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January 28, 2002

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COMMISSION CLERK

- **VIA HAND DELIVERY –**

Ms. Blanca S. Bayó
Director of the Commission Clerk and Administrative Services
Florida Public Service Commission
2540 Shumard Oak Blvd.
Tallahassee, FL 32399-0850

Re: Docket No. 001148-EI

Dear Mr. Bayó:

I am enclosing for filing in the above docket the original and fifteen (15) copies of the prefiled testimony and exhibits for the following Florida Power & Light Company ("FPL") witnesses:

Mark R. Bell	01061-02	K. Michael Davis	01067-02
M. Dewhurst	01062-02	Paul J. Evanson	01068-02
William W. Hamilton	01063	Steven P. Harris	01069-02
Dr. J. Stuart McMenamin	01064	Rosemary Morley	01070-02
Armando J. Olivera	01065	James K. Peterson	01071-02
John M. Shearman	01066	Samuel S. Waters	01072-02

FPL is filing these witnesses' testimonies today in accordance with Order No. PSC-02-0089-PCO-EI, dated January 15, 2002. FPL's witnesses sponsor and explain the MFRs FPL has previously filed in this docket. Together with the MFRs, their testimonies demonstrate that FPL's 2002 test year results do not support any reduction in FPL's base rates.

AUS ___
CAF ___
CMP ___
COM Stay
CTR ___
ECR ___
GCL 1
OPC 1
MMS ___
SEC 1
OTH ___

Sincerely,

John T. Butler, P. A.

Enclosures
cc: Counsel of record (w/copy of enclosures)

RECEIVED & FILED
FPSC-BUREAU OF RECORDS

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that true and correct copies of the prefiled testimony and exhibits of Mark R. Bell, K. Michael Davis, M. Dewhurst, Paul J. Evanson, William W. Hamilton, Steven P. Harris, Dr. J. Stuart McMenamin, Rosemary Morley, Armando J. Olivera, James K. Peterson, John M. Shearman and Samuel S. Waters were served by hand delivery (*) or overnight delivery this 28th day of January, 2002 to the following:

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By: ______________________
John T. Butler, P. A.

BEFORE THE FLORIDA
PUBLIC SERVICE COMMISSION

DOCKET NO. 001148-EI
FLORIDA POWER & LIGHT COMPANY

JANUARY 28, 2002

IN RE: REVIEW OF THE RETAIL RATES
OF FLORIDA POWER & LIGHT COMPANY

TESTIMONY & EXHIBITS OF:

STEVEN P. HARRIS

DOCUMENT NUMBER-DATE
01069 JAN 28 02
FPSC-COMMISSION CLERK

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

FLORIDA POWER & LIGHT COMPANY

TESTIMONY OF STEVEN P. HARRIS

DOCKET NO. 001148-EI

JANUARY 28, 2002

Q. Please state your name and business address.

A. My name is Steven P. Harris. My business address is ABS Consulting, 1111 Broadway Street 10th Floor, Oakland, California 94607.

Q. What is your employment capacity ?

A. I am a Vice President with ABSG Consulting (ABS Consulting). Over the past sixteen years I have conducted and supervised independent risk and financial studies for public utilities and other industries.

ABS Consulting has approximately 1,100 employees, offices in 32 countries and $140M in revenues. ABS Consulting acquired EQE International and EQECAT in 2000. EQECAT proprietary computer software USWIND® has been approved by the Florida Commission on Hurricane Loss Projection Methodology for use in projecting hurricane loss costs for rate filings.

Our services and areas of expertise include natural hazard risk analysis, operational risk analysis, risk profiling and financial analysis, insurance loss analysis, loss prevention & control, business continuity planning, and risk transfer & securitization. We work with all types of businesses, both regulated and nonregulated.

Q Please describe your educational and professional background and experience.

A. I hold Bachelors and Masters degrees in engineering from the University of California at Berkeley. I am a licensed civil engineer in the State of California. A significant portion of my 30 years of consulting experience has involved the performance of natural hazard risk studies for regulated industries, including electric utilities, water and telephone companies as well as insurance companies. I have worked with a broad range of energy companies including Florida Power Corporation, Barbados Light and Power, B.C. Hydro and others.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to present the results of ABS Consulting's independent analyses of storm loss risk to Florida Power & Light Company ("FPL" or the "Company") transmission and distribution assets. These studies include storm loss analysis, storm reserve funding analysis and recommendations on annual storm reserve accrual levels.

Q. Have you prepared, or caused to be prepared under your direction, supervision, or control, an exhibit for this proceeding ?

A. Yes. It is comprised of the following three documents:

Document SPH-1 – 'Storm Reserve Loss Analysis'

Document SPH-2 – 'Storm Reserve Solvency Analysis'

Document SPH-3 – 'Storm Reserve Funding Recommendations'

Q. Are these the same documents that were previously filed in Docket No. 011298-EI in support of FPL's petition to increase its Storm Fund accrual by $30 million?

A. Yes.

Q. Please briefly describe these studies performed for the Company.

A. ABS Consulting performed three studies relative to the Storm Reserve: The Storm Reserve Loss Analysis (the "Loss Analysis"), The Storm Reserve Solvency Analysis (the "Solvency Analysis"), and The Storm Reserve Funding Recommendation report (the "Recommendations"). The Loss Analysis is a probabilistic storm analysis, using the EQECAT computer software USWIND®. The study estimates the uninsured windstorm losses to which FPL is exposed. The Solvency Analysis is a dynamic financial simulation analysis which evaluates the performance of the Storm Reserve, given the potential uninsured losses determined from the Loss Analysis, at various annual accrual levels. Finally, the Recommendations report draws on the Loss Analysis and Solvency Analysis, together with FPL objectives, and recommends annual accrual levels and a five-year Storm Reserve balance target range.

Q. Please summarize the Loss Analysis for us.

A. ABS Consulting performed a probabilistic analysis of windstorm losses for FPL, to determine their potential impact on the Storm Reserve over periods of one, three and five years. The analysis included Transmission and Distribution (T&D) losses as well as windstorm insurance deductibles attributable to non-

T&D assets. The total expected annual uninsured cost from all windstorms is estimated to be $59.3 million.

Q. What does this expected annual loss estimate represent?

A. The expected annual loss estimate represents the average annual cost associated with repair of windstorm damage and service restoration activities over a long period of time. The expected annual loss is also known as the "Pure Premium," which when insurance is available is the insurance premium level needed to pay just the expected losses. Insurance companies add their expenses and profit margin to the Pure Premium to develop the premium charged to customers.

Q. Please summarize the Solvency Analysis for us.

A. ABS Consulting performed a dynamic financial simulation analysis of the impact of the estimated windstorm losses on the FPL Storm Reserve. This Solvency Analysis performed 10,000 simulations of windstorm losses within the FPL service territory, each covering a 30-year period, to determine the effect of the charges for loss on the Storm Reserve. Monte Carlo simulations were used to generate loss samples consistent with the expected $59.3 million Loss Analysis results. The analysis provides an estimate of the Storm Reserve assets in each year of the simulation accounting for the annual accrual, investment income, expenses, and losses using a financial model.

Q. What were the goals of the Solvency Analysis?

A. The analysis concentrated on looking at three key performance measures: solvency of the Storm Reserve, stability of the Storm Reserve (i.e. need for special assessments/rate increases), and overall cost to the customer. All three criteria need to be considered, since low accrual levels tend to jeopardize the solvency of the Storm Reserve and increase long term customer costs, and high accrual levels can result in a Storm Reserve balance that grows quickly. Therefore, alternative administrative policies which differentiated on the basis of the annual accrual were evaluated. Annual accruals between $10 million and $80 million were evaluated.

Q. Please summarize the results of the Solvency Analysis.

A. Storm Reserve solvency can be viewed in terms of the expected surplus or deficit of the Storm Reserve over the 30-year period. Based on the simulated loss distributions, deficits to the Storm Reserve could exist for all annual accrual levels analyzed, although their level begins to moderate at accruals above $45 million. Accrual levels above $45 million will result in a lower probability of Storm Reserve deficits and will have a higher probability of generating positive Storm Reserve growth, thus reducing both customer cost and the need for special assessments/rate increases.

Q. What do the results say regarding cost to the customer?

A. Cost to the customer can be viewed in terms of the sum of the annual accruals, borrowing costs, special assessments/rate increases, and deficits (or surpluses). Costs to the customer decrease rapidly as accruals approach the $45 million level. Total customer costs continue to decrease, but more gradually, for accruals of $45 million and larger.

Q. Please describe the assumptions that were included in the analysis.

A. The analysis performed included certain conservative assumptions regarding loss exposures. These include assumptions regarding storm frequency and severity, future FPL system growth, and future increased cost for system restoration due to inflation.

Q. Specifically, what assumptions regarding storm frequency were made?

A. The analysis is based on storm frequency and severity distributions developed from the entire 100-year historical record. Year-to-year variability in storm frequency and severity distributions has not been included. Specifically, variability associated with El Niño/Southern Oscillation (ENSO) has not been considered. Further, there has been no attempt to model longer term variations such as the relatively quiet period for North Atlantic hurricanes that occurred from about 1970 to the mid 1990's, or the more active periods before and after. The length of each quiet or active period is thought to be about 25 to 30 years, and the current period of higher activity began only about five years ago; therefore, it is quite possible that the next 30 years could be characterized by higher levels of activity than average.

Q. Please describe the assumptions regarding future FPL system growth.

A. The analysis conservatively considered no future growth of the FPL customer base and system assets. FPL's customer base has grown 1% to 2% per year over the past decade.

Q. Please describe the assumptions about future cost for system restoration due to inflation.

A. The analysis conservatively assumed that future system restoration cost would be at comparable price levels to the present. Recent inflationary cost increases for new transmission and distribution assets have increased at 1% to 3.5% per year over the past decade.

Q. Please describe the overall impact of the assumptions made.

A. Given these conservative assumptions about system growth and inflation, the Storm Loss estimates may be systematically biased toward low values. However, the uncertainties represented by these assumptions are within the overall uncertainties of the storm hazards and we believe the recommendations provided represent a sound approach in the short term of the next three to five years. Should FPL experience either a single catastrophic storm loss or a series of more moderate storms that seriously hamper the Storm Reserve's potential growth to the recommended target amount, the Storm Reserve annual accrual level could require subsequent review. Witness Dewhurst's proposal to file updated studies at least every five years for review by the Florida Public Service Commission recognizes a need for periodic review of Storm Reserve accruals.

Q. What recommendations did ABS Consulting make to FPL regarding accrual levels to the Storm Reserve?

A. Based on the analysis performed, we recommend a minimum annual accrual level in the range of \$45 to \$55 million, with a target Storm Reserve balance of \$400 to \$500 million within the next three to five years. These accrual levels and this target Storm Reserve balance, considering the expected losses, should provide sufficient funds to lower long term customer costs, dampen volatility of the Storm Reserve, and fund most storms losses but not those from the most severe catastrophic events.

Q. Why does ABS Consulting recommend a <u>minimum</u> annual accrual level, as opposed to defining something like an optimal level?

A. There is no single way to establish an optimal annual accrual level or target Storm Reserve balance. Both storm frequencies and severities have large uncertainties. Consequently, any accrual level can be either inadequate given a single rare event, or result in a higher Storm Reserve balance if no events occur within any given short number of storm seasons.

Q. Is an annual accrual of $50.3 million per year and a target Storm Reserve balance of $500 million as proposed by witness Dewhurst consistent with your study recommendations?

A. Yes. We believe that an annual accrual of $50.3 million and a target Storm Reserve balance of $500 million over the next five years is well within our recommendations. Adoption of a $ 50.3 million annual accrual will significantly improve the likelihood of achieving the three established criteria of balancing lower long-term customer cost, Storm Reserve volatility, and coverage for the majority of storm scenarios.

Q. Please summarize your testimony.

A. My testimony describes the analysis performed by ABS Consulting. Based on the analysis, we recommended that FPL's minimum annual accrual level should be in the range of $45 to $55 million. Additionally, we recommended a target Storm Reserve balance of $400 to $500 million within the next three to five years.

Q. Does this conclude your testimony?

A. Yes.

EQE INTERNATIONAL

ABS Consulting
RISK CONSULTING DIVISION

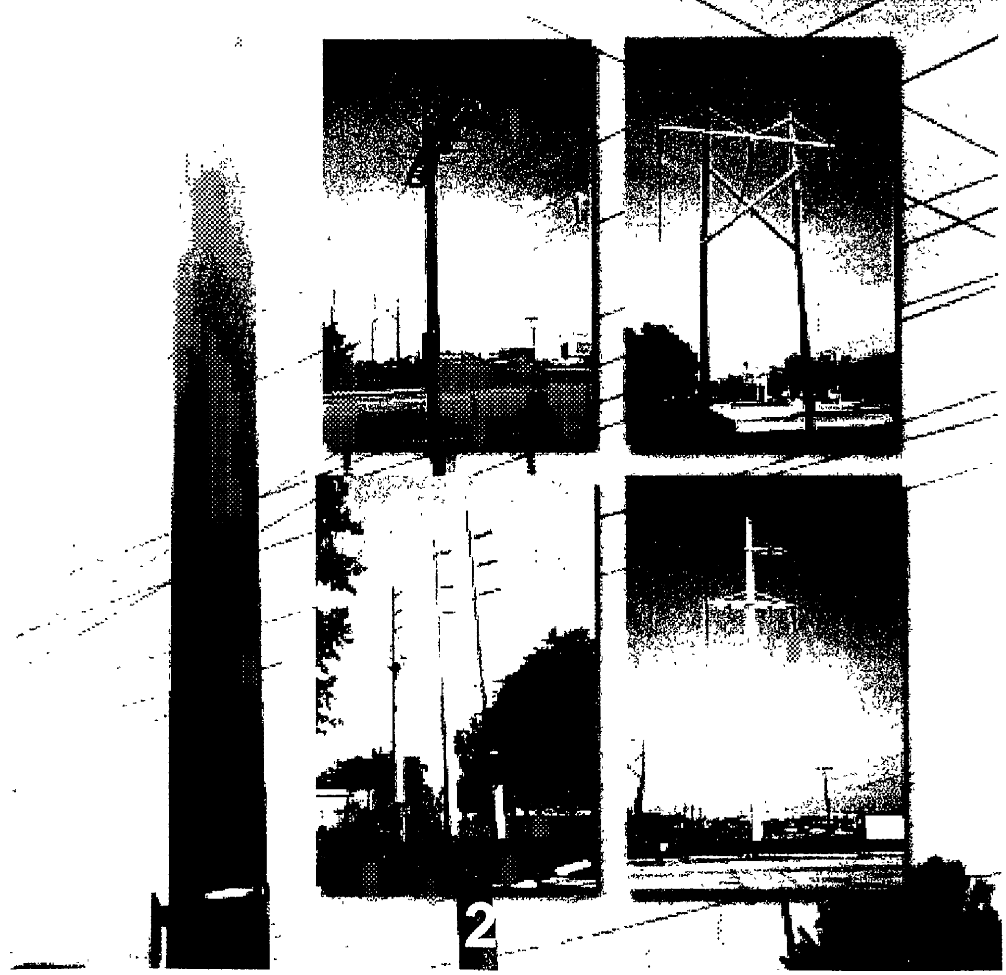
Florida Power & Light

Storm Reserve Loss Analysis:

Storm Losses

Insurance Deductibles for Non T&D Assets

Nuclear Risk Excess Coverage



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EQE BELIEVES THE DATA AND METHODOLOGIES DESCRIBED IN THE MEMORANDUM TO BE ACCURATE; HOWEVER, THE DATA AND METHODOLOGY DESCRIBED HEREIN, AND THE ANALYSES AND SERVICES PROVIDED HEREIN, ARE PROVIDED "AS IS" WITHOUT ANY WARRANTY OR GUARANTY OF ANY KIND. NEITHER EQE NOR ANY OF ITS OFFICERS, DIRECTORS, SHAREHOLDERS, AGENTS, SUBSIDIARIES OR AFFILIATES GUARANTEES OR WARRANTS THE CORRECTNESS, COMPLETENESS, CURRENTNESS, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF THE ANALYSIS PROVIDED HEREUNDER. BY ACCEPTING THIS MEMORANDUM, THE RECIPIENT RECOGNIZES THAT METEOROLOGICAL, TOPOGRAPHICAL, ENVIROMENTAL, AND STRUCTURAL CONDITIONS CAN VARY FROM THOSE ENCOUNTERED WHEN AND WHERE EQE HAS OBTAINED ITS DATA, AND THAT THE LIMITED NATURE OF THE DATA NECESSARILY CAUSES A LEVEL OF UNCERTAINTY. CONSEQUENTLY, ANY SOFTWARE USED IN CONNECTION WITH THE PERFORMANCE OF SERVICES MAY NOT INCLUDE DATA PERTAINING TO THE MOST RECENT NATURAL CATASTROPHES.

A SIGNIFICANT AMOUNT OF UNCERTAINTY EXISTS IN KEY ANALYSIS PARAMETERS THAT CAN ONLY BE ESTIMATED. PARTICULARLY, SUCH UNCERTAINTIES EXIST IN, BUT ARE NOT LIMITED TO: STORM SEVERITY AND LOCATIONS; ASSET VULNERABILITIES, REPLACEMENT COSTS, AND OTHER COMPUTATIONAL PARAMETERS, ANY OF WHICH ALONE CAN CAUSE ESTIMATED LOSSES TO BE SIGNIFICANTLY DIFFERENT THAN LOSSES SUSTAINED IN SPECIFIC EVENTS.

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Steven P. Harris Exhibit No. ___
Document SPH-1, Page 3 of 44
Storm Reserve Loss Analysis

Executive Summary

Florida Power and Light Company's (FPL) Storm Reserve may be called upon for payment of uninsured losses resulting from several causes. These include

- Windstorm losses from transmission and distribution (T & D)
- Insurance policy deductibles from Non T & D losses
- Retrospective insurance assessment from industry nuclear accidents, and
- Losses in excess of insurance coverage from nuclear accidents at FPL plants.

This study estimates the expected annual exposures to FPL's Storm Reserve from these sources. Expected annual losses are shown below:

Expected Annual Losses	$ (Millions)	Comments
Transmission and Distribution Assets – Windstorm Peril	55.0	Uninsured losses from hurricanes, tropical storms, and winter storms
Non T & D Assets – Windstorm Peril	4.3	Losses arising from payment of deductibles on insurance policies
Windstorm Subtotal	**59.3**	
Retrospective assessments from industry nuclear accidents	0.5	Property and third-party liability assessments from mutual insurers
Losses in excess of insurance from FPL nuclear accidents	0.5	Property losses to FPL nuclear plants in excess of insurance
Nuclear Subtotal	**1.0**	
Total	**60.3**	

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Storm Reserve Loss Analysis

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Tables

Figures

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Storm Reserve Loss Analysis

1. Windstorm Risk Profile

The following is a summary description of the windstorm portion of the risk analysis performed by EQE for Florida Power and Light (FPL), intended to be used solely by FPL, insurers, re-insurers, and the Florida Public Service Commission. The portion of the risk analysis concerning nuclear assets is summarized separately.

INSURED	**Florida Power & Light**		
ASSETS	Transmission and Distribution (T & D) System consisting of: transmission towers and conductors; and distribution poles, transformers, conductors, lighting, and other miscellaneous assets. Non T & D assets consisting of fossil and nuclear power plants, buildings, substations and other miscellaneous assets.		
LOCATION	All assets are located within the State of Florida.		
ASSET VALUE	Normal T & D replacement value is approximately $10.3 billion, of which approximately 20% is transmission and 80% is distribution. Normal Non T & D replacement value is approximately $17.1 billion.		
LOSS PERIL	Hurricanes (SSI 1 to 5), Tropical Storms, and Winter Storms		
EXPECTED ANNUAL DAMAGE	$59.3 million		
1% AGGREGATE DAMAGE EXCEEDANCE VALUE	$828 million (one year)		
AGGREGATE DAMAGE EXCEEDANCE PROBABILITES	**One Year**	**Three Years**	**Five Years**
$150 million	9.8%	31.4%	52.4%
$200 million	7.6%	25.0%	43.3%
$250 million	6.0%	20.4%	36.8%
$300 million	4.9%	17.5%	31.5%

2. Transmission and Distribution Loss Analysis

Florida Power and Light Company's (FPL) transmission and distribution (T & D) systems are exposed to and in the past have sustained damage from hurricanes, tropical storms, and winter storms. The exposure of these assets to storm damage is described and potential losses are quantified in this report. Loss analyses were performed using the advanced computer model simulation program USWIND developed by EQE.

The exposure is analyzed from both a scenario approach, which models specific storm characteristics, and a probabilistic approach, which considers the full range of potential storm characteristics and corresponding losses. Scenario analysis produce expected or most likely damage amounts resulting from defined storms. Probabilistic analyses identify the probability of damage exceeding a specific dollar amount. Damage is defined as the cost associated with repair and/or replacement of T & D assets necessary to promptly restore service in a post storm environment. This cost is typically larger than the costs associated with scheduled repair and replacement programs.

Factors considered in the analysis include the location of FPL's overhead and underground T & D assets, the probability of storms of different intensities and/or landfall points impacting those assets, the vulnerability of those assets to storm damage, and the costs to repair assets and restore electrical service. The computer model simulations were benchmarked to loss data from FPL in hurricanes Andrew, Erin, Gordon, Georges, Floyd and Irene.

Loss Estimation Methodology

The basic components of the T & D windstorm risk analysis include:

- **Assets at risk:** define and locate

- **Storm hazard**: apply probabilistic storm model for the region
- **Asset vulnerabilities:** severity (wind speed) versus damage
- **Portfolio Analysis:** probabilistic analysis -damage/ loss

These are analysis components are summarized herein.

3. Transmission and Distribution Assets at Risk

FPL's Transmission and Distribution (T & D) system assets consist of transmission towers and conductors; and distribution poles, transformers, conductors, lighting, and other miscellaneous assets. The total normal replacement value of these assets is approximately $10.3 billion, 20% of which is transmission and 80% of which is distribution. Normal replacement value is the cost of replacing the assets under normal non-catastrophe conditions. Table 3-1 shows the percent distribution of T & D values and the amount above/below ground, since vulnerability to loss is substantially different for each category.

Table 3-1

FPL TRANSMISSION AND DISTRIBUTION ASSET VALUES (%)

	TRANSMISSION	DISTRIBUTION	TOTAL
BELOW GROUND	3.0%	39.5%	42.6%
ABOVE GROUND	19.2%	38.2%	57.4%
TOTAL	22.3%	77.7%	100.0%

FPL's Transmission and Distribution assets are distributed unevenly across their Florida service territory, encompassing a large portion of the state. Table 3-2 shows the values within Florida for the counties that make up 92% of the total T & D values, indicating a concentration of values in the southern portion of the state. Figure 3-1 is a map of FPL's transmission system, while Figures 3-2 and 3-3 are maps summarizing the overhead and underground distribution values, respectively.

Table 3-2

T & D VALUES BY COUNTY, LARGEST COUNTIES

County (major city)	Value ($Thousands)
Dade (Miami)	2,257,060
Broward (Ft. Lauderdale)	1,727,260
Palm Beach (W. Palm Beach)	1,508,286
Brevard (Melborne)	625,037
Sarasota (Sarasota)	498,773
Lee (Fort Meyers)	422,422
Volusia	407,634
Manatee (Bradenton)	343,402
Saint Lucie (Fort Pierce)	304,237
Martin (Stewart)	291,496
Collier Naples)	291,002
Charlotte (Port Charlotte)	228,217
Indian River (Vero Beach)	159,696
Putnam (Palatka)	159,272
Flagler	138,517
Saint Johns (St. Augustine)	134,245
21 Other counties	766,277
Total	**10,262,833**

