ORIGINAL

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In Re: Joint Petition for Determination of Need for the Osprey Energy Center in Polk County by Seminole Electric Cooperative, Inc. and Calpine Construction Finance Company, L.P.	)	DOCKET NO. 001748-EC

DIRECT TESTIMONY AND EXHIBITS

OF

MICHEL P. ARMAND, P.E.

ON BEHALF OF

CALPINE CONSTRUCTION FINANCE COMPANY, L.P.

ORIGINAL

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

IN RE: JOINT PETITION FOR DETERMINATION OF NEED FOR THE OSPREY ENERGY CENTER IN POLK COUNTY BY SEMINOLE ELECTRIC COOPERATIVE, INC., AND CALPINE CONSTRUCTION FINANCE COMPANY, L.P.

DIRECT TESTIMONY OF MICHEL P. ARMAND, P.E.

Q: Please state your name and business address.

A: My name is Michel Armand, and my business address is 3113 Lawton Road, The Carr Building, Suite 130, Orlando, Florida 32803-3519.

Q: By whom are you employed and in what position?

A: I am employed as a Principal of Navigant Consulting, Inc. ("NCI").

Q: Please describe your duties with NCI.

A: I am responsible for conducting transmission planning and operations studies for NCI clients. These studies cover proposed generating plants and their associated transmission interconnections, actual system performance based on projected seasonal loading conditions, and the determination of potential operating constraints necessary to insure reliable operation of the bulk transmission system.

DIRECT TESTIMONY OF MICHEL P. ARMAND, P.E.

QUALIFICATIONS AND EXPERIENCE

Q: Please summarize your educational background and experience.

A: I graduated from the City College of the City University of New York in June 1968, with the degree of Bachelor of Engineering - Electrical. In June 1971, I graduated from the Bernard Baruch College of the City University of New York with the degree of Master of Business Administration.

In 1971, I attended the General Electric Company's one-year course in Advanced Power System Engineering, in Schenectady, New York. In 1978, I attended the one-month Public Utility Executive Program of the Graduate School of Business Administration of the University of Michigan. In 1983, I attended the two-month Executive Program of the Colgate Darden Graduate School of Business Administration of the University of Virginia.

Upon graduation, I was employed by the Consolidated Edison Company of New York. I was assigned to the Distribution Engineering, Station Design, and System Planning Departments. My permanent assignment was in the Transmission Planning Section of the System Planning Department.

In April 1974, I was employed by Florida Power & Light Company ("FPL") in the System Planning Department. In April 1976, I was put in charge of the Reliability and System Security Section, responsible for testing and assessing the dynamic performance of the planned generation and transmission system, and for making recommendations based on our tests and assessments. In June 1984, I was transferred to FPL's Power Supply Department as Manager of Technical Services responsible for daily analysis of system performance, monitoring the adequacy of performance of transmission protective systems, and coordinating the protection and control settings of FPL's generation, transmission, and distribution systems. In May 1991, I became Director of Protection and Control Systems responsible for the design, engineering, installation, and maintenance of all protections and control systems for the generation, transmission, and distribution systems of FPL. In October 1993, I took early retirement from FPL.

From December 1994 to December 1996, I was employed as Energy Consultant in the Office of the Prime Minister of Haiti. In 1997, I assumed my present position as Principal Executive Consultant with NCI, formerly Resource Management International, Inc.

I am a registered professional engineer in the State of Florida, and I am a member of the Institute of Electrical and Electronic Engineers and a member of the Society of Professional Engineers.

DIRECT TESTIMONY OF MICHEL P. ARMAND, P.E.

Q: What is your experience in power plant engineering, construction, operations, permitting, and licensing?

A: As a manager for NCI, I provided transmission planning analyses for Duke Energy Power Services ("Duke") in support of a 500 MW plant at New Smyrna Beach, Florida. I was the project manager for this work and prepared testimony in support of Duke's petition to the Florida Public Service Commission. NCI conducted Power Flow Studies to determine the best configuration to integrate a 500 MW power plant into the transmission grid.

As Supervisor of Reliability and System Security for Florida Power & Light Company, responsible for modeling the dynamic response of the system to disturbances, I was involved with the Power Plant Engineering Department in specifying the electrical parameters of new generators such as power factor, short circuit ratio, high initial response exciter, power system stabilizer, generator step-up and auxiliary transformers, tap ratio coordination, and switchyard connections. I also initiated studies to add power system stabilizers and modify relay protection schemes for existing high capacity generating units (600 MW and above) on the FPL system.

I was heavily involved in the licensing of FPL's St. Lucie Unit No. 2, a nuclear unit. In this activity, I participated in the Final Safety Analysis Report for the unit's operating license and testified at the evidentiary hearing in Miami, in November 1979, on the issue of grid reliability.

Q: **What is your experience in generation planning, transmission planning, transmission design, and load flow studies?**

A: In my professional work, the size and location of generation was always a given. My responsibility was the integration of the generators in the transmission grid for optimum delivery of the power under all postulated transmission outages.

