked down; request for removal due to road construction; replacement with an upgrade stock item; unit reaches the end of its natural life.

c. There have been no changes in the retirement units for Account 373.

d. Account 373 is comprised of various sizes and types of wires, cables, conduits, poles, fixtures, and luminaires.

50. Please refer to Bates-stamped page 598, Account 370. Please explain the basis for proposing a future net salvage percentage of (30).

A. The proposal is to retain the currently approved net salvage percentage of (30) based upon the Commission's range of net salvage percentages approved (see Bates Stamp page numbers 596 through 599 Comparative Analysis of the depreciation parameters for all Florida Electric IOU's).

2010 Annual Status Report – Transmission and Distribution

51. The plant balance at the end of 2009 for transmission land rights, Account 350.01, is shown on Bates-stamped page 1078 as $8,433,196. The plant balance at the beginning of 2010 is shown on Bates-stamped page 1098 as $9,266,946. Please explain why these plant balances are not the same.

A. The difference is between accounts 350.01 and 360.00.

These accounts were manually corrected for the 2009 ending balance. The fixed assets system reported the 2010 beginning balance, which caused the disconnected balance roll forward. The manual correction occurred in the 2010 adjustments. The 2010 ending balance reported by the fixed asset is now correct.

	Manually Corrected 2009 Ending	System Reported 2010 Beginning	Balance Variance	B-7 Adjustment 2010 for Beg. Bal.
350.01	8,433,196	9,268,946	(835,750)	(835,750)
360.00	8,090,811	7,255,061	835,750	835,750

52. Please explain the nature and cause for the adjustment/transfer of investment out of Account 350.01 with an adjustment/transfer of reserve into the account. One would expect that adjustments/transfers of investment out of an account would be followed with adjustments/transfers of reserve out of the account.

A. See the response to Request No. 51.

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DOCKET NO. 110131-EI
STAFF'S FIRST DATA REQUEST
REQUEST NO. 53
BATES STAMPED PAGE: 189
FILED: AUGUST 1, 2011

53. Please explain the nature and cause for the adjustment/transfer of investment out of Account 356.00 in 2010. Please identify the receiving accounts for these adjustments/transfers.

A. This adjustment corrected a credit adjustment for transmission insulators posted in error to Account 350.01 Transmission Land Rights.

54. Please explain the logic and cause for the negative removal costs recorded in Accounts 350.01 and 353.00.

A. This was an error in the categorization between cost of removal and salvage value. Salvage costs were transferred from another project and a cost of removal code was used creating the negative cost of removal posting to the plant account.

55. Please explain the logic and cause for the negative removal costs and negative gross salvage recorded in 2010 to Accounts 354.00, 357.00, and 358.00.

A. See the response to Request No. 42.e. The negative costs result from corrections of preliminary classifications discovered in the closing process. These negatives were caused by timing issues of the methodology for the way retirements, cost of removal and salvage were handled. Cost of removal and salvage can occur during different years of the life of a project which can cause skewed ratios.

56. Please explain the logic and cause for the negative gross salvage realized in 2010 in Accounts 355.00 and 356.00.

A. See the response to Request No. 42.e. The negative costs result from corrections of preliminary classifications discovered in the closing process. These negatives were caused by timing issues of the methodology for the way retirements, cost of removal and salvage were handled. Cost of removal and salvage can occur during different years of the life of a project which can cause skewed ratios.

57. Please explain the logic and cause for the negative cost of removal and negative gross salvage booked in 2010 to Accounts 369.00 and 369.02.

A. See the response to Request No. 42.e. The negative costs result from corrections of preliminary classifications discovered in the closing process. These negatives were caused by timing issues of the methodology for the way retirements, cost of removal and salvage were handled. Cost of removal and salvage can occur during different years of the life of a project which can cause skewed ratios.

58. Please explain the cause for the nearly 85% removal costs incurred in 2010 for Account 370. Please identify the tasks involved with removing a meter.

A. The high cost of removal is primarily related to the AMR replacement project.

A significant amount of work has to be completed to remove the meter from service, including back-office activities to retire the meter. Examples of the required tasks are as follows:

- Create a work order for installation of the new meter and removal of the old meter
- Removed meter is entered into a meter tracking system, taking the meter from an in-service state to a removal state in the system.
- Testing of the meter by removing the old cover and cleaning the meter stabs if contaminated
- Test the meter for accuracy and record in meter tracking system
- Meter placed in a pending retired status in the tracking system
- Meter clerk reviews meter statuses and billing status and retires meter
- Retired meters turned over to Investment Recovery for proper disposal

2011 Budget – Transmission and Distribution

59. Please explain how transmission and distribution investment and reserve activity were estimated and developed for the budget year ending December 31, 2011.

A. See the response to Request No. 10.

60. Please explain the nature and cause for the removal costs of over 100% budgeted for 2011 in each of the following accounts: Account 355.00, Account 356.00. Account 365, and Account 369.

A. None of the accounts listed show greater than 100 percent cost of removal rate (COR divided by Retirements). The budgeted net salvage dollars were not used to propose the net salvage percentages. Cost of removal and salvage is budgeted based upon budgeted projects. Retirements are budgeted based upon the average of the last four years of retirements.

61. Please explain the nature and cause for the gross salvage of nearly 80% and removal costs of over 100% budgeted for 2011 in Account 364.

A. None of the accounts listed show greater than 100 percent cost of removal rate (COR divided by Retirements). The budgeted net salvage dollars were not used to propose the net salvage percentages. Cost of removal and salvage is budgeted based upon budgeted projects. Retirements are budgeted based upon the average of the last four years of retirements.

62. Please explain the nature and cause for the gross salvage and removal costs of over 100% budgeted for 2011 in Account 366.

A. None of the accounts listed show greater than 100 percent cost of removal rate (COR divided by Retirements). The budgeted net salvage dollars were not used to propose the net salvage percentages. Cost of removal and salvage is budgeted based upon budgeted projects. Retirements are budgeted based upon the average of the last five years of retirements.

General Plant

63. For each general plant account for which the Simulated Plant-Record Method was used in developing Tampa Electric's proposed curve shape and average service life, please provide the Conformance Index, Index of Variation, and Retirement Experience Index measures.

A. See attached.

REPORT DATE: 07/08/2011

TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

39000 Structures & Improvements

PERIOD RETIREMENTS METHOD

RETIREMENT BAND: 2006 THROUGH 2011 ACTUAL RETIREMENTS: 6183233.

DISPERSION	AVERAGE SERVICE LIFE	SIMULATED RETIREMENTS	DIFFERENCE	INDEX OF VARIATION	RET. EXP. INDEX
SC	17.2 YRS.	6,183,105.00	128.00	1,225	47.83
L0	19.2 YRS.	6,183,075.00	158.00	1,225	47.25
S-.5	17.1 YRS.	6,183,039.00	194.00	1,231	48.00
L0.5	18.8 YRS.	6,183,087.00	146.00	1,231	47.06
R0.5	16.4 YRS.	6,183,201.00	32.00	1,233	48.82
L1	18.5 YRS.	6,183,169.00	64.00	1,236	46.81
S0	17.0 YRS.	6,183,099.00	134.00	1,237	48.15
R1	15.9 YRS.	6,182,891.00	342.00	1,244	49.89
S0.5	16.8 YRS.	6,182,977.00	256.00	1,247	48.80
L1.5	18.1 YRS.	6,183,149.00	84.00	1,255	48.06
R1.5	15.7 YRS.	6,183,019.00	214.00	1,255	51.24
S1	16.6 YRS.	6,182,981.00	252.00	1,258	49.42
R2	15.5 YRS.	6,182,653.00	580.00	1,268	52.62
S1.5	16.3 YRS.	6,183,227.00	6.00	1,275	50.99
L2	17.8 YRS.	6,183,215.00	18.00	1,276	49.13
R2.5	15.3 YRS.	6,182,427.00	806.00	1,287	55.33
S2	16.2 YRS.	6,182,589.00	644.00	1,294	52.54
R3	15.2 YRS.	6,182,465.00	768.00	1,307	58.11
L3	16.7 YRS.	6,183,043.00	190.00	1,333	54.81
S3	15.7 YRS.	6,182,303.00	930.00	1,347	58.10
R4	15.0 YRS.	6,182,831.00	402.00	1,356	66.69
L4	15.6 YRS.	6,182,455.00	778.00	1,390	64.47
S4	15.2 YRS.	6,182,595.00	638.00	1,442	69.14
R5	14.8 YRS.	6,181,111.00	2,122.00	1,477	80.81
L5	15.1 YRS.	6,181,501.00	1,732.00	1,478	75.54
S5	14.8 YRS.	6,181,503.00	1,730.00	1,552	83.30
S6	14.6 YRS.	6,182,633.00	600.00	1,643	95.52
SQ	14.5 YRS.	9,377,305.00	***********	2,230	100.00

TAMPA ELECTRIC COMPANY
DOCKET NO. 110131-EI
STAFF'S FIRST DATA REQUEST
FILED: AUGUST 1, 2011

TEC - 2011 CASE
REPORT DATE: 07/11/11 SIMULATED PLANT-RECORD METHOD

39202 Light Trucks - ED

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 3 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
L2	12.3 YRS.	0.1735E+14	582	74.74
L1.5	12.7 YRS.	0.1740E+14	583	70.07
S1	11.9 YRS.	0.1741E+14	583	75.61
L1	13.4 YRS.	0.1748E+14	584	64.19
S1.5	11.8 YRS.	0.1752E+14	584	80.31
S0.5	12.4 YRS.	0.1757E+14	585	69.68
S2	11.6 YRS.	0.1767E+14	587	85.08
S0	12.8 YRS.	0.1776E+14	589	64.39
L3	11.7 YRS.	0.1782E+14	590	83.10
L0.5	14.3 YRS.	0.1787E+14	590	59.87
R2	11.7 YRS.	0.1796E+14	592	79.49
R2.5	11.6 YRS.	0.1802E+14	593	85.96
R3	11.5 YRS.	0.1815E+14	595	91.14
R1.5	12.0 YRS.	0.1815E+14	595	72.80
L0	15.5 YRS.	0.1822E+14	596	55.24
S3	11.4 YRS.	0.1832E+14	598	92.67
R1	12.5 YRS.	0.1839E+14	599	65.76
S-.5	13.8 YRS.	0.1840E+14	599	57.51
L4	11.4 YRS.	0.1868E+14	604	92.09
R0.5	13.5 YRS.	0.1873E+14	604	57.70
R4	11.5 YRS.	0.1879E+14	605	98.11
SC	15.2 YRS.	0.1901E+14	609	50.87
S4	11.5 YRS.	0.1928E+14	613	97.99
L5	11.4 YRS.	0.1956E+14	618	97.38
R5	11.4 YRS.	0.1981E+14	622	100.00
S5	11.4 YRS.	0.2007E+14	626	99.92
S6	11.3 YRS.	0.2058E+14	634	100.00
SQ	12.4 YRS.	0.2186E+14	653	100.00

TEC - 2011 CASE
REPORT DATE: 07/11/11 SIMULATED PLANT-RECORD METHOD

39202 Light Trucks - ED

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 2 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
L2	12.3 YRS.	0.4586E+14	615	74.39
S1	12.0 YRS.	0.4601E+14	616	75.03
S1.5	11.7 YRS.	0.4603E+14	616	80.74
L1.5	12.9 YRS.	0.4607E+14	616	68.99
S2	11.5 YRS.	0.4609E+14	616	85.51
L3	11.7 YRS.	0.4619E+14	617	83.20
L1	13.6 YRS.	0.4629E+14	618	63.44
S0.5	12.3 YRS.	0.4633E+14	618	70.06
R2.5	11.4 YRS.	0.4662E+14	620	87.20
R3	11.4 YRS.	0.4662E+14	620	92.28
S3	11.2 YRS.	0.4665E+14	620	93.78
S0	12.9 YRS.	0.4666E+14	620	63.91
R2	11.7 YRS.	0.4669E+14	620	79.65
L0.5	14.6 YRS.	0.4686E+14	621	58.57
L4	11.3 YRS.	0.4698E+14	622	92.81
R1.5	12.0 YRS.	0.4707E+14	623	72.95
R4	11.2 YRS.	0.4714E+14	623	99.04
L0	15.8 YRS.	0.4735E+14	625	54.11
R1	12.6 YRS.	0.4749E+14	626	64.92
S-.5	14.0 YRS.	0.4758E+14	626	56.46
S4	11.2 YRS.	0.4760E+14	626	98.83
L5	11.2 YRS.	0.4785E+14	628	97.78
R0.5	13.8 YRS.	0.4802E+14	629	56.35
R5	11.1 YRS.	0.4808E+14	629	100.00
S5	11.1 YRS.	0.4837E+14	631	99.98
SC	15.8 YRS.	0.4843E+14	632	49.09
S6	11.2 YRS.	0.4874E+14	634	100.00
SQ	12.2 YRS.	0.4977E+14	640	100.00

REPORT DATE: 07/11/11

TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

39202 Light Trucks - ED

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 1 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
L2	12.0 YRS.	0.4493E+14	460	76.57
S1.5	11.4 YRS.	0.4518E+14	461	83.69
S1	11.7 YRS.	0.4519E+14	461	77.99
S2	11.2 YRS.	0.4523E+14	461	88.38
L1.5	12.5 YRS.	0.4527E+14	461	71.16
L3	11.2 YRS.	0.4531E+14	462	85.92
L1	13.2 YRS.	0.4563E+14	463	65.51
S0.5	12.1 YRS.	0.4567E+14	463	71.89
S3	10.9 YRS.	0.4598E+14	465	95.76
R3	10.9 YRS.	0.4603E+14	465	95.57
R2.5	11.1 YRS.	0.4606E+14	465	90.19
S0	12.6 YRS.	0.4617E+14	466	65.53
R2	11.4 YRS.	0.4619E+14	466	83.15
L4	11.0 YRS.	0.4642E+14	467	94.50
L0.5	14.1 YRS.	0.4647E+14	467	60.44
R4	10.9 YRS.	0.4671E+14	469	99.74
R1.5	11.7 YRS.	0.4676E+14	469	76.26
L0	15.5 YRS.	0.4721E+14	471	55.19
S4	10.8 YRS.	0.4728E+14	471	99.59
R1	12.3 YRS.	0.4739E+14	472	66.83
S-.5	13.6 YRS.	0.4754E+14	473	58.45
L5	10.8 YRS.	0.4764E+14	473	98.83
R5	10.7 YRS.	0.4801E+14	475	100.00
R0.5	13.5 YRS.	0.4818E+14	476	57.78
S5	10.7 YRS.	0.4840E+14	477	100.00
SC	15.5 YRS.	0.4878E+14	479	50.07
S6	10.7 YRS.	0.4909E+14	480	100.00
SQ	11.7 YRS.	0.5227E+14	496	100.00

TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

REPORT DATE: 07/11/11

39202 Light Trucks - ED

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 1 INTERVAL BETWEEN TEST POINTS= 0 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
SC	14.6 YRS.	0.1190E+04	0	52.94
R1	13.1 YRS.	0.5912E+07	0	61.50
S0	13.5 YRS.	0.6497E+07	0	60.22
L3	13.1 YRS.	0.8597E+07	0	73.92
S-.5	14.0 YRS.	0.1055E+08	0	56.44
R2	12.5 YRS.	0.1459E+08	0	71.33
R0.5	13.7 YRS.	0.3561E+08	1	57.05
L2	13.7 YRS.	0.4806E+08	1	65.87
R5	12.3 YRS.	0.6048E+08	1	98.84
S2	12.7 YRS.	0.6401E+08	1	74.69
L0	15.7 YRS.	0.1081E+09	2	54.59
R1.5	12.7 YRS.	0.1179E+09	2	66.63
L0.5	15.0 YRS.	0.1410E+09	2	56.88
L1.5	14.0 YRS.	0.2473E+09	3	63.06
L1	14.3 YRS.	0.3279E+09	3	59.76
S1	13.0 YRS.	0.3453E+09	3	67.32
S6	12.2 YRS.	0.3505E+09	3	99.99
S3	12.5 YRS.	0.3725E+09	3	82.84
R2.5	12.5 YRS.	0.4112E+09	3	76.39
S0.5	13.2 YRS.	0.4951E+09	4	64.00
S1.5	12.9 YRS.	0.4983E+09	4	70.34
S5	12.3 YRS.	0.1076E+10	6	98.82
R3	12.4 YRS.	0.1261E+10	6	81.57
R4	12.3 YRS.	0.1306E+10	7	91.34
L4	12.5 YRS.	0.1409E+10	7	84.68
L5	12.4 YRS.	0.1431E+10	7	92.80
S4	12.4 YRS.	0.1575E+10	7	91.90
SQ	13.3 YRS.	0.5715E+12	148	100.00

REPORT DATE: 07/11/2011

TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

39202 Light Trucks - ED

PERIOD RETIREMENTS METHOD

RETIREMENT BAND: 2006 THROUGH 2011

ACTUAL RETIREMENTS: 1714207.

DISPERSION	AVERAGE SERVICE LIFE		SIMULATED RETIREMENTS	DIFFERENCE	INDEX OF VARIATION	RET. EXP. INDEX
L0	14.5 YRS.		1,714,191.00	16.00	2,769	58.78
SC	12.4 YRS.		1,714,182.00	25.50	2,805	62.32
L0.5	15.1 YRS.		1,714,199.00	8.00	2,810	56.54
S-.5	13.3 YRS.		1,714,155.00	52.50	2,835	59.63
L1	15.5 YRS.		1,714,191.00	16.00	2,854	54.51
S0	14.0 YRS.		1,714,150.00	57.00	2,869	57.40
R0.5	12.9 YRS.		1,714,154.00	53.50	2,881	61.57
S0.5	14.3 YRS.		1,714,137.00	70.00	2,940	56.77
R1	13.1 YRS.	UPPER	1,714,114.00	93.00	2,953	61.02
L1.5	15.6 YRS.		1,714,162.00	45.50	2,978	54.60
S1	14.5 YRS.		1,714,197.00	10.50	3,010	56.26
R1.5	13.4 YRS.	UPPER	1,714,090.00	117.00	3,028	61.12
R2	13.6 YRS.	UPPER	1,714,146.00	61.50	3,102	61.28
L2	15.7 YRS.		1,714,202.00	5.50	3,103	54.79
S1.5	14.5 YRS.		1,714,138.00	69.50	3,114	57.38
R2.5	13.6 YRS.	UPPER	1,714,178.00	29.50	3,205	63.33
S2	14.5 YRS.	UPPER	1,714,138.00	69.50	3,220	58.49
R3	13.7 YRS.	UPPER	1,714,111.00	96.50	3,308	65.38
L3	15.0 YRS.		1,714,139.00	68.00	3,357	60.18
S3	14.2 YRS.	UPPER	1,713,946.00	261.00	3,459	64.10
R4	13.7 YRS.	UPPER	1,713,920.00	287.50	3,549	73.08
L4	14.2 YRS.	UPPER	1,714,189.00	18.50	3,616	69.97
S4	13.8 YRS.	UPPER	1,714,065.00	142.00	3,769	75.37
L5	13.8 YRS.	UPPER	1,713,984.00	223.50	3,896	80.69
R5	13.6 YRS.	UPPER	1,714,022.00	185.50	3,925	86.61
S5	13.5 YRS.	UPPER	1,713,801.00	406.50	4,052	88.77
SQ	13.5 YRS.	UPPER	1,196,255.00	517,952.00	4,139	100.00
S6	13.4 YRS.	UPPER	1,713,930.00	277.50	4,271	98.15

REPORT DATE: 07/11/2011

TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

39203 Heavy Trucks - ED

PERIOD RETIREMENTS METHOD

RETIREMENT BAND: 2006 THROUGH 2011

ACTUAL RETIREMENTS: 2523839.

DISPERSION	AVERAGE SERVICE LIFE	SIMULATED RETIREMENTS	DIFFERENCE	INDEX OF VARIATION	RET. EXP. INDEX
L1	15.1 YRS.	2,523,793.00	46.00	1,205	56.00
L0.5	15.0 YRS.	2,523,813.00	26.50	1,220	56.94
L0	14.8 YRS.	2,523,835.00	4.50	1,237	57.88
S0	14.0 YRS.	2,523,745.00	94.00	1,244	57.53
L1.5	15.5 YRS.	2,523,840.00	(0.50)	1,245	55.02
S0.5	14.2 YRS.	2,523,742.00	97.50	1,253	57.03
S-.5	13.7 YRS.	2,523,785.00	54.50	1,258	57.82
S1	14.4 YRS.	2,523,808.00	31.50	1,264	56.60
SC	13.3 YRS.	2,523,777.00	62.50	1,274	58.15
R0.5	13.4 YRS.	2,523,739.00	100.00	1,285	58.26
L2	15.7 YRS.	2,523,831.00	8.50	1,287	54.38
R1	13.5 YRS.	2,523,829.00	10.00	1,297	58.39
S1.5	14.6 YRS.	2,523,670.00	169.00	1,303	56.73
R1.5	13.7 YRS.	2,523,712.00	127.50	1,314	58.74
R2	13.8 YRS.	2,523,625.00	214.50	1,331	59.11
S2	14.6 YRS.	2,523,789.00	50.00	1,342	56.91
R2.5	13.9 YRS.	2,523,682.00	157.50	1,370	60.51
R3	14.0 YRS.	2,523,838.00	1.00	1,409	61.91
L3	15.3 YRS.	2,523,801.00	38.50	1,413	57.49
S3	14.6 YRS.	2,523,815.00	24.50	1,458	59.93
R4	14.0 YRS. UPPER	2,523,749.00	90.00	1,518	67.11
L4	14.6 YRS.	2,523,605.00	234.50	1,552	64.94
S4	14.3 YRS. UPPER	2,523,594.00	245.00	1,630	68.22
L5	14.3 YRS.	2,523,579.00	260.00	1,711	73.95
R5	14.0 YRS. UPPER	2,522,801.00	1,038.00	1,722	77.69
S5	14.1 YRS. UPPER	2,523,369.00	470.00	1,806	80.55
S6	13.9 YRS.	2,523,323.00	516.00	1,954	93.07
SQ	13.6 YRS.	2,242,510.00	281,329.00	2,048	100.00

REPORT DATE: 07/11/11

TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

39204 Medium Trucks - ED

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 3 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
S3	14.2 YRS.	0.9325E+12	755	63.78
L3	15.1 YRS.	0.9333E+12	756	59.33
S2	14.9 YRS.	0.9336E+12	756	54.94
L4	14.2 YRS.	0.9345E+12	756	69.64
R4	13.8 YRS.	0.9347E+12	756	70.10
S4	13.9 YRS.	0.9370E+12	757	74.62
L2	16.7 YRS.	0.9385E+12	758	49.19
S1.5	15.4 YRS.	0.9385E+12	758	50.57
L5	14.0 YRS.	0.9394E+12	758	78.17
R5	13.8 YRS.	0.9395E+12	758	82.75
R3	14.2 YRS.	0.9404E+12	759	59.10
S5	13.8 YRS.	0.9427E+12	759	84.98
S1	16.3 YRS.	0.9429E+12	760	45.57
S6	13.9 YRS.	0.9454E+12	761	94.13
L1.5	18.1 YRS.	0.9479E+12	762	43.25
R2.5	14.9 YRS.	0.9505E+12	763	51.07
S0.5	17.9 YRS.	0.9541E+12	764	39.52
L1	20.1 YRS.	0.9550E+12	764	38.39
R2	15.8 YRS.	0.9600E+12	766	44.05
S0	20.0 YRS.	0.9627E+12	768	34.68
L0.5	23.3 YRS.	0.9680E+12	770	32.94
R1.5	17.7 YRS.	0.9743E+12	772	36.38
L0	28.4 YRS.	0.9760E+12	773	28.13
S-.5	25.3 YRS.	0.9834E+12	776	27.39
R1	21.1 YRS.	0.9845E+12	776	29.43
SQ	15.1 YRS.	0.9846E+12	776	100.00
R0.5	28.2 YRS.	0.9920E+12	779	23.53
SC	36.9 YRS.	0.9952E+12	780	21.02

TEC - 2011 CASE

REPORT DATE: 07/11/11 SIMULATED PLANT-RECORD METHOD

39204 Medium Trucks - ED

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 2 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
S3	14.1 YRS.	0.2306E+13	758	65.47
L4	14.1 YRS.	0.2308E+13	758	71.22
L3	15.1 YRS.	0.2309E+13	758	59.38
S4	13.7 YRS.	0.2309E+13	758	76.72
R4	13.8 YRS.	0.2310E+13	758	71.02
S2	14.9 YRS.	0.2311E+13	758	55.00
L5	13.7 YRS.	0.2313E+13	759	81.61
R5	13.6 YRS.	0.2313E+13	759	86.25
S5	13.5 YRS.	0.2317E+13	759	89.15
L2	17.0 YRS.	0.2319E+13	760	47.50
S1.5	15.7 YRS.	0.2320E+13	760	48.52
R3	14.3 YRS.	0.2321E+13	760	58.10
S1	16.7 YRS.	0.2326E+13	761	43.40
S6	13.7 YRS.	0.2327E+13	761	95.79
L1.5	18.7 YRS.	0.2333E+13	762	41.12
R2.5	14.9 YRS.	0.2336E+13	762	50.28
S0.5	18.7 YRS.	0.2341E+13	763	36.51
L1	21.1 YRS.	0.2342E+13	764	35.67
R2	16.2 YRS.	0.2349E+13	765	41.57
S0	21.5 YRS.	0.2352E+13	765	30.94
L0.5	25.1 YRS.	0.2359E+13	766	29.67
R1.5	18.7 YRS.	0.2367E+13	768	32.80
L0	31.5 YRS.	0.2368E+13	768	24.73
SQ	14.9 YRS.	0.2370E+13	768	100.00
S-.5	28.8 YRS.	0.2377E+13	769	23.26
R1	23.9 YRS.	0.2379E+13	770	24.59
R0.5	34.0 YRS.	0.2386E+13	771	19.13
SC	45.1 YRS.	0.2389E+13	771	17.20

REPORT DATE: 07/11/11

TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

39204 Medium Trucks - ED

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 1 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
S3	13.6 YRS.	0.2112E+13	558	70.33
L3	14.4 YRS.	0.2114E+13	558	64.52
L4	13.4 YRS.	0.2115E+13	558	77.36
S2	14.3 YRS.	0.2118E+13	558	60.08
S4	13.2 YRS.	0.2118E+13	558	84.10
R4	13.2 YRS.	0.2119E+13	559	79.73
L5	13.1 YRS.	0.2124E+13	559	87.55
R5	13.0 YRS.	0.2128E+13	560	93.85
L2	16.3 YRS.	0.2129E+13	560	51.44
S1.5	15.1 YRS.	0.2129E+13	560	52.82
R3	13.7 YRS.	0.2132E+13	560	65.05
S5	13.0 YRS.	0.2132E+13	560	95.01
S1	16.1 YRS.	0.2139E+13	561	46.88
S6	12.8 YRS.	0.2148E+13	562	99.79
L1.5	17.7 YRS.	0.2148E+13	562	45.14
R2.5	14.3 YRS.	0.2152E+13	563	55.89
S0.5	17.6 YRS.	0.2160E+13	564	40.55
L1	19.9 YRS.	0.2162E+13	564	38.72
R2	15.4 YRS.	0.2170E+13	565	46.57
S0	20.0 YRS.	0.2176E+13	566	34.43
L0.5	23.4 YRS.	0.2185E+13	567	32.76
R1.5	17.6 YRS.	0.2197E+13	569	36.72
SQ	13.9 YRS.	0.2197E+13	569	100.00
L0	29.4 YRS.	0.2199E+13	569	26.99
S-.5	26.3 YRS.	0.2212E+13	571	26.04
R1	21.8 YRS.	0.2214E+13	571	27.97
R0.5	30.1 YRS.	0.2226E+13	573	21.87
SC	39.6 YRS.	0.2231E+13	573	19.59

TEC - 2011 CASE

REPORT DATE: 07/11/11 SIMULATED PLANT-RECORD METHOD

39204 Medium Trucks - ED

SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 1 INTERVAL BETWEEN TEST POINTS= 0 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
S2	14.8 YRS.	0.2215E+04	0	55.38
S-.5	18.0 YRS.	0.4650E+04	0	41.78
S0	16.7 YRS.	0.5814E+04	0	44.85
R3	14.2 YRS.	0.8123E+04	0	59.15
L0	20.3 YRS.	0.6483E+05	0	41.47
L1	17.8 YRS.	0.1260E+06	0	45.47
R1	16.2 YRS.	0.3251E+06	0	44.01
L0.5	18.9 YRS.	0.4278E+06	0	43.30
R0.5	17.7 YRS.	0.9779E+06	1	40.94
L3	15.3 YRS.	0.1517E+07	1	57.90
SC	19.9 YRS.	0.1857E+07	1	38.95
L1.5	17.0 YRS.	0.1879E+07	1	47.99
S0.5	16.0 YRS.	0.2681E+07	1	47.51
L2	16.4 YRS.	0.3583E+07	2	50.75
R1.5	15.5 YRS.	0.4936E+07	2	46.73
R2	14.8 YRS.	0.5362E+07	2	51.06
S4	14.1 YRS.	0.5435E+07	2	71.18
S5	13.9 YRS.	0.6321E+07	2	83.49
R2.5	14.4 YRS.	0.7782E+07	3	55.27
S1	15.6 YRS.	0.8341E+07	3	49.43
R4	14.0 YRS.	0.1096E+08	3	67.87
S1.5	15.1 YRS.	0.1162E+08	3	53.09
S3	14.5 YRS.	0.1236E+08	3	61.11
L5	14.2 YRS.	0.1869E+08	4	75.90
R5	13.9 YRS.	0.2830E+08	5	80.12
L4	14.5 YRS.	0.2946E+08	6	66.09
S6	13.8 YRS.	0.1016E+09	11	94.72
SQ	15.0 YRS.	0.3883E+11	221	100.00

REPORT DATE: 07/11/2011

TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

39204 Medium Trucks - ED

PERIOD RETIREMENTS METHOD

RETIREMENT BAND: 2006 THROUGH 2011 ACTUAL RETIREMENTS: 375805.

DISPERSION	AVERAGE SERVICE LIFE	SIMULATED RETIREMENTS	DIFFERENCE	INDEX OF VARIATION	RET. EXP. INDEX
L1.5	9.9 YRS. UPPER	375,813.60	(8.56)	1,128	86.39
L2	11.6 YRS. UPPER	375,808.90	(3.88)	1,182	78.83
S0	9.5 YRS. UPPER	375,806.30	(1.31)	1,235	89.67
S0.5	10.3 YRS. UPPER	375,804.90	0.13	1,237	85.91
S-.5	8.7 YRS. UPPER	375,806.90	(1.91)	1,250	92.70
S1	11.1 YRS. UPPER	375,809.70	(4.69)	1,254	83.04
R0.5	9.1 YRS. UPPER	375,807.90	(2.91)	1,277	90.26
SC	8.0 YRS. UPPER	375,797.70	7.31	1,297	96.37
S1.5	11.8 YRS. UPPER	375,804.90	0.13	1,301	80.24
R1	10.0 YRS. UPPER	375,807.80	(2.75)	1,306	87.38
R1.5	10.8 YRS. UPPER	375,806.20	(1.19)	1,334	84.85
S2	12.3 YRS. UPPER	375,807.10	(2.13)	1,351	78.52
R2	11.3 YRS. UPPER	375,806.40	(1.44)	1,369	83.59
L3	13.1 YRS. UPPER	375,812.40	(7.44)	1,381	73.87
R2.5	11.9 YRS. UPPER	375,805.60	(0.63)	1,428	82.80
R3	12.3 YRS. UPPER	375,797.40	7.63	1,486	83.05
S3	12.9 YRS. UPPER	375,797.10	7.94	1,494	78.27
L4	13.3 YRS. UPPER	375,803.00	2.00	1,596	78.82
R4	12.8 YRS. UPPER	375,794.20	10.81	1,635	85.66
L0	0.5 YRS. LOCAL	359,098.00	16,707.00	1,691	100.00
S4	13.2 YRS. UPPER	375,784.90	20.13	1,708	83.42
L0.5	0.6 YRS. LOCAL	359,098.00	16,707.00	1,728	100.00
L5	13.4 YRS. UPPER	375,804.90	0.13	1,806	85.21
L1	0.7 YRS. LOCAL	359,098.00	16,707.00	1,836	100.00
R5	13.2 YRS. UPPER	375,786.00	19.00	1,865	91.95
S5	13.3 YRS. UPPER	375,803.50	1.50	1,932	91.95
S6	13.4 YRS. UPPER	375,808.40	(3.44)	2,156	98.39
SQ	13.5 YRS. UPPER	488,427.00	(112,622.00)	2,675	100.00

REPORT DATE: 07/11/2011

TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

39213 Heavy Trucks - ES

PERIOD RETIREMENTS METHOD

RETIREMENT BAND: 2006 THROUGH 2011 ACTUAL RETIREMENTS: 148383.

DISPERSION	AVERAGE SERVICE LIFE	SIMULATED RETIREMENTS	DIFFERENCE	INDEX OF VARIATION	RET. EXP. INDEX
L0	0.8 YRS. LOCAL	43,709.00	104,674.00	1,324	100.00
L0.5	0.8 YRS. LOCAL	43,709.00	104,674.00	1,363	100.00
L1	1.0 YRS. LOCAL	43,709.00	104,674.00	1,428	100.00
SC	1.4 YRS. LOCAL	43,709.00	104,674.00	1,446	100.00
L1.5	1.0 YRS. LOCAL	43,709.00	104,674.00	1,449	100.00
R0.5	1.4 YRS. LOCAL	43,709.00	104,674.00	1,465	100.00
S-.5	1.4 YRS. LOCAL	43,709.00	104,674.00	1,466	100.00
R1	1.4 YRS. LOCAL	43,709.00	104,674.00	1,486	100.00
L2	1.2 YRS. LOCAL	43,709.00	104,674.00	1,487	100.00
S0	1.4 YRS. LOCAL	43,709.00	104,674.00	1,487	100.00
R1.5	1.4 YRS. LOCAL	43,709.00	104,674.00	1,500	100.00
S0.5	1.4 YRS. LOCAL	43,709.00	104,674.00	1,501	100.00
S1	1.4 YRS. LOCAL	43,709.00	104,674.00	1,515	100.00
L3	1.3 YRS. LOCAL	43,709.00	104,674.00	1,515	100.00
S1.5	1.4 YRS. LOCAL	43,709.00	104,674.00	1,523	100.00
R2	1.6 YRS. LOCAL	43,709.00	104,674.00	1,532	100.00
R2.5	1.6 YRS. LOCAL	43,709.00	104,674.00	1,545	100.00
S2	1.6 YRS. LOCAL	43,709.00	104,674.00	1,548	100.00
S3	1.6 YRS. LOCAL	43,709.00	104,674.00	1,558	100.00
R5	18.0 YRS. LOCAL	-	148,383.00	1,564	0.37
L5	18.0 YRS. LOCAL	-	148,383.00	1,564	0.26
L4	18.0 YRS. LOCAL	-	148,383.00	1,564	3.10
SQ	18.0 YRS. LOCAL	-	148,383.00	1,564	-
S6	18.0 YRS. LOCAL	-	148,383.00	1,564	-
S5	18.0 YRS. LOCAL	-	148,383.00	1,564	0.01
S4	18.0 YRS. LOCAL	-	148,383.00	1,564	0.67
R3	1.8 YRS. LOCAL	43,709.00	104,674.00	1,576	100.00
R4	2.0 YRS. LOCAL	43,709.00	104,674.00	1,610	100.00

REPORT DATE: 07/11/2011

TEC - 2011 CASE
SIMULATED PLANT-RECORD METHOD

3 9214 Medium Trucks - ES

PERIOD RETIREMENTS METHOD

RETIREMENT BAND: 2006 THROUGH 2011

ACTUAL RETIREMENTS: 238639.

DISPERSION	AVERAGE SERVICE LIFE	SIMULATED RETIREMENTS	DIFFERENCE	INDEX OF VARIATION	RET. EXP. IND
L1.5	0.7 YRS. LOCAL	33,551.00	205,088.00	756	100.00
L2	0.8 YRS. LOCAL	33,551.00	205,088.00	756	100.00
L3	0.9 YRS. LOCAL	33,551.00	205,088.00	757	100.00
L1	0.7 YRS. LOCAL	33,551.00	205,088.00	758	100.00
L0.5	0.6 YRS. LOCAL	33,551.00	205,088.00	760	100.00
L4	1.1 YRS. LOCAL	33,551.00	205,088.00	762	100.00
L0	0.6 YRS. LOCAL	33,551.00	205,088.00	762	100.00
S3	1.1 YRS. LOCAL	33,551.00	205,088.00	762	100.00
L5	1.2 YRS. LOCAL	33,551.00	205,088.00	765	100.00
S4	1.2 YRS. LOCAL	33,551.00	205,088.00	767	100.00
R2.5	1.1 YRS. LOCAL	33,551.00	205,088.00	769	100.00
S2	1.1 YRS. LOCAL	33,551.00	205,088.00	770	100.00
S1.5	1.1 YRS. LOCAL	33,551.00	205,088.00	775	100.00
R2	1.1 YRS. LOCAL	33,551.00	205,088.00	776	100.00
S1	1.1 YRS. LOCAL	33,551.00	205,088.00	779	100.00
R1.5	1.1 YRS. LOCAL	33,551.00	205,088.00	782	100.00
R3	1.2 YRS. LOCAL	33,551.00	205,088.00	783	100.00
S5	1.4 YRS. LOCAL	33,551.00	205,088.00	784	100.00
S0.5	1.1 YRS. LOCAL	33,551.00	205,088.00	784	100.00
S0	1.1 YRS. LOCAL	33,551.00	205,088.00	788	100.00
R1	1.1 YRS. LOCAL	33,551.00	205,088.00	789	100.00
R0.5	1.1 YRS. LOCAL	33,551.00	205,088.00	795	100.00
S-.5	1.1 YRS. LOCAL	33,551.00	205,088.00	796	100.00
R4	1.4 YRS. LOCAL	33,551.00	205,088.00	800	100.00
SC	1.1 YRS. LOCAL	33,551.00	205,088.00	802	100.00
R5	1.5 YRS. LOCAL	33,551.00	205,088.00	847	100.00
SQ	18.0 YRS. LOCAL	-	238,639.00	894	-
S6	18.0 YRS. LOCAL	-	238,639.00	894	-

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SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 3 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
R5	***** YRS.	0.1875E+15	654	0.00
R4	***** YRS.	0.1875E+15	654	0.00
R3	***** YRS.	0.1875E+15	654	0.00
R2.5	***** YRS.	0.1875E+15	654	0.00
R2	***** YRS.	0.1875E+15	654	0.00
L5	***** YRS.	0.1875E+15	654	0.00
L4	***** YRS.	0.1875E+15	654	0.00
L3	***** YRS.	0.1875E+15	654	0.00
L2	***** YRS.	0.1875E+15	654	0.00
L1.5	***** YRS.	0.1875E+15	654	0.00
L1	***** YRS.	0.1875E+15	654	0.00
SQ	***** YRS.	0.1875E+15	654	0.00
S6	***** YRS.	0.1875E+15	654	0.00
S5	***** YRS.	0.1875E+15	654	0.00
S4	***** YRS.	0.1875E+15	654	0.00
S3	***** YRS.	0.1875E+15	654	0.00
S2	***** YRS.	0.1875E+15	654	0.00
S1.5	***** YRS.	0.1875E+15	654	0.00
S1	***** YRS.	0.1875E+15	654	0.00
S0.5	***** YRS.	0.1875E+15	654	0.00
S0	***** YRS.	0.1875E+15	654	0.00
L0.5	***** YRS.	0.1875E+15	654	0.00
L0	***** YRS.	0.1875E+15	654	0.00
R1.5	***** YRS.	0.1875E+15	654	0.00
R1	***** YRS.	0.1875E+15	654	0.00
R0.5	***** YRS.	0.1875E+15	654	0.00
S-.5	***** YRS.	0.1875E+15	654	0.00
SC	***** YRS.	0.1875E+15	654	0.00

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SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 2 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
R5	***** YRS.	0.2779E+15	588	0.00
R4	***** YRS.	0.2779E+15	588	0.00
R3	***** YRS.	0.2779E+15	588	0.00
R2.5	***** YRS.	0.2779E+15	588	0.00
R2	***** YRS.	0.2779E+15	588	0.00
L5	***** YRS.	0.2779E+15	588	0.00
L4	***** YRS.	0.2779E+15	588	0.00
L3	***** YRS.	0.2779E+15	588	0.00
L2	***** YRS.	0.2779E+15	588	0.00
L1.5	***** YRS.	0.2779E+15	588	0.00
L1	***** YRS.	0.2779E+15	588	0.00
SQ	***** YRS.	0.2779E+15	588	0.00
S6	***** YRS.	0.2779E+15	588	0.00
S5	***** YRS.	0.2779E+15	588	0.00
S4	***** YRS.	0.2779E+15	588	0.00
S3	***** YRS.	0.2779E+15	588	0.00
S2	***** YRS.	0.2779E+15	588	0.00
S1.5	***** YRS.	0.2779E+15	588	0.00
S1	***** YRS.	0.2779E+15	588	0.00
S0.5	***** YRS.	0.2779E+15	588	0.00
S0	***** YRS.	0.2779E+15	588	0.00
L0.5	***** YRS.	0.2779E+15	588	0.00
L0	***** YRS.	0.2779E+15	588	0.00
R1.5	***** YRS.	0.2779E+15	588	0.00
R1	***** YRS.	0.2779E+15	588	0.00
R0.5	***** YRS.	0.2779E+15	588	0.00
S-.5	***** YRS.	0.2779E+15	588	0.00
SC	***** YRS.	0.2779E+15	588	0.00

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SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 10 INTERVAL BETWEEN TEST POINTS= 1 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
R5	***** YRS.	0.3680E+15	495	0.00
R4	***** YRS.	0.3680E+15	495	0.00
R3	***** YRS.	0.3680E+15	495	0.00
R2.5	***** YRS.	0.3680E+15	495	0.00
R2	***** YRS.	0.3680E+15	495	0.00
R1.5	***** YRS.	0.3680E+15	495	0.00
L5	***** YRS.	0.3680E+15	495	0.00
L4	***** YRS.	0.3680E+15	495	0.00
L3	***** YRS.	0.3680E+15	495	0.00
L2	***** YRS.	0.3680E+15	495	0.00
L1.5	***** YRS.	0.3680E+15	495	0.00
L1	***** YRS.	0.3680E+15	495	0.00
L0.5	***** YRS.	0.3680E+15	495	0.00
L0	***** YRS.	0.3680E+15	495	0.00
SQ	***** YRS.	0.3680E+15	495	0.00
S6	***** YRS.	0.3680E+15	495	0.00
S5	***** YRS.	0.3680E+15	495	0.00
S4	***** YRS.	0.3680E+15	495	0.00
S3	***** YRS.	0.3680E+15	495	0.00
S2	***** YRS.	0.3680E+15	495	0.00
S1.5	***** YRS.	0.3680E+15	495	0.00
S1	***** YRS.	0.3680E+15	495	0.00
S0.5	***** YRS.	0.3680E+15	495	0.00
S0	***** YRS.	0.3680E+15	495	0.00
R1	***** YRS.	0.3680E+15	495	0.00
S-.5	***** YRS.	0.3680E+15	495	0.00
R0.5	***** YRS.	0.3680E+15	495	0.00
SC	***** YRS.	0.3680E+15	495	0.00

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SIMULATED BALANCES METHOD

NO. OF TEST POINTS= 1 INTERVAL BETWEEN TEST POINTS= 0 LAST TEST POINT= 2011

DISPERSION	AVERAGE SERVICE LIFE	SUM OF SQUARES DIFF.	INDEX OF VARIATION	RET. EXP. I
R5	***** YRS.	0.4980E+14	311	0.00
R4	***** YRS.	0.4980E+14	311	0.00
R3	***** YRS.	0.4980E+14	311	0.00
R2.5	***** YRS.	0.4980E+14	311	0.00
R2	***** YRS.	0.4980E+14	311	0.00
L5	***** YRS.	0.4980E+14	311	0.00
L4	***** YRS.	0.4980E+14	311	0.00
L3	***** YRS.	0.4980E+14	311	0.00
L2	***** YRS.	0.4980E+14	311	0.00
L1.5	***** YRS.	0.4980E+14	311	0.00
L1	***** YRS.	0.4980E+14	311	0.00
SQ	***** YRS.	0.4980E+14	311	0.00
S6	***** YRS.	0.4980E+14	311	0.00
S5	***** YRS.	0.4980E+14	311	0.00
S4	***** YRS.	0.4980E+14	311	0.00
S3	***** YRS.	0.4980E+14	311	0.00
S2	***** YRS.	0.4980E+14	311	0.00
S1.5	***** YRS.	0.4980E+14	311	0.00
S1	***** YRS.	0.4980E+14	311	0.00
S0.5	***** YRS.	0.4980E+14	311	0.00
S0	***** YRS.	0.4980E+14	311	0.00
L0.5	***** YRS.	0.4980E+14	311	0.00
L0	***** YRS.	0.4980E+14	311	0.00
R1.5	***** YRS.	0.4980E+14	311	0.00
R1	***** YRS.	0.4980E+14	311	0.00
R0.5	***** YRS.	0.4980E+14	311	0.00
S-.5	***** YRS.	0.4980E+14	311	0.00
SC	***** YRS.	0.4980E+14	311	0.00

64. Please identify the basis and support for a change in the curve shape underlying the currently approved remaining life for Structures & Improvements, Account 390, other than the curve shape is the product of the statistical analysis.

A. The proposed change in curve shape is based upon the statistical analysis.

65. Please refer to Bates-stamped pages 978 and 980. Please explain why no activity is shown for Structures & Improvements, Account 390, prior to 1996.

A. 1996 is the earliest year available electronically for Account 390.

66. Please refer to Bates-stamped page 980 that shows the input data to the Simulated Plant-Record Method. 2010 additions are shown as $361,641. Looking at the 2010 activity on Bates-stamped page 1099 for the same Account 390, 2010 additions are shown as negative $96,107. The 2010 additions shown on Bates-stamped page 980 appear to be the sum of the additions and adjustments shown on Bates-stamped page 1099. This netting treats adjustments as though they are new additions, which in reality they are not.

a. Please explain the cause for the 2010 negative additions on Bates-stamped page 1099.

b. Please explain the specific cause for the 2010 adjustments/transfers into Account 390 of $457,748. Do these adjustments/transfers relate to the adjustments reported out of Production plant, specifically Big Bend Common, Accounts 311.40 and 315.40?

c. Recognizing that the adjustments/transfers are made up of many transactions, please provide a breakdown of the major amounts comprising the $457,748, with the associated ages at the time the adjustment/transfer was made.

d. Please explain the meaning of the note on Bates-stamped page 980, "warning. . . . insufficient data for test interval."

A. a. See the response to Request No. 78.

b. Yes, these adjustments/transfers relate to the adjustments reported out of production plant.

c. The fixed assets system, PowerPlant, is configured to calculate the associated reserve with the asset transfers.

d. Simulated plant data was not used to analyze this account but a vintage record for the account survivors is used.

67. Please explain the nature and cause for the investment and reserve adjustments/transfers into Account 390.00, Structures & Improvements, in 2007, 2008 and 2009 (referring to Bates-stamped pages 1048 and 1055, 1062 and 1069, 1079 and 1089, respectively). Please identify the originating account(s) from which these amounts were adjusted/transferred.

A. In 2007 the reserve adjustments/transfers were a result of depreciation and reserve true-ups as ordered by the Commission. The one reserve transfer dealing with the FPSC final order went to Account 390 from Account 397.25. All other adjustments were one-sided depreciation adjustments.

In 2008 there was a one-sided depreciation adjustment due to the account having the incorrect depreciation rate. The adjustment was to correct the depreciation rate and balance. There was also a reserve transfer to Account 390 from Account 311.40.

In 2009, the Central Test Lab was moved from the production function and relocated into the General 390 Structures account. The Central Test Lab has expanded its role throughout Tampa Electric, increasing its capacity to provide services not only to the production function, but also the Transmission and Distribution functions and third parties.

68. Please refer to Bates-stamped page 978, Net Salvage Analysis for Structures & Improvements, Account 390. During the 2000-2004 period, gross salvage exceeded cost of removal, averaging about 17%. Cost of removal during that same period was negligible, averaging about 5%. From 2005-2010, gross salvage has averaged zero with cost of removal averaging about 9%.

a. Please explain what the gross salvage realized in the 2000-2004 period was due to, and what transpired that has resulted in no realized gross salvage after 2004.

b. Please explain the activities resulting in removal costs associated with the 2006, 2008, and 2010 retirements recorded in Account 390, Structures & Improvements

A. a. The gross salvage is associated with the closure and sale of satellite customer service offices between 2000 and 2004. No other sales of facilities have occurred since.

b. The removal costs are associated with the replacement of the following types of assets from the operation centers, corporate and satellite offices: air conditioners and air handlers, storage tanks, plumbing systems, yard fencing, building roofs, and yard surfacing.

69. a. Please explain the difference between Account 392.02, Light Trucks-Energy Delivery, and Account 392.12, Light Trucks-Energy Supply.

b. Please explain the difference between Account 392.03, Heavy Trucks-Energy Delivery, and Account 392.13, Heavy Trucks-Energy Supply.

c. Please explain the difference between Account 392.04, Medium Trucks-Energy Delivery, and Account 392.14, Medium Trucks-Energy Supply.

A. a. Tampa Electric distinguishes between vehicles that belong to Energy Delivery and Energy Supply for operational not depreciation reasons.

b. See the response to Request No. 69.a.

c. See the response to Request No. 69.a.

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70. Please refer to Bates-stamped pages 986-994, 1014-1033, and 1039-1043. Bates-stamped pages 986-989 and 991-994 appear to show the life analysis for Account 392.02, Light Trucks-Energy Delivery. Bates-stamped pages 1014-1017 and 1019-1028 appear to show the life analysis for Account 392.04, Medium Trucks-Energy Delivery. Bates-stamped pages 1029-1032 and 1039-1042 show the development of the average remaining life for Account 392.12, Light Trucks-Energy Supply, and Account 392.14, Medium Trucks-Energy Supply, but do not show the actuarial life analyses supporting the selected curve shapes and average service lives.

a. Please indicate where in the study the life analyses for the determination of curve shape and average service life for Account 392.12, Light Trucks-Energy Supply, and Account 392.14, Medium Trucks-Energy Supply, are located.

b. Please explain the specific reasons supporting a change in curve shape for Accounts 392.02, 392.12, 392.04, and 392.14, other than the proposed curve shapes are simply the result of company's statistical analyses.

c. Bates-stamped page 1029 indicates that the average age of the investment in Account 392.12 is 7 years and the average remaining life resulting from the R2 curve shape is 5.0 years. However, Bates-stamped page 598 indicates the average remaining life for Account 392.12 is the same as proposed for Account 392.02, 3.6 years. Please reconcile the average remaining life shown on Bates-stamped page 1029 with that shown on Bates-stamped page 598 for Account 392.12.

d. Bates-stamped page 1039 indicates that the average age of the investment in Account 392.14 is 14 years and the average remaining life resulting from the L3 curve shape is 2.7 years. However, Bates-stamped page 599 indicates the average remaining life for Account 392.14 is the same as proposed for Account 392.04, 5.0 years. Please reconcile the average remaining life shown on Bates-stamped page 1039 with that shown on bates-stamped page 599 for Account 392.14.

e. Please explain the specific reasons for decreasing the currently prescribed net salvage parameter for Account 392.02, 392.12, 392.04, and 392.14, from 15% to 10%.

f. Please explain why the net salvage analyses shown on Bates-stamped pages 990, 1018, 1033, and 1043 reflects combined data for light trucks and medium trucks, both Energy Delivery and Energy Supply, given that the data for each account is maintained separately and the life analysis has been performed for each separate account rather than on a combined basis.

g. Please explain the source and logic of the negative cost of removal in the amount of $2,269,028 recorded in 2009 shown on Bates-stamped page 990.

h. Please explain the specific cause of the high gross salvage realized in 2008 shown on Bates-stamped page 990.

i. Please explain the logic and cause for the negative retirements recorded in 2008 in Account 392.02 (mistakenly labeled as 392.01), Light Trucks-Energy Delivery shown on Bates-stamped page 1062.

j. Please explain the logic and cause of the negative gross salvage recorded in 2010 in Account 392.02 (shown on Bates-stamped page 1109). Please also explain the logic and cause of the negative removal costs recorded in 2009 (shown on Bates-stamped page 1089) and 2010 (shown on Bates-stamped page 1109) in Account 392.02. If these negative amounts reflect reversals from a prior year, please indicate the year and amount.

k. Please explain the logic and cause of the negative gross salvage recorded in 2010 in Account 392.12 (shown on Bates-stamped page 1109). Please also explain the logic and cause of the negative removal costs recorded in 2009 (shown on Bates-stamped page 1089) and 2010 (shown on Bates-stamped page 1109) in Account 392.12. If these negative amounts reflect reversals from a prior year, please indicate the year and amount.

l. Please explain the logic and cause of the negative gross salvage recorded in 2010 (shown on Bates-stamped page 1109) in Account 392.14. Please also explain the logic and cause of the negative removal costs recorded in 2009 (shown on Bates-stamped page 1089) and 2010 (shown on Bates-stamped page 1109) in Account 392.14. If these negative amounts reflect reversals from a prior year, please indicate the year and amount.

m. Referring to Bates-stamped page 1055, please explain the logic supporting the recording of gross salvage with no commensurate retirement in Account 392.04, Medium Trucks-Energy Delivery.

n. Account 392.02, Light Trucks-Energy Delivery, has experienced growth of about 25% during the 2007-2010 period. Please explain what caused the growth.

o. Account 392.02, Light Trucks-Energy Delivery, has experienced a negative cost of removal factor of about 194% during the 2007-2010 period. Please explain what caused such a high negative cost of removal factor.

p. Account 392.12, Light Trucks-Energy Supply, has experienced growth of about 38% during the 2007-2010 period. Please explain what caused the growth.

q. Account 392.12, Light Trucks-Energy Supply, has experienced a negative cost of removal factor of about 70% during the 2007-2010 period. Please explain what caused such a high negative cost of removal factor.

r. Account 392.04, Medium Trucks-Energy Delivery, has experienced growth of about 23% during the 2007-2010 period. Please explain what caused the growth.

s. Account 392.04, Medium Trucks-Energy Delivery, has experienced a negative cost of removal factor of about 176% during the 2007-2010 period. Please explain what caused such a high negative cost of removal factor.

t. Account 392.14, Medium Trucks-Energy Supply, has experienced negative growth of about 42% during the 2007-2010 period. Please explain what caused the growth.

u. Account 392.12, Light Trucks-Energy Supply, has experienced a retirement rate of about 11% during the 2007-2010 period. Please explain what caused such a high retirement rate.

v. Account 392.14, Medium Trucks-Energy Supply, has experienced a retirement rate of about 21% during the 2007-2010 period. Please explain what caused such a high retirement rate.

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A.

a. Because the history of vintage retirements by year was not split into Energy Delivery and Energy Supply until recent years, the Energy Delivery life and salvage analysis was used for the Energy Supply accounts.

b. There are no other specific reasons.

c. Bates-stamped page 1029 is correct. Bates-stamped page 598 contains only the depreciation parameters for Energy Delivery. Bates-stamped page 598 is not used in any calculations but is created for comparison with other Florida Electric IOU's.

d. Bates-stamped page 1039 is correct. Bates-stamped page 599 contains only the depreciation parameters for Energy Delivery. Bates-stamped page 599 is not used in any calculations but is created for comparison with other Florida Electric IOU's.

e. The change to 10 percent is based upon anticipated market related conditions lowering the salvage value of these vehicles.

f. Because the history of vintage retirements by year was not split into Light and Medium Vehicles until recent years and the vehicles are very similar, the net salvage analysis has been combined in the recent studies. The split between Light and Medium Vehicles was for operational reasons, not due to depreciation parameter differences.

g. The $2,269,028 recorded in 2009 was generated by an allocation of Retirement Work In Progress to plant accounts rather than the actual incurred cost of removal which was zero. Attached is a resubmission of these net salvage analyses without this RWIP allocation.

h. The high gross salvage shown in 2008 was due to the same allocation described in the response to Request No. 70.g.

i. The negative retirement in 2008 resulted from a correction in January 2008 of a December 2007 retirement. In December a retirement of computer equipment in the amount of $518,932 was posted to 39202 in error. It should have posted to 39102. A correcting entry in January 2008 posted a negative retirement to 39202 and a positive retirement to 39102.

j. The negative gross salvage shown in 2009 and 2010 was due to the same allocation described in the response to Request No. 70.g.

k. See the response to Request No. 70.g.

l. See the response to Request No. 70.g.

m. This salvage was booked in January 2007 and related to retirements in 2006.

n. Numerous vehicle allocation adjustments were due to lease buyouts between 2008 and 2009. Lease buyouts resulted in these vehicles becoming an owned asset, reflecting growth on the owned equipment.

o. This is primarily related to the response in Request No. 70.g

p. The Energy Supply business unit has transitioned from utilizing old, less efficient trucks from the Energy Delivery business unit and now typically buys new trucks. This also explains the increase in light and medium truck retirements as the used trucks are retiring and the purchased new ones have not reached retirement.

q. See the response to Request No. 70.p.

r. Due to the purchase of additional vehicles.

s. Tampa Electric sold vehicles to the bank for salvage and then leased back those vehicles during the lease agreement transition from GE Capital to Wells Fargo in 2009.

t. See the response to Request No. 70.p.

u. See the response to Request No. 70.p.

v. See the response to Request No. 70.p.

Tampa Electric Company
Net Salvage Analysis
Account - 392.02 & 392.12- Light Vehicles
Account - 392.04 & 392.14- Medium Vehicles

PER BOOKS

Year	Retirements	Cost of Removal	Cost of Removal %	Gross Salvage	Gross Salvage %	Net Salvage	Net Salvage Percent
2010	194,436	0	0	0	0	0	0
2009	402,576	0	0	0	0	0	0
2008	62,658	0	0	76,612	122	76,612	122
2007	1,230,816	0	0	98,770	8	98,770	8
2006	755,127	0	0	58,040	8	58,040	8
2005	507,033	(267)	(0)	103,483	20	103,216	20
2004	1,381,059	(1,150)	(0)	133,637	10	132,488	10
2003	1,058,526	(2,420)	(0)	127,429	12	125,008	12
2002	978,742	(1,941)	(0)	89,618	9	87,677	9
2001	680,152	(1,170)	(0)	60,143	9	58,973	9
2000	668,139	0	0	98,051	15	98,051	15
1999	650,707	0	0	108,813	17	108,813	17
1998	534,705	0	0	70,783	13	70,783	13
1997	660,188	0	0	171,143	26	171,143	26
1996	774,242	0	0	149,465	19	149,465	19
	10,539,105	**(6,947)**	**(0)**	**1,345,983**	**13**	**1,339,036**	**13**

Tampa Electric Company
Net Salvage Analysis
Account - 392.03 & 392.13- Heavy Vehicles

PER BOOKS

Year	Retirements	Cost of Removal	Cost of Removal %	Gross Salvage	Gross Salvage %	Net Salvage	Net Salvage Percent
2010	0	0	0	0	0	0	0
2009	193,883	0	0	0	0	0	0
2008	427,256	0	0	34,248	8	34,248	8
2007	1,644,889	0	0	213,277	13	213,277	13
2006	637,047	0	0	40,530	6	40,530	6
2005	4,845,702	0	0	628,338	13	628,338	13
2004	1,350,810	0	0	131,847	10	131,847	10
2003	2,318,612	5,174	0	467,913	20	473,086	20
2002	734,212	(4,462)	(1)	89,751	12	85,289	12
2001	1,626,851	(6,647)	(0)	213,810	13	207,163	13
2000	982,668	(3,850)	(0)	94,718	10	90,867	9
1999	578,753	(8,704)	(2)	75,150	13	66,446	11
1998	1,448,784	(11,471)	(1)	271,748	19	260,276	18
1997	539,109	(10)	(0)	62,120	12	62,110	12
1996	1,327,322	0	0	131,110	10	131,110	10
	18,655,899	**(29,972)**	**(0)**	**2,454,559**	**13**	**2,424,587**	**13**

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71. Please refer to Bates-stamped pages 995-1013. Bates-stamped pages 995-998 and 1000-1013 appear to show the life analysis for Account 392.03, Heavy Trucks-Energy Delivery. However, Bates-stamped pages 999 and 1038 imply that the salvage analysis was performed based on the combined activity for Account 392.03, Heavy Trucks-Energy Delivery and Account 392.13, Heavy Trucks-Energy Supply. Bates-stamped pages 1034-1037 appear to show the derivation of the average remaining life for Account 392.13, Heavy Trucks-Energy Supply, but do not show the full life analysis for the account (average service life and curve shape development).

a. Please indicate where in the study the life analysis for the determination of curve shape and average service life for Account 392.13, Heavy Vehicles-Energy Supply is located.

b. Please explain the basis and support, other than the results of the statistical analysis, for a decrease in the currently prescribed average service life from 15 years to 12 years for the energy delivery and energy supply heavy vehicles.

c. Please explain the basis and support for decreasing net salvage from 12% to 10%.

d. Please explain the basis and support, other than the results of the statistical analysis, for changing the curve shape underlying the currently prescribed life parameters from L2 to R3 for Account 392.03 and Account 392.13.

e. For Account 392.03, Heavy Trucks-Energy Delivery, please explain what activities resulted in gross salvage of $1.7 million being realized in 2010 (shown on bates-stamped page 1109).

f. Bates-stamped page 1034 indicates a remaining life of 2 years for Account 392.13 Heavy Trucks-Energy Supply. Please explain why Tampa Electric appears to be proposing an average remaining life of 3.2 years that is the result for Account 392.03, Heavy Trucks-Energy Delivery rather than the 2 years shown on Bates-stamped page 1034.

g. Please explain why the net salvage analysis on Bates-stamped page 999 is for the combined activity for Heavy Vehicles-Energy Delivery and Energy Supply rather than for each separate account.

h. Account 392.03, Heavy Trucks – Energy Delivery, has experienced growth of about 27% during the 2007-2010 period. Please explain what caused the growth.

i. Account 392.13, Heavy Trucks – Energy Supply, has experienced negative growth of about 17% during the 2007-2010 period. Please explain what caused such negative growth.

j. Account 392.13, Heavy Trucks-Energy Supply, has experienced a retirement rate of about 8% during the 2007-2010 period. Please explain what caused such a higher retirement rate vs. the about 5% retirement rate experienced by Account 392.03, Heavy Trucks – Energy Delivery, for the same period of time.