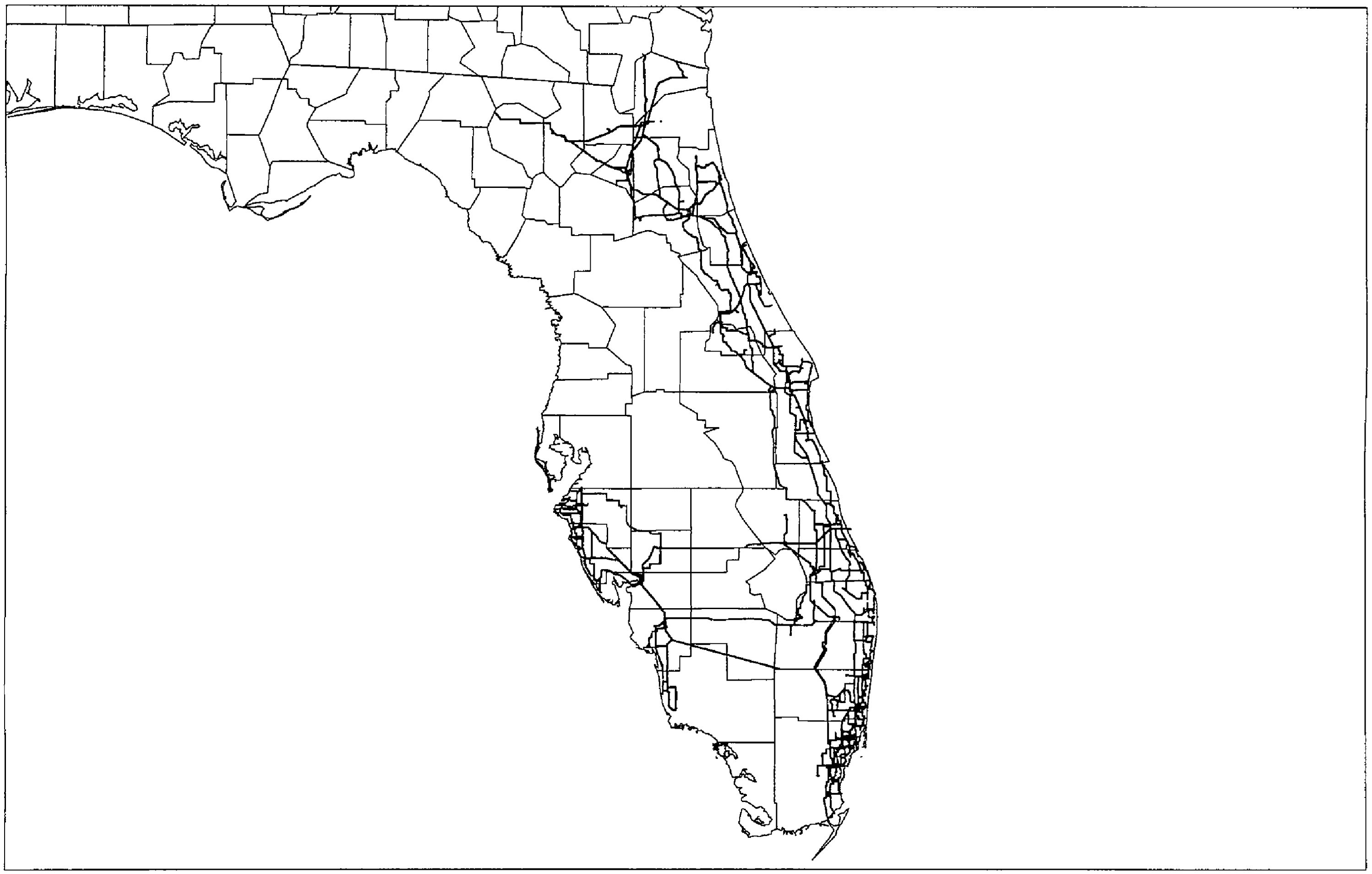

Figure 3-1: FPL Overhead Transmission Structures

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Storm Reserve Loss Analysis

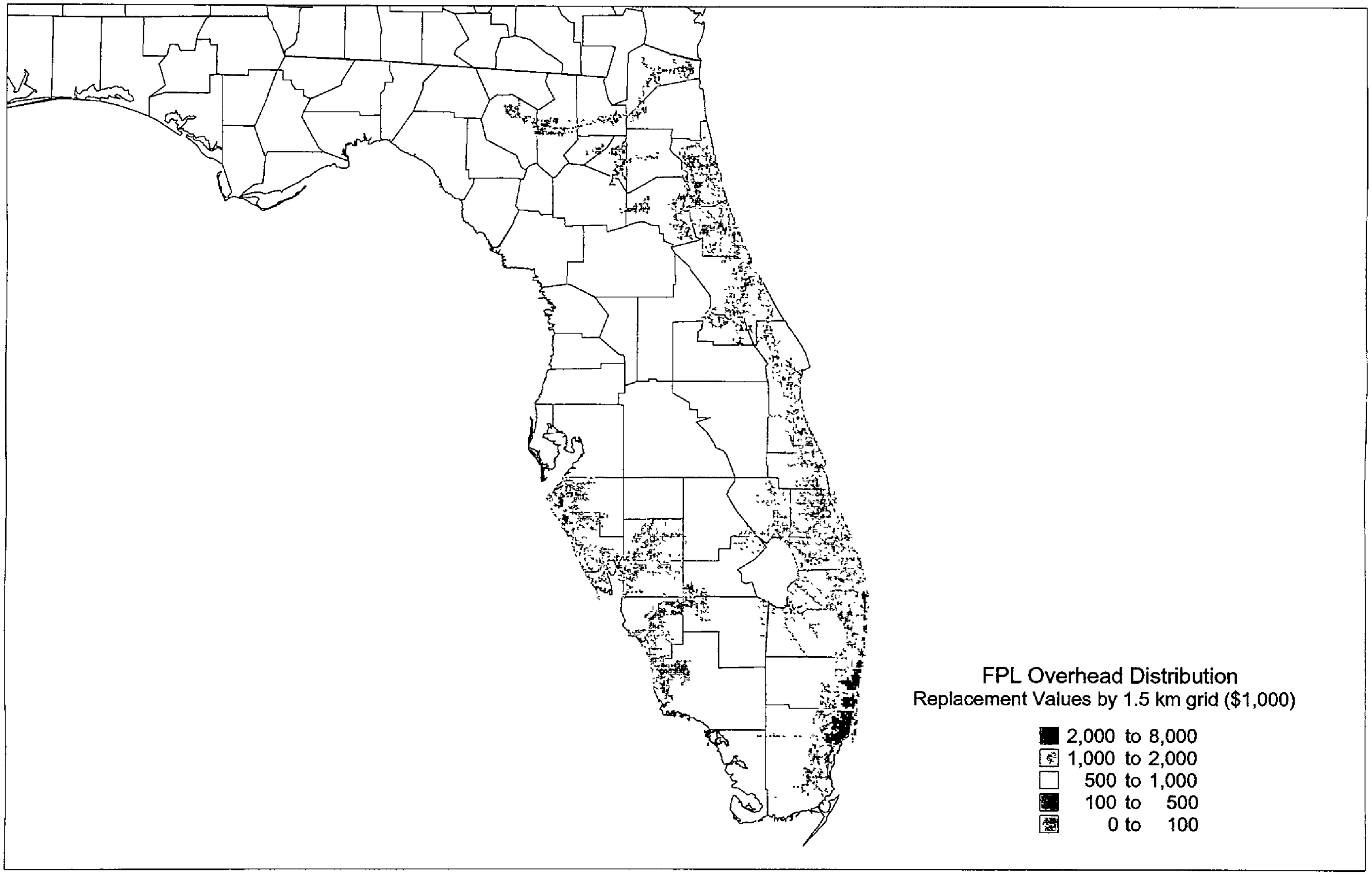

Figure 3-2: FPL Overhead Distribution

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Storm Reserve Loss Analysis

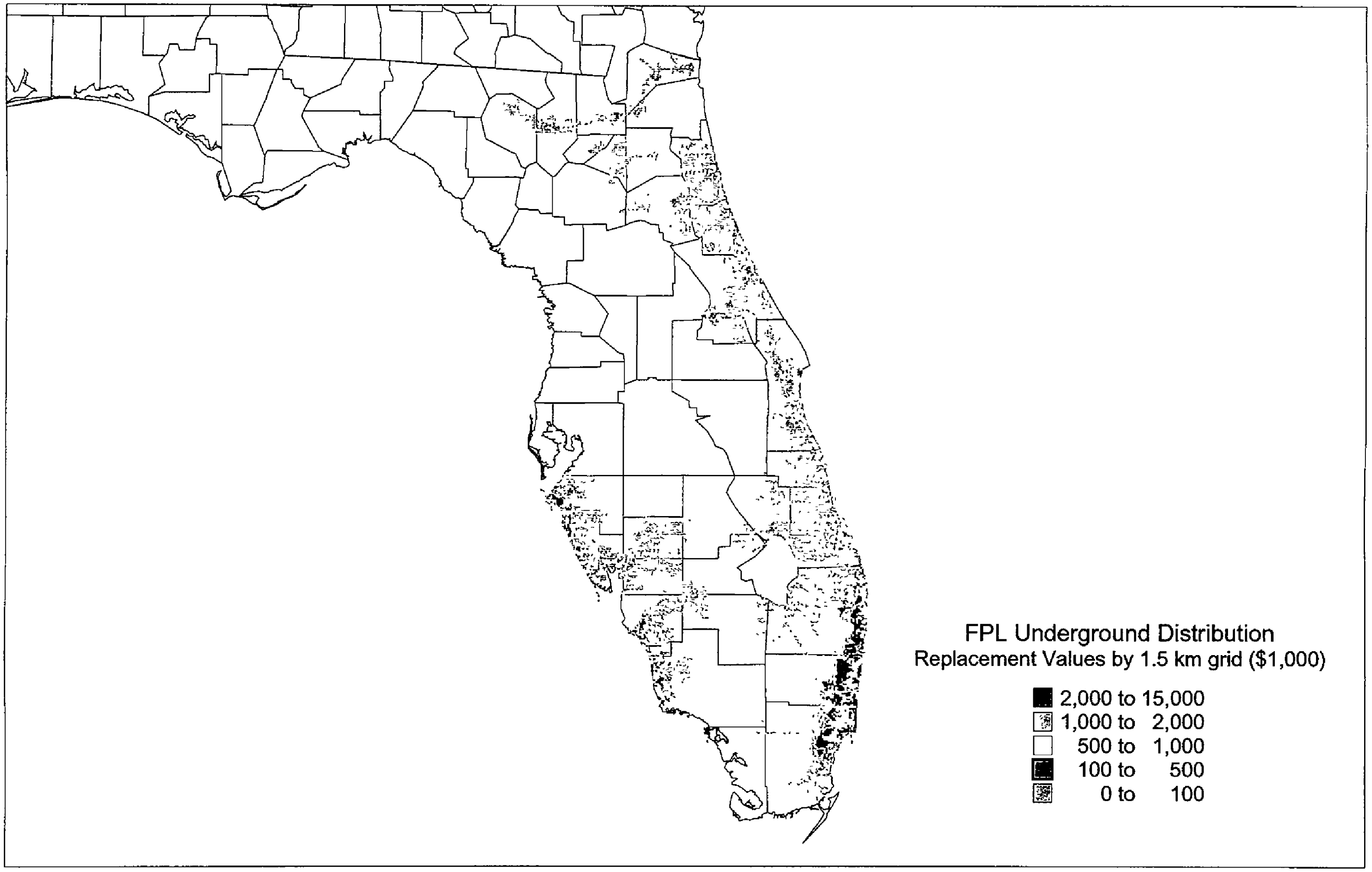

Figure 3-3: FPL Underground Distribution

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Storm Reserve Loss Analysis

4. Windstorm Hazard in Florida

4.1 Hurricane Hazard

The historical record for hurricanes on the Gulf and Atlantic coasts of the United States consists of approximately 100 years for which reasonably accurate information is available. For example, since 1900, there have been 62 hurricanes SSI 1 or greater (see Table 4-1 for description of the Saffir-Simpson Intensity (SSI) scale) which have made landfall in the state of Florida. Going back further, written descriptions of storms are available, but it becomes increasingly difficult to estimate actual storm intensities and track locations in a reliable manner consistent with the later data. For this reason all hypothetical storms used in this analysis, as well as their corresponding frequencies, have been based only on hurricanes that have occurred since 1900.

Since the historical record is too sparse to simply extrapolate future hurricane landfall probabilities, a series of hypothetical storms was generated in the USWIND probabilistic storm database, essentially "filling in" the gaps in the historical data. This provides an estimate of future potential storm locations (landfall), track, severity and frequency consistent with the observed historical data.

EQE developed its hurricane model, using the National Oceanic and Atmospheric Administration (NOAA) model as the base, to determine individual risk wind speeds. The NOAA model was designed to model only a few specific types of storms. While the eye of the hurricane follows the selected track, the EQE model uses up to a dozen different storm parameters to estimate wind speeds at all distances away from the eye.

The hurricane intensities used for the analyses conform to basic NOAA information regarding hurricane intensity recurrence relationships corresponding to locations along the coast. Much of FPL's service territory includes the coastal area where many of these hurricanes have made landfall. If they were to re-occur, many of these storms would cause significant amounts of damage to FPL's T & D assets.

The Miami-Dade region is in the highest risk region of Florida due to the frequency and higher severity of hurricanes in this area combined with the population concentration compared to the other areas of Florida.

Table 4-1

THE SAFFIR-SIMPSON INTENSITY (SSI) SCALE (NOTE THAT WINDSPEEDS GIVEN ARE 1-MINUTE SUSTAINED)

Saffir-Simpson Intensity (SSI)	Central Pressure (mb)	Maximum Sustained Winds (mph)	Storm-Surge Height (ft)	Damage
1	≥ 980	74-95	4-5	Damage mainly to trees, shrubbery, and unanchored mobile homes
2	965-979	96-110	6-8	Some trees blown down; major damage to exposed mobile homes; some damage to roofs of buildings
3	945-964	111-130	9-12	Foliage removed from trees; large trees blown down; mobile homes destroyed; some structural damage to small buildings
4	920-944	131-155	13-18	All signs blown down; extensive damage to roofs, windows, and doors; complete destruction of mobile homes; flooding inland as far as 6 mi.; major damage to lower floors of structures near shore
5	< 920	> 155	> 18	Severe damage to windows and doors; extensive damage to roofs of homes and industrial buildings; small buildings overturned and blown away; major damage to lower floors of all structures less than 15 ft. above sea level within 500m of shore

The statistical probability of a Category 1, 2, 3, 4 or 5 hurricane making landfall in FPL's southeastern service territories is shown in Table 4-2 below.

Table 4-2

ANNUAL PROBABILITY OF LANDFALLING STORMS

Region	SSI 1	SSI 2	SSI 3	SSI 4	SSI 5
(Dade/Broward/Palm Beach)	4.8%	5.3%	6.3%	2.4%	0.4%

4.2 Tropical Storm Hazard

In addition to storms strong enough to be classified as hurricanes, Florida is exposed to the threat of tropical storms (one-minute sustained wind speeds between 39 and 74 mph). The frequency of tropical storms in Florida is approximately equal to that of hurricanes (note that the wind speed range associated with hurricanes is much wider, i.e. 74 mph to well over 155 mph).

EQE's tropical storm model was developed using methods very similar to those used to develop the hurricane model, generating a series of hypothetical storms representing the full range of tropical storms in terms of landfall location and track, severity, and frequency consistent with the observed historical data. As in the development of the hurricane model, the historical data has been reviewed for accuracy and consistency, and the analysis has been based only on storms that have occurred since 1900.

4.3 Winter Storm Hazard

On average, about 15 mid-latitude storms a year bring high winds to Florida, mainly during the winter. Most of these storms have winds only in the 40 to 50 mph gust range and thus have little effect. The more severe events, however, can cause losses on the same scale as a tropical storm or weak hurricane.

In assessing this hazard, historical windstorm data for the past 45 years was obtained from the National Climatic Data Center (NCDC). This data included gust wind speed observations for over 600 storms, at a network of over 300 stations. Several different aspects of the data were examined in order to construct a model for storm sizes, shapes, locations, and wind fields. The resulting winter storm hazard model provides a way to characterize the wind fields for the full range of possible winter storms, including location, severity, and frequency information.

In computing winter storm losses to FPL, approximately 150,000 winter storms in Florida (10,000 years) were modeled. For each storm, the center, shape, geographical orientation, and wind speeds were defined on the basis of algorithms developed from the NCDC data. The wind field for each storm was integrated with the vulnerability function and FPL's distribution asset locations to compute the loss to FPL. The frequencies and computed losses for all 150,000 winter storms were combined to calculate the expected annual loss and the per occurrence and annual aggregate exceedance curves.

5. Transmission and Distribution Asset Vulnerabilities

Aerial transmission and distribution lines and structures have suffered damage in past hurricanes, tropical storms and winter storms. Damage patterns tend to be most severe in coastal areas due to a combination of wind and storm surge. Underground distribution lines in coastal regions have also been subject to storm damage. Damage to inland aerial lifelines tends to be less severe with greater contributions to damage from wind-borne debris. The types of wind-borne debris can include trees and tree limbs, and roofing materials as well as structure debris at higher wind speeds.

FPL aerial transmission and distribution structures are designed to sustain design-level hurricane winds. These design criteria specify design wind speeds for both transmission and distribution structures. Design criteria for transmission structures are micro-zoned, or segmented, into geographic areas that correspond to the expected wind hazard for the area. Distribution poles, on the other hand, are assumed to have one design standard for the entire service territory.

Vulnerabilities of T & D assets are based upon FPL provided wind speed versus damage data from Hurricane Andrew to distribution poles and transformers. Other vulnerabilities were developed using FPL-provided data on hurricane, tropical storm, and winter storm damage data, FPL design standards, and engineering judgments of the relative performance of the structures and material types.

6. Summary of Transmission and Distribution Portfolio Analysis

EQE analyzed the FPL portfolio of transmission and distribution (T & D) assets subject to a suite of probabilistic storms and a series of scenario storms using the proprietary computer program, USWIND . The probabilistic storm analyses provide non-exceedance probabilities over a range of loss levels while the scenario landfall storm series provides a damage distribution for selected storms at landfalls within the areas of FPL's highest asset concentrations. A brief discussion of benchmark studies is also presented since it provides estimates of FPL losses from six recent storms

6.1 Hurricane and Tropical Storm Probabilistic Analysis

The probabilistic loss analysis is performed using USWIND . The hurricane hazard uses the USWIND probabilistic database that models the coastline in 10-mile segments and models more than 1,500 hypothetical storms for each segment. The net result is a stochastic storm database of more than 500,000 events that represents possible hurricanes affecting the eastern United States, along both the Gulf and the Atlantic coasts. Each hurricane in the database has been defined by associating a central pressure with a unique storm track. In addition, each hurricane is assigned an annual frequency of occurrence, which depends on the storm track location and the storm intensity as measured by central pressure.

Tropical storms are modeled using a set of approximately 250,000 additional events, representing the full range of potential tropical storms affecting the Gulf and Atlantic coasts of the United States. As in the stochastic hurricane database, each tropical storm in the database has been defined by associating a central pressure with a unique storm track. In addition, each tropical storm is assigned an annual frequency of occurrence, which depends on the storm track location and the storm intensity as measured by central pressure.

For each location in the portfolio, the wind speed is calculated, and based on the type of asset, the degree of damage is estimated. The result for each asset location is an estimate of the mean damage and associated uncertainty. Total portfolio damage, defined as expected (mean) damage, is the sum of the individual property's damage. Uncertainty of an individual asset's damage is calculated to determine the total portfolio damage uncertainty, taking into account correlation between assets. Knowledge of the total portfolio damage probabilistic distribution permits estimation of total portfolio damage with varying probability levels.

Given the annual frequency and the portfolio loss for each event, a probabilistic database of losses is developed. By manipulating this database, various loss exceedance or non-exceedance distributions are generated.

6.2 Landfall Analyses for SSI Ranges

In order to provide further insight into FPL's risk profile twelve scenario landfall storm series were analyzed for six storm intensities. The storm series are located in the areas of highest asset concentration in South Florida, and high storm frequency and severity. The landfall locations were mileposts 1450, 1460, 1470, 1480, 1490, 1500, 1510, 1520, 1530, 1540, 1550, and 1560. See Figure 6-1 for a map of South Florida showing the landfall locations. These mileposts extend north from the Dade-Monroe County border to northern Palm Beach County, at approximately 10-mile intervals. At each milepost, the full set of stochastic storms within each SSI category was analyzed on FPL's T & D portfolio. Including variations on intensity, azimuth, radius to maximum winds, forward speed, and inland decay rate, approximately 1500 hurricanes were analyzed at each milepost, or about 300 per SSI category, on average. Likewise, approximately 750 tropical storms were analyzed at each milepost.

Within each SSI category, on average two to three storm intensities were analyzed, or approximately one set of storms for each range of 10 mph (one-minute sustained wind speed). For each milepost and SSI category, the frequency-weighted average damage was computed from all stochastic storms making landfall at that milepost and within that SSI category. Tropical storms were treated similarly, as a single category. Figures 6-2 through 6-7 provide these results graphically.

6.3 Benchmark Studies

Several hurricane benchmark studies were performed to calibrate and validate the T & D vulnerability functions and storm model. Storm data and losses from six recent storms that affected FPL service areas were utilized. These include Hurricane Andrew (1992), Hurricane Erin (1995), Hurricane Gordon (1994), Hurricane Georges (1998), Hurricane Floyd (1999), and Hurricane Irene (1999). The FPL asset portfolio was analyzed for each historic storm using USWIND , and the results are compared against reported FPL losses in Table 6-1 below. These historic storm simulations allow calibration of the model to forecast restoration and repair costs to damaged FPL system assets. These costs typically include the cost of damaged capital plant and equipment as well as payroll, associated vehicle, inventory, and support costs for the restoration efforts. Repair and restoration costs are typically much greater than normal replacement values.

These six storms are important benchmarks because they are relatively recent, all having occurred in the last eight years. Moreover, relatively "good" exposure and claims data are available for these storms. The comparisons between simulated losses and FPL historic losses show reasonable correlation for the storm simulations and provide a relevant measure of the model's validity.

Table 6-1

COMPARISON OF EQE HISTORIC LOSS SIMULATION WITH FPL HISTORIC HURRICANE LOSSES (DOLLARS IN THOUSANDS)

Storm	Andrew 1992	Erin 1995	Floyd 1999	Georges 1998	Gordon 1994	Irene 1999
Transmission	$59,793,270	$495,539	$58,162	$83,098	$67,617	$2,196,226
Distribution	$378,496,112	$9,006,142	$8,315,153	$9,073,910	$6,031,159	$54,399,910
Total	$438,289,381	$9,501,681	$8,373,315	$9,157,009	$6,098,775	$56,596,136
FPL Actual Losses	**$283,580,000**	**$6,000,000**	**$11,200,000****	**$11,500,000**	**$5,100,000**	**$55,000,000**
FPL Losses in 1999 $ *	**$438,872,215**	**$8,027,733**	**$11,200,000**	**$12,368,250**	**$7,338,753**	**$55,000,000**
Relative Difference	**-0.1%**	**18.4%**	**-25.2%**	**-26.0%**	**-16.9%**	**2.9%**

* FPL Losses in 1999 were adjusted by approximately 4% per year.

** Floyd was adjusted for cost associated with advance storm staging.

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Storm Reserve Loss Analysis

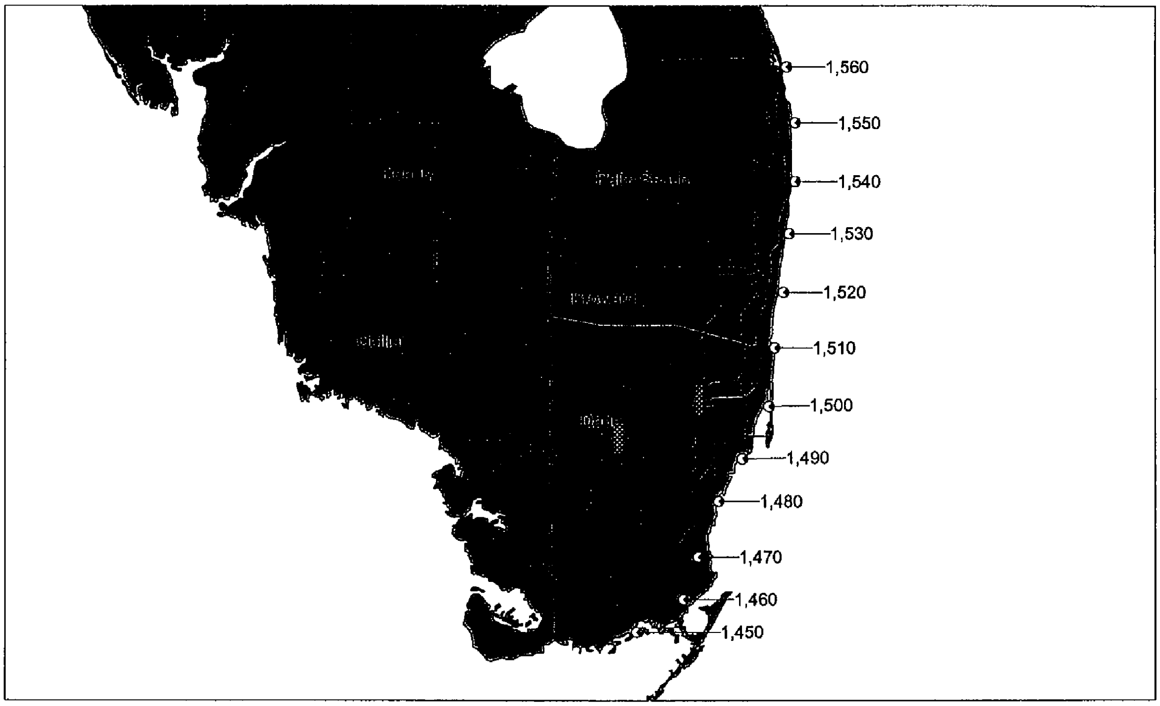

Figure 6-1: Scenario Storm Landfall Mileposts

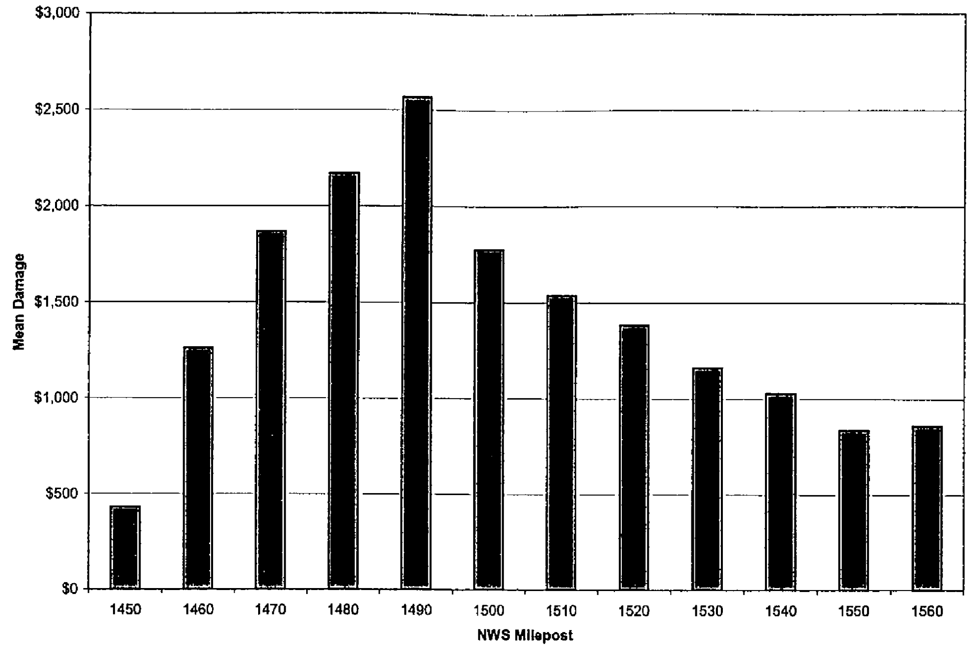

Figure 6-2: Frequency Weighted Average Damage from Tropical Storms

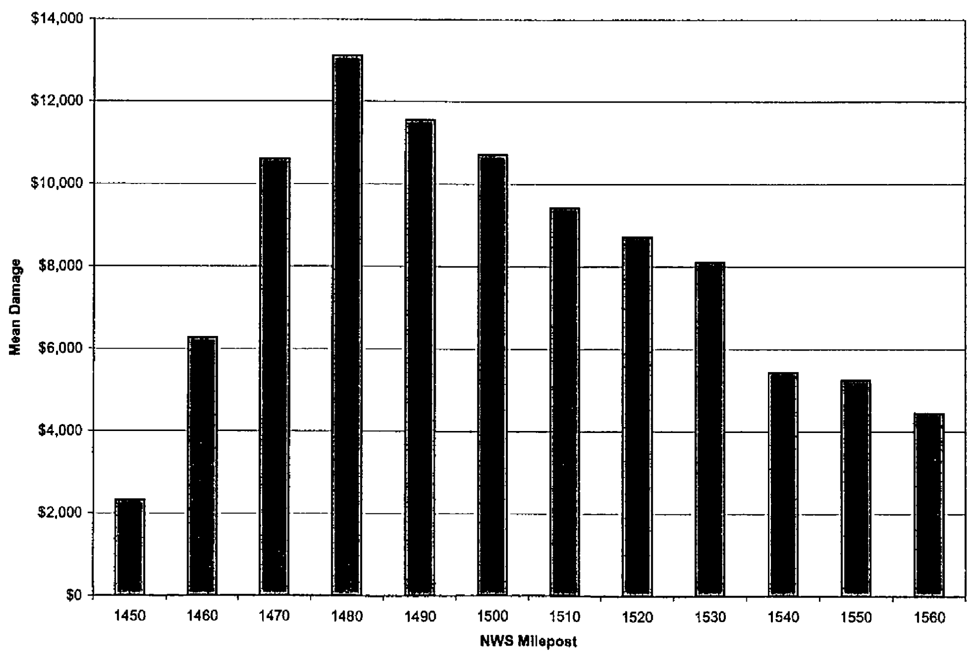

Figure 6-3: Frequency Weighted Average Damage from SSI 1 Landfalls

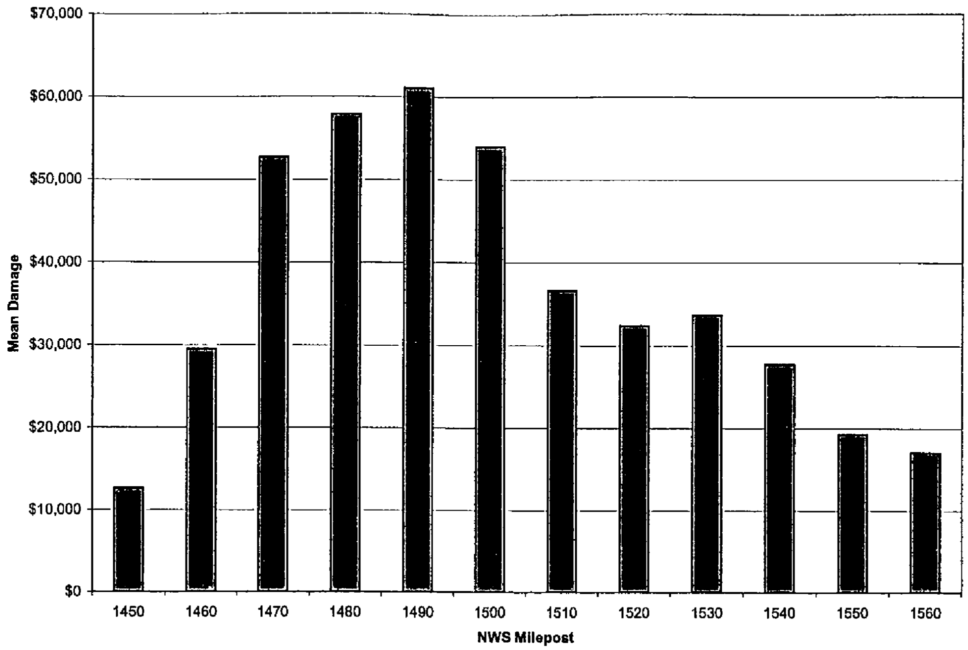

Figure 6-4: Frequency Weighted Average Damage from SSI 2 Landfalls

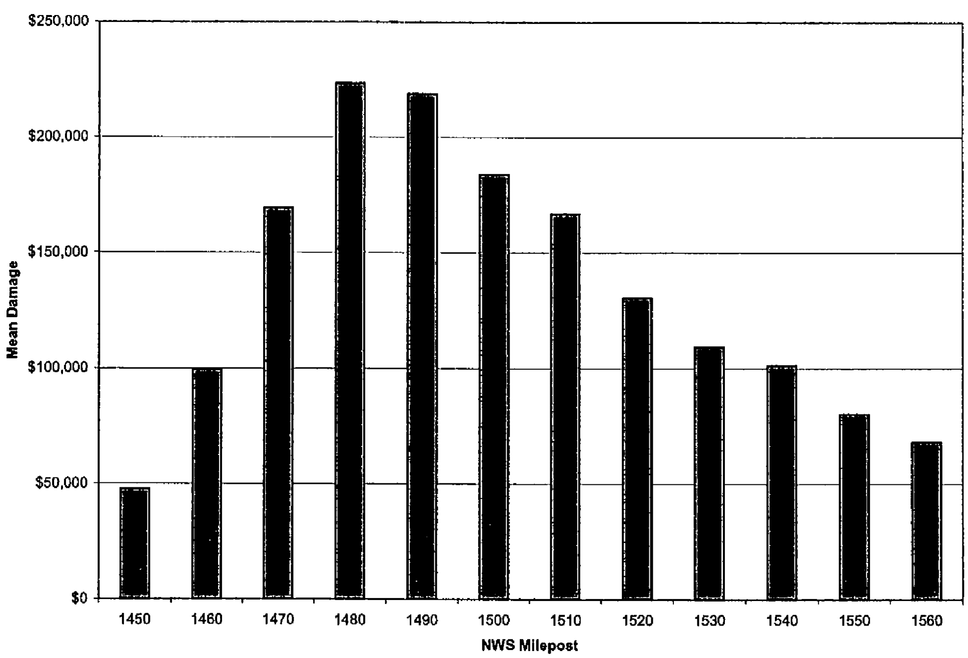

Figure 6-5: Frequency Weighted Average Damage from SSI 3 Landfalls

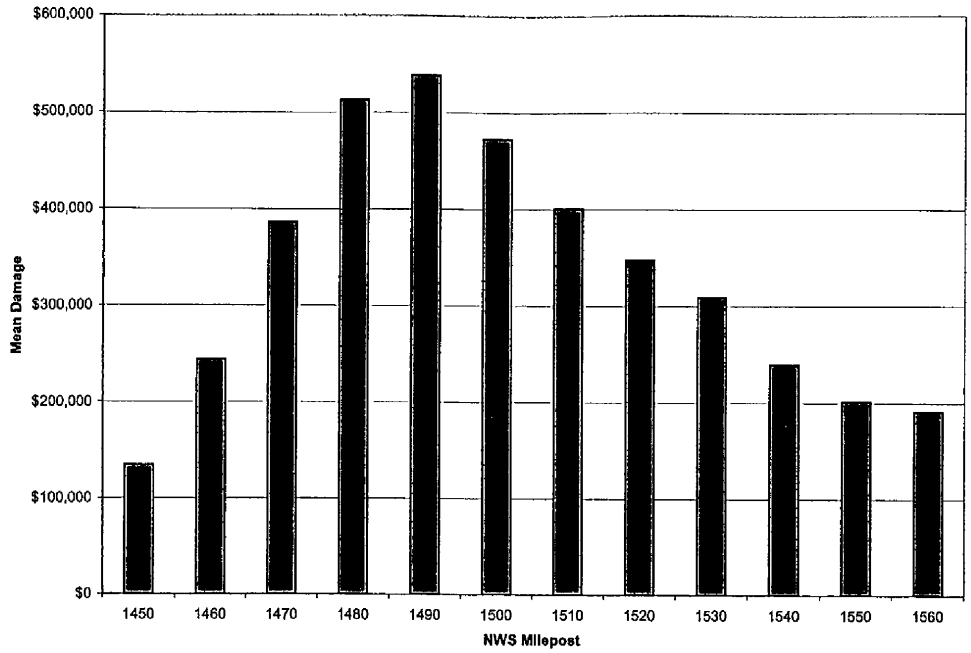

Figure 6-6: Frequency Weighted Average Damage from SSI 4 Landfalls

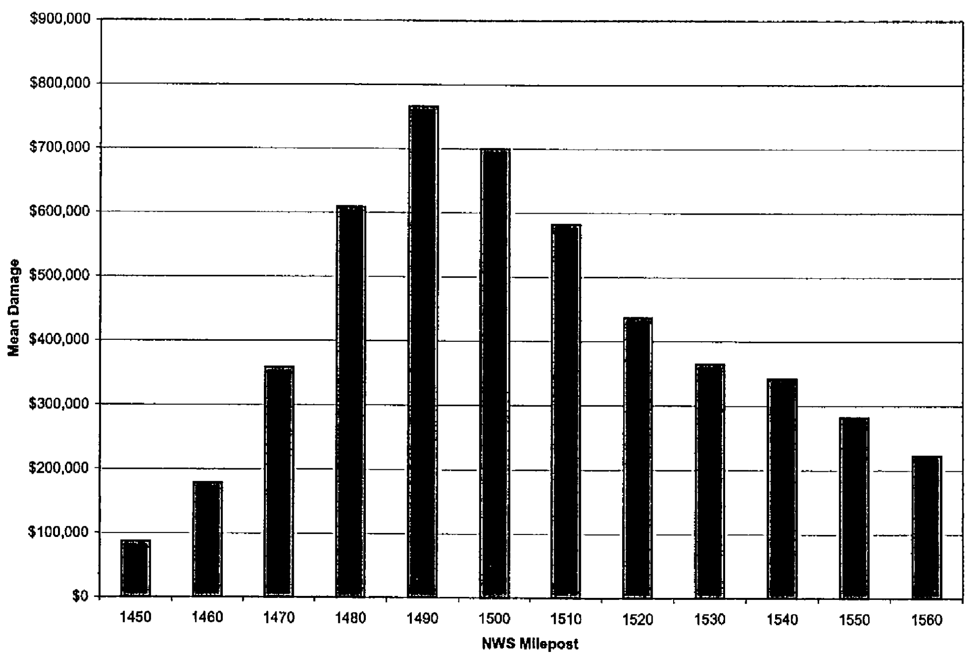

Figure 6-7: Frequency Weighted Average Damage from SSI 5 Landfalls

6.4 Winter Storm Probabilistic Analysis

EQE analyzed the FPL portfolio of T & D assets subject to a suite of probabilistic winter storms using methodology described in the windstorm hazard chapter above. The probabilistic storm analyses provide non-exceedance probabilities over a range of loss levels. The expected annual loss from winter storms was found to be $875,000. This value represents the average annual loss attributable to winter storms over a long period of time.

Table 6-2 summarizes the per occurrence and annual aggregate non-exceedance curves for winter storm losses to FPL's T & D assets. The annual aggregate winter storm loss with a 1% probability of exceedance is $17.939 million.

Table 6-2

PER OCCURRENCE AND ANNUAL AGGREGATE WINTER STORM NON-EXCEEDANCE PROBABILITIES

$ (THOUSANDS)

Annual Probability of Non-Exceedance	Per-Occurrence Winter Storm Loss	Annual Aggregate Winter Storm Loss
50.00	-	-
70.00	-	-
80.00	32	28
90.00	859	883
95.00	3,120	3,231
99.00	17,483	17,939

7. Staging Costs for Non-Landfalling Storms

FPL monitors hurricane forecasts and arranges for the pre-positioning of personnel and equipment, "staging", in anticipation of post-hurricane storm restoration activities. These decisions are made in advance of hurricane landfall. On occasion, these staging decisions are taken and actual hurricane landfall occurs outside FPL's service territory. The expected annual costs associated with these infrequent events are modeled and are described below.

Hurricane Modeling Aspects

The first task in modeling the staging costs for non-landfalling storms was to construct a model relating hurricane occurrences along an offshore 'decision horizon' to landfall locations and probabilities along the coast in or near FPL's service territory. The appropriate time horizon was determined to be about 24 hours before potential landfall in Florida. This time horizon was then translated into a 'decision horizon', i.e. an offshore line corresponding to the appropriate time of hurricane passage before landfall, based on climatological averages of hurricane forward speed. Given passage of a hurricane across this decision horizon, distributions of landfall locations, intensities, and probabilities were developed from historical hurricane track data. These distributions vary according to location along the decision horizon. These concepts are illustrated in Figure 7-1 below.

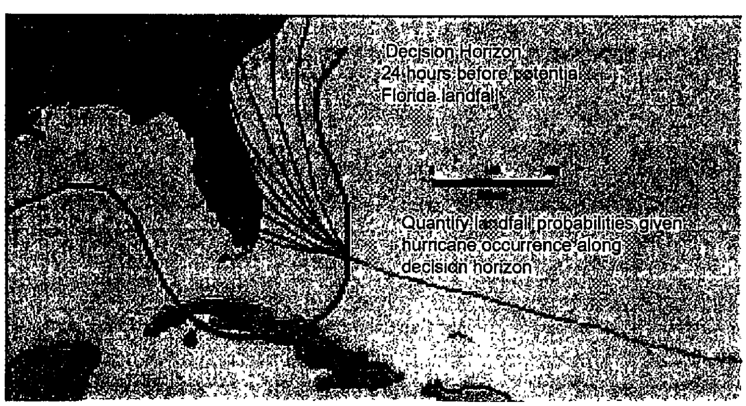

Figure 7-1: Hurricane Modeling Process for Quantification of Staging Costs

The central issue with staging costs is the probability that hurricane forecasts (where and at what intensity) may differ from actual hurricane landfalls. The distributions of landfall locations and intensities were sampled from in pairs, in order to model such differences. Specifically, for each 10 nautical mile stretch of the decision horizon and each 10 mph (one-minute sustained) wind speed range, 100 potential outcomes in terms of landfall location and intensity were generated, based on smoothed historical data. From these 100 outcomes, all 10000 pairs of outcomes (100*100) were used to model staging costs, with the first outcome of each pair representing the hurricane forecast, and the second outcome of the pair representing the actual hurricane occurrence.

Staging Cost Modeling

A model for staging costs was developed from FPL staging cost and decision information provided by FPL. The inputs to the model are pairs of hurricane outcomes. These input parameters are forecasted landfall location (milepost), forecasted intensity (wind speed), actual landfall location (milepost), and actual intensity (wind speed). Staging costs are only calculated for situations in which the forecasted landfall is within FPL's service territory, and the actual landfall is not within FPL's service territory. For these situations, the staging costs are determined on the basis of the forecasted landfall location and intensity, based on staging cost information provided by FPL. For all other situations, the staging cost is assumed to be zero.

Expected annual staging costs are estimated to be $2.4 million.

8. Non T & D Assets at Risk

FPL's Non T & D assets consist of fossil and nuclear power plants, buildings, substations and other miscellaneous assets. The total normal replacement value of these assets is approximately $17.1 billion. Normal replacement value is the cost of replacing the assets under normal non-catastrophe conditions. Table 8-1 shows the distribution of values among power plants, substations, buildings, and miscellaneous assets.

Table 8-1

FPL NON T & D ASSET VALUES

	$(Thousands)	%
Fossil Power Plants	7,762,705	45%
Substations	2,667,862	16%
Buildings and miscellaneous assets	1,021,238	6%
Nuclear Power Plants	5,685,432	33%
TOTAL	17,137,237	100%

FPL's assets are distributed unevenly across their service territory, encompassing a large portion of the state of Florida. Assets are located in the USWIND storm model either by latitude and longitude or by ZIP code centroid using the best information available from FPL databases at the time of the analysis.

8.1 Storm Exposures

FPL buildings, power plants and switchyard assets are exposed to and insured against losses due to hurricanes. These assets have in the past sustained damage from hurricanes, and FPL has paid insurance deductibles on policies from the FPL Storm Reserve. Loss analyses were performed using the advanced computer model simulation program USWIND developed by EQE.

The FPL Non T & D portfolio consists of three policies, with three per occurrence deductibles. Two policies apply to Turkey Point and St. Lucie nuclear plant assets and have deductibles of $1 million each. The third policy applies to the balance of insured property, buildings, fossil power plants and substations with a deductible of 2% of loss, $10 million minimum and $15 million maximum per occurrence.

8.2 Storm Analysis Results

EQE analyzed the FPL portfolio of Non T & D assets subject to a suite of probabilistic storms using the proprietary computer program USWIND . The probabilistic storm analyses provide non-exceedance probabilities over a range of loss levels. The expected annual loss from payment of deductibles was found to be $4.3 million. This represents the average annual deductible paid on non-nuclear property insurance policies over a long period of time. Table 8-2 summarizes the results of the analysis, in terms of per occurrence and annual aggregate non-exceedance probabilities.

Table 8-2

PER OCCURRENCE AND ANNUAL AGGREGATE DEDUCTIBLE NON-EXCEEDANCE PROBABILITIES

$ (THOUSANDS)

Annual Probability of Non-Exceedance	Per Occurrence Deductible	Annual Aggregate Deductible
50.00	21	22
70.00	1,669	1,763
80.00	12,195	12,889
90.00	15,845	16,006
95.00	16,054	17,066

99.00	16,901	31,803

9. Summary of Windstorm Risk Analysis

The loss analysis EQE has performed for FPL includes two main components: a windstorm risk analysis, and an assessment of the risks posed by exposure of FPL's nuclear assets to accidents. This chapter summarizes the results of the windstorm risk analysis, which has been described in the preceding chapters. The nuclear risk analysis is summarized in the following chapter.

9.1 Expected Annual Losses

Expected annual losses to FPL from all windstorm perils are estimated to be $59.3 million. The contributions to this total from the various sources are summarized in Table 9-1.

Table 9-1

EXPECTED ANNUAL STORM LOSSES

Expected Annual Losses	$ (Millions)	Comments
Distribution Assets – Hurricane Peril	44.0	SS 1 through 5
Distribution Assets - Tropical Storms	1.5	Sustained wind speeds of 39-74 Mph
Distribution Assets - Winter Storms	0.9	Gust wind speeds of 40-50 Mph
Storm Staging Costs	2.4	FPL Pre-storm mobilization
Transmission Assets – Hurricane and Tropical Storm Peril	6.2	SSI 1 through 5 and tropical storms
T & D Subtotal	**55.0**	
Non T&D Assets – Hurricane and Tropical Storm Peril	4.3	Losses arising from payment of deductibles on insurance policies
Non T & D Subtotal	**4.3**	
Total	**59.3**	

9.2 Aggregate Damage Exceedance for One, Three, and Five Years

Aggregate damage exceedance calculations are developed by keeping a running total of damage from ***all possible events*** in a given time period, including all uninsured costs from windstorms. At the end of each time period, the aggregate damage for all events is then determined by probabilistically summing the damage distribution from each event, taking into account the event frequency. The process considers the probability of having zero events, one event, two events, etc. during the time period.

Table 9-2 summarizes this analysis for three time periods: one, three, and five years, for damage layers between zero and over one billion dollars.

For each damage layer shown, the probability of damage exceeding a specified value is shown. For example, the probability of damage exceeding $500 million in one year is 2.5%, while it is 9.2% and 18.1% for three and five year periods. The analysis calculates the probability of damage from all storms and aggregates the total, resulting in increasing exceedance probabilities for the three and five year periods when compared to the one year value.

Table 9-2 also shows, for each damage layer, the contribution of that layer to the expected annual damage of $59.3 million, which is the annual damage calculated from all storms with varying severity and frequency. The expected annual damage represents all uninsured costs from windstorms on an annual basis over a long period of time.

For the example given above, the contribution to the $59.3 million expected annual damage in the $500 to $550 million layer is $1.211 million for the one-year period. For the three-year and five-year periods, the contribution to the expected damage over the period is provided for each layer. For example, the total expected damage over a three-year period is $177.805 million (three times the expected annual damage), $4.306 million of which is contributed by the layer from $500 to $550 million.

Table 9-2

AGGREGATE STORM DAMAGE EXCEEDANCE PROBABILITIES AND EXPECTED DAMAGE IN 1, 3, & 5 YEARS, BY LAYER

Damage Layer	1 year		3 year		5 year	
($millions)	Exceedance Probability	Expected Annual Damage ($000)	Exceedance Probability Over 3 Years	Expected Damage Over 3 Years ($000)	Exceedance Probability Over 5 Years	Expected Damage Over 5 Years ($000)
$ 0	82.420%	18,483	99.860%	39,107	100.000%	46,026
50	21.156%	8,466	58.876%	24,765	83.769%	37,324
100	13.536%	5,772	41.753%	18,032	65.765%	29,469
150	9.819%	4,269	31.413%	13,989	52.373%	23,918
200	7.637%	3,413	25.016%	11,354	43.264%	20,054
250	6.007%	2,668	20.407%	9,398	36.838%	17,104
300	4.911%	2,268	17.501%	8,038	31.525%	14,661
350	4.069%	1,868	14.648%	6,737	27.029%	12,630
400	3.496%	1,615	12.745%	5,805	23.300%	10,870
450	2.978%	1,384	10.662%	4,969	20.279%	9,608
500	2.538%	1,211	9.219%	4,306	18.078%	8,514
550	2.259%	1,020	8.046%	3,825	15.815%	7,471
600	1.932%	903	7.153%	3,335	13.855%	6,598
650	1.693%	792	6.142%	2,952	12.484%	5,826
700	1.491%	687	5.298%	2,415	10.862%	5,152
750	1.236%	575	4.751%	2,251	9.699%	4,589
800	1.086%	506	4.185%	1,974	8.557%	4,269
850	0.952%	468	3.615%	1,723	7.617%	3,428
900	0.819%	382	3.274%	1,575	6.872%	3,203
950	0.703%	308	2.909%	1,311	6.020%	2,857
≥$1,000	0.604%	2,211	2.571%	9,942	5.268%	22,769
Total		**59,268**		**177,805**		**296,341**

9.3 Per Occurrence Probabilities

Another approach to quantify losses is to calculate the damage for each time period from the ***single largest and most likely event,*** and apply the deductible to that event to calculate the loss. This is called a per-occurrence exceedance curve. The exceedance curve considers the possibility that damage/losses may be from any event in the probabilistic storm database. Because it includes effects from only the largest event, the per occurrence probabilities are always less than the aggregate probabilities. The amount of difference between the two cases indicates the damage and loss contributions from more than one event in any given period. This can provide additional insight into the risk associated with a second event. For FPL's portfolio, the one-year per occurrence probabilities are approximately 90%-95% of the aggregate probabilities, indicating that most of the risk of damage and loss is associated with one major storm as opposed to two or more storms for a given period.

10. Nuclear Assets at Risk

Nuclear Exposures

FPL Storm Reserve exposures due to property damage and third party liabilities could arise from two sources:

- Nuclear accidents at FPL's four nuclear units located at Turkey Point and at St. Lucie, and
- Nuclear accidents at plants in nuclear mutual insurance pools

Storm Reserve obligations could result from these exposures as a result of mutual insurance obligation retrospective assessments ("retros") or as a result of low probability events and losses in excess of insurance coverage.

Potential financial exposures to the Storm Reserve were developed using nuclear industry studies that provide the frequency and severity of nuclear accidents. These analyses provide estimates of the expected annual losses from these events.

Florida Power and Light Nuclear Plants

Florida Power and Light owns and operates four Pressurized Water Reactor units: two at Turkey Point and two at St. Lucie. Property damage and third party liabilities are insured through Nuclear Electric Insurance Limited (NEIL) and under Federal Price-Anderson legislation. Losses in excess of this insurance could represent liabilities to the FPL Storm Reserve.

Industry Nuclear Plants

The commercial nuclear power plants in the U.S. are insured through insurance mutual structures. Property damage resulting from operation of these plants is insured through NEIL, a nuclear utility insurance mutual. Third party liabilities resulting from operations are insured on a mutual basis under Federal Price-Anderson legislation. Losses at any of the commercial reactors in the U.S. could result in mutual insurance obligation retrospective assessments ("retros"). "Retros" could represent liabilities to the FPL Storm Reserve.

10.1 Nuclear Accident Frequencies

Nuclear power plant severe accident risks have been the subject of intensive study and analysis in the United States and overseas. Probabilistic Risk Assessments (PRA) have become the accepted methodology for analysis and quantification of these very low probability (1 in 100,000 to 1 in a million per year) but extreme consequence ($1 billion to $10 billion) events. PRA's are generally performed at two levels. These are:

- Level 1 — Analyses of nuclear plant system performance; develops the frequency and severity of nuclear core damage events as a result of equipment failure, operator errors and external events.
- Level 2 — Analysis of containment response; develops the frequency and severity of events that result in radioactive releases from containment, given the occurrence of a core damage event.

Level 1 and 2 PRA studies provide frequency measures of loss to FPL's Storm Reserve. Level 1 and 2 PRA frequencies apply to potential property damage and third-party liabilities, respectively.

Level 1 Core Damage Events

The total frequency of nuclear power plant core damage is composed of contributions from normal operations, shutdown and refueling and from external events. In 1988 and 1991, the U.S. Nuclear Regulatory Commission requested all commercial nuclear power plant licensees to initiate an assessment of accident risks due to power operations and of external events such as earthquakes, hurricanes, fires and floods (Reference 2). Many of these studies have utilized PRA methods that allow quantification of reactor core damage frequencies (CDF's) on a common basis. The results of these studies have been utilized as the basis for estimation of severe accident risks that could result in financial obligations to FPL's Storm Reserve.

In addition, the NRC and owners have conducted some number of Level 1 PRA studies at nuclear plants to assess the risk of core damage due to shutdown and refueling operations. The results of these research PRA studies have been utilized as the basis for estimation of risk contributions due to these periodic plant operations states (Reference 3).

The total risk of core damaging events from internal, external, and shutdown operations is estimated to be about 8/100,000 per reactor year for the U.S. industry. Considering there are approximately 100 reactor units in the mutual pool, the total frequency is about 8/1,000 core damage events per reactor year.

Level 2 Core Damage and Containment Failure Events

Core Damage and Containment Failure Events have been the subject of more limited study at operating commercial nuclear plants than the Level 1 PRA studies mandated by the NRC. The result of the studies performed and the regulatory reviews performed by the NRC has led to the view that the frequency of release given core damage to be at least 1 in 10 or lower probability than core damage.

10.2 Severity of Nuclear Losses

FPL's Storm Reserve has potential loss exposures to nuclear power plant operation resulting in property damage and third party liability as discussed below.

FPL Property Damage/Losses

Uninsured losses may result directly from an event resulting in property damage which exceeds FPL's $2.75 billion NEIL II insurance coverage. Insured events that could result in this large a loss would most likely result from a class of severe accidents involving extensive reactor core melt. Storm Reserve liabilities resulting from core damage events that exceed FPL's existing insurance limit was estimated based on a study by ANI/MAELU of property damage exposures (Reference 4). The ANI/MAELU study estimates the expected loss from a core damage event at their "Reference Reactor" to be $2.5 billion. This expected value of loss represents a 50% probability of a loss being above or below this value. The study reports three sets of core damage losses. The first is below the limit of $2.75 billion. The second is approximately $3 billion, and the last is a range from $3.7 billion to $6.5 billion. The later two sets of events have a conditional probability of occurrence of 15% each. The most likely loss greater than the FPL $2.75 billion insurance limit is estimated to be about $1,215 million. The expected annual loss is the product of the annual frequency of core damage events times the expected loss. For FPL's four nuclear units, the expected annual loss is estimated to be $0.5 million per year.

FPL Third-Party Losses

Uninsured losses may result directly from an event resulting in third-party liability which exceeds the Price-Anderson limit of about $9 billion. Losses in excess of this limit were judged to be small enough to neglect from this analysis.

Industry Property Damage/Loss

Property damage exposures may also occur due to core damage events at other nuclear plants participating in the NEIL mutual insurance program as a result of retrospective assessments to participants. NEIL's current policyholder surplus, reinsurance contracts, deferred taxes, and policyholder distributions should allow NEIL to meet their stated mission of "covering two full-limit losses" (Reference 5). NEIL also states that "... the company can call upon the Members for payment of proportionate retrospective premium adjustments, in whole or in part, to cover losses..." NEIL could also elect not to call a "retro" following a loss, considering their capacity to cover two Limit Losses. Should one of NEIL's member utilities experience a core damage event and loss, FPL may be obligated to provide a full or partial "retro" from the Storm Reserve. The expected post loss scenario is therefore considered to be a partial (50%) "retro" of $27 million. FPL's full "retro" exposure is $54 million. The expected annual "retro" cost, considering the frequency of core damage events industry wide and the number of reactors participating in the NEIL insurance arrangement, is $0.2 million.

Third-Party Liability

Third-party liability exposures could result from a major core damage event accompanied by a release of radioactive materials at both FPL and non-FPL nuclear plants. These exposures would result from retrospective assessments under Price-Anderson legislation. Nuclear licensees are currently obligated under Price-Anderson to fund third-party liability losses up to about $9 billion. The "retro" cost for a full Price-Anderson limit loss would be $363 million. Considering the frequency of core damage and release events industry wide and the number of reactors participating under the Price-Anderson legislation, the expected annual cost to FPL is $0.3 million.

The estimated total nuclear exposure of the Storm Reserve is shown in Table 10-1. The exposures provided are best estimates of the annual losses that could occur. There are significant uncertainties associated with the risk of reactor accidents, the losses that could result, and the actions that could be taken by organizations with responsibility for assessment of "retro" to FPL. Uncertainties associated with individual variables used in these estimates are large, and the range of annual exposure could be as large as an order of magnitude.

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Storm Reserve Loss Analysis

Table 10-1

EXPECTED ANNUAL LOSSES FROM NUCLEAR ACCIDENTS TO THE FPL STORM RESERVE

	Accident Frequency (events/year)	Accident Severity $(millions)	Expected Annual Loss $(millions)
FPL Assets /Losses (4 units)		*Excess of Insurance*	
Property Damage	4/10,000	1,215	0.5
Third-party Liability	4/100,000	nil	nil
Subtotal			**0.5**
Industry Assets/Losses		*"Retros"*	
Property Damage	8/1,000	27	0.2
Third-party Liability	8/10,000	363	0.3
Subtotal			**0.5**
Total			**1.0**

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11. References

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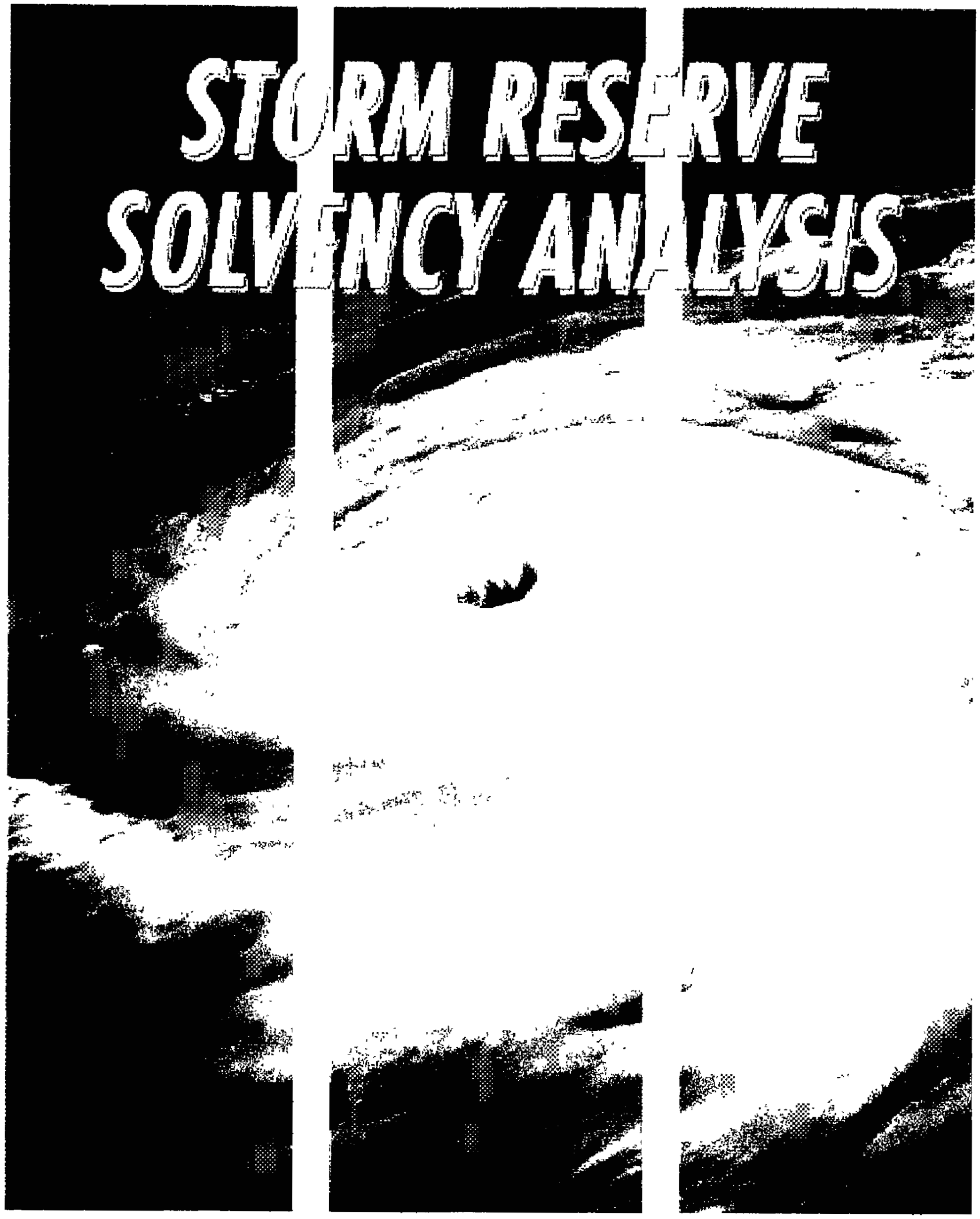
EQE INTERNATIONAL

ABS Consulting
RISK CONSULTING DIVISION

STORM RESERVE SOLVENCY ANALYSIS



Florida Power & Light

July 2001

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Storm Reserve Solvency Analysis

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Executive Summary

EQE has performed several analytic studies relative to the Storm Reserve at the request of Florida Power & Light Company (FPL). These studies and reports include:

- The Storm Reserve Loss Analysis (the "Loss Analysis): This probabilistic storm analysis study estimates the uninsured windstorm losses to which FPL is exposed:
- The Storm Reserve Solvency Analysis (the "Solvency Analysis"): This dynamic financial simulation analysis evaluates the performance of the Storm Reserve, given the potential uninsured losses determined from the Loss Analysis, at various annual accrual levels; and
- The Storm Reserve Funding Recommendation report (the "Recommendations"): This report draws on the Loss Analysis and Solvency Analysis, together with FPL financial objectives, and recommends annual accrual levels and a five-year Storm Reserve balance target range.

The recommendation on annual accrual level and target Storm Reserve balance are based on FPL's desire to achieve a balance among lowest long-term customer cost, reduced Storm Reserve volatility, and annual accrual levels that fund most frequent storms but not all infrequent catastrophic events.

EQE recommends an annual accrual in the range of $45 to $55 million with an objective of reaching a target Storm Reserve balance range of $400 to $500 million within five years.

Storm Reserve Loss Analysis

EQE performed a probabilistic analysis of windstorm losses for FPL, to determine their potential impact on the Storm Reserve over periods of one, three and five years. The analysis included Transmission and Distribution (T & D) losses as well as windstorm insurance deductibles attributable to non-T & D assets. The total expected annual uninsured cost from all windstorms is estimated to be $59.3 million.

The expected annual loss estimate represents the average annual cost associated with repair of windstorm damage and service restoration activities over a long period of time. The expected annual loss is also known as the "Pure Premium," which when insurance is available is the insurance premium level needed to pay just the expected losses. Insurance companies add their expense cost and profit margin to the Pure Premium to develop the premium charged to customers.

Storm Reserve Solvency Analysis

EQE performed a dynamic financial simulation analysis of the impact of the estimated windstorm losses on the FPL Storm Reserve. This Solvency Analysis performed 10,000 simulations of windstorm losses within the FPL service territory, each covering a 30-year period, to determine the effect of the charges for loss on the Storm Reserve. Monte Carlo simulations were used to generate loss samples consistent with the expected $59.3 million Loss Analysis results. The analysis provides an estimate of the Storm Reserve assets in each year of the simulation accounting for the annual accrual, investment income, expenses, and losses using a financial model.

The analysis concentrated on looking at three key performance measures: solvency of the Storm Reserve, stability of the Storm Reserve (i.e. need for special assessments / rate increases), and overall cost to the customer. All three criteria need to be considered, since low accrual levels tend to jeopardize the solvency of the Storm Reserve and increase long term customer costs, and high accrual levels can result in a Storm Reserve balance that grows quickly.

Alternative administrative policies, differentiated on the basis of the annual accrual, and the scheme of Reserve balance levels at which the normal accrual is reduced or suspended entirely due to growth in the Reserve were evaluated. Annual accruals evaluated were $10 million to $80 million in steps of $10 million, with three additional cases at $35, $45, and $55 million. With respect to the Reserve balance thresholds, two scenarios exist: one in which the annual accrual is reduced by 50% at $500 million and suspended at $750 million (Scenario A), and one in which the thresholds are $400 million and $600 million, respectively (Scenario B). The former scenario (Scenario A) is recommended, as it minimizes volatility as measured by the need for special assessments / rate increases.

Where the Storm Reserve balance was negative at the end of a year, it was assumed that the deficit was covered by borrowing funds (at an after tax interest rate of 4%). When borrowing was required, an assessment or rate increase was assumed to be immediately instituted to repay the shortfall over a five-year period. Balances in the Storm Reserve were assumed to be invested and earned a 3.5% after tax return.

Analysis Results

Storm Reserve solvency can be viewed in terms of the expected surplus or deficit of the Storm Reserve over the 30-year period. Based on the simulated loss distributions, deficits to the Storm Reserve could exist for all annual accrual levels analyzed, although their level begins to moderate at accruals above $45 million. Accrual levels above $45 million will result in a lower probability of Storm Reserve deficits and will have a higher probability of generating positive Storm Reserve growth, thus reducing both customer cost and the need for special assessments / rate increases.

Storm Reserve volatility can be viewed in terms of the fraction of total annual cost per customer contributed by special assessments / rate increases. The volatility can be characterized by three ranges of need for special assessments / rate increases:

- Annual accrual levels below $45 million, where deficits occur and special assessments / rate increases make up 35% to 55% of the total annual cost per customer.
- Annual accrual levels between $45 and 55 million where small surpluses occur and special assessments / rate increases make up 25 to 35% of the total annual cost to the customer.

- Annual accrual levels of $60 million or greater where special assessments / rate increases make up less than 25% of the total annual cost per customer.

The need for special assessments / rate increases does not decrease to zero for any of the accrual levels analyzed. This is an effect of capping the Storm Reserve at $750 million and the potential that losses in excess of a billion dollars could occur. Should one of these low probability events occur, special assessments / rate increases would be required even at the maximum capped Storm Reserve balance. There is approximately a 1% chance in one year and an 8% chance in five years that storm losses could exceed the maximum cap ($750 million).

Cost to the customer can be viewed in terms of the sum of the annual accruals, borrowing costs, special assessments / rate increases, and deficits (or surpluses). Costs to the customer decrease rapidly as accruals approach the $45 million level. Total customer costs continue to decrease, but more gradually for accruals of $45 million and larger.

Assumptions

The analysis performed included certain conservative assumptions regarding loss exposures. These include assumptions regarding storm frequency and severity, future FPL system growth, and future increased cost for system restoration due to inflation:

- The analysis is based on storm frequency and severity distributions developed from the entire 100-year historical record. Year-to-year variability in storm frequency and severity distributions has not been included. Specifically, variability associated with El Nino / Southern Oscillation (ENSO) has not been considered. Further, there has been no attempt to model longer term variations such as the relatively quiet period for North Atlantic hurricanes that occurred from about 1970 to the mid 1990's, or the more active periods before and after. The length of each quiet or active period is thought to be about 25 to 30 years, and the current period of higher activity began only about five years ago; therefore it is quite possible that the next 30 years could be characterized by higher levels of activity than average.