A. a. Because the history of vintage retirements by year was not split into Energy Delivery and Energy Supply until recent years, the Energy Delivery life and salvage analysis was used for the Energy Supply accounts.

b. The proposed service lives are simply the results of Tampa Electric's statistical analyses.

c. The change to 10 percent is based upon anticipated market related conditions lowering the salvage value of these vehicles.

d. The proposed curve shapes are simply the results of Tampa Electric's statistical analyses.

e. See the response to Request No. 70.g.

f. Bates-stamped page 1034 is correct. Bates-stamped page 598 contains only the depreciation parameters for Energy Delivery. Bates-stamped page 598 is not used in any calculations but is created for comparison with other Florida Electric IOU's.

g. See the response to Request No. 71.a.

h. Lease buyouts of heavy vehicles resulted in these vehicles becoming an owned asset, reflecting growth on the owned equipment.

i. See the response to Request No. 70.p. Tampa Electric has retired some older, less efficient cost dump trucks in the Energy Supply business unit.

j. See the response to Request No. 71.i.

72. What is TECO's policy with respect to the retirement of its motor vehicles – e.g., based on age, mileage?

A. Retirement of vehicles is based on numerous factors, including mileage, age, increasing maintenance cost, or under-utilization.

TAMPA ELECTRIC COMPANY
DOCKET NO. 110131-EI
STAFF'S FIRST DATA REQUEST
REQUEST NO. 73
BATES STAMPED PAGES: 235 - 254
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73. Please provide a list of each vehicle in service as of December 31, 2010, by vehicle account, showing the in-service date, original cost, and age.

A. See attached.

accum_cost	description	asset_id	eng_in_service_year
244.52	392.02 ED Trans Equip - L Truck	97004	1/15/1993 0:00
13,896.09	392.02 ED Trans Equip - L Truck	97005	1/15/1993 0:00
1,028.33	392.02 ED Trans Equip - L Truck	97822	7/15/1994 0:00
1,390.86	392.02 ED Trans Equip - L Truck	97823	7/15/1994 0:00
19,510.23	392.02 ED Trans Equip - L Truck	98375	1/15/1995 0:00
15,971.58	392.02 ED Trans Equip - L Truck	98570	1/15/1996 0:00
19,051.54	392.02 ED Trans Equip - L Truck	98571	1/15/1996 0:00
19,064.86	392.02 ED Trans Equip - L Truck	98572	1/15/1996 0:00
19,073.30	392.02 ED Trans Equip - L Truck	98573	1/15/1996 0:00
2,740.33	392.02 ED Trans Equip - L Truck	99228	1/15/1997 0:00
21,651.47	392.02 ED Trans Equip - L Truck	99229	1/15/1997 0:00
18,441.41	392.02 ED Trans Equip - L Truck	99260	1/15/1997 0:00
19,197.18	392.02 ED Trans Equip - L Truck	99261	1/15/1997 0:00
19,741.11	392.02 ED Trans Equip - L Truck	99503	1/15/1997 0:00
22,006.09	392.02 ED Trans Equip - L Truck	99560	1/15/1997 0:00
12,710.33	392.02 ED Trans Equip - L Truck	102224	12/15/1997 0:00
18,817.67	392.02 ED Trans Equip - L Truck	102316	2/15/1998 0:00
20,813.08	392.02 ED Trans Equip - L Truck	102317	2/15/1998 0:00
18,916.99	392.02 ED Trans Equip - L Truck	102320	2/15/1998 0:00
18,857.40	392.02 ED Trans Equip - L Truck	102321	2/15/1998 0:00
19,355.15	392.02 ED Trans Equip - L Truck	102474	2/15/1998 0:00
21,191.07	392.02 ED Trans Equip - L Truck	102475	2/15/1998 0:00
20,098.59	392.02 ED Trans Equip - L Truck	102476	2/15/1998 0:00
22,346.79	392.02 ED Trans Equip - L Truck	102477	2/15/1998 0:00
21,716.55	392.02 ED Trans Equip - L Truck	102478	2/15/1998 0:00
2,428.38	392.02 ED Trans Equip - L Truck	102598	2/15/1998 0:00
21,481.66	392.02 ED Trans Equip - L Truck	102601	2/15/1998 0:00
21,125.47	392.02 ED Trans Equip - L Truck	102602	2/15/1998 0:00
21,398.07	392.02 ED Trans Equip - L Truck	102603	2/15/1998 0:00
28,508.68	392.02 ED Trans Equip - L Truck	102605	2/15/1998 0:00
1,638.03	392.02 ED Trans Equip - L Truck	102792	2/15/1998 0:00
21,202.63	392.02 ED Trans Equip - L Truck	102793	2/15/1998 0:00
21,353.16	392.02 ED Trans Equip - L Truck	102794	2/15/1998 0:00
19,043.06	392.02 ED Trans Equip - L Truck	103152	6/15/1999 0:00
21,790.18	392.02 ED Trans Equip - L Truck	103153	6/15/1999 0:00
4,078.69	392.02 ED Trans Equip - L Truck	103171	6/15/1999 0:00
21,815.22	392.02 ED Trans Equip - L Truck	103172	6/15/1999 0:00
19,043.06	392.02 ED Trans Equip - L Truck	103174	6/15/1999 0:00
19,043.06	392.02 ED Trans Equip - L Truck	103175	6/15/1999 0:00
19,043.06	392.02 ED Trans Equip - L Truck	103176	6/15/1999 0:00
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22,553.85	392.02 ED Trans Equip - L Truck	103178	6/15/1999 0:00
21,504.38	392.02 ED Trans Equip - L Truck	103183	6/15/1999 0:00
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22,515.86	392.02 ED Trans Equip - L Truck	103187	6/15/1999 0:00
22,785.90	392.02 ED Trans Equip - L Truck	103189	6/15/1999 0:00
21,396.67	392.02 ED Trans Equip - L Truck	103204	6/15/1999 0:00
26,147.75	392.02 ED Trans Equip - L Truck	103205	6/15/1999 0:00
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22,864.54	392.02 ED Trans Equip - L Truck	103764	6/15/2000 0:00
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19,964.89	392.02 ED Trans Equip - L Truck	103779	6/15/2000 0:00
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26,124.20	392.02 ED Trans Equip - L Truck	103781	6/15/2000 0:00
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23,771.48	392.02 ED Trans Equip - L Truck	103783	6/15/2000 0:00
25,816.62	392.02 ED Trans Equip - L Truck	103784	8/15/2000 0:00
24,520.29	392.02 ED Trans Equip - L Truck	103785	6/15/2000 0:00
24,925.62	392.02 ED Trans Equip - L Truck	103786	7/15/2000 0:00
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23,040.16	392.02 ED Trans Equip - L Truck	119121	6/15/1999 0:00
19,043.06	392.02 ED Trans Equip - L Truck	119168	6/15/1999 0:00
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15,069.62	392.02 ED Trans Equip - L Truck	125772	8/15/2001 0:00
24,459.55	392.02 ED Trans Equip - L Truck	125774	8/15/2001 0:00
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377.35	392.02 ED Trans Equip - L Truck	127902	1/15/1993 0:00
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21,433.59	392.02 ED Trans Equip - L Truck	24676382	10/30/2008 0:00

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3,455.40	392.02 ED Trans Equip - L Truck	24725913	8/19/2008 0:00
3,407.08	392.02 ED Trans Equip - L Truck	24725916	8/19/2008 0:00
21,663.14	392.02 ED Trans Equip - L Truck	24725919	8/19/2008 0:00
21,768.12	392.02 ED Trans Equip - L Truck	24725922	8/19/2008 0:00
3,441.42	392.02 ED Trans Equip - L Truck	24725925	8/19/2008 0:00
21,663.14	392.02 ED Trans Equip - L Truck	24725928	8/19/2008 0:00
21,655.67	392.02 ED Trans Equip - L Truck	24725931	8/19/2008 0:00
24,523.58	392.02 ED Trans Equip - L Truck	24725934	8/19/2008 0:00
21,663.14	392.02 ED Trans Equip - L Truck	24725937	8/19/2008 0:00
2,667.28	392.02 ED Trans Equip - L Truck	24725940	8/19/2008 0:00
15,068.64	392.02 ED Trans Equip - L Truck	24725943	8/19/2008 0:00
2,789.53	392.02 ED Trans Equip - L Truck	24725966	9/25/2008 0:00
2,789.53	392.02 ED Trans Equip - L Truck	24725971	9/25/2008 0:00
2,789.53	392.02 ED Trans Equip - L Truck	24725974	9/25/2008 0:00
3,147.55	392.02 ED Trans Equip - L Truck	24725977	9/25/2008 0:00
2,789.53	392.02 ED Trans Equip - L Truck	24725980	9/25/2008 0:00
2,789.62	392.02 ED Trans Equip - L Truck	24725983	9/25/2008 0:00
2,789.53	392.02 ED Trans Equip - L Truck	24725986	9/25/2008 0:00
2,789.53	392.02 ED Trans Equip - L Truck	24725989	9/25/2008 0:00
2,789.53	392.02 ED Trans Equip - L Truck	24725992	9/25/2008 0:00
2,789.53	392.02 ED Trans Equip - L Truck	24725995	9/25/2008 0:00
2,772.10	392.02 ED Trans Equip - L Truck	24725998	9/25/2008 0:00
2,789.53	392.02 ED Trans Equip - L Truck	24726001	9/25/2008 0:00
2,789.53	392.02 ED Trans Equip - L Truck	24726004	9/25/2008 0:00
2,789.53	392.02 ED Trans Equip - L Truck	24726007	9/25/2008 0:00
2,914.49	392.02 ED Trans Equip - L Truck	24726010	9/25/2008 0:00
2,789.53	392.02 ED Trans Equip - L Truck	24726013	9/25/2008 0:00
2,789.53	392.02 ED Trans Equip - L Truck	24726016	9/25/2008 0:00
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2,789.53	392.02 ED Trans Equip - L Truck	24726025	9/25/2008 0:00
2,789.53	392.02 ED Trans Equip - L Truck	24726028	9/25/2008 0:00
2,914.49	392.02 ED Trans Equip - L Truck	24726031	9/25/2008 0:00
2,789.53	392.02 ED Trans Equip - L Truck	24726034	9/25/2008 0:00
3,066.49	392.02 ED Trans Equip - L Truck	24726037	9/25/2008 0:00
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137.86	392.02 ED Trans Equip - L Truck	25237328	12/3/2008 0:00
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439.21	392.02 ED Trans Equip - L Truck	25237341	12/3/2008 0:00
122.98	392.02 ED Trans Equip - L Truck	25237344	12/3/2008 0:00
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25,732.88	392.03 ED Trans Equip - H Truck	93024	12/15/1987 0:00
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35,988.38	392.03 ED Trans Equip - H Truck	93713	1/15/1989 0:00
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29,334.17	392.03 ED Trans Equip - H Truck	94317	12/15/1990 0:00
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860.18	392.03 ED Trans Equip - H Truck	96190	12/15/1991 0:00
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1,434.53	392.03 ED Trans Equip - H Truck	96331	1/15/1992 0:00
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47,337.17	392.03 ED Trans Equip - H Truck	96333	1/15/1992 0:00
46,763.59	392.03 ED Trans Equip - H Truck	96334	1/15/1992 0:00
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52,579.73	392.03 ED Trans Equip - H Truck	96431	1/15/1992 0:00
3,882.79	392.03 ED Trans Equip - H Truck	96630	9/15/1992 0:00
202,335.23	392.03 ED Trans Equip - H Truck	96631	10/15/1992 0:00
2,148.49	392.03 ED Trans Equip - H Truck	96632	1/15/2000 0:00
2,148.49	392.03 ED Trans Equip - H Truck	96633	1/15/2000 0:00
20,119.10	392.03 ED Trans Equip - H Truck	96634	10/15/1992 0:00
2,852.80	392.03 ED Trans Equip - H Truck	96977	12/15/1992 0:00
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36,888.90	392.03 ED Trans Equip - H Truck	97290	12/15/1993 0:00

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878.45	392.03 ED Trans Equip - H Truck	97689	4/15/1994 0:00
52,068.82	392.03 ED Trans Equip - H Truck	97690	7/15/1993 0:00
34,131.02	392.03 ED Trans Equip - H Truck	97777	5/15/1994 0:00
2,097.63	392.03 ED Trans Equip - H Truck	97778	2/15/1994 0:00
38,459.88	392.03 ED Trans Equip - H Truck	97779	12/15/1993 0:00
667,777.18	392.03 ED Trans Equip - H Truck	97824	12/15/1993 0:00
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63,440.56	392.03 ED Trans Equip - H Truck	98032	2/15/1994 0:00
77,090.16	392.03 ED Trans Equip - H Truck	98033	2/15/1994 0:00
58,197.45	392.03 ED Trans Equip - H Truck	98034	2/15/1994 0:00
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49,515.29	392.03 ED Trans Equip - H Truck	98471	10/15/1994 0:00
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19,943.21	392.03 ED Trans Equip - H Truck	98492	11/15/1995 0:00
1,637.93	392.03 ED Trans Equip - H Truck	98493	10/15/1994 0:00
1,652.46	392.03 ED Trans Equip - H Truck	98494	10/15/1994 0:00
27,808.43	392.03 ED Trans Equip - H Truck	98515	11/15/1995 0:00
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39,852.73	392.03 ED Trans Equip - H Truck	98517	10/15/1994 0:00
2,548.12	392.03 ED Trans Equip - H Truck	98518	3/15/1997 0:00
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17,429.63	392.03 ED Trans Equip - H Truck	24945477	4/30/2009 0:00
17,429.63	392.03 ED Trans Equip - H Truck	24945480	4/30/2009 0:00
17,429.63	392.03 ED Trans Equip - H Truck	24945483	4/30/2009 0:00
17,429.63	392.03 ED Trans Equip - H Truck	24945486	4/30/2009 0:00
65,981.12	392.03 ED Trans Equip - H Truck	25311663	12/3/2008 0:00
228,267.94	392.03 ED Trans Equip - H Truck	25311670	12/3/2008 0:00
228,267.94	392.03 ED Trans Equip - H Truck	25311673	12/3/2008 0:00
193,348.79	392.03 ED Trans Equip - H Truck	25311676	12/3/2008 0:00
228,470.68	392.03 ED Trans Equip - H Truck	25311679	12/3/2008 0:00
228,267.94	392.03 ED Trans Equip - H Truck	25311682	12/3/2008 0:00
228,267.94	392.03 ED Trans Equip - H Truck	25311685	12/3/2008 0:00

228,267.94	392.03 ED Trans Equip - H Truck	25311688	12/3/2008 0:00
228,267.94	392.03 ED Trans Equip - H Truck	25311691	12/3/2008 0:00
228,267.94	392.03 ED Trans Equip - H Truck	25311694	12/3/2008 0:00
189,472.61	392.03 ED Trans Equip - H Truck	25311697	12/3/2008 0:00
(287.45)	392.03 ED Trans Equip - H Truck	25383179	2/1/2005 0:00
22,949.52	392.03 ED Trans Equip - H Truck	25395415	11/30/2009 0:00
31,989.04	392.03 ED Trans Equip - H Truck	25395427	11/30/2009 0:00
22,949.53	392.03 ED Trans Equip - H Truck	25395436	11/30/2009 0:00
31,989.04	392.03 ED Trans Equip - H Truck	25395466	11/30/2009 0:00
31,989.04	392.03 ED Trans Equip - H Truck	25395475	11/30/2009 0:00
31,989.04	392.03 ED Trans Equip - H Truck	25395517	11/30/2009 0:00
31,989.04	392.03 ED Trans Equip - H Truck	25395541	11/30/2009 0:00
31,989.04	392.03 ED Trans Equip - H Truck	25395544	11/30/2009 0:00
31,989.04	392.03 ED Trans Equip - H Truck	25395556	11/30/2009 0:00
31,989.04	392.03 ED Trans Equip - H Truck	25395565	11/30/2009 0:00
150,631.42	392.03 ED Trans Equip - H Truck	25505633	12/31/2009 0:00
18,228,676.37	**392.03 ED Trans Equip - H Truck Total**		
499.99	392.04 ED Trans Equip - M Truck	98327	10/15/1994 0:00
28,284.73	392.04 ED Trans Equip - M Truck	98328	10/15/1994 0:00
20,667.89	392.04 ED Trans Equip - M Truck	98644	1/15/1996 0:00
4,637.64	392.04 ED Trans Equip - M Truck	99505	1/15/1997 0:00
4,683.27	392.04 ED Trans Equip - M Truck	99506	1/15/1997 0:00
3,387.89	392.04 ED Trans Equip - M Truck	99507	1/15/1997 0:00
23,116.88	392.04 ED Trans Equip - M Truck	99508	1/15/1997 0:00
2,789.62	392.04 ED Trans Equip - M Truck	99563	1/15/1997 0:00
21,238.92	392.04 ED Trans Equip - M Truck	99565	1/15/1997 0:00
5,555.73	392.04 ED Trans Equip - M Truck	102885	2/15/1998 0:00
3,157.08	392.04 ED Trans Equip - M Truck	102886	2/15/1998 0:00
22,390.42	392.04 ED Trans Equip - M Truck	102888	2/15/1998 0:00
9,456.36	392.04 ED Trans Equip - M Truck	103163	2/15/1998 0:00
35,048.99	392.04 ED Trans Equip - M Truck	103165	2/15/1998 0:00
32,701.99	392.04 ED Trans Equip - M Truck	103179	6/15/1999 0:00
32,821.92	392.04 ED Trans Equip - M Truck	103180	6/15/1999 0:00
22,203.60	392.04 ED Trans Equip - M Truck	103792	6/15/2000 0:00
26,857.16	392.04 ED Trans Equip - M Truck	103838	8/15/2000 0:00
32,030.53	392.04 ED Trans Equip - M Truck	103839	6/15/2000 0:00
5,781.19	392.04 ED Trans Equip - M Truck	104676	8/15/2001 0:00
4,535.01	392.04 ED Trans Equip - M Truck	104677	8/15/2001 0:00
5,192.94	392.04 ED Trans Equip - M Truck	104678	8/15/2001 0:00
23,178.12	392.04 ED Trans Equip - M Truck	104679	8/15/2001 0:00
21,864.50	392.04 ED Trans Equip - M Truck	104680	8/15/2001 0:00
22,497.61	392.04 ED Trans Equip - M Truck	104681	8/15/2001 0:00
22,643.90	392.04 ED Trans Equip - M Truck	105192	6/15/2002 0:00
26,596.47	392.04 ED Trans Equip - M Truck	124374	10/15/1994 0:00
3,211.68	392.04 ED Trans Equip - M Truck	124419	1/15/1996 0:00
4,627.42	392.04 ED Trans Equip - M Truck	124605	1/15/1997 0:00
22,155.08	392.04 ED Trans Equip - M Truck	125602	6/15/2000 0:00
3,681.06	392.04 ED Trans Equip - M Truck	127326	6/15/2002 0:00
34,108.95	392.04 ED Trans Equip - M Truck	192457	12/15/2007 0:00
13,037.58	392.04 ED Trans Equip - M Truck	24725851	10/10/2008 0:00
13,037.61	392.04 ED Trans Equip - M Truck	24725856	10/10/2008 0:00
8,139.66	392.04 ED Trans Equip - M Truck	24725859	10/10/2008 0:00

8,139.66	392.04 ED Trans Equip - M Truck	24725862	10/10/2008 0:00
8,139.66	392.04 ED Trans Equip - M Truck	24725865	10/10/2008 0:00
8,139.66	392.04 ED Trans Equip - M Truck	24725868	10/10/2008 0:00
8,139.66	392.04 ED Trans Equip - M Truck	24725871	10/10/2008 0:00
29,059.24	392.04 ED Trans Equip - M Truck	24725874	10/10/2008 0:00
29,059.24	392.04 ED Trans Equip - M Truck	24725877	10/10/2008 0:00
29,059.24	392.04 ED Trans Equip - M Truck	24725880	10/10/2008 0:00
29,059.24	392.04 ED Trans Equip - M Truck	24725883	10/10/2008 0:00
29,059.24	392.04 ED Trans Equip - M Truck	24725886	10/10/2008 0:00
29,059.24	392.04 ED Trans Equip - M Truck	24725889	10/10/2008 0:00
29,059.24	392.04 ED Trans Equip - M Truck	24725892	10/10/2008 0:00
35,428.04	392.04 ED Trans Equip - M Truck	24878396	12/16/2008 0:00
86.17	392.04 ED Trans Equip - M Truck	25345260	10/30/2009 0:00
(6.99)	392.04 ED Trans Equip - M Truck	25345260	10/30/2009 0:00
7,474.31	392.04 ED Trans Equip - M Truck	25345260	10/30/2009 0:00
86.15	392.04 ED Trans Equip - M Truck	25345265	10/30/2009 0:00
(6.99)	392.04 ED Trans Equip - M Truck	25345265	10/30/2009 0:00
7,474.34	392.04 ED Trans Equip - M Truck	25345265	10/30/2009 0:00
(6.98)	392.04 ED Trans Equip - M Truck	25345268	10/30/2009 0:00
86.17	392.04 ED Trans Equip - M Truck	25345268	10/30/2009 0:00
7,474.34	392.04 ED Trans Equip - M Truck	25345268	10/30/2009 0:00
86.17	392.04 ED Trans Equip - M Truck	25345271	10/30/2009 0:00
(6.99)	392.04 ED Trans Equip - M Truck	25345271	10/30/2009 0:00
7,474.34	392.04 ED Trans Equip - M Truck	25345271	10/30/2009 0:00
86.13	392.04 ED Trans Equip - M Truck	25345274	10/30/2009 0:00
(6.98)	392.04 ED Trans Equip - M Truck	25345274	10/30/2009 0:00
7,474.36	392.04 ED Trans Equip - M Truck	25345274	10/30/2009 0:00
86.17	392.04 ED Trans Equip - M Truck	25345277	10/30/2009 0:00
(6.99)	392.04 ED Trans Equip - M Truck	25345277	10/30/2009 0:00
7,474.34	392.04 ED Trans Equip - M Truck	25345277	10/30/2009 0:00
86.17	392.04 ED Trans Equip - M Truck	25345280	10/30/2009 0:00
(6.99)	392.04 ED Trans Equip - M Truck	25345280	10/30/2009 0:00
7,474.34	392.04 ED Trans Equip - M Truck	25345280	10/30/2009 0:00
890,095.34	**392.04 ED Trans Equip - M Truck Total**		
29,617.48	392.12 ES Trans Equip - L Truck	89476	12/15/1997 0:00
20,212.19	392.12 ES Trans Equip - L Truck	89478	2/15/2000 0:00
26,795.05	392.12 ES Trans Equip - L Truck	89616	12/15/2006 0:00
13,896.09	392.12 ES Trans Equip - L Truck	97006	1/15/1993 0:00
1,011.75	392.12 ES Trans Equip - L Truck	97288	7/15/1993 0:00
1,011.75	392.12 ES Trans Equip - L Truck	97289	7/15/1993 0:00
21,385.94	392.12 ES Trans Equip - L Truck	97978	5/15/1994 0:00
17,914.57	392.12 ES Trans Equip - L Truck	98276	10/15/1994 0:00
22,964.60	392.12 ES Trans Equip - L Truck	102322	2/15/1998 0:00
926.70	392.12 ES Trans Equip - L Truck	102599	2/15/1998 0:00
20,080.28	392.12 ES Trans Equip - L Truck	102606	2/15/1998 0:00
19,785.79	392.12 ES Trans Equip - L Truck	103759	6/15/2000 0:00
23,638.32	392.12 ES Trans Equip - L Truck	104475	8/15/2001 0:00
21,788.13	392.12 ES Trans Equip - L Truck	105172	12/15/2001 0:00
11,845.00	392.12 ES Trans Equip - L Truck	105347	12/15/2002 0:00
20,415.49	392.12 ES Trans Equip - L Truck	106320	2/15/2004 0:00
20,733.49	392.12 ES Trans Equip - L Truck	106321	2/15/2004 0:00
30,182.50	392.12 ES Trans Equip - L Truck	111929	12/15/2004 0:00

24,932.09	392.12 ES Trans Equip - L Truck	112435	12/15/2005 0:00
27,900.00	392.12 ES Trans Equip - L Truck	112436	12/15/2005 0:00
32,995.38	392.12 ES Trans Equip - L Truck	112437	11/15/2005 0:00
24,141.39	392.12 ES Trans Equip - L Truck	112921	12/15/2006 0:00
15,818.85	392.12 ES Trans Equip - L Truck	112963	11/15/2006 0:00
15,818.85	392.12 ES Trans Equip - L Truck	112964	11/15/2006 0:00
15,818.85	392.12 ES Trans Equip - L Truck	112965	11/15/2006 0:00
21,656.50	392.12 ES Trans Equip - L Truck	113372	10/15/2007 0:00
21,921.45	392.12 ES Trans Equip - L Truck	119164	6/15/1999 0:00
32,995.38	392.12 ES Trans Equip - L Truck	121265	11/15/2005 0:00
24,141.39	392.12 ES Trans Equip - L Truck	121358	12/15/2006 0:00
13,477.17	392.12 ES Trans Equip - L Truck	124182	1/15/1993 0:00
23,223.54	392.12 ES Trans Equip - L Truck	125498	6/15/1999 0:00
24,108.26	392.12 ES Trans Equip - L Truck	127011	11/15/2005 0:00
750.00	392.12 ES Trans Equip - L Truck	191803	6/15/2007 0:00
19,834.02	392.12 ES Trans Equip - L Truck	191806	6/15/2007 0:00
23,078.00	392.12 ES Trans Equip - L Truck	191807	6/15/2007 0:00
26,662.72	392.12 ES Trans Equip - L Truck	191808	6/15/2007 0:00
26,662.72	392.12 ES Trans Equip - L Truck	191809	6/15/2007 0:00
750.00	392.12 ES Trans Equip - L Truck	191810	6/15/2007 0:00
507.18	392.12 ES Trans Equip - L Truck	191811	6/15/2007 0:00
507.18	392.12 ES Trans Equip - L Truck	191813	6/15/2007 0:00
507.18	392.12 ES Trans Equip - L Truck	191815	6/15/2007 0:00
507.18	392.12 ES Trans Equip - L Truck	191817	6/15/2007 0:00
23,078.00	392.12 ES Trans Equip - L Truck	191819	6/15/2007 0:00
30,424.04	392.12 ES Trans Equip - L Truck	191821	6/15/2007 0:00
23,078.00	392.12 ES Trans Equip - L Truck	191822	6/15/2007 0:00
24,999.58	392.12 ES Trans Equip - L Truck	191823	11/15/2007 0:00
21,685.76	392.12 ES Trans Equip - L Truck	191825	6/15/2007 0:00
25,000.00	392.12 ES Trans Equip - L Truck	191827	6/15/2007 0:00
24,292.00	392.12 ES Trans Equip - L Truck	191828	6/15/2007 0:00
19,834.02	392.12 ES Trans Equip - L Truck	191831	6/15/2007 0:00
19,834.02	392.12 ES Trans Equip - L Truck	191833	6/15/2007 0:00
19,834.02	392.12 ES Trans Equip - L Truck	191836	6/15/2007 0:00
19,695.12	392.12 ES Trans Equip - L Truck	24012018	6/15/2000 0:00
23,683.40	392.12 ES Trans Equip - L Truck	24012019	1/15/2008 0:00
19,755.91	392.12 ES Trans Equip - L Truck	24012020	6/15/2000 0:00
13,981.12	392.12 ES Trans Equip - L Truck	24012865	5/15/2008 0:00
23,084.15	392.12 ES Trans Equip - L Truck	24543434	6/15/2000 0:00
19,739.60	392.12 ES Trans Equip - L Truck	24543435	6/15/2000 0:00
23,809.76	392.12 ES Trans Equip - L Truck	24543715	10/15/2008 0:00
23,809.77	392.12 ES Trans Equip - L Truck	24543716	10/15/2008 0:00
18,909.95	392.12 ES Trans Equip - L Truck	24805505	3/31/2009 0:00
26,577.27	392.12 ES Trans Equip - L Truck	24805510	3/31/2009 0:00
30,174.54	392.12 ES Trans Equip - L Truck	24805513	3/31/2009 0:00
32,388.19	392.12 ES Trans Equip - L Truck	24805516	12/31/2008 0:00
23,513.61	392.12 ES Trans Equip - L Truck	24828551	2/15/1998 0:00
-	392.12 ES Trans Equip - L Truck	25007665	12/31/2008 0:00
16,264.38	392.12 ES Trans Equip - L Truck	25059768	5/15/1994 0:00
41,377.96	392.12 ES Trans Equip - L Truck	25176798	8/1/2009 0:00
21,542.29	392.12 ES Trans Equip - L Truck	25180346	6/15/1999 0:00
4,155.70	392.12 ES Trans Equip - L Truck	25396192	11/30/2009 0:00

27,534.21	392.12 ES Trans Equip - L Truck	25505722	1/31/2010 0:00
26,557.82	392.12 ES Trans Equip - L Truck	25505727	1/31/2010 0:00
27,004.07	392.12 ES Trans Equip - L Truck	25505786	1/31/2010 0:00
17,693.31	392.12 ES Trans Equip - L Truck	25957910	12/31/2009 0:00
27,960.57	392.12 ES Trans Equip - L Truck	25957915	12/31/2009 0:00
1,484,192.54	**392.12 ES Trans Equip - L Truck Total**		
2,148.49	392.13 ES Trans Equip - H Truck	88701	1/15/2000 0:00
281,942.00	392.13 ES Trans Equip - H Truck	89337	6/15/1982 0:00
2,896.21	392.13 ES Trans Equip - H Truck	94097	12/15/1990 0:00
5,016.22	392.13 ES Trans Equip - H Truck	94104	12/15/1990 0:00
33,054.33	392.13 ES Trans Equip - H Truck	94274	1/15/1991 0:00
2,343.00	392.13 ES Trans Equip - H Truck	98120	7/15/1994 0:00
4,670.49	392.13 ES Trans Equip - H Truck	102479	10/15/1997 0:00
51,772.65	392.13 ES Trans Equip - H Truck	104516	7/15/2001 0:00
29,129.92	392.13 ES Trans Equip - H Truck	104785	9/15/2001 0:00
19,710.24	392.13 ES Trans Equip - H Truck	115966	12/15/1986 0:00
43,116.86	392.13 ES Trans Equip - H Truck	24012892	3/15/2008 0:00
43,709.18	392.13 ES Trans Equip - H Truck	24543774	9/15/2008 0:00
519,509.59	**392.13 ES Trans Equip - H Truck Total**		
24,155.08	392.14 ES Trans Equip - M Truck	98029	7/15/1994 0:00
19,988.06	392.14 ES Trans Equip - M Truck	98052	11/15/1993 0:00
6,374.10	392.14 ES Trans Equip - M Truck	98543	9/15/1995 0:00
6,374.10	392.14 ES Trans Equip - M Truck	98544	9/15/1995 0:00
23,716.79	392.14 ES Trans Equip - M Truck	98643	1/15/1996 0:00
1,519.74	392.14 ES Trans Equip - M Truck	102884	2/15/1998 0:00
19,778.31	392.14 ES Trans Equip - M Truck	102887	2/15/1998 0:00
1,316.63	392.14 ES Trans Equip - M Truck	119591	8/15/2001 0:00
29,712.05	392.14 ES Trans Equip - M Truck	119723	9/15/2002 0:00
21,020.15	392.14 ES Trans Equip - M Truck	125807	8/15/2001 0:00
4,602.81	392.14 ES Trans Equip - M Truck	24878624	2/15/1998 0:00
28,948.16	392.14 ES Trans Equip - M Truck	24878629	2/15/1998 0:00
187,505.98	**392.14 ES Trans Equip - M Truck Total**		
26,244,909.54	**Grand Total**		

74. For each of the years 2006-2010, please provide a list of each vehicle retired by vehicle account with the associated in-service date, amount retired, salvage realized, and cost of removal incurred.

A. See attached.

Vehicles_Auction Statement

COMP_ID	PAN_FERC	PAN_PNT	ASST_COST	RET_DATE	ASST_NMB	PAC_COD	ACCT	ALLOC	PROCEEDS
3951	392	14	20,460.78		62769800	T80	911 P9223 40	2,008.25	
3951 Total			**20,460.78**						2,008.25
4052	392	12	11,384.06		61658600	T82	911 P9223 40	1,350.00	
4052 Total			**11,384.06**						1,350.00
4201	392	12	13,190.50		62171400	T85	911 P9223 40	270.00	
4201 Total			**13,190.50**						270.00
4281	392	2	12,878.20	6/15/2005	64718000	T82	P92 03	3,510.00	
4281 Total			**12,878.20**						3,510.00
4622	392	12	21,347.26		62921400	T82	911 P9223 40	1,890.00	
4622 Total			**21,347.26**						1,890.00
4966	392	12	1,065.89		61372900	T63	911 P9223 40	101.99	
4966	392	12	10,221.14		61374100	T82	911 P9223 40	978.01	
4966 Total			**11,287.03**						1,080.00
6413	392	1	11,690.71	6/15/2005	6672200	T15	P91 03	900.00	
6413 Total			**11,690.71**						900.00
Grand Total			102,238.54						

PAC_CODE2	ACCT	ALLOC
T80	911 P9223 40	2,008.25
T82	911 P9223 40	1,350.00
T85	911 P9223 40	270.00
T82	P92 03	3,510.00
T82	911 P9223 40	1,890.00
T63	911 P9223 40	101.99
T82	911 P9223 40	978.01
T15	P91 03	900.00

Sum of ALLOC	ACCT			
PAC_CODE2	911 P9223 40	P91 03	P92 03	Grand Total
T15		900.00		900.00
T63	101.99			101.99
T80	2,008.25			2,008.25
T82	4,218.01		3,510.00	7,728.01
T85	270.00			270.00
Grand Total	6,598.25	900.00	3,510.00	11,008.25

Vehicles_Auction Statement

COMP_ID	PAN_FERC	PAN_PN	ASST_COS	RET_DAT	ASST_NMBR	PAC_CODE2	ACCT	ALLOC	PROCEEDS
2851	392	3	22,716.12		64377600	T07	P92 33	675.77	
2851	392	3	15,442.26		64129200	T20	P92 33	459.38	
2851	392	3	40,501.37		64129500	T80	P92 33	1,204.85	
2851 Total			**78,659.75**						2,340.00
6314	392	1	10,670.03		62254300	T15	P91 03	450.00	
6314 Total			**10,670.03**						450.00
Grand Total			**89,329.78**						

PAC_CODE2	ACCT	ALLOC
T07	P92 33	675.77
T20	P92 33	459.38
T80	P92 33	1,204.85
T15	P91 03	450.00

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Sum of ALLOC	ACCT		
PAC_CODE2	P91 03	P92 33	Grand Total
T07		675.77	675.77
T15	450.00		450.00
T20		459.38	459.38
T80		1,204.85	1,204.85
Grand Total	450.00	2,340.00	**2,790.00**

PAC CODE	ACCT	
000 Z99 000 000 000	**330 P9433 40 330**	**2,655.00**

Grand Total equals Total from Auction Stmt **5,445.00**

Vehicles_Auction Statement

COMP_ID	PAN_FERC	PAN_PNT	ASST_COST	RET_DATE	ASST_NMBR	PAC_CODE2	ACCT	PROCEEDS
4802	392	2	15026.61	1/15/2006	61023000	T82	P92 03	**1,260.00**

Sum of PROCEEDS	ACCT	
PAC_CODE2	P92 03	Grand Total
T82	1,260.00	1,260.00
Grand Total	1,260.00	**1,260.00**

330 P92 03 04 330 000 T82 000 000 000 1,260.00

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TAMPA ELECTRIC COMPANY
DOCKET NO. 110131-EI
STAFF'S FIRST DATA REQUEST
FILED: AUGUST 1, 2011

Vehicles_Auction Statement

COMP_ID	PAN_FERC	PAN_PNT	ASST_COST	RET_DATE	ASST_NMBR	PAC_CODE2	ACCT	ALLOC	PROCEEDS
2033	392	3	35,000.00		2008301	T35	P93 03	921.23	
2033	392	3	32,009.13		2008300	T73	P93 03	842.50	
2033	392	3	1,378.00		62385400	T80	P93 03	36.27	
2033 Total			**68,387.13**						1,800.00
8507	392	3	23,119.22	5/15/2001	62899500	T75	P93 03	1,350.00	
8507 Total			**23,119.22**						1,350.00
Grand Total			**91,506.35**						

PAC_CODE2	ACCT	ALLOC
T35	P93 03	921.23
T73	P93 03	842.50
T80	P93 03	36.27
T75	P93 03	1,350.00

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Sum of ALLOC	ACCT	
PAC_CODE2	P93 03	Grand Total
T35	921.23	921.23
T73	842.50	842.50
T75	1,350.00	1,350.00
T80	36.27	36.27
Grand Total	3,150.00	**3,150.00**

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Vehicles_Auction Statement

COMP_ID	PAN_FERC	PAN_PNT	ASST_COS	RET_DATE	ASST_NMBR	PAC_CODE2	ACCT	ALLOC	PROCEEDS
4428	392	12	15397.64	5/15/2006	62729700	T82	911 P9223 40	1,980.00	
4428 Total			**15397.64**						1,980.00
4635	392	2	1057.52	4/15/2006	62954800	T50	P92 03	31.92	
4635	392	2	19811.92	4/15/2006	62955300	T85	P92 03	598.08	
4635 Total			**20869.44**						630.00
Grand Total			**36267.08**						

PAC_CODE2	ACCT	ALLOC
T82	911 P9223 40	1,980.00
T50	P92 03	31.92
T85	P92 03	598.08

Sum of ALLOC	ACCT		
PAC_CODE2	911 P9223 40	P92 03	Grand Total
T50		31.92	31.92
T82	1,980.00		1,980.00
T85		598.08	598.08
Grand Total	1,980.00	630.00	**2,610.00**

acct #'s
911 P9223 40 911
330 P9203 40 330

TAMPA ELECTRIC COMPANY
DOCKET NO. 110131-EI
STAFF'S FIRST DATA REQUEST
FILED: AUGUST 1, 2011

Vehicles_Auction Statement

COMP_ID	PAN_FERC	PAN_PNT	ASST_COS	RET_DATE	ASST_NMBR	PAC_CODE2	ACCT	ALLOC	PROCEEDS
2108	392	3	5468.53	6/15/2006	2030800	T20	P93 03	1,084.73	
2108	392	3	42298.32	6/15/2006	2030700	T80	P93 03	8,390.27	
2108 Total			**47766.85**						9,475.00
4235	392	2	14159.11	5/15/2006	62169000	T82	P92 03	1,260.00	
4235 Total			**14159.11**						1,260.00
4657	392	2	10498.74	6/15/2006	6038300	T85	P92 03	1,350.00	
4657 Total			**10498.74**						1,350.00
Grand Total			**72424.7**						

PAC_CODE2	ACCT	ALLOC
T20	P93 03	1,084.73
T80	P93 03	8,390.27
T82	P92 03	1,260.00
T85	P92 03	1,350.00

261

Sum of ALLOC	ACCT		
PAC_CODE2	P92 03	P93 03	Grand Total
T20		1,084.73	1,084.73
T80		8,390.27	8,390.27
T82	1,260.00		1,260.00
T85	1,350.00		1,350.00
Grand Total	2,610.00	9,475.00	**12,085.00**

330 P70 63 40 330 (Z99) **4,050.00**

JULY STMT TOTAL **16,135.00**

TAMPA ELECTRIC COMPANY
DOCKET NO. 110131-EI
STAFF'S FIRST DATA REQUEST
FILED: AUGUST 1, 2011

Vehicles_Auction Statement

COMP_ID	PAN_FE	PAN_PNT	ASST_COST	RET_DATE	ASST_NMBR	PAC_CODE2	ACCT	ALLOC	PROCEEDS
4839	392	2	12778.78	6/15/2006	61032200	T85	P92 03	450.00	
4839 Total			**12778.78**						450.00
5307	392	2	22893.59	6/15/2006	64897100	T82	P92 03	3,237.75	
5307 Total			**22893.59**						3,237.75
Grand Total			**35672.37**						

PAC_CODE2	ACCT	ALLOC	
T85	P92 03	450.00	
T82	P92 03	3,237.75	
T82	P92 03	2,700.00	Veh not within system.

Sum of ALLOC	ACCT	
PAC_CODE2	P92 03	Grand Total
T82	5,937.75	5,937.75
T85	450.00	450.00
Grand Total	**6,387.75**	**6,387.75**

330 - Ferc - Pnt - 04 - 330

NOTE: Within the amount of Veh 5307 is also included the $137.50 misc chgs paid by auction.

Vehicles_Auction Statement

COMP_ID	PAN_FERC	PAN_PNT	ASST_COST	RET_DATE	ASST_NMBR	PAC_CODE2	ACCT	ALLOC	PROCEEDS
4046	392	2	12330.31	7/15/2006	61655300	T82	P92 03	1,710.00	
			12,330.31						1,710.00

Sum of ALLOC	ACCT	
PAC_CODE2	P92 03	Grand Total
T82	1,710.00	1,710.00
Grand Total	1,710.00	**1,710.00**

330 - FERC - PNT - 40 - 330

TAMPA ELECTRIC COMPANY
DOCKET NO. 110131-EI
STAFF'S FIRST DATA REQUEST
FILED: AUGUST 1, 2011

TAMPA ELECTRIC COMPANY
DOCKET NO. 110131-EI
STAFF'S FIRST DATA REQUEST
FILED: AUGUST 1, 2011

Vehicles_Auction Statement

COMP_ID	PAN_FERC	PAN_PNT	ASST_COST	RET_DATE	ASST_NMBR	PAC_CODE2	ACCT	ALLOC	PROCEED
2128	392	3	2148.49	8/15/2006	2034701	T35	P93 03	230.06	
2128	392	3	188365.47	8/15/2006	2034700	T35	P93 03	20,169.94	
2128 Total			**190513.96**						20,400.00
3087	392	4	2533.03	8/15/2006	60466100	T20	P92 33	550.08	
3087	392	4	2025.16	8/15/2006	60467200	T25	P92 33	439.79	
3087	392	4	14920.26	8/15/2006	60468800	T82	P92 33	3,240.13	
3087 Total			**19478.45**						4,230.00
4508	392	2	18073.99	8/15/2006	62825800	T85	P92 03	990.00	
4508 Total			**18073.99**						990.00
5828	392	2	22815.95	8/15/2006	64080200	T85	P92 03	4,320.00	
5828 Total			**22815.95**						4,320.00
Grand Total			**250882.35**						

PAC_CODE2	ACCT	ALLOC
T35	P93 03	230.06
T35	P93 03	20,169.94
T20	P92 33	550.08
T25	P92 33	439.79
T82	P92 33	3,240.13
T85	P92 03	990.00
T85	P92 03	4,320.00

Sum of ALLOC	ACCT			
PAC_CODE2	P92 03	P92 33	P93 03	Grand Total
T20		550.08		550.08
T25		439.79		439.79
T35			20,400.00	20,400.00
T82		3,240.13		3,240.13
T85	5,310.00			5,310.00
Grand Total	5,310.00	4,230.00	20,400.00	**29,940.00**

ACCT ALLOC:
330 - FERC - PNT - 40 - 330

Vehicles_Auction Statement

COMP_ID	PAN_FE	PAN_PNT	ASST_COST	RET_DATE	ASST_NMBR	PAC_CODE2	ACCT	ALLOC	PROCEEDS
4233	392	2	14159.11	9/15/2006	62169400	T82	P92 23	1,260.00	
4233 Total			**14159.11**						1,260.00
4364	392	12	15129.96	9/15/2006	62438300	T82	P92 23	1,260.00	
4364 Total			**15129.96**						1,260.00
4509	392	12	19932.33	9/15/2006	62825200	T82	P92 23	630.00	
4509 Total			**19932.33**						630.00
4954	392	2	13536.98	8/15/2006	61377500	T85	P92 03	180.00	
4954 Total			**13536.98**						180.00
Grand Total			**62758.38**						

PAC_CODE2	ACCT	ALLOC
T82	P92 23	1,260.00
T82	P92 23	1,260.00
T82	P92 23	630.00
T85	P92 03	180.00

Sum of ALLOC	ACCT		
PAC_CODE2	P92 03	P92 23	Grand Total
T82		3,150.00	3,150.00
T85	180.00		180.00
Grand Total	180.00	3,150.00	**3,330.00**

923 P9223 40 920 - Per Roger's note (see attached)
330 P9203 40 330

Vehicles_Auction Statement

COMP_ID	PAN_FERC	PAN_PNT	ASST_COST	RET_DATE	ASST_NMBR	PAC_CODE2	ACCT	ALLOC	PROCEE
3200	392	14	5117.67		62022800	T20	911 P9223 40	351.38	
3200	392	14	1017.39		62283400	T63	911 P9223 40	69.85	
3200	392	14	14838.07		62023300	T82	911 P9223 40	1,018.77	
3200 Total			**20973.13**						1,440.00
4041	392	12	12880.86		61654900	T82	911 P9243 40	1,890.00	
4041 Total			**12880.86**						1,890.00
4309	392	12	11930.46		62338200	T82	911 P9243 40	1,170.00	
4309 Total			**11930.46**						1,170.00
Grand Total			**45784.45**						

PAC_CODE2	ACCT	ALLOC
T20	911 P9223 40	351.38
T63	911 P9223 40	69.85
T82	911 P9223 40	1018.77
T82	911 P9243 40	1890
T82	912 P9243 40	1170

Sum of ALLOC	ACCT			
PAC_CODE2	911 P9223 40	911 P9243 40	912 P9243 40	Grand Total
T20	351.38			351.38
T63	69.85			69.85
T82	1,018.77	1,890.00	1,170.00	4,078.77
Grand Total	1,440.00	1,890.00	1,170.00	4,500.00

911 P9223 40 911
911 P9243 40 911

Vehicles_Auction Statement

COMP_ID	PAN_FER	PAN_PNT	ASST_COST	RET_DATE	ASST_NMBR	PAC_CODE2	ACCT	ALLOC	PROCEEDS
3072	392	4	29684.44	10/15/2006	64515500	T82	P92 33	4,590.00	
3072			**29684.44**						4,590.00
3088	392	4	2,886.07	10/15/2006	60465900	T20	P92 33	733.50	
3088	392	4	2,378.20	10/15/2006	60467300	T25	P92 33	604.42	
3088	392	4	15,273.31	10/15/2006	60468600	T82	P92 33	3,881.73	
3088	392	4	1,594.92	10/15/2006	60470100	T90	P92 33	405.35	
3088			**22,132.50**						5,625.00
3701	392	4	2,276.44	11/15/2006	62533200	T20	P92 33	594.16	
3701	392	4	2,058.12	12/15/2006	62533700	T25	P92 33	537.18	
3701	392	4	14,400.00	12/15/2006	6671900	T82	P92 33	3,758.47	
3701	392	4	575.45	12/15/2006	6671901	T82	P92 33	150.20	
3701			**19,310.01**						5,040.00
3705	392	4	4,648.59	10/15/2006	63463600	T20	P92 33	449.19	
3705	392	4	21,430.72	10/15/2006	63464200	T82	P92 33	2,070.81	
3705			**26,079.31**						2,520.00
3706	392	4	4,857.79	12/15/2006	63463500	T20	P92 33	517.69	
3706	392	4	22,167.20	12/15/2006	63464300	T82	P92 33	2,362.31	
3706			**27,024.99**						2,880.00
4055	392	2	1,011.75	10/15/2006	62531100	T63	P92 03	156.16	
4055	392	2	10,650.11	10/15/2006	61656100	T82	P92 03	1,643.84	
4055			**11,661.86**						1,800.00
4065	392	2	15,698.46	11/15/2006	61654000	T82	P92 03	1,350.00	
4065			**15,698.46**						1,350.00
4070	392	2	13,481.02	11/15/2006	61655700	T82	P92 03	1,080.00	
4070			**13,481.02**						1,080.00
4073	392	2	13,481.02	11/15/2006	61659000	T82	P92 03	990.00	
4073			**13,481.02**						990.00
4074	392	2	13,481.02		61658200	T82	P92 03	630.00	
4074			**13,481.02**						630.00
4098	392	2	14,416.10	8/15/2006	61656000	T82	P92 03	2,160.00	
4098			**14,416.10**						2,160.00
4110	392	2	14,554.11	10/15/2006	64563400	T82	P92 03	2,250.00	
4110			**14,554.11**						2,250.00
4200	392	2	13,190.50		62171300	T85	P92 03	270.00	
4200			**13,190.50**						270.00
4220	392	2	937.51	11/15/2006	62283300	T63	P92 03	54.25	
4220	392	2	8,394.56	11/15/2006	62171100	T82	P92 03	485.75	
4220			**9,332.07**						540.00
4361	392	2	1,011.75	12/15/2006	62531500	T63	P92 03	94.27	

4361	392	2	13,477.17	12/15/2006	62436700	T82	P92 03	1,255.73		
4361			**14,488.92**						1,350.00	
4807	392	2	13,037.50	11/15/2006	63462500	T82	P92 03	1,890.00		
4807			**13,037.50**						1,890.00	
4810	392	2	13,037.50	10/15/2006	63462600	T82	P92 03	1,080.00		
4810			**13,037.50**						1,080.00	
4900	392	2	12,621.27	10/15/2006	61027500	T82	P92 03	1,170.00		
4900			**12,621.27**						1,170.00	
5039	392	2	12,586.36	12/15/2006	64395700	T82	P92 03	2,700.00		
5039			**12,586.36**						2,700.00	
5093	392	2	20,130.73	10/15/2006	64395300	T82	P92 03	1,440.00		
5093			**20,130.73**						1,440.00	
5909	392	2	20,426.39	11/15/2006	64248700	T82	P92 03	1,710.00		
5909			**20,426.39**						1,710.00	
6404	392	1	11,690.71		62725800	T15	P91 03	900.00		
6404			**11,690.71**						900.00	
9411	392	3	62,931.90	5/15/2001	62022400	T40	P93 03	1,530.00		
9411			**62,931.90**						1,530.00	
Grand			**394,794.25**							**45,495.00**

PAC_CO	ACCT	ALLOC
T82	P92 33	4,590.00
T20	P92 33	733.50
T25	P92 33	604.42
T82	P92 33	3,881.72
T90	P92 33	405.35
T20	P92 33	594.16
T25	P92 33	537.18
T82	P92 33	3,758.47
T82	P92 33	150.20
T20	P92 33	449.19
T82	P92 33	2,070.81
T20	P92 33	517.69
T82	P92 33	2,362.31
T63	P92 03	156.16
T82	P92 03	1,643.84
T82	P92 03	1,350.00
T82	P92 03	1,080.00
T82	P92 03	990.00
T82	P92 03	630.00
T82	P92 03	2,160.00
T82	P92 03	2,250.00
T85	P92 03	270.00
T63	P92 03	54.25
T82	P92 03	485.75
T63	P92 03	94.27
T82	P92 03	1255.73
T82	P92 03	1890
T82	P92 03	1080
T82	P92 03	1170
T82	P92 03	2700
T82	P92 03	1440
T82	P92 03	1710
T15	P91 03	900
T40	P93 03	1530

Sum of ALLOC	ACCT				
PAC_CODE2	P91 03	P92 03	P92 33	P93 03	Grand Total
T15	900.00				900.00
T20			2,294.54		2,294.54
T25			1,141.60		1,141.60
T40				1,530.00	1,530.00
T63		304.68			304.68
T82		21,835.32	16,813.51		38,648.83
T85		270.00			270.00
T90			405.35		405.35
Grand Total	900.00	22,410.00	20,655.00	1,530.00	**45,495.00**

	911 P70 63 40 000
AMT PWR PLT 316 000	4,865.00
AMT PWR PLT 316 000	3,600.00
AMT PWR PLT 316 000	2,925.00
AMT PWR PLT 316 000	270.00
	11,660.00
Grand Total	**57,155.00**

Vehicles_Auction Statement

COMP_ID	PAN_FERC	PAN_PNT	ASST_COST	RET_DATE	ASST_NMBR	PAC_CODE2	ACCT	ALLOC	PROCEEDS
2861	392	3	9,424.49		65168200	T05	P93 03	720.87	
2861	392	3	35,870.15		65168100	T05	P93 03	2,743.68	
2861	392	3	10,120.97		64175500	T20	P93 03	774.14	
2861	392	3	35,185.46		64176400	T80	P93 03	2,691.31	
2861 Total			**90,601.07**						6,930.00
2866	392	3	-	6/15/1999	6689900	T07	P93 03	-	
2866	392	3	31,723.98		6690100	T07	P93 03	2,020.00	
2866	392	3	11,709.33		64240800	T20	P93 03	745.58	
2866	392	3	41,373.42		64241200	T80	P93 03	2,634.42	
2866 Total			**84,806.73**						5,400.00
4461	392	12	13,987.65		62728700	T82	911 P92 23 40	990.00	
4461 Total			**13,987.65**						990.00
4730	392	2	22,447.70		64025500	T82	P92 03	1,710.00	
4730 Total			**22,447.70**						1,710.00
5836	392	2	20,403.42	6/15/2004	64108200	T85	P92 03	630.00	
5836 Total			**20,403.42**						630.00
5910	392	12	19,043.06		64239702	T82	911 P92 23 40	1,080.00	
5910 Total			**19,043.06**						1,080.00
8034	392	3	8,732.83	5/15/2001	1877800	T25	P93 03	2,070.00	
8034 Total			**8,732.83**						2,070.00
8414	392	3	14,099.30	5/15/2001	61661400	T75	P93 03	315.00	
8414 Total			**14,099.30**						315.00
Grand Total			**274,121.76**						

PAC_CODE2	ACCT	ALLOC
T05	P93 03	720.87
T05	P93 03	2,743.68
T20	P93 03	774.14
T80	P93 03	2,691.31
T07	P93 03	-
T07	P93 03	2,020.00
T20	P93 03	745.58
T80	P93 03	2,634.42
T82	911 P92 23 40	990.00
T82	P92 03	1,710.00
T85	P92 03	630.00
T82	911 P92 23 40	1,080.00
T25	P93 03	2,070.00
T75	P93 03	315.00

Sum of ALLOC	ACCT			
PAC_CODE2	911 P92 23 40	P92 03	P93 03	Grand Total
T05			3,464.55	3,464.55
T07			2,020.00	2,020.00
T20			1,519.72	1,519.72
T25			2,070.00	2,070.00
T75			315.00	315.00
T80			5,325.73	5,325.73
T82	2,070.00	1,710.00		3,780.00
T85		630.00		630.00
Grand Total	2,070.00	2,340.00	14,715.00	19,125.00

Vehicles_Auction Statement

COMP_ID	PAN_FERC	PAN_PNT	ASST_COST	RET_DATE	ASST_NM	PAC_CODE2	ACCT	ALLOC	PROCEEDS
2111	392	3	51,563.84	6/15/2006	61178000	T07	P9303	2,169.23	
2111	392	3	85,253.55	6/15/2006	64637400	T80	P9303	3,586.52	
2111 Total			**136,817.39**						5,755.75
2853	392	3	35,348.84	3/15/2007	6039001	T05	P9303	3,728.70	
2853	392	3	6,444.28	3/15/2007	64146101	T20	P9303	679.76	
2853	392	3	43,535.91	3/15/2007	64147301	T80	P9303	4,592.29	
2853 Total			**85,329.03**						9,000.75
2858	392	3	22,410.36	3/15/2007	64377800	T07	P9303	3,209.23	
2858	392	3	10,631.75	3/15/2007	64146400	T20	P9303	1,522.50	
2858	392	3	36,444.94	3/15/2007	64147200	T80	P9303	5,219.02	
2858 Total			**69,487.05**						9,950.75
2863	392	3	31,723.98	3/15/2007	65168600	T07	P9303	3,620.76	
2863	392	3	11,676.03	3/15/2007	64175700	T20	P9303	1,332.62	
2863	392	3	36,294.08	3/15/2007	64176600	T80	P9303	4,142.36	
2863 Total			**79,694.09**						9,095.75
Grand Total			**371,327.56**						

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TOWING CHG TO AUCTION $ 377.00
ALLOCATION OF TOWING CHGS TO EA VEHICLE $ 94.25 PER VEH

PAC_CODE2	ACCT	ALLOC
T07	P9303	2,169.23
T80	P9303	3,586.52
T05	P9303	3,728.70
T20	P9303	679.76
T80	P9303	4,592.30
T07	P9303	3,209.23
T20	P9303	1,522.50
T80	P9303	5,219.02
T07	P9303	3,620.76
T20	P9303	1,332.62
T80	P9303	4,142.36

Sum of ALLOC	ACCT	
PAC_CODE2	P9303	Grand Total
T05	3,728.70	3,728.70
T07	8,999.22	8,999.22
T20	3,534.88	3,534.88
T80	17,540.20	17,540.20
Grand Total	**33,803.00**	**33,803.00**

911 P70 63 40 000

AMT PWR PLT 316 000 **225.00**

$ 34,028.00

Vehicles_Auction Statement

COMP_ID	PAN_FER	PAN_PNT	ASST_COST	RET_DATE	ASST_NMBR	PAC_CODE2	ACCT	ALLOC	PROCEEDS
2010	392	3	37,756.54	3/15/2007	62857400	T07	P93 03	3,514.52	
2010	392	3	45,604.71	3/15/2007	64424200	T80	P93 03	4,245.05	
2010			**83,361.25**						7,759.57
2102	392	3	22,122.64	3/15/2007	61487900	T07	P93 03	2,781.85	
2102	392	3	43,879.63	3/15/2007	64637200	T80	P93 03	5,517.72	
2102			**66,002.27**						8,299.57
2103	392	3	26,816.19	3/15/2007	62172500	T07	P93 03	3,868.46	
2103	392	3	48,254.56	3/15/2007	64637300	T80	P93 03	6,961.12	
2103			**75,070.75**						10,829.57
2850	392	3	33,270.22	3/15/2007	62652200	T07	P93 03	2,891.94	
2850	392	3	9,734.46	3/15/2007	64129100	T20	P93 03	846.15	
2850	392	3	34,875.54	3/15/2007	64129400	T80	P93 03	3,031.48	
2850			**77,880.22**						6,769.57
2852	392	3	23,760.07	3/15/2007	64377700	T07	P93 03	2,506.77	
2852	392	3	6,244.50	3/15/2007	64129000	T20	P93 03	658.82	
2852	392	3	44,396.39	3/15/2007	64129600	T80	P93 03	4,683.98	
2852			**74,400.96**						7,849.57
2854	392	3	13,191.92	3/15/2007	65168400	T07	P93 03	1,540.46	
2854	392	3	10,295.76	3/15/2007	64146500	T20	P93 03	1,202.27	
2854	392	3	34,484.29	3/15/2007	64147400	T80	P93 03	4,026.84	
2854			**57,971.97**						6,769.57
4051	392	2	11,384.06	5/15/2007	61658000	T82	P92 03	1,909.57	
4051			**11,384.06**						1,909.57
4096	392	2	16,622.87	5/15/2007	61656600	T82	P92 03	739.57	
4096			**16,622.87**						739.57
4229	392	2	14,412.77	5/15/2007	62170400	T82	P92 03	2,539.57	
4229			**14,412.77**						2,539.57
4302	392	2	16,052.80	5/15/2007	62171200	T82	P92 03	3,979.57	
4302			**16,052.80**						3,979.57
4369	392	2	14,678.33	4/15/2007	62394500	T85	P92 03	829.57	
4369			**14,678.33**						829.57
4383	392	2	14,347.18	5/15/2007	62434900	T82	P92 03	379.57	
4383			**14,347.18**						379.57
4472	392	2	10,893.43	4/15/2007	6028100	T85	P92 03	649.57	
4472			**10,893.43**						649.57
8172	392	3	4,251.49	5/15/2001	1883700	T25	P93 03	1,009.57	
8172			**4,251.49**						1,009.57
Grand			**537,330.35**						