- The analysis considered no future growth of the FPL customer base and system assets. FPL customer base has grown 1% to 2% per year over the past decade.
- The analysis assumed that future system restoration cost would be at comparable price levels to the present. Recent inflationary cost increases for new transmission and distribution assets have increased at 1% to 3.5% per year over the past decade.

Given these conservative assumptions, inflation in assets and repair costs could cause the Storm Loss estimates to be higher. The uncertainties represented by these assumptions are within the overall uncertainties of the storm hazards and the recommendations provided represent a sound approach in the short term of the next three to five years. Should FPL experience either a single catastrophic storm loss or a series of more moderate storms that seriously hamper the Storm Reserve's growth to the recommended target amount, the Storm Reserve annual accrual level could require retrospective review.

Recommendations

Based on the analysis performed, we recommend a minimum annual accrual level in the range of $45 to $55 million, with a target Storm Reserve balance of $400 to $500 million within the next three to five years. These accrual levels and this target Storm Reserve balance, considering the expected losses, should provide sufficient funds to:

- Lower long term customer costs,
- Dampen volatility of the Storm Reserve,
- Fund most storms losses but not those from the most severe catastrophic events

It should be noted that there is no single way to establish appropriate annual accrual level or target Storm Reserve balance. Both storm frequencies and severities have large uncertainties. Consequently any accrual level can be either inadequate given a single rare event, or result in increases to the Storm Reserve balance if no events occur within any given short number of storm seasons.

We believe that the accruals and target Storm Reserve balances in the recommended ranges will significantly improve the likelihood of achieving the three established criteria of balancing lower long-term customer cost, Storm Reserve volatility, and coverage for the majority of storm scenarios.

Table of Contents

I. Introduction

The Storm Reserve Solvency Analysis consisted of running 10,000 iterations of windstorm loss simulations, each one covering a 30-year period, through a financial model to determine the effect of the losses on the Storm Reserve. The analysis considered two administrative parameters with respect to management of the Storm Reserve: the annual accrual, and the Storm Reserve balance levels at which the normal accrual is reduced or suspended entirely due to growth in the Reserve (minimum / maximum and maximum Reserve balance thresholds, respectively).

A total of 22 different scenarios were identified and modeled in the analysis. The 22 scenarios consist of 11 levels of annual accrual and two combinations of maximum and minimum / maximum Reserve balance thresholds as follows:

- Annual accrual options
  $10 Million
  $20 Million
  $30 Million
  $35 Million
  $40 Million
  $45 Million
  $50 Million
  $55 Million
  $60 Million
  $70 Million
  $80 Million

- Reserve balance thresholds

	Schedule A	Reserve Balance	Accrual Reduction
*	Maximum:	$750 Million	100%
*	Minimum/ Maximum:	$500 Million	50%
	Schedule B		
*	Maximum:	$600 Million	100%
*	Minimum/ Maximum:	$400 Million	50%

With respect to the Reserve balance thresholds, whenever the Reserve balance exceeds the indicated threshold the annual accrual is reduced by the indicated percentage.

II. Storm Loss Simulations

The 10,000 iterations of windstorm loss simulations used in the Storm Reserve Solvency Analysis were probabilistically generated using EQE's USWIND™ Catastrophe Model. The USWIND™ probabilistic loss analysis calculated the losses to FPL for a comprehensive set of hypothetically possible storms. The basis for such an analysis was the USWIND™ probabilistic database, which is a finely segmented set of hypothetical storms affecting the Gulf and Atlantic coasts of the United States.

The hypothetical hurricane and tropical storm database was developed by dividing the coastline into 10-mile segments and modeling more than 1,500 hypothetical hurricanes and approximately 750 hypothetical tropical storms for each segment. The net result is a stochastic storm database more than 750,000 hurricane and tropical storm events. In addition, each stochastic event is assigned an annual frequency of occurrence based on the storm track location and the storm intensity as measured by central pressure. A database of approximately 500,000 stochastic winter storm events was developed by a different process, through a simulation based on an analysis of historical winter storm wind fields.

Based on the annual frequency and the loss estimate for each stochastic event, a probabilistic database of losses can be developed. From this database, various loss exceedance distributions can be statistically generated. For this analysis, an annual aggregate loss distribution was generated by combining all of the losses to FPL's Transmission and Distribution (T & D) assets, as well as insurance deductibles for non T & D assets and anticipated staging costs, calculated on the basis of the stochastic event sets described above. The expected annual loss calculated was $59.3 million.

The Storm Reserve Solvency Analysis consisted of performing Monte Carlo simulations to generate loss samples consistent with the loss exceedance distribution. Each loss sample has an equal likelihood of occurrence, and the annual probability of non-exceedance for the samples ranged from 0 to 0.9999. Since the annual aggregate loss distribution was used, the possibility that more than one storm in a given year may affect the Storm Reserve was included in the analysis.

The next step was to use a random walk technique to generate 10,000 sequences of 30 years each. In each random walk, a sequence of 30 loss samples was selected from the loss distribution, resulting in one hypothetical set of occurrences for the 30-year period. The sampling was done in such a manner that each year has a unique and statistically independent set of loss points, yet for each of the 30 years, all of the 10,000 loss points are equally likely.

Note that the analysis is based on storm frequency and severity distributions developed from the entire 100-year historical record. Year-to-year variability in storm frequency and severity distributions has not been included. Specifically, variability associated with El Nino / Southern Oscillation (ENSO) has not been considered. Further, there has been no attempt to model longer term variations such as the relatively quiet period for North Atlantic hurricanes that occurred from about 1970 to the mid 1990's, or the more active periods before and after. The length of each quiet or active period is thought to be about 25 to 30 years, and the current period of higher activity began only about five years ago; therefore it is quite possible that the next 30 years could be characterized by higher levels of activity than average.

Further, the analysis considered no future growth of the FPL customer base and system assets. FPL customer base has grown 1% to 2% per year over the past decade.

Finally, note that the analysis assumed that future system restoration cost would be at comparable price levels to the present. Recent inflationary cost increases for new transmission and distribution assets have increased at 1% to 3.5% per year over the past decade.

III. Financial Analysis

The financial model used in this analysis was developed by EQE, based on discussions with FPL, specifically for the Storm Reserve Solvency Analysis. During this process, FPL thoroughly reviewed the model, made suggestions, and generally helped to ensure that the final product properly reflects how the Reserve operates. The financial model takes into account the Storm Reserve's beginning balance, annual accrual, investment income, losses, and expenses, to determine the ending Reserve balance for each simulation. A representative example of the financial model covering an 11-year period can be found in Appendix A.

Selected terms utilized in the financial model that describe key parameters are defined as follows:

- Reserve Balance - This is the value of the Storm Reserve.
- Annual Accrual - This is the annual accrual being added to the Reserve through expense accruals. This is an input variable with the analysis looking at 11 accrual levels ($10 million to $80 million in steps of $10 million, with three additional cases at $35, $45, and $55 million).
- Minimum / Maximum Reserve - If the Reserve balance grows to this level the annual accrual is reduced until losses drop the Reserve balance below the minimum/ maximum Reserve threshold. This is an input variable with the analysis looking at two thresholds ($400 million and $500 million).
- Reduction in Accrual - This is the amount of reduction that will be made in the annual accrual if the Reserve balance exceeds the minimum / maximum Reserve threshold. The analysis reduces the accrual by 50% when the minimum / maximum Reserve threshold is exceeded.
- Maximum Reserve - If the Reserve balance grows to this level, the annual accrual is suspended until losses reduce the Reserve balance below the maximum Reserve threshold. This is an input variable with the analysis looking at two thresholds ($600 million and $750 million).
- Investment Income - This is the after-tax rate of return on investments. It is calculated as the average of the beginning Reserve balance and ending Reserve balance for the prior year times the after-tax rate of return. However, for year one the income was calculated as the initial Reserve balance times the after-tax rate of return. If the average

balance is less than zero, the investment income is assumed to be zero. A 3.5% after-tax rate of return was used in the analysis.

- 1st Line of Credit - This is the limit on the line of credit that the Storm Reserve can draw on when the Reserve balance goes below zero due to losses. The line of credit limit was assumed to be $300 million in the analysis.

- 1st Line of Credit Interest Rate - This is the interest rate that applies when the line of credit is used. The analysis does not include the cost of maintaining the line of credit. A 4.0% after-tax interest rate was used in the analysis.

- 2nd Line of Credit - If the 1st line of credit is exhausted, FPL will draw on other resources to cover the losses. It is assumed that this is an unlimited line of credit in the analysis.

- 2nd Line of Credit Interest Rate - This is the interest rate that applies when the line of credit is used. The analysis does not include the cost of maintaining the line of credit. A 4.0% after-tax interest rate was used in the analysis.

The financial model also provides for special assessments / rate increases to maintain a positive Reserve balance:

- Special Assessment - A special assessment is assumed to be made when the Reserve balance is insufficient to cover the losses. When this occurs, FPL will draw on its lines of credit to cover the shortfall. A special assessment is then assumed to be made over the next five years to cover the cost of paying back the principal and interest on the lines of credit.

The financial model starts with a Reserve balance of $247 million as of June 30, 2001, as the beginning balance. It then uses the damage estimates developed from EQE's USWIND™ Catastrophe Model to determine the potential impact of the various options being considered for each of the 10,000 simulations covering a 30-year period.

In doing this, the financial model first determines the net inflow (outflow) by adding the annual accrual, investment income, and special assessment together, and then subtracting losses from the total for each year. Once this is done, the ending Reserve balance for the year is determined by adding the net inflow (outflow) to the beginning Reserve balance.

The financial model also determines when the lines of credit have to be used. This occurs when the losses for the year cannot be covered by the beginning Reserve balance. Whenever this occurs, the lines of credit are used to make up the difference. The lines of credit are then paid back whenever a positive net inflow (outflow) exists.

Finally, the financial model also tracks the impact of the special assessments / rate increases on FPL's customers. The impact is shown as a rate per customer. In addition, the model monitors the credit requirement for each year and which lines of credit are being used along with the repayment of principal and outstanding balance for each line of credit.

IV. Analysis Results

A total of 22 alternative administrative policies were evaluated in the simulations described earlier. The two key variables are the annual accrual, and the scheme of Reserve balance levels at which the normal accrual is reduced or suspended entirely due to growth in the Reserve (minimum / maximum and maximum Reserve balance thresholds, respectively). With respect to the Reserve balance thresholds, two scenarios exist. In Schedule A, the annual accrual is reduced by 50% at $500 million and suspended at $750 million. In Schedule B, the thresholds are $400 million and $600 million, respectively. Each scenario analyzed can be identified based on these variables according to the following chart (all dollar amounts are shown in millions):

Number	Scenario ID	Annual Accrual	Reserve Thresholds	
			Min/Max	Maximum
1	10A	$10	$500	$750
2	10B	$10	$400	$600
3	20A	$20	$500	$750
4	20B	$20	$400	$600
5	30A	$30	$500	$750
6	30B	$30	$400	$600
7	35A	$35	$500	$750
8	35B	$35	$400	$600
9	40A	$40	$500	$750
10	40B	$40	$400	$600
11	45A	$45	$500	$750
12	45B	$45	$400	$600
13	50A	$50	$500	$750
14	50B	$50	$400	$600
15	55A	$55	$500	$750
16	55B	$55	$400	$600
17	60A	$60	$500	$750
18	60B	$60	$400	$600
19	70A	$70	$500	$750
20	70B	$70	$400	$600
21	80A	$80	$500	$750
22	80B	$80	$400	$600

Each scenario ID is made up of the annual accrual ($10 million to $80 million in steps of $10 million, with three additional cases at $35, $45, and $55 million), and the Reserve balance thresholds for adjustments in the annual accrual level (Schedule A or B). Therefore, a scenario code of 40A means a $40 annual million accrual, with adjustments in the annual accrual level at $500 million and $750 million.

The analysis concentrated on looking at three key performance measures: solvency of the Storm Reserve, stability of the Storm Reserve (i.e. need for special assessments / rate increases), and overall cost to the customer. All three criteria need to be considered, since low accrual levels tend to jeopardize the solvency of the Storm Reserve and increase long term customer costs, and high accrual levels can result in a Storm Reserve balance that grows quickly.

The individual analysis results for all the scenarios can be found in the appendices. Appendix B presents a table showing, for each scenario considered, the mean values of the annual accrual, special assessments / rate increases, investment income, interest expense, and storm losses, as well as the annual net inflow or outflow of Reserve assets. Appendix C displays the probability of the Reserve being depleted in each scenario, resulting in the need to borrow against the lines of credit. Appendix D contains a series of charts showing for the different cases the expected value as well as the upper and lower bounds on the Reserve assets in each year. Finally, Appendix E summarizes the findings from the analysis, showing the relative costs for the scenarios considered.

Storm Reserve solvency can be viewed in terms of the expected surplus or deficit of the Storm Reserve over the 30-year period. Based on the simulated loss distributions, deficits to the Storm Reserve could exist for all annual accrual levels analyzed, although their level begins to moderate at accruals above $45 million. Accrual levels above $45 million will result in a lower probability of Storm Reserve deficits and will have a higher probability of generating positive Storm Reserve growth, thus reducing both customer cost and the need for special assessments / rate increases.

Storm Reserve volatility can be viewed in terms of the fraction of total annual cost per customer contributed by special assessments / rate increases. The volatility can be characterized by three ranges of need for special assessments / rate increases:

- Annual accrual levels below $45 million, where deficits occur and special assessments / rate increases make up 35% to 55% of the total annual cost per customer.
- Annual accrual levels between $45 and 55 million where small surpluses occur and special assessments / rate increases make up 25 to 35% of the total annual cost to the customer.
- Annual accrual levels of $60 million or greater where special assessments / rate increases make up less than 25% of the total annual cost per customer.

The need for special assessments / rate increases does not decrease to zero for any of the accrual levels analyzed. This is an effect of capping the Storm

Reserve at $750 million and the potential that losses in excess of a billion dollars could occur. Should one of these low probability events occur, special assessments / rate increases would be required even at the maximum capped Storm Reserve balance. There is approximately a 1% chance in one year and an 8% chance in five years that storm losses could exceed the maximum cap ($750 million).

Cost to the customer can be viewed in terms of the sum of the annual accruals, borrowing costs, special assessments / rate increases, and deficits (or surpluses). Costs to the customer decrease rapidly as accruals approach the $45 million level. Total customer costs continue to decrease, but more gradually for accruals of $45 million and larger.

Based on the above, the most viable scenario groups are in the $45 to $55 million range of annual accrual levels. To minimize volatility as measured by the need for special assessments / rate increases, the A scenarios are preferred. Therefore the following scenarios come closest to meeting the performance criteria:

- Scenario 45A
  $45 Million Annual Accrual
  Accrual reduced 50% at $500 million Reserve Balance
  Accrual reduced to $0 at $750 million Reserve Balance

- Scenario 50A
  $50 Million Annual Accrual
  Accrual reduced 50% at $500 million Reserve Balance
  Accrual reduced to $0 at $750 million Reserve Balance

- Scenario 55A
  $55 Million Annual Accrual
  Accrual reduced 50% at $500 million Reserve Balance
  Accrual reduced to $0 at $750 million Reserve Balance

All three scenarios selected provide reasonable alternatives for administering the Storm Reserve. However, as mentioned in the section on Storm Loss Simulations, the analysis included certain assumptions that tend toward a conservative estimation of annual accrual levels required to maintain the Reserve. These include assumptions regarding storm frequency and severity, future FPL system growth, and future increased cost for system restoration due to inflation.

Appendix A

FLORIDA POWER AND LIGHT – STORM RESERVE SOLVENCY ANALYSIS
Financial Model
Summary of Assumptions

Starting Reserve Balance	$247,498,000	
Annual Contribution	$20,000,000	(Variable)
Min/Max Reserve	$500,000,000	(Variable)
Reduction in Contribution	50%	When reserve exceeds Min/Max the contribution is reduced by this factor
Maximum Reserve	$750,000,000	(Variable - When the reserve reaches the Maximum the annual contribution is suspended)
Number of Customers	3,877,270	
Investment Inc.	3.5%	(After Tax Rate)
1st Line of Credit	$300,000,000	
1st LOC Interest Rate	4.0%	(After Tax Rate)
2nd Line of Credit	Unlimited	
2nd LOC Interest Rate	4.0%	(After Tax Rate)
Special Assessment		Equal to one fifth of total Credit Line Draw Plus Interest
Credit Line Principal		Equal to one fifth of total Credit Line Draw
Deductible Amount	$16,000,000	Total Deductible amount for property covered by insurance
Deductible Threshold	$50,000,000	If T&D losses exceed Deductible Threshold it is assumed that the damage to other property will exceed the Deductible Amount and the full Deductible Amount is applied against the fund Otherwise the other losses are assumed to be minor and a Deductible Amount is not added.

FLORIDA POWER AND LIGHT – STORM RESERVE SOLVENCY ANALYSIS
Financial Model
(Dollars in thousands)

	1st Year	2nd Year	3rd Year	4th Year	5th Year	6th Year	7th Year	8th Year	9th Year	10th Year	11th Year
Beginning Reserve Balance	247,498,000	160,160,430	187,294,453	97,374,913	122,356,627	(69,798,071)	(351,991,680)	(267,004,472)	(178,617,776)	(86,695,612)	8,903,439
Gross Contribution	20,000,000	20,000,000	20,000,000	20,000,000	20,000,000	20,000,000	20,000,000	20,000,000	20,000,000	20,000,000	20,000,000
Investment Inc.	8,662,430	7,134,023	6,080,460	4,981,714	3,845,302	919,775	0	0	0	0	0
Special Assessment											
1st Year	0	0	0	0	0						
2nd Year		0	0	0	0	0					
3rd Year			0	0	0	0	0				
4th Year				0	0	0	0	0			
5th Year					0	0	0	0	0		
6th Year						15,678,539	15,678,539	15,678,539	15,678,539	15,678,539	
7th Year							63,388,336	63,388,336	63,388,336	63,388,336	63,388,336
8th Year								0	0	0	0
9th Year									0	0	0
10th Year										0	0
11th Year											0
Special Assessment Total	0	0	0	0	0	15,678,539	79,066,875	79,066,875	79,066,875	79,066,875	63,388,336
Total	**28,662,430**	**27,134,023**	**26,080,460**	**24,981,714**	**23,845,302**	**36,598,314**	**99,066,875**	**99,066,875**	**99,066,875**	**99,066,875**	**83,388,336**
EXPENSES:											
Loss (T & D)	100,000,000	0	100,000,000	0	200,000,000	300,000,000	0	0	0	0	0
Loss (Other)	16,000,000	0	16,000,000	0	16,000,000	16,000,000	0	0	0	0	0
Interest 1st LOC		0	0	0	0	2,791,923	12,000,000	10,680,179	7,144,711	3,467,824	0
Interest 2nd LOC		0	0	0	0	0	2,079,667	0	0	0	0
Total Expenses	**116,000,000**	**0**	**116,000,000**	**0**	**216,000,000**	**318,791,923**	**14,079,667**	**10,680,179**	**7,144,711**	**3,467,824**	**0**
Net Inflow (Outflow)	**(87,337,570)**	**27,134,023**	**(89,919,540)**	**24,981,714**	**(192,154,698)**	**(282,193,609)**	**84,987,208**	**88,386,696**	**91,922,164**	**95,599,051**	**83,388,336**
Ending Reserve Balance	**160,160,430**	**187,294,453**	**97,374,913**	**122,356,627**	**(69,798,071)**	**(351,991,680)**	**(267,004,472)**	**(178,617,776)**	**(86,695,612)**	**8,903,439**	**92,291,774**

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Storm Reserve Solvency Analysis

FLORIDA POWER AND LIGHT – STORM RESERVE SOLVENCY ANALYSIS
Financial Model - continued
(Dollars in thousands)

	1st Year	2nd Year	3rd Year	4th Year	5th Year	6th Year	7th Year	8th Year	9th Year	10th Year	11th Year
Credit Requirement	0	0	0	0	69,798,071	282,193,609	0	0	0	0	0
1st Credit Line Draw-Effective	0	0	0	0	69,798,071	230,201,929	0	0	0	0	0
2nd Credit Line Draw-Effective	0	0	0	0	0	51,991,680	0	0	0	0	0
Repayment of Principal											
Principal 1st LOC	0	0	0	0	0	0	32,995,528	88,386,696	91,922,164	86,695,612	0
Principal 2nd LOC	0	0	0	0	0	0	51,991,680	0	0	0	0
1st Credit Line Balance	0	0	0	0	69,798,071	300,000,000	267,004,472	178,617,776	86,695,612	0	0
2nd Credit Line Balance	0	0	0	0	0	51,991,680	0	0	0	0	0
Assess. Impact/Customer	0.0000	0.0000	0.0000	0.0000	0.0000	4.0437	20.3924	20.3924	20.3924	20.3924	16.3487

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Storm Reserve Solvency Analysis

Appendix B

Appendix B

The table in this section shows the expected annual net inflow (outflow) for the Storm Reserve based on the annual accrual, special assessments / rate increases, investment income, interest expense on borrowing, and hurricane damage. The first scenario (10A) shows that there is an expected annual net outflow of $18.8 million dollars a year, which would reduce the Reserve balance each year. Conversely, the last scenario (80B) produces an expected annual net inflow of $7.5 million dollars, which would add value to the Reserve balance each year. It can be noted from the table that the expected annual accrual amount is different from (and less than) the 'nominal' accrual amount. For example, scenario 40A represents one of the cases with a $40 million annual accrual amount. However, the average amount of the annual accrual for this scenario is only about $34.5 million. This is because there is some likelihood that the accrual amount will be reduced by 50% to 100% at some time over the thirty year period because of the Reserve balance exceeding certain thresholds.

ANNUAL NET INFLOW (OUTFLOW)
($ Thousands)

SCENARIO	ACCRUAL	SPECIAL ASSESSMENTS	INVESTMENT INCOME	INTEREST EXPENSE	HURRICANE DAMAGE	NET INFLOW (OUTFLOW)
10a	9,988	34,005	3,056	6,592	59,268	(18,811)
10b	9,950	34,021	3,043	6,594	59,268	(18,850)
20a	19,622	27,322	5,076	4,245	59,268	(11,493)
20b	19,219	27,529	4,892	4,273	59,268	(11,902)
30a	28,011	21,537	7,761	2,841	59,268	(4,799)
30b	26,946	22,064	7,187	2,907	59,268	(5,978)
35a	31,515	19,165	9,168	2,368	59,268	(1,788)
35b	30,059	19,858	8,339	2,451	59,268	(3,464)
40a	34,504	17,132	10,545	1,999	59,268	914
40b	32,665	17,981	9,452	2,097	59,268	(1,267)
45a	36,998	15,403	11,854	1,712	59,268	3,275
45b	34,812	16,395	10,478	1,821	59,268	596
50a	39,062	13,937	13,081	1,484	59,268	5,328
50b	36,566	15,070	11,405	1,604	59,268	2,169
55a	40,729	12,696	14,214	1,302	59,268	7,069
55b	37,969	13,949	12,255	1,430	59,268	3,474
60a	42,065	11,662	15,234	1,155	59,268	8,538
60b	39,110	12,985	13,039	1,287	59,268	4,578
70a	44,017	10,009	17,026	934	59,268	10,849
70b	40,800	11,480	14,350	1,074	59,268	6,287
80a	45,315	8,792	18,477	782	59,268	12,534
80b	41,962	10,416	15,356	929	59,268	7,537

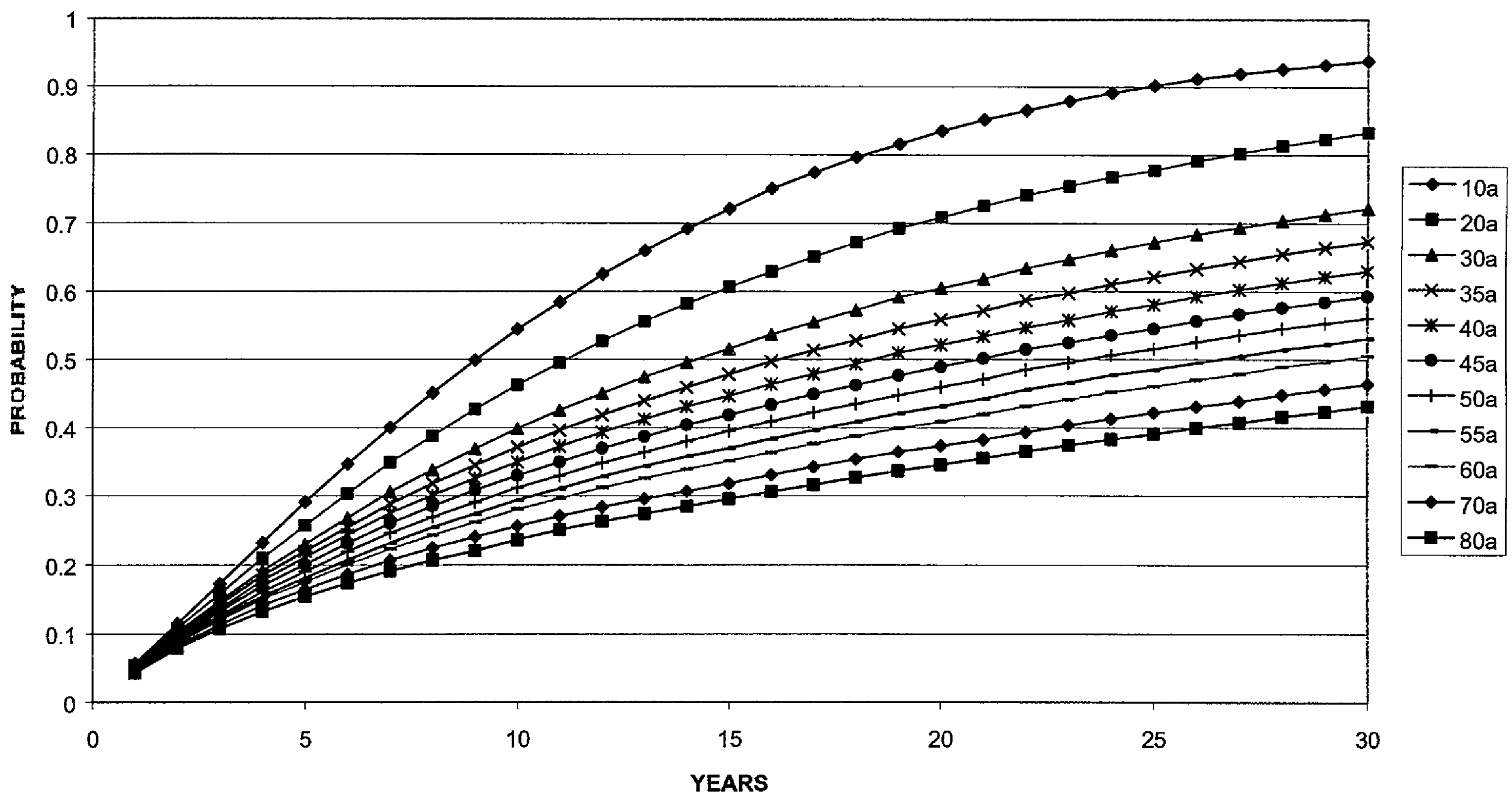
Appendix C

Appendix C

The charts in this section show the probability that the Storm Reserve assets will be inadequate to cover hurricane losses at some time during the relevant time horizon for each of the scenarios. Whenever this occurs it is assumed that the Storm Reserve borrows funds and requests special assessments / rate increases to pay the losses. For example, a probability of 0.3 corresponding to the 10 year mark means that there is a 30% likelihood that borrowing will be necessary at least once during the first ten years of the storm fund to pay for hurricane losses.

The first chart summarizes the probabilities of borrowing for all 11 annual accrual levels based on accrual schedule A. The second chart summarizes the probabilities of borrowing for all 11 annual accrual levels based on accrual schedule B. For example, from the first chart, it can be seen that for scenario 80A (annual accrual of $80 million, minimum/ maximum threshold of $500 million, maximum threshold of $750 million) the corresponding probability of borrowing is about 43% over the 30-year period. From the second chart, it can be seen that for scenario 10B (annual accrual of $10 million, minimum/ maximum threshold of $400 million, maximum threshold of $600 million), there is about a 94% likelihood that borrowing will be necessary at some time during the 30-year period.

FLORIDA POWER & LIGHT - STORM FUND SOLVENCY ANALYSIS
Cumulative Probability of Borrowing / Special Assessments
Scenario A, Annual Accrual Amounts =
$10M, $20M, $30M, $35M, $40M, $45M, $50M, $55M, $60M, $70M, $80M



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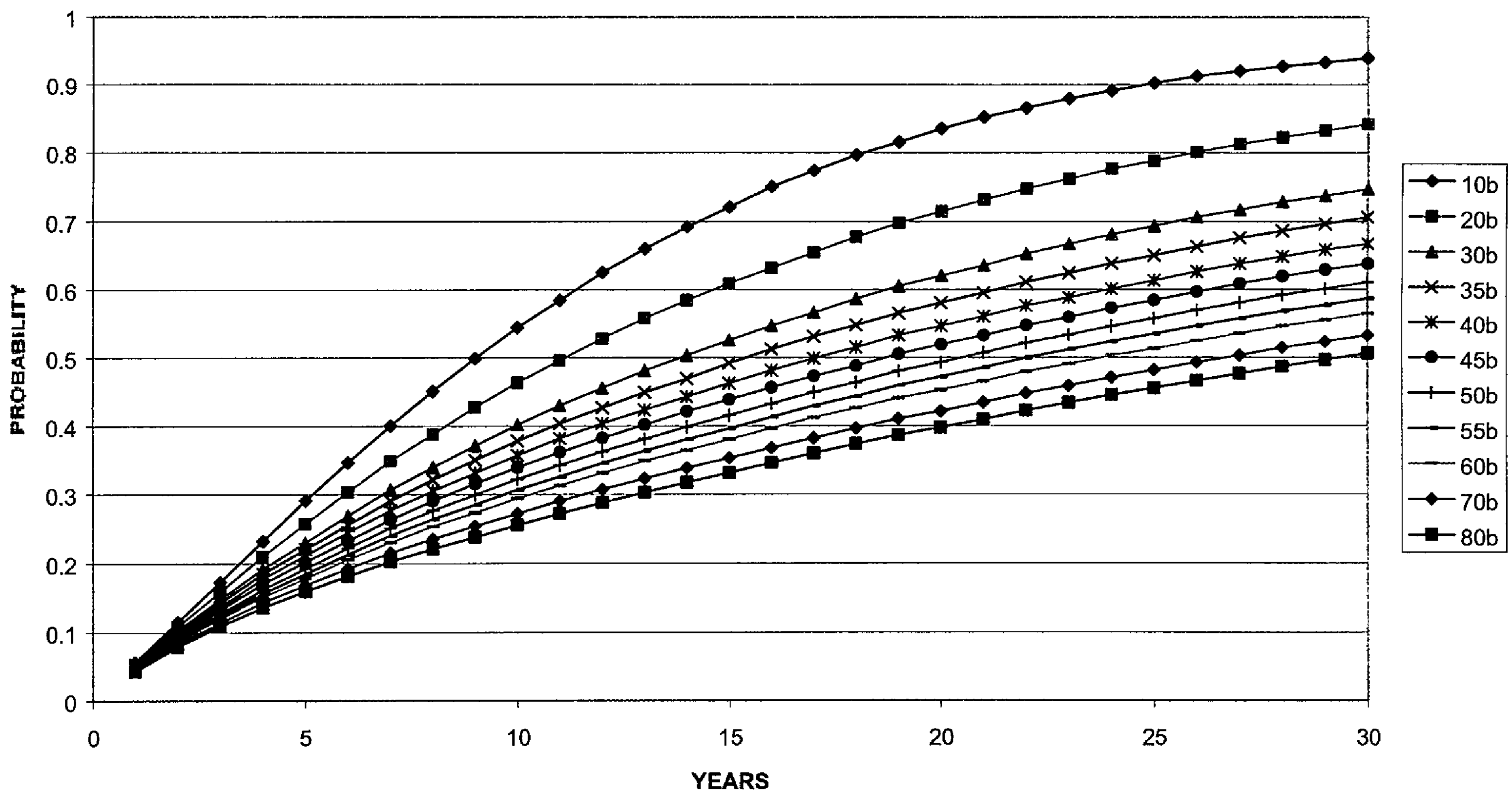
FLORIDA POWER & LIGHT - STORM FUND SOLVENCY ANALYSIS
Cumulative Probability of Borrowing / Special Assessments
Scenario B, Annual Accrual Amounts =
$10M, $20M, $30M, $35M, $40M, $45M, $50M, $55M, $60M, $70M, $80M



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Storm Reserve Solvency Analysis

Appendix D

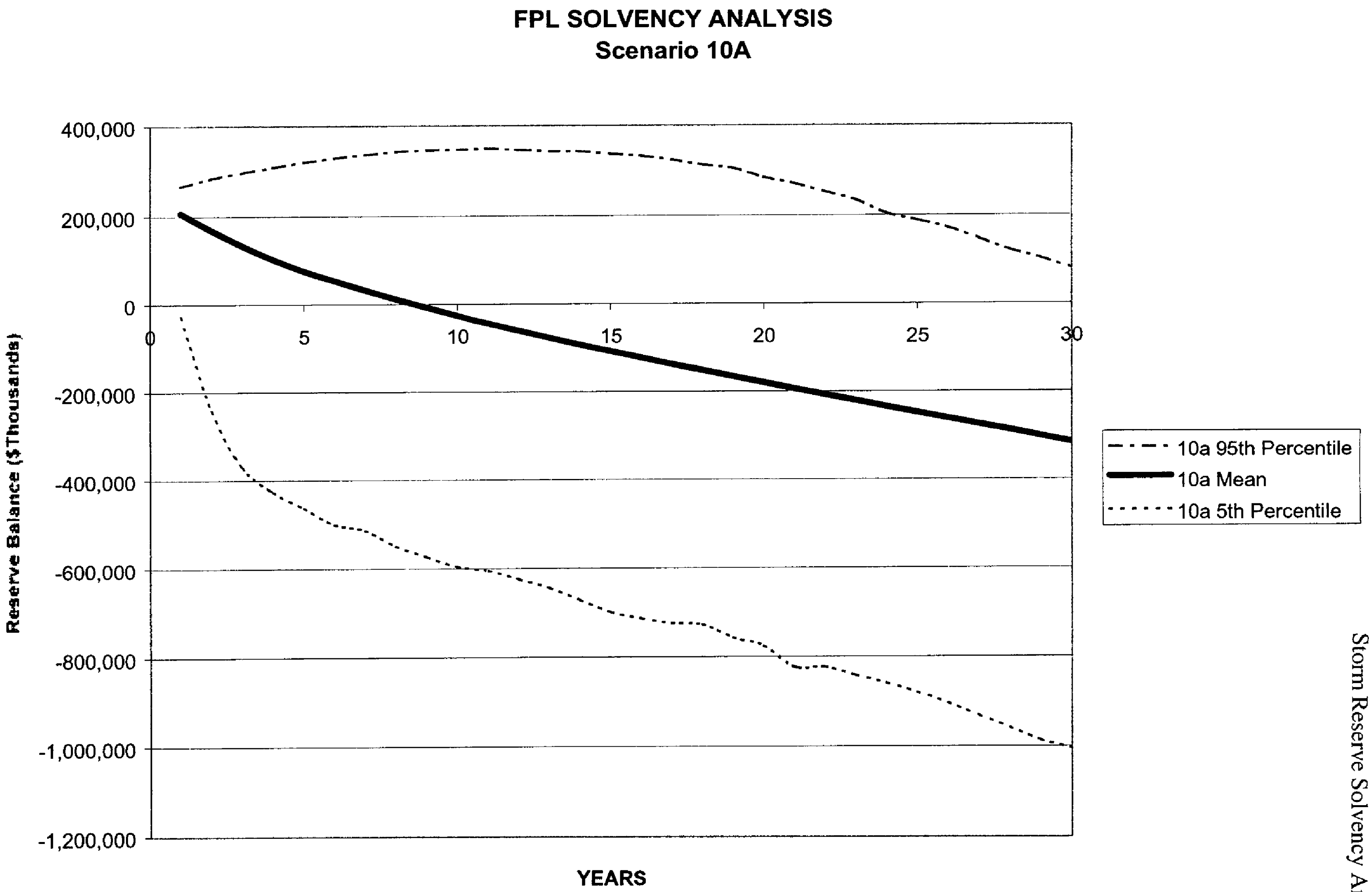
Appendix D

The charts in this section show the impact of the various scenarios on the Storm Reserve. Each chart shows the mean value of the Reserve balance over the 30-year period and the upper and lower bounds defined respectively as the 95^{th} and 5^{th} percentiles of non-exceedance.

For example, the expected value (mean curve) of the Storm Reserve balance gains from $247 million to $313 million under the $45 million scenario over the 15-year period. The upper bound under this scenario at the end of the 15-year period is approximately $769 million and the lower bound is approximately -$348 million. This can also be interpreted as this scenario having a 90% probability that the Storm Reserve balance will be between $769 million and -$348 million with an expected Storm Reserve balance of $313 million at the end of the 15-year period.

Similarly, the expected value (mean curve) of the Storm Reserve balance gains from $247 million to $361 million under the $50 million scenario over the 15-year period. The upper bound under this scenario at the end of the 15-year period is approximately $793 million and the lower bound is approximately -$304 million. This can also be interpreted as this scenario having a 90% probability that the Storm Reserve balance will be between $793 million and -$304 million with an expected Storm Reserve balance of $361 million at the end of the 15-year period.

Finally, the expected value (mean curve) of the Storm Reserve balance gains from $247 million to $405 million under the $55 million scenario over the 15-year period. The upper bound under this scenario at the end of the 15-year period is approximately $812 million and the lower bound is approximately -$260 million. This can also be interpreted as this scenario having a 90% probability that the Storm Reserve balance will be between $812 million and -$260 million with an expected Storm Reserve balance of $405 million at the end of the 15-year period.



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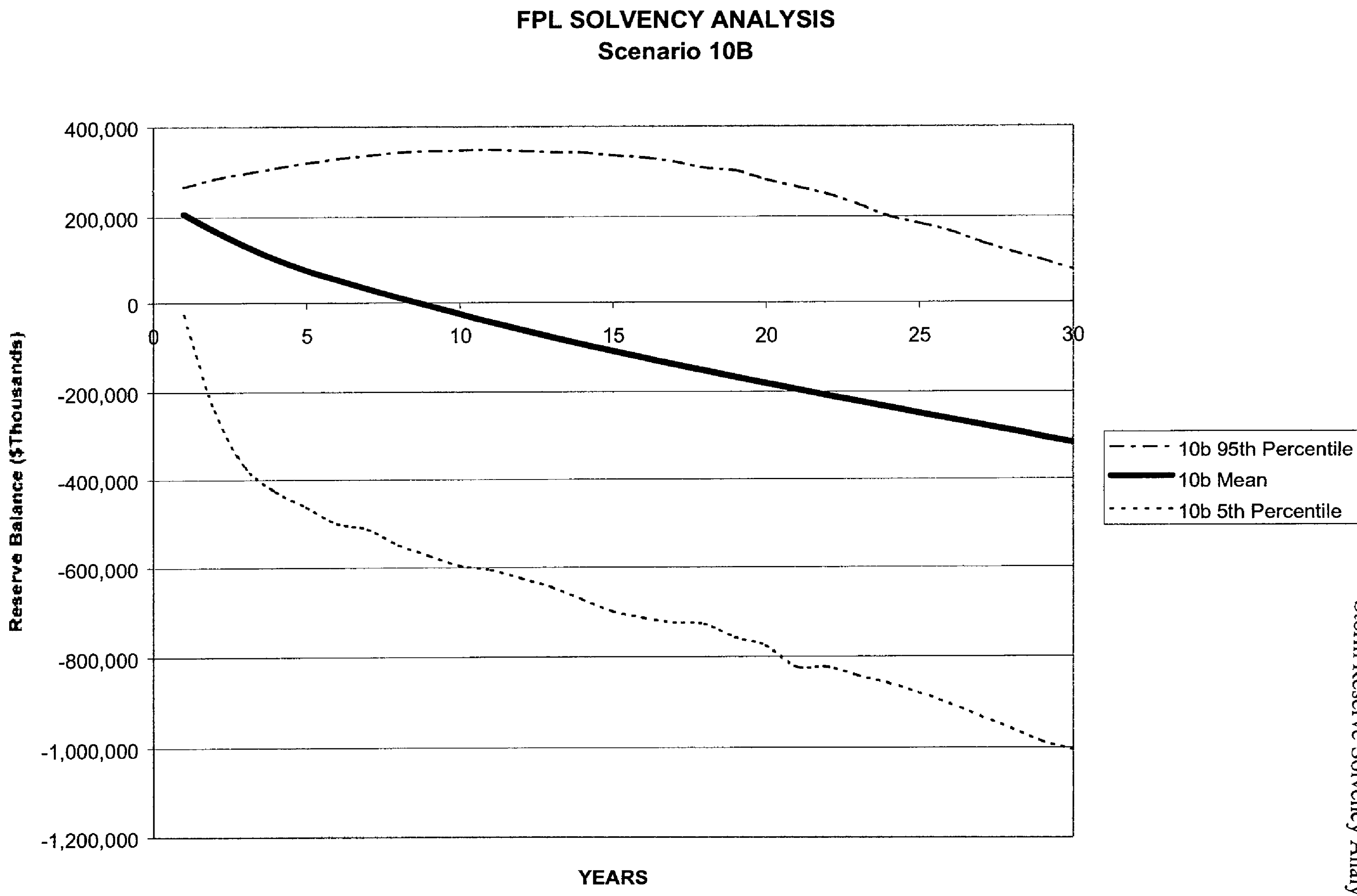

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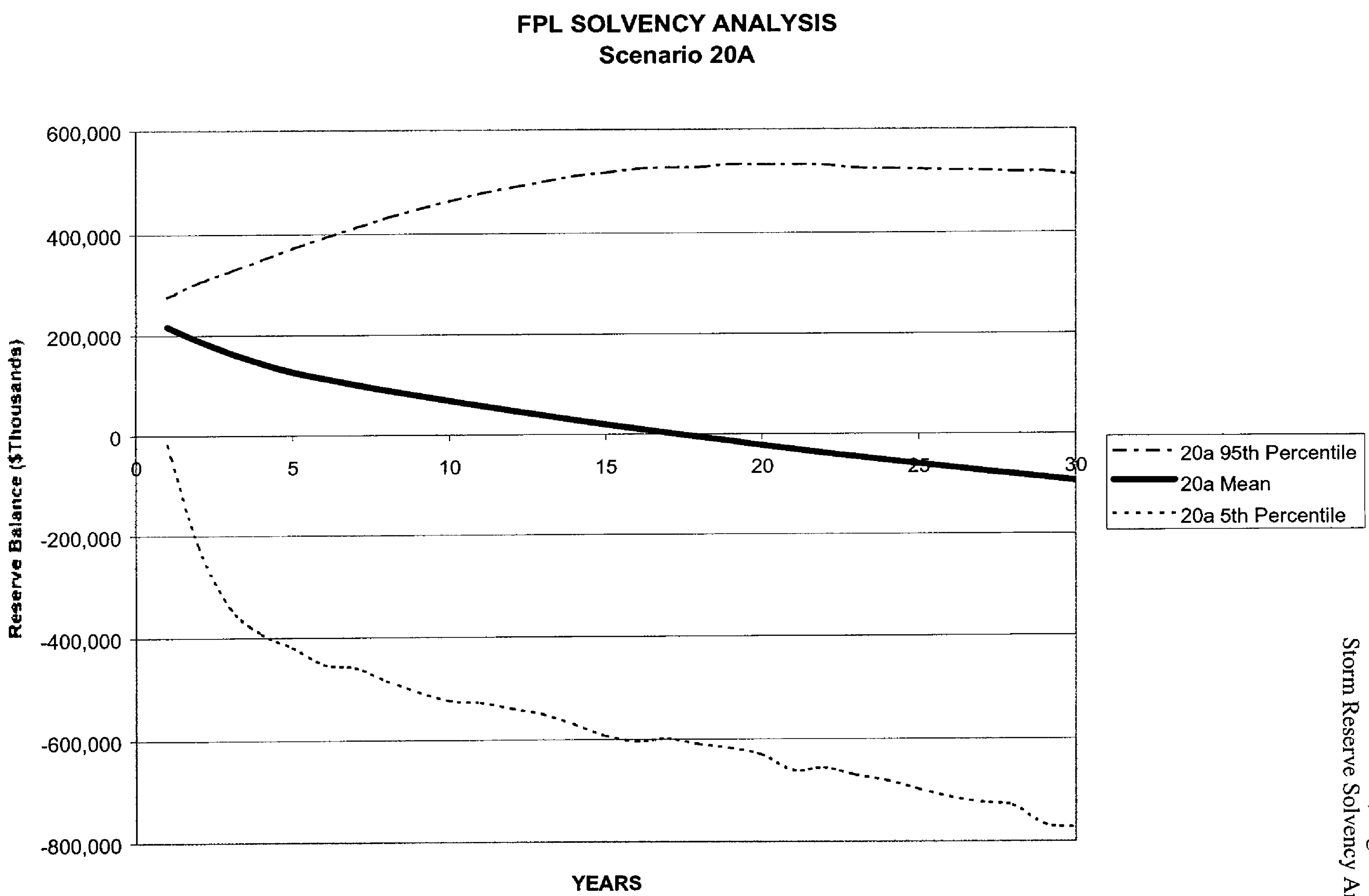

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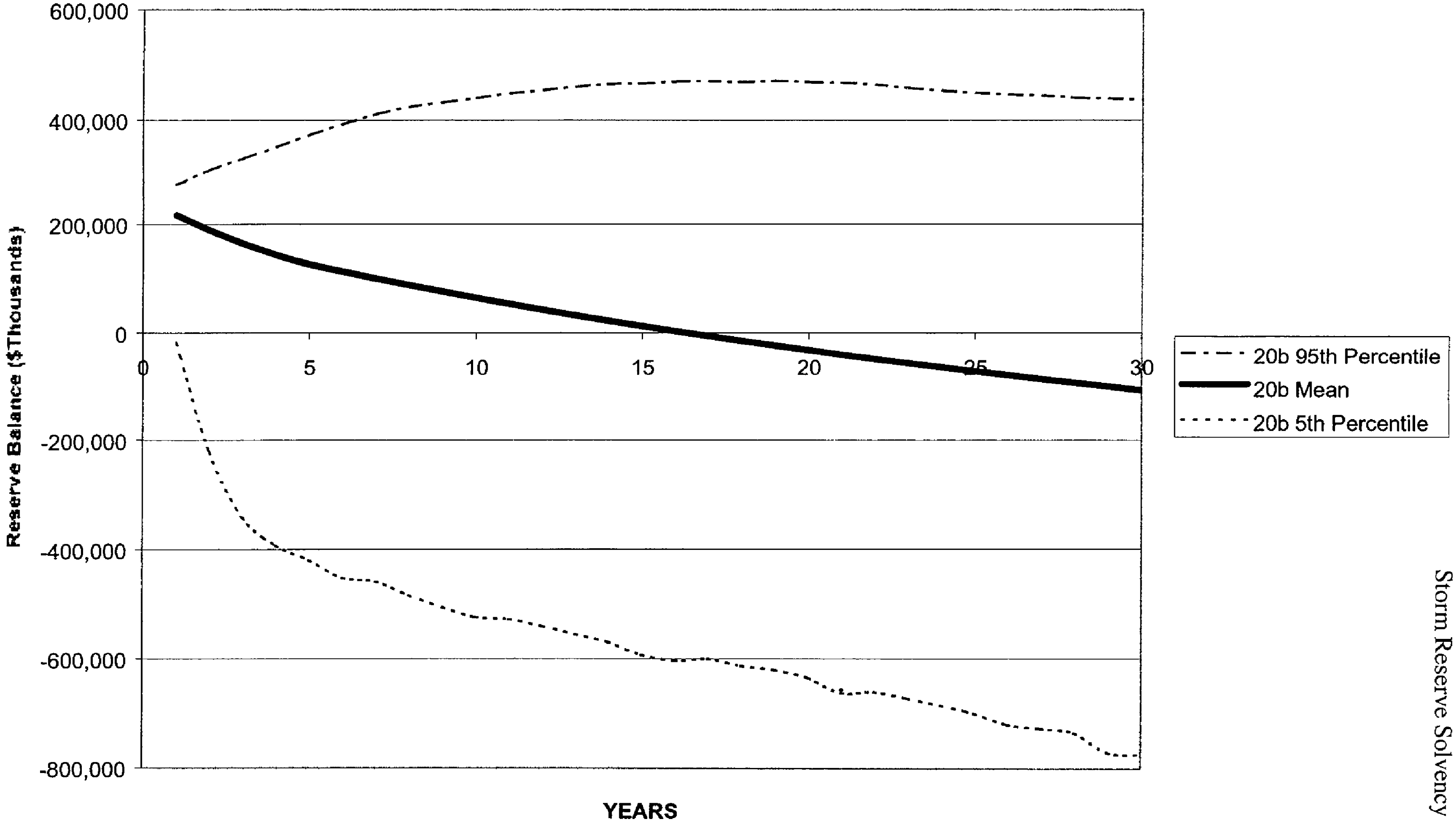
FPL SOLVENCY ANALYSIS
Scenario 20B



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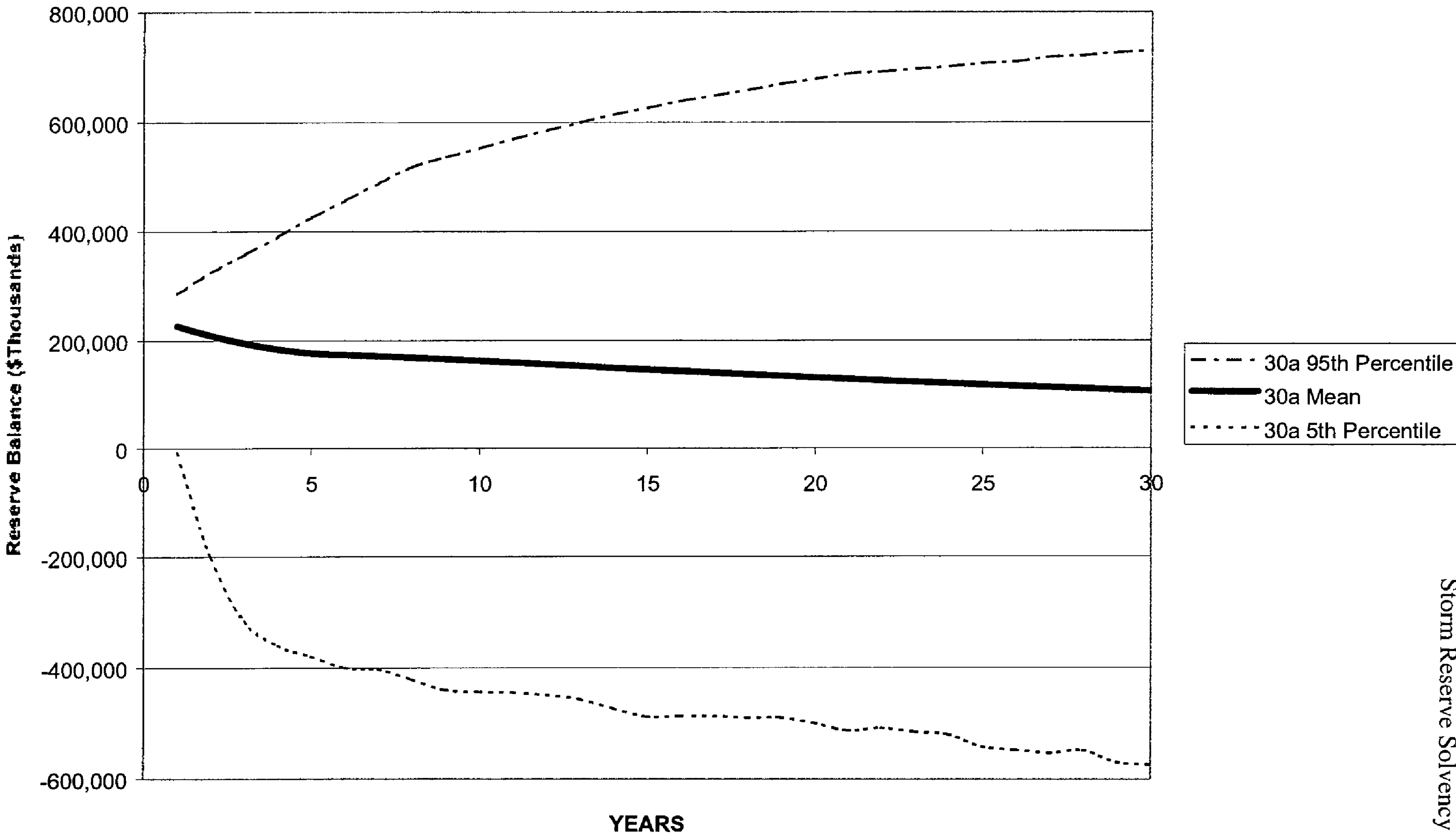
FPL SOLVENCY ANALYSIS
Scenario 30A



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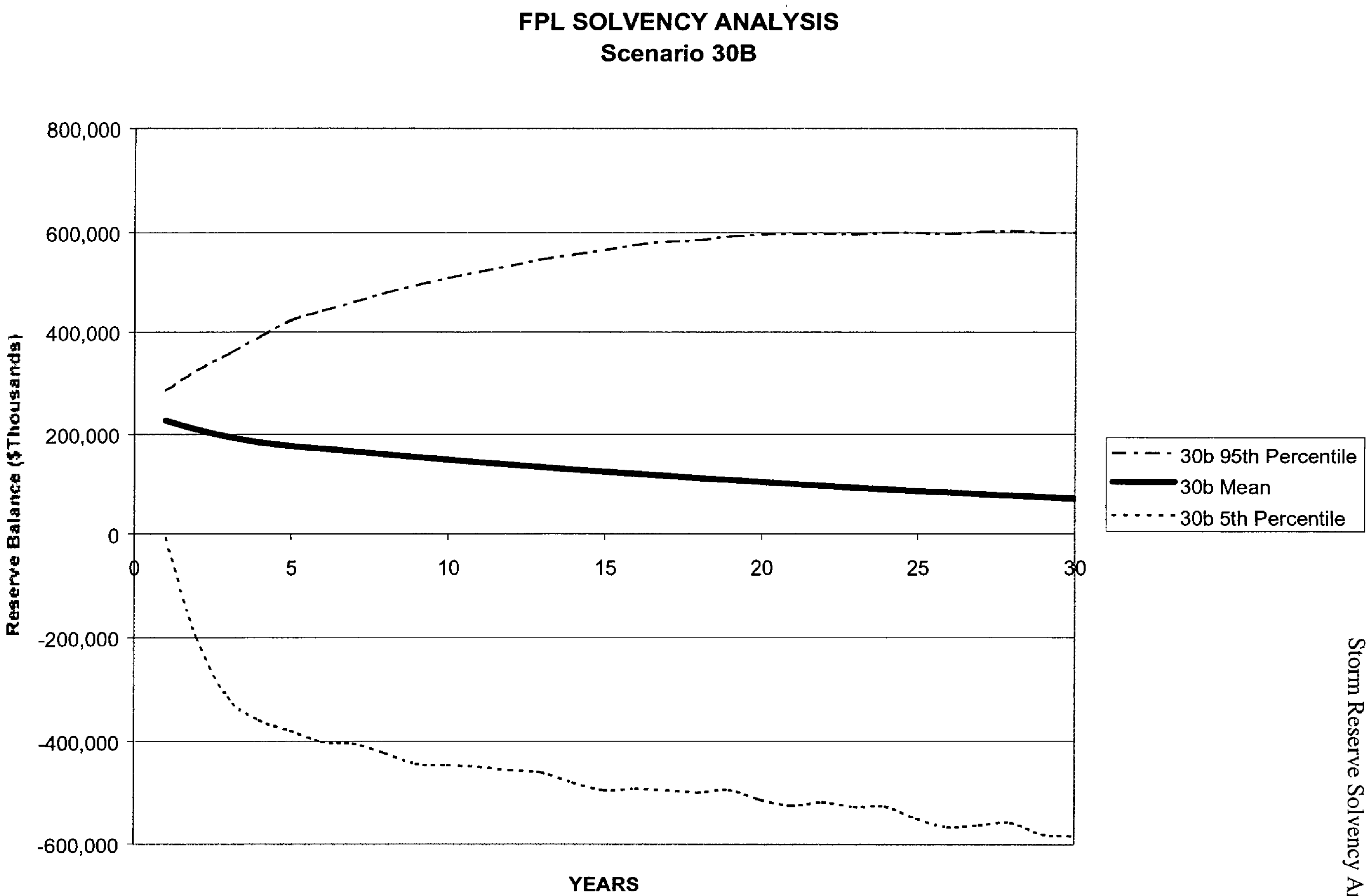

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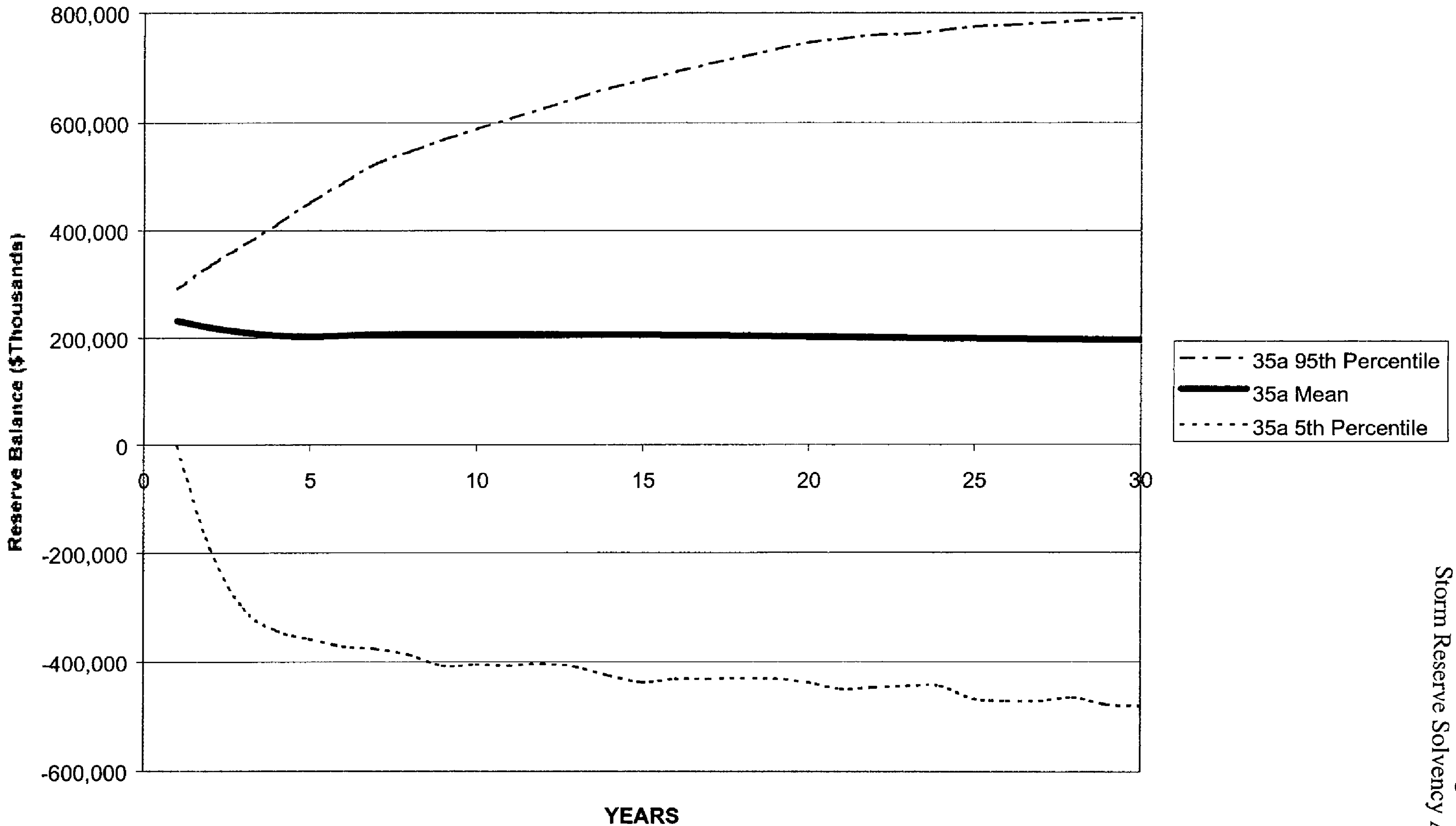
FPL SOLVENCY ANALYSIS
Scenario 35A