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TOWING CHARGES FOR ALL VEHICLES 986.00

TOWING CHG PER VEHICLE 70.43

PAC_CO	ACCT	ALLOC
T07	P93 03	3,514.53
T80	P93 03	4,245.05
T07	P93 03	2,781.85
T80	P93 03	5,517.72
T07	P93 03	3,868.46
T80	P93 03	6,961.12
T07	P93 03	2,891.94
T20	P93 03	846.15
T80	P93 03	3,031.48
T07	P93 03	2,506.77
T20	P93 03	658.82
T80	P93 03	4,683.98
T07	P93 03	1,540.46
T20	P93 03	1,202.27
T80	P93 03	4,026.84
T82	P92 03	1,909.57
T82	P92 03	739.57
T82	P92 03	2,539.57
T82	P92 03	3,979.57
T85	P92 03	829.57
T82	P92 03	379.57
T85	P92 03	649.57
T25	P93 03	1,009.57

Sum of ALLOC	ACCT		
PAC_CODE2	P92 03	P93 03	Grand Total
T07		17,104.01	17,104.01
T20		2,707.24	2,707.24
T25		1,009.57	1,009.57
T80		28,466.19	28,466.19
T82	9,547.85		9,547.85
T85	1,479.14		1,479.14
Grand Total	11,026.99	49,287.01	**60,314.00**

Vehicles_Auction Statement

COMP_ID	PAN_FERC	PAN_PNT	ASST_COST	RET_DATE	ASST_NMBR	PAC_CODE2	ACCT	ALLOC	PROCEEDS
1430	392	3	302.02		1971600	T20	P93 03	14.06	
1430	392	3	1,738.66		4574600	T20	P93 03	80.93	
1430	392	3	2,201.18		64347200	T63	P93 03	102.46	
1430	392	3	16,450.95		4574500	T80	P93 03	765.79	
1430 Total			**20,692.81**						963.25
2008	392	3	21,723.98	4/15/2007	2040500	T07	P93 03	2,569.80	
2008	392	3	45,002.13	4/15/2007	64423900	T80	P93 03	5,323.45	
2008 Total			**66,726.11**						7,893.25
2009	392	3	37,411.08	3/15/2007	61165400	T07	P93 03	4,274.07	
2009	392	3	44,458.28	3/15/2007	64424000	T80	P93 03	5,079.18	
2009 Total			**81,869.36**						9,353.25
2011	392	3	31,723.98	3/15/2007	2041100	T07	P93 03	2,961.62	
2011	392	3	45,113.63	3/15/2007	64424100	T80	P93 03	4,211.63	
2011 Total			**76,837.61**						7,173.25
2855	392	3	12,876.00	3/15/2007	62257800	T07	P93 03	1,545.26	
2855	392	3	6,075.63	3/15/2007	64146200	T20	P93 03	729.14	
2855	392	3	38,945.10	3/15/2007	64147500	T80	P93 03	4,673.84	
2855 Total			**57,896.73**						6,948.25
2856	392	3	25,831.14	3/15/2007	62531601	T05	P93 03	2,583.35	
2856	392	3	12,617.47	3/15/2007	64175201	T20	P93 03	1,261.86	
2856	392	3	33,277.33	3/15/2007	64176001	T80	P93 03	3,328.04	
2856 Total			**71,725.94**						7,173.25
2860	392	3	9,655.53	4/15/2007	60529601	T05	P93 03	498.61	
2860	392	3	35,957.61	4/15/2007	60529600	T05	P93 03	1,856.84	
2860	392	3	10,324.53	4/15/2007	64175400	T20	P93 03	533.16	
2860	392	3	35,915.11	4/15/2007	64176200	T80	P93 03	1,854.65	
2860 Total			**91,852.78**						4,743.25
4026	392	2	13,601.35		61376700	T82	P92 03	963.25	
4026 Total			**13,601.35**						963.25
4063	392	2	15,698.46	10/15/2006	61653800	T82	P92 03	256.63	
4063	392	2	15,698.46	5/15/2007	61653801	T82	P92 03	256.63	
4063 Total			**31,396.92**						513.25
4090	392	2	423.72	5/15/2007	61482800	T50	P92 03	22.20	
4090	392	2	1,410.51	5/15/2007	61485300	T63	P92 03	73.91	
4090	392	2	13,114.17	5/15/2007	61486700	T85	P92 03	687.14	

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4090 Total			**14,948.40**						783.25
4107	392	12	15,426.70		61656500	T82	911 P9223 40	423.25	
4107 Total			**15,426.70**						423.25
4290	392	2	18,516.30	5/15/2007	64719800	T85	P92 03	3,213.25	
4290 Total			**18,516.30**						3,213.25
4627	392	12	19,300.49		62921700	T82	911 P9223 40	963.25	
4627 Total			**19,300.49**						963.25
4998	392	12	13,152.89		61373300	T82	911 P9223 40	873.25	
4998 Total			**13,152.89**						873.25
5101	392	2	20,574.63	5/15/2007	64554500	T85	P92 03	2,583.25	
5101 Total			**20,574.63**						2,583.25
5130	392	2	21,072.29		64602001	T85	P92 03	2,673.25	
5130 Total			**21,072.29**						2,673.25
5921	392	2	2,757.51	5/15/2007	64265800	T50	P92 03	120.46	
5921	392	2	23,412.91	5/15/2007	64266000	T82	P92 03	1,022.79	
5921 Total			**26,170.42**						1,143.25
Grand			**661,761.73**						

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VEHICLE 5343 WAS NOT FOUND IN DATABASE. SINCE ALL VEH FOR ES ARE ACCOUNTED FOR, 5343 WILL BE ASSIGNED TO 39202 -- PROCEEDS ARE: **963.25**

TOW CHARGES FOR ALL VEH **481.50**
TOW CHG PER VEH **26.75**

PAC_CODE	ACCT	ALLOC
T20	P93 03	14.06
T20	P93 03	80.93
T63	P93 03	102.46
T80	P93 03	765.79
T07	P93 03	2,569.80
T80	P93 03	5,323.45
T07	P93 03	4,274.07
T80	P93 03	5,079.18
T07	P93 03	2,961.62
T80	P93 03	4,211.63

Sum of ALLOC	ACCT			
PAC_CODE2	911 P9223 40	P92 03	P93 03	Grand Total
T05			4,938.80	4,938.80
T07			11,350.75	11,350.75
T20			2,619.15	2,619.15
T50		142.66		142.66
T63		73.91	102.46	176.37
T80			25,236.58	25,236.58
T82	2,259.75	3,462.55		5,722.30
T85		9,156.89		9,156.89
Grand Total	2,259.75	12,836.01	44,247.74	**59,343.50**

T07	P93 03	1,545.26
T20	P93 03	729.14
T80	P93 03	4,673.84
T05	P93 03	2,583.35
T20	P93 03	1,261.86
T80	P93 03	3,328.04
T05	P93 03	498.61
T05	P93 03	1,856.84
T20	P93 03	533.16
T80	P93 03	1,854.65
T82	P92 03	963.25
T82	P92 03	256.63
T82	P92 03	256.63
T50	P92 03	22.20
T63	P92 03	73.91
T85	P92 03	687.14
T82	911 P9223 40	423.25
T85	P92 03	3213.25
T82	911 P9223 40	963.25
T82	911 P9223 40	873.25
T85	P92 03	2583.25
T85	P92 03	2673.25
T50	P92 03	120.46
T82	P92 03	1022.79
T82	P92 03	963.25

Vehicles_Auction Statement

COMP_ID	PAN_FERC	PAN_PNT	ASST_COST	RET_DATE	ASST_NMBR	PAC_CODE2	ACCT	ALLOC	PROCEE
4081	392	2	13,481.02	6/15/2007	61655800	T82	P92 03	676.67	
4081 Total			**13,481.02**						676.67
4458	392	2	19,564.18	6/15/2007	62728600	T82	P92 03	1,396.67	
4458 Total			**19,564.18**						1,396.67
5826	392	2	1,079.60	6/15/2007	64079300	T50	P92 03	216.05	
5826	392	2	22,089.49	6/15/2007	64079900	T85	P92 03	4,420.61	
5826 Total			**23,169.09**						4,636.67
Grand Total			**56,214.29**						

TOW CHARGES FOR ALL VEH		**130.00**
TOW CHG PER VEH	**43.33**	

PAC_CODE2	ACCT	ALLOC
T82	P92 03	676.67
T82	P92 03	1,396.67
T50	P92 03	216.05
T85	P92 03	4,420.61

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Sum of ALLOC	ACCT	
PAC_CODE2	P92 03	Grand Total
T50	216.05	216.05
T82	2,073.34	2,073.34
T85	4,420.61	4,420.61
Grand Total	6,710.00	**6,710.00**

911 P70 63 40 000

AMT PWR PLT 316 000 **90.00**

6800.00

330 - ferc - pnt - 40 - 330

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COMP_ID	PAN_FERC	PAN_PNT	ASST_COST	RET_DATE	ASST_NMBR	PAC_CODE2	ACCT	ALLOC	PROCEEDS
4345	392	12	377.35		62433600	T63	911 P92 23	15.44	
4345	392	12	1,122.85		62433800	T63	911 P92 23	45.95	
4345	392	12	13,896.09		62437200	T82	911 P92 23	568.61	
4345 Total			**15,396.29**						630.00
4918	392	2	9,715.26	6/15/2007	61029900	T82	P92 03	270.00	
4918 Total			**9,715.26**						270.00
4944	392	2	12,413.07	7/15/2007	61028300	T82	P92 03	450.00	
4944 Total			**12,413.07**						450.00
Grand Total			**37,524.62**						

PAC_CODE2	ACCT	ALLOC
T63	911 P92 23	15.44
T63	911 P92 23	45.95
T82	911 P92 23	568.61
T82	P92 03	270.00
T82	P92 03	450.00

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Sum of ALLOC	ACCT		
PAC_CODE2	911 P92 23	P92 03	Grand Total
T63	61.39		61.39
T82	568.61	720.00	1,288.61
Grand Total	630.00	720.00	**1,350.00**

911 P92 23 40 330
330 ferc pnt 40 330

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Vehicles_Auction Statement

COMP_ID	PAN_FERC	PAN_PNT	ASST_CO	RET_DAT	ASST_NMBR	PAC_CO	ACCT	ALLOC	PROCEEDS
4256	392	2	14,747.29		64716700	T82	P92 03	2,340.00	
4256 Total			**14,747.29**						2,340.00
4603	392	2	11,648.01	8/15/2007	62898500	T82	P92 03	1,530.00	
4603 Total			**11,648.01**						1,530.00
5019	392	2	12,591.27		64393100	T82	P92 03	2,160.00	
5019 Total			**12,591.27**						2,160.00
6322	392	1	10,627.91	7/15/2007	62256800	T15	P91 03	360.00	
6322 Total			**10,627.91**						360.00
Grand Total			**49,614.48**						

PAC_CODE2	ACCT	ALLOC
T82	P92 03	2,340.00
T82	P92 03	1,530.00
T82	P92 03	2,160.00
T15	P91 03	360.00

Sum of ALLOC	ACCT		
PAC_CODE2	P91 03	P92 03	Grand Total
T15	360.00		360.00
T82		6,030.00	6,030.00
Grand Total	360.00	6,030.00	**6,390.00**

330 ferc pnt 40 330

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Vehicles_Auction Statement

COMP_ID	PAN_FERC	PAN_PNT	ASST_COS	RET_DATE	ASST_N	PAC_CODE	ACCT	ALLOC	PROCEEDS
3099	392	14	3,274.35	10/15/2007	61021200	T20	P93 23	46.88	
3099	392	14	14,840.32	10/15/2007	61027700	T82	P93 23	212.49	
3099			**18,114.67**						259.38
4203	392	2	13,837.26	10/15/2007	62171700	T85	P92 03	349.38	
4203			**13,837.26**						349.38
4426	392	12	15,397.64	10/15/2007	62729600	T82	P92 23	619.38	
4426			**15,397.64**						619.38
4862	392	12	14,383.30	10/15/2007	61025500	T82	P92 23	619.38	
4862			**14,383.30**						619.38
5116	392	2	40,776.84		64601800	T82	P92 03	11.88	
5116			**40,776.84**						11.88
Grand			**102,509.71**						

TOW CHARGES FOR ALL VEH **85.00**
TOW CHG PER VEH **10.63**

PAC_COD	ACCT	ALLOC
T20	P93 23	46.88
T82	P93 23	212.49
T85	P92 03	349.38
T82	P92 23	619.38
T82	P92 23	619.38
T82	P92 03	11.88

Sum of ALLOC	ACCT			
PAC_CODE2	P92 03	P92 23	P93 23	Grand Total
T20			46.88	46.88
T82	11.88	1,238.76	212.49	1,463.13
T85	349.38			349.38
Grand Total	361.26	1,238.76	259.37	**1,859.39**

	911 P70 63 40 000
AMT PWR PLT 316 000	**169.36**
AMT PWR PLT 316 000	**10,889.38**
914-51249-40-000	**79.38**
	12,997.50

Vehicles_Auction Statement

COMP_ID	PAN_FER	PAN_PNT	ASST_COS	RET_DATE	ASST_NMBR	PAC_CODE2	ACCT	ALLOC	PROCEED
2549	392	3	123,259.02	11/15/2007	65989900	T82	P93 03	9,475.00	
2549 Total			**123,259.02**						9,475.00
3020	392	14	3,904.18	11/15/2007	61492800	T20	P92 43	146.14	
3020	392	14	1,839.06	11/15/2007	61493200	T50	P92 43	68.84	
3020	392	14	1,017.39	11/15/2007	62283600	T63	P92 43	38.08	
3020	392	14	12,473.92	11/15/2007	61494000	T82	P92 43	466.94	
3020 Total			**19,234.55**						720.00
3400	392	14	3,175.81	11/15/2007	64128800	T20	P92 43	119.20	
3400	392	14	13,609.09	11/15/2007	62534300	T82	P92 43	510.80	
3400 Total			**16,784.90**						630.00
3934	392	14	22,816.41	11/15/2007	64253300	T82	P92 43	2,430.00	
3934 Total			**22,816.41**						2,430.00
4037	392	12	13,425.60	10/15/2007	61654600	T82	P92 23	630.00	
4037 Total			**13,425.60**						630.00
4231	392	12	14,412.77	10/15/2007	62170200	T82	P92 23	540.00	
4231 Total			**14,412.77**						540.00
4427	392	12	15,722.97	11/15/2007	62650900	T82	P92 23	652.35	
4427	392	12	1,630.48	11/15/2007	62651400	T90	P92 23	67.65	
4427 Total			**17,353.45**						720.00
4931	392	12	1,366.98	10/15/2007	61021700	T20	P92 23	53.34	
4931	392	12	10,165.45	10/15/2007	61030400	T82	P92 23	396.66	
4931 Total			**11,532.43**						450.00
Grand Total			**238,819.13**						

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PAC_CODE2	ACCT	ALLOC
T82	P93 03	9,475.00
T20	P92 43	146.14
T50	P92 43	68.84
T63	P92 43	38.08
T82	P92 43	466.94
T20	P92 43	119.20
T82	P92 43	510.80
T82	P92 43	2,430.00
T82	P92 23	630.00
T82	P92 23	540.00
T82	P92 23	652.35
T90	P92 23	67.65
T20	P92 23	53.34
T82	P92 23	396.66

Sum of ALLOC	ACCT			
PAC_CODE2	P92 23	P92 43	P93 03	Grand Total
T20	53.34	265.34		318.68
T50		68.84		68.84
T63		38.08		38.08
T82	2,219.01	3,407.74	9,475.00	15,101.75
T90	67.65			67.65
Grand Total	2,340.00	3,780.00	9,475.00	**15,595.00**

	911 P70 63 40 000
AMT PWR PLT 316 000	**3,690.00**
AMT PWR PLT 316 000	**3,330.00**
	22,615.00

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Vehicles_Auction Statement

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4609	392	12	15,285.05		62920501	T82	P92 23	540.00	
4609 Total			**15,285.05**						540.00
5911	392	12	19,661.82		64239800	T82	P92 23	1,350.00	
5911 Total			**19,661.82**						1,350.00
8228	392	3	366.38	5/15/2001	1885700	T75	P93 03	17.50	
8228	392	3	1,988.97	5/15/2001	1885600	T75	P93 03	95.00	
8228 Total			**2,355.35**						112.50
8230	392	3	261.25	5/15/2001	1885900	T75	P93 03	90.00	
8230 Total			**261.25**						90.00
Grand Total			**37,563.47**						

PAC_CODE2	ACCT	ALLOC
T82	P92 23	540.00
T82	P92 23	1,350.00
T75	P93 03	17.50
T75	P93 03	95.00
T75	P93 03	90.00

Sum of ALLOC	ACCT		
PAC_CODE2	P92 23	P93 03	Grand Total
T75		202.50	202.50
T82	1,890.00		1,890.00
Grand Total	1,890.00	202.50	**2,092.50**

911 P70 63 40 000

AMT PWR PLT 316 000 3,870.00

5,962.50

Jan-07 Auction Stmt (068770)

Vehicle #	Proceeds (Salvage)
9411	1,530.00
4200	270.00
3701	5,040.00
3072	4,590.00
3088	5,625.00
3706	2,880.00
3705	2,520.00
4098	2,160.00
4361	1,350.00
4900	1,170.00
5039	2,700.00
4065	1,350.00
4055	1,800.00
5093	1,440.00
5909	1,710.00
4110	2,250.00
4807	1,890.00
4220	540.00
4810	1,080.00
4074	630.00
4070	1,080.00
6404	900.00
4073	990.00
	45,495.00

Misc Asset	Proceeds (Sal)
8425	4,865.00
9244	3,600.00
9257	2,925.00
8005	270.00
	11,660.00

Total Auction Stmt for Jan-07

57,155.00

Feb-07 Auction Stmt (069004)

Vehicle # Proceeds (Salvage)

NO VEHICLES SOLD FOR FEBRUARY 2007

Misc Asset	Proceeds (Sal)
9353	225.00

Total Auction Stmt for Feb-07

225.00

Mar-07 Auction Stmt (069193)

Vehicle #	Proceeds (Salvage)
8414	315.00
8034	2,070.00
5836	630.00
4730	1,710.00
4461	990.00
5910	1,080.00
2866	5,400.00
2861	6,930.00
	19,125.00

Misc Asset Proceeds (Sal)

NO MISC ASSETS SOLD FOR MARCH 2007

Total Auction Stmt for Mar-07

19,125.00

NO AUCTION STATEMENT FOR APRIL 2007

May-07 Auction Stmt (069650)

Vehicle #	Proceeds (Salvage)	Misc Asset	Proceeds (Sal)
2853	9,000.75	Junk Parts	225.00
2863	9,095.75		
2858	9,950.75		
2111	5,755.75	Total Auction Stmt for Apr-07	
	33,803.00		
		34,028.00	

Jun-07 Auction Stmt (069969)

Vehicle #	Proceeds (Salvage)	Misc Asset	Proceeds (Sal)
8172	1,009.57		
2103	10,829.57	**NO MISC ASSETS SOLD FOR JUNE 2007**	
2854	6,769.57		
2850	7,849.57		
2010	7,759.57		
2102	8,299.57		
2852	6,769.57		
4369	829.57		
4472	649.57	Total Auction Stmt for Jun-07	
4383	379.57		
4302	3,979.57	60,314.00	
4051	1,909.57		
4096	739.57		
4229	2,539.59		
	60,314.00		

Jun-07 Auction Stmt II (070109)

Vehicle #	Proceeds (Salvage)	Misc Asset	Proceeds (Sal)
5343	963.25		
2855	6,948.25	**NO MISC ASSETS SOLD FOR JUNE 2007**	
2856	7,173.25		
2008	7,893.25		
2011	7,173.25		
2009	9,353.25		
2860	4,743.25		
1430	963.25		
4090	783.25		
5101	2,583.25		
4063	513.25	Total Auction Stmt for Jun-07	
5130	2,673.25		
4290	3,213.25	59,343.50	
4627	963.25		
4998	873.25		
4107	423.25		
4026	963.25		
5921	1,143.25		
	59,343.50		

NO AUCTION STATEMENT FOR JULY 2007

Aug-07 Auction Stmt (070633)

Vehicle #	Proceeds (Salvage)	Misc Asset	Proceeds (Sal)
4458	1,396.67	Junk Items	90.00
4081	676.66		
5826	4,636.67		
	6,710.00	Total Auction Stmt for Aug-07	
		6,800.00	

Sep-07 Auction Stmt (070815)

Vehicle #	Proceeds (Salvage)	Misc Asset	Proceeds (Sal)
4345	630.00		
4918	270.00	**NO MISC ASSETS SOLD**	
4944	450.00	**FOR SEPTEMBER 2007**	
	1,350.00		
		Total Auction Stmt for Sep-07	
		1,350.00	

Sep-07 Auction Stmt II (070892)

Vehicle #	Proceeds (Salvage)	Misc Asset	Proceeds (Sal)
4603	1,530.00		
4256	2,340.00	**NO MISC ASSETS SOLD**	
5019	2,160.00	**FOR SEPTEMBER 2007**	
6322	360.00		
	6,390.00		
		Total Auction Stmt for Sep-07	
		6,390.00	

Oct-07 Auction Stmt (071344)

Vehicle #	Proceeds (Salvage)	Misc Asset	Proceeds (Sal)
5116	11.88	812780	79.38
4203	349.38	9011	10,889.38
4426	619.38	9422	169.34
4862	619.38		11,138.10
3099	259.38		
	1,859.40	Total Auction Stmt for Oct-07	
		12,997.50	

NO AUCTION STATEMENT FOR NOVEMBER 2007

Dec-07 Auction Stmt (071535)

Vehicle #	Proceeds (Salvage)
3400	630.00
2549	9,475.00
3934	2,430.00
4037	630.00
4931	450.00
4231	540.00
4427	720.00
3020	720.00
	15,595.00

Misc Asset	Proceeds (Sal)
8401	3,690.00
3815	3,330.00
	7,020.00

Total Auction Stmt for Dec-07

22,615.00

Dec-07 Auction Stmt II (071603)

Vehicle #	Proceeds (Salvage)
8230	90.00
8228	112.50
4609	540.00
5911	1,350.00
	2,092.50

Misc Asset	Proceeds (Sal)
9713	3,870.00

Total Auction Stmt for Dec-07

5,962.50

Total Salvage Received for 2007 **286,305.50**

veh_no	acq_desc	equipment_name	model_year	serial_number	ans_equip_class_des	equip_class_s	ans_equip_sub_class_desc
8370	PURCHASE	SIGNAL FLASHER TRA	1987	6310	TRAILER	108	PINTLE HOOK LIGHT DUTY

drive	LastOfbnft_par	LastOfbnft_par_desc	LastOfbnft_par_mgr	mgr_par	mgr_desc	mgr	dir_par
NON-AWD	742	ED PLANT CITY	M. EASTLEY	568	DISTRIBUTION OPE	P.M. DAVIS	870

dir_desc	director	LastOflocation_name	LastOfcrew_name
TRANSMISSION	P. M. DAVIS	Plant City Operation Cen	Plant City Crew

	911 P70 63 40 330	
AMT PWR PLT 316 000	180.00	
	180.00	GRAND TOTAL

TAMPA ELECTRIC COMPANY
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Vehicles_Auction Statement

COMP_ID	PAN_FERC	PAN_PNT	ASST_COST	RET_DATE	ASST_NMBR	PAC_CODE2	ACCT	ALLOC	PROCEEDS
6323	392	1	10,699.91		62254700	T15	P91 03	720.00	
			10,699.91						720.00

acq_desc	veh_no	equipment_name	model_year	serial_number	ns_equip_class_de	mgr_par	mgr_desc	mgr	LastOflocation_name
PURCHASE	9106	GARAGE FORKLIFT	1975	403FGC2560555	OFF-ROAD	181	FLEET OFF ROAD - B	D. SHIELDS	Central Operation Center
PURCHASE	9238	STOREROOM GOLFCART	1983	67709	OFF-ROAD	679	T&D STORES	R. PETRUS	South Hillsborough Operation Center
PURCHASE	9247	FORKLIFT-STORES	1983	3FD3030381	OFF-ROAD	679	T&D STORES	R. PETRUS	Plant City Operation Center
PURCHASE	9273		1984	3FD3042429	OFF-ROAD	679	T&D STORES	R. PETRUS	Central Operation Center
PURCHASE	9328	6000 LB FORKLIFT	1986	3FD3044326	OFF-ROAD	679	T&D STORES	R. PETRUS	Eastern Operation Center

Sum of ALLOC	ACCT	
PAC_CODE2	P91 03	Grand Total
T15	720.00	720.00
Grand Total	720.00	**720.00**

	911 P70 63 40 330
AMT PWR PLT 316 000	4,230.00

	330 P94 33 40 330
000 Z99 000 000 000	4,680.00
000 Z99 000 000 000	2,430.00
000 Z99 000 000 000	5,580.00
000 Z99 000 000 000	5,495.00
000 Z99 000 000 000	135.00
	18,320.00

23,270.00 Grand Total

TAMPA ELECTRIC COMPANY
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Vehicles_Auction Statement

COMP_ID	PAN_FERC	PAN_PNT	ASST_COST	RET_DATE	ASST_NMBR	PAC_CODE2	ACCT	ALLOC	PROCEEDS
2721	392	13	4,399.65		60471100	T20	911 P93 23 40	491.84	
2721	392	13	1,794.48		60473600	T63	911 P93 23 40	200.61	
2721	392	13	23,593.56		60474300	T80	911 P93 23 40	2,637.55	
2721 Total			**29,787.69**						3,330.00
8233	392	3	4,832.91	5/15/2001	1886000	T75	P94 33	225.00	
8233 Total			**4,832.91**						225.00
Grand Total			**34,620.60**						

acq_desc	veh_no	equipment_nam	model_year	serial_number	equip_class	mgr_par	mgr_desc	mgr	LastOflocation_name	LastOfcrew_name
PURCHASE	9249	12,500LB FORI	1983	40-3FD6070166	OFF-ROAD	679	T&D STORES	R. PETRUS	Central Operation Center	Central Day Shift
PURCHASE	9344	OFF/ROAD,FOI	1987	10320	OFF-ROAD	920	BIG BEND STATION SI	K. SHEFFIELD	BIG BEND STATION	Big Bend Days
PURCHASE	9347	OFF/ROAD,FOI	1988	12053	OFF-ROAD	920	BIG BEND STATION SI	K. SHEFFIELD	BIG BEND STATION	Big Bend Days

PAC_CODE2	ACCT	ALLOC
T20	911 P93 23 40	491.84
T63	911 P93 23 40	200.61
T80	911 P93 23 40	2,637.55
T75	P94 33	225.00

Sum of ALLOC	ACCT			
PAC_CODE2	911 P93 23 40	P94 33	Grand Total	
T20	491.84		491.84	
T63	200.61		200.61	
T75		225.00	225.00	Not BB (ED)
T80	2,637.55		2,637.55	
Grand Total	3,330.00	225.00	**3,555.00**	

	911 P70 63 40 000
AMT PWR PLT 316 000	5,760.00
AMT PWR PLT 316 000	3,780.00
	9,540.00

	330 P93 03 40 330
000 Z99 000 000 000	7,650.00
000 Z99 000 000 000	90.00
000 Z99 000 000 000	90.00
000 Z99 000 000 000	90.00
000 Z99 000 000 000	360.00
	8,280.00

21,375.00 Grand Total

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TAMPA ELECTRIC COMPANY
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Vehicles_Auction Statement

COMP_ID	PAN_FERC	PAN_PNT	ASST_COST	RET_DATE	ASST_NMBR	PAC_CODE2	ACCT	ALLOC	PROCEEDS
1075	392	3	2,298.14	3/15/2008	1962300	T20	P93 03	262.20	
1075	392	3	17,264.00	3/15/2008	1962400	T73	P93 03	1,969.70	
1075	392	3	4,891.66	3/15/2008	1962200	T80	P93 03	558.10	
1075 Total			24,453.80						2,790.00
2036	392	3	10,560.19	2/15/2008	2020500	T35	P93 03	758.55	
2036	392	3	2,201.18	2/15/2008	64347300	T63	P93 03	158.11	
2036	392	3	1,140.90	2/15/2008	2009400	T80	P93 03	81.95	
2036	392	3	1,297.73	2/15/2008	2009300	T80	P93 03	93.22	
2036	392	3	14,324.76	2/15/2008	2009000	T80	P93 03	1,028.96	
2036	392	3	4,304.56	2/15/2008	2009200	T90	P93 03	309.20	
2036 Total			33,829.32						2,430.00
2720	392	3	5,819.43	3/15/2008	60471300	T20	P93 03	313.14	
2720	392	3	472.50	3/15/2008	60472200	T25	P93 03	25.43	
2720	392	3	9,245.67	3/15/2008	60472100	T25	P93 03	497.51	
2720	392	3	2,201.18	3/15/2008	64353200	T63	P93 03	118.45	
2720	392	3	35,783.09	3/15/2008	60474200	T80	P93 03	1,925.48	
2720 Total			53,521.87						2,880.00
5931	392	2	-		64248800	T85	P92 03	2,880.00	
5931 Total			-						2,880.00
Grand Total			111,804.99						

acq_desc	veh_no	uipment_nan	model_year	serial_number	s_equip_class_c	mgr_par	mgr_desc	mgr	LastOflocation_name	LastOfcrew_name
LEASE	4674	2006 CHEV (	2006	1GCDT196068283211	LIGHT TRUCK	219	CORPORATE	A. PEROTTI	Winter Haven Operation C	Winter Haven Crew
PURCHASE	9272		1984	3FD3042339	OFF-ROAD					Central Day Shift

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PAC_CODE2	ACCT	ALLOC
T20	P93 03	262.20
T73	P93 03	1,969.70
T80	P93 03	558.10
T35	P93 03	758.55
T63	P93 03	158.11
T80	P93 03	81.95
T80	P93 03	93.22
T80	P93 03	1,028.96
T90	P93 03	309.20
T20	P93 03	313.14
T25	P93 03	25.43
T25	P93 03	497.51
T63	P93 03	118.45
T80	P93 03	1,925.48
T85	P92 03	2,880.00

Sum of ALLOC	ACCT		
PAC_CODE2	P92 03	P93 03	Grand Total
T20		575.34	575.34
T25		522.94	522.94
T35		758.55	758.55
T63		276.56	276.56
T73		1,969.70	1,969.70
T80		3,687.71	3,687.71
T85	2,880.00		2,880.00
T90		309.20	309.20
Grand Total	2,880.00	8,100.00	10,980.00

	911 P70 63 40 000
AMT PWR PLT 316 000	630.00
	330 P92 03 40 330
000 Z99 000 000 000	2,610.00
000 Z99 000 000 000	5,850.00
	8,460.00
	20,070.00 Grand Total

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Vehicles_Auction Statement

COMP_ID	PAN_FERC	PAN_PNT	ASST_COST	RET_DATE	ASST_NMBR	PAC_CODE2	ACCT	ALLOC	PROCEEDS
3933	392	14	25,363.54	5/15/2008	64266100	T82	911 P92 43 40	1,710.00	
3933 Total			**25,363.54**						1,710.00
4214	392	12	18,709.32	5/15/2008	64715600	T82	911 P92 23 40	1,530.00	
4214 Total			**18,709.32**						1,530.00
4720	392	12	19,360.08	5/15/2008	63118600	T82	911 P92 23 40	990.00	
4720 Total			**19,360.08**						990.00
5813	392	2	22,125.93	4/15/2008	64107300	T82	P92 03	1,465.00	
5813 Total			**22,125.93**						1,465.00
8445	392	3	3,889.07	5/15/2001	62395900	T75	P93 03	284.62	
8445	392	3	44,072.68	5/15/2001	62396000	T75	P93 03	3,225.38	
8445 Total			**47,961.75**						3,510.00
Grand Total			**133,520.62**						

acq_desc	veh_no	uipment_nan	model_year	serial_number	s_equip_class_c	mgr_par	mgr_desc	mgr	LastOflocation_name	LastOfcrew_name
PURCHASE	9425	OFF/ROAD,F	1992	5FD1875012	OFF-ROAD	920	BIG BEND STA	K. SHEFFIELD	BIG BEND STATION	Big Bend Days

PAC_CODE2	ACCT	ALLOC
T82	911 P92 43 40	1,710.00
T82	911 P92 23 40	1,530.00
T82	911 P92 23 40	990.00
T82	P92 03	1,465.00
T75	P93 03	284.62
T75 .	P93 03	3,225.38

Sum of ALLOC	ACCT				
PAC_CODE2	911 P92 23 40	911 P92 43 40	P92 03	P93 03	Grand Total
T75				3,510.00	3,510.00
T82	2,520.00	1,710.00	1,465.00		5,695.00
Grand Total	2,520.00	1,710.00	1,465.00	3,510.00	**9,205.00**

	911 P70 63 40 000
AMT PWR PLT 316 000	4,500.00
AMT PWR PLT 316 000	742.50
	5,242.50

14,447.50 Grand Total

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Vehicles_Auction Statement

COMP_ID	PAN_FERC	PAN_PNT	ASST_COST	RET_DATE	ASST_NMBR	PAC_CODE2	ACCT	PROCEEDS
4261	392	2	18,377.04	5/15/2008	64717000	T82	P92 03	2,070.00
4261 Total			**18,377.04**					
4262	392	2	18,127.83	5/15/2008	64717100	T82	P92 03	2,880.00
4262 Total			**18,127.83**					
4264	392	2	18,229.70	5/15/2008	64717300	T82	P92 03	4,320.00
4264 Total			**18,229.70**					
4284	392	2	12,816.64	5/15/2008	64718300	T82	P92 03	2,995.00
4284 Total			**12,816.64**					
4388	392	2	16,469.75	11/15/2006	62436900	T82	P92 03	720.00
4388 Total			**16,469.75**					
4604	392	2	11,758.29	6/15/2008	62898600	T82	P92 03	2,610.00
4604 Total			**11,758.29**					
4623	392	2	19,971.94	6/15/2008	62931700	T82	P92 03	1,260.00
4623 Total			**19,971.94**					
4638	392	12	17,406.29	5/15/2008	62899100	T85	911 P92 23	1,080.00
4638 Total			**17,406.29**					
5912	392	2	20,018.78	4/15/2008	64247900	T82	P92 03	1,080.00
5912 Total			**20,018.78**					
Grand Total			**153,176.26**					

acq_desc	veh_no	equipment_name	model_year	serial_number	ns_equip_class_de	mgr_par	mgr_desc	mgr	LastOflocation_name	LastOfcrew_name
PURCHASE	9402	OFF/ROAD,ELI	1991	1802548	OFF-ROAD	312	SUBSTATIO	B. YOUNG	Central Operation Ce	Central Day Shift
PURCHASE	9804	OFF/ROAD,SW	1998	1603106	OFF-ROAD	920	BIG BEND S	K. SHEFFIELD	BIG BEND STATION	Big Bend Days

PAC_CODE2	ACCT	PROCEEDS
T82	P92 03 588	2,070.00
T82	P92 03 588	2,880.00
T82	P92 03 588	4,320.00
T82	P92 03 588	2,995.00
T82	P92 03 570	720.00
T82	P92 03 752	2,610.00
T82	P92 03 848	1,260.00
T85	911 P92 23 40 920	1,080.00
T82	P92 03 509	1,080.00

Sum of PROCEEDS	PAC_CODE2		
ACCT	T82	T85	Grand Total
P92 03 588	12,265.00		12,265.00
P92 03 570	720.00		720.00
P92 03 752	2,610.00		2,610.00
P92 03 848	1,260.00		1,260.00
911 P92 23 40 920		1,080.00	1,080.00
P92 03 509	1,080.00		1,080.00
Grand Total	17,935.00	1,080.00	**19,015.00**

330 P94 33 40 312 (Z99)	180.00
330 P94 33 40 000 (Z99)	270.00
330 P92 03 40 000 (Z99)	90.00
	540.00
	19,555.00 Grand Total

Vehicles_Auction Statement

COMP_ID	PAN_FERC	PAN_PNT	ASST_COST	RET_DATE	ASST_NMBR	PAC_CODE2	ACCT	ALLOC	PROCEED
3001	392	14	22,234.58	7/15/2008	64410700	T82	923 P9243 40	1,440.00	
3001 Total			**22,234.58**						1,440.00
3005	392	4	36,475.01	7/15/2008	64515400	T82	P92 33	900.00	
3005 Total			**36,475.01**						900.00
4604	392	2	11,758.29	6/15/2008	62898600	T82	P92 03	22.50	
4604 Total			**11,758.29**						22.50
5091	392	2	19,921.88	7/15/2008	64395200	T82	P92 03	1,800.00	
5091 Total			**19,921.88**						1,800.00
5094	392	2	20,399.75	7/15/2008	64394400	T82	P92 03	1,080.00	
5094 Total			**20,399.75**						1,080.00
5809	392	2	2,034.47	7/15/2008	64079400	T63	P92 03	264.11	
5809	392	2	18,764.26	7/15/2008	64079500	T82	P92 03	2,435.89	
5809 Total			**20,798.73**						2,700.00
Grand			**131,588.24**						

PAC_CODI	ACCT	ALLOC
T82	923 P9243 40	1,440.00
T82	P92 33	900.00
T82	P92 03	22.50
T82	P92 03	1,800.00
T82	P92 03	1,080.00
T63	P92 03	264.11
T82	P92 03	2,435.89

Sum of ALLOC	ACCT			
PAC_CODE2	923 P9243 40	P92 03	P92 33	Grand Total
T63		264.11		264.11
T82	1,440.00	5,338.39	900.00	7,678.39
Grand Total	1,440.00	5,602.50	900.00	**7,942.50**

	923 P70 01 40 920	
AMT PWR PLT 316 000	**4,275.00**	
	330 P94 33 40 000	
000 Z99 000 000 000	270.00	
000 Z99 000 000 000	540.00	
000 Z99 000 000 000	540.00	
	1,350.00	
	13,567.50	Grand Total

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Vehicles_Auction Statement

COMP_ID	PAN_FERC	PAN_PNT	ASST_COST	RET_DATE	ASST_NMBR	PAC_CODE2	ACCT	ALLOC	PROCEED
3093	392	4	3,296.02		60528700	T20	P92 33	275.84	
3093	392	4	13,133.84		60529200	T82	P92 33	1,099.16	
3093			**16,429.86**						1,375.00
4003	392	2	20,169.40		64409100	T82	P92 03	2,635.00	
4003			**20,169.40**						2,635.00
4114	392	12	15,555.73		64563800	T82	911 P9223 40	1,620.00	
4114			**15,555.73**						1,620.00
4260	392	2	18,357.90		64716900	T82	P92 03	2,970.00	
4260			**18,357.90**						2,970.00
5801	392	2	19,063.14		64055300	T82	P92 03	990.00	
5801			**19,063.14**						990.00
5817	392	2	23,018.08		64107700	T82	P92 03	2,365.00	
5817			**23,018.08**						2,365.00
Grand			**112,594.11**						

PAC_CODI	ACCT	ALLOC
T20	P92 33	275.84
T82	P92 33	1,099.16
T82	P92 03	2,635.00
T82	923 P9223 40	1,620.00
T82	P92 03	2,970.00
T82	P92 03	990.00
T82	P92 03	2,365.00

Sum of ALLOC	ACCT			
PAC_CODE2	923 P9223 40	P92 03	P92 33	Grand Total
T20			275.84	275.84
T82	1,620.00	8,960.00	1,099.16	11,679.16
Grand Total	1,620.00	8,960.00	1,375.00	**11,955.00**

330 P92 03 40 330

Z99 **630.00**

330 P94 33 40 330

Z99 **720.00**

330 P93 03 40 330

Z99 630.00
Z99 360.00
Z99 22.50
1,012.50

14,317.50 Grand Total

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Vehicles_Auction Statement

COMP_ID	PAN_FERC	PAN_PNT	ASST_COS	RET_DATE	ASST_NMBR	PAC_CODE2	ACCT	PROCEEDS
4285	392	2	12,860.51	6/15/2006	64718400	T82	P92 03	360.00
4285 Total			**12,860.51**					
5018	392	2	12,591.27		64393000	T82	P92 03	1,710.00
5018 Total			**12,591.27**					
9080	392	12	7,637.16		6715400	T82	911 P92 23	1,195.00
9080 Total			**7,637.16**					
Grand Total			**33,088.94**					

Other charges paid by auction 195.00 To be distributed evenly per vehicle 65.00 fee per vehicle.

PAC_CODE2	ACCT	PROCEEDS
T82	P92 03	360
T82	P92 03	1710
T82	911 P92 23	1195

Sum of PROCEEDS	ACCT		
PAC_CODE2	911 P92 23	P92 03	Grand Total
T82	1,195.00	2,070.00	3,265.00
Grand Total	1,195.00	2,070.00	**3,265.00**

TAMPA ELECTRIC COMPANY
DOCKET NO. 110131-EI
STAFF'S FIRST DATA REQUEST
FILED: AUGUST 1, 2011

Vehicles_Auction Statement

COMP_ID	PAN_FERC	PAN_PNT	ASST_CO	RET_DATE	ASST_NM	PAC_C	ACCT	ALLOC	PROCEEDS
2521	392	13	38,544.28		6041000	T35	911 P93 23 40	3,353.11	
2521	392	13	34,909.20		6040900	T80	911 P93 23 40	3,036.89	
			73,453.48						6,390.00

acq_desc	veh_no	uipment_nar	model_year	serial_number	equip_class	mgr_par	mgr_desc	mgr	LastOflocation_name	LastOfcrew_name
PURCHASE	8270	TRAILER/H/	1998	UNK	TRAILER	981	ENVIRONMENT	R. DOREY	Central Test Lab	Big Bend Days
PURCHASE	8208	GCS TRAILE	1998	4XSPB1626V	TRAILER	920	BIG BEND STA	K. SHEFFIELD	BIG BEND STATION	Big Bend Days
PURCHASE	8456	ENCLOSED	1994	4FPAB1823R	TRAILER	981	ENVIRONMENT	R. DOREY	Central Test Lab	Big Bend Days

Sum of ALLOC	ACCT	
PAC_CODE2	911 P93 23 40	Grand Total
T35	3,353.11	3,353.11
T80	3,036.89	3,036.89
Grand Total	6,390.00	**6,390.00**

330 P92 03 40 000 (Z99)	**1,980.00**
911 P92 23 40 000 (Z99)	**1,260.00**
	3,240.00
	9,630.00 Grand Total

Vehicles_Auction Statement

COMP_ID	PAN_FERC	PAN_PNT	ASST_COST	RET_DATE	ASST_NM	PAC_CO	ACCT	PROCEEDS
5929	392	2	23,580.42		64239400	T82	P92 03	1,440.00
5929 Total			23,580.42					
8446	392	3	4,244.60	5/15/2001	62438700	T75	P93 03	835.00
8446 Total			4,244.60					
Grand Total			27,825.02					

Other charges paid by auction	**130.00**
Amount allocated per vehicle	**65.00**

PAC_CODE2	ACCT	PROCEEDS
T82	P92 03	1,440.00
T75	P93 03	835.00

Sum of PROCEEDS	ACCT		
PAC_CODE2	P92 03	P93 03	Grand Total
T75		835.00	835.00
T82	1,440.00		1,440.00
Grand Total	1,440.00	835.00	**2,275.00**

TAMPA ELECTRIC COMPANY
DOCKET NO. 110131-EI
STAFF'S FIRST DATA REQUEST
FILED: AUGUST 1, 2011

Vehicles_Auction Statement

COMP_ID	PAN_FERC	PAN_PNT	ASST_COS	RET DATE	ASST_NMBR	PAC_CODE2	ACCT	ALLOC	PROCEEDS
2075	392	13	57,194.79		64515000	T80	911 P93 23 40	6,840.00	
2075 Total			**57,194.79**						6,840.00
2618	392	3	68,237.33		6044500	T73	P93 03	1,800.00	
2618 Total			**68,237.33**						1,800.00
2923	392	13	6,958.45		62955500	T20	911 P93 23 40	120.96	
2923	392	13	854.81		61167001	T63	911 P93 23 40	14.86	
2923	392	13	23,251.10		61167000	T80	911 P93 23 40	404.18	
2923 Total			**31,064.36**						540.00
4238	392	12	11,919.77		62170800	T82	911 P92 23	810.00	
4238 Total			**11,919.77**						810.00
4504	392	12	20,122.49		62825400	T82	911 P92 23	630.00	
4504 Total			**20,122.49**						630.00
4617	392	12	16,064.12		62921100	T82	911 P92 23	900.00	
4617 Total			**16,064.12**						900.00
5805	392	12	18,959.58		64055600	T82	911 P92 23	720.00	
5805 Total			**18,959.58**						720.00
Grand Total			**223,562.44**						

PAC_CODE2	ACCT	ALLOC
T80	911 P93 23 40	6,840.00
T73	P93 03	1,800.00
T20	911 P93 23 40	120.96
T63	911 P93 23 40	14.86
T80	911 P93 23 40	404.18
T82	911 P92 23	810.00
T82	911 P92 23	630.00
T82	911 P92 23	900.00
T82	911 P92 23	720.00

Sum of ALLOC	ACCT			
PAC_CODE2	911 P92 23	911 P93 23 40	P93 03	Grand Total
T20		120.96		120.96
T63		14.86		14.86
T73			1,800.00	1,800.00
T80		7,244.18		7,244.18
T82	3,060.00			3,060.00
Grand Total	3,060.00	7,380.00	1,800.00	**12,240.00**

	911 P70 63 40 000
AMT PWR PLT 316 000	**90.00**
	12,330.00

Jan-08 Auction Stmt (071849)

Vehicle #	Proceeds (Salvage)

NO VEHICLES SOLD FOR JANUARY 2008

Misc Asset	Proceeds (Sal)
8370	180.00

Total Auction Stmt for Jan-08

180.00

Feb-08 Auction Stmt (072155)

Vehicle #	Proceeds (Salvage)
6323	720.00

Misc Asset	Proceeds (Sal)
9106	2,430.00
9238	135.00
9247	4,680.00
9273	5,580.00
9328	5,495.00
Misc Tools	4,230.00
	22,550.00

Total Auction Stmt for Feb-08

23,270.00

Mar-08 Auction Stmt (072369)

Vehicle #	Proceeds (Salvage)
2721	3,330.00
8233	225.00
	3,555.00

Misc Asset	Proceeds (Sal)
9249	7,650.00
9344	3,780.00
9347	5,760.00
Misc Tools	630.00
	17,820.00

Total Auction Stmt for Mar-08

21,375.00

Apr-08 Auction Stmt (072817)

Vehicle #	Proceeds (Salvage)
1075	2,790.00
2036	2,430.00
2720	2,880.00
4674	2,610.00
5931	2,880.00
	13,590.00

Misc Asset	Proceeds (Sal)
9272	5,850.00
Misc Tools	630.00
	6,480.00

Total Auction Stmt for Apr-08

20,070.00

NO AUCTION STATEMENT FOR MAY 2008

Jun-08 Auction Stmt (073085)

Vehicle #	Proceeds (Salvage)	Misc Asset	Proceeds (Sal)
3933	1,710.00	9425	4,500.00
4214	1,530.00	Misc Tools	742.50
4720	990.00		5,242.50
5813	1,465.00		
8445	3,510.00	Total Auction Stmt for Jun-08	
	9,205.00	14,447.50	

Jul-08 Auction Stmt (073393)

Vehicle #	Proceeds (Salvage)	Misc Asset	Proceeds (Sal)
4261	2,070.00	9402	180.00
4262	2,880.00	9408	270.00
4264	4,320.00	Topper	90.00
4284	2,995.00		540.00
4388	720.00		
4604	2,610.00		
4623	1,260.00		
4638	1,080.00	Total Auction Stmt for Jul-08	
5912	1,080.00		
	19,015.00	19,555.00	

Aug-08 Auction Stmt (073691)

Vehicle #	Proceeds (Salvage)	Misc Asset	Proceeds (Sal)
4604 (top)	22.50	Misc Tools	5,625.00
3005	900.00		5,625.00
5091	1,800.00		
5094	1,080.00		
5809	2,700.00	Total Auction Stmt for Aug-08	
3001	1,440.00		
	7,942.50	13,567.50	

Aug-08 Auction Stmt II (073750)

Vehicle #	Proceeds (Salvage)	Misc Asset	Proceeds (Sal)
3093	1,375.00	Misc Tools	2,362.50

4003	2,635.00		2,362.50
4114	1,620.00		
4260	2,970.00		
5801	990.00	Total Auction Stmt for Aug-08	
5817	2,365.00		
	11,955.00	14,317.50	

Sep-08 Auction Stmt (074033)

Vehicle #	Proceeds (Salvage)	Misc Asset	Proceeds (Sal)
9080	360.00		
4285	1,710.00	**NO MISC ASSETS SOLD**	
5018	1,195.00	**FOR SEPTEMBER 2008**	
	3,265.00		

Total Auction Stmt for Sep-08

3,265.00

Oct-08 Auction Stmt (074324)

Vehicle #	Proceeds (Salvage)	Misc Asset	Proceeds (Sal)
2521	6,390.00	8456	900.00
		8270	1,080.00
		8209	1,260.00
			3,240.00

Total Auction Stmt for Oct-08

9,630.00

Nov-08 Auction Stmt (074495)

Vehicle #	Proceeds (Salvage)	Misc Asset	Proceeds (Sal)
5929	1,440.00		
8446	835.00	**NO MISC ASSETS SOLD**	
	2,275.00	**FOR NOVEMBER 2008**	

Total Auction Stmt for Nov-08

2,275.00

Dec-08 Auction Stmt (074792)

Vehicle #	Proceeds (Salvage)	Misc Asset	Proceeds (Sal)
2075	6,840.00	Misc Tools	90.00
2618	1,800.00		90.00
2923	540.00		

4238	810.00	
4504	630.00	
4617	900.00	Total Auction Stmt for Nov-08
5805	720.00	
	12,240.00	12,330.00

Total Salvage Received for 2008	**154,282.50**

Vehicles_Auction Statement

COMP_ID	PAN_FERC	PAN_PNT	ASST_COST	RET_DATE	ASST_NM	PAC_COD	ACCT	PROCEEDS
2951	392	3	47,191.01		61492200	T73	P93 03	4,375.00
2951 Total			**47,191.01**					
8283	392	3	11,439.15	5/15/2001	1889800	T75	P93 03	630.00
8283 Total			**11,439.15**					
8320	392	3	53,174.29	5/15/2001	62532700	T75	P93 03	7,560.00
8320 Total			**53,174.29**					
8801	392	3	4,100.00		65853200	T85	P93 03	1,620.00
8801 Total			**4,100.00**					
8902	392	3	4,100.00		65853100	T85	P93 03	1,260.00
8902 Total			**4,100.00**					
Grand Total			**120,004.45**					

PAC_CODE2	ACCT	PROCEEDS
T73	P93 03	4,375.00
T75	P93 03	630.00
T75	P93 03	7,560.00
T85	P93 03	1,620.00
T85	P93 03	1,260.00

Sum of PROCEEDS	ACCT	
PAC_CODE2	P93 03	Grand Total
T73	4,375.00	4,375.00
T75	8,190.00	8,190.00
T85	2,880.00	2,880.00
Grand Total	15,445.00	**15,445.00**

Vehicles_Auction Statement

COMP_ID	PAN_FERC	PAN_PNT	ASST_COST	RET_DATE	ASST_NMBR	PAC_CODE2	ACCT	ALLOC	PROCEEDS
2632	392	3	1,850.00		6046000	T20	P93 03	125.28	
2632	392	3	2,138.81		60053200	T20	P93 03	144.84	
2632	392	3	476.29		60054300	T63	P93 03	32.25	
2632	392	3	10,207.15		6045900	T63	P93 03	691.23	
2632	392	3	2,148.56		6045801	T80	P93 03	145.50	
2632	392	3	19,122.84		6045800	T80	P93 03	1,295.01	
2632 Total			35,943.65						2,434.13
2836	392	3	36,166.67		64240600	T07	P93 03	2,730.21	
2836	392	3	14,318.64		64240900	T20	P93 03	1,080.91	
2836	392	3	77,666.33		64241000	T80	P93 03	5,863.01	
2836 Total			128,151.64						9,674.13
4316	392	2	12,103.52		64751200	T82	P92 03	2,434.13	
4316 Total			12,103.52						2,434.13
4327	392	2	12,127.56		64751400	T82	P92 03	4,234.13	
4327 Total			12,127.56						4,234.13
4639	392	2	17,721.64		62899200	T85	P92 03	1,649.13	
4639 Total			17,721.64						1,649.13
8236	392	3	972.95	5/15/2001	1886500	T75	P93 03	45.20	
8236	392	3	1,591.40	5/15/2001	1886400	T75	P93 03	73.93	
8236 Total			2,564.35						119.13
Grand Total			208,612.36						

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OTHER CHARGES PAID BY AUCTION & DEDUCTED FROM TECO PROCEEDS 487.00 60.88 CHG PER VEH

acq_desc	veh_no	equipment_nam	model_year	serial_numbe	ns_equip_class_de	mgr_par	mgr_desc	mgr	Oflocation_n	LastOfcrew_name
PURCHASE	9237	GARAGE FOR	1983	3FD30301O9	OFF-ROAD	181	FLEET OFF RO	D. SHIELDS	Eastern Oper	Eastern, Day Shift
LEASE	4342	2003 CHEV S1	2003	1GCCS14H	LIGHT TRUCK	588	METER READI	OPEN	Central Oper	Central Day Shift

PAC_CODE2	ACCT	ALLOC
T20	P93 03	125.28
T20	P93 03	144.84
T63	P93 03	32.25
T63	P93 03	691.23
T80	P93 03	145.50
T80	P93 03	1,295.01
T07	P93 03	2,730.21
T20	P93 03	1,080.91
T80	P93 03	5,863.01
T82	P92 03	2,434.13
T82	P92 03	4,234.13
T85	P92 03	1,649.13
T75	P93 03	45.20
T75	P93 03	73.93

Sum of ALLOC	ACCT		
PAC_CODE2	P92 03	P93 03	Grand Total
T07		2,730.21	2,730.21
T20		1,351.03	1,351.03
T63		723.48	723.48
T75		119.13	119.13
T80		7,303.52	7,303.52
T82	6,668.26		6,668.26
T85	1,649.13		1,649.13
Grand Total	8,317.39	12,227.37	**20,544.76**

	330 P94 33 40 330		**330 P92 03 40 330**
(Z99)	**1,264.12**	**(Z99)**	**3,539.13**
			25,348.00 GRAND TOTAL

Vehicles_Auction Statement

COMP_ID	PAN_FERC	PAN_PNT	ASST_COST	RET_DATE	ASST_NMBR	PAC_CODE2	ACCT	ALLOC	PROCEEDS
2633	392	3	39,104.99		1989300	T07	P93 03	2,592.95	
2633	392	3	2,201.18		64351900	T63	P93 03	145.95	
2633	392	3	4,759.32		64378300	T63	P93 03	315.58	
2633	392	3	75,896.72		62956000	T80	P93 03	5,032.51	
2633 Total			**121,962.21**						8,087.00
2734	392	3	42,059.85	5/15/1999	4571100	T05	P93 03	2,734.87	
2734	392	3	39,296.89		1974800	T07	P93 03	2,555.21	
2734	392	3	2,201.18		64353700	T63	P93 03	143.13	
2734	392	3	83,490.17		63463300	T80	P93 03	5,428.80	
2734 Total			**167,048.09**						10,862.00
2940	392	3	33,292.39		4572800	T05	P93 03	1,361.16	
2940	392	3	23,623.15		61491400	T80	P93 03	965.84	
2940 Total			**56,915.54**						2,327.00
3704	392	14	2,381.72		63463800	T20	911 P92 43 40	210.50	
3704	392	14	20,892.53		63464100	T82	911 P92 43 40	1,846.50	
3704 Total			**23,274.25**						2,057.00
3853	392	14	4,770.74		64241600	T20	911 P92 43 40	328.02	
3853	392	14	21,219.42		64241900	T80	911 P92 43 40	1,458.98	
3853 Total			**25,990.16**						1,787.00
3936	392	4	28,993.28		64253500	T82	P92 33	3,202.00	
3936 Total			**28,993.28**						3,202.00
4354	392	12	14,797.00		62437800	T82	911 P92 23 40	437.00	
4354 Total			**14,797.00**						437.00
4397	392	12	11,867.82		64752000	T82	911 P92 23 40	2,147.00	
4397 Total			**11,867.82**						2,147.00
4718	392	12	19,378.05	1/15/2006	63118500	T82	911 P92 23 40	1,247.00	
4718 Total			**19,378.05**						1,247.00
5392	392	12	20,733.49		64935800	T82	911 P92 23 40	2,867.00	
5392 Total			**20,733.49**						2,867.00
5393	392	12	20,733.49		64935900	T82	911 P92 23 40	4,037.00	
5393 Total			**20,733.49**						4,037.00
Grand Total			**511,693.38**						

acq_desc	veh_no	quipment_nan	model_year	serial_number	s_equip_class_(	mgr_par	mgr_desc	mgr	LastOflocation_name	LastOfcrew_name
PURCHASE	9066	90' GENIE S	1996	S80413	OFF-ROAD	920	BIG BEND STA	K. SHEFFIELD	BIG BEND STATION	Big Bend Days
PURCHASE	8385	TRLR, AIR C	1989	00499385	TRAILER	920	BIG BEND STA	K. SHEFFIELD	BIG BEND STATION	Big Bend Days
PURCHASE	9487	OFF/ROAD, E	1995	ULA33314	OFF-ROAD	306	FLEET SERVIC	D. MOORE	Central Operation Ce	Central Day Shift
PURCHASE	8494	TRLR,W/EQ	1994	9458261	TRAILER	920	BIG BEND STA	K. SHEFFIELD	BIG BEND STATION	Big Bend Days

OTHER CHARGES PAID BY AUCTION & DEDUCTED FROM TECO PROCEEDS **143.00** **13.00 CHG PER VEH**

PAC_CODE2	ACCT	ALLOC
T07	P93 03	2,592.95
T63	P93 03	145.95
T63	P93 03	315.58
T80	P93 03	5,032.51
T05	P93 03	2,734.87
T07	P93 03	2,555.21
T63	P93 03	143.13
T80	P93 03	5,428.80
T05	P93 03	1,361.16
T80	P93 03	965.84
T20	911 P92 43 40	210.50
T82	911 P92 43 40	1,846.50
T20	911 P92 43 40	328.02
T80	911 P92 43 40	1,458.98
T82	P92 33	3,202.00
T82	911 P92 23 40	437.00
T82	911 P92 23 40	2,147.00
T82	911 P92 23 40	1,247.00
T82	911 P92 23 40	2,867.00
T82	911 P92 23 40	4,037.00

Sum of ALLOC	ACCT				
PAC_CODE2	911 P92 23 40	911 P92 43 40	P92 33	P93 03	Grand Total
T05				4,096.03	4,096.03
T07				5,148.16	5,148.16
T20		538.52			538.52
T63				604.66	604.66
T80		1,458.98		11,427.15	12,886.13
T82	10,735.00	1,846.50	3,202.00		15,783.50
Grand Total	10,735.00	3,844.00	3,202.00	21,276.00	**39,057.00**