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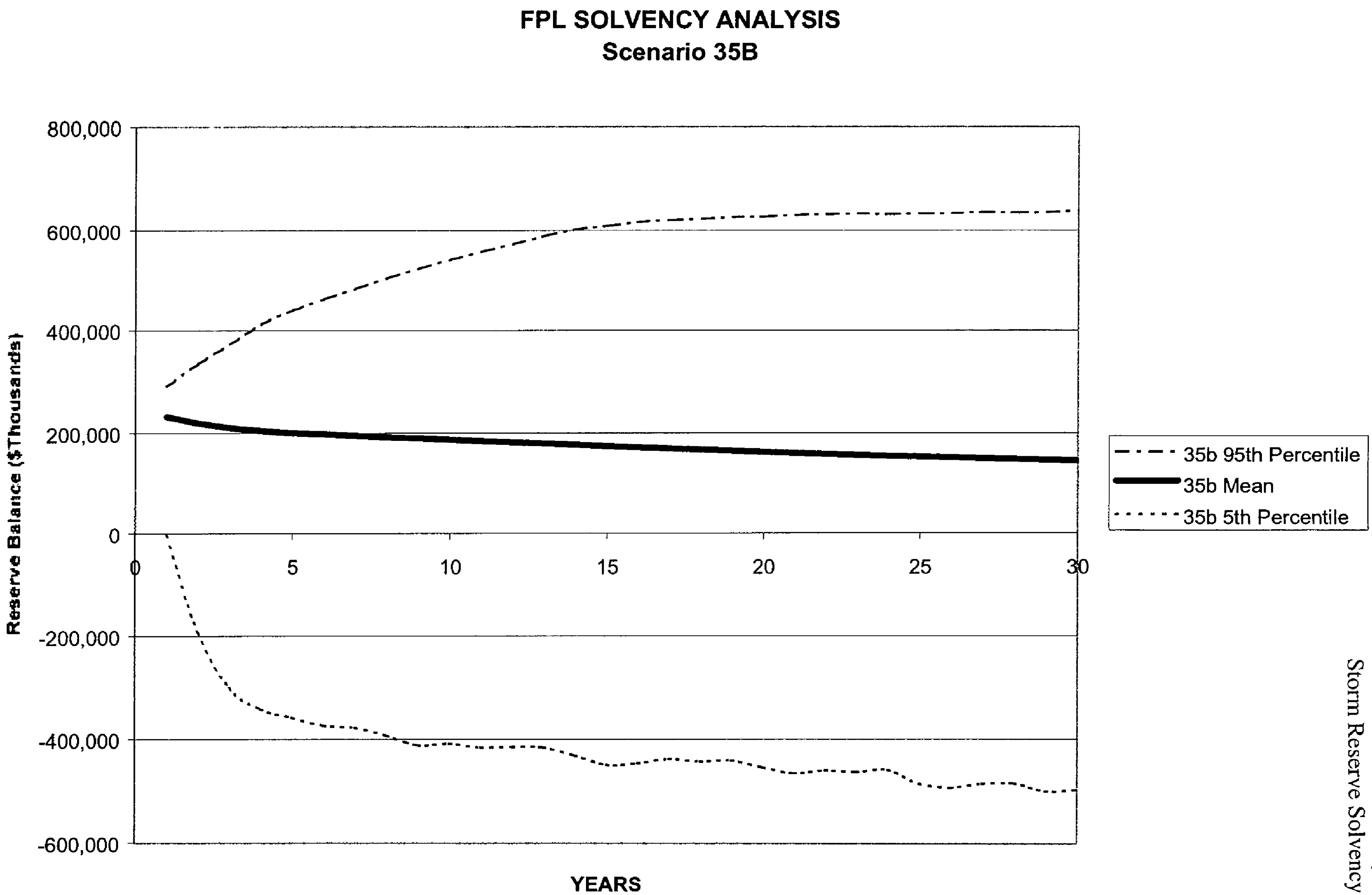

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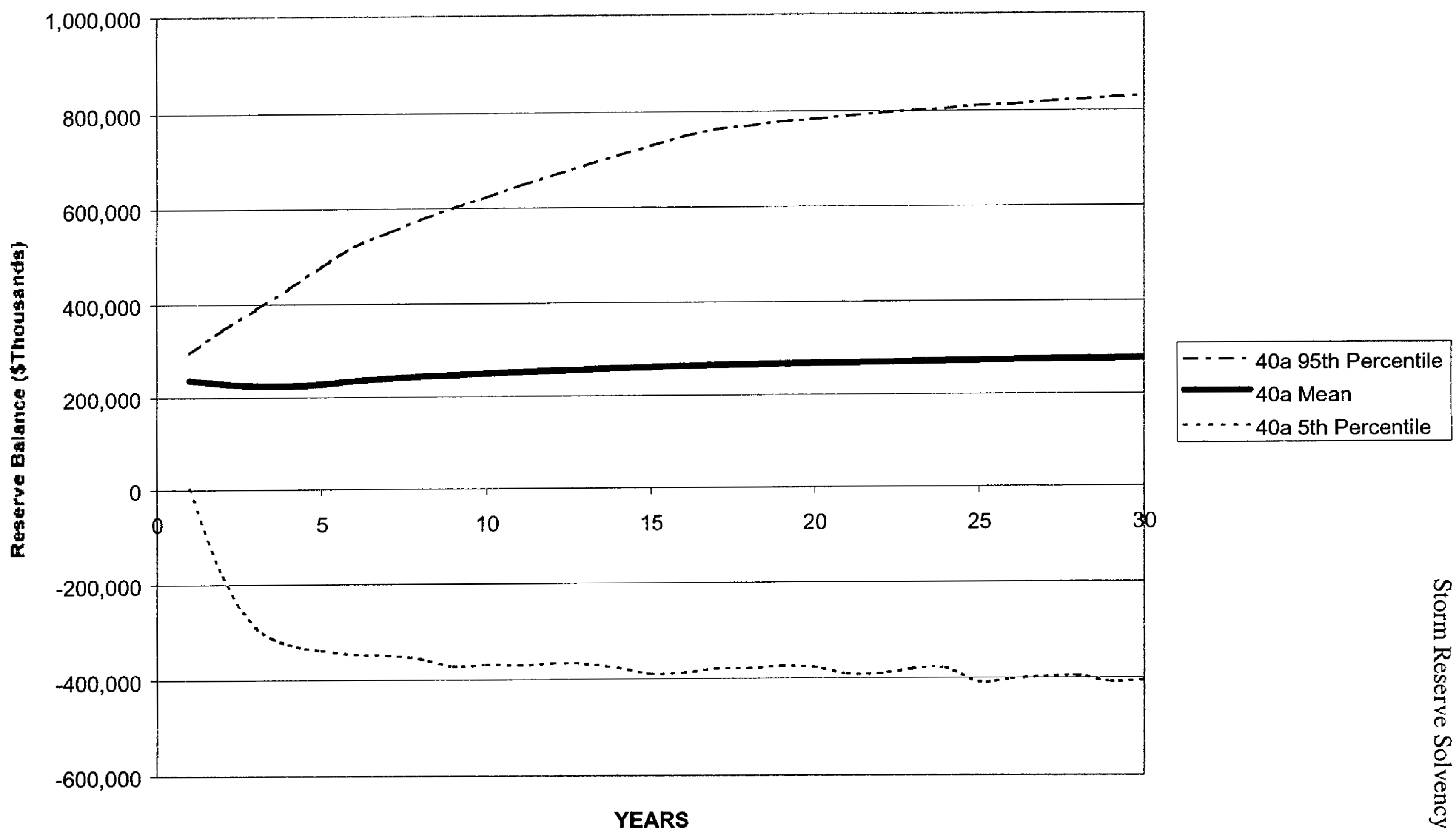
FPL SOLVENCY ANALYSIS
Scenario 40A



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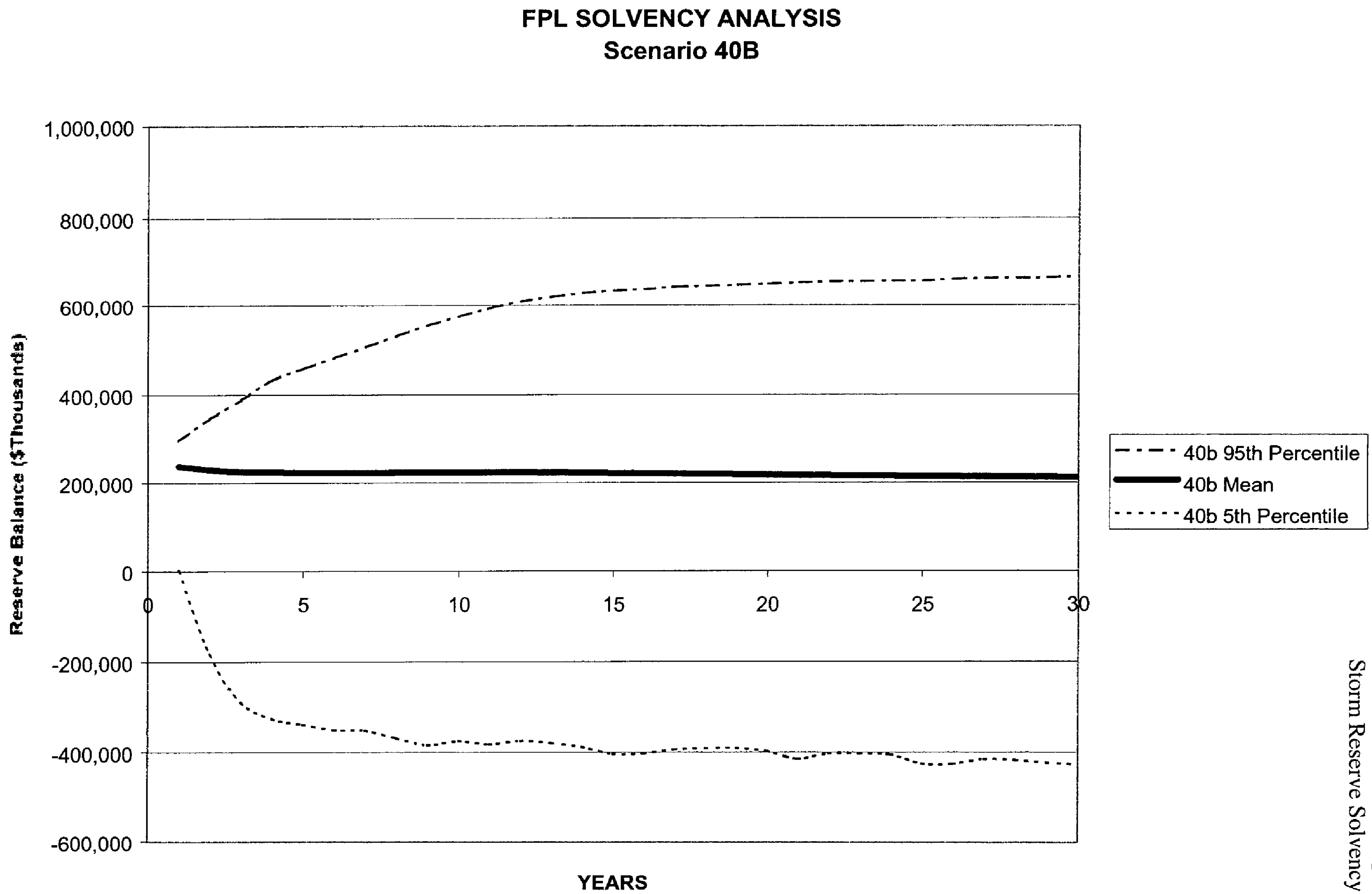

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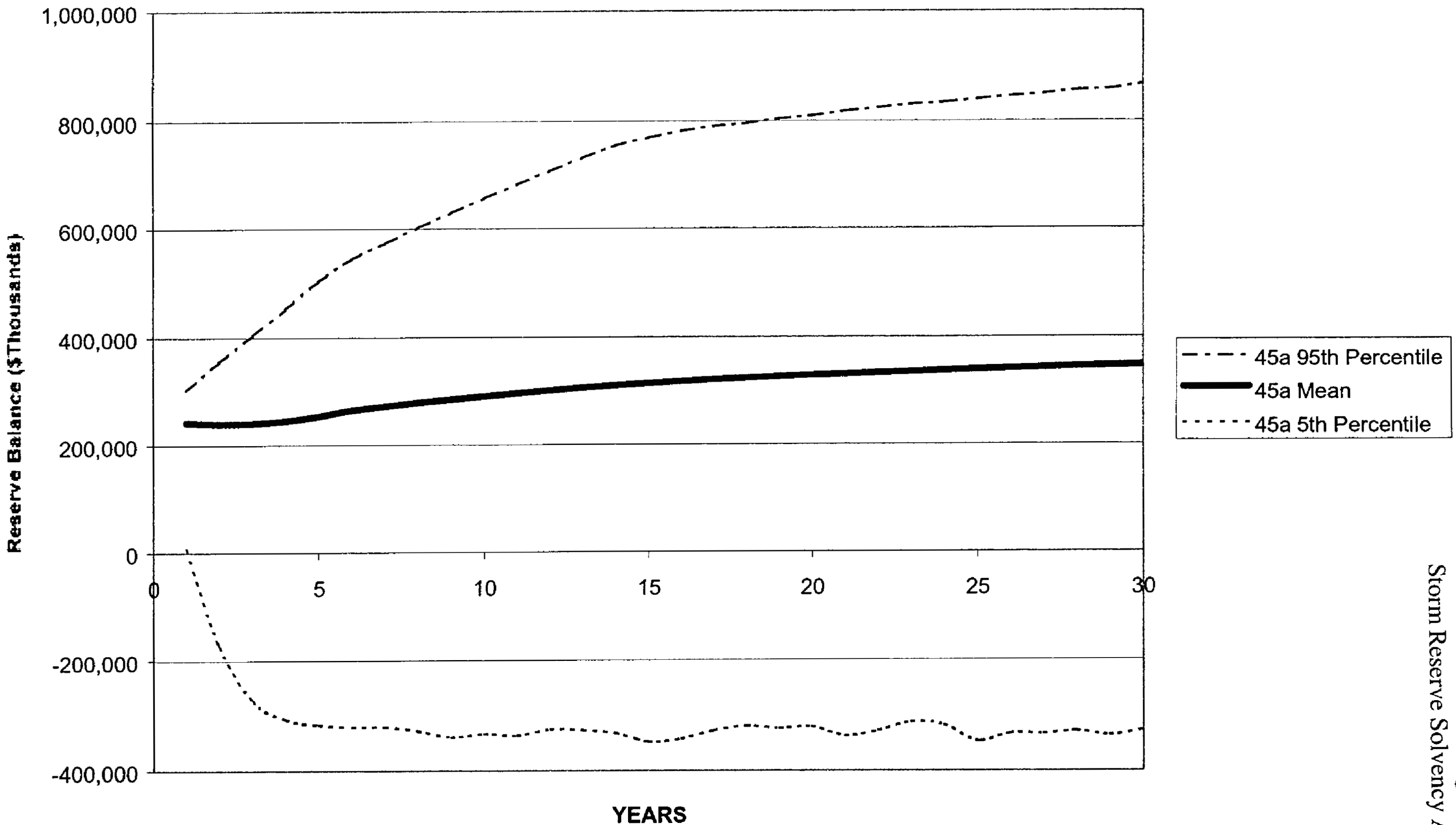
FPL SOLVENCY ANALYSIS
Scenario 45A



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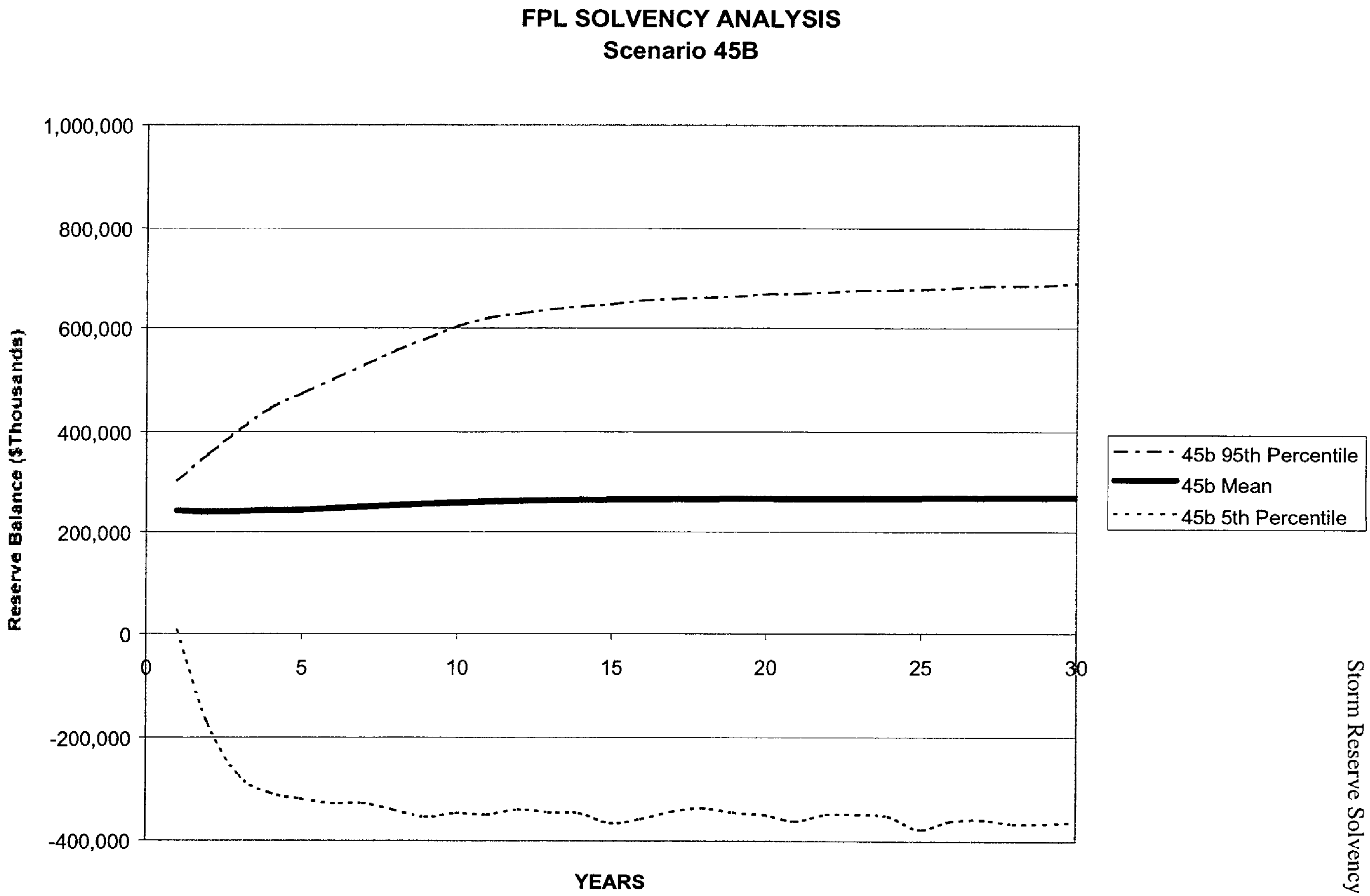

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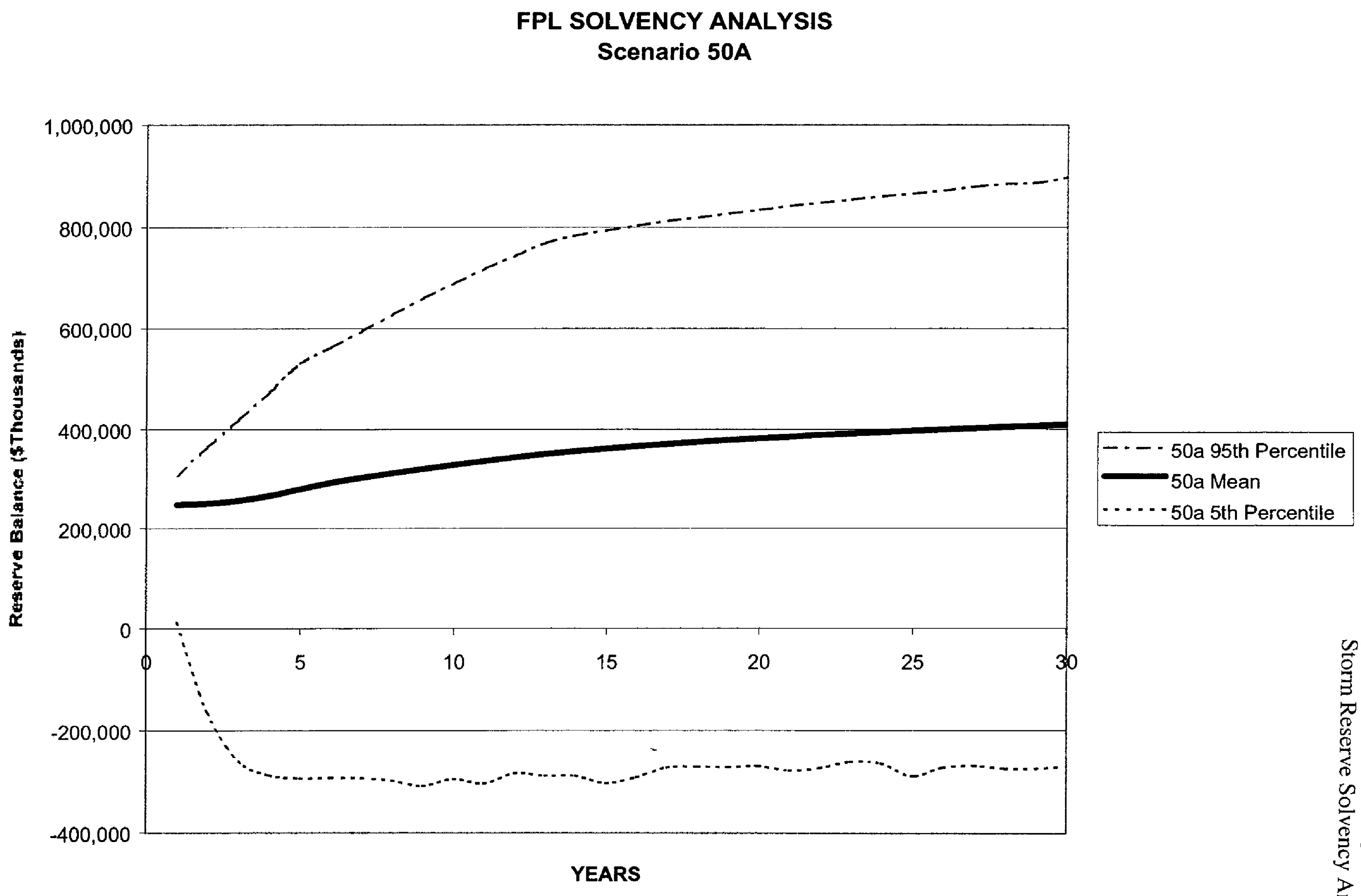

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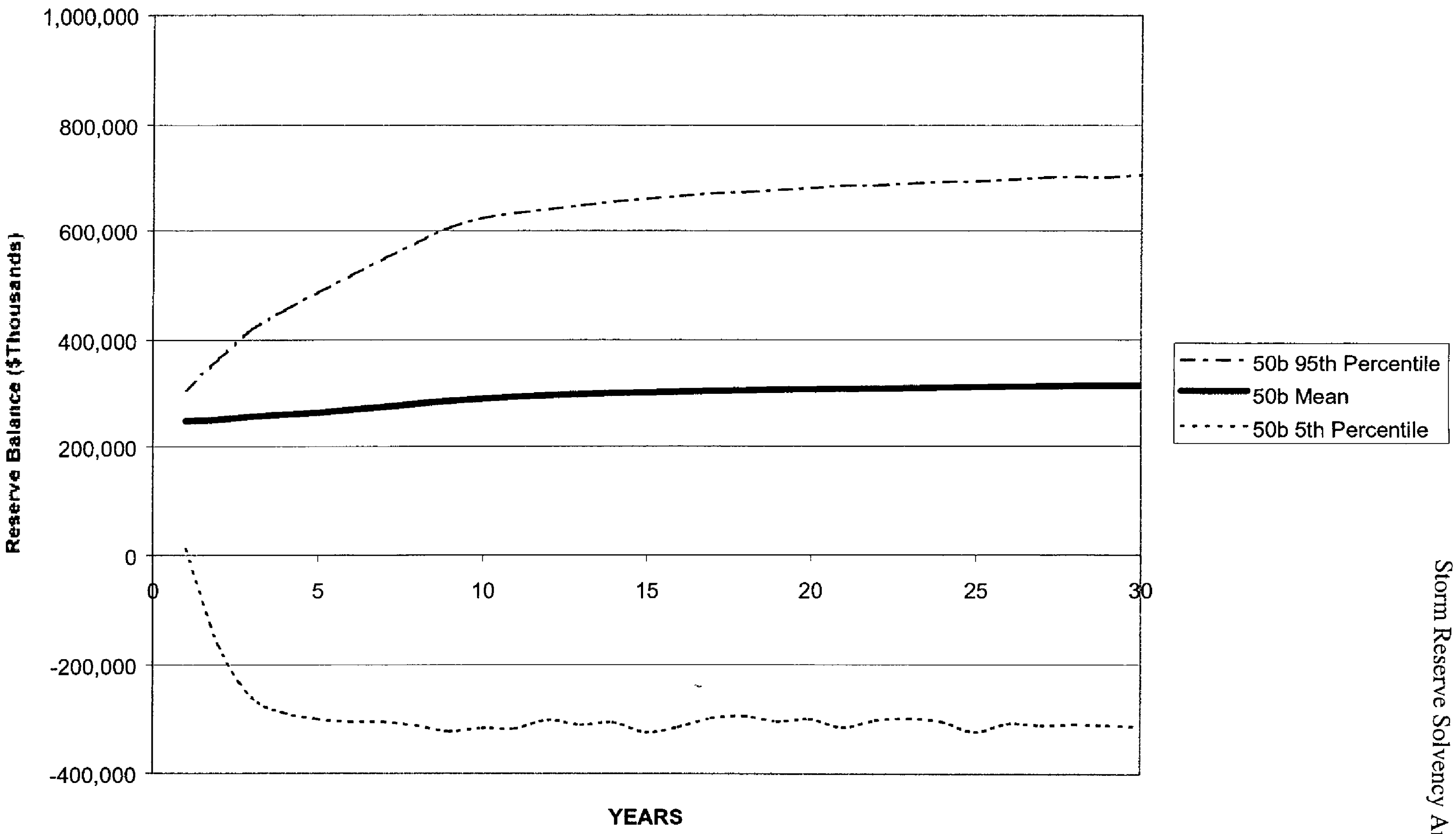
FPL SOLVENCY ANALYSIS
Scenario 50B



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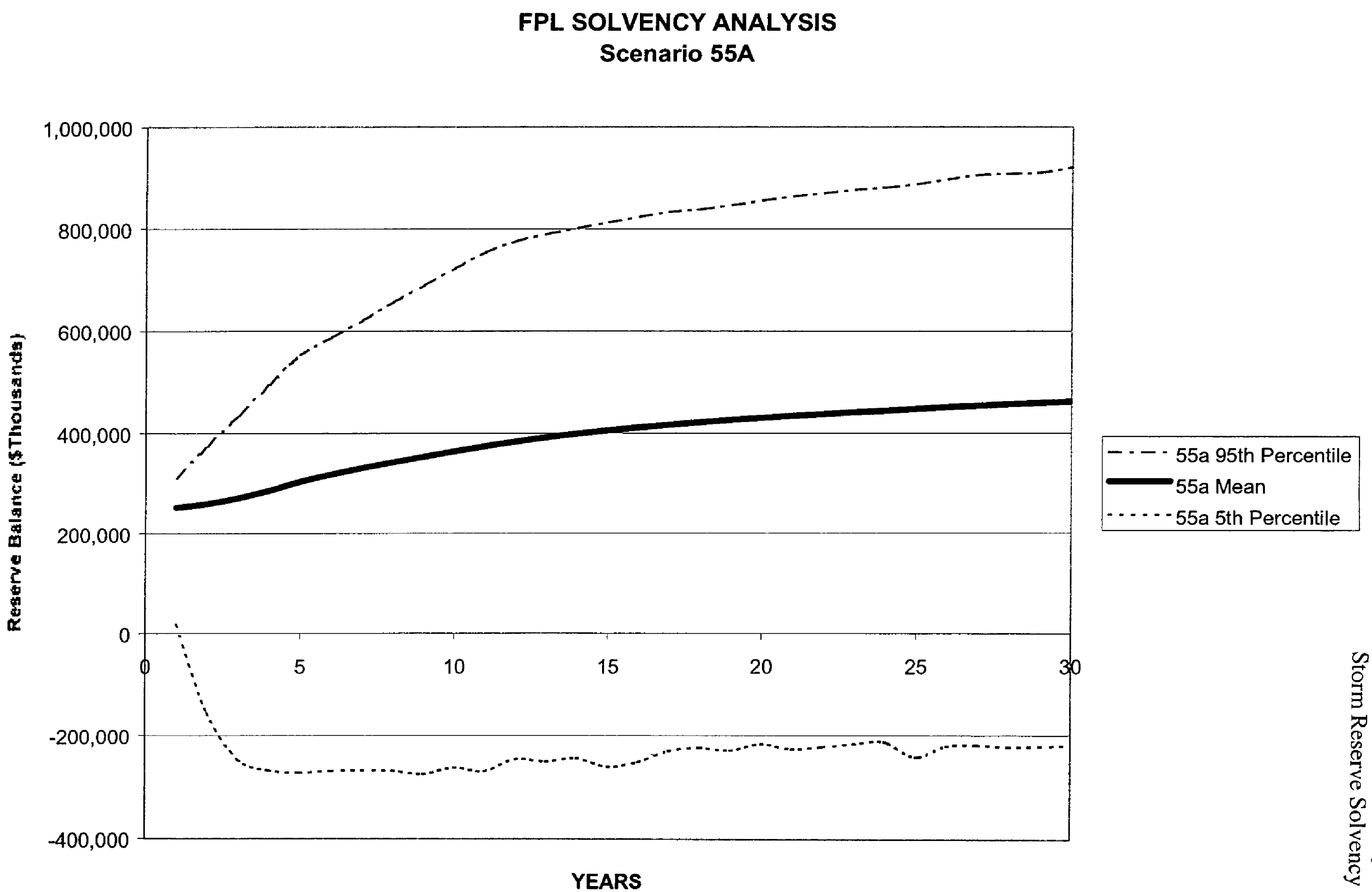
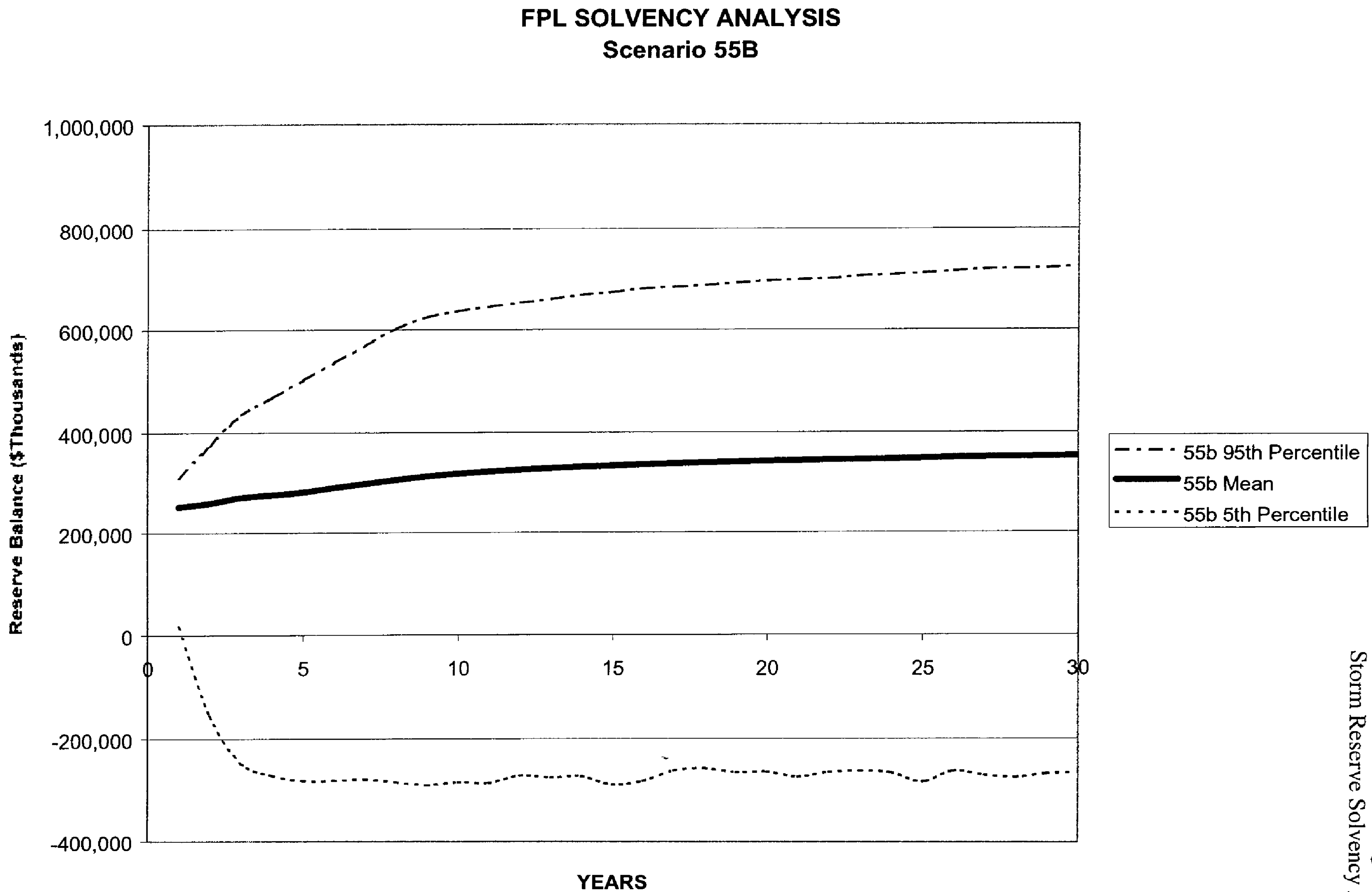