	911 P70 63 40 000
AMT PWR PLT 316 000	9,475.00
AMT PWR PLT 316 000	3,060.00
AMT PWR PLT 316 000	90.00
AMT PWR PLT 316 000	450.00
AMT PWR PLT 316 000	270.00
AMT PWR PLT 316 000	45.00
	13,390.00
GRAND TOTAL	**52,447.00**

ColD	Short Description	Qty	Cost	Acct #	Asset	Classification	Serial #	Pac	ACCT	ALLOC	PROCEEDS
04282	AUTOWAY CHEVROLET	1	12,975.94	139202	119717	Light Truck	5028211268	T82	P92 03	2,520.00	
04282 Total			**12,975.94**								2,520.00
04252	AUTOWAY CHEVROLET	1	20,460.84	139202	119657	Light Truck	W52K194798	T82	P92 03	3,085.00	
04252 Total			**20,460.84**								3,085.00
05932	BELL CHEVROLET, INC	1	22,785.90	139202	103189	Van	R4X1111412	T85	P92 03	1,260.00	
05932 Total			**22,785.90**								1,260.00
05065	BILL HEARD CHEVEROLET	1	22,608.83	139202	125659	Van	RX11121661	T85	P92 03	1,440.00	
05065 Total			**22,608.83**								1,440.00
04336	2003 CHEVROLET S-10 PKUP	1	2,914.49	139202	24726031	Light Truck	H838271701	T82	P92 03	2,430.00	
04336 Total			**2,914.49**								2,430.00
05099	BELL CHEVROLET, INC	1	25,139.37	139202	103787	Light Truck	RXY1268069	T85	P92 03	1,350.00	
05099 Total			**25,139.37**								1,350.00
Grand Total			**106,885.37**								

OTHER CHARGES PAID BY AUCTION & DEDUCTED FROM TECO PROCEEDS - $390.00 **65.00 CHG PER VEH**

Pac	ACCT	ALLOC
T82	P92 03	2520
T82	P92 03	3085
T85	P92 03	1260
T85	P92 03	1440
T82	P92 03	2430
T85	P92 03	1350

Sum of ALLOC	ACCT	
Pac	P92 03	Grand Total
T82	8,035.00	8,035.00
T85	4,050.00	4,050.00
Grand Total	12,085.00	**12,085.00**

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Cc Comp Id	Description	Qty	Cost	Serial Number	tility Accou	Pac	ACCT	PROCEEDS
05017	FORD RANGER	1	15,993.72	V8YP828693	392.02 ED	T82	P92 03	1,800.00
05017 Total			**15,993.72**					
04335	2003 CHEVROLET	1	2,914.49	1GCCS14H43827147	392.02 ED	T82	P92 03	3,060.00
04335 Total			**2,914.49**					
Grand Total			**18,908.21**					

Pac	ACCT	PROCEEDS
T82	P92 03	1,800.00
T82	P92 03	3,060.00

Sum of PROCEEDS	ACCT	
Pac	P92 03	Grand Total
T82	4,860.00	4,860.00
Grand Total	4,860.00	**4,860.00**

Cc Comp Id	Description	Qty	Cost	Serial Number	Utility Account	Pac	ACCT	ALLOC	PROCEED
2200	AERIAL BASKET WITH BODY	1	50,198.48		39203	T07	P93 03	7,307.89	
2200	MISC EQUIPMENT	1	2,201.18	NH447044	39203	T63	P93 03	320.45	
2200 Total			**52,399.66**						7,628.33
3856	BELL CHEVEROLET	1	28,948.16	R6WF008507	39214	T82	911 P92 43 40	338.33	
3856 Total			**28,948.16**						338.33
4001	CHEV K2500	1	19,716.64	R6YR210104	39212	T82	911 P92 23 40	1,688.33	
4001 Total			**19,716.64**						1,688.33
4391	AUTO WAY CHEVROLET	1	11,867.82	H638129363	39212	T82	911 P92 23 40	3,038.33	
4391 Total			**11,867.82**						3,038.33
5127	BILL HEARD	1	24,458.36	R411175760	39202	T82	P92 03	1,663.33	
5127 Total			**24,458.36**						1,663.33
5920	BELL CHEVROLET, INC	1.	21,504.38	R9XF084386	39212	T82	911 P92 23 40	1,238.33	
5920 Total			**21,504.38**						1,238.33
Grand Total			**158,895.02**						

OTHER CHARGES PAID BY AUCTION & DEDUCTED FROM TECO PROCEEDS - $130.00 **21.67 CHG PER VEH**

acq_desc	veh_no	pment_nur	model_year	serial_number	s_equip_class_(	mgr_par	mgr_desc	mgr	Oflocation_n	LastOfcrew_name
PURCHASE	9552	9552	2005	BFA02433	OFF-ROAD	568	DISTRIBUTION	P.M. DAVIS	Eastern Ope	Eastern, Day Shift

Pac	ACCT	ALLOC
T07	P93 03	7,307.89
T63	P93 03	320.46
T82	911 P92 43 40	338.33
T82	911 P92 23 40	1,688.33
T82	911 P92 23 40	3,038.33
T82	P92 03	1,663.33
T82	911 P92 23 40	1,238.33

Sum of ALLOC	ACCT				
Pac	911 P92 23 40	911 P92 43 40	P92 03	P93 03	Grand Total
T07				7,307.89	7,307.89
T63				320.46	320.46
T82	5,964.99	338.33	1,663.33		7,966.65
Grand Total	5,964.99	338.33	1,663.33	7,628.35	**15,595.00**

	911 P70 63 40 000
AMT PWR PLT 316 000	2,970.00
AMT PWR PLT 316 000	90.00
AMT PWR PLT 316 000	45.00
AMT PWR PLT 316 000	27.00
AMT PWR PLT 316 000	225.00
AMT PWR PLT 316 000	450.00
AMT PWR PLT 316 000	45.00
	3,852.00
GRAND TOTAL	**19,447.00**

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Vehicles_Auction Statement

COMP_ID	PAN_FER	PAN_PNT	ASST_COST	RET_DATE	ASST_NMBR	PAC_CODE2	ACCT	ALLOC	PROCEEDS
2204	392	3	50,150.35		62257300	T07	P93 03	2,477.15	
2204	392	3	1,851.61		62258200	T50	P93 03	91.46	
2204	392	3	2,201.18		64347800	T63	P93 03	108.73	
2204	392	3	36,900.08		62259800	T80	P93 03	1,822.66	
			91,103.22						4,500.00

Sum of ALLOC	ACCT	
PAC_CODE2	P93 03	Grand Total
T07	2,477.15	2,477.15
T50	91.46	91.46
T63	108.73	108.73
T80	1,822.66	1,822.66
Grand Total	4,500.00	**4,500.00**

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Cc Comp Id	Description	Qty	Cost	Serial Number	Utility Account	Pac	ACCT	ALLOC	PROCEE
02624	1987 Intl TK	7	50,366.02		392.03 ED Trar	Z99	P93 03	1,549.00	
02624 Total			**50,366.02**						1,549.00
04301	2003 Chevy F	1	12,105.29	HX38139314	392.02 ED Trar	Z99	P92 03	2,134.00	
04301 Total			**12,105.29**						2,134.00
04381	2003 Chevy F	1	2,789.53	1GCCS14HX38:	392.02 ED Trar	Z99	P92 03	2,044.00	
04381 Total			**2,789.53**						2,044.00
Grand Total			**65,260.84**						

OTHER CHARGES PAID BY AUCTION & DEDUCTED FROM TECO PROCEEDS - $130.00 **26.00 CHG PER VEH**

Pac	ACCT	ALLOC
Z99	P93 03	1549
Z99	P92 03	2134
Z99	P92 03	2044

Sum of ALLOC	ACCT		
Pac	P92 03	P93 03	Grand Total
Z99	4,178.00	1,549.00	5,727.00
Grand Total	4,178.00	1,549.00	**5,727.00**

	911 P70 63 40 000
AMT PWR PLT 316 000	244.00
AMT PWR PLT 316 000	64.00
	308.00
	6,035.00

Cc Comp Id	Description	Qty	Cost	Serial Number	Utility Account	Pac	ACCT	ALLOC	PROCEEDS
02316	1993 Intl TK	3	5,990.25		392.03 ED Trar	Z99	P93 03	201.97	
02316	1993 Intl TK	1	43,738.90	1HTMGZRM6P	392.03 ED Trar	Z99	P93 03	1,474.70	
02316 Total			49,729.15						1,676.67
02536	1995 Intl TK	1	47,525.34		392.03 ED Trar	Z99	P93 03	1,524.08	
02536	1995 Intl TK	1	2,201.18	VH405068	392.03 ED Trar	Z99	P93 03	70.59	
02536	1995 Intl TK	1	58,686.49	N8SH215417	392.03 ED Trar	Z99	P93 03	1,882.00	
02536 Total			108,413.01						3,476.67
02708	1987 Ford TK	1	40,381.76	HVA38449	392.03 ED Trar	Z99	P93 03	1,250.52	
02708	1987 Ford TK	4	14,568.38		392.03 ED Trar	Z99	P93 03	451.15	
02708 Total			54,950.14						1,701.67
03004	2000 Chevy TK	1	28,804.21	R9YF520722	392.04 ED Trar	Z99	P92 33	1,946.67	
03004 Total			28,804.21						1,946.67
04358	2003 Chevy PK	1	2,789.53	1GCCS14H1382	392.02 ED Trar	Z99	P92 03	1,676.67	
04358 Total			2,789.53						1,676.67
Grand Total			244,686.04						

OTHER CHARGES PAID BY AUCTION & DEDUCTED FROM TECO PROCEEDS - $590.00 **98.33 CHG PER VEH**

Pac	ACCT	ALLOC
Z99	P93 03	201.97
Z99	P93 03	1,474.70
Z99	P93 03	1,524.08
Z99	P93 03	70.59
Z99	P93 03	1,882.00
Z99	P93 03	1,250.52
Z99	P93 03	451.15
Z99	P92 33	1,946.67
Z99	P92 03	1,676.67

Sum of ALLOC	Pac	
ACCT	Z99	Grand Total
P92 03	1,676.67	1,676.67
P92 33	1,946.67	1,946.67
P93 03	6,855.01	6,855.01
Grand Total	10,478.35	**10,478.35**

911 P70 63 40 000

AMT PWR PLT 316 000 **621.65**

11,100.00

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Cc Comp Id	Description	Qty	Cost	Serial Number	tility Accou	Pac	ACCT	ALLOC	PROCEED
02635	1997 Intl TK	1	75,235.94	N7VH404788	392.03 ED ¯	Z99	P93 03	1,592.73	
02635	1997 Intl TK	1	40,419.00		392.03 ED ¯	Z99	P93 03	855.67	
02635	1997 Intl TK	1	2,201.18	VH404788	392.03 ED ¯	Z99	P93 03	46.60	
02635 Total			**117,856.12**						2,495.00
03403	1994 Chevy Tk	1	4,048.11	729385	392.04 ED ¯	Z99	P92 33	136.70	
03403	1994 Chevy Tk	1	19,198.85	K5RE272669	392.04 ED ¯	Z99	P92 33	648.30	
03403 Total			**23,246.96**						785.00
03405	1994 Chevy Tk	1	3,805.46		392.04 ED ¯	Z99	P92 33	196.55	
03405	1994 Chevy Tk	1	16,913.82	K4RE266715	392.04 ED ¯	Z99	P92 33	873.61	
03405	1994 Chevy Tk	1	4,933.87	732365	392.04 ED ¯	Z99	P92 33	254.84	
03405 Total			**25,653.15**						1,325.00
04287	2002 Chevy Pk	1	12,799.77	5428211175	392.02 ED ¯	Z99	P92 03	2,135.00	
04287 Total			**12,799.77**						2,135.00
04099_930	1991 GMC Pk	1	14,416.10	KOME523298	392.12 ES 1	Z99	911 P9223	990.00	
04099_930 Total			**14,416.10**						990.00
04355	2003 Chevy Pk	1	2,789.53	1GCCS14HX38:	392.02 ED ¯	Z99	P92 03	2,315.00	
04355 Total			**2,789.53**						2,315.00
Grand Total			**196,761.63**						

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OTHER CHARGES PAID BY AUCTION & DEDUCTED FROM TECO PROCEEDS - $295.00 **59.00 CHG PER VEH**

Pac	ACCT	ALLOC
Z99	P93 03	1,492.73
Z99	P93 03	855.67
Z99	P93 03	46.60
Z99	P92 33	136.70
Z99	P92 33	648.30
Z99	P92 33	196.55
Z99	P92 33	808.61
Z99	P92 33	254.84
Z99	P92 03	2,070.00
Z99	911 P9223	990.00
Z99	P92 03	2,250.00

Sum of ALLOC	ACCT				
Pac	911 P9223	P92 03	P92 33	P93 03	Grand Total
Z99	990.00	4,320.00	2,045.00	2,395.00	9,750.00
Grand Total	990.00	4,320.00	2,045.00	2,395.00	**9,750.00**

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Cc Comp Id	Description	Qty	Cost	Serial Number	tility Accou	Pac	ACCT	ALLOC	PROCEEDS
04726	1997 Chev PK	1	18,441.41	R7VZ223889	392.02 ED 1	Z99	P92 03	783.56	
04726	1997 Chev PK	1	2,740.33	J27919	392.02 ED 1	Z99	P92 03	116.44	
04726 Total			**21,181.74**						900.00
04315	2003 Chev PK	1	12,127.56	HO38139614	392.02 ED 1	Z99	P92 03	2,070.00	
04315 Total			**12,127.56**						2,070.00
03937	1999 Chev TK	1	32,701.99	R1XF083507	392.04 ED 1	Z99	P92 33	1,890.00	
03937 Total			**32,701.99**						1,890.00
03504	1995 Chev TK	1	499.99		392.04 ED 1	Z99	P92 33	34.39	
03504	1995 Chev TK	1	28,284.73	K8SE227294	392.04 ED 1	Z99	P92 33	1,945.61	
03504 Total			**28,784.72**						1,980.00
05914	1999 Chev 4D	1	22,553.85	R8XF078021	392.02 ED 1	Z99	P92 03	2,250.00	
05914 Total			**22,553.85**						2,250.00
04005	2000 Chev PK	1	19,804.89	R0YR210339	392.02 ED 1	Z99	P92 03	990.00	
04005 Total			**19,804.89**						990.00
04346	1993 Chev PK	1	13,896.09	Z6PZ253179	392.02 ED 1	Z99	P92 03	799.61	
04346	1993 Chev PK	3	1,744.72		392.02 ED 1	Z99	P92 03	100.39	
04346 Total			**15,640.81**						900.00
05041	2000 Ford PK	1	12,586.36	V9YPB72587	392.02 ED 1	Z99	P92 03	2,250.00	
05041 Total			**12,586.36**						2,250.00
04357	2003 Chev UT	1	19,923.02	X13K173148	392.02 ED 1	Z99	P92 03	3,690.00	
04357 Total			**19,923.02**						3,690.00
05833	1998 Chev SW	1	21,191.07	W9WK222673	392.02 ED 1	Z99	P92 03	2,070.00	
05833 Total			**21,191.07**						2,070.00
05036	2000 Ford PK	1	18,549.53	V7YTA82620	392.02 ED 1	Z99	P92 03	3,330.00	
05036 Total			**18,549.53**						3,330.00
05340	2003 Chev PK	1	2,789.53	1GCCS14H038:	392.02 ED 1	Z99	P92 03	2,610.00	
05340 Total			**2,789.53**						2,610.00
05811	1998 Chev TK	1	20,813.08	R2WE212770	392.02 ED 1	Z99	P92 03	2,430.00	
05811 Total			**20,813.08**						2,430.00
05915	1999 Chev PK	1	21,790.18	R0XF083837	392.02 ED 1	Z99	P92 03	3,150.00	
05915 Total			**21,790.18**						3,150.00
04317	2003 Chev PK	1	12,103.52	H538139611	392.02 ED 1	Z99	P92 03	2,160.00	
04317 Total			**12,103.52**						2,160.00
04244	2002 Chev PK	1	14,175.78	5828221801	392.02 ED 1	Z99	P92 03	3,780.00	
04244 Total			**14,175.78**						3,780.00
04125	2001 Chev UT	1	19,907.26	W11K248970	392.02 ED 1	Z99	P92 03	2,340.00	
04125 Total			**19,907.26**						2,340.00
04283	2002 Chev PK	1	12,941.15	5728210327	392.02 ED 1	Z99	P92 03	2,610.00	
04283 Total			**12,941.15**						2,610.00
05022	2000 Ford PK	1	16,216.16	V5YTA82614	392.02 ED 1	Z99	P92 03	1,972.00	
05022 Total			**16,216.16**						1,972.00
05038	2000 Ford PK	1	12,586.36	VOYPB72591	392.02 ED 1	Z99	P92 03	2,070.00	
05038 Total			**12,586.36**						2,070.00
04280	2003 Chev PK	1	12,855.05	5328210289	392.02 ED 1	Z99	P92 03	1,980.00	
04280 Total			**12,855.05**						1,980.00
04247	2002 Chev PK	1	17,596.39	WX2K235333	392.02 ED 1	Z99	P92 03	3,420.00	
04247 Total			**17,596.39**						3,420.00
05913	1999 Chev PK	1	22,457.85	R4XF077223	392.02 ED 1	Z99	P92 03	2,160.00	
05913 Total			**22,457.85**						2,160.00
05071	2000 Ford PK	1	16,083.24	V2YPA85317	392.02 ED 1	Z99	P92 03	4,410.00	
05071 Total			**16,083.24**						4,410.00
Grand Total			**537,797.91**						

Pac	ACCT	ALLOC
Z99	P92 03	783.56
Z99	P92 03	116.44
Z99	P92 03	2,070.00
Z99	P92 33	1,890.00
Z99	P92 33	34.39
Z99	P92 33	1,945.61
Z99	P92 03	2,250.00
Z99	P92 03	990.00
Z99	P92 03	799.61
Z99	P92 03	100.39
Z99	P92 03	2,250.00
Z99	P92 03	3,690.00
Z99	P92 03	2,070.00
Z99	P92 03	3,330.00
Z99	P92 03	2,610.00
Z99	P92 03	2,430.00
Z99	P92 03	3,150.00
Z99	P92 03	2,160.00
Z99	P92 03	3,780.00
Z99	P92 03	2,340.00
Z99	P92 03	2,610.00
Z99	P92 03	1,972.00
Z99	P92 03	2,070.00
Z99	P92 03	1,980.00
Z99	P92 03	3,420.00
Z99	P92 03	2,160.00
Z99	P92 03	4,410.00

Sum of ALLOC	ACCT		
Pac	P92 03	P92 33	Grand Total
Z99	53,542.00	3,870.00	57,412.00
Grand Total	53,542.00	3,870.00	**57,412.00**

	330 P9443 40 330
Z99	835.00
Z99	180.00
	1,015.00

58,427.00 TOTAL

Cc Comp Id	Description	Qty	Cost	Serial Number	Utility Account	Pac	ACCT	ALLOC	PROCEE
02206	1992 Int'l TK	1	2,201.18	NH447250	392.03 ED Trans E	Z99	P93 03	91.95	
02206	1992 Int'l TK	1	50,816.78		392.03 ED Trans E	Z99	P93 03	2,122.72	
02206	1992 Int'l TK	1	54,709.41	N5NH447250	392.03 ED Trans E	Z99	P93 03	2,285.33	
02206 Total			**107,727.37**						4,500.00
04040	2000 Chevy Vn	0	22,566.85	R0Y1267089	392.02 ED Trans E	Z99	P92 03	2,610.00	
04040 Total			**22,566.85**						2,610.00
05827	1998 Chevy Vn	1	22,346.79	W0W1090790	392.02 ED Trans E	Z99	P92 03	-	
05827 Total			**22,346.79**						-
Grand Total			**238,021.59**						

Pac	ACCT	ALLOC
Z99	P93 03	91.95
Z99	P93 03	2,122.72
Z99	P93 03	2,285.33
Z99	P92 03	2,610.00
Z99	P92 03	-

Sum of ALLOC	ACCT		
Pac	P92 03	P93 03	Grand Total
Z99	2,610.00	4,500.00	7,110.00
Grand Total	2,610.00	4,500.00	**7,110.00**

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Jan-09 Auction Stmt (075022)

Vehicle #	Proceeds (Salvage)	Misc Asset	Proceeds (Sal)
2951	4,375.00		
8283	630.00	**NO MISC ASSETS SOLD**	
8320	7,560.00	**FOR JANUARY 2009**	
8801	1,620.00		
8902	1,260.00	Total Auction Stmt for Jan-09	
	15,445.00		
		15,445.00	

NO AUCTION STATEMENT FOR FEBRUARY 2009

Mar-09 Auction Stmt (075397)

Vehicle #	Proceeds (Salvage)	Misc Asset	Proceeds (Sal)
2632	2,434.13		
2836	9,674.13	**NO MISC ASSETS SOLD**	
4316	2,434.13	**FOR FEBRUARY 2009**	
4327	4,234.13		
4342	3,539.10		
4639	1,649.13		
8236	119.13	Total Auction Stmt for Feb-09	
9237	1,264.12		
	25,348.00	25,348.00	

Mar-09 Auction Stmt (075513)

Vehicle #	Proceeds (Salvage)	Misc Asset	Proceeds (Sal)
2633	8,087.00	9066	9,475.00
2734	10,862.00	8385	3,060.00
2940	2,327.00	9487	450.00
3704	2,057.00	8494	270.00
3853	1,787.00	Misc Tools	90.00
3936	3,202.00	Misc Tools	45.00
4354	437.00		13,390.00
4397	2,147.00		
4718	1,247.00		
5392	2,867.00	Total Auction Stmt for Mar-09	
5393	4,037.00		
	39,057.00	52,447.00	

Apr-09 Auction Stmt (075672)

Vehicle #	Proceeds (Salvage)	Misc Asset	Proceeds (Sal)
4282	2,520.00		
4252	3,085.00	**NO MISC ASSETS SOLD**	
4336	2,430.00	**FOR APRIL 2009**	
5065	1,440.00		
5099	1,350.00	Total Auction Stmt for Apr-09	
5932	1,260.00		
	12,085.00	12,085.00	

May-09 Auction Stmt (075904)

Vehicle #	Proceeds (Salvage)	Misc Asset	Proceeds (Sal)
4335	3,060.00		
5017	1,800.00	**NO MISC ASSETS SOLD**	
	4,860.00	**FOR MAY 2009**	
		Total Auction Stmt for May-09	
		4,860.00	

Jun-09 Auction Stmt (076127)

Vehicle #	Proceeds (Salvage)	Misc Asset	Proceeds (Sal)
2200	7,628.35	9552	2,970.00
3856	338.33	Misc Tools	882.00
4001	1,688.33		3,852.00
4391	3,038.33		
5127	1,663.33	Total Auction Stmt for Jun-09	
5920	1,238.33		
	15,595.00	19,447.00	

Jun-09 Auction Stmt II (076164)

Vehicle #	Proceeds (Salvage)	Misc Asset	Proceeds (Sal)
2204	4,500.00		
		NO MISC ASSETS SOLD	
		FOR JUNE 2009	
	Total Auction Stmt for Jun-09		
	4,500.00		

Jul-09 Auction Stmt (076377)

Vehicle #	Proceeds (Salvage)
2624	1,549.00
4301	2,134.00
4381	2,044.00
	5,727.00

Misc Asset	Proceeds (Sal)
8279	244.00
8238	64.00
	308.00

Total Auction Stmt for Jul-09

6,035.00

Aug-09 Auction Stmt (076620)

Vehicle #	Proceeds (Salvage)
2316	1676.67
2536	3476.67
2708	1701.67
3004	1946.67
4358	1676.67
	10478.35

Misc Asset	Proceeds (Sal)
8285	621.65

Total Auction Stmt for Aug-09

11,100.00

Sep-09 Auction Stmt (076839)

Vehicle #	Proceeds (Salvage)
2635	2,395.00
3403	752.50
3405	1,292.50
4099	990.00
4287	2,070.00
4355	2,250.00
	9,750.00

Misc Asset — Proceeds (Sal)

NO MISC ASSETS SOLD FOR SEPTEMBER 2009

Total Auction Stmt for Sep-09

9,750.00

NO AUCTION STATEMENT FOR OCTOBER 2009

Nov-09 Auction Stmt (077337)

Vehicle #	Proceeds (Salvage)
3504	1,980.00
3937	1,890.00
4005	990.00
4125	2,340.00
4244	3,780.00
4247	3,420.00
4280	1,980.00
4283	2,610.00
4315	2,070.00
4317	2,160.00
4346	900.00
4357	3,690.00
4726	900.00
5022	1,972.00
5036	3,330.00
5038	2,070.00
5041	2,250.00
5071	4,410.00
5340	2,610.00
5811	2,430.00
5833	2,070.00
5913	2,160.00
5914	2,250.00
5915	3,150.00
	57,412.00

Misc Asset	Proceeds (Sal)
8379	180.00
9379	835.00
	1,015.00

Total Auction Stmt for Nov-09

58,427.00

Dec-09 Auction Stmt (077550)

Vehicle #	Proceeds (Salvage)
2206	4,500.00
4040	2,610.00
5827	-
	7,110.00

Misc Asset	Proceeds (Sal)

NO MISC ASSETS SOLD FOR DECEMBER 2009

Total Auction Stmt for Dec-09

7,110.00

Total Salvage Received for 2009 **226,554.00**

TAMPA MACHINERY AUCTION

Jan-10 Auction Stmt (077751)

Vehicle #	Proceeds (Salvage)	Misc Asset	Proceeds (Sal)
4112	2,610.00		
5827	2,160.00	**NO MISC ASSETS SOLD FOR JANUARY 2010**	
	4,770.00		
		Total Auction Stmt for Jan-10	
		4,770.00	

Feb-10 Auction Stmt (078016)

Vehicle #	Proceeds (Salvage)	Misc Asset	Proceeds (Sal)
4591	1,530.00		
	1,530.00	**NO MISC ASSETS SOLD FOR JANUARY 2010**	
	Total Auction Stmt for Feb-10		
	1,530.00		

NO AUCTION STATEMENT FOR MARCH 2010

Apr-10 Auction Stmt (078413)

Vehicle #	Proceeds (Salvage)	Misc Asset	Proceeds (Sal)
4097	1,620.00	8405	3,060.00
4697	9,950.00	Misc Tools	1,440.00
3854	4,500.00		4,500.00
3935	2,070.00		
	18,140.00	Total Auction Stmt for Apr-10	
		22,640.00	

May-10 Auction Stmt (078614)

Vehicle #	Proceeds (Salvage)	Misc Asset	Proceeds (Sal)

NO VEHICLES SOLD FOR MAY 2010

Misc Tools	1,665.00
	1,665.00

Total Auction Stmt for May-10

1,665.00

NO AUCTION STATEMENT FOR JUNE 2010

Jul-10 Auction Stmt (079010)

Vehicle #	Proceeds (Salvage)

NO VEHICLES SOLD FOR JUNE 2010

Misc Asset	Proceeds (Sal)
Forklift	270.00
	270.00

Total Auction Stmt for Jul-10

270.00

Aug-10 Auction Stmt (079318)

Vehicle #	Proceeds (Salvage)
5904	1,530.00
	1,530.00

Misc Asset	Proceeds (Sal)

NO MISC ASSETS SOLD FOR JULY 2010

Total Auction Stmt for Jul-10

1,530.00

NO AUCTION STATEMENT FOR SEPTEMBER 2010

NO AUCTION STATEMENT FOR OCTOBER 2010

NO AUCTION STATEMENT FOR NOVEMBER 2010

NO AUCTION STATEMENT FOR DECEMBER 2010

TOTAL SALVAGE RECEIVED FOR TAMPA MACHINERY IN 2010

32,405.00

TOTAL SALVAGE RECEIVED FOR 2010 84,245.00

IMPERIAL AUTO AUCTION

NO AUCTION STATEMENT FOR JANUARY 2010

Feb-10 Auction Stmt (078010 thru 078015)

Vehicle #	Proceeds (Salvage)	Misc Asset	Proceeds (Sal)
2915	1,695.00	8453	2,980.00
4272	1,635.00		
4300	1,925.00		
4352	2,405.00	Total Auction Stmt for Feb-10	
5345	2,505.00		
	10,165.00	13,145.00	

Mar-10 Auction Stmt (078233)

Vehicle #	Proceeds (Salvage)	Misc Asset	Proceeds (Sal)
2006	2,420.00		
	2,420.00		

NO MISC ASSETS SOLD FOR MARCH 2010

Total Auction Stmt for Mar-10

2,420.00

NO AUCTION STATEMENT FOR APRIL 2010

May-10 Auction Stmt (078550 thru 078552)

Vehicle #	Proceeds (Salvage)	Misc Asset	Proceeds (Sal)

4618	1,710.00	8492	3,040.00
2837	11,730.00		3,040.00
	13,440.00		

Total Auction Stmt for May-10

16,480.00

NO AUCTION STATEMENT FOR JUNE 2010

NO AUCTION STATEMENT FOR JULY 2010

Aug10 Auction Stmt (079266 thru 079269)

Vehicle #	Proceeds (Salvage)	Misc Asset	Proceeds (Sal)
2121	2,825.00	9602	450.00
2617	1,185.00	9706	355.00
	4,010.00		805.00

Total Auction Stmt for Jul-10

4,815.00

NO AUCTION STATEMENT FOR SEPTEMBER 2010

Oct10 Auction Stmt (079746 thru 079748)

Vehicle #	Proceeds (Salvage)
2936	4,275.00
2841	8,690.00
2219	1,615.00
	14,580.00

Misc Asset	Proceeds (Sal)

NO MISC ASSETS SOLD FOR SEPTEMBER 2010

Total Auction Stmt for Sep-10

14,580.00

NO AUCTION STATEMENT FOR NOVEMBER 2010

NO AUCTION STATEMENT FOR DECEMBER 2010

TOTAL SALVAGE RECEIVED FOR IMPERIAL AUTO IN 2010

51,440.00

MISCELLANEOUS SALE

Oct-10 Auction Stmt (079749)

Vehicle #	Proceeds (Salvage)
4404	400.00
	400.00

Misc Asset	Proceeds (Sal)

NO MISC ASSETS SOLD FOR SEPTEMBER 2010

Total Auction Stmt for Sep-10

400.00

NO AUCTION STATEMENT FOR NOVEMBER 2010

NO AUCTION STATEMENT FOR DECEMBER 2010

TOTAL SALVAGE RECEIVED FROM MISCELLANEOUS IN 2010

400.00

75. On Bates-stamped pages 1079, 1089, 1109 and 1120, 10 amortizable accounts are listed under General Plant. However, Bates-stamped page 599 indicates only two amortizable accounts. Please explain why all general plant amortizable accounts are not included in the depreciation study.

A. Bates-stamped page 599 is a comparative schedule of Florida Electric IOU's. Tampa Electric does not compare amortizable accounts since the recovery periods are set by previous Commission orders.

TAMPA ELECTRIC COMPANY
DOCKET NO. 110131-EI
STAFF'S FIRST DATA REQUEST
REQUEST NO. 76
BATES STAMPED PAGE: 327
FILED: AUGUST 1, 2011

76. Please explain how TECO handles retirements of investments in the amortizable accounts. As investments are fully amortized, are they retired regardless of whether or not the related equipment has retired? If no, how do retirements affect the amortization expenses?

A. See the response to Request No. 26.

2010 Annual Status Report – General Accounts

77. Please explain the nature and cause for the investment and reserve adjustments/transfers into Account 390.00, Structures & Improvements. Please identify the originating account(s) from which these amounts were adjusted/transferred.

A. The adjustments/transfers into Account 390.00 are from Big Bend common where assets were in an incorrect location. These assets even though located at Big Bend are not used to generate power so they were moved to Account 390.00. $455,399 was transferred from 311.40 and $2,408 was moved from 315.40.

78. Please explain the nature, cause, and logic of the negative additions recorded in Account 390.00, Structures & Improvements.

A. Projects were placed into 10600 in 2009, but in 2010 when the assets were unitized into 10100, they were placed into the correct utility accounts. Examples are one major AC project for Big Bend was placed into utility account 311.40, another project was closed to 391.02 computer equipment.

79. Please explain the nature, cause, and logic of the negative additions recorded in Account 391.01, Computer Equipment-Amort.

A. Projects were placed into 10600 in 2009, but in 2010 when the assets were unitized into 10100, they were placed into the correct utility accounts. Examples, two projects were placed into 10600 as 391.01 in 2009, but were correctly unitized into 391.02 when closed to 10100. Another project was placed into 10600 as 391.01 in 2009, but was correctly unitized into 391.04 when closed to 10100.

80. Account 391.04, Mainframe Equipment-Amort., experienced growth of nearly 50% in 2010. Please identify the equipment associated with the major portions of investment added in this account.

A. This is comprised of two asset additions:

Project # K64.57 CISCO Catalyst Equipment for $414,481
Project # K7157 HP EVA 8000 Storage Area Network (SAN) for $ 630,071

81. Please explain the nature and cause for the adjustments/transfers into the reserve for Accounts 392.02, 392.03, 392.04, 392.12, 392.13, and 392.14. Include in your response the logic of adjustments/transfers into the reserve for these accounts without any commensurate adjustments/transfers into the respective plant accounts. Please also identify the accounts from which these adjustments/transfers originated.

A. The adjustments/transfers shown on Schedule B-9 of the ASR are actually the depreciation expense accrual that is cleared to Account 184. See footnotes on Bates-stamped page 1111.

82. Please explain why there is no depreciation expense recorded in the motor vehicle accounts – Accounts 392.02, 392.03 392.04, 392.12, 392.13, and 392.14.

A. See the response to Request No. 81.

83. Please explain the nature and cause of the negative cost of removal recorded in the following accounts: Account 392.02, Light Trucks-Energy Delivery, Account 392.04, Medium Trucks-Energy Delivery, Account 392.12, Light Trucks-Energy Supply, and Account 392.14, Medium Trucks-Energy Supply.

A. Timing. This was an RWIP allocation of pending salvage indicated on the ASR. This was identified and removed from the net salvage analyses and refilled. See the response to Request No. 70.g.

84. Please explain the logic supporting the recording of cost of removal and gross salvage with no commensurate retirement. (Account 392.02, Light Trucks-Energy Delivery, Account 392.03, Heavy Trucks-Energy Delivery, Account 392.04, Medium Trucks-Energy Delivery, and Account 392.13, Heavy Trucks-Energy Supply.)

A. Timing. Sometimes the accounting department will not know a vehicle should be retired until the salvage check arrives with a list of vehicles sold. Also, some vehicles are retired before being sent to auction for scrap or a vehicle is retired but does not get sold at auction until more than a month later.

TAMPA ELECTRIC COMPANY
DOCKET NO. 110131-EI
STAFF'S FIRST DATA REQUEST
REQUEST NO. 85
BATES STAMPED PAGE: 336
FILED: AUGUST 1, 2011

85. Please explain the nature and cause for the negative gross salvage recorded in the following accounts: Account 392.02-Energy Delivery; Account 392.04, Medium Trucks-Energy Delivery; Account 392.12, Light Trucks-Energy Supply; and Account 392.14-Energy Supply.

A. See the response to Request No. 83, relating to the RWIP allocation. The sum of these negative gross salvage accounts netted with the positive gross salvage in accounts 392.03 and 392.13 yields $84,910 in positive gross salvage.

Differences in Balances – General Accounts

86. The reported December 31, 2008 investment for Account 39000, Structures & Improvements, is $75,193,316.47. The beginning 2009 balance for Account 390 is reported as $75,239,303. Please explain the differences.

A. On January 1, 2009, Tampa Electric implemented a new fixed assets accounting system (PowerPlant). While converting the legacy CPR, some assets were previously charged to the wrong plant account number. Upon data conversion to the new system, these geographic discrepancies were corrected. As a result, some plant accounts have disconnected the transition from the ending balances on the 2008 ASR to the beginning balances of the 2009 ASR. The effect of these disconnected balances at the total company level is a net $0.

These differences on Schedule B-7 and Schedule B-9 were addressed in year 2010 during Staff's review of the 2009 ASR.

87. The reported December 31, 2008 investment for Account 39700, Communication Equipment-Amort., is $16,321,285.84. The beginning 2009 balance for Account 397-Amort. is reported as $16,321,331. Please explain the differences.

A. See the response to Request No. 86.

88. Please explain the differences between the reported December 31, 2008 and January 1, 2009 reserve balances for the following accounts: Account 391.01, Office Furniture & Equipment-Amort.; Account 391.02, Computer Equipment-Amort.; Account 391.03, Data Handling Equipment-Amort.; Account 391.04, Mainframe Equipment-Amort.; Account 394, Tools, Shop & Garage Equip.-Amort.; Account 397, Communication Equipment-Amort.; and Account 398, Miscellaneous Equipment-Amort.

A. See the response to Request No. 86.

2011 Budget – General Accounts

89. Referring to Bates-stamped page 1131, please explain the nature and cause of the gross salvage projected in 2011 in Account 392.02 and Account 392.03, without any commensurate retirement.

A. During the 2011 budgeting process, the salvage receipts were budgeted, however, the estimated retirements associated with those vehicle sale activities were not included.

90. For Accounts 392.02 – 392.14, please explain why depreciation accruals for vehicle clearings are recorded as Adjustments or Transfers.

A. Vehicle depreciation is debited to a 184 Clearing account rather than depreciation expense. The vehicle depreciation is reported as an adjustment or transfer so that the depreciation accrued column equals the depreciation expense recorded on the income statement.

Dismantlement Study

91. Please describe in detail how labor rates were derived for use in TECO's 2011 Dismantlement Study.

A. Burns & McDonnell retained a demolition contractor as a sub-consultant to serve as part of the team that prepared the decommissioning study for Tampa Electric Company. The demolition contractor provided the labor rates used in the estimates prepared as part of the study. The labor rate represents a mixture of common laborers, demolition laborers, burners, riggers and heavy equipment operators.

92. How did TECO arrive at the 15% contingency factor level used in its 2011 Dismantlement Study?

A. See the response to Request No. 107.

93. Is TECO aware of any Florida Department of Environmental Protection (FDEP) regulations concerning "on-site" disposal of concrete material?

A. Yes. In preparation of the decommissioning cost estimates, Burns & McDonnell reviewed the FDEP document titled "Guidance for Disturbance and Use of Old Closed Landfills or Waste Disposal Areas in Florida", published June 3, 2009. This document is attached in the response to Request No. 110. Section 4.3 of this document, beginning on page 6, addresses waste removal and off-site disposal. The second paragraph of this section states that "Uncontaminated concrete which is excavated from the disposal site and removed from the wastes may be used as a raw material or as fill material without a permit, i.e. used as clean debris. But it must meet the definition of clean debris contained in Rule 62-701.200(15), F.A.C. before it can be used as fill or raw material."

FDEP Rule 62-701.200 (15) includes a definition for clean debris, which states that "Clean debris means any solid waste that is virtually inert, is not a pollution threat to ground water or surface waters, is not a fire hazard, and is likely to retain its physical and chemical structure under expected conditions of disposal or use. The term includes brick, glass, ceramics, and uncontaminated concrete including embedded pipe or steel."

Additionally, FDEP Rule 62-701.730 Construction and Demolition Debris Disposal and Recycling, addresses the use of clean debris for fill. Section 15 states that "Clean debris may be used as fill or raw material in any area, including waters of the State, subject to receipt of an environmental resource permit from the Department where applicable. Clean debris used as fill material is not solid waste, and such use does not require a solid waste permit under this rule."

94. Does TECO intend to fully dismantle its Plant Gannon site? If so, what is the expected date of completion?

A. The Steam Turbines for Gannon Unit #5 and #6 now serve as Bayside #1 and Bayside #2 respectively. These steam turbines, along with the entire steam turbine building, will remain in place to facilitate the operation of the Bayside Station. All of the other structures associated with the Gannon facility will be dismantled.

The expected date of completion is end of year 2015.

95. For the purposes of the following request, please refer to TECO's 2011 Dismantlement Study, Bates-stamped page 521. Is there a difference between "marketable or usable condition" and "site restoration" for the purposes of cost estimation? If so, please explain any differences.

A. Although these two statements are referring to two separate issues, they both are based on returning the site to a marketable or useable condition, consistent with Florida Administrative Code Rule 25-6.04364. "Marketable or useable condition" refers to the condition of the site subsequent to completion of all decommissioning activities. "Site restoration" refers to a subset of the decommissioning activities.

The basis of the Burns & McDonnell cost estimate was to return the site to a marketable or useable condition. This includes demolishing the power generation equipment, demolishing the balance of plant equipment, and performing site restoration activities. Site restoration activities would include additional decommissioning activities required to be performed in conjunction with dismantlement of the equipment, such as closure of ponds and landfills, restoration of coal storage areas and gypsum storage areas, etc. All of the demolition and site restoration activities in total would constitute the plant decommissioning plan and would be required to return the site to a marketable or useable condition.

96. For the purposes of the following request, please refer to TECO's 2011 Dismantlement Study, Bates-stamped page 530. Point number 26 in discussing PCB oil states, "The costs also include removal of one foot of soil beneath the pads for offsite disposal." Are there any federal and or state regulations that prescribe the treatment of PCB oil? If affirmative, please describe them.

A. Yes. The document "Polychlorinated Biphenyl (PCB) Site Revitalization Guidance Under the Toxic Substances Control Act (TSCA)" is attached.

Materials such as debris from the demolition of buildings and other man-made structures manufactured, coated, or serviced with PCBs may be found at sites contaminated with PCBs and are subject to the TSCA PCB disposal requirements at 40 CFR §761 .62.

The Toxic Substances Control Act 40 CFR §761 .62 includes provisions for disposal of PCB contaminated waste. These provisions were considered in the study and development of the cost estimates.

OPPT-2004-0123-

November 2005

Polychlorinated Biphenyl (PCB) Site Revitalization Guidance Under the Toxic Substances Control Act (TSCA)

This policy addresses cleanup and disposal requirements for polychlorinated biphenyls (PCBs) only. This document is intended to be used as an informal reference, and as such, is not a complete statement of all of the applicable PCB requirements. This document does not replace nor supplant the requirements of the Toxic Substances Control Act (TSCA) PCB regulations. Please refer to the regulations at 40 CFR Part 761 for specific regulatory and legal requirements.

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EXECUTIVE SUMMARY

This document was developed as a guide for complying with the Toxic Substances Control Act (TSCA) regulations for the cleanup and disposal of polychlorinated biphenyl (PCB) contamination. The purpose of the document is to provide assistance in navigating the TSCA PCB regulations in Title 40 of the Code of Federal Regulations at Part 761 (40 CFR Part 761).[1] The primary focus of this guidance is the *PCB Remediation Waste* provision at 40 CFR 761.61 which governs the management of PCB waste generated as the result of PCB spills and associated cleanup activities (e.g., contaminated environmental media, rags, debris). Additional PCB requirements that may apply also are mentioned.

This document may be useful to Brownfields grant recipients and other individuals involved in PCB cleanups under TSCA. The document discusses the factors that must be taken into consideration when determining appropriate cleanup levels (e.g., intended use and type of PCB waste). Prescriptive procedures on how to achieve the cleanup levels however are generally not addressed. The requirements for verifying that the cleanup standard has been met and for establishing deed restrictions (where necessary), and the options available for disposing of PCB wastes are discussed. In addition, other relevant TSCA PCB requirements, such as caps, waste storage, marking, manifesting, and recordkeeping requirements, are mentioned. All PCB concentrations are based on total PCBs, rather than individual PCB Aroclors.[2]

Examples are provided on how the "typical" and "worst case" PCB waste cleanup situations may be addressed. Additional examples in the form of a matrix on various PCB contamination and reuse scenarios and applicable TSCA PCB requirements are provided at the end of the document (see Table 7). Finally, the appendices offer guidance on sampling concrete in the field (Appendix A) and excerpts of relevant self-implementing provisions of the PCB regulations for the cleanup and disposal of PCB waste (Appendix B). Appendix A is not a substitute for Subpart O of Part 761 where the regulations require compliance with Subpart O. The cleanup and reuse of property previously contaminated with PCBs may vary widely and will be specific to each site. Therefore, this document is not intended to provide the answer to every question that could surface during the remediation of the site. The reader is encouraged to consult the statute, regulations and the Regional PCB Coordinator whenever questions concerning acceptable remediation practices arise.

This document does not replace or supplant the requirements of the TSCA PCB regulations. Use of this document does not establish a presumption against enforcement should violations of the cleanup and disposal requirements or the PCB use authorizations be discovered. Please refer to the regulations at 40 CFR Part 761 for specific regulatory and legal requirements. The entire text of the Code of Federal Regulations for 40 CFR Part 761 can be found on the U.S. Government Printing Office's website at www.gpo.gov, under "Legislative Resources" and on the PCB website at www.epa.gov/pcb under "Laws and Regulations." Additional assistance on the

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[1] Unless otherwise provided, the terms and abbreviations used herein have the meanings as defined in the PCB regulations at 40 CFR §761.3.

[2] See the definition of PCBs in 40 CFR §761.3 and "Response to Comments Document on the Proposed Rule – Disposal of PCBs; OPPTS Docket #66009A," May 1998, p. 11, Response #5.

TSCA PCB waste requirements is available from the Regional PCB Coordinators. The phone numbers and addresses for each Regional office are provided in this document (see Section VI), and a current listing of the Regional PCB Coordinators is available from the PCB website at www.epa.gov/pcb under "EPA Regional Contacts."

Polychlorinated Biphenyl (PCB) Site Revitalization Guidance Under the Toxic Substances Control Act (TSCA)

Introduction

This Polychlorinated Biphenyl (PCB) Site Revitalization Guidance (the Guidance) provides information on characterizing, cleaning up, containing, and disposing of PCB waste (e.g., soil and other debris generated as a result of any PCB spill cleanup). It has been developed as a guide to assist individuals engaging in PCB remediation efforts in complying with the Toxic Substances Control Act (TSCA) PCB regulations at 40 CFR Part 761. Individuals should contact the Regional PCB Coordinator for additional guidance on the regulatory requirements for site-specific situations or scenarios (see Section VI, pages 28-31).

Some cleanup sites may contain lead-based paint or asbestos which has been contaminated with other compounds such as PCBs, pesticides or mercury. In order to reduce exposure at these sites, it is generally recommended that a balance be struck between a manage-in-place strategy for lead-based paint and asbestos and the removal of other contaminants. Guidance and/or links to information for managing lead-based paints and asbestos contamination are available at EPA's websites at www.epa.gov/lead for lead, and www.epa.gov/asbestos for asbestos. In addition, several States have cleanup requirements that, in conjunction with the requirements addressed in 40 CFR Part 761, must be followed when undertaking a voluntary cleanup under a State response program. Therefore, individuals also are encouraged to consult with their State environmental officials regarding any additional State cleanup requirements.

PCB waste management at properties that have been contaminated with PCBs as a result of a spill, release or other unauthorized disposal requires compliance with the requirements for *PCB remediation waste* as specified in the TSCA PCB regulations at 40 CFR 761.50(b)(3) and 761.61. Refer to those regulations for specific regulatory and legal requirements regarding *PCB remediation waste*. An electronic version of the PCB regulations at 40 CFR Part 761 can be found on the PCB website at www.epa.gov/pcb under "Laws and Regulations." Many of the cleanup examples discussed in this Guidance are based on information regarding known federal Brownfields grant application scenarios available at the time of its development.

Background

Real property contaminated with PCBs may be sold or transferred by a current owner to another party. The transfer is not a release of any obligations of either the seller or the purchaser regarding proper handling, cleanup, or disposal of contaminated material. See August 14, 2003 Memo from Robert Fabricant and Susan Hazen to Barry Breen, John Peter Suarez and the Regional Administrators on the PCB website at www.epa.gov/pcb under "Interpretive Guidance," Policy Statements and Letters. The responsibility for the initial PCB contamination (e.g., spill or other release) resides with the person(s) who caused the contamination or who owned or operated the PCBs or PCB-containing equipment at the time of the contamination. However, after the property transfer, the new owner becomes responsible for controlling and mitigating any continuing and/or future releases of PCBs. In addition, because the use of contaminated portions of real property constitutes the use of PCBs on it, such use is prohibited under section 6(e)(2)(A) of TSCA, unless the owner of the property contaminated with PCBs complies with all applicable use authorizations. In general, this means that the owner must first clean up the property or decontaminate it before it can be used (see 40 CFR §761.30(u)). As previously mentioned, the individual who caused the PCB contamination, which may or may not be the seller of the property, can generally be held liable for violations of the PCB disposal requirements.

I. Overview of TSCA's Waste Management Approach for PCB Wastes

This Guidance was developed by EPA to assist individuals who are planning or are engaged in PCB remediation activities (e.g., the redevelopment of a Brownfields site with PCB contamination), as well as State officials who are implementing state response programs, in complying with the PCB waste management requirements promulgated under the TSCA PCB regulations.

This Guidance describes the TSCA cleanup and disposal requirements for *PCB remediation waste* as specified under 40 CFR §761.61. Section 761.61 provides several options for cleaning up and disposing of PCB remediation wastes: 40 CFR §761.61(a) establishes requirements for self-implementing cleanups and disposal; 40 CFR §761.61(b) establishes requirements for performance-based disposal; and 40 CFR §761.61(c) establishes a procedure for applying for a risk-based cleanup or disposal approval where an individual wishes to conduct PCB cleanup or disposal in a manner other than prescribed in either 40 CFR §761.61(a) or (b). This guidance is primarily intended to assist individuals in complying with the self-implementing requirements in 40 CFR §761.61(a).

This Guidance also provides information on an activity that has been found to be acceptable to the Agency when PCB cleanup and related activities were conducted in a manner other than prescribed at 40 CFR §761.61(a) or (b); i.e., a risk-based disposal approval for the sampling, cleanup or disposal of PCB remediation waste (see 40 CFR §761.61(c)). Section 761.61(c) requires individuals to submit to the Regional Administrator an application which provides a risk-based demonstration that other procedures or cleanup standards will result in a commensurate level of protection for human health and the environment. In the example at Section III.A. of this guidance, the contaminated site was to be used for industrial purposes after the cleanup. In this particular industrial use scenario, the Agency determined that the proposed sampling procedures, cleanup standards, and engineering and institutional controls were sufficient to protect against an unreasonable risk of injury to health or the environment. EPA expects that these sampling procedures, cleanup standards, and engineering and institutional controls would likely be appropriate for other sites presenting comparable exposure scenarios, although each risk-based application will be evaluated on its merits and approved or disapproved on a site-specific basis.

Waste materials contaminated with PCBs as the result of a spill, an intentional or accidental release or uncontrolled discharges of PCBs, or other unauthorized disposal of PCBs are called *PCB remediation waste*. There are four types of *PCB remediation waste*: *bulk PCB remediation waste*, *porous surfaces*, *non-porous surfaces*, and *liquid PCBs*. Cleanup levels for an area contaminated with PCBs depend upon the degree of exposure to an area with residual contamination. Exposure is measured by the amount of time that people will be spending in the area, and the type of PCB contamination that will remain in place after remediation. The length of occupancy (or how long a person is expected to be exposed to an area of contamination) is generally dependent upon the intended use of the area. Areas that are in continuous or semi-continuous use, such as residences or schools, are generally classified as "high occupancy areas." Under the self-implementing provisions of Section 761.61(a), areas that are used to a limited extent, such as an electrical substation, are considered to be "low occupancy areas." These terms are defined in 40 CFR 761.3 and discussed in Section II.

To further illustrate how these factors relate, this Guidance provides: 1) examples to illustrate how these variables are applied; and 2) a matrix that provides cleanup levels by waste type and occupancy level (see Table 2, p. 22).

II. What are the Appropriate Cleanup Levels for Self-Implementing Cleanups?

The extent of cleanup required for a property contaminated with PCBs will depend primarily upon two factors: 1) the use of the property (characterized by the length of occupancy); and 2) the type of waste material that is contaminated with the PCBs. The self-implementing procedures may not be used to clean up: surface or ground waters, sediments in marine and fresh water ecosystems, sewers or sewage treatment systems, any private or public drinking water sources or distribution systems, grazing lands, and vegetable gardens (see 40 CFR §761.61(a)(1)(i)). As described below, the required cleanup level for self-implementing cleanups is determined by the type of occupancy after the cleanup is completed. All PCB concentrations are based on total PCBs, rather than individual PCB Aroclors. Within each occupancy group, cleanup levels are supplied for the different types of waste materials. The intended reuse scenarios for a facility or property may result in a cleanup which utilizes a combination of cleanup standards (e.g., high occupancy and/or low occupancy area), depending on whether certain conditions are met (e.g., access is limited in duration; entry is secured, for example, by a key or combination lock). Therefore, consultation with the Regional PCB Coordinator is encouraged. Post-cleanup sampling is also required; sampling requirements are discussed in paragraph D of this Section. The process for determining the applicable PCB cleanup level can generally be broken down into three basic steps:

- Step 1 – How will the contaminated property be used?
- Step 2 – What is the type of waste material that is contaminated with PCBs?
- Step 3 – What are the appropriate cleanup levels?

Step 1: <u>How will the contaminated property be used?</u>

The new use of a property is classified as a high or low occupancy area under the self-implementing cleanup provisions of 40 CFR §761.61(a). The requirements for both the high occupancy and low occupancy area can be found at 40 CFR §761.61(a).

High occupancy area is generally defined as any area where *PCB remediation waste* has been disposed of on site (including but not limited to any building, any floor/wall of the building, any enclosed space within the building), and where annual occupancy for any individual not wearing dermal and respiratory protection is 840 hours or more (an average of 16.8 hours or more per week) for non-porous surfaces and 335 hours or more (an average of 6.7 hours or more per week) for *bulk PCB remediation waste*. Examples include a residence, school, day care center, sleeping quarters, a single or multiple occupancy 40 hours-per-week work station, a school classroom, a cafeteria in an industrial facility, a control room, and a work station at an assembly line.

Low occupancy area is generally defined as any area where *PCB remediation waste* has been disposed of on site (including but not limited to any building, any floor/wall of the building, any enclosed space within the building), and where annual occupancy for any individual not wearing dermal and respiratory protection is less than 840 hours (an average of 16.8 hours per week) for non-porous surfaces and less than 335 hours (an average of 6.7 hours per week) for *bulk PCB remediation waste*. Examples include an electrical substation or a location in an industrial facility where a worker spends small amounts of time per week (such as an unoccupied area outside a building, an electrical equipment vault, or in the non-office space in a warehouse where occupancy is transitory).

Step 2: What is the type of waste material that is contaminated with PCBs?

Waste materials contaminated with PCBs as the result of a spill, an intentional or accidental release or uncontrolled discharges of PCBs, or other unauthorized disposal of PCBs are called *PCB remediation waste*. *PCB remediation waste* is managed at its "as-found" PCB concentration and includes, but is not limited to: soil, rags, and other debris generated during a cleanup; environmental media containing PCBs, such as soil and gravel; buildings and other man-made structures contaminated with PCBs; and *porous* and *non-porous surfaces* upon which PCBs were spilled or released (see the definition at 40 CFR §761.3). *PCB remediation waste* sampling should be based on in-situ characterization data (i.e., "as found" per 40 CFR §761.61) rather than post-excavation or demolition composite samples collected from waste piles and roll-off containers.

The four classes of *PCB remediation waste* commonly found at PCB remediation sites include:

- **bulk PCB remediation waste** including, but not limited to, existing piles of soil, in-situ soil, sediments, dredged materials, muds, PCB sewage sludge, and industrial sludge;

- **porous surfaces** including, but not limited to, **non-coated (e.g., unpainted) or coated** structural surfaces such as floors, walls, and ceilings made of concrete, brick, wood, plaster, plasterboard, etc., that have been subsequently contaminated by spills from PCB liquids. Porous surfaces also include paints or coatings that have been applied to a non-porous surface such as metal.

- **non-porous surfaces** including smooth unpainted solid surfaces that limit penetration of liquid containing PCBs beyond the immediate surface (e.g., smooth uncorroded metal, natural gas pipe with a thin porous coating originally applied to inhibit corrosion, smooth glass, smooth glazed ceramics, impermeable polished building stone such as marble or granite, and high density plastics such as polycarbonates and melamines that do not absorb organic solvents).

- **liquid PCBs**, a homogenous flowable material containing PCBs and no more than 0.5 percent by weight non-dissolved material.

The PCB regulations also contain a provision for the disposal of *PCB bulk product wastes*; i.e., wastes derived from manufactured products containing PCBs in a non-liquid state (see the definition for *PCB bulk product waste* at 40 CFR §761.3). Materials such as debris from the demolition of buildings and other man-made structures manufactured, coated, or serviced with PCBs may be found at sites contaminated with PCBs and are subject to the TSCA PCB disposal requirements at 40 CFR §761.62.

Step 3: What are the appropriate clean-up levels?

The information developed in steps 1 and 2 is used to determine the cleanup levels for *PCB remediation waste* for the two categories of intended use (e.g., high occupancy and low occupancy areas). The required cleanup levels are described in detail in paragraphs A through C of this section; paragraph D provides information on post-cleanup sampling and deed restriction requirements.

IMPORTANT NOTE: For PCB waste management involving porous structural surfaces, such as floors, walls, or ceilings made of concrete, brick, wood, plaster, plasterboard, etc., "clean" is defined by a bulk PCB concentration, e.g., weight/weight or volume/volume, such as a core sample, and not a surface PCB concentration, such as a wipe sample. In characterizing the property, established EPA sampling procedures or guidance such as 40 CFR 761, Subpart N (40 CFR §761.260 et al.), or CERCLA site characterization guidance should be used to determine the appropriate number and location of samples. The attached Appendix A contains a core sampling procedure developed by EPA Region 1 that may be appropriate for use in conjunction with Subpart N to determine the extent of the contamination in concrete. Other reliable and effective methods for collecting a core sample also may be used. *PCB remediation waste* verification sampling must be based on in-situ characterization data (i.e., "as found" per 40 CFR §761.61) rather than post-excavation or demolition composite samples collected from waste piles and roll-off containers. (63 FR 35409, June 29, 1998.) For guidance on sampling and disposing of existing piles or containers, see 40 CFR Part 761, Subpart R, or contact the Regional PCB Coordinator. The discussion of cleanup levels below is based on in-situ sampling.

A. PCB Cleanup Levels for High Occupancy Areas

For PCB waste management involving *bulk PCB remediation waste*, *porous surfaces* and *non-porous surfaces* in **high occupancy areas**, the PCB cleanup levels listed below apply. When a cleanup activity includes the use of a cap, the owner of the site must maintain the cap in perpetuity and an institutional control, such as a deed restriction, must be implemented. The deed restriction requirements at 40 CFR §761.61(a)(8) include a notation in perpetuity so that potential purchasers receive a disclosure about: the PCB waste that was disposed of on site, the use restrictions that apply to all future owners, the PCB cleanup levels under the cap, and the owner's obligation to maintain the cap.

Bulk Remediation Waste & Porous Surfaces

- **Less than or equal to 1 part per million (≤1 ppm) PCBs** in the soils, other residual waste or porous surfaces, without further conditions (see 40 CFR §761.61(a)(4)(i)(A)). To verify the completion of cleanup and on-site disposal of *bulk PCB remediation wastes* and porous surfaces, follow the procedures in Subpart O of 40 CFR 761, or a risk-based sampling plan that has been approved by EPA pursuant to 40 CFR §761.61(c).

- **Greater than 1 ppm but less than or equal to 10 ppm (>1 to ≤10 ppm)** if the area is covered with an appropriate cap (see 40 CFR §761.61(a)(4)(i)(A)) as specified at 40 CFR §761.61(a)(7); i.e., when referring to on-site cleanup and disposal of *PCB remediation waste*, a cap means a uniform placement of concrete, asphalt, or similar material of minimum thickness spread over the area where remediation waste was removed or left in place in order to prevent or minimize human exposure, infiltration of water, and erosion. (See the specific requirements at 40 CFR 761.61(a)(7).) To verify the completion of cleanup and on-site disposal of *bulk PCB remediation wastes* and *porous surfaces*, use Subpart O at 40 CFR 761, or a risk-based sampling plan that has been approved by EPA pursuant to 40 CFR §761.61(c).

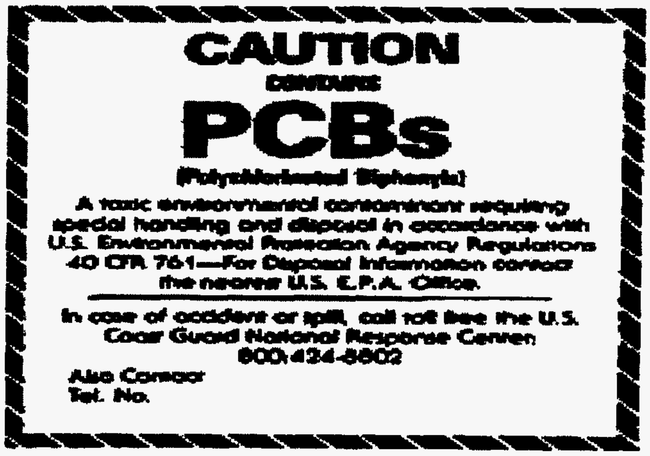
- **Porous surfaces contaminated by an old spill**[3] of liquid PCBs where the concentration of PCBs in the spill was ≥50 ppm and where the surface concentration of PCBs on the **porous surface is currently greater than**

[3] Section 6(e)(2)(A) of the Toxic Substances Control Act (TSCA) banned the use of PCBs after January 1, 1978, unless the PCBs are used in a totally enclosed manner or the use is authorized by rule. In 1998, EPA amended the PCB regulations, in part by authorizing continued use of porous surfaces contaminated by old spills of liquid PCBs (see 40 CFR §761.30(p)). As promulgated, the use authorization for porous surfaces contained a technical error which EPA sought to correct in a subsequent final rule promulgated without notice and comment on June 24, 1999 (see 64 FR 33755). The technical amendment was challenged and set aside in Utility Solid Waste Activities Group v. EPA, 236 F.3d 749 (D.C. Cir. 2001) (USWAG). EPA interprets the authorization as originally promulgated such that individuals who comply with the conditions of the authorization may continue to use porous surfaces that have been contaminated by old spills of liquid PCBs where the concentration of PCBs in the liquid was ≥50 ppm and where the surface concentration of PCBs on the porous surface is currently >10μg/100 cm². Porous surfaces contaminated by old spills of liquid PCBs where the concentration of PCBs in the liquid was ≥50 ppm and where the surface concentration of PCBs on the porous surface is currently ≤10μg/100 cm² are implicitly authorized for use under 40 CFR §761.30(p) without further conditions.

10 micrograms per 100 square centimeters (>10 μg/100 cm^2) may continue in their original use or location provided: (1) the source of contamination has been removed; (2) accessible porous surfaces have been cleaned and completely covered with two solvent resistant and water repellent coatings of contrasting colors, or a solid barrier has been fastened to the surface to cover the contaminated area or all accessible parts of the contaminated area; and (3) the PCB M_L mark (see Figure 1) has been placed in a location where it is visible (see 40 CFR §761.30(p)). Post-verification sampling is not required. Porous surfaces contaminated by old spills of liquid PCBs where the concentration of PCBs in the liquid was ≥50 ppm and where the surface concentration of PCBs on the **porous surface is currently ≤10μg/100 cm^2**, are authorized for use under 40 CFR §761.30(p) without further conditions. Although such surfaces may be used without complying with the conditions in §761.30(p), the prohibition on use of contaminated porous surfaces applies if the surface at any time measures >10μg/100 cm^2, even if it previously measured ≤10μg/100 cm^2. Therefore, efforts should be initiated on a site-specific, as needed basis to ensure that the PCB contamination of the porous surface remains at levels ≤10μg/100 cm^2.

If the PCB containing equipment is removed and the subsequent use of the contaminated surface is to change, for example, a former transformer vault is intended to be reused as office space, then all contaminated porous surfaces must be cleaned to ≤1 ppm or a standard meeting the requirements of a §761.61(a) approval.

Figure 1: PCB M_L Mark



Non-Porous Surfaces

- **Less than or equal to 10 micrograms per 100 square centimeters (≤10 μg/100 cm²)**, without further conditions (see 40 CFR §761.61(a)(4)(ii)). Use one of the decontamination procedures listed at 40 CFR §761.79(b) to remove or separate PCBs from non-porous surfaces (e.g., chopping, scraping, scarification or the use of abrasives or solvents) or another appropriate procedure as specified in §761.61(a)(5)(ii). Sampling locations must be selected in accordance with 40 CFR Part 761, Subpart P for non-porous surfaces, or a risk-based sampling plan that has been approved by EPA pursuant to 40 CFR §761.61(c). (40 CFR §761.61(a)(4)(ii)).

Example 1: Renovation of an Old Warehouse to Artists Studios – Use of the Self-Implementing Provision at 40 CFR §761.61(a)

An old warehouse constructed of concrete walls and floors is being renovated and will be subdivided into artists studios. The new owners also plan to install a child-care facility for the children of the artists. The concrete floor which is contaminated with PCBs must be cleaned up in compliance with the appropriate cleanup standard prior to use. What clean-up level is required?

Answer: The converted warehouse will be used as a *high occupancy area*, i.e., the artists and/or children will be occupying the building for 6.7 hours per week or more. The flooring is a *porous surface*, therefore, the standard applicable for *bulk PCB remediation waste* applies. The concrete floor must be removed, at least in part, and replaced if it cannot be decontaminated to required levels (i.e., cleaned up to ≤1 ppm PCBs). The material contaminated with PCBs must be disposed of as *PCB remediation waste*. Disposal options for non-liquid cleanup wastes at any concentration (e.g., cleaning materials, personal protective equipment, non-porous surfaces, etc.) and *bulk PCB remediation wastes* including *porous surfaces* at <50 ppm include: an approved PCB disposal facility, a permitted municipal solid waste or non-municipal non-hazardous waste facility pursuant to §761.61(a) or (c), or a RCRA Sec. 3004 or 3006 permitted hazardous waste landfill (40 CFR §§761.61(a)(5)(i)(B)(2)(ii) and 761.61(a)(5)(v)(A)). Disposal of ≥50 ppm *PCB remediation waste* is limited to an approved PCB disposal facility or a RCRA Sec. 3004 or 3006 permitted hazardous waste landfill (40 CFR §761.61(a)(5)(i)(B)(2)(iii)); also see Section IV. A different combination of cleanup, engineering and institutional controls can be approved and implemented under 40 CFR §761.61(c). For more specific guidance, contact the Regional PCB Coordinator.

B. PCB Cleanup Levels for Low Occupancy Areas

For PCB waste management involving *bulk PCB remediation waste*, *porous surfaces* and *non-porous surfaces* in **low occupancy areas**, the PCB cleanup levels listed below apply. Also, when the procedures and requirements for a low occupancy area are used (e.g., a fence or cap is used), an institutional control such as a deed restriction must be implemented. The deed restriction requirements include a notation in perpetuity so that potential purchasers receive a disclosure about: the PCB waste that was disposed of on site, the use restrictions that apply to all future owners, the PCB cleanup levels inside the fence or under the cap, and the owner's obligation to maintain the fence/cap. (See 40 CFR §761.61(a)(8) for the specific requirements.)

Bulk Remediation Waste & Porous Surfaces

- **Less than or equal to 25 ppm (≤25 ppm)** in the soils, other residual waste or porous surfaces (see 40 CFR §761.61(a)(4)(i)(B)), and an institutional control (i.e., deed restriction; see 40 CFR §761.61(a)(8)). To verify the completion of cleanup and on-site disposal of *bulk PCB remediation wastes* and *porous surfaces*, use Subpart O at 40 CFR 761, or a risk-based sampling plan that has been approved by EPA pursuant to 40 CFR §761.61(c).

- **Greater than 25 ppm, but less than or equal to 50 ppm (>25 ppm to ≤50 ppm)** in the soils, other residual waste or porous surfaces (see 40 CFR §761.61(a)(4)(i)(B)) provided the site is secured by a fence, marked with a sign that includes the PCB M_L mark (see Figure 1, p. 7) and an institutional control (i.e., deed restriction; see 40 CFR 761.61(a)(8)) is implemented. To verify the completion of cleanup and on-site disposal of *bulk PCB remediation wastes* and *porous surfaces*, use Subpart O at 40 CFR 761, or a risk-based sampling plan that has been approved by EPA pursuant to 40 CFR §761.61(c).

- **Greater than 25 ppm, but less than or equal to 100 ppm (>25 ppm to ≤100 ppm)** provided the site is covered with an appropriate cap (i.e., a uniform placement of concrete, asphalt, or similar material of minimum thickness spread over the area where *PCB remediation waste* was removed or left in place in order to prevent or minimize human exposure, infiltration of water, and erosion) and an institutional control (i.e., deed restriction) is implemented. (See specific requirements at 40 CFR §§761.61(a)(4)(i)(B) and 761.61(a)(7) and (a)(8).) To verify the completion of cleanup and on-site disposal of *bulk PCB remediation wastes* and *porous surfaces*, use Subpart O at 40 CFR 761, or a risk-based sampling plan that has been approved by EPA pursuant to 40 CFR §761.61(c).

- **Porous surfaces contaminated by an old spill** of liquid PCBs where the concentration of PCBs in the spill was ≥50 ppm and where the surface concentration of PCBs on the **porous surface is currently greater than 10 micrograms per 100 square centimeters (>10 μg/100 cm^2)** may continue in their original use or location provided: (1) the source of contamination has been removed; (2) accessible porous surfaces have been cleaned and completely covered with two solvent resistant and water repellent coatings of contrasting colors, or a solid barrier has been fastened to the surface to cover the contaminated area or all accessible parts of the contaminated area; and (3) the PCB M_L mark (see Figure 1) has been placed in a location where it is visible (see 40 CFR §761.30(p)). Post-verification sampling is not required.

  Porous surfaces contaminated by old spills of liquid PCBs where the concentration of PCBs in the liquid was ≥50 ppm and where the surface concentration of PCBs on the **porous surface is currently less than or equal to 10 micrograms per 100 square centimeters (≤10μg/100 cm^2)**, are authorized for use under 40 CFR §761.30(p) without further conditions. Although such surfaces may be used without complying with the conditions in §761.30(p), the prohibition on use of contaminated porous surfaces applies if the surface at any time measures >10μg/100 cm^2, even if it previously measured ≤10μg/100 cm^2. Therefore, precaution should be taken to ensure that the PCB contamination of the porous surface remains at levels ≤10μg/100 cm^2. (See Footnote #3 on page 6.)

  If the PCB containing equipment is removed and the subsequent use of the contaminated surface is to change, for example, a former transformer vault is intended to be reused as office space, then all contaminated porous surfaces must be cleaned to ≤1 ppm or a standard meeting the requirements of a §761.61 approval.

Non-Porous Surfaces

- **Less than 100 μg/100 cm^2 (<100 μg/100 cm^2)** and an institutional control must be implemented (see 40 CFR §§761.61(a)(4)(ii) and 761.61(a)(8)). Use one of the decontamination procedures listed at 40 CFR §761.79(b) to remove or separate PCBs from *non-porous surfaces* (e.g., chopping, scraping, scarification or the use of abrasives or solvents). Sampling locations should be selected in accordance with 40 CFR Part 761, Subpart P or a risk-based sampling plan that has been approved by EPA pursuant to 40 CFR §761.61(c).

Example 2: Conversion of an Abandoned Building to Condominiums – Use of the Self-Implementing Provision at 40 CFR §761.61(a)

An abandoned building containing walls and floors contaminated with PCBs will be converted into condominiums. The basement will be used for storage only and thus will only be accessed by the tenants occasionally. What are the clean-up requirements for the building? Does the fact that the basement will be used much less than the remainder of the building factor into the requirements?

Answer: Ideally, the entire building would be cleaned up as a *high occupancy area* (i.e., all PCB contamination in/on the walls and floors would be decontaminated to ≤1 ppm or the walls/floors would be removed and replaced – see Example 1). However, the basement may be cleaned up as a *low occupancy area* (i.e., a lower standard) provided individual access is restricted to occupying the basement for less than 6.7 hours per week. Consultation with the Regional PCB Coordinator is advisable to ensure all issues regarding potential exposure pathways have been addressed.

C. Cleanup Levels for Liquid PCBs

Liquid PCB wastes not in compliance with the decontamination levels below must be disposed of in an approved incinerator in accordance with 40 CFR §761.60(a) or by an alternative disposal technology in accordance with 40 CFR §761.60(e). In both high and low occupancy areas, the decontamination standards (e.g., cleanup levels) for liquid PCBs at 40 CFR §761.61(a)(4)(iv) are as follows:

(a) For water containing PCBs: (i) **less than 200 micrograms per liter (<200 µg/L, or approximately<200 ppb PCBs) for non-contact use in a closed system** where there are no releases; (ii) for water **discharged to a treatment works or to navigable waters, less than 3 µg/L (<3 µg/L, or approximately 3 ppb)** or a PCB discharge limit included in a permit issued under Sec. 307(b) or 402 of the Clean Water Act; or (iii) **less than or equal to 0.5 µg/L (approximately ≤0.5 ppb PCBs) for unrestricted use**. (See 40 CFR §761.79(b)(1).)

(b) The decontamination standard for **organic liquids and non-aqueous inorganic liquids containing PCBs is less than 2 milligrams per kilogram (<2 ppm PCBs)**. (See 40 CFR §761.79(b)(2).)

Liquid samples may consist of a single liquid phase, multi-phasic liquids, or a combination of liquid and non-liquid material. The sampling requirements at 40 CFR §761.269 and the extraction and analytical procedures provided at 40 CFR §761.272 may be used to sample liquid PCB remediation wastes. (40 CFR §761.61(a)(2) and Subpart N.) When separating liquid and non-liquid phases of waste, you may sample the non-liquid phase in accordance with 40 CFR §761.265. (40 CFR §761.61(a)(2) and Subpart N.) Decontamination waste and residues are required to be disposed of at their existing PCB concentration, unless otherwise specified (see 40 CFR §761.79(g)).

D. Post-cleanup Sampling and Deed Restriction Requirements

The following post-cleanup sampling procedures and deed restriction requirements also apply for PCB waste management activities addressed under Sections A through C above (for a summary of these requirements, see Table 1, p. 14).

(1) Sampling and Analysis.

Post-cleanup sampling and analysis to verify cleanup must be conducted in accordance with the applicable **Cleanup Verification** requirements at 40 CFR §761.61(a)(6) and 40 CFR Part 761, Subpart O for bulk remediation waste and porous materials, and 40 CFR §761.61(a)(6) and 40 CFR Part 761, Subpart P for non-porous materials. Contact the Regional PCB Coordinator for guidance regarding a risk-based approval (see 40 CFR §761.61(c)) to use Appendix A or some other appropriate sampling procedure in conjunction with, or in lieu of, Subpart O for determining sample size and sample collection procedures for concrete and other similar porous surfaces.

To Sample and Analyze PCB Waste Use:

- 40 CFR §761.61(a)(2) and Subpart N: to adequately characterize the site; also, the Appendix A sampling procedures for concrete (or other reliable and effective methods) may be appropriate for use to determine the appropriate number and location of samples;
- 40 CFR §761.61(a)(6) and Subpart O: to verify cleanup and on-site disposal of *bulk PCB remediation wastes* and *porous surfaces*;
- 40 CFR §761.61(a)(6) and §761.269: to sample *liquid PCB* remediation wastes for verification of cleanup, and when separating liquid and non-liquid phases of a waste, sample the non-liquid phase in accordance with 40 CFR §761.265; and
- 40 CFR §761.61(a)(6) and Subpart P: to sample, analyze and interpret results of *non-porous surfaces*.

(2) Deed Restriction Requirements.

The **deed restriction requirements** at 40 CFR §761.61(a)(8) must be implemented for any site where PCBs remain at concentrations above the specified high occupancy "walk-away" level of ≤1 ppm for bulk remediation waste and porous surfaces, and ≤10 µg/100 cm^2 for non-porous surfaces. Deed restriction requirements for cleanups that result in the installation of a cap or fence, and cleanups following the procedures and requirements for low occupancy areas include a notation in perpetuity so that potential purchasers receive a disclosure about: the PCB waste that has been disposed of on site, the use restrictions that apply to all future owners, the PCB cleanup levels inside the fence or under the cap, and the owner's obligation to maintain the fence or cap. (See 40 CFR §761.61(a)(8) for the specific requirements.) Deed restrictions may also apply to the reuse of properties cleaned up according to a risk-based disposal approval. Such restrictions may require, among other things, a disclosure in perpetuity that PCB waste has been disposed of on site, that all future owners must maintain the protective coating or barrier when one is required, and that the use of the property is limited to a particular use, e.g., industrial use only.

Required PCB Institutional Control

The only institutional control that is required under the PCB regulations is a deed restriction. A deed restriction is essentially a permanent notice executed in accordance with state law and recorded on the deed or some other instrument normally examined during a title search which indicates contained contamination remains at the site. Deed restrictions are required for any PCB cleanup in an area that is designated as a low occupancy area, and in high occupancy areas whenever a cap is installed. (See 40 CFR §761.61(a)(8)). The Agency has also approved the use of deed restrictions for site-specific, risk-based approvals where cleanup activities were conducted to establish the property as an industrial area. The deed notation was required to include language that limits the future use of the property to industrial use only (i.e., no children under the age of six may have access to the property).

Table 1. Post-Cleanup Sampling Procedures and Deed Restriction Requirements

Cleanup Action	Applicable Regulations/ Specific Requirements
(A) **Bulk PCB remediation waste cleanup requirements**	Cleanup Verification: 40 CFR §761.61 (a)(6) & Subpart O, or a risk-based sampling plan that has been approved by EPA pursuant to 40 CFR §761.61(c).
Porous surface cleanup requirements	Cleanup Verification: 40 CFR §761.61(a)(6) & Subpart O, or a risk-based sampling plan that has been approved by EPA pursuant to 40 CFR §761.61(c).
Non-porous surface cleanup requirements	Cleanup Verification: 40 CFR §761.61(a)(6) & Subpart P, or a risk-based sampling plan that has been approved by EPA pursuant to 40 CFR §761.61(c).
PCB Liquids	Confirmatory sampling: 40 CFR §761.269.
(B) **High Occupancy Areas for Bulk PCB Remediation Waste & Porous Surfaces:** implement deed restrictions if PCB concentrations are >1 ppm but ≤10 ppm. **Low Occupancy Areas for Bulk PCB Remediation Waste & Porous Surfaces:** implement deed restrictions if PCB concentrations are either >25 ppm but ≤50 ppm, or >25 ppm but ≤100 ppm. **Other Reuse Scenarios:** deed restrictions may vary depending on cleanup proposed.	Deed Restriction: 40 CFR §761.61(a)(8)

III. Cleanup Levels for Other Re-Use Scenarios

A risk-based disposal approval (see §761.61(c)) is available for cleanup, storage and disposal when the self-implementing cleanup and disposal standards of §761.61(a), or the performance-based disposal requirements of §761.61(b), are not the remedy of choice. Individuals must submit a written application to the EPA Regional Administrator in the Region where the sampling, cleanup, disposal or storage site is located when those activities will occur in a single EPA Region; or to the Director of the National Program Chemicals Division when the activities occur in more than one EPA Region. Each application must contain the information required for the notification under the self-implementing procedures (see the TSCA PCB regulations at §761.61(a)(3)(i)). EPA may request other information necessary to evaluate the application. EPA may use the OSWER guidance for superfund risk assessment (issued in 1989 and amended in 2003)[4] as well as the superfund PCB guidance (issued in

[4]"Risk Assessment Guidance for Superfund, Volume 1, Human Health Evaluation Manual (Part A), Interim Final," EPA/540/1-89/002, December 1989. This guidance pertains to the selection of human health toxicity values, data necessary in developing PCB cleanup levels.

1990)[5] as a reference when reviewing any request for a risk-based approval submitted under the provisions of 40 CFR §761.61(c) and deciding on an appropriate risk-based method for the cleanup and disposal of PCB remediation wastes. EPA will issue a written decision on each application and will approve an application only when a finding can be made that the method will not pose an unreasonable risk of injury to health or the environment. However, no person may conduct cleanup and/or related activities prior to obtaining written approval from EPA. Unlike the self-implementing process, the risk-based disposal approval process does not contain automatic triggers for an approval from EPA.

A. Example of Risk-Based PCB Cleanup Levels for an Industrial Area

The following cleanup scenario is an example of a risk-based cleanup that EPA approved for a site that would be used as an *"industrial area"* after the cleanup was completed. The sampling procedures, cleanup standards, and engineering and institutional controls were based on a site-specific risk assessment which assumed no children under the age of six would occupy the space at any time. In this reuse scenario, the *"industrial area"* was not to house a day care center, school, or any other place where children under the age of six may be found. For PCB waste management involving porous structural surfaces, such as floors, walls, or ceilings made of concrete in this **industrial area**, the following considerations were applied when the bulk PCB concentrations fell in the ranges indicated below.

The averaging of individual samples was based on a uniform depth of concrete, rather than compositing various sample depths (e.g., all samples were taken at a uniform depth of no more than 2 inches, for example). Also, when the procedures for this *"industrial area"* were used, an institutional control (i.e., deed restriction) was implemented. The deed restriction requirements include a notation in perpetuity so that potential purchasers would receive a disclosure about: the PCB waste that was disposed of on site, the use restrictions that apply to all future owners, and the owner's obligation to maintain the coating or barrier, where required. (See 40 CFR §761.61(a)(8) for the specific requirements.)

(a) Where the average PCB concentration in the concrete was **greater than 5 ppm, but less than or equal to 10 ppm (>5 ppm to ≤10 ppm), with a maximum concentration of 25 ppm in any sample**, at a maximum depth of contamination of no more than 15 centimeters (6 inches): two coats of paint or epoxy of contrasting colors were applied (or a solid barrier installed) and had to be maintained; the contaminated surface was marked with the PCB M_L mark in a location easily visible to individuals present in the area; and the coating or barrier had to be maintained through a

The 1989 guidance was updated in 2003. This guidance, on a hierarchy for the selection of human health toxicity values, can be found on the following web site http://www.epa.gov/superfund/programs/risk/hhmemo.pdf.

[5]"Guidance on Remedial Actions for Superfund Sites with PCB Contamination" EPA/540/G-90/007, August 1990, which can be found at the following link http://www.epa.gov/superfund/resources/remedy/pdf/540g-90007-s.pdf.

deed restriction for the site specifically **limiting the property to industrial use only**.

(b) Where the average PCB concentration in the concrete was **less than or equal to 5 ppm (≤5 ppm), with a maximum concentration of 10 ppm in any sample**, at a maximum depth of contamination of no more than 5 centimeters (2 inches), a deed restriction was established for the site, specifically **limiting the property to industrial use only.**

(c) The self-implementing requirements of 40 CFR §761.61(a) for a high occupancy area cleanup (see Section II.A.) would also have been appropriate for this scenario. If the high occupancy area cleanup standard was used (i.e., less than or equal to 1 ppm (≤1 ppm)), a deed restriction would not have been required, and the restriction on the presence of children under the age of six would not have applied.

Example 3: Renovating An Old Warehouse to Include Both Office and Warehouse Space – Use of Risk-Based Provision at 40 CFR §761.61(c)

An old warehouse is being converted into a distribution center, which will include both office space and warehouse space. The floor is contaminated with PCBs. What are the clean-up requirements?

Answer: This is an example of a reuse scenario in which the cleanup standards and other protective measures described in the "industrial use" example in section III.A. might be appropriate. A risk-based application would have to be submitted to the Regional Administrator, ATTN: Regional PCB Coordinator, to obtain approval for cleanup of this site under §761.61(c). As described in the "industrial use" scenario, occupation restrictions on children and engineering or institutional controls such as a deed restriction limiting the property to "industrial use" only might be necessary. Using the attached guidance (see Appendix A) or other appropriate procedures for sampling concrete, the PCB concentration in the cement would need to be determined to assess whether additional cleanup activities must be initiated. If this cleanup was being conducted under the self-implementing procedures in 40 CFR §761.61(a), the cleanup standards for a *high occupancy area* would likely apply.

B. Additional Cleanup Examples

In a multi-level building where the area of PCB remediation is confined to the basement of the building, there are no restrictions on the use of the upper levels of the building. Prior to occupying the building, the cleanup requirements for the basement must be determined based on the intended new use of the basement, and the PCB waste must be properly managed. PCB contamination occupying a limited portion of the property would not otherwise affect the use of portions of the property that are not contaminated. The tables and examples in this Guidance summarize relevant information concerning the management of PCB waste. All PCB concentrations are based on total PCBs, rather than individual PCB Aroclors. Although the tables and examples may be used as informal references, they ***should not*** be used as "stand-alone documents" (i.e., the tables and examples may not contain a complete statement of all of the applicable requirements and do not replace nor supplant the requirements of the PCB regulations at 40 CFR Part 761). For instance, Table 2 provides a summary of the cleanup standards for high and low occupancy use categories (see p. 22). It also summarizes the cleanup standards for the industrial use example described in Section III.A. of this document. In addition, examples are presented in Section VII regarding the various types of PCB contamination that may be found at a site and the potential reuse scenarios for the property (see Table 7, p. 39). Consultation with the EPA Regional PCB Coordinator may be appropriate for determining the applicable cleanup standards.

Example 4: Multi-story Building Intended for A Combination of Uses – Use of the Self-Implementing Provision at 40 CFR §761.61(a)

A multi-story building with concrete floors and walls once housed PCB liquids that were stored in the basement where evidence of liquid spills to the basement floor was found. Data indicate the PCBs have migrated through the basement floor into the subsurface soil. No other source(s) of PCBs are present or are known to have been used at the site. Potential plans for the future use of the building would likely make it a high occupancy area and would include a shopping mall, residential townhouses, or a public facility; i.e., a medical facility, school, or a recreational center. How should the contamination in the basement and soil be managed; how would the cleanup requirements differ if the basement was used as a low occupancy area?

Answer: The cleanup requirements are based on the type of waste material and the intended use of the property. In this example, the waste materials include a *porous surface* and subsurface soil (i.e., *bulk PCB remediation waste*). No cleanup is required of the upper floors where there is no PCB contamination. There are no restrictions regarding the use of the upper floors since the PCBs are known to have not been transferred to those areas. The self-implementing procedures at 40 CFR §761.61(a) can be applied.

For use of the basement as a *high occupancy area*, the basement floor and subsurface soil have to be cleaned to 1 part per million or less (≤1 ppm), without further conditions (40 CFR §761.61(a)(4)(i)(A)). Post-cleanup sampling is required. Use of the basement in a residential setting or as public access areas generally requires compliance with the most stringent cleanup standard.

- Decontamination of the *porous surface* (basement floor) is not an option because the spill is more than 72 hours old.
- In addition, the PCB concentration in the subsurface soil must be determined.
- If the decision is made to remove and replace all or part of the concrete floor, the PCB concentration of the subsurface soil must be 10 ppm or less, and the new concrete floor must be at least 6 inches deep (i.e., the equivalent of the cap requirements at §761.61(a)(7)).
- The cap must be maintained in perpetuity, and an institutional control; i.e., a deed restriction, must be implemented.
- If the subsurface soil is cleaned to ≤1 ppm, the new concrete floor is not required to meet the 6 inch cap requirement, and the deed restriction is not necessary.

For a *low occupancy area*, the cleanup process would be the same, although the cleanup standard is 25 ppm or less (≤25 ppm) in both the concrete and the subsurface soil, and a deed restriction is required (40 CFR §761.61(a)(4)(i)(B)(1)). Use as a boiler room, electrical room, etc. would be likely uses of the basement for a *low occupancy use*.

Example 5: Multi-story Building Intended for A Combination of Uses – Use of the Risk-Based Provision at 40 CFR §761.61(c)

Same scenario as *Example 4*, except the basement is intended for use as an industrial area.

Answer: This scenario provides another example of when cleanup standards similar to those approved for the industrial area scenario described in this section might apply. A risk-based application would have to be submitted to the Regional Administrator, ATTN: Regional PCB Coordinator, to obtain approval for cleanup of this site under 761.61(c). EPA may use the OSWER guidance for superfund risk assessment (issued in 1989 and amended in 2003; see Footnote #4, page 14) as well as the superfund PCB guidance (issued in 1990; see Footnote #5, page 15) as a reference when reviewing any request for a risk-based approval and deciding on an appropriate risk-based method for the cleanup and disposal of PCB remediation waste. The following cleanup standards which rely on the maximum PCB concentration found in samples taken at depths of 15 or 5 centimeters might be appropriate. Other limitations might apply such as occupation restrictions on children or engineering or institutional controls such as a deed restriction.

1. Maximum PCB concentration of 25 ppm in any sample, at a maximum uniform depth for each sample of no more than 15 centimeters (≤15 cm) where the average of all samples taken is greater than 5 ppm, but less than or equal to 10 ppm (>5 ppm to ≤10 ppm). Two coats of paint or epoxy of contrasting colors would be applied (or a solid barrier might be installed over the accessible areas of the contaminated surface); the surface would be marked with the PCB M_L mark in a location easily visible to individuals present in the area; and the intact coating or barrier would be maintained through a deed restriction for the site specifically limiting the property to industrial use only. ***OR***

2. Maximum PCB concentration of 10 ppm in any sample, at a maximum uniform depth for each sample of no more than 5 centimeters (≤5 cm) where the average of all samples taken is less than or equal to 5 ppm (≤5 ppm), and a deed restriction would be implemented for the site specifically limiting the property to industrial use only.

Although these cleanup standards and protective measures might be appropriate for this reuse scenario, different combinations of cleanup, engineering and institutional controls may also be submitted to the Regional Administrator in the request for an approval under 40 CFR §761.61(c). For additional guidance, contact the Regional PCB Coordinator.

Example #6: Multi-parcel, Commercial, Light Industrial, and Residential Mixed Use Property – Use of the Self-Implementing Provision at 40 CFR §761.61(a)

A municipality has purchased several adjoining parcels of land and intends to redevelop the combined property for a variety of uses, including retail, condominiums, office space, a park, and a parking facility. The project's primary parcel includes a former textile mill where there is evidence of PCB contamination. None of the other parcels has been contaminated with PCBs. The mill building has a concrete (i.e., porous) floor in the basement where there is evidence of spills of liquid PCBs. There is no evidence of PCB contamination in any other part of the building. The municipality plans to preserve the facade and basic structure of the mill building. The redevelopment plan includes putting retail and office space on the first two floors of the building and condominiums on upper floors. The basement of the building will be used for parking and building utilities. What level of cleanup is required to implement this mixed-use scenario?

Answer: From the details provided above, it appears that the textile mill will be redeveloped for both high (retail and office space, condominiums) and low (parking and building utilities) occupancy use. In this scenario, the assumption is that test results confirm the PCB contamination is limited to the basement floor, and that no cleanup of PCBs is required of the upper floors. However, use of the upper floors, if contaminated with PCBs, is not authorized unless those areas are in compliance with an EPA cleanup standard (see 40 CFR §761.30(u)). To determine that cleanup is required only in the basement, it is recommended that random sampling for PCBs be conducted of the entire building to ensure there has been no transfer of the contamination in the basement to other portions of the building, and that no PCB-containing coatings have been applied and/or used in any portion of the mill. Based on the results of that sampling, a determination can then be made regarding PCB contamination in other parts of the building.

It is also logical to assume that spills of liquid PCBs were from PCB-containing equipment. Certain PCB-containing equipment that may have been abandoned on site must be drained of all free-flowing liquids prior to disposition of it (40 CFR §761.60(b)). The liquids must be tested to determine their PCB concentration unless they are disposed of in an incinerator that complies with 40 CFR §761.70. Used oil at concentrations of less than 50 ppm may be marketed and burned for energy recovery (see the TSCA requirements at 40 CFR §761.20(e)). Liquids containing PCBs at concentrations of 50 ppm or greater must be disposed in accordance with 40 CFR §761.60(a) (e.g., via a TSCA permitted incinerator or a high efficiency boiler, if appropriate) or §761.60(e). The equipment (e.g., transformer carcass) must be disposed of in accordance with its classification; see 40 CFR §761.60(b)).

The concrete floor in the basement of the mill must be cleaned up for low occupancy use. Under the self-implementing provisions, the cleanup standard is 25 ppm or less with an institutional control such as a deed restriction (see 40 CFR §§761.61(a)(4)(i)(B) and

Example #6: Multi-parcel, Commercial, Light Industrial, and Residential Mixed Use Property – Use of the Self-Implementing Provision at 40 CFR §761.61(a) (Continued)

761.61(a)(8)). The written notification and certification requirements of 40 CFR §761.61(a)(3) also apply (see Section V. of this Guidance (p. 27) for information concerning the notification and EPA's review of the information). Individual occupancy of the remediated area is limited to less than 6.7 hours a week. Verification of the cleanup standard is required using Subpart O of 40 CFR 761 (see 40 CFR §761.61(a)(6)(i)), or a risk-based sampling plan that has been approved by EPA (see 40 CFR §761.61(c)).

A different set of cleanup standards, engineering and institutional controls may be proposed to the Regional Administrator in a written request for a site-specific, risk-based approval under 40 CFR 761.61(c). Each application must contain the information required for the notification under the self-implementing procedures (see 40 CFR §761.61(a)(3)(i)). (See Section III.A. and Example 5 for an illustration of where the risk-based approach has been used for concrete flooring in an industrial setting.) EPA may use the OSWER guidance for the superfund risk assessment (issued in 1989 and amended in 2003; see Footnote #4, page 14) as well as the superfund PCB guidance (issued in 1990; see Footnote #5, page 15) as a reference when reviewing any request for a risk-based approval submitted under the provisions of 40 CFR §761.61(c) and deciding on an appropriate risk-based method for the cleanup and disposal of PCB remediation wastes. EPA may request other information necessary to evaluate the application and will issue a written decision on each application. EPA will approve an application if a finding can be made that the cleanup method and associated controls will not pose an unreasonable risk of injury to health or the environment. Unlike the self-implementing process, the risk-based disposal approval process does not contain automatic triggers signaling EPA approval. No person may conduct cleanup and/or related activities *prior* to obtaining written approval from EPA. For additional guidance, contact the Regional PCB Coordinator.

Table 2. ***TSCA PCB Waste Management Options*** (*NOTE:* All PCB concentrations are total PCBs.)

Waste Type	**Redevelopment Goal**		
	High Occupancy	***Low Occupancy***	***Industrial Area*** [1]
Bulk PCB Remediation Waste[2] including Porous Surfaces	**Definition** *≥6.7 hrs/wk without dermal or respiratory protection* (see 40 CFR 761.3 for the complete definition) **Cleanup standards** ≤ 1 ppm in residual waste or porous surface w/o further conditions > 1 to ≤ 10 ppm if site covered w/appropriate cap & institutional control implemented (deed restriction)	**Definition** *< 6.7 hrs/wk without dermal or respiratory protection* (see 40 CFR 761.3 for the complete definition) **Cleanup standards** ≤ 25 ppm in residual waste or porous surface, unless otherwise specified in 40 CFR 761.61(a)(4)(i)(B) & institutional control implemented (deed restriction) > 25 ppm to ≤ 50 ppm if secured by fence, marked per 40 CFR 761.45 & institutional control implemented (deed restriction) >25 ppm to ≤ 100 ppm w/appropriate cap & institutional control implemented (deed restriction)	*Reuse scenario assumed no access by children under age 6 at any time.* **Cleanup standards** > 5 ppm to ≤ 10 ppm avg. in concrete w/max. concentration 25 ppm at max. depth 15cm : two contrasting colors of solvent resistant/ water repellent paint or epoxy were to be applied (or a solid barrier over accessible areas), the location was marked and maintained by implementing a deed restriction ***limiting property to industrial use only*** ≤ 5 ppm avg. in concrete w/max conc. 10 ppm at max. depth 5 cm: a deed restriction was implemented ***limiting property to industrial use only***
374 **PCB Spills to Porous Surfaces[3]**	**Cleanup standards** ≤ 10 μg/100 cm^2 for spills to concrete **<72 hours old** (unrestricted use)[4] **Continued Use of Porous Surfaces From Old Spills[5]:** If use/location are not changed: remove the source of contamination; clean accessible porous surfaces and completely cover with two solvent resistant and water repellent coatings of contrasting colors, or fasten a solid barrier to the surface to cover the contaminated area or all accessible parts of the contaminated area; and place PCB M_L mark where visible (§761.30(p)). However, if the use of the contaminated surface is to change, decontaminate ≤1 ppm or remove and dispose of all contaminated surfaces. ***All Other Scenarios Involving Porous Surfaces***: Consult with Regional PCB Coordinator.	**Cleanup standards** ≤ 10 μg/100 cm^2 for spills to concrete **<72 hours old** (unrestricted use)[4] **Continued Use of Porous Surfaces From Old Spills[5]:** If use/location are not changed: remove the source of contamination; clean accessible porous surfaces and completely cover with two solvent resistant and water repellent coatings of contrasting colors, or fasten a solid barrier to the surface to cover the contaminated area or all accessible parts of the contaminated area; and place PCB M_L mark where visible (§761.30(p)). However, if the use of the contaminated surface is to change, decontaminate to ≤1 ppm or remove and dispose of all contaminated surfaces. ***All Other Scenarios Involving Porous Surfaces***: Consult with Regional PCB Coordinator.	**Cleanup standards** > 5 ppm to ≤ 10 ppm avg. in concrete w/max. concentration 25 ppm at max. depth 15cm : two contrasting colors of solvent resistant/ water repellent paint or epoxy were to be applied (or solid barrier over accessible areas), the location was marked and maintain by implementing a deed restriction ***limiting property to industrial use only*** ≤ 5 ppm avg. in concrete w/max conc. 10 ppm at max. depth 5 cm: a deed restriction was implemented ***limiting property to industrial use only***

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Waste Type	Redevelopment Goal		
	High Occupancy	*Low Occupancy*	*Industrial Area* [1]
Non-porous Surfaces[6] Contaminated by PCB Spills	**Definition** *≥16.8 hrs/wk without dermal or respiratory protection* (see 40 CFR 761.3 for the complete definition) **Cleanup standards** $\leq 10\ \mu g/100\ cm^2$ w/o further conditions	**Definition** *< 16.8 hrs/wk without dermal or respiratory protection* (see 40 CFR 761.3 for the complete definition) **Cleanup standards** $<100\ \mu g/100\ cm^2$ with institutional control implemented (deed restriction)	*Reuse scenario assumes no access by children under age 6 at any time.* **Cleanup standards** $\leq 10\ \mu g/100\ cm^2$ w/o further conditions for high occupancy $<100\ \mu g/100\ cm^2$ with institutional control implemented (deed restriction) for low occupancy
Liquid PCBs	**Cleanup standards** Water: <200 ppb PCBs for non-contact use in a closed system; or <3 ppb PCBs for discharges to treatment works or navigable waters or PCB discharge limit in CWA Sec. 307(b) or 402 permit; or ≤0.5 ppb PCBs for unrestricted use. Organic liquids & non-aqueous inorganic liquids: <2 ppm PCBs.	**Cleanup standards** Water: <200 ppb PCBs for non-contact use in a closed system; or <3 ppb PCBs for discharges to treatment works or navigable waters or PCB discharge limit in CWA Sec. 307(b) or 402 permit; or ≤0.5 ppb PCBs for unrestricted use. Organic liquids & non-aqueous inorganic liquids: <2 ppm PCBs.	**Cleanup standards** Water: <200 ppb PCBs for non-contact use in a closed system; or <3 ppb PCBs for discharges to treatment works or navigable waters or PCB discharge limit in CWA Sec. 307(b) or 402 permit; or ≤0.5 ppb PCBs for unrestricted use. Organic liquids & non-aqueous inorganic liquids: <2 ppm PCBs.

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[1] These cleanup standards are an example of standards used for a risk-based cleanup which required approval from the Regional Administrator. These procedures, standards, and controls may be appropriate for other sites presenting comparable exposure scenarios, although each risk-based application will be evaluated on its merits and approved or disapproved on a site-specific basis.

[2] Including but not limited to: environmental media containing PCBs, such as soil, sediment, dredged materials, muds, PCB sewage sludge, industrial sludge and gravel; and soil, rags and other debris generated as a result of a PCB spill; see full definition for *PCB remediation waste* at 40 CFR §761.3.

[3] Including but not limited to: floors, walls, and ceilings, made of concrete, brick, wood, plaster, etc.; see full definition for *Porous surface* at 40 CFR §761.3.

[4] Spill cleanup requirements for recent spills (<72 hours old) to porous surfaces which may occur during PCB remediation activities are managed differently than old spills (see 40 CFR §761.79(b)(4), and §761.125(b) or (c)).

[5] This is an authorization for the continued use of contaminated surfaces (40 CFR §761.30(p)). Conditions apply when spills of liquid PCBs were at concentrations of ≥50 ppm which resulted in porous surface contamination at levels of $>10\mu g/100cm^2$. While contaminated porous surfaces of $\leq 10\mu g/100cm^2$ may continue to be used without complying with the conditions of 40 CFR §761.30(p), PCB contamination of the porous surface must remain at levels of $\leq 10\mu g/100cm^2$.

[6] Including but not limited to: smooth surfaces of metal, glass, glazed ceramic; marble, granite; see full definition for *Non-porous surface* at 40 CFR §761.3.

IV. What are the Appropriate Disposal Requirements?

A. Disposal Requirements for PCB Remediation Waste

PCB remediation wastes must be disposed of using one (or a combination, if appropriate) of the approved disposal options (see Table 3, p. 25, for a summary of these options). Non-liquid cleanup waste (e.g., non-liquid cleaning materials, personal equipment) at any concentration and *bulk PCB remediation wastes* at concentrations of less than 50 ppm (<50 ppm) may be disposed of at: an approved PCB disposal facility; or when disposed pursuant to Sec. 761.61(a) or (c), a permitted municipal solid waste or non-municipal non-hazardous waste facility; or a RCRA Sec. 3004 or Sec. 3006 permitted hazardous waste landfill. Manifesting and recordkeeping requirements do not apply (40 CFR §§761.61(a)(5)(i)(B)(2)(ii) and 761.61(a)(5)(v)(A)). *Bulk PCB remediation waste* at concentrations of 50 ppm or greater (≥50 ppm) must be disposed of in a RCRA Sec. 3004 or 3006 permitted hazardous waste landfill or an approved PCB disposal facility (e.g., incinerator, chemical waste landfill; via an approved alternate disposal method or coordinated approval; a brief description is provided below). (40 CFR §761.61(a)(5)(i)(B)(2)(iii).) A current listing of EPA approved TSCA PCB disposal facilities can be found on the EPA's PCB website at www.epa.gov/pcb under "PCB Waste Handlers."

(1) In an **incinerator** approved by an EPA Regional Administrator or the Director, National Program Chemicals Division in the Office of Pollution Prevention and Toxics in accordance with technical specifications and procedural requirements at 40 CFR §761.70.

(2) In a **chemical waste landfill** approved by an EPA Regional Administrator in accordance with the technical specifications and procedural requirements at 40 CFR §761.75 (non-liquid PCB waste only).

(3) In a **hazardous waste landfill** that has been permitted by EPA under section 3004 of RCRA, or by a State authorized under section 3006 of RCRA (non-liquid PCB waste only).

(4) Using an **alternate disposal technology** (e.g., chemical dechlorination) that has been approved by an EPA Regional Administrator or the Director, National Program Chemicals Division in the Office of Pollution Prevention and Toxics as achieving a level of performance equivalent to an incinerator. This disposal option is only available for wastes such as PCB liquids, PCB articles, PCB transformers, PCB capacitors, PCB hydraulic machines, PCB-contaminated electrical equipment. (Specific requirements are located at 40 CFR §761.60(e).)

(5) In accordance with a **TSCA PCB Coordinated Approval** issued by an EPA Regional Administrator for the Region in which the PCB activity is located pursuant to the requirements specified at 40 CFR §761.77. Under a Coordinated Approval, the Regional Administrator may accept, with or without additional conditions, PCB cleanup requirements which are implemented under a different authority.

(6) In accordance with a **TSCA PCB risk-based disposal approval** issued by an EPA Regional Administrator for the Region in which the PCB activity is located in response to a written request to sample, cleanup or dispose of *PCB remediation waste* in a manner which is not provided for in the regulations. (Specific requirements are located at 40 CFR §761.61(c).)

Individuals who generate PCB wastes at concentrations of 50 ppm or greater must use a **manifest** (e.g., a Uniform Hazardous Waste Manifest) to ship that waste off-site, except as provided at 40 CFR §§761.61(a)(5)(i)(B)(2)(ii) and 761.61(a)(5)(v)(A). A signed copy of each manifest must be retained for a period of three years (40 CFR §761.209(a)). The generic PCB identification number (i.e., "40 CFR Part 761") is required to be used on the manifest by individuals who do not have a waste storage facility on site; i.e., only those generators of PCB waste who are exempt from the notification requirements at 40 CFR §761.205. However, individuals may prefer to have a unique EPA identification number which is obtained by submitting a Notification of PCB Activity using EPA Form 7710-53 in accordance with the PCB requirements at 40 CFR §§761.202 and 761.205; this form is available on the PCB website at www.epa.gov/pcb under "Databases and Forms." This Guidance does not authorize the re-disposal of PCB waste on site without obtaining the necessary PCB disposal approvals.

Table 3. Disposal Options for PCB Remediation Waste

Disposal Option	Applicable Regulations/Specifications
(A) **Approved incinerator**	40 CFR §761.70
(B) **Approved chemical waste landfill**	40 CFR §761.75
(C) **RCRA permitted landfill**	RCRA Sec. 3004 or State authorized under RCRA Sec. 3006
(D) **Alternate disposal approval**	Issued in accordance with 40 CFR §761.60 (e)
(E) **TSCA PCB Coordinated Approval**	Issued under 40 CFR §761.77
(F) **TSCA PCB risk-based disposal approval**	Issued under 40 CFR §761.61(c) for on-site disposal only

B. Disposal Requirements for Other PCB Wastes

For other types of PCB waste, the specific PCB requirements are listed below and summarized in Table 4, p. 26.

(1) Dispose of **PCB containing electrical equipment** (e.g., transformers, mining equipment, heat transfer systems, hydraulic systems, electromagnets, switches, voltage regulators) and **PCB containers** in an incinerator, chemical waste landfill or as otherwise specified in accordance with 40 CFR §§761.60(b) and (c).

(2) Dispose of **PCB bulk product waste** (i.e., items originally manufactured with PCBs as a component or contaminant in a non-liquid state at PCB concentrations of 50 ppm or greater – dried paint, caulking, etc.) in an incinerator, chemical waste landfill, or as otherwise specified in accordance with 40 CFR §761.62.

Table 4. Other PCB Wastes

Other Types of PCB Waste Requiring Disposal	Applicable Regulations/Specifications
(A) **PCB containing electrical equipment** (e.g. transformers, mining equipment, heat transfer systems, hydraulic systems, electromagnets, switches, voltage regulators) and **PCB containers**	40 CFR §§761.60(b) & (c)
(B) **PCB Bulk Product Waste** (i.e. items originally manufactured with PCBs as a component or contaminant in a non-liquid state at PCB concentrations $\geq$ 50 ppm -- dried paint, caulking, etc.)	40 CFR §761.62

C. *Other Applicable Requirements in the TSCA PCB Regulations*

To appropriately address PCB wastes at sites of contamination and comply with Part 761, the following TSCA PCB regulations must be followed where applicable. A summary of these requirements is provided in Table 5 (see p. 27).

(1) **Cap requirements** which limit exposure to PCBs that have been disposed of by means of land containment pursuant to 40 CFR §761.61(a)(7);

(2) **Recordkeeping requirements** which document the various aspects of the cleanup, such as the source of the contamination, estimated or actual date of contamination, completion date of the cleanup, location and description of the contamination, pre-cleanup sampling data, description of solid surfaces that were cleaned, approximate depth of soil excavation and the amount of soil removed, and post-cleanup verification sampling data (see 40 CFR §§761.61(a)(9) and 761.79(f));

(3) **Storage of PCB waste** which is in compliance with the technical requirements for a PCB facility (e.g., adequate roof, walls and floors; no drains or other openings, floors and curbing of Portland cement or other acceptable materials; and not located below the 100-year flood water elevation). Subject to certain conditions (see the provision at 40 CFR §761.65(c)(9)), bulk PCB remediation waste may be stored at the cleanup site or site of generation for 180 days. PCB wastes also may be stored in compliance with RCRA Sec. 3004 and Sec. 3005, or in a State authorized Sec. 3006 unit permitted for hazardous waste (for specific storage options, see 40 CFR §761.65);

(4) **Notification and manifesting requirements** for off-site movement of PCB waste

for purposes of storage and/or disposal pursuant to 40 CFR Part 761, Subpart K;

(5) **Marking requirements for the disposal of PCBs** when residual waste is left on site (see 40 CFR §761.61(a)(4)(B)) and when PCB wastes are being stored or transported (see 40 CFR §761.40(h));

(6) **PCB use authorizations** for contaminated equipment, structures, other non-liquid or liquid materials that have been decontaminated pursuant to the applicable decontamination procedures (see 40 CFR §761.30(u)); and

(7) **Spill cleanup requirements for recent spills (<72 hours old)** to porous surfaces which may occur during PCB remediation activities are managed differently than old spills. The cleanup standard is less than or equal to 10 micrograms per 100 square centimeters ($\leq 10\ \mu g/100\ cm^2$). (See 40 CFR §§761.79(b)(4) and 761.125(b) or (c).)

Table 5. Other Applicable Requirements in the TSCA PCB Regulations

Activity	Applicable Regulations/Specifications
Caps	40 CFR §761.61 (a)(7)
Recordkeeping	40 CFR §761.61 (a) (9)
Storage	40 CFR §761.65
Notification and Manifesting	40 CFR 761 Subpart K
Marking for Disposal	40 CFR §761.61(a)(4)(B) on site residual; 40 CFR §761.40(h) storage and/or transport
Use of Decontaminated Equipment, Structures, or Other Non-liquid and Liquid Materials	40 CFR §761.30(u)
Cleanup of Recent Spills (<72 hours old) to Concrete	40 CFR §§761.79(b)(4) and 761.125(b) or (c)

V. Notification and Review

Written notification as described in the *PCB remediation waste* provision at 40 CFR §761.61(a)(3)(i)(A) - (E) must be provided at least 30 days prior to the date that the cleanup of a site begins. Notification must be sent to the EPA Regional Administrator (ATTN: Regional PCB Coordinator), the Director of the State or Tribal environmental protection agency, and the Director of the county or local environmental protection agency where the cleanup will be conducted. If the EPA Regional Administrator does not respond within 30 calendar days of receiving the notice, the person submitting the notification may assume that it is complete and acceptable and proceed with the cleanup according to the information that was provided to the EPA Regional Administrator (see 40 CFR

§761.61(a)(3)(ii)). Applicants for EPA Brownfields grants may eliminate any duplication of effort in complying with the notification requirement at 40 CFR §761.61(a)(3)(i)(A)-(E) by submitting the Brownfields grant application (or appropriate portion(s) of the application) provided it contains the information that is required for the notification. A copy of the relevant portion(s) of the grant application plus any supplemental information that may be needed to satisfy the notification requirement may be forwarded to the Regional PCB Coordinator under a cover letter which identifies the portions of the grant application materials that respond to each of the requirements at 40 CFR §761.61(a)(3)(i)(A)-(D). Remember to include the written certification required by 40 CFR §761.61(a)(3)(i)(E).

Once cleanup is underway, the person conducting the cleanup must provide any proposed changes from the notification to the EPA Regional Administrator (ATTN: Regional PCB Coordinator) in writing no less than 14 calendar days prior to the proposed implementation of the change. The EPA Regional Administrator will determine whether to accept the change and will respond verbally within 7 calendar days and in writing within 14 calendar days of receiving the notification. If the EPA Regional Administrator does not respond within these time frames, the change notice may be deemed to be acceptable and the cleanup may proceed according to the information that was provided to the EPA Regional Administrator (see 40 CFR §761.61(a)(3)(ii)). A summary of the notification requirements is provided in Table 6 below.

Table 6. Notification and Review for Sites with PCB Contamination

Specific Requirements	Notice Recipients	Time Frame	Action
40 CFR §§761.61 (a)(3)(i)(A)-(E) and 40 CFR 761.61(a)(3)(ii)	– U.S. EPA Regional Administrator (ATTN: Regional PCB Coordinator), – Director of State or Tribal environmental agency, and – Director of County or Local environmental agency.	Submit notice 30 days prior to start of cleanup. Once the cleanup is underway, submit notice to the EPA Regional Administrator (ATTN: Regional PCB Coordinator) 14 days prior to implementing any changes to an approved cleanup plan.	If EPA does not respond within 30 days of receipt of the notification, cleanup may proceed. If EPA does not respond (within 7 days verbally and 14 days in writing) to the change notification, the change may be implemented.

VI. Consultation with USEPA Regional PCB Coordinators and State Officials

There may be occasions when this Guidance does not fully address a specific cleanup scenario, e.g., a large cleanup site for which the guidance may be inappropriate; alternative risk-based sampling approaches which require EPA approval under the TSCA PCB regulations at 40 CFR §761.61(c). An application for a risk-based approval is required whenever the proposed cleanup and disposal practices would fail to satisfy the requirements of the TSCA PCB regulations (i.e., the self-implementing provision at §761.61(a) or the performance-based requirements at §761.61(b)). In those situations, owners of sites contaminated with PCBs are encouraged to contact the Regional PCB Coordinator. A listing of the Regional PCB Coordinators follows. The most current listing of the Regional PCB Coordinators can always be found on the EPA's PCB website at www.epa.gov/pcb under "EPA Regional Contacts."

Finally, EPA cannot emphasize too strongly the importance of ensuring that cleanup activities adequately address the requirements of both Federal and State environmental programs. Individuals are encouraged to discuss their PCB issues with the appropriate USEPA and State environmental official to ensure the cleanup is accomplished in a manner which satisfies the cleanup requirements and goals of both programs.

USEPA Region 1, Boston, MA: (Covering CT, MA, ME, NH, RI, and VT)

Telephone: 617-918-1527
Address: EPA-New England Regional Administrator
ATTN: PCB Coordinator (Mail Code: CPT)
U.S. Environmental Protection Agency-New England
1 Congress Street, Suite 1100
Boston, MA 02114-2023

USEPA Region 2, Edison, NJ: (Covering NJ, NY, PR, and VI)

Telephone: 732-906-6179
Address: Regional Administrator
ATTN: PCB Coordinator (Mail Code: MS105)
U.S. Environmental Protection Agency Region 2
2890 Woodbridge Avenue
Edison, NJ 08837

USEPA Region 3, Philadelphia, PA: (Covering DE, DC MD, PA, VA, and WV)

Telephone: 215-814-2177
Address: Regional Administrator
ATTN: PCB Coordinator (Mail Code: 3WC33)
U.S. Environmental Protection Agency Region 3
1650 Arch Street
Philadelphia, PA 19103-2029

USEPA Region 4, Atlanta, GA: (Covering AL, FL, GA, KY, MS, NC, SC, and TN)

Telephone: 404-562-8990

Address: Regional Administrator
ATTN: PCB Coordinator
U.S. Environmental Protection Agency Region 4
Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, GA 30303-8960

USEPA Region 5, Chicago, IL: (Covering IL, IN, MI, MN, OH, and WI)

Telephone: 312-353-2291
Address: Regional Administrator
ATTN: PCB Coordinator (Mail Code: DT-8J)
U.S. Environmental Protection Agency Region 5
77 W. Jackson Boulevard
Chicago, IL 60604

USEPA Region 6, Dallas, TX: (Covering AR, LA, NM, OK, and TX)

Telephone: 214-665-7579
Address: Regional Administrator
ATTN: PCB Coordinator (Mail Code: 6EN-AT)
U.S. Environmental Protection Agency Region 6
1445 Ross Avenue, Suite 1200
Dallas, TX 75202-2733

USEPA Region 7, Kansas City, KS: (Covering IA, KS, MO, and NE)

Telephone: 913-551-7395
Address: Regional Administrator
ATTN: PCB Coordinator (Mail Code: ARTD/CRIB)
U.S. Environmental Protection Agency Region 7
901 North 5th Street
Kansas City, KS 66101

USEPA Region 8, Denver, CO: (Covering CO, MT, ND, SD, UT, and WY)

Telephone: 303-312-6027
Address: Regional Administrator
ATTN: PCB Coordinator (Mail Code: 8P-P3T)
U. S. Environmental Protection Agency Region 8
999 18th Street
Denver, CO 80202-2466

USEPA Region 9, San Francisco, CA: (Covering AZ, CA, HI, NV, AS, and GU)

Telephone: 415-947-4163
Address: Regional Administrator
ATTN: PCB Coordinator (Mail Code: CMD-4)
U.S. Environmental Protection Agency Region 9
75 Hawthorne Street
San Francisco, CA 94105

USEPA Region 10, Seattle, WA: (Covering AK, ID, OR, and WA)

Telephone: 206-553-6693
Address: Regional Administrator
ATTN: PCB Program Manager (Mail Code: AWT-128)
U.S. Environmental Protection Agency Region 10
1200 Sixth Avenue
Seattle, WA 98101-1128

VII. Typical and Worst Case Scenarios for the Management of PCB Wastes

EPA does not have prescriptive procedures for cleaning porous surfaces contaminated by spills of liquid PCBs. Rather, the selected procedures would be based on site-specific conditions, including PCB concentration and degree of PCB migration into the concrete. If the cleanup of the concrete floor or walls do not meet the criteria for low or high occupancy areas, the owner may apply to the Regional Administrator for a risk-based cleanup approval under 40 CFR §761.61(c) or an alternate decontamination approval under 40 CFR §761.79(h) in order to establish different cleanup levels and different engineering and/or administrative controls.

A. Typical Cleanup Situation and Applicable Responses

Background: An abandoned warehouse (or factory) is being redeveloped for use as an office building. PCB fluids were found stored in the basement, and PCB-containing paint had been used previously to cover the floor/walls (which are porous) of the basement. It has not been determined whether the painted floor/walls have also been contaminated by spills of PCB fluids. No PCB contamination has been found on the upper floors. Restrictions on the use of the basement are contingent upon the cleanup level achieved for that area. No restrictions apply to the upper floors, where PCB contamination has not been found.

Beginning the Cleanup. There are at least two sources of PCB contamination in the basement in this example: the liquid PCBs and the PCB-contaminated paint. The liquid PCBs stored in the basement should be removed and incinerated in a permitted TSCA incinerator (40 CFR §761.60(a)) or by an alternate disposal technology approved by EPA (40 CFR §761.60(e)). A list of currently approved disposal facilities can be found at the PCB website, www.epa.gov/pcb.

The floor/walls with surfaces of PCB-contaminated paint could be either *PCB bulk product waste* or *bulk PCB remediation waste*. The disposal requirements are based on the type of PCB waste, that is, the actual PCB source; e.g., was the item soiled by PCBs (remediation waste) or was the non-liquid item manufactured with PCBs (bulk product waste).

Managing PCB Bulk Product Waste. If the PCB-contaminated paint is the only source of the contamination on certain portions of the porous floor/walls, the PCB waste is a *PCB bulk product waste*; see 40 CFR §761.3. Disposal of the bulk product waste must be in accordance with 40 CFR §761.62(a) or (b), or, as with *PCB remediation waste*, there is an option to deviate from the requirements for the disposal of *PCB bulk product waste* if the proposed activities can be justified based on an evaluation of the risk; see 40 CFR §761.62(c). Decontamination in accordance with 40 CFR §761.79 is also an option for disposing of this waste; see 40 CFR §761.62(a)(5). Following removal of the PCB-contaminated paint, sampling of the bare *porous surface* (e.g., walls/floor) is strongly recommended to determine whether additional cleanup measures are needed. If the PCBs have leached into the concrete (from either the paint application or the combination of applied PCB paint and spilled liquid PCBs), additional cleanup may be required. At that point, the concrete is generally considered a *bulk PCB remediation waste*, and the procedures listed below for *bulk PCB remediation* waste should be followed.

Self-Implementing Cleanup Requirements for PCB Remediation Waste: If the PCB-painted concrete is a *bulk PCB remediation* waste because it was contaminated from a spill of liquid PCBs or PCBs that have leached from the paint into the concrete, the concrete must be cleaned up or removed and disposed of per 40 CFR §761.61(a). Otherwise, concrete painted with PCB-containing paint (e.g., floor/walls) should be treated as *PCB bulk product waste;* see the discussion above on *PCB bulk product waste*. At least thirty (30) days prior to initiating cleanup activities, provide written notifications to the EPA Regional Administrator (ATTN: Regional PCB Coordinator), the Director of the State or Tribal environmental protection agency, and the Director of the county or local environmental protection agency where the cleanup will be conducted per 40 CFR §761.61(a)(3)(i)(A)-(E). These notifications are required only for *PCB remediation waste*. Cleanup levels are determined based on the intended use of the building and contaminated medium. Post-cleanup verification sampling of the *porous surfaces* (e.g., floor/walls) is required to determine that the cleanup standards have been met. Follow the verification sampling procedures as required in 40 CFR §761.61(a)(6), Subpart O, or a verification sampling plan approved under a risk-based approval (40 CFR 761.61(c)). Another option for PCB remediation waste is to apply for a risk-based cleanup and disposal approval per 40 CFR §761.61(c). Under this provision, decisions regarding the sampling, cleanup levels and disposal of PCB remediation waste are based on an evaluation of the risk of exposure to PCBs as a result of the proposed activities. PCB contamination located in a limited portion of the property would not otherwise affect the use of those portions of the property where no PCB contamination exists.