FPL SOLVENCY ANALYSIS
Scenario 55A
1,000,000
800,000
600,000
400,000
200,000
0
-200,000
-400,000
Reserve Balance ($Thousands)
0
5
10
15
20
25
30
YEARS
55a 95th Percentile
55a Mean
55a 5th Percentile



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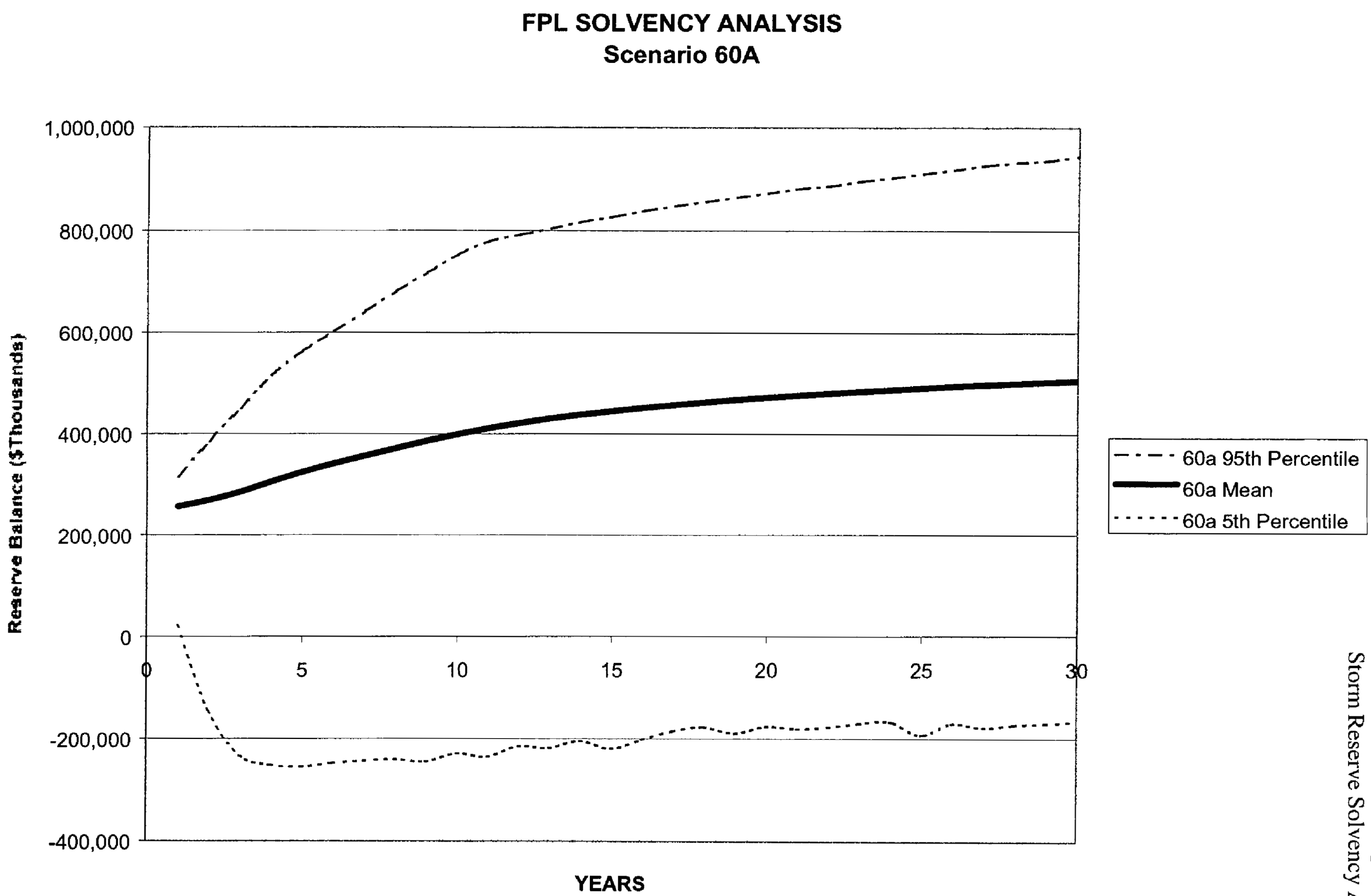

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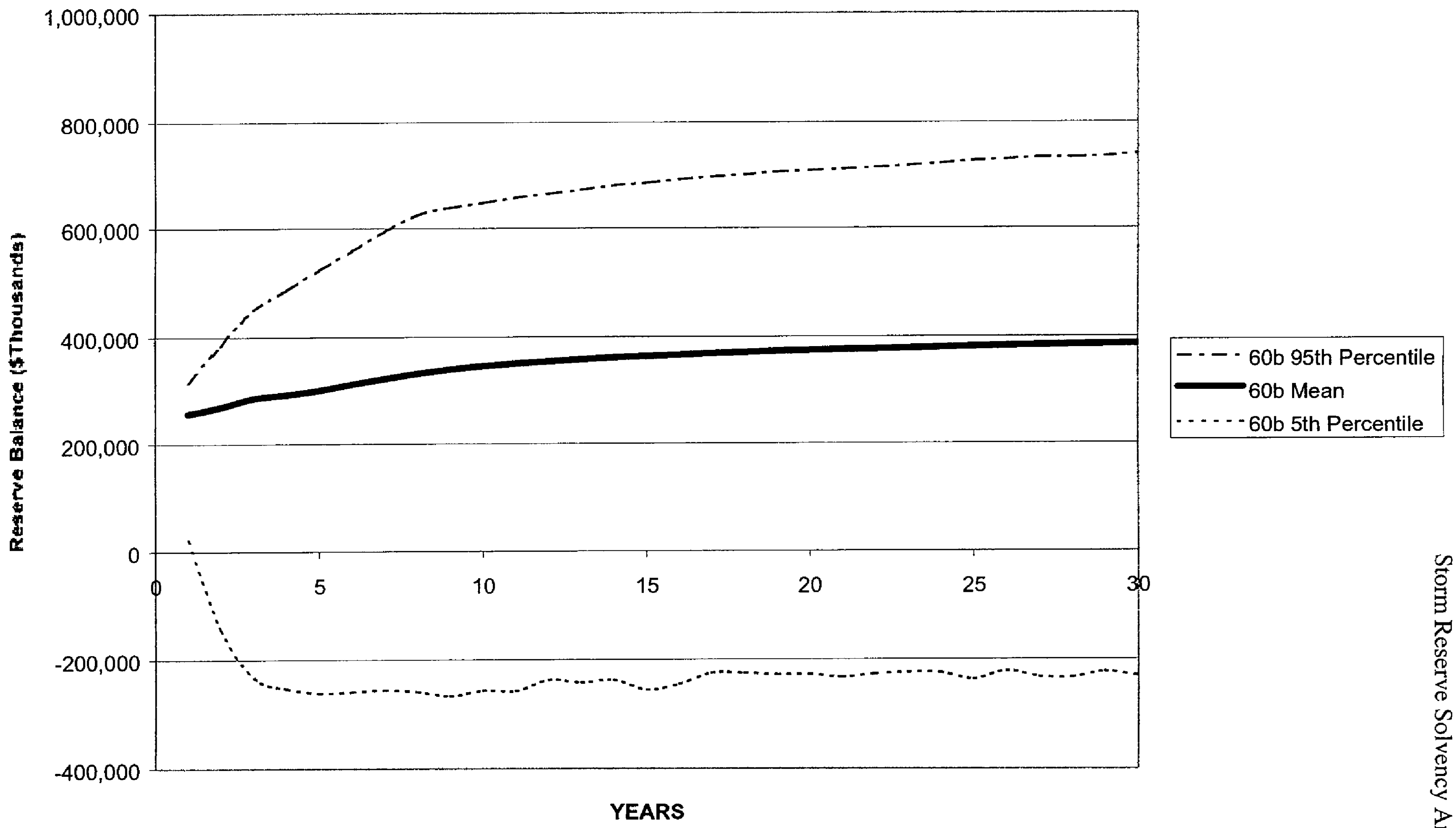
FPL SOLVENCY ANALYSIS
Scenario 60B



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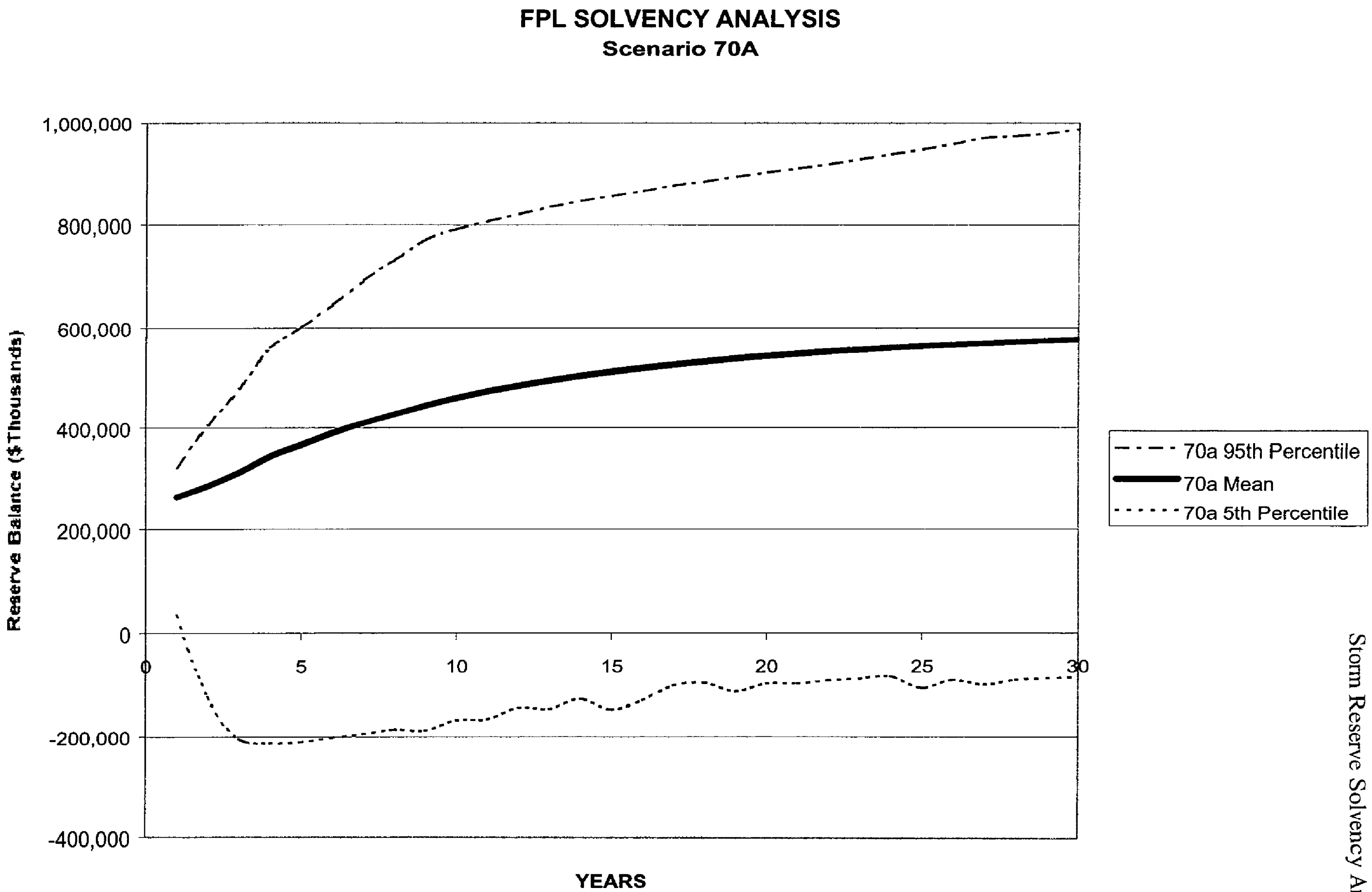

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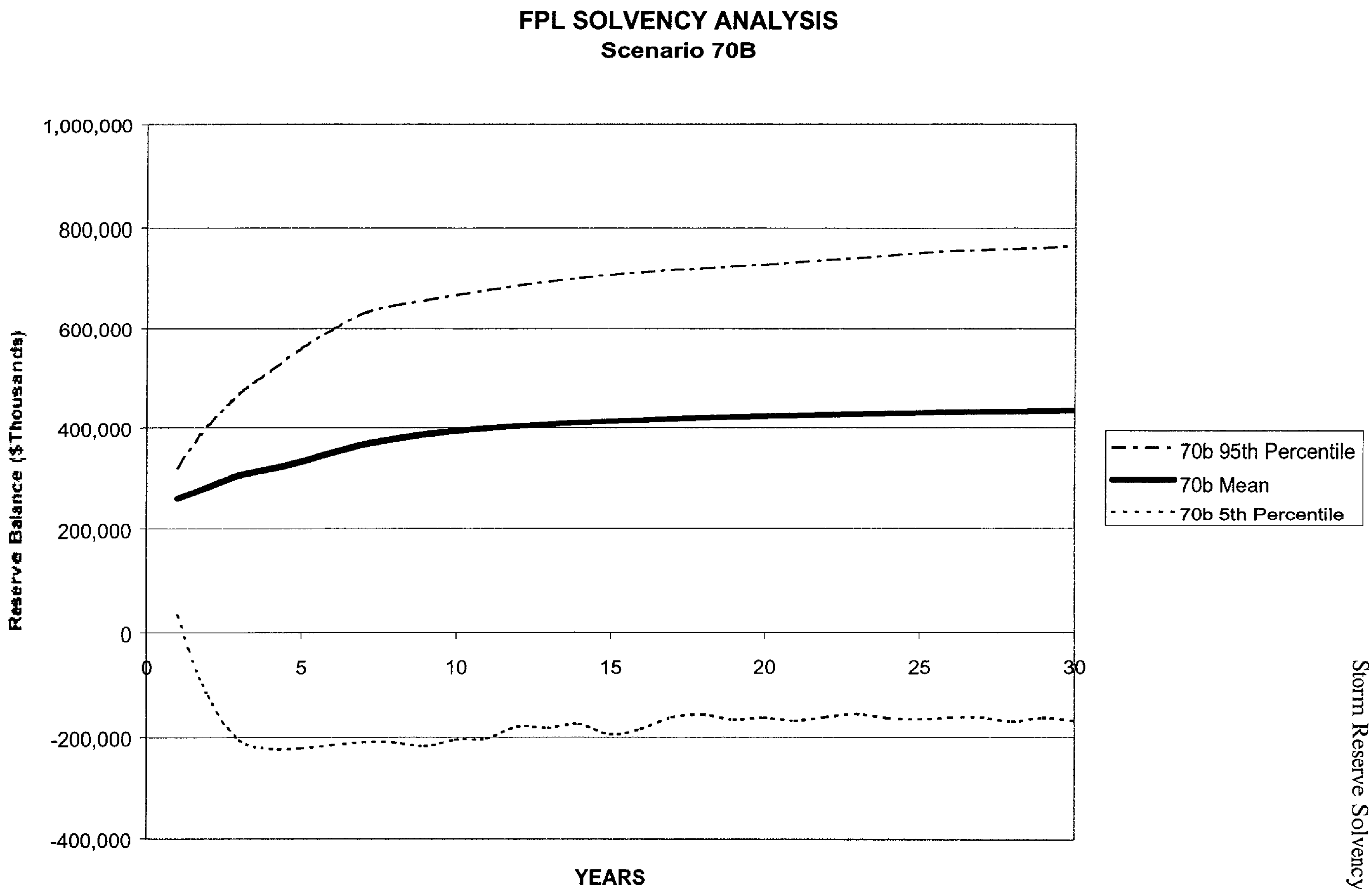

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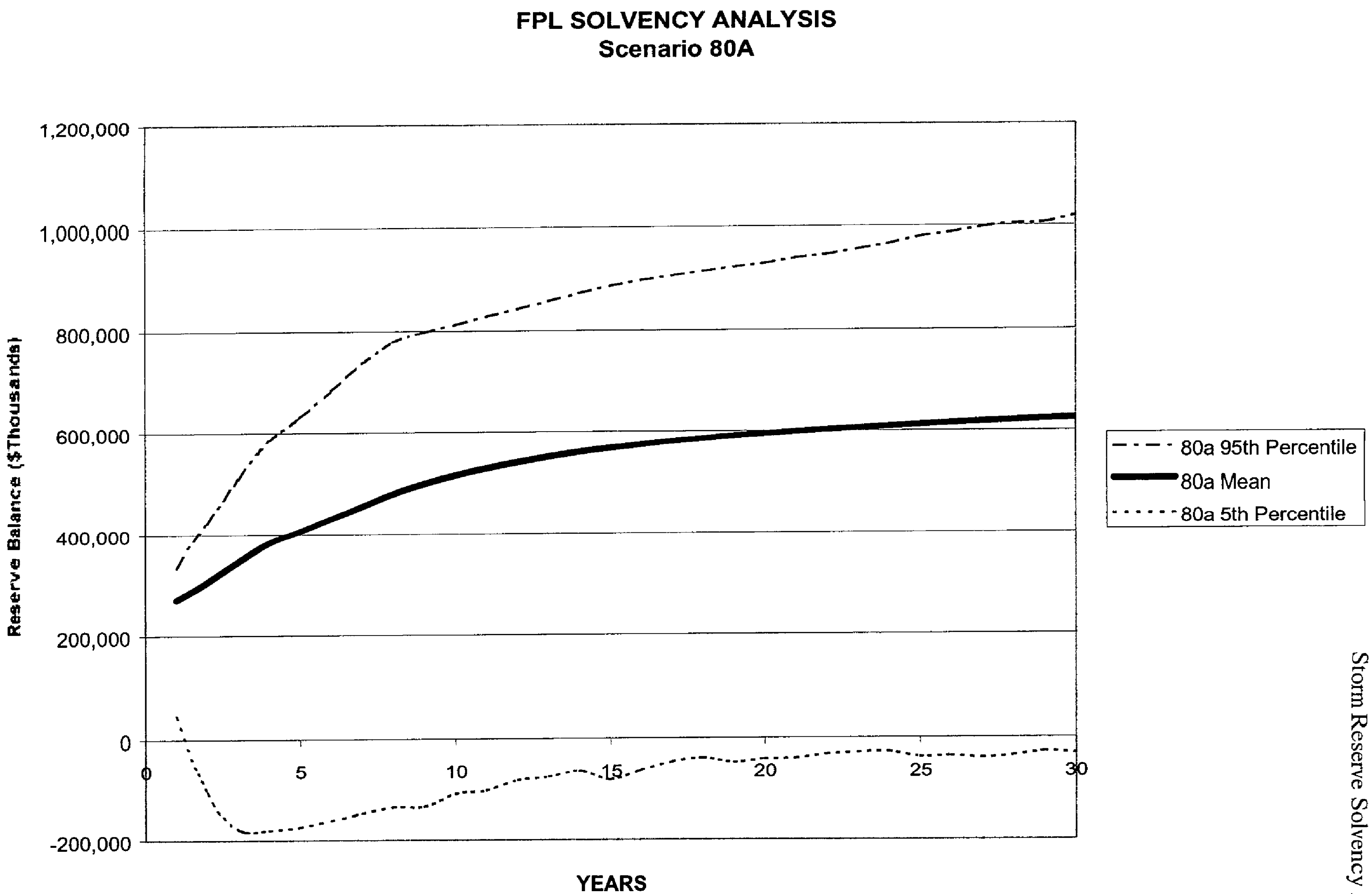

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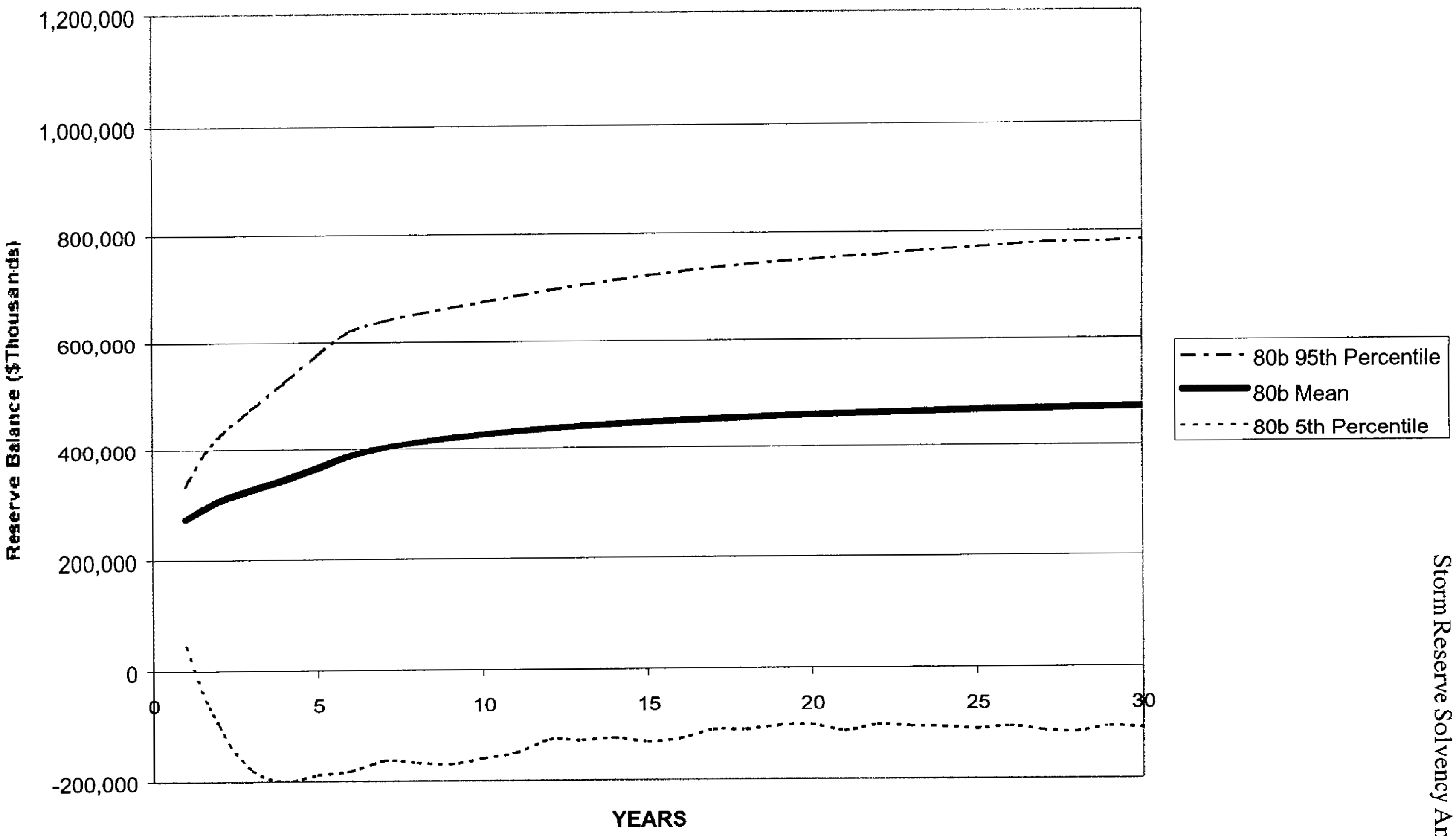
FPL SOLVENCY ANALYSIS
Scenario 80B



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Storm Reserve Solvency Analysis

Appendix E

Appendix E

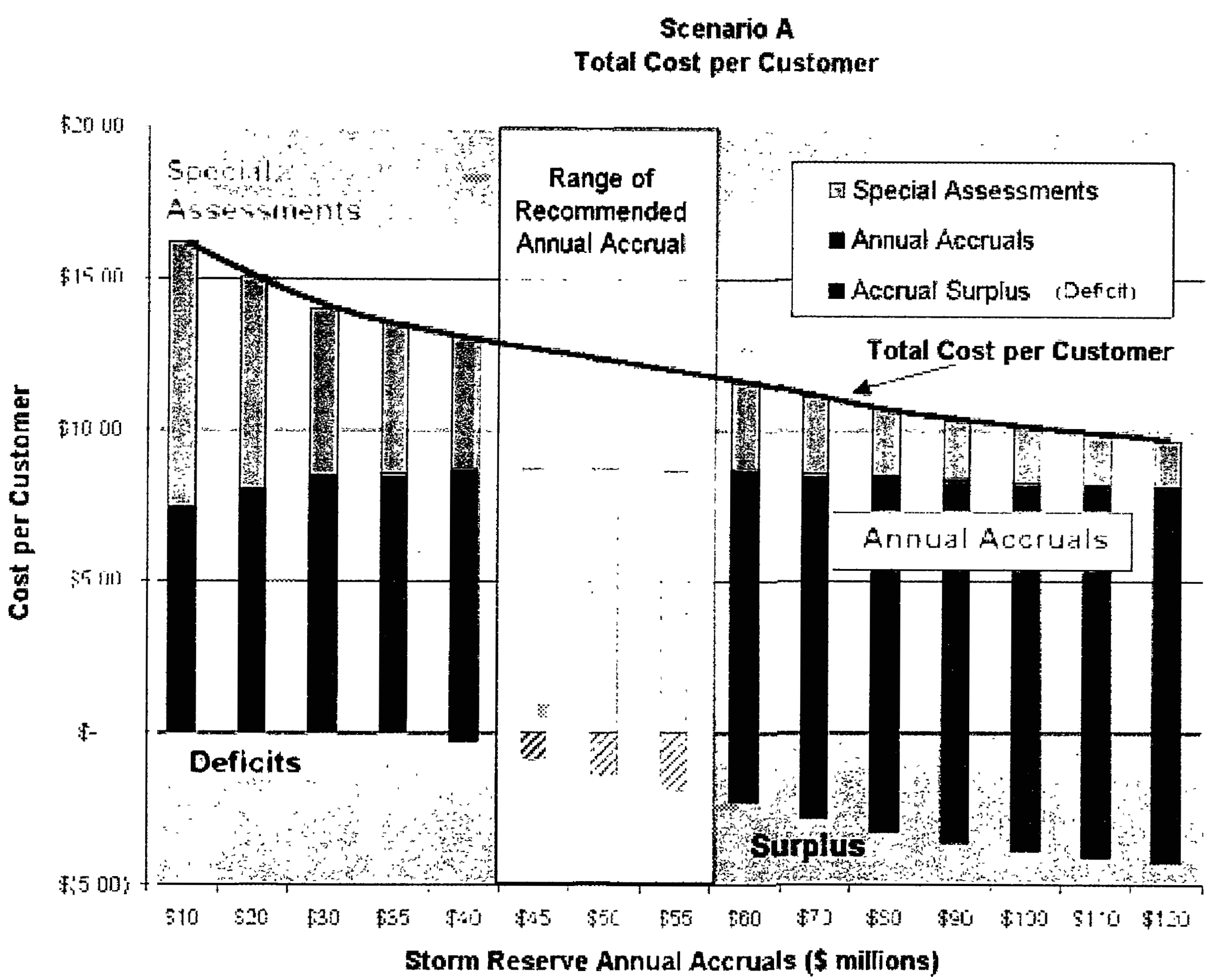
The focus of the analysis was on the three key performance measures: the overall cost to the customer, the stability of the Storm Reserve (i.e., need for special assessments / rate increases), and coverage for most storms. The analysis sought to identify the approximate range of minimum accrual levels that adequately satisfy these performance criteria.

The two charts that follow summarize the results of the analysis, for Scenario A and Scenario B. In the charts, costs are shown on an expected annual basis per customer. The total cost per customer is considered to be the sum of three components, two direct and one indirect. The two direct components are the range of annual accruals and the special assessments / rate increases. In addition, the indirect, long-term cost of accumulating Storm Reserve deficits (surpluses) is added (subtracted). The analysis was extended to accruals beyond $80 million (to $120 million) to better show the overall trends.