Porous Materials: The cleanup level for *PCB remediation waste* in the form of porous surfaces in a *high occupancy area* is one part per million or less (≤1 ppm) without further conditions. The cleanup level for porous surfaces in a *low occupancy area* is 25 ppm or less (≤25 ppm) with a deed restriction. Cleanup levels not specified at 40 CFR §761.61(a) also may be appropriate based on an assessment and evaluation of the resulting risks under an approval issued by the Regional Administrator for a risk-based sampling, cleanup or disposal procedure (40 CFR §761.61(c)) or for an alternative decontamination or sampling procedure (40 CFR §761.79(h)). For example, in one risk-based cleanup where the site would be used after cleanup for industrial use, the Agency approved the following cleanup levels. Use of the site by children under the age of six was prohibited. The cleanup levels for *porous surfaces* were: (1) an average concentration of greater than 5 ppm (>5 ppm) but less than or equal to 10 ppm (≤10 ppm) in concrete with a maximum concentration of 25 ppm at a depth of 15 centimeters (15 cm or 6 inches) *provided* a deed restriction limiting the use of the basement to an *industrial use* only, plus two applications of a paint or epoxy coating of contrasting colors (or a barrier over accessible areas) and posting the PCB M_L mark are implemented; or (2) an average concentration of less than or equal to 5 ppm (≤5 ppm) in concrete with a maximum concentration of 10 ppm at 5 centimeters (5 cm or 2 inches) *provided* that there was a deed restriction limiting the use of the site to an *industrial use* only (refer to Table 2).

Storage and Disposal Requirements: Storage of PCB waste must be in conformance with 40 CFR §761.65 (e.g., a TSCA PCB facility; a RCRA Sec. 3004, Sec. 3005 or Sec. 3006 State authorized hazardous waste storage unit) if any PCB wastes are to be stored prior to disposal. All PCB wastes are required to be disposed of properly. *PCB bulk product waste* must be disposed of in accordance with 40 CFR §761.62. Non-liquid cleanup waste (e.g., non-liquid cleaning materials, personal equipment) at any concentration and *bulk PCB remediation wastes* at concentrations of less than 50 ppm (<50 ppm) may be disposed of at: an approved PCB disposal facility, a permitted municipal solid waste or non-municipal non-hazardous waste facility under 40 CFR 761.61(a) or (c), or a RCRA Sec. 3004 or Sec. 3006 permitted hazardous waste landfill; manifesting and recordkeeping requirements do not apply (40 CFR §§761.61(a)(5)(i)(B)(2)(ii) & 761.61(a)(5)(v)(A)). *Bulk PCB remediation waste* at concentrations of 50 ppm or greater (≥50 ppm) must be disposed of in a RCRA Sec. 3004 or 3006 permitted hazardous waste landfill or an approved PCB disposal facility (e.g., incinerator, chemical waste landfill; an approved alternate disposal method or coordinated approval). (See 40 CFR §761.61(a)(5)(i)(B)(2)(iii).) A Uniform Hazardous Waste Manifest must accompany PCB waste at concentrations of 50 ppm or greater (≥50 ppm) to any off-site storage or disposal facilities (see 40 CFR §761.208), except as provided at 40 CFR §§761.61(a)(5)(i)(B)(2)(ii) and 761.61(a)(5)(v)(A). A signed copy of each manifest must be retained for a period of three years (40 CFR §761.209(a)). The notification and certification and cleanup records required under 40 CFR §761.61(a) must be retained for five years (40 CFR §§761.61(a)(9) and 761.125(c)(5)). The requirements for annual records and the annual document log at 40 CFR §761.180(a) are relevant *only if* the quantity of PCBs used or stored at any one time is at least 45 kilograms (99.4 pounds) of PCBs.

TYPICAL PCB WASTE MANAGEMENT CLEANUP SCENARIO

Background: This chart is a summary of the information that was presented in the example at Section VII.A. An abandoned warehouse is being redeveloped as an office building. PCB fluids were found in the basement, and PCB-containing paint had been used to cover the floor/walls (which are porous) of the basement. No PCB contamination has been found on the upper floors. Restrictions on the use of the basement are contingent upon the cleanup level achieved for that area. No restrictions apply to the upper floors where PCB contamination has not been found. Cleanup activities may be completed in any number of ways; therefore, this chart should not be considered a comprehensive listing of all applicable requirements. Consult the Regional PCB Coordinator whenever you have questions or require assistance.

ACTIVITY	***TIME FRAME***	***EPA RESPONSE, WHERE NEEDED***
– Properly containerize ***PCB fluids*** for transport to a permitted storage facility or TSCA permitted incinerator. – Complete Uniform Hazardous Waste Manifest. – Manifest must include an EPA identification number, either the generic "40 CFR Part 761" or an unique EPA ID number. – Retain signed copy of all manifests for at least 3 years from the date the PCB waste was accepted by the initial transporter.	– Immediate removal is recommended; removal of liquids does not require a §761.61(a) notification.	– Not applicable.
– For ***PCB bulk product waste***, submit §761.62(c) application and await approval of the method to remove ***PCB-containing paint*** from floor/walls of the basement. – Dispose of the paint as PCB bulk product waste. (See disposal requirements below.) – After the PCB-containing paint has been removed, sample ***bare porous surfaces***.	– Submit at any time, but paint removal activities may not commence before receipt of EPA approval under §761.62(c).	– RA may issue a risk-based approval under §761.62(c), request additional information or deny the request. There is no regulatory time frame for the approval to be issued.
– ***Self-implementing Cleanup Notification***. Notify: RA, USEPA (ATTN: PCB Coord.), Director, State or Tribal EPA, and Director, County or Local EPA (see §761.61(a)(3)).	– 30 days prior to cleanup. Required only if waste meets criteria of PCB remediation waste.	– If EPA does not respond within 30 days of receiving the notification, you may proceed with cleanup. Otherwise, address concerns identified by the RA before initiating cleanup.

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ACTIVITY	TIME FRAME	EPA RESPONSE, WHERE NEEDED
– If PCBs have migrated into porous materials, generally handle as ***bulk PCB remediation waste***. (See disposal requirements below.) – Clean up contaminated porous areas; ≤1 ppm for high occupancy without furhter conditions, ≤25 ppm w/deed restriction for low occupancy (see requirements at §761.61(a)(3) for notification & (4) for cleanup levels), or as approved based on a §761.61(c) risk evaluation. – Verify cleanup per sampling as required by §761.61(a)(6) and Subpart O (or via a risk-based approval).	– If sampling is to be conducted per a §761.61(c) approval, await receipt of approval from EPA.	– If a request is submitted to the RA for a risk-based sampling, cleanup or disposal approval under §761.61(c), there is no regulatory time frame for the approval to be issued.
– Several options for ***storage of waste*** prior to disposal (see 761.65): permitted TSCA PCB storage facility or RCRA Sec. 3004, 3005 or 3006 State authorized hazardous waste storage unit. The TSCA annual records and annual document log requirements are not applicable if the quantity of PCBs used/stored at any one time is less than 45 kilograms (99.4 pounds).	– EPA recommends storage for no longer than 9 months in order to ensure disposal occurs within the mandatory 1-year time frame.	– Not applicable.
– ***Disposal options for PCB bulk product waste***. Performance-based options include: a TSCA permitted incinerator or chemical waste landfill, a hazardous waste landfill permitted or authorized under RCRA Sec. 3004 or 3006, a TSCA approved alternate disposal technology, decontamination under §761.79, or a TSCA PCB Coordinated Approval. Certain PCB bulk product wastes may be disposed of in a solid waste landfill, see §761.62(b) for specifics. A risk-based disposal approval is also available under §761.62(c).	– Must be disposed of within 1 year of the date the PCB waste was designated for disposal.	– Not applicable.
– ***Disposal options for bulk PCB remediation wastes*** that include non-liquid cleanp waste, at any concentration, and less than 50 ppm bulk PCB remediation waste are: a TSCA permitted PCB disposal facility, a permitted RCRA Sec.	– Must be disposed of within 1 year of the date the PCB waste was designated for disposal.	– Not applicable.

ACTIVITY	***TIME FRAME***	***EPA RESPONSE, WHERE NEEDED***
3004 or 3006 hazardous waste landfill, or when disposed pursuant to §761.61(a) or (c), a permitted municipal solid waste or non-municipal non-hazardous waste facility. Manifesting and recordkeeping requirements are not applicable. All other bulk PCB remediation wastes must be disposed of in either a TSCA permitted PCB disposal facility, or a permitted RCRA Sec. 3004 or 3006 hazardous waste landfill, or pursuant to an approval issued under §761.61(c). These wastes are subject to the TSCA manifesting and reporting (§761.202-.218) and recordkeeping (§761.180(a)) requirements.		

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B. Worst Case Cleanup Scenario

Background: An abandoned facility is being proposed for revitalization as a day care center. The facility is a single building with walls and floors constructed of concrete. The concrete floors are coated with paint that has been subsequently contaminated by spills of liquid PCBs. The concrete walls are bare, but have been contaminated by spills of liquid PCBs. The liquid PCBs are the only known source for PCB contamination (e.g., the paint does not contain PCBs). For self-implementing cleanups under 40 CFR §761.61(a), the pre-cleanup notifications and storage and disposal requirements previously mentioned in the example in Section VII.A. apply.

Management of Concrete Floors: The concrete floors are covered with a coating (paint), that was subsequently contaminated by spills of liquid PCBs. The PCB contamination may reside only in the paint, or the PCB contamination may have migrated through the paint to the underlying concrete floor. In order for the building to be reused as a day care center (i.e., *high occupancy area*), the contaminated concrete floor (i.e., *bulk PCB remediation waste*) must be cleaned to the applicable standard (refer to Table 2). If the spill is less than 72 (<72) hours old, the concrete floor must be cleaned to a level of less than 10 $\mu g/100\ cm^2$ ($<10\ \mu g/100\ cm^2$) for unrestricted use (40 CFR §761.79(b)(4)). If the spill is greater than 72 (>72) hours old, the contaminated concrete must be decontaminated (see 40 CFR §761.79(h)) or removed and disposed of as a *bulk PCB remediation waste* in accordance with 40 CFR §761.61(a) or a risk-based cleanup and disposal approval per 40 CFR §761.61(c). For site characterization, follow the concrete coring procedures of either 40 CFR Part 761, Subpart N, Appendix A or another procedure which produces reliable results. Core sampling will help to determine the extent to which the PCBs may have migrated through the paint into the concrete floor. Post-cleanup verification sampling of the porous surfaces (e.g., walls/floors) is required to confirm the cleanup standards have been met. Post-cleanup verification sampling is required pursuant to 40 CFR §761.61(a)(6) and Subpart O, or a verification sampling plan under a risk-based cleanup and disposal approval issued by an EPA Regional Administrator. The use authorization for *porous surfaces* contaminated by an old spill (40 CFR §761.30(p)) is not applicable to this project as the use of the building will change to a day care center.

Management of Concrete Walls: The concrete walls are contaminated by spills of liquid PCBs. In order to be reused as a day care center, the walls must be cleaned to an applicable standard. If the spill is less than or equal to 72 (≤72) hours old, the concrete walls must be cleaned to a level of less than 10 $\mu g/100\ cm^2$ ($<10\mu g/100\ cm^2$) for unrestricted use (40 CFR §761.79(b)(4)). If the spill is greater than 72 (>72) hours old, the contaminated concrete must be decontaminated (see 40 CFR §761.79(h)), or removed and disposed of as a *bulk PCB remediation waste* in accordance with 40 CFR §761.61(a) or a risk-based cleanup and disposal approval per 40 CFR §761.61(c). The use authorization for *porous surfaces* contaminated by an old spill is not applicable to this project as the use of the building will change to a day care center.

C. PCB Contamination and Reuse Scenarios

In addition to the "typical" and "worst case" cleanup scenarios discussed above, Table 7 (p. 39) provides additional examples of potential reuse scenarios where PCB remediation may be required. Applicable cleanup requirements for PCB remediation wastes are based on the intended reuse of the property; i.e., *high* or *low occupancy*, and the type of contaminated material. The reader is cautioned not to rely on this chart alone, and is encouraged to contact the Regional PCB Coordinator (see Section VI,

p. 28) and, if applicable, the appropriate State environmental official(s). In addition to the actual cleanup, individuals should:

(1) Identify all abandoned PCBs and PCB-containing equipment and comply with the disposal requirements of 40 CFR §761.60:

- remove PCB fluids where required under 40 CFR 761.60(b) and incinerate per §761.60(a);
- remove and dispose of PCB Articles per §761.60(b) (e.g., PCB-containing equipment such as transformers, capacitors, hydraulic machines, electrical equipment, etc.) in a TSCA incinerator, chemical waste landfill or municipal solid waste or non-municipal non-hazardous waste facility, where allowed, or via approved decontamination procedures; and
- remove and dispose of PCB containers per §761.60(c) in an incinerator, or after draining, in a chemical waste landfill, or if applicable, a municipal solid waste facility.

(2) Dispose of *PCB remediation waste* (e.g., soil, sediments, dredged materials, muds, PCB sewage sludge, industrial sludge, rags and other debris) in compliance with any number of options that are available under 40 CFR 761.61(a) for a self-implementing cleanup (see 40 CFR §761.61(a)(5)); e.g., TSCA incinerator or chemical waste landfill, soil washing procedures, RCRA Sec. 3004 or 3006 hazardous waste landfill, municipal solid waste or non-municipal non-hazardous waste facilities, or decontamination).

(3) When storage is required, PCB wastes at concentrations of 50 ppm or greater shall be placed in a storage facility in compliance with §761.65. Disposal is required within 1-year of the date that the decision was made to dispose of the waste per §761.65(a)(1).

Table 7. ***PCB Contamination and Reuse Scenarios*** (*NOTE*: All PCB concentrations are total PCBs.)

Contamination Scenario	Reuse Scenarios	Reuse Scenario Exposure Characteristics	Necessary Remediation Levels	Remarks
Warehouse with PCB-contaminated paint on floor and walls ***Note:*** No other source(s) of PCBs are present or were known to be used at the site.	Shopping malls Residential townhouses Public facilities including medical facilities, schools, recreational centers ***Mixed use:*** Ground floor - commercial Upper floors - offices & residential	High occupancy	**TSCA Cleanup standards** In this scenario, the issue is the proper management of *PCB bulk product waste*. There is no cleanup standard for this type of waste in 761.62. However, post- paint removal use of the area must be in compliance with 761.30(u) which requires contaminated materials to be decontaminated via a TSCA PCB disposal approval, pursuant to an applicable standard in 761.79 or in accordance with an applicable EPA PCB spill cleanup policy. ***Note:*** For continued use, the floor and walls must be decontaminated and the PCB containing paint must be disposed of as *PCB bulk product waste* per 761.62. There are multiple disposal options for the various forms of *PCB bulk product waste*; see 761.62. If additional cleanup of the concrete is required due to the leaching of PCBs from the paint, the concrete is to be treated as *bulk PCB remediation waste*. If the self-implementing procedures of 761.61(a) are to be followed, core samples of the bare porous surface will be needed to determine the level of PCB contamination in the porous materials. For characterization sampling, follow Subpart N in conjunction with Appendix A, or another reliable sampling protocol. The cleanup level	Assumes PCB contamination is limited to interior of building (e.g., floor and walls) and that PCBs are in the paint and have not penetrated into the concrete floor. For continued use, the floor and walls must be decontaminated and the PCB containing paint must be disposed of as *PCB bulk product waste* per 761.62. If the PCBs have leached from the paint into the concrete, the contaminated concrete is a *bulk PCB remediation waste* and may require additional cleanup to meet the ≤1 ppm cleanup standard. Provide notification to EPA (ATTN: Regional PCB Coordinator) & others 30 days prior to initiating cleanup of the contaminated concrete. (761.61 (a)(3)(i)(A)-(E)). Non-liquid cleanup waste (e.g., non-liquid cleaning materials, personal equipment) at any concentration and *bulk PCB remediation wastes* <50 ppm may be disposed of at: an approved PCB disposal facility, a permitted or non-municipal non-hazardous waste facility pursuant to §761.61(a) or (c), or a RCRA Sec. 3004 or Sec. 3006 permitted hazardous waste landfill; manifesting and recordkeeping requirements do not apply (761.61(a)(5)(i)(B)(2)(ii) & 761.61(a)(5)(v)(A)).

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Contamination Scenario	Reuse Scenarios	Reuse Scenario Exposure Characteristics	Necessary Remediation Levels	Remarks
	Warehouse Reuse Scenarios (continued)		is based on the intended reuse scenario as a high occupancy area as noted above (i.e., ≤ **1 ppm** in porous surfaces w/o further conditions). Otherwise, a 40 CFR 761.61(c) risk-based approval may be appropriate for this scenario. See Sec. III.A. of this document for an example of a risk-based cleanup.	A 40 CFR 761.61(c) risk-based approval may be appropriate for this scenario. See Sec. III.A. of this document for an example of a risk-based cleanup. Also see the above listed manifesting, disposal and recordkeeping requirements. *Bulk PCB remediation waste* ≥50 ppm must be disposed of in a RCRA Sec. 3004 or 3006 permitted hazardous waste landfill or an approved PCB disposal facility (e.g., incinerator, chemical waste landfill, an approved alternate disposal method or coordinated approval). (761.61(a)(5)(i)(B)(2)(iii).) Obtain an EPA identification number for use on the manifest (e.g., Hazardous Waste Manifest) when transporting PCB waste offsite and maintain records as required (761.202 - 761.218). Maintain records of notification and cleanup (761.125(c)(5)).
	Light industrial/commercial business parks Distribution centers including warehouse and office space	High occupancy	<u>**TSCA Cleanup standards**</u> The PCB containing paint is a *PCB bulk product waste*. For continued use, the floor and walls must be decontaminated. Dispose of the PCB-contaminated paint as *PCB bulk product waste* per 761.62.	

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Contamination Scenario	Reuse Scenarios	Reuse Scenario Exposure Characteristics	Necessary Remediation Levels	Remarks
Scrap yard; soil contaminated with spilled PCBs	Same reuse scenarios as listed under "warehouse." New construction as either ***high or low occupancy*** should not extend beneath or beyond the cleaned up area. Likewise, the cap, if one is installed, should not be disturbed.	High occupancy Low occupancy	<u>**TSCA Cleanup standards**</u> **≤ 1 ppm** in residual waste or porous surface, w/o further conditions, or **>1 to ≤10 ppm** if site covered w/cap (761.61(a)(7)) & institutional control implemented (i.e., deed restriction; 761.61(a)(8)). Conduct post-cleanup sampling per 40 CFR 761.61(a)(6) and Subpart O. **≤25 ppm** in soil, with an institutional control (i.e., deed restriction, 761.61(a)(8)), or **>25 to ≤50 ppm** if site is secured by a fence with a PCB M_L mark & institutional control implemented (i.e., deed restriction; 761.61(a)(8)), or **>25 to ≤100 ppm** if site covered w/cap (761.61(a)(7)) & institutional control implemented (i.e., deed restriction; 761.61(a)(8)). Conduct post-cleanup sampling per 40 CFR 761.61(a)(6) and Subpart O.	Assumes PCB contamination is limited to environmental media (e.g., outside). However, if there are contaminated buildings on the property which are intended for continued use, clean up and disposal of spilled PCBs must be conducted in compliance with the *PCB remediation waste* requirements at 761.61, or as otherwise authorized under 761.30(u). There are no use restrictions on new construction provided it does not extend beneath or beyond the cleaned up area. A cap, if one has been installed, cannot be disturbed. There are no use restrictions on existing structures if PCB contamination is not present. For contaminated buildings, also see the notification, manifesting, disposal and recordkeeping requirements in "Remarks" for a warehouse with interior PCB remediation waste contamination. *PCB bulk product waste* must be disposed of in accordance with 761.62.

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Contamination Scenario	Reuse Scenarios	Reuse Scenario Exposure Characteristics	Necessary Remediation Levels	Remarks
Port and industrial area with contamination from spilled PCBs and abandoned PCB-containing solvents and fuels	See reuse scenarios for scrap yard with contaminated soil.	For PCB remediation waste, see reuse scenario exposure characteristics for scrap yard with contaminated soil.	**<u>TSCA Cleanup Standards</u>** For PCB remediation waste, see cleanup standards for scrap yard with contaminated soil.	Certain PCB fluids may be decontaminated pursuant to 761.79(b)(1) & (b)(2) or in accordance with a risk-based decontamination approval under 761.79(h). All other PCB fluids must be disposed of in compliance with 761.60(a) or (e) or, for liquid PCB remediation wastes, in accordance with 761.61(a)(5)(iv). See "Reuse Scenarios" for scrap yard regarding new structures and "Remarks" for existing structures. Also see the notification, manifesting, disposal and recordkeeping requirements in "Remarks" for a warehouse with interior PCB remediation waste contamination.
Metalworking facilities with PCBs in chemical sludge waste	See reuse scenarios for scrap yard with contaminated soil.	See reuse scenario exposure characteristics for scrap yard with contaminated soil.	**<u>TSCA Cleanup Standards</u>** See cleanup standards for scrap yard with contaminated soil.	Assumes PCB contamination is in environmental media (e.g., outside). However, because of the likely dispersion of PCB fluids during use of the equipment, contamination may also extend to equipment, floors and walls. Additional sampling of these items may be required to determine the extent of contamination. Also see the notification, manifesting, disposal and recordkeeping requirements in "Remarks" for a warehouse with interior PCB remediation waste contamination.

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Contamination Scenario	Reuse Scenarios	Reuse Scenario Exposure Characteristics	Necessary Remediation Levels	Remarks
Former manufacturing facility with PCBs in flourescent light ballasts	See reuse scenarios for warehouse.	See reuse scenario exposure characteristics for ware-house.	**TSCA Cleanup Standards** Intact and non-leaking PCB capacitors are authorized for use. Light ballasts containing PCB capacitors do not have to be removed ***IF*** the capacitors are intact and non-leaking and are the only source of PCBs. However, PCBs have been found in the potting material of older flourescent light fixtures, a use that is not authorized. Recommend replacing old flourescent light ballasts to avoid violations of PCB use prohibitions. Cleanup of floors/walls may be required in the event of a failure of the PCB fluorescent light ballast.	Assumes only PCB source is PCB fluorescent light ballasts and that contamination is limited to interior of building. Intact, non-leaking PCB small capacitors may be disposed as municipal solid waste (761.60(b)(2)(ii)) – manifests are not required. Fluorescent light ballasts containing PCBs in the potting material are regulated for disposal as a *PCB bulk product waste* in a RCRA Sec. 3004 or 3006 permitted hazardous waste landfill or an approved PCB disposal facility (e.g., incinerator, chemical waste landfill, an approved alternate disposal method or coordinated approval) (See 761.62(a)). If PCB remediation waste is present and PCB cleanup of walls/floors is necessary, provide notification to EPA (ATTN: Regional PCB Coordinator) and others 30 days prior to initiation of a self-implementing cleanup (761.61(a)(3)(i)(A)-(E)). Also see the manifesting, disposal and recordkeeping requirements for PCB remediation waste in "Remarks" for a warehouse.

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Contamination Scenario	Reuse Scenarios	Reuse Scenario Exposure Characteristics	Necessary Remediation Levels	Remarks
Former tannery with abandoned waste PCB fluids	See reuse scenarios for warehouse.	See reuse scenario exposure characteristics for ware-house.	<u>**TSCA Cleanup Standards**</u> See cleanup standards for warehouse if PCB remediation waste is present as a result of spilled PCBs.	PCB fluids should be removed and disposed of in compliance with 761.60(a) or (e). Certain liquids containing PCBs may be decon-taminated (see 761.79(b)(1) and (b)(2) and 761.79(h)). Obtain an EPA identification number for use on the manifest when transporting PCB waste offsite and maintain records as required (761.202 - 761.218). Assumes PCB contamination from previous activities, if any, is limited to interior of building. Also see the notification, manifesting, disposal and recordkeeping requirements in "Remarks" for a warehouse if PCB remediation is necessary.
Building with roof transformer with PCB-contamination in concrete roof	No change	Low occupancy	<u>**TSCA Cleanup Standards**</u> Follow cleanup requirements per 761.61, or procedures for continued use of porous surfaces contaminated by old spills. Remove source of contamination, clean accessible porous surfaces and cover completely with 2 coatings of solvent resistant/water repellent paint or epoxy of contrasting colors, or secure a solid barrier to the surface of accessible areas of the contamination. Place the PCB M_L mark in a visible location and implement a deed restriction. (761.30(p))	If the use of the contaminated surface is to change, then all contaminated porous surfaces must be removed and disposed of or cleaned up to appropriate levels as specified in 761.61 or 761.79. Also see the notification, manifesting, disposal and recordkeeping requirements for PCB remediation waste in "Remarks" for a warehouse.

Contamination Scenario	Reuse Scenarios	Reuse Scenario Exposure Characteristics	Necessary Remediation Levels	Remarks
Industrial park with 8 tons of PCB-contaminated soil	See reuse scenario for scrap yard with contaminated soil.	Reuse scenarios may include a combination of high and low occupancy area. See reuse scenario exposure characteristics for scrap yard with contaminated soil.	<u>**TSCA Cleanup Standards**</u> See cleanup standards for scrap yard with contaminated soil.	See the notification, manifesting, disposal and recordkeeping requirements for PCB remediation waste in "Remarks" for a warehouse. Also see "Reuse Scenarios" for scrap yard regarding new structures and "Remarks" for use of existing structures.
Solid waste transfer station with PCB-contaminated wastes	See reuse scenarios for scrap yard with contaminated soil.		<u>**TSCA Cleanup Standards**</u> See cleanup standards for scrap yard with contaminated soil.	Assumes PCB wastes were abandoned on site. Wastes should be removed and disposed of as referenced in section VII.C. ("PCB Contamination and Reuse Scenarios"). If PCB remediation wastes are present, then the site should be cleaned and redeveloped based on occupancy expectations; e.g., high or low occupancy area. A 761.61(c) risk-based approval also may be appropriate for managing bulk PCB remediation waste. See the notification, manifesting, disposal and recordkeeping requirements for PCB remediation waste in "Remarks" for a warehouse. Also see "Reuse Scenarios" for a scrap yard regarding new structures and "Remarks" for use of existing structures.

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APPENDIX A

REGION I, EPA-NEW ENGLAND

DRAFT
STANDARD OPERATING PROCEDURE
FOR SAMPLING CONCRETE IN THE FIELD

REGION I, EPA-NEW ENGLAND

DRAFT
STANDARD OPERATING PROCEDURE
FOR SAMPLING CONCRETE IN THE FIELD

U.S. EPA-NEW ENGLAND
Region I
Quality Assurance Unit Staff
Office of Environmental Measurement and Evaluation

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Region I, EPA New England

Standard Operating Procedure for Sampling Concrete in the Field

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Region I, EPA New England

Standard Operating Procedure for Sampling Concrete in the Field

1.0 Scope and Application

The following Standard Operating Procedure (SOP) describes a concrete sampling technique which uses an impact hammer drill to generate a uniform, finely ground, powder which is easily homogenized, extracted and analyzed. This procedure is primarily geared at providing enough sample for one or two different analyses at a time. That is, the time required to generate sufficient sample for a full suite of analyses may be impractical. The concrete powder is suitable for all types of environmental analyses, with the exception of volatile compounds, and may be analyzed in the field or at a fixed laboratory. This procedure is applicable for the collection of samples from concrete floors, walls, and ceilings.

The impact hammer drill is far less labor intensive than previous techniques using coring devices, or hammers and chisels. It allows for easy selection of sample location and sample depth. Not only can the project planner control the depth to sample into the concrete, from surface samples (0 - ½ inch) down to a core of the entire slab, but the technique can also be modified to collect samples at discrete depths within the concrete slab.

Another issue with concrete sampling is the fact that the amount of time spent drilling translates into the weight of sample produced. Thus, to maximize sampling time, it is important to know the minimum amount of sample required for each analysis. To do this, the project planner should take the following steps: 1) Use the Data Quality Objective (DQO) process and familiarity with the site to develop the objectives of the sampling project and the depth(s) of sample to be collected. 2) Review the site history and any previous data collected to determined possible contaminants of concern. 3) Establish the action levels for those possible contaminants and determine the appropriate analytical methods (both field and/or fixed laboratory) to meet the DQOs of the project. 4) Based on the detection limits of these methods, determine the amount of sample required for each analysis and the total sample weight require for each sample location (including quality control samples).

As with any environmental data collection project, all aspects of a concrete sampling episode should be well thought out, prior to going out in the field, and thoroughly described in a Quality Assurance Project Plan (QAPP). The QAPP should clearly state the DQOs of the project and document a complete Quality Assurance/Quality Control program to reconcile the data generated with the established DQOs. For more information on these subjects, refer to EPA documents QA/R-5, EPA Requirements for Quality Assurance Project Plans for Environmental Data Operations, and QA/G-4, Guidance for the Data Quality Objective Process.

2.0 Method Summary

A one-inch diameter carbide drill bit is used in a rotary impact hammer drill to generate a fine concrete powder suitable for analysis. The powder is placed in a sample container and homogenized for field or fixed laboratory analysis. The procedure can be used to sample a single depth into the concrete, or may be modified to sample the concrete at distinctly different depth zones. The modified depth sampling procedure is designed to minimize any cross contamination between the sampling zones. If different sampling depths are required, two different diameter drill bits and a vacuum sampling apparatus are employed.

3.0 Health and Safety

Eye and hearing protection are required at all times during sample drilling. A small amount of dust is generated during the drilling process. Proper respiratory protection and/or a dust control system must be in place at all times during sampling.

4.0 Interferences and Potential Problems

Since this sampling technique produces a finely ground uniform powder, physical matrix effects from variations in the sample consistency (i.e., particle size, uniformity, homogeneity, and surface condition) are minimized. Matrix spike analysis of a sample is highly recommended to monitor for any matrix related interferences.

As stated in Section 1.0 above, this sampling procedure is not recommended for volatile organic compound (VOC) analysis. The combination of heat generated during drilling and the exposure of a large amount of surface area will greatly reduce VOC recovery. If low boiling point semi-volatile compounds (i.e., naphthalene) are being analyzed, then the drill speed should be reduced to minimize heat build-up.

5.0 Equipment and Supplies

5.1 Single Depth Concrete Sampling

5.1.1 Rotary impact hammer drill
5.1.2 1-inch diameter carbide drill bits
5.1.3 Stainless steel scoopulas
5.1.4 Stainless steel spoonulas (for collecting sample in deeper holes, >2-inches)
5.1.5 Rectangular aluminum pans (to catch concrete during wall and ceiling sampling)
5.1.6 Gasoline powered generator (if alternative power source is required)

5.2 Multiple Depth Sampling (in addition to all the above)

5.2.1 ½ inch diameter carbide drill bits
5.2.2 Vacuum/sample trap assembly (see Section 7.2 and Figure 1)

5.2.2.1 Vacuum pump
5.2.2.2 2-hole rubber stopper
5.2.2.3 Glass tubing (to fit stopper)
5.2.2.4 Large glass test tubes, or Erlenmeyer flasks, for sample trap (several are suggested)
5.2.2.5 Polyethylene tubing for trap inlet (Tygon tubing may be used for the trap outlet)
5.2.2.6 Pasture pipets
5.2.2.7 Pipe cleaners
5.2.2.8 In-line dust filter (glass fiber filter, or equivalent)

6.0 Sample Containers, Preservation, and Storage

Concrete samples must be collected in glass containers for organic analyses, and may be collected in either glass or plastic containers for inorganic analyses. In general, a 2-ounce sample container with Teflon-lined cap (wide-mouth jars are preferred) will hold sufficient volume for most analyses. A 2-

ounce jar can hold roughly 90 grams sample. Note, samples which require duplicate and/or matrix spike/matrix spike duplicate analyses may require a larger sample container, or additional 2-ounce sample containers.

Organic samples are to be shipped on ice and maintained at 4°C (± 2°C) until the time of extraction and analysis. Inorganic samples may be shipped and stored at room temperature. Refer to 40 CFR Part 136 for guidelines on analysis holding times.

To maintain sample integrity, chain-of-custody procedures must be implemented at the time of sampling to 1) document all sample locations and associated field sample identification numbers, 2) document all quality control samples taken, including field duplicates, split samples for confirmatory analyses, and PE samples, and 3) document the transfer of field samples from field sampler to field chemist or fixed laboratory.

7.0 Procedure

7.1 Single Depth Concrete Sampling

Lock a 1-inch diameter carbide drill bit into the impact hammer drill and plug the drill into an appropriate power source. (A gasoline generator will be needed if electricity is not available.) For easy identification, sample locations may be pre-marked using a crayon or a non-contaminating spray paint. (Note, the actual drilling point must not be marked.) Depending on the appearance of the sample location, or the objectives of the sampling project, it may be desired to wipe the concrete surface with a clean dry cloth prior to drilling. All sampling decisions of this nature should be noted in the sampling logbook. Begin drilling in the designated location. Apply steady even pressure and let the drill do the work. Applying too much pressure will generate excessive heat and dull the drill bit prematurely. The drill will provide a finely ground concrete powder that can be easily collected, homogenized and analyzed. Having several decontaminated impact drill bits on hand will help expedite sampling when numerous sample locations are to be drilled.

Sample Collection

A ½-inch deep hole (using a 1-inch diameter drill bit) generates about 10 grams of concrete powder. Based on this and the action levels for the project, determine the sampling depth, and/or the number of sample holes to be composited, to generate sufficient sample volume for all of the required analyses. (Note, with the absorbency of concrete, a ½-inch deep hole can be considered a surface sample.)

A decontaminated stainless steel scoopula can be used to collect the sample. The powder can either be collected directly from the surface of the concrete and/or the concrete powder can be scraped back into the hole and the less rounded back edge of the scoopula can be used to collect the sample. For holes greater than 2-inches in depth, a stainless steel spoonula will make it easier to collect the sample from the bottom of the hole.

To ensure collection of a representative sample when multiple analyses are required, a concrete sample should always be collected and homogenized in a single container and then divided up into the individual containers for the various analyses or split samples. This is particularly important when sample holes are deep, or when several holes are drilled adjacent to each other to form a sample composite.

Wall and Ceiling Sampling

A team of two samplers will be required for wall and ceiling sampling. The second person will be needed to hold a clean catch surface (i.e., an aluminum pan) below the drill to collect the falling powder. For wall samples, a scoopula, or spoonula, can be used to collect remaining concrete powder from within the hole. For ceiling holes, it may be necessary to drill the hole at an angle so the concrete powder can fall freely in the collection plan (and avoid falling on the drill). Another alternative might be to use the chuck-end of the drill bit and punch a hole through the center of the collection pan. The drill bit is then mounted through the pan and into the drill. Thus, the driller can be drilling straight up while the assistant steadies the pan to catch the falling dust. As a precaution, it may be advantageous to tape a piece of plastic around the drill, just below the chuck, to avoid dust contaminating the body of the drill and entering the mechanical vents. (Note, the plastic should deflect dust from the drill, but be loose enough underneath to allow for proper ventilation.)

7.2 Multiple Depth Concrete Sampling

The above method for concrete sampling can also be used to collect samples from different depths within the concrete. To do this, two different sized drill bits (i.e., ½ inch and 1 inch) and a simple vacuum pump with a vacuum trap assembly is required (see Figure 1). First, the 1 inch drill bit is used to drill to the first level and the concrete sample is collected as described in Section 7.1. The vacuum pump is then turned on and the hole is cleaned out using the vacuum trap assembly. The drill bit is then changed to the ½ inch bit and the next depth is drilled out (the ½ inch bit is used to avoid contact with the sides of the first hole). A clean tube or flask is placed on the vacuum trap, and the sample from the second drilling is collected. To go further, the 1 inch drill is used to open up the hole to the second level, the hole is cleared, and then the ½ inch drill is used again to go to a third level, etc. Note, the holes and concrete surface should be vacuumed thoroughly to minimize any cross-contamination between sample depths.

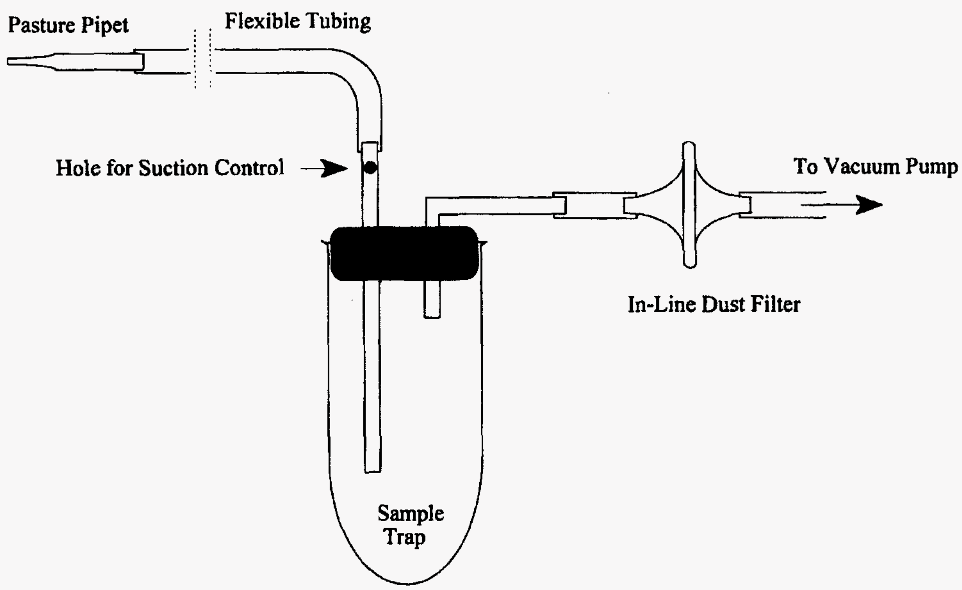
Vacuum Trap Design and Clean-out

The trap presented in Figure 1 is a convenient and thorough way for collecting and removing concrete powder from drilled holes. The trap system is designed to allow for control of the suction from the vacuum pump and easy trap clean-out between samples. Note, by placing a hole in the inlet tube (see Figure 1), a finger on the hand holding the trap can be used to control the suction at the sampling tip. Thus, when this hole is left completely open, there will be no suction, and the sampler can have complete control over where and what to sample. To change-out between samples the following steps should be taken: 1) The pasture pipet and piece of polyethylene tubing at the sample inlet should be replaced with new materials, 2) the portion of the rubber stopper and glass tubing that was in the trap should be wiped down with a clean damp paper towel (wetted with deionized water) and then dried with a fresh paper towel, 3) a clean pipe cleaner should be drawn through the glass inlet tube to remove any concrete dust present, and 4) the glass tube or flask used to collect the sample should swapped out with a clean decontaminated sample trap. Having several clean tubes or flasks on hand will facilitate change-out between samples.

7.3 Decontamination Procedure

Necessary supplies for decontamination include: two small buckets, a scrub brush, potable water, deionized water, a squirt bottle for the deionized water, and paper towels. The first bucket contains a soap and potable water solution, and the second bucket contains just potable water. Place all used drill bits and

Figure 1



utensils in the soap and water bucket. Scrub each piece thoroughly using the scrub brush. Note, the concrete powder does cling to the metal surfaces, so care should be taken during this step, especially with the twists and curves of the drill bits. Next, rinse each piece in the potable water bucket, and follow with a deionized water rinse from the squirt bottle. Place the deionized water rinsed pieces on clean paper towels and individually dry and inspect each piece. Note, all pieces should be dry prior to reuse.

8.0 Field Documentation

All Site related documentation and reports generated from concrete sampling should be maintained in the central Site file. If personal logbooks are used, legible copies of all pertinent pages must be placed in the Site file.

8.1 Field Logbooks

All field documentation should be maintained in bound logbooks with numbered pages. If loose-leaf logsheets are used to document site activities, extra care should be taken in keep track of all logsheets. The original copy of all logsheets should be maintained in the central Site file. Note, all sample locations must be documented by tying in their location to a detailed site map, or by using two or more permanent landmarks. The following information should be documented in the field logbooks:

- Site name and location,
- EPA Site Manager,
- Name and affiliation of field samplers (EPA, Contractor company name, etc.),
- Sampling date,
- Sample locations and IDs,
- Sampling times and depths, and
- Other pertinent information or comments

8.2 Sample Labeling and Chain-of-Custody

8.2.1 Sample Labels

Sample labels will be affixed to all sample containers. Labels must contain the following information:

- Project name,
- Sample number, and/or location
- Date and time of sampling,
- Analysis,
- Preservation, and
- Sampler's name.

8.2.2 Chain-of-Custody

All samples must be traced from collection, to shipment, to laboratory receipt and laboratory custody. The Chain-of-Custody (COC) Record is a multi-part form that is initiated as samples are acquired and accompanies a sample (or group of samples) as they are transferred from person to person. The COC form is signed by all individuals responsible for sampling, sample transport, and laboratory receipt. (Note, overnight deliver services, often used with sample transport, are exempt from having to sign the COC form. However, copies of all shipping invoices must be kept with the COC documentation.) One copy of the COC is retained by the field sampling crew, while the original (top, signed copy) and remaining carbonless copies are placed in a zip-lock bag and taped to the inside lid of the shipping cooler. If multiple coolers are required for a sample shipment to a single laboratory, the COC need only be sent with one of the coolers. The COC should state how many coolers are included with the shipment. All sample shipments to different laboratories require individual COC forms. The original COC form accompanies the samples until the project is complete, and is then kept in the permanent project file. A copy of the COC is also kept with the project manager, the laboratory manager, and attached to the data package.

8.2.3 Custody Seal

The Custody seal is an adhesive-backed label which is also part of the chain-of-custody process. The custody seal is used to prevent tampering with the samples after they have been collected in the field and sealed in coolers for transit to the laboratory. The Custody seals are signed and dated by a sampler and affixed across the opening edges of each cooler containing samples. Clear packing tape should be wrapped around the cooler, and over the Custody seal, to secure the cooler and avoid accidental tampering with the Custody seal.

9.0 Quality Assurance and Quality Control (QA/QC)

A solid QA/QC program is essential to establishing the quality of the data generated so that proper project decisions can be made. The following are key quality control elements which should be incorporated into a concrete sampling and analytical program.

9.1 Equipment Blanks

An equipment blank should be performed on decontaminated drill bits and collection utensils at a frequency of 1 per 20 samples or 1 per day, whichever is greater. To prepare the equipment blank, place the decontaminated drill bit and utensils in a large clean stainless steel bowl. Pour sufficient deionized water into the bowl to fill all of the required sample containers. Next, stir the drill bit and utensils in the bowl with a clean utensil to thoroughly mix the blank. Finally, decant off the equipment blank into the sample containers. Note, a clean funnel may help to pour off the equipment blank into the containers.

9.2 Field Duplicates

Field duplicates are samples collected adjacent to each other (collocated) at the same sample location (not two aliquots of the same sample). Field duplicates not only help provide an indicator of overall precision, but measure the cumulative effects of both the field and analytical precision, and also measure the representativeness of the sample. Field duplicates must be prepared and analyzed at a frequency of 1 per 20 samples or 1 per non-related concrete matrix, whichever is greater. An example of a non-related concrete matrix might be the investigation of two different types of chemical spills.

Calculate the Relative Percent Difference (RPD) between the sample and its duplicate using Equation 1.

Equation 1

$$RPD = \frac{|S - D|}{\frac{(S + D)}{2}} \times 100$$

Where:

S = Original sample result
D = Duplicate sample result

The following general guidelines have been established for field duplicate criteria:

- If both the original and field duplicate values are ≥ practical quantitation limit (PQL), then the control limit for RPD is ≤50%,
- If one or both values are < PQL, then do not assess the RPD.

If more rigorous field duplicate criteria are needed to achieve project DQOs, then that criteria should be documented in the project QAPP.

If the field duplicate criteria specified above are not met, then flag that target element with an "*" on the final report for both the original and field duplicate samples. Report both the original and field duplicate analyses; do not report the average. Field duplicate samples should be indicated on the sample ID. For example, the sample ID can contain the suffix "FD."

9.3 Laboratory Duplicates

Laboratory duplicates are two aliquots of the same sample that are prepared, homogenized and analyzed in the same manner. (Note, proper sample homogenization is critical in producing meaningful results.) The precision of the sample preparation and analytical methods is determined by performing a laboratory duplicate analysis. Laboratory duplicates can be prepared in the field and submitted as blind samples, or the laboratory can be requested to perform the laboratory duplicate analysis. In the case of laboratory prepared duplicates, the field sampling team must be sure to provide sufficient sample volume. Laboratory duplicates must be prepared and analyzed at a frequency of 1 per 20 samples or 1 per non-related concrete matrix, whichever is greater.

Calculate the RPD between the sample and its duplicate using Equation 1. The following general guidelines have been established for laboratory duplicate criteria:

- If both the original and laboratory duplicate values are ≥ PQL, then the control limit for RPD is ≤25%,
- If one or both values are < PQL, then do not assess the RPD.

If duplicate criteria are not met, then flag that target element with an "*" on the final report for both the original and duplicate samples. Report both the original and duplicate analyses; do not report the average.

9.4 Matrix Spike/Matrix Spike Duplicate Samples

Matrix spike/matrix spike duplicate samples (MS/MSDs) are two additional aliquots of a sample which are spiked with the appropriate compound(s) or analyte(s) of concern and then prepared and analyzed along with the original sample. (Note, proper sample homogenization, prior to spiking, is critical in producing meaningful results.) MS/MSDs help evaluate the effects of sample matrix on the analytical methods being used. The field sampling team must provide sufficient sample volume such that the field or fixed laboratory can prepare and analyze MS/MSDs at a frequency of 1 per 20 samples or 1 per non-related concrete matrix, whichever is greater.

Calculate the recovery of each matrix spike compound or analyte using Equation 2.

Equation 2

$$MSR = \frac{SSR - SR}{SA} \, x \; 100$$

Where,

MSR	=	Matrix Spike Recovery,	SA	=	Spike Added
SSR	=	Spiked Sample Result,	SR	=	Sample Result

Calculate the relative percent difference (RPD) between the recoveries of each compound or analyte in the matrix spike and matrix spike duplicate using Equation 3.

Equation 3

$$RPD = \frac{|\, MSR - MSRD \,|}{\frac{(MSR + MSRD)}{2}} \, x \; 100$$

Where,

MSR = Matrix Spike Recovery
MSRD = Matrix Spike Duplicate Recovery

9.5 Performance Evaluation Samples

In accordance with the EPA Region I Performance Evaluation Program Guidance, performance evaluation (PE) samples should be submitted for each type of analysis to be performed in the field or by the fixed laboratory performing full protocol EPA methods. PE samples provide information on the quality of the individual data packages. PE samples are certified standard reference materials (SRMs) from a source other than that used to calibrate the instrument. If both field and fixed laboratories are being used to analyze samples, at least one solid PE sample should undergo both field analysis and confirmatory full protocol EPA method analysis to facilitate data comparability. A copy of the certified values for the SRM must be submitted with the final data packages to facilitate data evaluation.

9.6 Data Verification and Validation

All field data and supporting information (including chain-of-custody) that is collected during a concrete sampling episode should be verified daily, by a person other than that performing the work, to check for possible errors.

During the project planning process, a plan for data validation should be established for all data, both for field and fixed laboratories. All data must be validated to assure that it is of a quality suitable to make project decisions. For help in developing a data validation program refer to Region I, EPA New England,

Data Validation Functional Guidelines for Evaluating Environmental Analyses.

9.7 Audits

9.7.1 Internal Audits

As part of the Quality Assurance/Quality Control Program for any sampling project, a series of internal audit checks should be instituted to monitor and maintain the integrity of the sample collection process. Timely internal reviews will insure that proper sampling, decontamination, chain-of-custody and quality control procedures are being followed. Also, the internal audit review is there to monitor any corrective actions taken, and/or institute corrective actions that should have been taken and were not. All corrective actions taken must be documented in an appropriate logbook, and if any corrective actions impact the final data reported, then they must also be documented in the final report narrative. The results of all internal audits must be documented in a report, and copies of the report issued to the Project Manager and the Quality Assurance Manager. The original copy of any audit report must remain with the main project file and be available for review.

9.7.2 External Audits

The Agency reserves the right to perform periodic field audits to ensure compliance with this SOP.

10.0 References

1) Guidance for the Data Quality Objective Process, QA/G-4, EPA/600/R-96/055, September 1994.

2) EPA Requirements for Quality Assurance Project Plans for Environmental Data Operations, QA/R-5, Interim Final, October 1997.

3) Guidance for the Preparation of Standard Operating Procedures for Quality-related Operations, QA/G-6, EPA/600/R-96/027, November 1995.

4) Region I, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses, July 1996.

5) EPA Region I Performance Evaluation Program Guidance, July 1996.

6) U.S. EPA Code of Federal Regulations, 40 CFR, Part 136, Appendix B, Revised as of July 1995.

APPENDIX B

EXCERPTS FROM THE SELF-IMPLEMENTING PROVISIONS OF THE PCB REGULATIONS AT 40 CFR PART 761 FOR PCB WASTE CLEANUP AND DISPOSAL

The entire text of the Code of Federal Regulations for 40 CFR Part 761 can be found on the U.S. Government Printing Office's website at www.gpo.gov, under "Legislative Resources," and on the PCB website at www.epa.gov/pcb under "Laws and Regulations." This excerpt includes the following regulatory provisions which are referenced in 40 CFR 761.61:

Section 761.60(a), (b) and (c)
Section 761.65(a) and (c)
Section 761.79(b)
Section 761.125(c)(5)
Subpart N, Section 761.269
Subpart O, Section 761.283, 761.286, and 761.292

[Code of Federal Regulations]
[Title 40, Volume 28]
[Revised as of July 1, 2003]
From the U.S. Government Printing Office via GPO Access
[CITE: 40CFR761]

[Pages 579-708]

TITLE 40--PROTECTION OF ENVIRONMENT

CHAPTER I--ENVIRONMENTAL PROTECTION AGENCY (CONTINUED)

PART 761--POLYCHLORINATED BIPHENYLS (PCBs) MANUFACTURING, PROCESSING, DISTRIBUTION IN COMMERCE, AND USE PROHIBITIONS

Subpart D--Storage and Disposal

Sec. 761.60 **Disposal requirements.**

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(a) PCB liquids. PCB liquids at concentrations ≥50 ppm must be disposed of in an incinerator which complies with Sec. 761.70, except that PCB liquids at concentrations ≥50 ppm and <500 ppm may be disposed of as follows:

(1) For mineral oil dielectric fluid, in a high efficiency boiler according to Sec. 761.71(a).

(2) For liquids other than mineral oil dielectric fluid, in a high efficiency boiler according to Sec. 761.71(b).

(3) For liquids from incidental sources, such as precipitation, condensation, leachate or load separation and are associated with PCB Articles or non-liquid PCB wastes, in a chemical waste landfill which complies with Sec. 761.75 if:

(i) [Reserved]

(ii) Information is provided to or obtained by the owner or operator of the chemical waste landfill that shows that the liquids do not exceed 500 ppm PCB and are not an ignitable waste as described in Sec. 761.75(b)(8)(iii).

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(b) PCB Articles. This paragraph does not authorize disposal that is otherwise prohibited in Sec. 761.20 or elsewhere in this part.

(1) Transformers. (i) PCB Transformers shall be disposed of in accordance with either of the following:

(A) In an incinerator that complies with Sec. 761.70; or

(B) In a chemical waste landfill approved under Sec. 761.75; provided that all free-flowing liquid is removed from the transformer, the transformer is filled with a solvent, the transformer is allowed to stand for at least 18 continuous hours, and then the solvent is thoroughly removed. Any person disposing of PCB liquids that are removed from the transformer (including the dielectric fluid and all solvents used as a flush), shall do so in an incinerator that complies with Sec. 761.70 of this part, or shall decontaminate them in accordance with Sec. 761.79. Solvents may include kerosene, xylene, toluene, and other solvents in which PCBs are readily soluble. Any person disposing of these PCB liquids must ensure that the solvent flushing procedure is conducted in accordance with applicable safety and health standards as required by Federal or State regulations.

(ii) [Reserved]

(2) PCB Capacitors. (i) The disposal of any capacitor shall comply with all requirements of this subpart unless it is known from label or nameplate information, manufacturer's literature (including documented communications with the manufacturer), or chemical analysis that the capacitor does not contain PCBs.

(ii) Any person may dispose of PCB Small Capacitors as municipal solid waste, unless that person is subject to the requirements of paragraph (b)(2)(iv) of this section.

(iii) Any PCB Large High or Low Voltage Capacitor which contains 500 ppm or greater PCBs, owned by any person, shall be disposed of in accordance with either of the following:

(A) Disposal in an incinerator that complies with Sec. 761.70; or

(B) Until March 1, 1981, disposal in a chemical waste landfill that complies with Sec. 761.75.

(iv) Any person who manufactures or at any time manufactured PCB Capacitors or PCB Equipment, and acquired the PCB Capacitor in the course of such manufacturing, shall place the PCB Small Capacitors in a container meeting the DOT packaging requirements at 49 CFR parts 171 through 180 and dispose of them in accordance with either of the following:

(A) Disposal in an incinerator which complies with Sec. 761.70; or

(B) Until March 1, 1981, disposal in a chemical waste landfill which complies with Sec. 761.75.

(v) Notwithstanding the restrictions imposed by paragraph (b)(2)(iii)(B) or (b)(2)(iv)(B) of this section, PCB capacitors may be disposed of in PCB chemical waste landfills that comply with Sec. 761.75 subsequent to March 1, 1981, if the Assistant Administrator for Prevention, Pesticides and Toxic Substances publishes a notice in the Federal Register declaring that those landfills are available for such disposal and explaining the reasons for the extension or reopening. An extension or reopening for disposal of PCB capacitors that is granted under this subsection shall be subject to such terms and conditions as the Assistant Administrator may prescribe and shall be in effect for such period as the Assistant Administrator may prescribe. The Assistant Administrator may permit disposal of PCB capacitors in EPA approved chemical waste landfills after March 1, 1981, if in his opinion,

(A) Adequate incineration capability for PCB capacitors is not available, or

(B) The incineration of PCB capacitors will significantly interfere with the incineration of liquid PCBs, or

(C) There is other good cause shown.

As part of this evaluation, the Assistant Administrator will consider the impact of his action on the incentives to construct or expand PCB incinerators.

(vi) Any person disposing of large PCB capacitors or small PCB capacitors described in paragraph (b)(2)(iv) of this section in a chemical waste landfill approved under Sec. 761.75, shall first place them in a container meeting the DOT packaging requirements at 49 CFR parts 171 through 180. In all cases, the person must fill the interstitial space in the container with sufficient absorbent material (such as soil) to absorb

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any liquid PCBs remaining in the capacitors.

(3) PCB hydraulic machines. (i) Any person disposing of PCB hydraulic machines containing PCBs at concentrations of ≥ 50 ppm, such as die casting machines, shall do so by one of the following methods:

(A) In accordance with Sec. 761.79.

(B) In a facility which is permitted, licensed, or registered by a State to manage municipal solid waste subject to part 258 of this chapter or non-municipal non-hazardous waste subject to Secs. 257.5 through 257.30 of this chapter, as applicable (excluding thermal treatment units).

(C) In a scrap metal recovery oven or smelter operating in compliance with Sec. 761.72.

(D) In a disposal facility approved under this part.

(ii) All free-flowing liquid must be removed from each machine and the liquid must be disposed of in accordance with the provisions of paragraph (a) of this section. If the PCB liquid contains $\geq 1{,}000$ ppm PCB, then the hydraulic machine must be decontaminated in accordance with Sec. 761.79 or flushed prior to disposal with a solvent listed at paragraph (b)(1)(i)(B) of this section which contains <50 ppm PCB. The solvent must be disposed of in accordance with paragraph (a) of this section or Sec. 761.79.

(4) PCB-Contaminated Electrical Equipment. Any person disposing of PCB-Contaminated Electrical Equipment, except capacitors, shall do so in accordance with paragraph (b)(6)(ii)(A) of this section. Any person disposing of Large Capacitors that contain ≥ 50 ppm but < 500 ppm PCBs shall do so in a disposal facility approved under this part.

(5) Natural gas pipeline systems containing PCBs. The owner or operator of natural gas pipeline systems containing ≥ 50 ppm PCBs, when no longer in use, shall dispose of the system either by abandonment in place of the pipe under paragraph (b)(5)(i) of this section or removal with subsequent action under paragraph (b)(5)(ii) of this section. Any person determining the PCB concentrations in natural gas pipeline systems shall do so in accordance with paragraph (b)(5)(iii) of this section.

(i) Abandonment. Natural gas pipe containing ≥ 50 ppm PCBs may be abandoned in place under one or more of the following provisions:

(A) Natural gas pipe having a nominal inside diameter of ≤ 4 inches, and containing PCBs at any concentration but no free-flowing liquids, may be abandoned in the place it was used to transport natural gas if each end is sealed closed and the pipe is either:

(1) Included in a public service notification program, such as a "one-call" system under 49 CFR 192.614(a) and (b).

(2) Filled to 50 percent or more of the volume of the pipe with grout (such as a hardening slurry consisting of cement, bentonite, or clay) or high density polyurethane foam.

(B) PCB-Contaminated natural gas pipe of any diameter, where the PCB concentration was determined after the last transmission of gas through the pipe or at the time of abandonment, that contains no free-flowing liquids may be abandoned in the place it was used to transport natural gas if each end is sealed closed.

(C) Natural gas pipe of any diameter which contains PCBs at any concentration but no free-flowing liquids, may be abandoned in the place it was used to transport natural gas, if each end is sealed closed, and either:

(1) The interior surface is decontaminated with one or more washes of a solvent in accordance with the use and disposal requirements of Sec. 761.79(d). This decontamination process must result in a recovery of 95 percent of the solvent volume introduced into the system, and the PCB concentration of the recovered wash must be <50 ppm (see Sec. 761.79(a)(1) for requirements on use and disposal of decontaminating fluids).

(2) The pipe is filled to 50 percent or more of the volume of the pipe with grout (such as a hardening slurry-like cement, bentonite, or clay) or high density polyurethane foam (except that only cement shall be used as grout under rivers or streams) and each end is sealed closed.

(D) Natural gas pipe of any diameter which contains PCBs at any concentration may be abandoned in place after decontamination in accordance with

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Sec. 761.79(c)(3), (c)(4) or (h) or a PCB disposal approval issued under Sec. 761.60(e) or Sec. 761.61(c).

(ii) Removal with subsequent action. Natural gas pipeline systems may be disposed of under one of the following provisions:

(A) The following classifications of natural gas pipe containing no free-flowing liquids may be disposed of in a facility permitted, licensed, or registered by a State to manage municipal solid waste subject to part 258 of this chapter or non-municipal non-hazardous waste subject to Secs. 257.5 through 257.30 of this chapter, as applicable (excluding thermal treatment units); a scrap metal recovery oven or smelter operating in compliance with the requirements of Sec. 761.72; or a disposal facility approved under this part:

(1) PCB-Contaminated natural gas pipe of any diameter where the PCB concentration was determined after the last transmission of gas through the pipe or during removal from the location it was used to transport natural gas.

(2) Natural gas pipe containing PCBs at any concentration and having a nominal inside diameter ≤4 inches.

(B) Any component of a natural gas pipeline system may be disposed of under one of the following provisions:

(1) In an incinerator operating in compliance with Sec. 761.70.

(2) In a chemical waste landfill operating in compliance with Sec. 761.75, provided that all free-flowing liquid PCBs have been thoroughly drained.

(3) As a PCB remediation waste in compliance with Sec. 761.61.

(4) In accordance with Sec. 761.79.

(iii) Characterization of natural gas pipeline systems by PCB concentration in condensate. (A) Any person disposing of a natural gas pipeline system under paragraphs (b)(5)(i)(B) or (b)(5)(ii)(A)(1) of this section must characterize it for PCB contamination by analyzing organic liquids collected at existing condensate collection points in the natural gas pipeline system. The level of PCB contamination found at a collection point is assumed to extend to the next collection point downstream. If no organic liquids are present, drain free-flowing liquids and collect standard wipe samples according to subpart M of this part. Collect condensate within 72 hours of the final transmission of natural gas through the part of the system to be abandoned or removed. Collect wipe samples after the last transmission of gas through the pipe or during removal from the location it was used to transport natural gas.

(B) PCB concentration of the organic phase of multi-phasic liquids shall be determined in accordance with Sec. 761.1(b)(4).

(iv) Disposal of pipeline liquids. (A) Any person disposing of liquids containing PCBs ≥ 50 ppm removed, spilled, or otherwise released from a natural gas pipeline system must do so in accordance with Sec. 761.61(a)(5)(iv) based on the PCB concentration at the time of removal from the system. Any person disposing of material contaminated by spills or other releases of PCBs ≥ 50 ppm from a natural gas pipeline system, must do so in accordance with Sec. 761.61 or Sec. 761.79, as applicable.

(B) Any person who markets or burns for energy recovery liquid containing PCBs at concentrations <50 ppm PCBs at the time of removal from a natural gas pipeline system must do so in accordance with the provisions pertaining to used oil at Sec. 761.20(e). No other use of liquid containing PCBs at concentrations above the quantifiable level/ level of detection removed from a natural gas pipeline system is authorized.

(6) Other PCB Articles. (i) PCB articles with concentrations at 500 ppm or greater must be disposed of:

(A) In an incinerator that complies with Sec. 761.70; or

(B) In a chemical waste landfill that complies with Sec. 761.75, provided that all free-flowing liquid PCBs have been thoroughly drained from any articles before the articles are placed in the chemical waste landfill and that the drained liquids are disposed of in an incinerator that complies with Sec. 761.70.

(ii)(A) Except as specifically provided in paragraphs (b)(1) through (b)(5) of this section, any person disposing of a PCB-Contaminated Article must do so by removing all free-flowing liquid from the article, disposing of the liquid in accordance with paragraph (a) of this section, and disposing of the PCB-Contaminated Article with no free-

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flowing liquid by one of the following methods:

(1) In accordance with Sec. 761.79.

(2) In a facility permitted, licensed, or registered by a State to manage municipal solid waste subject to part 258 of this chapter or non-

municipal non-hazardous waste subject to Secs. 257.5 through 257.30 of this chapter, as applicable (excluding thermal treatment units).

(3) In a scrap metal recovery oven or smelter operating in compliance with Sec. 761.72.

(4) In a disposal facility approved under this part.

(B) Storage for disposal of PCB-Contaminated Articles from which all free-flowing liquids have been removed is not regulated under subpart D of this part.

(C) Requirements in subparts J and K of this part do not apply to PCB-Contaminated Articles from which all free-flowing liquids have been removed.

(iii) Fluorescent light ballasts containing PCBs in their potting material must be disposed of in a TSCA-approved disposal facility, as bulk product waste under Sec. 761.62, as household waste under Sec. 761.63 (where applicable), or in accordance with the decontamination provisions of Sec. 761.79.

(7) Storage of PCB Articles. Except for a PCB Article described in paragraph (b)(2)(ii) of this section and hydraulic machines that comply with the municipal solid waste disposal provisions described in paragraph (b)(3) of this section, any PCB Article, with PCB concentrations at 50 ppm or greater, shall be stored in accordance with Sec. 761.65 prior to disposal.

(8) Persons disposing of PCB Articles must wear or use protective clothing or equipment to protect against dermal contact with or inhalation of PCBs or materials containing PCBs.

(c) PCB Containers. (1) Unless decontaminated in compliance with Sec. 761.79 or as provided in paragraph (c)(2) of this section, a PCB container with PCB concentrations at 500 ppm or greater shall be disposed of:

(i) In an incinerator which complies with Sec. 761.70, or

(ii) In a chemical waste landfill that complies with Sec. 761.75; provided that if there are PCBs in a liquid state, the PCB Container shall first be drained and the PCB liquid disposed of in accordance with paragraph (a) of this section.

(2) Any PCB Container used to contain only PCBs at a concentration less than 500 ppm shall be disposed of as municipal solid wastes; provided that if the PCBs are in a liquid state, the PCB Container shall first be drained and the PCB liquid shall be disposed of in accordance with paragraph (a) of this section.

(3) Prior to disposal, a PCB container with PCB concentrations at 50 ppm or greater shall be stored in a unit which complies with Sec. 761.65.

(Sec. 6, Pub. L. 94-469, 90 Stat. 2020 (15 U.S.C. 2605)

[44 FR 31542, May 31, 1979]

Editorial Note: For Federal Register citations affecting Sec. 761.60, see the List of CFR Sections Affected, which appears in the Finding Aids section of the printed volume and on GPO Access.

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Sec. 761.61 **PCB remediation waste.**

This section provides cleanup and disposal options for PCB remediation waste. Any person cleaning up and disposing of PCBs managed under this section shall do so based on the concentration at which the PCBs are found. This section does not prohibit any person from implementing temporary emergency measures to prevent, treat, or contain further releases or mitigate migration to the environment of PCBs or PCB remediation waste.

(a) Self-implementing on-site cleanup and disposal of PCB remediation waste. EPA designed the self-implementing procedure for a general, moderately-sized site where there should be low residual environmental impact from remedial activities. The procedure may be less practical for larger or environmentally diverse sites. For these other sites, the self-implementing procedure still

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applies, but an EPA Regional Administrator may authorize more practical procedures through paragraph (c) of this section. Any person may conduct self-implementing cleanup and disposal of PCB remediation waste in accordance with the following requirements without prior written approval from EPA.

(1) Applicability. (i) The self-implementing procedures may not be used to clean up:

(A) Surface or ground waters.

(B) Sediments in marine and freshwater ecosystems.

(C) Sewers or sewage treatment systems.

(D) Any private or public drinking water sources or distribution systems.

(E) Grazing lands.

(F) Vegetable gardens.

(ii) The self-implementing cleanup provisions shall not be binding upon cleanups conducted under other authorities, including but not limited to, actions conducted under section 104 or section 106 of CERCLA, or section 3004(u) and (v) or section 3008(h) of RCRA.

(2) Site characterization. Any person conducting self-implementing cleanup of PCB remediation waste must characterize the site adequately to be able to provide the information required by paragraph (a)(3) of this section. Subpart N of this part provides a method for collecting new site characterization data or for assessing the sufficiency of existing site characterization data.

(3) Notification and certification. (i) At least 30 days prior to the date that the cleanup of a site begins, the person in charge of the cleanup or the owner of the property where the PCB remediation waste is located shall notify, in writing, the EPA Regional Administrator, the Director of the State or Tribal environmental protection agency, and the Director of the county or local environmental protection agency where the cleanup will be conducted. The notice shall include:

(A) The nature of the contamination, including kinds of materials contaminated.

(B) A summary of the procedures used to sample contaminated and adjacent areas and a table or cleanup site map showing PCB concentrations measured in all pre-cleanup characterization samples. The summary must include sample collection and analysis dates. The EPA Regional Administrator may require more detailed information including, but not limited to, additional characterization sampling or all sample identification numbers from all previous characterization activities at the cleanup site.

(C) The location and extent of the identified contaminated area, including topographic maps with sample collection sites cross referenced to the sample identification numbers in the data summary from paragraph (a)(3)(i)(B) of this section.

(D) A cleanup plan for the site, including schedule, disposal technology, and approach. This plan should contain options and contingencies to be used if unanticipated higher concentrations or wider distributions of PCB remediation waste are found or other obstacles force changes in the cleanup approach.

(E) A written certification, signed by the owner of the property where the cleanup site is located and the party conducting the cleanup, that all sampling plans, sample collection procedures, sample preparation procedures, extraction procedures, and instrumental/chemical analysis procedures used to assess or characterize the PCB contamination at the cleanup site, are on file at the location designated in the certificate, and are available for EPA inspection. Persons using alternate methods for chemical extraction and chemical analysis for site characterization must include in the certificate a statement that such a method will be used and that a comparison study which meets or exceeds the requirements of subpart Q of this part, and for which records are on file, has been completed prior to verification sampling.

(ii) Within 30 calendar days of receiving the notification, the EPA Regional Administrator will respond in writing approving of the self-implementing cleanup, disapproving of the self-implementing cleanup, or requiring additional information. If the EPA Regional Administrator does not respond within 30 calendar days of receiving the

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notice, the person submitting the notification may assume that it is complete and acceptable and proceed with the cleanup according to the information the person provided to the EPA Regional Administrator. Once cleanup is underway, the person conducting the cleanup must provide any proposed changes from the notification to the EPA Regional Administrator in writing no less than 14 calendar days prior to the proposed implementation of the change. The EPA Regional Administrator will determine in his or her discretion whether to accept the change, and will respond to the change notification verbally within 7 calendar days and in writing within 14 calendar days of receiving it. If the EPA Regional Administrator does not respond verbally within 7 calendar days and in writing within 14 calendar days of receiving the change notice, the person who submitted it may deem it complete and acceptable and proceed with the cleanup according to the information in the change notice provided to the EPA Regional Administrator.

(iii) Any person conducting a cleanup activity may obtain a waiver of the 30-day notification requirement, if they receive a separate waiver, in writing, from each of the agencies they are required to notify under this section. The person must retain the original written waiver as required in paragraph (a)(9) of this section.

(4) Cleanup levels. For purposes of cleaning, decontaminating, or removing PCB remediation waste under this section, there are four general waste categories: bulk PCB remediation waste, non-porous surfaces, porous surfaces, and liquids. Cleanup levels are based on the kind of material and the potential exposure to PCBs left after cleanup is completed.

(i) Bulk PCB remediation waste. Bulk PCB remediation waste includes, but is not limited to, the following non-liquid PCB remediation waste: soil, sediments, dredged materials, muds, PCB sewage sludge, and industrial sludge.

(A) High occupancy areas. The cleanup level for bulk PCB remediation waste in high occupancy areas is ≤ 1 ppm without further conditions. High occupancy areas where bulk PCB remediation waste remains at concentrations 1 ppm and ≤ 10 ppm shall be covered with a cap meeting the requirements of paragraphs (a)(7) and (a)(8) of this section.

(B) Low occupancy areas. (1) The cleanup level for bulk PCB remediation waste in low occupancy areas is ≤ 25 ppm unless otherwise specified in this paragraph.

(2) Bulk PCB remediation wastes may remain at a cleanup site at concentrations >25 ppm and ≤ 50 ppm if the site is secured by a fence and marked with a sign including the M_L mark.

(3) Bulk PCB remediation wastes may remain at a cleanup site at concentrations >25 ppm and ≤ 100 ppm if the site is covered with a cap meeting the requirements of paragraphs (a)(7) and (a)(8) of this section.

(ii) Non-porous surfaces. In high occupancy areas, the surface PCB cleanup standard is $\leq 10\ \mu g/100\ cm^2$ of surface area. In low occupancy areas, the surface cleanup standard is $<100\ \mu g/100\ cm^2$ of surface area. Select sampling locations in accordance with subpart P of this part or a sampling plan approved under paragraph (c) of this section.

(iii) Porous surfaces. In both high and low occupancy areas, any person disposing of porous surfaces must do so based on the levels in paragraph (a)(4)(i) of this section. Porous surfaces may be cleaned up for use in accordance with Sec. 761.79(b)(4) or Sec. 761.30(p).

(iv) Liquids. In both high and low occupancy areas, cleanup levels are the concentrations specified in Sec. 761.79(b)(1) and (b)(2).

(v) Change in the land use for a cleanup site. Where there is an actual or proposed change in use of an area cleaned up to the levels of a low occupancy area, and the exposure of people or animal life in or at that area could reasonably be expected to increase, resulting in a change in status from a low occupancy area to a high occupancy area, the owner of the area shall clean up the area in accordance with the high occupancy area cleanup levels in paragraphs (a)(4)(i) through (a)(4)(iv) of this section.

(vi) The EPA Regional Administrator, as part of his or her response to a notification submitted in accordance with Sec. 761.61(a)(3) of this part, may require cleanup of the site, or portions of

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it, to more stringent cleanup levels than are otherwise required in this section, based on the proximity to areas such as residential dwellings, hospitals, schools, nursing homes, playgrounds, parks, day care centers, endangered species habitats, estuaries, wetlands, national parks, national wildlife refuges, commercial fisheries, and sport fisheries.

(5) Site cleanup. In addition to the options set out in this paragraph, PCB disposal technologies approved under Secs. 761.60 and 761.70 are acceptable for on-site self-implementing PCB remediation waste disposal within the confines of the operating conditions of the respective approvals.

(i) Bulk PCB remediation waste. Any person cleaning up bulk PCB remediation waste shall do so to the levels in paragraph (a)(4)(i) of this section.

(A) Any person cleaning up bulk PCB remediation waste on-site using a soil washing process may do so without EPA approval, subject to all of the following:

(1) A non-chlorinated solvent is used.

(2) The process occurs at ambient temperature.

(3) The process is not exothermic.

(4) The process uses no external heat.

(5) The process has secondary containment to prevent any solvent from being released to the underlying or surrounding soils or surface waters.

(6) Solvent disposal, recovery, and/or reuse is in accordance with relevant provisions of approvals issued according to paragraphs (b)(1) or (c) of this section or applicable paragraphs of Sec. 761.79.

(B) Bulk PCB remediation waste may be sent off-site for decontamination or disposal in accordance with this paragraph, provided the waste is either dewatered on-site or transported off-site in containers meeting the requirements of the DOT Hazardous Materials Regulations (HMR) at 49 CFR parts 171 through 180.

(1) Removed water shall be disposed of according to paragraph (b)(1) of this section.

(2) Any person disposing off-site of dewatered bulk PCB remediation waste shall do so as follows:

(i) Unless sampled and analyzed for disposal according to the procedures set out in Sec. Sec. 761.283, 761.286, and 761.292, the bulk PCB remediation waste shall be assumed to contain ≥50 ppm PCBs.

(ii) Bulk PCB remediation wastes with a PCB concentration of <50 ppm shall be disposed of in accordance with paragraph (a)(5)(v)(A) of this section.

(iii) Bulk PCB remediation wastes with a PCB concentration ≥50 ppm shall be disposed of in a hazardous waste landfill permitted by EPA under section 3004 of RCRA, or by a State authorized under section 3006 of RCRA, or a PCB disposal facility approved under this part.

(iv) The generator must provide written notice, including the quantity to be shipped and highest concentration of PCBs (using extraction EPA Method 3500B/3540C or Method 3500B/3550B followed by chemical analysis using EPA Method 8082 in SW-846 or methods validated under subpart Q of this part) at least 15 days before the first shipment of bulk PCB remediation waste from each cleanup site by the generator, to each off-site facility where the waste is destined for an area not subject to a TSCA PCB Disposal Approval.

(3) Any person may decontaminate bulk PCB remediation waste in accordance with Sec. 761.79 and return the waste to the cleanup site for disposal as long as the cleanup standards of paragraph (a)(4) of this section are met.

(ii) Non-porous surfaces. PCB remediation waste non-porous surfaces shall be cleaned on-site or off-site for disposal on-site, disposal off-site, or use, as follows:

(A) For on-site disposal, non-porous surfaces shall be cleaned on-site or off-site to the levels in paragraph (a)(4)(ii) of this section using:

(1) Procedures approved under Sec. 761.79.

(2) Technologies approved under Sec. 761.60(e).

(3) Procedures or technologies approved under paragraph (c) of this section.

(B) For off-site disposal, non-porous surfaces:

(1) Having surface concentrations <100 $\mu g/100\ cm^2$ shall be disposed of in accordance with paragraph (a)(5)(i)(B)(2)(ii) of this section. Metal

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surfaces may be thermally decontaminated in accordance with Sec. 761.79(c)(6)(i).

(2) Having surface concentrations $\geq 100\ \mu g/100\ cm^2$ shall be disposed of in accordance with paragraph (a)(5)(i)(B)(2)(iii) of this section. Metal surfaces may be thermally decontaminated in accordance with Sec. 761.79(c)(6)(ii).

(C) For use, non-porous surfaces shall be decontaminated on-site or off-site to the standards specified in Sec. 761.79(b)(3) or in accordance with Sec. 761.79(c).

(iii) Porous surfaces. Porous surfaces shall be disposed on-site or off-site as bulk PCB remediation waste according to paragraph (a)(5)(i) of this section or decontaminated for use according to Sec. 761.79(b)(4), as applicable.

(iv) Liquids. Any person disposing of liquid PCB remediation waste shall either:

(A) Decontaminate the waste to the levels specified in Sec. 761.79(b)(1) or (b)(2).

(B) Dispose of the waste in accordance with paragraph (b) of this section or an approval issued under paragraph (c) of this section.

(v) Cleanup wastes. Any person generating the following wastes during and from the cleanup of PCB remediation waste shall dispose of or reuse them using one of the following methods:

(A) Non-liquid cleaning materials and personal protective equipment waste at any concentration, including non-porous surfaces and other non-liquid materials such as rags, gloves, booties, other disposable personal protective equipment, and similar materials resulting from cleanup activities shall be either decontaminated in accordance with Sec. 761.79(b) or (c), or disposed of in one of the following facilities, without regard to the requirements of subparts J and K of this part:

(1) A facility permitted, licensed, or registered by a State to manage municipal solid waste subject to part 258 of this chapter.

(2) A facility permitted, licensed, or registered by a State to manage non-municipal non-hazardous waste subject to Sec. Sec. 257.5 through 257.30 of this chapter, as applicable.

(3) A hazardous waste landfill permitted by EPA under section 3004 of RCRA, or by a State authorized under section 3006 of RCRA.

(4) A PCB disposal facility approved under this part.

(B) Cleaning solvents, abrasives, and equipment may be reused after decontamination in accordance with Sec. 761.79.

(6) Cleanup verification--(i) Sampling and analysis. Any person collecting and analyzing samples to verify the cleanup and on-site disposal of bulk PCB remediation wastes and porous surfaces must do so in accordance with subpart O of this part. Any person collecting and analyzing samples from non-porous surfaces must do so in accordance with subpart P of this part. Any person collecting and analyzing samples from liquids must do so in accordance with Sec. 761.269. Any person conducting interim sampling during PCB remediation waste cleanup to determine when to sample to verify that cleanup is complete, may use PCB field screening tests.

(ii) Verification. (A) Where sample analysis results in a measurement of PCBs less than or equal to the levels specified in paragraph (a)(4) of this section, self-implementing cleanup is complete.

(B) Where sample analysis results in a measurement of PCBs greater than the levels specified in paragraph (a)(4) of this section, self-implementing cleanup of the sampled PCB remediation waste is not complete. The owner or operator of the site must either dispose of the sampled PCB remediation waste, or reclean the waste represented by the sample and reinitiate sampling and analysis in accordance with paragraph (a)(6)(i) of this section.

(7) Cap requirements. A cap means, when referring to on-site cleanup and disposal of PCB remediation waste, a uniform placement of concrete, asphalt, or similar material of minimum thickness spread over the area where remediation waste was removed or left in place in order to prevent or minimize human exposure, infiltration of water, and erosion. Any person designing and constructing a cap must do so in accordance with Sec. 264.310(a) of this chapter, and ensure that it complies with the permeability, sieve, liquid limit, and plasticity index parameters in Sec. 761.75(b)(1)(ii) through (b)(1)(v). A

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cap of compacted soil shall have a minimum thickness of 25 cm (10 inches). A concrete or asphalt cap shall have a minimum thickness of 15 cm (6 inches). A cap must be of sufficient strength to maintain its effectiveness and integrity during the use of the cap surface which is exposed to the environment. A cap shall not be contaminated at a level ≥ 1 ppm PCB per AroclorTM (or equivalent) or per congener. Repairs shall begin within 72 hours of discovery for any breaches which would impair the integrity of the cap.

(8) Deed restrictions for caps, fences and low occupancy areas. When a cleanup activity conducted under this section includes the use of a fence or a cap, the owner of the site must maintain the fence or cap, in perpetuity. In addition, whenever a cap, or the procedures and requirements for a low occupancy area, is used, the owner of the site

must meet the following conditions:
(i) Within 60 days of completion of a cleanup activity under this section, the owner of the property shall:
(A) Record, in accordance with State law, a notation on the deed to the property, or on some other instrument which is normally examined during a title search, that will in perpetuity notify any potential purchaser of the property:
(1) That the land has been used for PCB remediation waste disposal and is restricted to use as a low occupancy area as defined in Sec. 761.3.
(2) Of the existence of the fence or cap and the requirement to maintain the fence or cap.
(3) The applicable cleanup levels left at the site, inside the fence, and/or under the cap.
(B) Submit a certification, signed by the owner, that he/she has recorded the notation specified in paragraph (a)(8)(i)(A) of this section to the EPA Regional Administrator.
(ii) The owner of a site being cleaned up under this section may remove a fence or cap after conducting additional cleanup activities and achieving cleanup levels, specified in paragraph (a)(4) of this section, which do not require a cap or fence. The owner may remove the notice on the deed no earlier than 30 days after achieving the cleanup levels specified in this section which do not require a fence or cap.
(9) Recordkeeping. For paragraphs (a)(3), (a)(4), and (a)(5) of this section, recordkeeping is required in accordance with Sec. 761.125(c)(5).
(b) Performance-based disposal. (1) Any person disposing of liquid PCB remediation waste shall do so according to Sec. 761.60(a) or (e), or decontaminate it in accordance with Sec. 761.79.
(2) Any person disposing of non-liquid PCB remediation waste shall do so by one of the following methods:
(i) Dispose of it in a high temperature incinerator approved under Sec. 761.70(b), an alternate disposal method approved under Sec. 761.60(e), a chemical waste landfill approved under Sec. 761.75, or in a facility with a coordinated approval issued under Sec. 761.77.
(ii) Decontaminate it in accordance with Sec. 761.79.
(3) Any person may manage or dispose of material containing <50 ppm PCBs that has been dredged or excavated from waters of the United States:
(i) In accordance with a permit that has been issued under section 404 of the Clean Water Act, or the equivalent of such a permit as provided for in regulations of the U.S. Army Corps of Engineers at 33 CFR part 320.
(ii) In accordance with a permit issued by the U.S. Army Corps of Engineers under section 103 of the Marine Protection, Research, and Sanctuaries Act, or the equivalent of such a permit as provided for in regulations of the U.S. Army Corps of Engineers at 33 CFR part 320.
(c) Risk-based disposal approval. (1) Any person wishing to sample, cleanup, or dispose of PCB remediation waste in a manner other than prescribed in paragraphs (a) or (b) of this section, or store PCB remediation waste in a manner other than prescribed in Sec. 761.65, must apply in writing to the EPA Regional Administrator in the Region where the sampling, cleanup, disposal or storage site is located, for

sampling, cleanup, disposal or storage occurring in a single EPA Region; or to the Director of the National Program Chemicals Division, for sampling, cleanup, disposal or storage occurring in more than one EPA Region. Each application must contain information described in

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the notification required by Sec. 761.61(a)(3). EPA may request other information that it believes necessary to evaluate the application. No person may conduct cleanup activities under this paragraph prior to obtaining written approval by EPA.

(2) EPA will issue a written decision on each application for a risk-based method for PCB remediation wastes. EPA will approve such an application if it finds that the method will not pose an unreasonable risk of injury to health or the environment.

[63 FR 35448, June 29, 1998, as amended at 64 FR 33761, June 24, 1999]

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Sec. 761.65 **Storage for disposal.**

This section applies to the storage for disposal of PCBs at concentrations of 50 ppm or greater and PCB Items with PCB concentrations of 50 ppm or greater.

(a)(1) Storage limitations. Any PCB waste shall be disposed of as required by subpart D of this part within 1-year from the date it was determined to be PCB waste and the decision was made to dispose of it. This date is the date of removal from service for disposal and the point at which the 1-year time frame for disposal begins. PCB/radioactive waste removed from service for disposal is exempt from the 1-year time limit provided that the provisions at paragraphs (a)(2)(ii) and (a)(2)(iii) of this section are followed and the waste is managed in accordance with all other applicable Federal, State, and local laws and regulations for the management of radioactive material.

(2) One-year extension. Any person storing PCB waste that is subject to the 1-year time limit for storage and disposal in paragraph (a)(1) of this section may provide written notification to the EPA Regional Administrator for the Region in which the PCB waste is stored that their continuing attempts to dispose of or secure disposal for their waste within the 1-year time limit have been unsuccessful. Upon receipt of the notice by the EPA Regional Administrator, the time for disposal is automatically extended for 1 additional year (2 years total) if the following conditions are met:

(i) The notification is received by the EPA Regional Administrator at least 30 days before the initial 1-year time limit expires and the notice identifies the storer, the types, volumes, and locations of the waste and the reasons for failure to meet the initial 1-year time limit.

(ii) A written record documenting all continuing attempts to secure disposal is maintained until the waste is disposed of.

(iii) The written record required by paragraph (a)(2)(ii) of this section is available for inspection or submission if requested by EPA.

(iv) Continuing attempts to secure disposal were initiated within

270 days after the time the waste was first subject to the 1-year time limit requirement, as specified in paragraph (a)(1) of this section. Failure to initiate and continue attempts to secure disposal throughout the total time the waste is in storage shall automatically disqualify the notifier from receiving an automatic extension under this section.

(3) Additional extensions. Upon written request, the EPA Regional Administrator for the Region in which the wastes are stored or the Director, National Program Chemicals Division, may grant additional extensions beyond the 1-year extension authorized in paragraph (a)(2) of this section. At the time of the request, the requestor must supply specific justification for the additional extension and indicate what measures the requestor is taking to secure disposal of the waste or indicate why disposal could not be conducted during the period of the prior extension. The EPA Regional Administrator or the Director, National Program Chemicals Division may require, as a condition to granting any extension under this section, specific actions including, but not limited to, marking, inspection, recordkeeping, or financial assurance to ensure that the waste does not pose an unreasonable risk of injury to health or the environment.

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(4) Storage at an approved facility. Increased time for storage may be granted as a condition of any TSCA PCB storage or disposal approval, by the EPA Regional Administrator for the Region in which the PCBs or PCB Items are to be stored or disposed of, or by the Director, National Program Chemicals Division, if EPA determines that there is a demonstrated need or justification for additional time, that the owner or operator of the facility is pursuing relevant treatment or disposal options, and that no unreasonable risk of injury to health or the environment will result from the increased storage time. In making this determination, EPA will consider such factors as absence of any approved treatment technology and insufficient time to complete the treatment or destruction process. EPA may require as a condition of the approval that the owner or operator submit periodic progress reports.

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(c)(1) The following PCB Items may be stored temporarily in an area that does not comply with the requirements of paragraph (b) of this section for up to thirty days from the date of their removal from service, provided that a notation is attached to the PCB Item or a PCB Container (containing the item) indicating the date the item was removed from service:

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(i) Non-leaking PCB Articles and PCB Equipment;

(ii) Leaking PCB Articles and PCB Equipment if the PCB Items are placed in a non-leaking PCB Container that contains sufficient sorbent materials to absorb any liquid PCBs remaining in the PCB Items;

(iii) PCB Containers containing non-liquid PCBs such as contaminated soil, rags, and debris; and

(iv) PCB containers containing liquid PCBs at concentrations of [ge]50 ppm, provided a Spill Prevention, Control and Countermeasure Plan has been prepared for the temporary storage area in accordance with part 112 of this chapter and the liquid PCB waste is in packaging authorized in the DOT Hazardous Materials Regulations at 49 CFR parts 171 through 180 or stationary bulk storage tanks (including rolling stock such as, but not limited to, tanker trucks, as specified by DOT).

(2) Non-leaking and structurally undamaged PCB Large High Voltage Capacitors and PCB-Contaminated Electrical Equipment that have not been drained of free flowing dielectric fluid may be stored on pallets next to a storage facility that meets the requirements of paragraph (b) of this section. PCB-Contaminated Electrical Equipment that has been drained of free flowing dielectric fluid is not subject to the storage provisions of Sec. 761.65. Storage under this subparagraph will be permitted only when the storage facility has immediately available unfilled storage space equal to 10 percent of the volume of capacitors and equipment stored outside the facility. The capacitors and equipment temporarily stored outside the facility shall be checked for leaks weekly.

(3) Any storage area subject to the requirements of paragraph (b) or paragraph (c)(1) of this section shall be marked as required in subpart C Sec. 761.40(a)(10).

(4) No item of movable equipment that is used for handling PCBs and PCB Items in the storage units and that comes in direct contact with PCBs shall be removed from the storage unit area unless it has been decontaminated as specified in Sec. 761.79.

(5) All PCB Items in storage shall be checked for leaks at least once every 30 days. Any leaking PCB Items and their contents shall be transferred immediately to properly marked non-leaking containers. Any spilled or leaked materials shall be immediately cleaned up and the materials and residues containing PCBs shall be disposed of in accordance with Sec. 761.61. Records of inspections, maintenance, cleanup and disposal must be maintained in accordance with Sec. 761.180(a) and (b).

(6) Except as provided in paragraphs (c)(6)(i) and (c)(6)(ii) of this section, any container used for the storage of liquid or non-liquid PCB waste shall be in accordance with the requirements set forth in the DOT Hazardous Materials Regulations (HMR) at 49 CFR parts 171 through 180. PCB waste not subject to the HMR (i.e., PCB wastes at concentrations of <20 ppm or <1 pound of PCBs regardless of concentration) must be packaged in accordance with Packaging Group III, unless other hazards associated with the PCB waste cause it to require packaging in accordance with Packaging Groups I or II. For purposes of describing PCB waste not subject to DOT's HMR on a manifest, one may use the term "Non-DOT Regulated PCBs."

(i) Containers other than those meeting HMR performance standards may be used for storage of PCB/radioactive waste provided the following requirements are met:

(A) Containers used for storage of liquid PCB/radioactive wastes must be non-leaking.

(B) Containers used for storage of non-liquid PCB/ radioactive wastes must be designed to prevent the buildup of liquids if such containers are stored in an area meeting the containment requirements of paragraph (b)(1)(ii) of this section, as well as all other applicable State or Federal regulations or requirements for control of radioactive materials.

(C) Containers used to store both liquid and non-liquid PCB/radioactive wastes must meet all regulations and requirements pertaining to nuclear criticality safety. Acceptable container materials currently include polyethylene and stainless steel provided that the container material is chemically compatible with the wastes being stored. Other containers may be used

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to store both liquid and non-liquid PCB/radioactive wastes if the users are able to demonstrate, to the appropriate Regional Administrator and other appropriate regulatory authorities (i.e., Nuclear Regulatory Commission, Department of Energy or the Department of Transportation), that the use of such containers is protective of health and the environment as well as public health and safety.

(ii) The following DOT specification containers that conform to the requirements of 49 CFR, chapter I, subchapter C in effect on September 30, 1991, may be used for storage and transportation activities that are not subject to DOT regulation, and may be used on a transitional basis as permitted at 49 CFR 171.14. For liquid PCBs: Specification 5 container without removable head, Specification 5B container without removable head, Specification 6D overpack with Specification 2S or 2SL polyethylene containers, or Specification 17E container. For non-liquid PCBs: Specification 5 container, Specification 5B container, or Specification 17C container.

(7) Stationary storage containers for liquid PCBs can be larger than the containers specified in paragraph (c)(6) of this section provided that:

(i) The containers are designed, constructed, and operated in compliance with Occupational Safety and Health Standards, 29 CFR 1910.106, Flammable and combustible liquids. Before using these containers for storing PCBs, the design of the containers must be reviewed to determine the effect on the structural safety of the containers that will result from placing liquids with the specific gravity of PCBs into the containers (see 29 CFR 1910.106(b)(1)(i)(f)).

(ii) The owners or operators of any facility using containers described in paragraph (c)(7)(i) of this section, shall prepare and implement a Spill Prevention Control and Countermeasure (SPCC) Plan as described in part 112 of this title. In complying with 40 CFR part 112, the owner or operator shall read "oil(s)" as "PCB(s)" whenever it appears. The exemptions for storage capacity, 40 CFR 112.1(d)(2), and the amendment of SPCC plans by the Regional Administrator, 40 CFR 112.4, shall not apply unless some fraction of the liquids stored in the container are oils as defined by section 311 of the Clean Water Act.

(8) PCB Items shall be dated on the item when they are removed from service for disposal. The storage shall be managed so that the PCB Items can be located by this date. Storage containers provided in paragraph (c)(7) of this section, shall have a record that includes for each batch of PCBs the quantity of the batch and date the batch was added to the container. The record shall also include the date, quantity, and

disposition of any batch of PCBs removed from the container.

(9) Bulk PCB remediation waste or PCB bulk product waste may be stored at the clean-up site or site of generation for 180 days subject to the following conditions:

(i) The waste is placed in a pile designed and operated to control dispersal of the waste by wind, where necessary, by means other than wetting.

(ii) The waste must not generate leachate through decomposition or other reactions.

(iii) The storage site must have:

(A) A liner that is designed, constructed, and installed to prevent any migration of wastes off or through the liner into the adjacent subsurface soil, ground water or surface water at any time during the active life (including the closure period) of the storage site. The liner may be constructed of materials that may allow waste to migrate into the liner. The liner must be:

(1) Constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeologic forces), physical contact with the waste or leachate to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation.

(2) Placed upon a foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression, or uplift.

(3) Installed to cover all surrounding earth likely to be in contact with the waste.

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(B) A cover that meets the requirements of paragraph (c)(9)(iii)(A) of this section, is installed to cover all of the stored waste likely to be contacted with precipitation, and is secured so as not to be functionally disabled by winds expected under normal seasonal meteorological conditions at the storage site.

(C) A run-on control system designed, constructed, operated, and maintained such that:

(1) It prevents flow onto the stored waste during peak discharge from at least a 25-year storm.

(2) It collects and controls at least the water volume resulting from a 24-hour, 25-year storm. Collection and holding facilities (e.g., tanks or basins) must be emptied or otherwise managed expeditiously after storms to maintain design capacity of the system.

(iv) The provisions of this paragraph may be modified under Sec. 761.61(c).

(10) Owners or operators of storage facilities shall establish and maintain records as provided in Sec. 761.180.

(Sec. 6, Pub. L. 94-469, 90 Stat. 2020 (15 U.S.C. 2605)

[44 FR 31542, May 31, 1979. Redesignated at 47 FR 19527, May 6, 1982, and amended at 47 FR 37359, Aug. 8, 1982; 49 FR 28191, July 10, 1984; 53

FR 12524, Apr. 15, 1988; 54 FR 52746, Dec. 21, 1989; 55 FR 695, Jan. 8, 1990; 55 FR 26205, June 27, 1990; 58 FR 15809, Mar. 24, 1993; 58 FR 34205, June 23, 1993; 58 FR 59374, Nov. 9, 1993; 63 FR 35439, 35452, June 29, 1998]

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Sec. 761.79 **Decontamination standards and procedures.**

(b) Decontamination standards. Chopping (including wire chopping), distilling, filtering, oil/water separation, spraying, soaking, wiping, stripping of insulation, scraping, scarification or the use of abrasives or solvents may be used to remove or separate PCBs, to the following standards, from liquids, concrete, or non-porous surfaces.

(1) The decontamination standard for water containing PCBs is:

(i) Less than 200 μg/L (i.e., <200 ppb PCBs) for non-contact use in a closed system where there are no releases;

(ii) For water discharged to a treatment works (as defined in Sec. 503.9(aa) of this chapter) or to navigable waters, <3 μg/L (approximately <3 ppb) or a PCB discharge limit included in a permit issued under section 307(b) or 402 of the Clean Water Act; or

(iii) Less than or equal to 0.5 μg/L (i.e., approximately ≤0.5 ppb PCBs) for unrestricted use.

(2) The decontamination standard for organic liquids and non-aqueous inorganic liquids containing PCBs is <2 milligrams per kilogram (i.e., <2 ppm PCBs).

(3) The decontamination standard for non-porous surfaces in contact with liquid and non-liquid PCBs is:

(i) For unrestricted use:

(A) For non-porous surfaces previously in contact with liquid PCBs at any concentration, where no free-flowing liquids are currently present, ≤10 micrograms PCBs per 100 square centimeters (≤10 μg/100 cm^2) as measured by a standard wipe test (Sec. 761.123) at locations selected in accordance with subpart P of this part.

(B) For non-porous surfaces in contact with non-liquid PCBs (including non-porous surfaces covered with a porous surface, such as paint or coating on metal), cleaning to Visual Standard No. 2, Near-White Blast Cleaned Surface Finish, of the National Association of Corrosion Engineers (NACE). A person shall verify compliance with standard No. 2 by visually inspecting all cleaned areas.

(ii) For disposal in a smelter operating in accordance with Sec. 761.72(b):

(A) For non-porous surfaces previously in contact with liquid PCBs at any concentration, where no free-flowing liquids are currently present, <100 μg/100 cm^2 as measured by a standard wipe test (Sec. 761.123) at locations selected in accordance with subpart P of this part.

(B) For non-porous surfaces in contact with non-liquid PCBs (including non-porous surfaces covered with a porous surface, such as paint or coating on metal), cleaning to Visual Standard No. 3, Commercial Blast Cleaned Surface Finish, of the National Association of Corrosion Engineers (NACE). A person shall verify compliance with standard No. 3 by visually inspecting all cleaned areas.

(4) The decontamination standard for concrete is ≤10 μg/100 cm^2 as measured by a standard wipe test (Sec. 761.123) if the decontamination procedure is commenced within 72 hours of the initial spill of PCBs to the concrete or portion thereof being decontaminated.

[63 FR 35457, June 29, 1998, as amended at 64 FR 33761, June 24, 1999]

Subpart G--PCB Spill Cleanup Policy

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Sec. 761.125 **Requirements for PCB spill cleanup.**

(c) Requirements for cleanup of high-concentration spills and low-concentration spills involving 1 pound or more PCBs by weight (270 gallons or more of untested mineral oil). Cleanup of low-concentration spills involving 1 lb or more PCBs by weight and of all spills of materials other than low-concentration materials shall be considered complete if all of the immediate requirements, cleanup standards, sampling, and recordkeeping requirements of paragraphs (c) (1) through (5) of this section are met.

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(5) Records. The responsible party shall document the cleanup with records of decontamination. The records must be maintained for a period of 5 years. The records and certification shall consist of the following:

(i) Identification of the source of the spill, e.g., type of equipment.

(ii) Estimated or actual date and time of the spill occurrence.

(iii) The date and time cleanup was completed or terminated (if cleanup was delayed by emergency or adverse weather: the nature and duration of the delay).

(iv) A brief description of the spill location and the nature of the materials contaminated. This information should include whether the spill occurred in an outdoor electrical substation, other restricted access location, or in a nonrestricted access area.

(v) Precleanup sampling data used to establish the spill boundaries if required because of insufficient visible traces and a brief description of the sampling methodology used to establish the spill boundaries.

(vi) A brief description of the solid surfaces cleaned.

(vii) Approximate depth of soil excavation and the amount of soil removed.

(viii) Postcleanup verification sampling data and, if not otherwise apparent from the documentation, a brief description of the sampling methodology and analytical technique used.

(ix) While not required for compliance with this policy, information on the estimated cost of cleanup (by man-hours, dollars, or both) would be useful if maintained in the records.

[52 FR 10705, Apr. 2, 1987, as amended at 53 FR 40884, Oct. 19, 1988; 63 FR 35461, June 29, 1998]

Subpart N--Cleanup Site Characterization Sampling for PCB Remediation Waste in Accordance with Sec. 761.61(a)(2)

Source: 63 FR 35465, June 29, 1998, unless otherwise noted.

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Sec. 761.269 **Sampling liquid PCB remediation waste.**

(a) If the liquid is single phase, collect and analyze one sample. There are no required procedures for collecting a sample.

(b) If the liquid is multi-phasic, separate the phases, and collect and analyze a sample from each liquid phase. There are no required procedures for collecting a sample from each single phase liquid.

(c) If the liquid has a non-liquid phase which is <ls-thn-eq>0.5 percent by total weight of the waste, separate the non-liquid phase from the liquid phase and sample it separately as a non-liquid in accordance with Sec. 761.265.

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Subpart O--Sampling to Verify Completion of Self-Implementing Cleanup and On-Site Disposal of Bulk PCB Remediation Waste and Porous Surfaces in Accordance with Sec. 761.61(a)(6)

Source: 63 FR 35465, June 29, 1998, unless otherwise noted.

Sec. 761.283 **Determination of the number of samples to collect and sample collection locations.**

This section addresses how to determine the number of samples to collect and sample collection locations for bulk PCB remediation waste and porous surfaces destined to remain at a cleanup site after cleanup.

(a) Minimum number of samples. (1) At each separate cleanup site at a PCB remediation waste location, take a minimum of three samples for each type of bulk PCB remediation waste or porous surface at the cleanup site, regardless of the amount of each type of waste that is present. There is no upper limit to the number of samples required or allowed.

(2) This is an example of how to calculate the minimum number of required samples at a PCB remediation waste location. There are three distinct cleanup sites at this example location: a loading dock, a

transformer storage lot, and a disposal pit. The minimum number of samples to take appears in parentheses after each type of waste for each cleanup site. The PCB remediation wastes present at the loading dock are concrete (three samples) and clay soil (three samples). The non-liquid PCB remediation wastes present at the transformer storage lot are oily soil (three samples), clay soil (three samples) and gravel (three samples). The PCB remediation wastes present at the disposal pit are sandy soil (three samples), clay soil (three samples), oily soil (three samples), industrial sludge (three samples), and gravel (three samples).

(b) Selection of sample locations--general. (1)(i) Use a square-based grid system to overlay the entire area to be sampled. Orient the grid axes on a magnetic north-south line centered in the area and an east-west axis perpendicular to the magnetic north-south axis also centered in the area.

(ii) If the site is recleaned based on the results of cleanup verification conducted in accordance with Sec. 761.61(a)(6), follow the procedures in paragraph (b) of this section for locating sampling

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points after the recleaning, but reorient the grid axes established in paragraph (b)(1)(i) of this section by moving the origin one meter in the direction of magnetic north and one meter in the direction east of magnetic north.

(2) Mark out a series of sampling points 1.5 meters apart oriented to the grid axes. The sampling points shall proceed in every direction to the extent sufficient to result in a two-dimensional grid completely overlaying the sampling area.

(3) Collect a sample at each point if the grid falls in the cleanup area. Analyze all samples either individually or according to the compositing schemes provided in the procedures at Sec. 761.289. So long as every sample collected at a grid point is analyzed as either an individual sample or as part of a composite sample, there are no other restrictions on how many samples are analyzed.

(c) Selection of sample locations--small cleanup sites. When a cleanup site is sufficiently small or irregularly shaped that a square grid with a grid interval of 1.5 meters will not result in a minimum of three sampling points for each type of bulk PCB remediation waste or porous surface at the cleanup site, there are two options.

(1) Use a smaller square grid interval and the procedures in paragraph (b) of this section.

(2) Use the following coordinate-based random sampling scheme. If the site is recleaned based on the results of cleanup verification conducted in accordance with Sec. 761.61(a)(6), follow the procedures in this section for locating sampling points after the recleaning, but select three new pairs of sampling coordinates.

(i) Beginning in the southwest corner (lower left when facing magnetic north) of the area to be sampled, measure in centimeters (or inches) the maximum magnetic north-south dimension of the area to be sampled. Next, beginning in the southwest corner, measure in centimeters (or inches) the maximum magnetic east-west dimension of the area to be sampled. Designate the north-south and east-west dimensions (describing the west and south boundaries, respectively, of the area to be sampled), as the reference axes of a square-based grid system.

(ii) Use a random number table or random number generator to select a pair of coordinates that will locate the sample within the area to be sampled. The first coordinate in the pair is the measurement on the north-south axis. The second coordinate in the pair is the measurement on the east-west axis. Collect the sample at the intersection of an east-west line drawn through the measured spot on the north-south axis, and a north-south line drawn through the measured spot on the east-west axis. If the cleanup site is irregularly shaped and this intersection falls outside the cleanup site, select a new pair of sampling coordinates. Continue to select pairs of sampling coordinates until three are selected for each type of bulk PCB remediation waste or porous surface at the cleanup site.

(d) Area of inference. Analytical results for an individual sample point apply to the sample point and to an area of inference extending to four imaginary lines parallel to the grid axes and one half grid interval distant from the sample point in four different directions. The area of inference forms a square around the sample point. The sides of the square are parallel to the grid axes and one grid interval in length. The sample point is in the center of the square area of inference. The area of inference from a composite sample is the total of the areas of the individual samples included in the composite.

Sec. 761.286 **Sample size and procedure for collecting a sample.**

At each selected sampling location for bulk PCB remediation waste or porous surfaces, collect at least 20 milliliters of waste, or a portion of sufficient weight for the chemical analyst to measure the concentration of PCBs and still have sufficient analytical detection sensitivity to reproducibly measure PCBs at the levels designated in Sec. 761.61(a)(4). Use a core sampler having a diameter $\geq$2 cm and $\leq$3 cm. Collect waste to a maximum depth of 7.5 cms.

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Sec. 761.292 **Chemical extraction and analysis of individual samples and composite samples.**

Use either Method 3500B/3540C or Method 3500B/3550B from EPA's SW-846, Test Methods for Evaluating Solid Waste, or a method validated under subpart Q of this part, for chemical extraction of PCBs from individual and composite samples of PCB remediation waste. Use Method 8082 from SW-846, or a method validated under subpart Q of this part, to analyze these extracts for PCBs.

97. For the purposes of the following request, please refer to TECO's 2011 Dismantlement Study, Bates-stamped page 530. Point number 29 states, "Soil testing and any other on-site testing has not been conducted for this study." Based on this statement, is it necessary to remove soil beneath oil tanks, foundations and supporting equipment as described in points 26 and 28?

A. No soil testing has been performed to determine the extent of contaminated soil in the vicinity of transformers and oil tanks. Burns & McDonnell developed assumptions for the quantity of contaminated soil that will be required to be removed and disposed of. These assumptions are stated in items 26 and 28. Based on Burns & McDonnell's experience with power generating equipment and facilities, it can reasonably be expected that a portion of the soil in the immediate vicinity of these items will become contaminated as part of normal operations. In order to ensure that the cost estimates are consistent with Florida Administrative Code Rule 25-6.04364 to return the site to a marketable or useable condition, an assumption to remove this contaminated soil was included.

98. For the purposes of the following request, please refer to TECO's 2011 Dismantlement Study, Bates-stamped page 533. For the Bayside Plant, please detail what is meant by the "abandoned spray areas."

A. The "abandoned spray areas" refer to areas on the plant property where process wastewater was land applied at some point in the past. More recently, these areas have been surfaced with crushed rock and utilized as laydown areas. The Tampa Electric staff reported no known contamination in these areas that would require remediation as part of the plant decommissioning.

99. For the purposes of the following request, please refer to TECO's 2011 Dismantlement Study, Bates stamped pages 549 and 1132. Please explain why the Summary of Surviving Assets total of $80,232,106 differs from the amount of $82,053,014 located on line 31, page 1132.

A. The reconciliation below is required to navigate from the Bates-stamped page 1132 to page 549. In reference to the reclassification of asbestos dismantling per FAS 143 / FIN 47 - Legal Asset Retirement Obligations to account 230 ARO Liability reported on the FORM 1 and 10-K.

Bates-stamped Page 1132 as listed on the ASR	$82,053,014
Add Back: Asbestos ARO reclass to account 230	$16,294,039
Bates-stamped Page 549 as Filed Total Reserve	$98,347,053

100. For the purposes of the following request, please refer to TECO's 2011 Dismantlement Study Bates-stamped pages 547 and 549. Please explain why the Summary of Surviving Assets total on Bates-stamped page 547 does not equal the Summary of Surviving Assets total located on Bates-stamped page 549.

A. The $400,000 difference is an error displayed on Bates-stamped page 548 for Total Polk Power Station proposed reserve transfers. The total transfer should have been a net $0 indicating no transfers in or out of the station. The correction of this error reduces the 2011 Ending Dismantlement Reserve Balance by ($400,000) and increases the 2012 annual accrual by $13,628.

101. Please explain why TECO's proposed dismantlement reserve transfers shown on Bates-stamped page 548 are separated into the cost categories of Labor, Materials and Equipment, Disposal and Salvage.

A. F.A.C. Rule 25-6.04364 (2) (c) "Dismantlement Costs." The costs for the ultimate physical removal and disposal of plant and site restoration, minus any attendant gross salvage amount, upon final retirement of the site or unit from service.

The format of the dismantling model tracks the reserve balance, cost estimate and annual accrual by these four categories;

Labor – physical removal
Materials & Equipment – used during physical removal
Disposal – disposal and site restoration aggregated
Salvage – gross salvage

See the response to Request No. 102.

102. Please refer to Bates-stamped page 548. Please explain how TECO determined what dismantlement reserve to transfer from one cost category to another and from what unit to another.

A. Tampa Electric changed cost estimators for the 2011 Depreciation Study. As a result, the format of the 2011 Dismantling Cost Estimate provided by the new vendor changed. A major difference between cost estimators was how common plant assets were assigned. This new format better isolates common plant versus the previous estimator allocations to each unit. Common assets cannot be removed while other units are still in operations.

Thus, the new format is inconsistent with how units by category were tracked prior to the 2011 Depreciation Study. This caused dismantling reserve surpluses and deficiencies to exist, in units by category, when none were expected. If not corrected, timing differences would occur during escalation and skew the results of the annual accrual analysis.

Bates-stamped page 548 was an attempt to reasonably correct each station reserve categories between common plant and individual units based on the new format.

Reserve transfers were done within the station only. See the response to Request No. 100 for an error correction.

103. Please provide a detailed narrative of the methodology and escalation rates used in converting the current estimated dismantlement costs to future estimated dismantlement costs and provide supporting documentation and analyses.

A. See the response to Request No. 101 for the cost categories.
See the response to Request No. 107 for contingency factor.
See the response to Request No. 105 for the escalation indices.
See the response to Request No. 108 for the calculation methodology.

104. Please provide a summary and explanation of material differences between the current study and the utility's last filed study including changes in methodology and assumptions for determining the escalation rates.

A. See the response to Request Nos. 102 and 107. In general the current decommissioning study is materially similar to the 2006 study prepared by MARCOR Remediation, Inc. in that costs are included for equipment and facility demolition and remediation which are offset to some degree by appropriate credits for scrap material. However, there are some differences between the 2006 study and the current study that have resulted in the current decommissioning costs differing from the 2006 study values. The biggest drivers for these changes are:

- Scrap pricing used in the current study is significantly higher than the values used in the 2006 study as outlined below:
    - Scrap Steel
        - Current Study - $265/gross-ton
        - 2006 Study - $30/ton
    - Scrap Copper
        - Current Study - $2.50/lb
        - 2006 Study - $0.45/lb
    - Scrap Inconel
        - Current Study - $6.50/lb
        - 2006 Study – Excluded
- In the current study, a significant amount of Inconel has been estimated to be available for scrap at Polk at a substantial scrap value. This Inconel scrap was not included in the 2006 study.
- Environmental remediation and closure plans prepared for the current study were developed based on current standards. The remediation and closure plans included in the 2006 study do not conform to current standards.

Burns & McDonnell did not include any escalation in the decommissioning study.

105. Please refer to the tab titled "Escalation Factors" in the Excel file titled, "2011 ES – Dismantling Master File – FILED.xlsx."

a. Please explain in detail how the escalation rates were derived.

b. Please provide the supporting documentation used to determine the inflation forecasts, e.g., Global Insight or Moody's Economy.

A. a. See the response to Request No. 105.b.

b. See attached file 2011 January - Moodys Inflation Index, which was provided by the Load Research and Forecasting Department based on a January 2011 download from Moody Analytics, Economy.com.

The four cost categories are referenced in Request No. 101 and the relationship to the three inflation indices provided from Moody's.

Labor uses the Compensation Per Hour, Productivity and Costs (2005=100) index.

Materials & Equipment uses the U.S. Intermediate Goods, Producer Prices (1982=100) index.

Disposal uses GDP Chain Price Deflator (2005=100) index.

Salvage uses U.S. Intermediate Goods, Producer Prices (1982=100) index.

Each of the Moody's indices lists the annual index walk forward and calculates a corresponding annual percent change.

This annual percent change is copied into the dismantling model tab titled "Escalation Factors" where the compounding formula calculates and is used for escalating the current cost estimate to the future end date of the unit.

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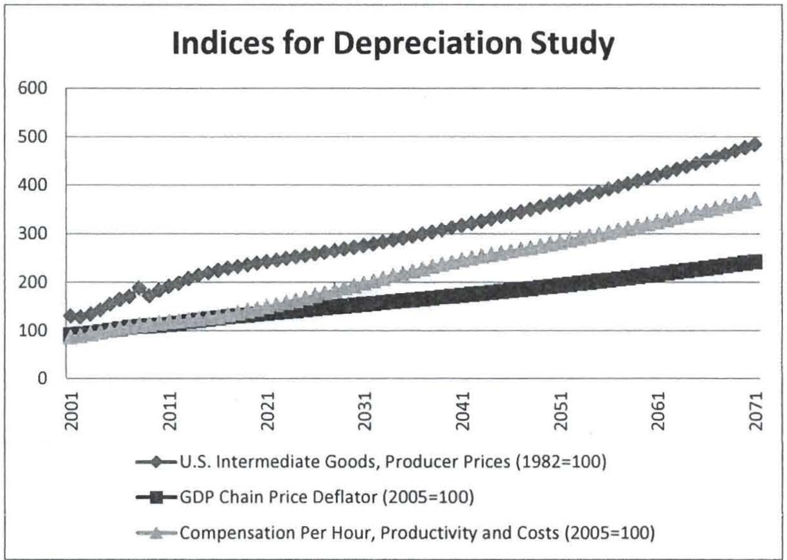
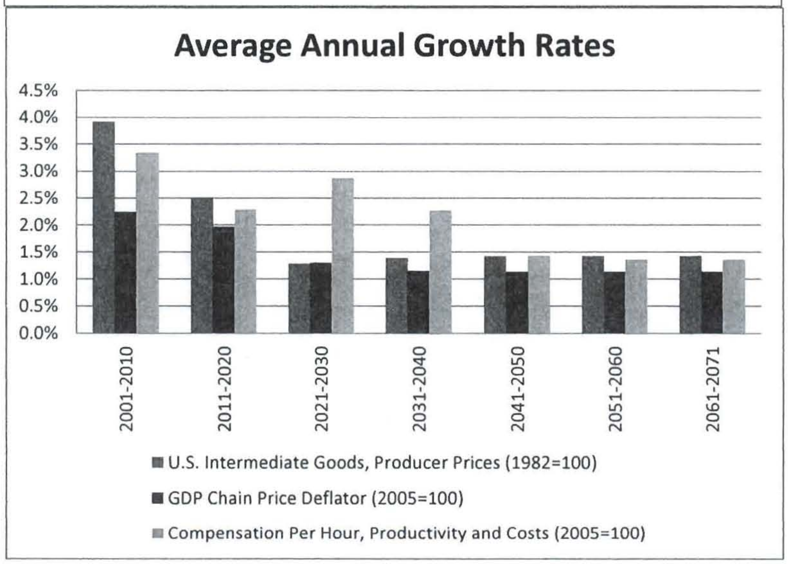
Moody's Economy.com Forecasts
2011: Forecasts through 2071

Provided to Tampa Electric Company 1/2011 by Moody Analytics, Economy.com
Provided to Paige Valiente, by Stacy Hallman, Load Research & Forecasting x34245 on 2/11/11

	U.S. Intermediate Goods, Producer Prices (1982=100)		GDP Chain Price Deflator (2005=100)		Compensation Per Hour, Productivity and Costs (2005=100)	
	Index	Annual % Change	Index	Annual % Change	Index	Annual % Change
2001	129.7	0.40%	90.7	2.26%	86.2	4.56%
2002	127.8	-1.47%	92.1	1.61%	88.9	3.17%
2003	133.7	4.63%	94.1	2.16%	93.1	4.73%
2004	142.6	6.64%	96.8	2.84%	96.2	3.33%
2005	153.9	7.95%	100.0	3.34%	100.0	3.94%
2006	163.8	6.44%	103.3	3.26%	103.8	3.77%
2007	170.3	3.92%	106.3	2.94%	107.9	4.01%
2008	187.9	10.34%	108.6	2.16%	111.5	3.30%
2009	172.1	-8.41%	109.6	0.94%	113.6	1.86%
2010	183.2	6.48%	110.7	0.98%	115.8	1.94%
2011	191.5	4.55%	112.2	1.34%	118.3	2.22%
2012	198.4	3.60%	114.6	2.20%	120.0	1.39%
2013	207.1	4.39%	118.0	2.95%	121.7	1.44%
2014	213.9	3.24%	120.8	2.38%	123.7	1.65%
2015	219.3	2.54%	123.3	2.04%	126.1	1.95%
2016	224.5	2.37%	125.7	1.94%	129.2	2.43%
2017	228.9	1.96%	127.9	1.71%	132.8	2.74%
2018	232.5	1.58%	129.8	1.53%	136.7	2.96%
2019	235.8	1.41%	131.7	1.47%	140.8	3.01%
2020	239.1	1.40%	133.6	1.43%	145.0	2.97%
2021	242.4	1.39%	135.5	1.41%	149.2	2.89%
2022	245.8	1.38%	137.4	1.39%	153.5	2.87%
2023	249.1	1.36%	139.2	1.36%	157.9	2.90%
2024	252.4	1.32%	141.1	1.34%	162.5	2.93%
2025	255.5	1.24%	143.0	1.32%	167.3	2.96%
2026	258.7	1.23%	144.8	1.30%	172.2	2.93%
2027	261.9	1.24%	146.7	1.27%	177.2	2.88%
2028	265.2	1.26%	148.5	1.27%	182.2	2.83%
2029	268.6	1.27%	150.4	1.24%	187.4	2.82%
2030	272.0	1.28%	152.2	1.21%	192.4	2.70%
2031	275.6	1.31%	154.0	1.19%	197.6	2.69%
2032	279.2	1.32%	155.8	1.17%	202.9	2.68%
2033	282.9	1.33%	157.6	1.16%	208.1	2.56%
2034	286.8	1.36%	159.4	1.15%	213.2	2.44%
2035	290.7	1.38%	161.3	1.19%	218.2	2.36%
2036	294.8	1.41%	163.1	1.14%	223.1	2.26%
2037	299.0	1.42%	165.0	1.14%	227.9	2.16%
2038	303.2	1.42%	166.9	1.14%	232.6	2.06%
2039	307.5	1.42%	168.8	1.14%	237.2	1.96%
2040	311.9	1.42%	170.7	1.14%	241.6	1.86%
2041	316.3	1.42%	172.6	1.14%	245.9	1.76%
2042	320.8	1.42%	174.6	1.14%	249.9	1.66%
2043	325.4	1.42%	176.6	1.14%	253.8	1.56%
2044	330.0	1.42%	178.6	1.14%	257.5	1.46%
2045	334.7	1.42%	180.6	1.14%	261.0	1.36%
2046	339.4	1.42%	182.7	1.14%	264.6	1.36%
2047	344.3	1.42%	184.7	1.14%	268.2	1.36%
2048	349.1	1.42%	186.8	1.14%	271.8	1.36%
2049	354.1	1.42%	188.9	1.14%	275.5	1.36%
2050	359.1	1.42%	191.1	1.14%	279.3	1.36%
2051	364.2	1.43%	193.3	1.14%	283.1	1.36%
2052	369.4	1.43%	195.5	1.14%	286.9	1.36%
2053	374.7	1.43%	197.7	1.14%	290.8	1.36%
2054	380.0	1.43%	199.9	1.14%	294.8	1.36%
2055	385.5	1.43%	202.2	1.14%	298.8	1.36%
2056	391.0	1.43%	204.5	1.14%	302.9	1.36%
2057	396.5	1.43%	206.8	1.14%	307.0	1.36%
2058	402.2	1.43%	209.2	1.14%	311.2	1.36%
2059	407.9	1.43%	211.5	1.14%	315.4	1.36%
2060	413.7	1.43%	213.9	1.14%	319.7	1.36%
2061	419.6	1.43%	216.4	1.14%	324.0	1.36%
2062	425.6	1.43%	218.8	1.14%	328.4	1.36%
2063	431.7	1.43%	221.3	1.14%	332.9	1.36%
2064	437.9	1.43%	223.8	1.14%	337.4	1.36%
2065	444.2	1.43%	226.4	1.14%	342.0	1.36%
2066	450.5	1.43%	228.9	1.14%	346.7	1.36%
2067	456.9	1.43%	231.5	1.14%	351.4	1.36%
2068	463.5	1.43%	234.2	1.14%	356.2	1.36%
2069	470.1	1.43%	236.8	1.14%	361.0	1.36%
2070	476.8	1.43%	239.5	1.14%	365.9	1.36%
2071	483.7	1.43%	242.2	1.14%	370.9	1.36%


Indices for Depreciation Study
600
500
400
300
200
100
0
2001
2011
2021
2031
2041
2051
2061
2071
U.S. Intermediate Goods, Producer Prices (1982=100)
GDP Chain Price Deflator (2005=100)
Compensation Per Hour, Productivity and Costs (2005=100)


Average Annual Growth Rates
4.5%
4.0%
3.5%
3.0%
2.5%
2.0%
1.5%
1.0%
0.5%
0.0%
2001-2010
2011-2020
2021-2030
2031-2040
2041-2050
2051-2060
2061-2071
U.S. Intermediate Goods, Producer Prices (1982=100)
GDP Chain Price Deflator (2005=100)
Compensation Per Hour, Productivity and Costs (2005=100)

106. Please provide a narrative of the supporting schedules, analyses, and data, including the contingency allowance, used in developing the dismantlement cost estimates and annual accruals proposed by the utility.