The total cost per customer declines as accruals are increased through $120 million (and presumably beyond). With annual accrual levels of $45 to $55 million the Storm Reserve balance begins to grow toward the recommended Storm Reserve target range. Therefore our recommendation is an annual accrual level of at least $45 million.

Storm Reserve volatility can be measured by the need for special assessments / rate increases. These additional funding demands decline as annual accruals increase. Needs for special assessments / rate increases are significantly greater below $45 million annual accrual than they are above this level.

Lastly, the potential need for special assessments never declines to zero. This is due to the continued possibility of infrequent catastrophic losses that could exhaust the Storm Reserve. None of the analyzed accrual scenarios allowed sufficiently large Storm Reserve balance to allow self sustained reserve growth and therefore coverage for these rare events. Annual accruals of $45 to $55 million allow coverage of most storms but do not cover these infrequent severe events.



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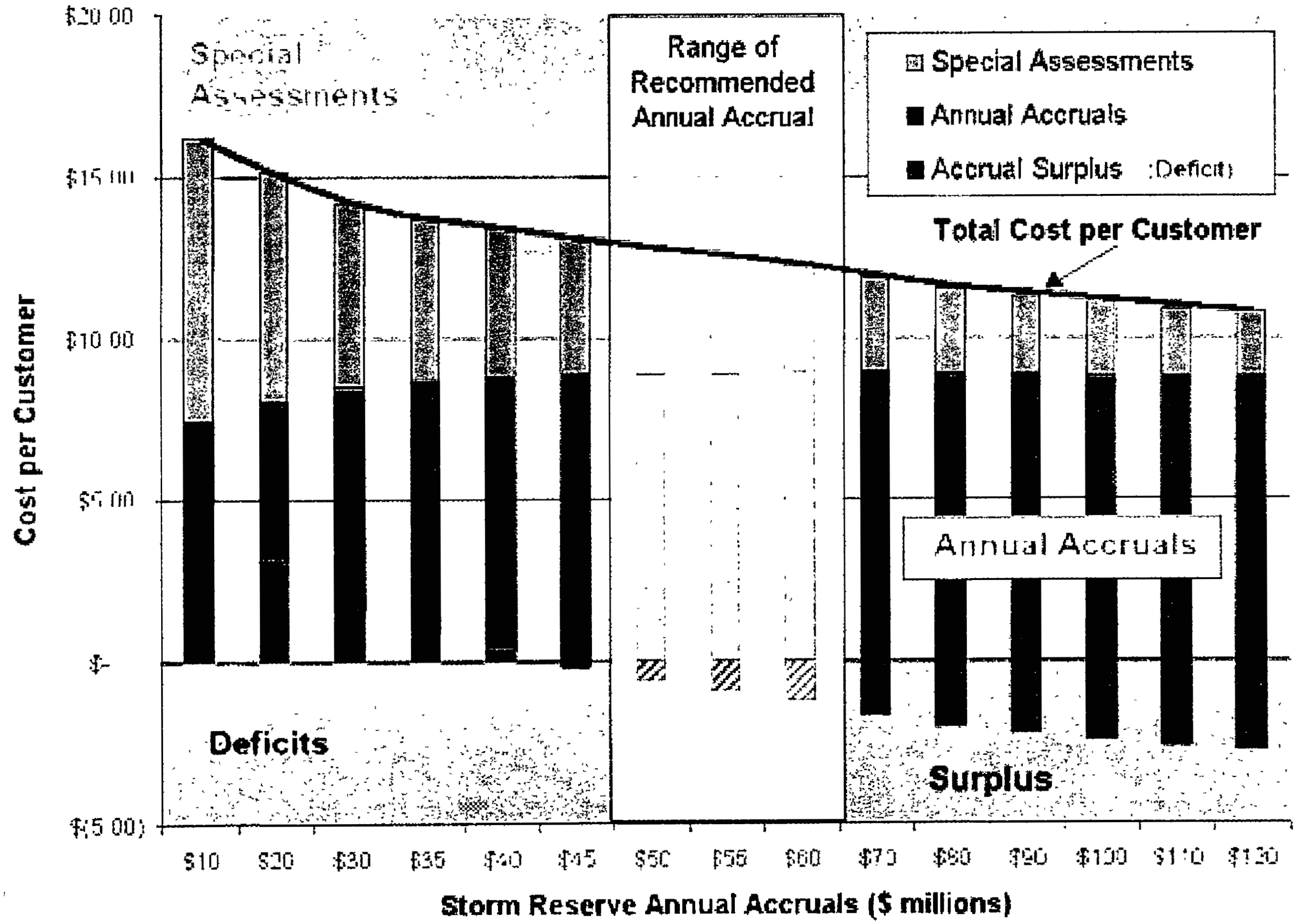
Storm Reserve Solvency Analysis

Scenario B
Total Cost per Customer



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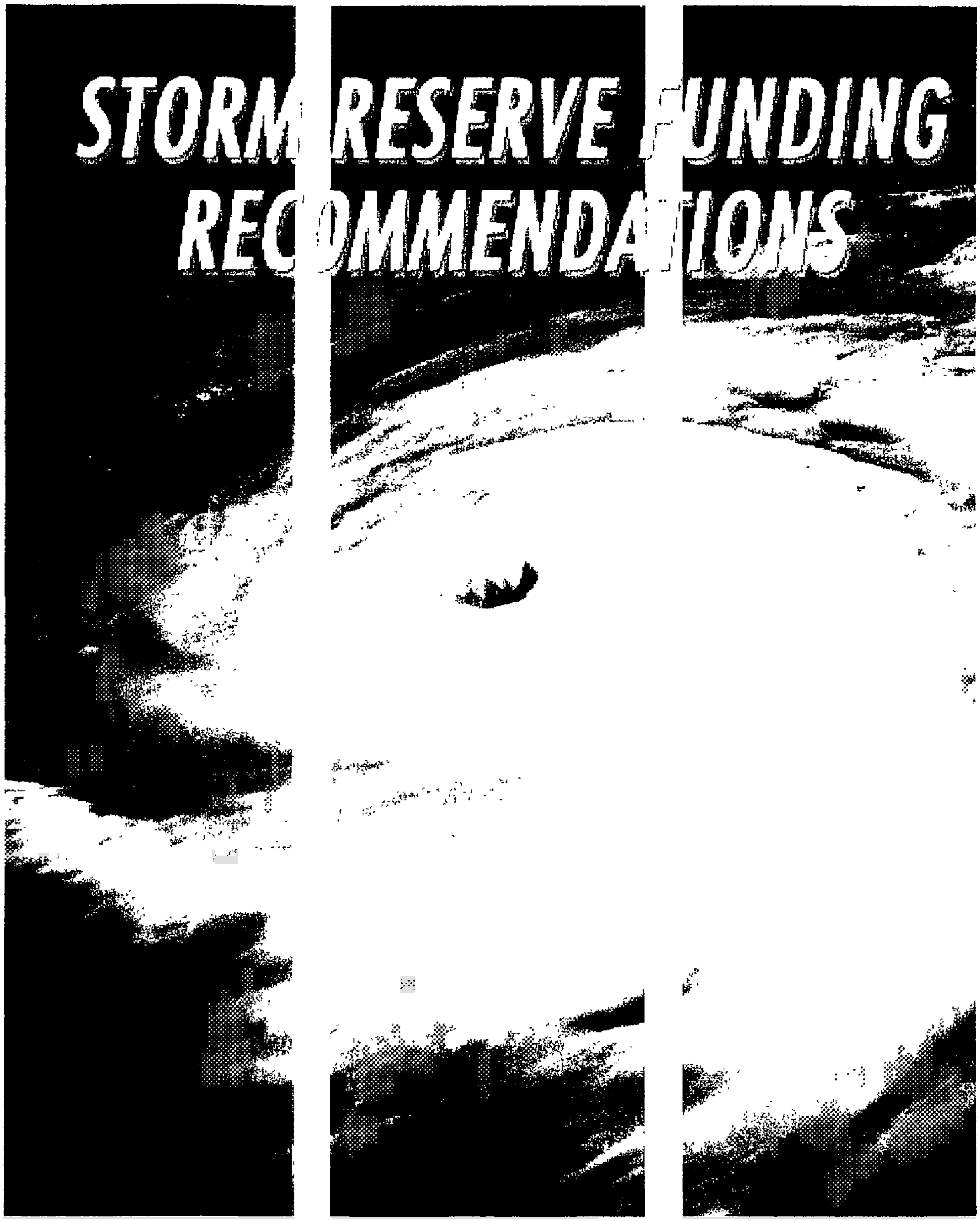
Storm Reserve Funding
Recommendations

EQE INTERNATIONAL

ABS Consulting
RISK CONSULTING DIVISION

STORM RESERVE FUNDING RECOMMENDATIONS



Florida Power & Light

August 31, 2001

Executive Summary

EQE has performed several analytic studies relative to the Storm Reserve at the request of Florida Power & Light Company (FPL). These studies and reports include:

- The Storm Reserve Loss Analysis (the "Loss Analysis"): This probabilistic storm analysis study estimates the uninsured windstorm losses to which FPL is exposed:
- The Storm Reserve Solvency Analysis (the "Solvency Analysis"): This dynamic financial simulation analysis evaluates the performance of the Storm Reserve, given the potential uninsured losses determined from the Loss Analysis, at various annual accrual levels; and
- The Storm Reserve Funding Recommendation report (the "Recommendations"): This report draws on the Loss Analysis and Solvency Analysis, together with FPL objectives, and recommends annual accrual levels and a five-year Storm Reserve balance target range.

The recommendation on annual accrual level and target Storm Reserve balance are based on FPL's desire to achieve a balance among lowest long-term customer cost, reduced Storm Reserve volatility, and annual accrual levels that fund most frequent storms but not all infrequent catastrophic events.

EQE recommends an annual accrual in the range of $45 to $55 million with an objective of reaching a target Storm Reserve balance range of $400 to $500 million within five years.

Storm Reserve Loss Analysis

EQE performed a probabilistic analysis of windstorm losses for FPL, to determine their potential impact on the Storm Reserve over periods of one, three and five years. The analysis included Transmission and Distribution (T & D) losses as well as windstorm insurance deductibles attributable to non-T & D assets. The total expected annual uninsured cost from all windstorms is estimated to be $59.3 million.

The expected annual loss estimate represents the average annual cost associated with repair of windstorm damage and service restoration activities over a long period of time. The expected annual loss is also known as the "Pure Premium," which when insurance is available is the insurance premium level needed to pay just the expected losses. Insurance companies add their expense cost and profit margin to the Pure Premium to develop the premium charged to customers.

Storm Reserve Solvency Analysis

EQE performed a dynamic financial simulation analysis of the impact of the estimated windstorm losses on the FPL Storm Reserve. This Solvency Analysis performed 10,000 simulations of windstorm losses within the FPL service territory, each covering a 30-year period, to determine the effect of the charges for loss on the Storm Reserve. Monte Carlo simulations were used to generate loss samples consistent with the expected $59.3 million Loss Analysis results. The analysis provides an estimate of the Storm Reserve assets in each year of the simulation accounting for the annual accrual, investment income, expenses, and losses using a financial model.

The analysis concentrated on looking at three key performance measures: solvency of the Storm Reserve, stability of the Storm Reserve (i.e. need for special assessments / rate increases), and overall cost to the customer. All three criteria need to be considered, since low accrual levels tend to jeopardize the solvency of the Storm Reserve and increase long term customer costs, and high accrual levels can result in a Storm Reserve balance that grows quickly.

Alternative administrative policies, differentiated on the basis of the annual accrual, were evaluated. Annual accruals between $10 million and $80 million were evaluated.

Administrative policies reduced the annual accrual by 50% at a $500 million Storm Reserve balance and suspended them at $750 million. Where the Storm Reserve balance was negative at the end of a year, it was assumed that the deficit was covered by borrowing funds (at an after tax interest rate of 4%). When borrowing was required, an assessment or rate increase was assumed to be immediately instituted to repay the shortfall over a five-year period. Balances in the Storm Reserve were assumed to be invested and earned a 3.5% after tax return.

Analysis Results

Storm Reserve solvency can be viewed in terms of the expected surplus or deficit of the Storm Reserve over the 30-year period. Based on the simulated loss distributions, deficits to the Storm Reserve could exist for all annual accrual levels analyzed, although their level begins to moderate at accruals above $45 million. Accrual levels above $45 million will result in a lower probability of Storm Reserve deficits and will have a higher probability of generating positive Storm Reserve growth, thus reducing both customer cost and the need for special assessments / rate increases.

Storm Reserve volatility can be viewed in terms of the fraction of total annual cost per customer contributed by special assessments / rate increases. The volatility can be characterized by three ranges of need for special assessments / rate increases:

- Annual accrual levels below $45 million, where deficits occur and special assessments / rate increases make up 35% to 55% of the total annual cost per customer.
- Annual accrual levels between $45 and 55 million where small surpluses occur and special assessments / rate increases make up 25 to 35% of the total annual cost to the customer.
- Annual accrual levels of $60 million or greater where special assessments / rate increases make up less than 25% of the total annual cost per customer.

The need for special assessments / rate increases does not decrease to zero for any of the accrual levels analyzed. This is an effect of capping the Storm Reserve at $750 million and the potential that losses in excess of a billion dollars could occur. Should one of these low probability events occur, special assessments would be required even at the maximum capped Storm Reserve balance. There is approximately a 1% chance in one year and an 8% chance in five years that storm losses could exceed the maximum cap ($750 million).

Cost to the customer can be viewed in terms of the sum of the annual accruals, borrowing costs, special assessments / rate increases, and deficits (or surpluses). Costs to the customer decrease rapidly as accruals approach the $45 million level. Total customer costs continue to decrease, but more gradually for accruals of $45 million and larger.

Assumptions

The analysis performed included certain conservative assumptions regarding loss exposures. These include assumptions regarding storm frequency and severity, future FPL system growth, and future increased cost for system restoration due to inflation:

- The analysis is based on storm frequency and severity distributions developed from the entire 100-year historical record. Year-to-year variability in storm frequency and severity distributions has not been included. Specifically, variability associated with El Nino / Southern Oscillation (ENSO) has not been considered. Further, there has been no attempt to model longer term variations such as the relatively quiet period for North Atlantic hurricanes that occurred from about 1970 to the mid 1990's, or the more active periods before and after. The length of each quiet or active period is thought to be about 25 to 30 years, and the current period of higher activity began only about five years ago; therefore it is quite possible that the next 30 years could be characterized by higher levels of activity than average.
- The analysis considered no future growth of the FPL customer base and system assets. FPL customer base has grown 1% to 2% per year over the past decade.
- The analysis assumed that future system restoration cost would be at comparable price levels to the present. Recent inflationary cost increases for new transmission and distribution assets have increased at 1% to 3.5% per year over the past decade.

Given these conservative assumptions, inflation in assets and repair costs could cause the Storm Loss estimates to be higher. The uncertainties represented by these assumptions are within the overall uncertainties of the storm hazards and the recommendations provided represent a sound approach in the short term of the next three to five years. Should FPL experience either a single catastrophic storm loss or a series of more moderate storms that seriously hamper the Storm Reserve's growth to the recommended target amount, the Storm Reserve annual accrual level could require retrospective review.

Recommendations

Based on the analysis performed, we recommend a minimum annual accrual level in the range of $45 to $55 million, with a target Storm Reserve balance of $400 to $500 million within the next three to five years. These accrual levels and this target Storm Reserve balance, considering the expected losses, should provide sufficient funds to:

- Lower long term customer costs,
- Dampen volatility of the Storm Reserve,
- Fund most storms losses but not those from the most severe catastrophic events

It should be noted that there is no single way to establish appropriate annual accrual level or target Storm Reserve balance. Both storm frequencies and severities have large uncertainties. Consequently any accrual level can be either inadequate given a single rare event, or result in increases to the Storm Reserve balance if no events occur within any given short number of storm seasons.

We believe that the accruals and target Storm Reserve balances in the recommended ranges will significantly improve the likelihood of achieving the three established criteria of balancing lower long-term customer cost, Storm Reserve volatility, and coverage for the majority of storm scenarios.

Aggregate Damage Exceedance for One, Three, and Five years

Aggregate damage exceedance calculations are developed by keeping a running total of damage from ***all possible events*** in a given time period, including all uninsured costs from windstorms. At the end of each time period, the aggregate damage for all events is then determined by probabilistically summing the damage distribution from each event, taking into account the event frequency. The process considers the probability of having zero events, one event, two events, etc. during the time period.

The table on the following page summarizes this analysis for three time periods: one, three, and five years, for damage layers between zero and over one billion dollars.

For each damage layer shown, the probability of damage exceeding a specified value is shown. For example, the probability of damage exceeding $500 million in one year is 2.5%, while it is 9.2% and 18.1% for three and five year periods. The analysis calculates the probability of damage from all storms and aggregates the total, resulting in increasing exceedance probabilities for the three and five year periods when compared to the one year value.

The table also shows, for each damage layer, the contribution of that layer to the expected annual damage of $59.3 million, which is the annual damage calculated from all storms with varying severity and frequency. The expected annual damage represents all uninsured costs from windstorms on an annual basis over a long period of time.

For the example given above, the contribution to the $59.3 million expected annual damage in the $500 to $550 million layer is $1.211 million for the one-year period. For the three-year and five-year periods, the contribution to the expected damage over the period is provided for each layer. For example, the total expected damage over a three-year period is $177.805 million (three times the expected annual damage), $4.306 million of which is contributed by the layer from $500 to $550 million.

AGGREGATE DAMAGE EXCEEDANCE PROBABILITIES
AND EXPECTED DAMAGE IN 1, 3, & 5 YEARS, BY LAYER

Damage Layer	1 year		3 year		5 year	
($millions)	Exceedance Probability	Expected Annual Damage ($000)	Exceedance Probability Over 3 Years	Expected Damage Over 3 Years ($000)	Exceedance Probability Over 5 Years	Expected Damage Over 5 Years ($000)
$ 0	82.420%	18,483	99.860%	39,107	100.000%	46,026
50	21.156%	8,466	58.876%	24,765	83.769%	37,324
100	13.536%	5,772	41.753%	18,032	65.765%	29,469
150	9.819%	4,269	31.413%	13,989	52.373%	23,918
200	7.637%	3,413	25.016%	11,354	43.264%	20,054
250	6.007%	2,668	20.407%	9,398	36.838%	17,104
300	4.911%	2,268	17.501%	8,038	31.525%	14,661
350	4.069%	1,868	14.648%	6,737	27.029%	12,630
400	3.496%	1,615	12.745%	5,805	23.300%	10,870
450	2.978%	1,384	10.662%	4,969	20.279%	9,608
500	2.538%	1,211	9.219%	4,306	18.078%	8,514
550	2.259%	1,020	8.046%	3,825	15.815%	7,471
600	1.932%	903	7.153%	3,335	13.855%	6,598
650	1.693%	792	6.142%	2,952	12.484%	5,826
700	1.491%	687	5.298%	2,415	10.862%	5,152
750	1.236%	575	4.751%	2,251	9.699%	4,589
800	1.086%	506	4.185%	1,974	8.557%	4,269
850	0.952%	468	3.615%	1,723	7.617%	3,428
900	0.819%	382	3.274%	1,575	6.872%	3,203
950	0.703%	308	2.909%	1,311	6.020%	2,857
≥$1,000	0.604%	2,211	2.571%	9,942	5.268%	22,769
Total		**59,268**		**177,805**		**296,341**

Effect of Scenario Selected on Storm Reserve Balance

The chart on the next page shows the impact of three annual accrual scenarios on the Storm Reserve: $45 million, $50 million, and $55 million. For each annual accrual amount, the chart shows the mean value of the Storm Reserve balance over the 15-year period, and the upper and lower bounds defined respectively as the 95th and 5th percentiles of non-exceedance.

Note that the expected value (mean curve) of the Storm Reserve balance gains from $247 million to $313 million under the $45 million scenario over the 15-year period. The upper bound under this scenario at the end of the 15-year period is approximately $769 million and the lower bound is approximately -$348 million. This can also be interpreted as this scenario having a 90% probability that the Storm Reserve balance will be between $769 million and -$348 million with an expected Storm Reserve balance of $313 million at the end of the 15-year period.

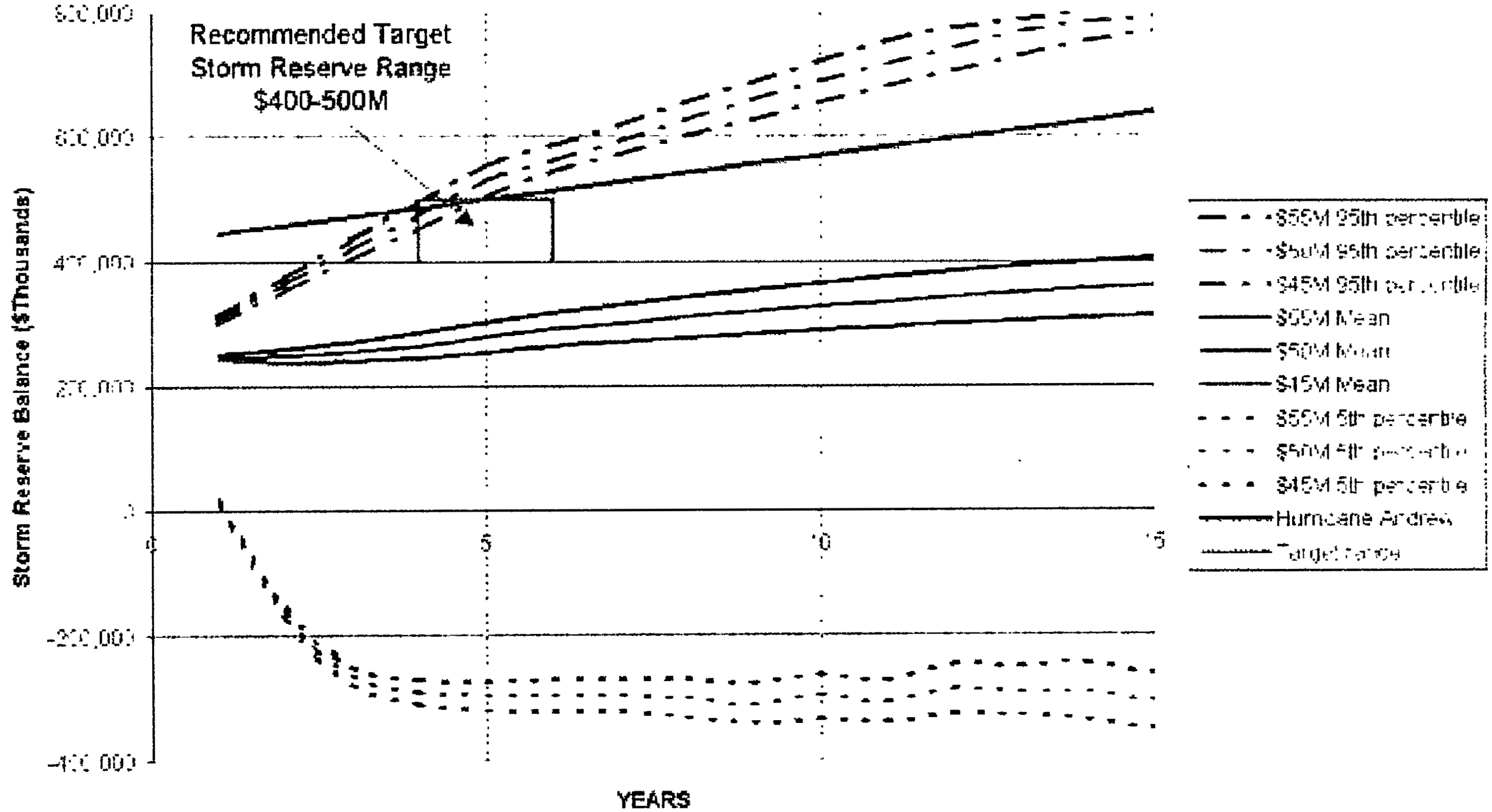
Similarly, the expected value (mean curve) of the Storm Reserve balance gains from $247 million to $361 million under the $50 million scenario over the 15-year period. The upper bound under this scenario at the end of the 15-year period is approximately $793 million and the lower bound is approximately -$304 million. This can also be interpreted as this scenario having a 90% probability that the Storm Reserve balance will be between $793 million and -$304 million with an expected Storm Reserve balance of $361 million at the end of the 15-year period.

Finally, the expected value (mean curve) of the Storm Reserve balance gains from $247 million to $405 million under the $55 million scenario over the 15-year period. The upper bound under this scenario at the end of the 15-year period is approximately $812 million and the lower bound is approximately -$260 million. This can also be interpreted as this scenario having a 90% probability that the Storm Reserve balance will be between $812 million and -$260 million with an expected Storm Reserve balance of $405 million at the end of the 15-year period.

For comparison purposes, the line corresponding to the loss experienced in Hurricane Andrew is shown, adjusted for system growth and inflation. Also, the recommended Storm Reserve balance target range of $400 to $500 million is indicated.

In none of the recommended accrual scenarios would the expected Storm Reserve balance grow significantly beyond the recommended target range within the next four to six years.

FPL SOLVENCY ANALYSIS
Comparison of $45, $50, and $55 million annual accrual levels
(with $500/$750 million funding reduction/suspension levels)



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Storm Reserve Funding
Recommendations

Total Cost and Storm Reserve Stability as a Function of Accrual Amount

The focus of the analysis was on the three key performance measures: the overall cost to the customer, the stability of the Storm Reserve (i.e., need for special assessments / rate increases), and coverage for most storms. The analysis sought to identify the approximate range of minimum accrual levels that adequately satisfy these performance criteria.

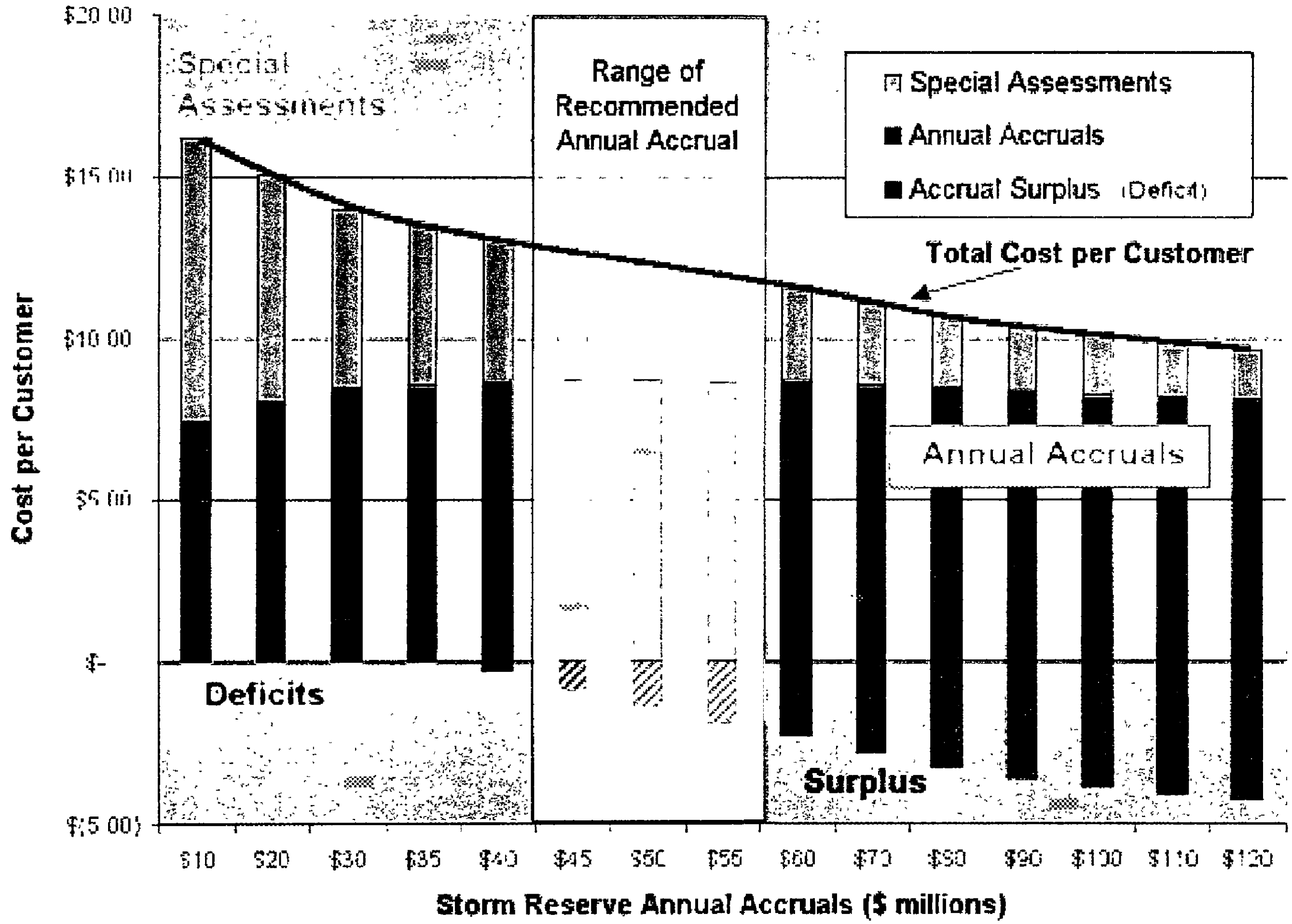
The chart on the following page summarizes the results of the analysis. In the figure, costs are shown on an expected annual basis per customer. The total cost per customer is considered to be the sum of three components, two direct and one indirect. The two direct components are the range of annual accruals and the special assessments / rate increases. In addition, the indirect, long-term cost of accumulating Storm Reserve deficits (surpluses) is added (subtracted). The analysis was extended to accruals beyond $80 million (to $120 million) to better show the overall trends.

The total cost per customer declines as accruals are increased through $120 million (and presumably beyond). With annual accrual levels of $45 to $55 million the Storm Reserve balance begins to grow toward the recommended Storm Reserve target range. Therefore our recommendation is an annual accrual level of at least $45 million.

Storm Reserve volatility can be measured by the need for special assessments / rate increases. These additional funding demands decline as annual accruals increase. Needs for special assessments / rate increases are significantly greater below $45 million annual accrual than they are above this level.

Lastly, the potential need for special assessments never declines to zero. This is due to the continued possibility of infrequent catastrophic losses that could exhaust the Storm Reserve. None of the analyzed accrual scenarios allowed sufficiently large Storm Reserve balance to allow self sustained reserve growth and therefore coverage for these rare events. Annual accruals of $45 to $55 million allow coverage of most storms but do not cover these infrequent severe events.

Total Cost per Customer



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Storm Reserve Funding Recommendations