A. See the response to Request No. 108.

107. Please refer to the tab titled "Cost Estimates in 2011" in the Excel file titled, "2011 ES – Dismantling Master File – FILED.xlsx." In this worksheet, TECO provides a 15 percent contingency factor in the current cost estimates, but in the previous study in 2007, a 10 percent contingency factor was used. Please explain in detail why the Utility is proposing an increase in the contingency factor. Please provide supporting documentation and analyses for the increase.

A. The previous cost estimator, in 2007, did not provide estimates for certain significant items. Tampa Electric had to internally provide those estimates and oversight costs. Thus, a 10 percent contingency factor for errors in estimate was applied to all external and internally generated cost estimates.

The current cost estimator, in 2011, was requested to provide a more comprehensive and all inclusive cost estimate. As a result, the 15 percent contingency factor is a combination of a 10 percent error in estimate plus 5 percent for internal oversight of the dismantlement program.

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108. Rule 25-6.04364(7), F.A.C., requires that the annual dismantlement accrual shall be a fixed dollar amount and shall be based on a four-year average of the accruals related to the years between the dismantlement study reviews. Please explain how TECO's proposed annual dismantlement accrual complies with the rule. In the explanation, please describe the calculation methodology.

A. See attached.

	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7	Step 8	Step 9
	Current Cost Estimate	Apply Contingency (a) * 15%	Walk Forward Result of (a) + (b)	Apply Moodys Index (c) * Escalation	Net Against the 2011 Reserve (d) - Reserve	Present Value Caluation PV (e)	Calculate Annual Payment in 2012 PMT (f)	Walk Forward Annual Payment (g) * (1+ i rate)	Calculate 4-year Average Payment Sum(g)(h) / 4
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
Labor	in Jan 2011	Yes	to 2012 dollars	to unit end date	= amount to accrue	to 2012 dollars	1st	2nd, 3rd, 4th	= Fixed Accrual
Mats & Equip	in Jan 2011	Yes	to 2012 dollars	to unit end date	= amount to accrue	to 2012 dollars	1st	2nd, 3rd, 4th	= Fixed Accrual
Disposal	in Jan 2011	Yes	to 2012 dollars	to unit end date	= amount to accrue	to 2012 dollars	1st	2nd, 3rd, 4th	= Fixed Accrual
Salvage	in Jan 2011	No	to 2012 dollars	to unit end date	= amount to accrue	to 2012 dollars	1st	2nd, 3rd, 4th	= Fixed Accrual

Documents – Dismantlement Study

109. Please provide a copy of the American Metals Market Report used to determine scrap metal values for TECO's 2011 Decommissioning Study.

A. The scrap values used in the decommissioning study were developed by the demolition contractor that was part of the evaluation team. The demolition contractor uses the AMM reports as a guide and a benchmark, does not pull costs directly from the reports. Pricing is usually at the export dock or mill, and processing of materials to size and transportation affect final cost.

Tampa Electric is actively pursuing copyright permission for the American Metals Market Report requested. The document will be provided once the copyright release is granted.

TAMPA ELECTRIC COMPANY
DOCKET NO. 110131-EI
STAFF'S FIRST DATA REQUEST
REQUEST NO. 110
BATES STAMPED PAGES: 451 - 487
FILED: AUGUST 1, 2011

110. Please provide a copy of the Florida Department of Environmental Protection (FDEP) Guidance for Disturbance and Use of Old Closed Landfills or Waste Disposal Areas in Florida (Version 2 – June 2009).

A. See attached.

GUIDANCE FOR DISTURBANCE AND USE OF OLD CLOSED LANDFILLS OR WASTE DISPOSAL AREAS IN FLORIDA

Version 2.0
FINAL

June 3, 2009

Prepared by:

Department of Environmental Protection
Solid Waste Section
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

DISCLAIMER

The information contained in this document is intended for guidance only. It is not a rule and does not create any standards or criteria which must be followed by the regulated community. Furthermore, compliance with this document does not relieve the owner or operator from the responsibility for complying with the Department's rules nor from any liability for environmental damages caused by the disturbance of or activities near old landfills or waste disposal areas.

TABLE OF CONTENTS

LIST OF TABLES

APPENDICES

LIST OF ACRONYMS

EDP	Excavation and Disposal Plan
EPA	U. S. Environmental Protection Agency
F.A.C.	Florida Administrative Code
F.S.	Florida Statutes
GWMP	Ground Water Monitoring Plan
HRA	Health Risk Assessment
MOP	Monitoring Only Plan
NELAP	National Environmental Laboratory Accreditation Program
PCAP	Preliminary Contamination Assessment Plan
PCAR	Preliminary Contamination Assessment Report
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
RSM	Recovered Screened Material
RTL	Reuse Target Level
SPLP	Synthetic Precipitation Leaching Procedure
SSW	Screened Solid Waste
WPF	Waste Processing Facility
WTE	Waste-to-Energy

1.0 BACKGROUND AND PURPOSE

In the past, the Florida Department of Environmental Protection (Department) has received notifications that old landfills or old disposal areas were unexpectedly discovered during various construction projects. The Department has also been contacted by property owners who were seeking to develop property which was known to contain areas where waste had been disposed. As such, the Department was asked to provide guidance regarding proper management of waste for similar situations. Questions are typically raised about the relocation of wastes, where they can be properly disposed, permitting requirements, back-filling of excavated areas, use of screened material from the waste and ground water monitoring requirements.

There have also been situations where development projects, such as residential housing units, schools, recreational areas or retail businesses, have been constructed on top of or adjacent to old disposal areas. Some of these projects have resulted in considerable health and safety concerns for individuals living or working near these disposal areas and for the integrity of the environmental protection measures that may be in place at the disposal sites.

The potential risks from old disposal sites may vary considerably and are usually not well understood. This can be due to a variety of factors such as a lack of records on the types of waste disposed at a site or a lack of data on the generation and fate of gases and leachate from these wastes. For example, some wastes contain more biodegradable material than others and as a result may generate more methane gas under anaerobic conditions causing odors and green house gases. Or, due to the age of the wastes, they may have stabilized to the point that gas generation is no longer of concern. If gases are still being generated, they may or may not be migrating off-site depending on the specific geological and physical features of the site. Also, since these old disposal sites were unlined, impact to ground water from leachate generation may be a problem, but this can not be determined without a ground water investigation.

Due to the difficulties encountered in dealing with these old sites, the Department has been asked to develop recommendations for managing the problems arising from construction near or over them. Consequently, this document is intended to provide guidance to the regulated community on the Department's requirements and recommendations for disturbing or using old, closed landfills or disposal areas. While owners of these old sites are encouraged to use this guidance, this document is not a rule and does not create any standards or criteria which must be followed by the regulated community.

The original document for this guidance was issued on May 3, 2001. Since that time, changes have occurred which require the Department to update this document. For example, on April 17, 2005, Chapter 62-780, Florida Administrative Code (F.A.C.) became effective. This new chapter establishes the procedures for the assessment and cleanup of contaminated sites when it has been established that a person is legally responsible for conducting site rehabilitation or when a person voluntarily rehabilitates a contaminated site. As a result, the previous process used by the Department, (i.e., the process known as Corrective Actions for Contaminated Site Cases) is an obsolete tool and individuals choosing to conduct contamination assessment and possibly cleanup are now encouraged to use the process identified in Chapter 62-780, F.A.C. In addition, concentrations for some of the Reuse Target Levels (RTLs) listed in the original document have been changed. Consequently, this guidance document needed to be revised to implement these updates. The basic processes contemplated in the original document remain the same.

2.0 APPLICABILITY

In general, this document only applies to old disposal sites that are inactive, i.e. no longer receiving wastes, and can normally be placed into one of three categories:

(1) old permitted landfills that had a final cover[1] installed before July 1, 1985 without a closure permit;

(2) old disposal sites, such as dumps, open dumps and promiscuous dumps, that were operated and closed without permits and which may have had few or no records available of their operations; and

(3) construction and demolition (C&D) debris disposal areas which were operated and closed prior to August 2, 1989.

The application of this document to any other sites will be determined on a case-by-case basis by the Department.

For the purposes of this document, a "landfill" means a Class I, II or III landfill as it is currently defined in the Department's Solid Waste Management Facilities rule, Chapter 62-701, F.A.C. Also, C&D debris[2] in this document means the same as it is currently defined in Section 403.703(6), Florida Statutes (F.S.) which reads:

> (6) "Construction and demolition debris" means discarded materials generally considered to be not water-soluble and nonhazardous in nature, including, but not limited to, steel, glass, brick, concrete, asphalt roofing material, pipe, gypsum wallboard, and lumber, from the construction or destruction of a structure as part of a construction or demolition project or from the renovation of a structure, and includes rocks, soils, tree remains, trees, and other vegetative matter that normally results from land clearing or land development operations for a construction project, including such debris from construction of structures at a site remote from the construction or demolition project site. Mixing of construction and demolition debris with other types of solid waste will cause the resulting mixture to be classified as other than construction and demolition debris. The term also includes:

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[1] In July 1, 1985, final cover was generally defined as a 24-inch thick soil layer placed over the wastes in the landfill.

[2] An additional explanation of how C&D debris wastes are defined is contained in Section 4.3.2 of this document.

(a) Clean cardboard, paper, plastic, wood, and metal scraps from a construction project;
(b) Yard trash and unpainted, nontreated wood scraps and wood pallets from sources other than construction or demolition projects;
(c) Scrap from manufacturing facilities which is the type of material generally used in construction projects and which would meet the definition of construction and demolition debris if it were generated as part of a construction or demolition project. This includes debris from the construction of manufactured homes and scrap shingles, wallboard, siding concrete, and similar materials from industrial or commercial facilities; and
(d) De minimis amounts of other nonhazardous wastes that are generated at construction or destruction projects, provided such amounts are consistent with best management practices of the industry.

Dumps, open dumps, and promiscuous dumps were defined in earlier rules by the Department. In 1974, dumps were defined in Rule 17-7.02(7), F.A.C. as:

> "Dump" is a land disposal site at which solid waste is disposed of in a manner which does not protect the environment and is exposed to the elements, vectors and scavengers.

In 1979, open dumps and promiscuous dumps were defined in Rules 17-7.02(33) and (36), F.A.C., respectively, as:

> "Open Dump" means a site for the disposal of solid waste which does not comply with the criteria of Chapter 17-7, F.A.C.; and
>
> "Promiscuous Dump" means an unauthorized site where indiscriminate deposits of solid waste are made.

3.0 GOAL

If plans are made to disturb an old landfill, the owner is required to notify the Department before beginning this activity. The basic regulatory requirements for the old, closed landfills are contained in Rule 62-701.610(7), F.A.C. and read as follows:

> Use of closed landfill areas. Closed landfill areas, if disturbed, are a potential hazard to public health, ground water and the environment. The Department retains regulatory control over any activities which may affect the integrity of the environmental protection measures such as the landfill cover, drainage, liners, monitoring system, or leachate and stormwater controls. Consultation with the Department is required prior to conducting activities at the closed landfill areas.

The goal of this document is not to impose new regulatory burdens on owners of old landfills or disposal sites but to clarify what the Department's expectations are if an old site is disturbed or used. The owners of these sites are strongly encouraged to consult with the Department prior to disturbing any of these areas or conducting any construction near or over them and to develop a plan of action that achieves the goals of the owner but is also protective of human health and the environment. To facilitate communication with the Department in these matters, a list of contacts and addresses for the Tallahassee and District offices is provided in APPENDIX A.

The remaining portions of this document describe the activities that should be conducted or considered when attempting development near or over these old sites. The Department encourages the owners of these sites to follow these recommendations.

4.0 WASTE DISTURBANCE

4.1 Waste Relocation On-site

There have been occasions when construction projects have included the on-site relocation of existing wastes (i.e., within the footprint of the original landfill disposal area) which were either known to exist at the site before construction or discovered during construction. The owner may also desire to sort uncontaminated concrete from the waste before reburial[3].

In 2001, the Department revised its solid waste rule to address the relocation of these on-site wastes at closed landfills. Specifically, Rule 62-701.610(8), F.A.C., reads:

> Relocation of waste. The owner of a closed landfill may request permission from the Department to move waste from one point to another within the footprint of the same solid waste disposal unit. If the landfill has a valid closure permit, the permittee shall seek a modification to reflect the relocation of waste. The Department shall approve such a request upon a demonstration that:
> (a) The activity will not cause or contribute to any leachate leakage from the landfill, and will not adversely affect the closure design of the landfill;
> (b) Any leachate, stormwater runoff, or gas which is generated by the activity is controlled on site;
> (c) Any hazardous waste which is generated by the activity will be managed in accordance with Chapter 62-730, F.A.C.;
> (d) Immediately after the activity is completed, the landfill will be covered, vegetated, and graded so as to comply with the closure

[3] Sorting materials other than uncontaminated concrete will require written approval by the Department before the sorting begins in accordance with the requirements of Section 4.4 of this document.

requirements that apply to that landfill, which shall include a final cover of at least two feet of soil; and

(e) The appropriate District Office of the Department is notified at least seven days before the activity takes place in order to have the opportunity to inspect the site.

If the landfill has a valid closure permit, then a modification of that closure permit will be required to relocate on-site wastes. The owner of the landfill will have to demonstrate that the requirements of Rule 62-701.610(8), F.A.C. will be satisfied during the relocation activities. Uncontaminated concrete which is excavated from the disposal site and removed from the wastes may be used as a raw material or as fill material without a permit[4], i.e. used as clean debris. But it must meet the definition of clean debris contained in Rule 62-701.200(15), F.A.C. before it can be used as fill or raw material.

If the landfill was closed before closure permits were required, then waste relocation activities may still be allowed and the Department will not require a closure permit or long-term care requirements provided the following occur.

(a) A Relocation Plan must be submitted for review and approval to the Department's District office in the District where the disposal site is located (see contacts and addresses in APPENDIX A). At a minimum, it should include the following:

- a site map showing which waste will be removed and where it will be reburied;
- an estimate of the total volume of wastes to be relocated and the time needed to complete the project;
- a description of how the wastes will be excavated and relocated; and
- a description of how odors will be minimized and how surface water and leachate resulting from the relocation activities will be controlled.

(b) The waste must only be relocated within the original landfill or disposal site footprint[5], and must be covered with two feet of soil, compacted and revegetated.

(c) No off-site waste can be transported to the site and disposed of in the relocation areas.

(d) Should any hazardous wastes be encountered, they will be managed as a hazardous waste according to Chapter 62-730, F.A.C.

(e) The only wastes to be relocated are those which are necessary to implement the construction project.

[4] For the Department's requirements on this use, see Rules 62-701.220(2)(f) and 62-701.730(15), F.A.C.

[5] Relocation of wastes outside the original footprint is considered new disposal and may require a permit.

(f) If sorting of uncontaminated concrete from the waste is planned, a description of how the sorting will be accomplished shall be provided. Uncontaminated concrete may be used as a raw material or as fill without a permit provided it meets the requirements stated above for facilities having valid closure permits.

(g) If it is determined that the waste at the site is causing ground water contamination, then some water quality monitoring, and possibly corrective actions, will be required as described in Section 4.6.

4.2 Waste Left In-place

Waste left in-place and not disturbed, is generally subject only to the closure requirements that applied at the time the site was operated. If there are questions about these requirements, the summaries in APPENDICES B and C may provide some guidance.

Normally, no further action is required by the Department in the areas containing undisturbed waste. However, if the waste is not stabilized[6] and the final cover is inadequate, the Department may require the soil cover be repaired (for example, at least two feet of soil cover and no areas of ponding). Also, if it is determined that the waste is causing ground water contamination, then some water quality monitoring, and possibly corrective action, will be required according to Section 4.6.

4.3 Waste Removal and Off-site Disposal

Removing the waste may be the best option to achieve unrestricted use of former disposal areas. This option may not be practical if a large area of land was used for disposal or if much of the waste was disposed of in the ground water and cannot be easily removed. In those cases, a partial removal may be appropriate. The Department must be notified prior to beginning these activities. However, a permit will not generally be required for these activities provided the work is conducted under a Department approved Excavation and Disposal Plan (see Section 4.3.1).

Uncontaminated concrete which is excavated from the disposal site and removed from the wastes may be used as a raw material or as fill material without a permit[7], i.e. used as clean debris. But it must meet the definition of clean debris contained in Rule 62-701.200(15), F.A.C. before it can be used as fill or raw material.

[6] Rule 62-701.200(120), F.A.C. defines stabilized to mean the "biological and chemical decomposition of the wastes has ceased or diminished to a level so that such decomposition no longer poses a pollution, health, or safety hazard."
[7] For the Department's requirements on this use, see Rules 62-701.220(2)(f) and 62-701.730(15), F.A.C.

4.3.1 Excavation and Disposal Plan

Before beginning waste removal, an Excavation and Disposal Plan (EDP) must be submitted for review and approval to the Department's District office in the District where the disposal site is located. An EDP should include at least the following items.

(a) Extent of Waste - The extent of the disposal area where the waste will be removed must be fully delineated as follows:

- The extent of the in-place waste disposal area must be fully delineated in both the vertical and horizontal directions. Normally this delineation can be conducted using soil borings or test pits. Other geophysical methods may also be used.
- A site plan showing the location of the disposal area and locations of the test pits or soil borings must be provided.
- A description of the materials found in the test pits or borings and the depths where these materials were encountered must also be provided.
- If ground water was encountered in the pits or borings, the depth to water should be described.

(b) Gas Concerns - To ensure there are no potential adverse effects from waste gas, a combustible gas[8] survey of ambient air conditions must be conducted at the site before the wastes are removed and again within ninety days after removal. Combustible gases in confined spaces must not exceed twenty-five percent of the lower explosive limit of methane. Ambient air monitoring must also be conducted periodically during excavation to ensure conditions for combustible gases are not being created. In addition, before wastes are removed, soil monitoring probes must be installed where the wastes are located and sampled for combustible gases. Sampling must be conducted in the headspace of the monitoring probe without purging the gas before collecting the sample.

(c) Waste Removal – The EDP should describe the waste removal activities planned including a description of:

- the procedures for staging wastes prior to removal and an estimate of the length of time wastes will be staged;
- an estimate of the total volume of wastes to be removed and the time needed to complete the project;
- the methods(s) that will be used to characterize the various types of waste encountered according to the recommendations of Section 4.3.2;
- the procedures for handling any hazardous waste or hazardous materials should they be encountered;
- the procedures for handling any land clearing debris should it be generated and designated for off-site disposal or recycling;

[8] Combustible gas meters shall be calibrated to methane.

- the intended permitted disposal facility(s) for wastes removed;
- how odors and dust will be minimized and the procedures for controlling leachate from disturbed or staged waste areas prior to removal of the wastes from the site;
- if sorting of uncontaminated concrete from the waste is planned, a description of how the sorting will be accomplished shall be provided; and
- the procedures that will be used to ensure the water quality monitoring, and possibly corrective action, requirements of Section 4.6 will be followed.

4.3.2 Waste Characterizations

Before excavated waste can be disposed of off-site, it will need to be characterized to determine which method of disposal is appropriate. The waste can usually be placed into one of four categories:

(1) a hazardous waste;
(2) a waste suitable for disposal in a permitted Class I or II landfill;
(3) a waste suitable for disposal in a permitted Class III landfill; and
(4) C&D debris waste (if it meets the definition of C&D debris waste as described below).

In addition, some sites may involve a significant amount of land clearing operations prior to excavation of the waste. The vegetative waste generated from these land clearing operations may be suitable for disposal in a permitted Class III landfill, C&D debris facility, or a land clearing debris disposal facility.

If the excavated waste is a hazardous waste, it will need to be managed in accordance with the requirements of Chapter 62-730, F.A.C. The generator is responsible for determining if the excavated material is a hazardous waste. The Department's Hazardous Waste Regulation Section can be contacted if there are any questions about the hazardous waste determination for this material at 850/245-8790.

If the excavated material is not a hazardous waste and if it is not considered a liquid waste according to Rule 62-701.200(72), F.A.C., then it may be disposed of in a permitted Class I or II landfill[9]. The landfill owner/operator, however, is not required to accept this material for disposal. The generator of the waste should contact the landfill owner/operator before transporting the material to ensure it can be received at the landfill for disposal.

Some wastes may qualify for disposal in a permitted Class III landfill, provided they are not putrescible household wastes or other Class I wastes, and meet the definition of Rule 62-701.200(14), F.A.C. which reads as follows:

> "Class III waste" means yard trash, construction and demolition debris, processed tires, asbestos, carpet, cardboard, paper, glass,

[9] While not typically expected to be an option, the wastes could also be disposed of at a Waste-to-Energy (WTE) facility if the WTE facility is authorized by its permit to process it and the material is not a hazardous waste.

plastic, furniture other than appliances, or other materials approved by the Department that are not expected to produce leachate which poses a threat to public health or the environment.

Some of the wastes removed from old disposal sites may meet the definitions of the specific items listed in the rule and may be suitable for disposal in a Class III landfill if they are not contaminated with other wastes. However, the definition of Class III wastes also allows the Department to approve "other materials" for disposal in Class III landfills if the wastes are "not expected to produce leachate which poses a threat to public health or the environment." Many of the wastes from these old disposal sites may qualify for this "other materials" category at a Class III landfill[10]. But the burden will be on the generator to show entitlement to this determination by the Department. These determinations will be made on a case-by-case basis.

Some waste may be considered C&D debris and qualify for disposal in a C&D debris disposal facility or a Class III landfill, however, this determination may be difficult. There are essentially three tests that must be satisfied. The first two deal with the definition of C&D debris contained in Section 403.707(17), F.S., and the third deals with the problem of mixing. First, the material must be "not water-soluble and nonhazardous in nature" including a list of included materials[11]. In other words, it must be of a certain "type." Second, the material must be "from the construction or destruction of a structure as part of a construction or demolition project," meaning that it must also be from a certain "source." Third, the law says that mixing of C&D debris with other types of waste will cause it to be classified as other than C&D debris.

Thus, for wastes from an old disposal site to be classified as C&D debris, the generator will have the burden to demonstrate that the waste met the "type" and "source" requirements and also show that it had never been mixed with other types of solid waste. If these three criteria cannot be satisfied, then the waste may not be disposed of at a C&D debris facility. However, it may still be allowed for disposal at a Class III landfill if the Department approves it as an "other material" according to Rule 62-701.200(14), F.A.C. Otherwise, it will have to be disposed of at a Class I landfill.

Vegetative waste that meets the definition of "yard trash" contained in Rule 62-701.200(143), F.A.C., may not be disposed of in a Class I landfill (see Section 403.708(12)(c), F.S.). However, it may be disposed of in a permitted Class III landfill. Yard trash may also be disposed of in a permitted C&D debris disposal facility, while land clearing debris may be disposed of in a permitted land clearing debris disposal facility. The definition of yard trash reads as follows:

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[10] More information can be found in policy memorandum SWM-04.39 which is available at the following web site address:
http://www.dep.state.fl.us/waste/quick_topics/publications/shw/solid_waste/policymemos/SWM-04-39.pdf

[11] These included materials are generally items such as: (1) steel, glass, brick, concrete, asphalt material, pipe, gypsum wallboard and lumber; (2) rocks, soils, tree remains, trees, and other vegetative matter which normally results from land clearing or land development operations for a construction project; and (3) clean cardboard, paper, plastic, wood, and metal scraps from a construction project.

> "Yard trash" means vegetative matter resulting from landscaping maintenance or land clearing operations and includes materials such as tree and shrub trimmings, grass clippings, palm fronds, trees and tree stumps.

The definition of land clearing debris reads as follows:

> "Land clearing debris" means rocks, soils, tree remains, trees, and other vegetative matter which normally results from land clearing or land development operations for a construction project. Land clearing debris does not include vegetative matter from lawn maintenance, commercial or residential landscape maintenance, right-of-way or easement maintenance, farming operations, nursery operations, or any other sources not related directly to a construction project.

4.4 <u>Recycling Wastes or Vegetative Matter</u>

In some cases, the owner of a site may wish to recycle some of the excavated waste or the vegetative matter generated during land clearing operations. This recycling might be on-site or the wastes may be sorted from non-recyclable wastes and transported off-site for recycling. If the only waste to be sorted and recycled is uncontaminated concrete, then, as stated earlier, this waste may be used as a raw material or as fill material without a permit[12], i.e. used as clean debris. But it must meet the definition of clean debris contained in Rule 62-701.200(15), F.A.C. before it can be used as fill or raw material. If other wastes are planned for sorting or recycling, then the requirements become more complicated.

If the waste is excavated and transported off-site for recycling, then it may be suitable for processing at a Waste Processing Facility[13] (WPF). Likewise, the vegetative materials generated during the operation and transported off-site may be suitable for recycling at a yard trash processing facility.

If the excavated wastes are sorted on-site for the purpose of recycling them either on-site or at a permitted or registered facility located off-site, then the owner of the landfill will be required to obtain written approval by the Department before beginning the sorting operations. The owner must contact the Department's District office in which the landfill is located to determine the exact requirements.

A WPF that recycles the waste must have a solid waste permit to operate according to the requirements of Rule 62-701.710, F.A.C. No excavated waste should be transported to a WPF unless the facility is authorized by permit to receive this

[12] For the Department's requirements on this use, see Rules 62-701.220(2)(f) and 62-701.730(15), F.A.C.
[13] The requirements for Waste Processing Facilities are contained in Rule 62-701.710, F.A.C.

material and the owner or operator of the WPF is willing to process it. The characterization of the waste in Section 4.3.2 of this document should help clarify if the waste can be processed by the WPF.

Yard trash[14] from the site may be recycled at yard trash processing facilities. These facilities will not normally need a solid waste permit provided they meet the criteria for a yard trash processing facility in Rule 62-709.320, F.A.C. and register with the Department in accordance with Rule 62-709.320(5), F.A.C.

The excavation, on-site sorting or recycling, transportation and off-site recycling of wastes or vegetative materials may be allowed, with prior written approval by the Department, provided the following occur.

(a) A Recycling Plan must be submitted for review and approval to the Department's District office in the District where the disposal site is located. It should include the following:

- a site map showing where the waste staging, sorting and screening areas will be located and which areas of the disposal site will be excavated;
- an estimate of the total volume of wastes to be sorted or recycled and the time needed to complete the project;
- a description of how the excavation will occur;
- a description of how the recyclable wastes will be sorted from the excavated wastes including operation of the staging areas;
- a description of how the screened waste will be managed in accordance with the recommendations of Section 4.5;
- a description of how odors will be minimized and how surface water and leachate resulting from the excavation, staging, sorting and screening activities will be controlled;
- a description of how dust from the recycling operation will be controlled[15];
- a description of the permitted facilities where the recyclable wastes shall be transported to and processed; and
- a description of how the excavated areas will be back-filled, covered, compacted and revegetated.

(b) Should any hazardous wastes be encountered, they must be managed as a hazardous waste according to Chapter 62-730, F.A.C.

(c) If it is determined that the waste at the site is causing ground water contamination, then some water quality monitoring, and possibly corrective actions, will be required according to Section 4.6.

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[14] Yard trash is defined in Section 4.3.2 of this document.

[15] The owner should also be aware that the Department may regulate this dust as a fugitive particulate emission. The Department's Air Section, in the District where the landfill is located, can be contacted for further details.

4.5 Use of Screened Solid Waste

Screened solid waste (SSW) refers to the fines fraction of material that is produced by screening excavated wastes. This would normally occur during the on-site recycling operations. If the wastes that are screened meet the criteria for being C&D debris wastes in Section 4.3.2, then the fines fraction generated by this screening shall be considered Recovered Screen Material (RSM) and should be managed in accordance with the Department's RSM guidance[16] dated September 28, 1998 (DEP, 1998). Screened material from any other wastes shall be designated as SSW rather than RSM. For the purposes of this document, most of the screened material from recycling wastes at old disposal sites will be treated as SSW rather than RSM[17].

In order to use any SSW, the owner will have to provide reasonable assurances to the Department that the proposed use is protective of human health and that applicable Department standards and criteria will not be violated. The main goals that must be accomplished for owners to use the SSW are summarized as follows:

(a) The SSW must be managed and used so that it will not cause violations of applicable Department air, ground water, or surface water standards or criteria.

(b) The use of the SSW must not pose a significant threat to human health, which, for the purposes of this document, means an incremental risk of no greater than $1x10^{-6}$ for carcinogens and a health hazard index (hazard quotient) of no greater than one (1.0) for non-carcinogens[18].

(c) The use of the SSW must not create a public nuisance.

In some cases, it will be easy to provide a satisfactory demonstration that the proposed use of the SSW will be safe. In other cases, chemical testing may be required and evaluations of the proposed uses may be more difficult. The following discussion attempts to clarify some of these issues for use in back-filling excavated areas and in off-site applications.

4.5.1 Back-filling Excavated Areas

Back-filling on-site excavated areas can be placed into two categories. The first, and easiest to address, occurs when the SSW is placed in the excavated areas of the original waste disposal footprint (above the water table), compacted, covered with two

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[16] This guidance can be found at the following web site address: http://www.dep.state.fl.us/waste/quick_topics/publications/shw/solid_waste/RSMFINALTotal.pdf. In addition, memorandum SWM-21.38 has some information on arsenic sampling. It is found at: http://www.dep.state.fl.us/waste/quick_topics/publications/shw/solid_waste/policymemos/SWM-21-38.pdf.

[17] The Department assumes that it will be difficult to classify old waste as C&D debris according to the three tests in Section 4.3.2. Therefore, the screened material from these wastes should be treated as SSW rather than RSM.

[18] For additional information, see Chapter 62-777, F.A.C.

feet of clean fill[19] and re-vegetated. In this case, the Department considers the likelihood of direct human exposure with the SSW to be negligible. Also, since the SSW is placed within the boundaries of the original waste disposal footprint, the leachability concerns are probably similar to the waste before it was disturbed. Therefore, no further action will be required if this method of backfilling is used unless it is determined that the residual waste at the site is causing ground water contamination. Then some water quality monitoring, and possibly corrective actions, will be required according to Section 4.6.

The second category of backfilling occurs when SSW is placed on the ground surface or mixed within the top 24 inches of soil at the site (above the water table). In these cases, the owner needs to ensure that all the goals of Section 4.5 are achieved. When showing the risks from these uses will not exceed the human health risk goals of Section 4.5, Item (b), the owner may choose to conduct a separate human health risk assessment (HRA) to determine the potential risks from the proposed uses of SSW. The owner may also elect to use the Department's soil cleanup target levels (SCTLs) contained in Table II of Chapter 62-777, F.A.C. as a guide for evaluating the potential risks. To use the Department's SCTLs, the following testing will be required.

(a) Representative discrete and composite samples shall be collected of the SSW as it will be used at the minimum frequency indicated in TABLE 1. Sampling and analysis must meet the requirements of Chapter 62-160, F.A.C. and the Department's Standard Operating Procedures.

(b) Total analysis shall be conducted on the composite samples for the eight Resource Conservation and Recovery Act (RCRA) metals[20] using the approved EPA Methods and for semi-volatile organic compounds using EPA Method 8270C, and pesticides using EPA Method 8081A.

(c) Total analysis shall be conducted on the discrete samples for volatile organic compounds using EPA Method 8260B.

(d) The leaching potential for detected parameters in the total analyses of the samples can be estimated by comparing the total concentrations of those parameters to the Department's corresponding SCTL leachability values. To further evaluate leaching potential, the samples can also be prepared using the Synthetic Precipitation Leaching Procedure (SPLP), EPA Method 1312. The extracts prepared from this procedure can then be analyzed[21], using the approved EPA methods with the results compared to the Department's ground water standards and criteria.

[19] For the purposes of this document, "clean fill" means soil which has not become contaminated by human activity or soil which meets the "cleaned soil" criteria of Chapter 62-713, F.A.C. Soil may include other similar materials if approved by the Department.

[20] These metals are: arsenic, barium, cadmium, chromium, lead, mercury, selenium and silver.

[21] When analyzing for parameters such as sulfates and TDS, it is likely that de-ionized water will need to be used as the extraction fluid in the SPLP test rather than the extraction fluid specified in the method itself.

(e) Laboratories conducting the analyses must be certified by an accrediting authority recognized by the National Environmental Laboratory Accreditation Program (NELAP) and must submit their results in an acceptable electronic format. Analysis of the SPLP extracts must be conducted using detection limits at or below the Department's ground water standards and criteria.

Based on the results of the above testing, possible uses for SSW can then be considered. SSW may be used as backfill on-site above the water table without further restrictions provided: (1) the total concentrations of detected chemicals are below the Department's corresponding residential direct exposure SCTLs; and (2) the detected chemicals are not expected to be a leaching concern. However, filling jurisdictional surface waters or wetlands is not allowed unless a permit specifically authorizing this use of the SSW is issued by the Department. If these conditions cannot be met, then the Department should be contacted about appropriate uses for the SSW.

4.5.2 Off-site Uses

SSW must not be used as fill material in jurisdictional surface waters or wetland unless a permit specifically authorizing this use has been issued by the Department. SSW may be suitable for use as initial and intermediate cover at permitted Class I, II or III landfills provided it meets the criteria of Rules 62-701.200(59) and (61), F.A.C. These uses of SSW may require approval by the Department's District office in the District where the disposal site is located as part of its landfill permit.

Other potential uses of SSW will depend on the chemical nature of the material. Testing similar to that contained in Section 4.5.1, Items (a) through (e) must be conducted to evaluate total and leachable concentrations of chemicals in the SSW. The Department must be consulted before using any SSW off-site from the disposal area.

4.6 Water Quality Evaluations

When wastes are removed or left in-place, water quality monitoring will generally be needed to ensure there are no adverse affects to ground water from the wastes. The actual requirements for water quality evaluations will vary depending upon the site-specific circumstances.

4.6.1 Wastes Removed

If all the wastes are removed from the site, then limited water quality sampling (usually one to three sampling events) will usually be required in the area where the wastes were previously disposed to determine if there are any violations of the Department's water quality standards or criteria. The Department recommends preparing a Preliminary Contamination Assessment Plan (PCAP) and getting it approved by the Department. After conducting the activities in the PCAP, then a Preliminary Contamination Assessment Report (PCAR) must be prepared for review by the Department. If the PCAR demonstrates that no water quality violations are occurring, then no further testing will be required. A description of the tasks required for developing PCAPs and PCARs is included in APPENDIX D.

If the PCAR demonstrates that water quality violations are occurring at the site, then further work will be required. Depending on the level of the contamination and the nature of the site, the Department may allow the owner to initiate a Monitoring Only Plan (MOP) and simply monitor the level of ground water contamination. As an alternative, the Department may require the owner to conduct additional assessment to evaluate the extent of the contamination and based on the results of that additional assessment then implement some form of remedial action. The remedial action may be simply to continue monitoring the site for some period of time, or it may require some ground water control and treatment. The actual requirements are determined on a case-by-case basis. When it is determined that additional assessment is needed, the process described in Chapter 62-780, F.A.C. should be followed.

4.6.2 Wastes Left In-place

If the wastes are left in place or only partially removed, then monitoring of the water quality at the site for some period of time will be required. The Department may allow monitoring wells to be installed according to the PCAP and PCAR requirements described in Section 4.6.1 and then require these wells be sampled for a period of time. As an alternative, the Department may require a Ground Water Monitoring Plan (GWMP) according to the requirements of Rule 62-522.600, F.A.C. and have the wells installed under this plan monitored for a period of time. In either case, the owner must contact the Department to determine which approach will be required. The duration of the monitoring will depend on the site-specific conditions and the results of the water quality testing. If it is determined by the Department that water quality violations are not occurring at the site, then no further water quality evaluations will be required.

If sampling results from the PCAP or the GWMP show there are violations of the Department's water quality standards or criteria, then further work will be required. The owner must follow the additional assessment procedures described in Section 4.6.1 to evaluate the extent of the contamination. Based on the results of the additional assessment, the owner will then be required to implement some form of remedial action. This may be simply to continue monitoring the site for some period of time, or it may require some ground water control and treatment. The actual requirements are determined on a case-by-case basis.

5.0 CONSTRUCTION NEAR WASTE-FILLED AREAS

There have been occasions where construction projects were conducted near old disposal sites without actually disturbing the wastes. The Department encourages caution be used when planning and implementing these projects since their proximity to old disposal areas may result in unacceptable risks to human health and the environment. At a minimum, the Department encourages implementation of the following recommendations:

(a) a combustible gas[22] survey of ambient air conditions should be conducted periodically at the project site to ensure combustible gases from the disposal area are not exceeding twenty-five percent of their lower explosive limit in structures;

(b) soil monitoring probes should be installed between the proposed construction and the waste-filled areas to ensure combustible gases exceeding their lower explosive limit are not moving from the disposal area;

(c) any structures located near the disposal areas which could be impacted by combustible gas should be designed with good ventilation and with explosion proof electrical wiring;

(d) access to the disposal site should be restricted; and

(e) shallow potable water wells and irrigation wells should not be installed within 500 feet of the waste-filled areas unless it is confirmed there are no adverse affects to ground water from the wastes in the disposal area.

6.0 CONSTRUCTION OVER WASTE-FILLED AREAS

The appropriate District office must be consulted before any construction activity is conducted over an old disposal site. The goals of this consultation are to ensure that the integrity of the environmental protection measures of the disposal area is not adversely impacted and to protect the health and safety of individuals who may be using the disposal area.

6.1 Cautions For Construction

When considering construction projects over old disposal sites, the Department recommends the following guidelines be used.

(a) The Department strongly discourages the construction of residential structures over old waste-filled areas. Instances of landfill gas seeping into the structures and structural settlement problems are well documented difficulties with this use of old disposal sites.

(b) Any construction projects should consider potential impacts from combustible gas. Inside structures, combustible gases must not exceed twenty-five percent of the lower explosive limit for methane. Any structures located on disposal areas must be designed with good ventilation and with explosion proof electrical wiring. Enclosed ground level and underground structures should be avoided

[22] Combustible gas meters shall be calibrated to methane.

unless designed with adequate protection against landfill gas intrusion and accumulation.

(c) If the construction project may cause combustible gas to migrate off-site, then gas monitoring on a quarterly basis will be required in soil monitoring probes according to Rule 62-701.530(2), F.A.C., i.e., along the property boundary.

(d) If any waste is disturbed because of the construction project, then the guidelines in Section 4.0 should be followed, as appropriate.

(e) When planning the construction, concentrated weight loading should be avoided, if possible, to prevent uneven settlement of the underlying wastes. Also, disturbance of the landfill cover or barriers should be minimized or avoided when structures are built, particularly if pilings are used. Any disturbance of the cover or barrier must be repaired.

(f) Irrigation systems, if installed, must be designed to minimize disturbance to the underlying waste-filled areas and must not withdraw water from areas where ground water may be contaminated.

(g) Surface water management systems must not be located over contaminated areas or over waste-filled areas unless they are lined. Also, an Environmental Resource Permit from the Department will be required prior to constructing a surface water system.

(h) The disposal site must be maintained. For example, areas that have settled must be filled with clean fill to minimize leachate generation due to rainfall and irrigation and to protect individuals who may walk or play on the site.

(i) The landfill cover must be maintained to prevent human contact with the underlying waste materials.

(j) Care must be taken during any waste relocation, construction or recreational activities to prevent damage to ground water monitoring and gas monitoring systems.

(k) Underground utilities and similar installations that are placed within 200 feet of, or across, any side of the filled areas should be avoided. If they cannot be avoided and if combustible gases are being generated, then a properly located gas barrier or ventilation system must be placed at each waste boundary which is crossed by the utility line to prevent the landfill gas from migrating along the utility line to off-site structures.

6.2 Alternate Uses of Disposal Areas

Some creative alternate uses of closed landfills and old disposal areas have been implemented in recent years. One very successful use is the creation of recreational facilities. Facilities such as ball parks, soccer fields, hiking trails, golf courses and golf driving ranges appear to be acceptable and successful land uses for these old sites. The Department prefers these types of uses be selected for an old site rather than the construction of structures such as residential housing or educational facilities.

Before beginning one of these projects, the owner must develop construction plans and a detailed description of the project and present these for review to the Department's District office where the project is located. A list of contacts and addresses for these offices in provided in
APPENDIX A.

In most cases, a permit will not be required, except for an Environmental Resource Permit addressing the surface water control system. The construction plans must show the major features of the project including locations of: waste disposal areas, on-site structures, the surface water management system, irrigation systems and planned utility lines. The description of the project must include how the recommendations for waste disturbance in Section 4.0 will be addressed. It must also address the recommendations of Sections 5.0 and 6.1.

REFERENCES

DEP (Florida Department of Environmental Protection), 1998, Guidelines For The Management Of Recovered Screen Material From C&D Debris Recycling Facilities in Florida, Department of Environmental Protection, Solid Waste Section, Tallahassee, Florida, September 28.

Table 1. Minimum Number of Soil Samples Required

Amount of Soil by Volume, yd^3	Amount of Soil by Weight, tons	Number of Discrete Samples Required for Volatile Organics	Number of Composite Samples Required for non-Volatile Organics
<100	<140	1	1
100 to <500	140 to <700	3	3
500 to <1000	700 to <1400	5	5
For each additional 500 yd^3	For each additional 700 tons	1	1

APPENDIX A

Department Solid Waste Contacts and Addresses

DEPARTMENT OF ENVIRONMENTAL PROTECTION
SOLID WASTE CONTACTS
(updated May 22, 2009)

Northwest District:	Marshall Seymore, P.E. Department of Environmental Protection 160 Governmental Center, Suite 308 Pensacola, Florida 32502-5794 850/595-8360, ext. 1246 Marshall.Seymore@dep.state.fl.us
Northeast District:	Emerson Raulerson, P.E. Department of Environmental Protection 7825 Baymeadows Way, Suite B200 Jacksonville, Florida 32256-7590 904/807-3300 Emerson.Raulerson@dep.state.fl.us
Central District:	Tom Lubozynski, P.E. Department of Environmental Protection 3319 Maguire Boulevard, Suite 323 Orlando, Florida 32803-3767 407/894-7555 Tom.Lubozynski@dep.state.fl.us
Southwest District:	Susan Pelz, P.E. Department of Environmental Protection 13051 N. Telecom Parkway Temple Terrace, Florida 33637-0926 813/632-7600 ext. 386 Susan.Pelz@dep.state.fl.us
Southeast District:	Joe Lurix Department of Environmental Protection 400 North Congress Avenue, Suite 200 West Palm Beach, Florida 33401 561/681-6600 Joe.Lurix@dep.state.fl.us
South District:	Ghaus Minhaj, P.E. Department of Environmental Protection 2295 Victoria Avenue, Suite 364 Fort Myers, Florida 33901-3881 239/332-6975 ext. 185 Ghousuddin.Minhaj@dep.state.fl.us
Tallahassee:	Richard Tedder, P.E. Department of Environmental Protection 2600 Blair Stone Road, MS# 4565 Tallahassee, Florida 32399-2400 850/245-8735 Richard.Tedder@dep.state.fl.us

APPENDIX B

Partial Summary of Landfill Permit, Closure and Long-term Care Requirements

PARTIAL SUMMARY OF LANDFILL PERMIT, CLOSURE AND LONG-TERM CARE REQUIREMENTS

(June 30, 2000)

AGENCY "CHAPTER TITLE"	GENERAL DESCRIPTION OF REQUIREMENTS
Dept. of Health and Rehabilitative Services Chapter 10D-12, "Garbage and Rubbish" October 20, 1964	Permit: • None, but an operational work plan approval by the Division of Health was required before receiving waste. Ground Water Monitoring: • None. Closure Design: • Final cover depth of 24 inches of compacted earth. • 2:1 slopes were allowed. Long-term Care: • Maintenance program required to assure prompt repair of cracks, depressions and erosion of the surface and side slopes until the site stabilized.
Dept. of Pollution Control Chapter 17-7, "Resource Recovery and Management Part I: Solid Waste Facilities" October 1, 1974	Landfill Permit: • Permit required after January 1, 1975 to operate, maintain, construct, expand or modify a landfill. • No permits required for closure. • Normal farming operations and persons who dispose of solid waste resulting from their own activities on their own property are specifically exempted from permitting provided no public nuisance or conditions adversely affecting public health is caused and provided the activity does not violate other rules, laws or ordinances. Ground Water Monitoring: • Not required, but the Department had the option to require it at the time of design approval or if ground water contamination was suspected. Landfill Closure Design: • Two feet of earth compacted in 6 inch layers with the top 6 inch layer loosely compacted to promote plant growth. • Side slopes for landfills ≥ five feet above grade to be covered with 3.5 feet of compacted earth cover. • Slopes no greater than 3:1 required (2:1 slopes no longer allowed). Dump Closure: • Dumps required to be eliminated or converted to "sanitary landfills" by July 1, 1977. • Dumps were closed by controlling access, taking steps to divert surface water around the site, removing wastes from the water table, and seeding or planting grass to minimize erosion. • No final cover requirement mentioned. Long-term Care: • None.

PARTIAL SUMMARY OF LANDFILL PERMIT, CLOSURE AND LONG-TERM CARE REQUIREMENTS

(June 30, 2000)

AGENCY "CHAPTER TITLE"	GENERAL DESCRIPTION OF REQUIREMENTS
Dept. of Environmental Regulation Chapter 17-7, ", "Resource Recovery and Management Part I: Solid Waste Facilities" May 25, 1979	<u>Permit:</u> • No landfill to be operated, maintained, constructed, expanded, or modified without a valid Department permit. • No permits required for closure. <u>Ground Water Monitoring (by 9 months from eff. date, ~ 2/25/80):</u> • Class I landfills required to have a minimum of three monitoring wells. Class II landfills are required to have at least one. • Wells required to be sampled at least every six months for various indicator parameters. <u>Closure Design (for sanitary landfills and open dumps):</u> • Two feet of earth compacted in 6 inch layers with the top 6 inch layer loosely compacted to promote plant growth, slopes no greater than 3 to 1. • Site access controlled. • Site seeded or planted with grass or suitable vegetation. <u>Long-term Care:</u> • Site to be maintained until stabilized by controlling erosion, maintaining grass cover, prevention of ponding, and prevention of deposited wastes from becoming a hazard or nuisance. • Landfill to be monitored, including collection and treatment of leachates, until the site is stabilized.
Dept. of Environmental Regulation Chapter 17-4 January 1, 1983 (aka: Ground Water Rule)	<u>Ground Water Monitoring:</u> • Landfills (domestic or industrial) which are "existing installations" required to submit a ground water monitoring plan by May 1983. • New landfills required to submit a ground water monitoring plan in conjunction with their permit applications.
Dept. of Environmental Regulation Chapter 17-7, ", "Resource Recovery and Management Part I: Solid Waste Facilities" July 1, 1985	<u>Permit:</u> • No landfill to be operated, maintained, constructed, expanded, modified or closed without a valid Department permit. • For the first time, permits were required for closure of Class I, II or III landfills and applied to all landfills receiving waste, portions of landfills not having final cover and all future landfills requiring solid waste permits (but see exceptions in next bullet). • Closure permit requirements did not apply to: (1) a person disposing of their own waste on their own property; (2) any disposal of C&D debris; and (3) a Class I, II or III landfill which had a modification of an operation permit to close or a closure plan approved by the Department by July 1, 1985. <u>Ground Water Monitoring:</u> • Monitoring to be in accordance with Rules 17-3.401, 17-4.245 and 17-4.246. <u>Closure Design:</u> • Barrier layer must be a geomembrane, soils or chemically/physically amended soils. Minimum final cover thickness must be two feet of soils or one foot of soils plus a geomembrane or soil admixture. <u>Long-term Care:</u> • 20 year long-term care period. • Landfill to be monitored and maintained after closure in accordance with approved closure plan. • Language on "use of closed landfill areas" added to rule. Consultation with the Department required before conducting activities at a closed landfill. • Language providing guidance for "construction on closed landfill" areas added to rule.

PARTIAL SUMMARY OF LANDFILL PERMIT, CLOSURE AND LONG-TERM CARE REQUIREMENTS

(June 30, 2000)

AGENCY "CHAPTER TITLE"	GENERAL DESCRIPTION OF REQUIREMENTS
Dept. of Environmental Regulation Chapter 17-701, "Solid Waste Management Facilities" July 19, 1990	<u>Permit:</u> • The on-site exemption from permitting by persons disposing of their own waste on their own property is modified. It applies only if: (1) the waste is from their residential property; or (2) is rocks, soils trees, tree remains and other vegetative matter which normally results from land clearing operations; or (3) the environmental effects of the disposal on ground water and surface water are addressed in a permit, site certification or ground water monitoring plan approved by the Department.
Dept. of Environmental Regulation Chapter 17-701, "Solid Waste Management Facilities" January 6, 1993	<u>Ground Water Monitoring:</u> • Downgradient well spacing no greater than 500 feet. Upgradient well spacing no greater than 1500 feet. • Specific leachate and surface water sampling added. • Monitoring parameters detailed including addition of EPA Method 601/602 parameters. • Added language for consistency with Federal Subtitle D requirements including detection wells and assessment monitoring with corrective action. <u>Closure Design:</u> • If a soil barrier layer is used, it must be 18 inches thick and covered by another 18 inches of soil. The soil barrier layer must have a minimum hydraulic conductivity of $1x10^{-5}$ cm/sec for Class III landfills or $1x10^{-7}$ cm/sec for Class I landfills. If a geomembrane is used, it must be covered by a 24-inch thick soil layer. <u>Long-term Care:</u> • 30 year long-term care period, per Subtitle D requirements. • Landfill to be monitored and maintained after closure in accordance with approved closure plan. • Language providing guidance for "construction on closed landfill" areas removed from the rule. Language on "use of closed landfill areas" remained in the rule.
Dept. of Environmental Regulation Chapter 17-701, "Solid Waste Management Facilities" January 2, 1994	<u>Ground Water Monitoring:</u> • Added requirements for APPENDIX I and II analyses in accordance with Subtitle D requirements. <u>Closure Design:</u> • Added language for consistency with Federal Subtitle D requirements. This included requiring a geomembrane in the cap if it was also used in the bottom liner system (bathtub effect), and allowed for alternate closure designs if the applicant could show a substantially equivalent rate of storm water infiltration with the alternate design.
Dept. of Environmental Protection Chapter 62-701, "Solid Waste Management Facilities" May 27, 2001	Current rule. No additional changes to closure requirements. Earlier, the chapter title was changed because of the DER/DNR merger to form DEP. The current rule also included the "rule reduction" exercise.

APPENDIX C

Partial Summary of Construction and Demolition (C&D) Debris Permit, Closure and Long-term Care Requirements

PARTIAL SUMMARY OF CONSTRUCTION AND DEMOLITION (C&D) DEBRIS FACILITY PERMIT, CLOSURE AND LONG-TERM CARE REQUIREMENTS

(June 30, 2000)

AGENCY "CHAPTER TITLE"	GENERAL DESCRIPTION OF REQUIREMENTS
Dept. of Environmental Regulation Chapter 17-7, ", "Resource Recovery and Management Part I: Solid Waste Facilities" May 25, 1979	Permit: • First time the definition of C&D Debris appears in the rule. • All C&D disposal sites are specifically exempted from permitting provided no public nuisance or conditions adversely affecting public health is caused and provided the activity does not violate other rules, laws or ordinances. Ground Water Monitoring: • None. Closure Design: • None. Long-term Care: • None.
Dept. of Environmental Regulation Chapter 17-701, "Solid Waste Management Facilities" August 2, 1989	Permit: • General permits now required for off-site disposal of C&D debris, but on-site disposal is still exempt from permitting. • New C&D facilities have to comply by the effective date of rule. • Existing C&D facilities have to comply within 90 days of the effective date or ~November 2, 1989. Ground Water Monitoring: • None. Closure Design (both on-site and off-site disposal areas): • Final cover with a 24-inch thick soil layer required with upper six inches capable of supporting vegetation and graded to eliminate ponding, promote drainage and minimize erosion. Long-term Care: • None.
Dept. of Environmental Protection Chapter 62-701, "Solid Waste Management Facilities" April 23, 1997	Permit: • Regular permits now required for construction or operation (but not for closure) of an off-site C&D disposal facility. • General permits still allowed for off-site disposal of land clearing debris. • On-site disposal is still exempt from permitting provided the site is properly closed. Ground Water Monitoring: • Limited ground water monitoring required for off-site C&D disposal facilities but not for land clearing debris sites. • C&D disposal facilities required to have ground water monitoring plans in place by July 1, 1998. Long-term Care: • C&D disposal facilities to be maintained and monitored (ground water) for five years from the date of closing.

APPENDIX D

Preliminary Contamination Assessment Actions

APPENDIX D
Old Dump Guidance - Draft v. 2
May 22, 2009

PRELIMINARY CONTAMINATION ASSESSMENT ACTIONS

1. The owner of the disposal facility, hereinafter referred to as the "Respondent", shall submit to the Department as part of any assessment report documents certification that the organization(s) and laboratory(s) performing the sampling and analysis have used procedures approved by the Department. All field sampling activities and field measurements shall follow the applicable procedures and requirements described in the most current version of DEP-SOP-001/01, per Rule 62-160.210, Florida Administrative Code (F.A.C.). Laboratories conducting analysis must be NELAP certified.

2. Within sixty (60) days of written authorization from the Department, Respondent shall submit a Preliminary Contamination Assessment Plan ("PCAP") to the Department. Applicable portions of the PCAP shall be signed and sealed by an appropriate professional. The PCAP shall describe the tasks that Respondent proposes to perform in order to determine whether the soil, sediment, surface water or ground water are contaminated at Respondent's facility; and, if so, whether such contamination has resulted in a violation of the water quality standards and minimum criteria established in Chapters 62-520 and 62-302, F.A.C. or constitutes a risk to the public health, the environment, or the public welfare. The PCAP shall include a time schedule for each task so that all tasks can be completed and a Preliminary Contamination Assessment Report ("PCAR") can be submitted to the Department within ninety (90) days of approval of the PCAP by the Department.

3. The PCAP shall include provisions for the installation and sampling of, in most cases, a minimum of four (4) monitor wells to determine the groundwater quality and flow direction at the site. Proposal of fewer wells or an alternate well configuration is subject to Department approval. Provision to sample surface waters, sediments and soils shall be included as necessary.

A. One of the wells shall be located in the area suspected of greatest contamination and two wells shall be located downgradient of the area suspected of highest contamination.

B. One of the wells shall be an unaffected background well.

C. The wells, surface waters, sediments and soils, as applicable, shall be sampled and analyzed for the following parameters with the listed method:

(1) priority pollutant metals using Department approved Methods;

(2) priority pollutant organic chemicals using EPA methods 624/8240 and 625/8250 or 8270;

(3) all non-priority pollutant organic chemicals with peaks greater than 10 micrograms per liter (ug/l) using EPA methods 624/8240 and 625/8250 or 8270;

(4) pesticides and herbicides using EPA methods 8080, 8140, 8150 or 625/8250 or 8270, if applicable, or other Department approved methods for pesticides and herbicides for which the listed methods are not applicable; and,

(5) others, as applicable.

The proposal of any alternate analytical methods is subject to approval by the Department. The number of contaminants to be analyzed may be reduced if Respondent can demonstrate to the Department's satisfaction that the contaminants proposed to be deleted from the list cannot be attributed to any activities that have taken place at Respondent's facility. The Department shall submit written notification to the Respondent if the number can be reduced.

4. The PCAP shall include provisions for investigation of the following conditions, as applicable, at the disposal site and the surrounding area:

A. the presence and thickness of any free product at the site;

B. the presence of soil contamination at the site;

C. the aquifers present beneath the site and their Chapter 62-502, F.A.C, groundwater classification;

D. the number and locations of all public and private potable supply wells within a 1/2 mile radius of the site;

E. the presence of surface waters of the State within a 1/2 mile radius of the site and, if applicable, their Rule 62-302, F.A.C., classification; and,

F. the geology and hydrogeology of the site focusing on aquifers and confining units which are present, the potential for movement of contaminants both horizontally and vertically, zones that are likely to be affected, and actual and potential uses of the groundwater as a resource.

5. The PCAP shall contain the following site specific information:

A. proposed well construction details including methods and materials, well installation depths and screened intervals and well development procedures;

B. a description of methods and equipment to be used to quantify soil and sediment contamination;

C. a description of water sampling methods;

D. name of laboratory to be used for analytical work;

E. the parameters to be analyzed for, the analytical methods to be used and the detection limits of these analytical methods;

F. site map depicting monitoring well locations and other proposed sampling sites and justification for their selection; and,

G. a detailed site history including: a description of past and present property and/or facility owners; a description of past and present operations; a summary of current and past environmental permits; and a summary of known spills or releases of materials which may be potential pollution sources.

6. The Department shall review the PCAP and provide Respondent with a written response to the proposal. In the event that additional information is necessary for the Department to evaluate the PCAP, the Department shall make a written request to Respondent for the information and Respondent shall provide the requested information within sixty (60) days from receipt of said request. The PCAP shall incorporate all required modifications to the PCAP identified by the Department. Any action taken by Respondent with regard to the implementation of the PCAP prior to the Respondent

receiving written notification from the Department that the PCAP has been approved shall be at Respondent's risk.

7. Within (90) days of the Department's approval of the PCAP (unless a written time extension is granted by the Department), Respondent shall submit a written Preliminary Contamination Assessment Report ("PCAR") to the Department. Applicable portions of the PCAR shall be signed and sealed by an appropriate professional. The PCAR shall:

A. summarize and analyze all "PCAP" tasks;

B. include, but not be limited to, the following tables and figures:

(1) a table with well construction details, top of casing elevation, depth to water measurements, and water elevations;

(2) a site map showing water elevations, water table contours and the groundwater flow direction for each aquifer monitored for each sampling period;

(3) a table with water quality information for all monitor wells;

(4) site maps showing contaminant concentrations and contours of the contaminants; and,

(5) cross sections depicting the geology of the site at least to the top of the confining unit. In general there should be at least one north to south cross section and one east to west cross section.

C. include copies of field notes pertaining to field procedures, particularly of data collection procedures;

D. specify results and conclusions regarding the objectives of the Preliminary Contamination Assessment;

E. identify, to the extent possible, the source(s), extent, and concentrations of contaminants, and the existence of any imminent hazards; and,

F. provide the following quality assurance data along with the analytical data from all media:

(1) dates of sample collection, sample preparation including extraction and sample analysis;

(2) the detection limits for these analyses;

(3) the results from the analyses of field quality control samples; including field equipments, trip blanks and duplicates;

(4) the results from reagent water blanks run on that day (5 percent of samples run, minimum);

(5) the spike and surrogate percent recoveries for the data set;

(6) the actual chromatograms, if requested by the Department;

(7) any other QA/QC information Department deems necessary to evaluate validity of the submitted data; and,

(8) a water quality data Electronic Data Deliverable (EDD) of the results in an electronic format consistent with requirements for running the data through Florida DEP Automated Data Processing Tool (ADaPT) and importing the data into the Department's databases.

8. The Department shall review the PCAR and determine whether it is adequate to meet the objectives of the PCAP. In the event that additional information is necessary

to evaluate the PCAR, the Department shall make a written request and Respondent shall provide all requested information within sixty (60) days of receipt of said request.

9. Respondent shall provide notification to the Department at least twenty (20) days prior to the installation or sampling of any monitoring wells, and shall allow Department personnel the opportunity to observe installation and sampling and to take split samples. All necessary approvals must be obtained from the appropriate Water Management District before any wells are installed. Raw data shall be exchanged between Respondent and the Department as soon as the data is available.

10. The Respondent is required to comply with all local, state and federal regulations and to obtain any necessary approvals from local, state and federal authorities in carrying out these assessment actions.

11. If the Department's review of the PCAR indicates that the site is not contaminated and does not constitute a risk to the public health or the environment the Department will so notify the Respondent in writing.

12. If the Department's review of the PCAR indicates that the soil, sediments, surface water or ground water is contaminated, or constitutes a risk to the public health, the environment, or the public welfare, the Respondent will be required to initiate risk based corrective actions as required by Chapter 62-780, F.A.C.