I have extensive professional experience in transmission planning. At Consolidated Edison of New York, I was responsible for transmission planning for the borough of Manhattan, representing at that time about 45 percent of ConEd's total system demand. At FPL, I was responsible for transmission planning in Dade and Broward Counties, representing, at that time, about 60 percent of FPL's total system demand. While not involved in the physical design of transmission lines, studies initiated and conducted by me resulted in the partial transposition of the 500 kV transmission corridor on the East Coast of Florida. The deleterious effects of unbalanced, negative sequence currents on the generators along the corridor were considerably reduced.

Load flow and transient stability studies were the principal tools used to assess the seasonal, yearly, and long-range performance of the Florida Grid. Such studies were conducted by me and by my section internally for FPL, and in participation with the Florida Electric Power Coordinating Group (FCG). Such tools were also used to update the Florida under-frequency load shedding program and to establish the various remedial action systems on FPL's system to mitigate loss of heavily loaded transmission corridors.

Q: **Have you previously testified before regulatory authorities or courts?**

A: I have testified before the Atomic Safety and Licensing Appeal Board of the U.S. Nuclear Regulatory Commission, in an evidentiary hearing on the alleged inadequacy of electric power systems for St. Lucie Unit No. 2. The operating license was granted after it was clearly demonstrated that the planned transmission grid would provide adequate and reliable off-site power in an emergency. I have testified before the Florida Public Service Commission in the Duke New Smyrna need determination hearing. I have also testified in court in an eminent domain proceeding for the condemnation of property for transmission line right-of-way.

DIRECT TESTIMONY OF MICHEL P. ARMAND, P.E.

Q: Are you a registered professional engineer?

A: Yes. I am a registered professional engineer in the State of Florida.

SUMMARY AND PURPOSE OF TESTIMONY

Q: What is the purpose of your testimony?

A: I am testifying on behalf of Calpine Construction Finance Company, L.P., ("Calpine") for the Commission's determination of need for the Osprey Energy Center ("the Osprey Project" or "the Project"). My testimony describes the transmission interconnection facilities that will connect the proposed power plant to the Tampa Electric Company Recker Substation located adjacent to the southeastern boundary of the site. My testimony also presents and describes the load flow analyses that NCI conducted to evaluate the transmission impacts of the Osprey Energy Center under various power delivery scenarios.

Q: Please summarize your testimony.

A: The Osprey Energy Center will be connected to Tampa Electric Company's Recker Substation located adjacent to the southeastern boundary of the Project site. This interconnection, together with some identified transmission upgrades, will enable power from the Project to be delivered to virtually any retail-service utility in Peninsular Florida under almost all conditions on the Florida transmission grid. The Project's output will not adversely affect any of the "constrained transmission paths" identified by the Florida Reliability Coordinating Council ("FRCC"). System impact studies conducted for Calpine included load flow analyses, transient stability analyses, and short circuit analyses. These studies indicated that, under normal operating conditions, that is, with all facilities in service, the Project will not materially burden the transmission system or violate any transmission constraints or contingencies in Peninsular Florida. These studies suggested that some upgrades may be needed and those are discussed in detail later in my testimony.

Q: **Are you sponsoring any exhibits to your testimony?**

A: Yes. I am sponsoring the following exhibits:

MPA-1. Qualifications of Michel P. Armand, P.E.;

MPA-2. Proposed 530 MW Florida Generating Facility, Osprey Energy Center, February 2000;

MPA-3. Analysis of Transmission System Improvements in support of Osprey Energy Center, April 18, 2000;

MPA-4. Regional Transmission Map of West Central Florida; and

MPA-5 Calpine-Osprey Energy Center Transmission Service

Request Facilities Study Report by Tampa Electric Company.

I am also sponsoring the portions Volume II of the Exhibits to the Petition for Determination of Need, including text and figures, related to transmission.

NCI'S ROLE REGARDING THE OSPREY ENERGY CENTER

Q: Please describe Navigant Consulting, Inc. and its business.

A: Navigant Consulting, Inc. provides comprehensive consulting and engineering services to a wide range of clients, including the electric power industry. NCI provides consulting and engineering services on power system design, power plant design, and transmission and distribution system design and operations.

Q: What are your responsibilities with respect to the electrical power plant project that is the subject of this proceeding?

A: NCI has been retained to evaluate the transmission impacts of the Osprey Energy Center's operation as a power plant selling wholesale power to other utilities that provide retail electric service in Peninsular Florida. I have the primary responsibility for conducting the studies by which we have analyzed the Project's transmission impacts.

Q: With what similar projects has NCI been involved, and in what capacity?

A: NCI has conducted numerous evaluations of the load flow impacts of planned and proposed interconnections of generating units, including wholesale power plants, with high-voltage transmission systems, including projects in Oregon, Minnesota, New York, Hawaii, Texas, California, and the East Central Area Reliability ("ECAR") Region.

TRANSMISSION INTERCONNECTION AND ASSOCIATED DOWNSTREAM TRANSMISSION FACILITIES FOR THE OSPREY ENERGY CENTER

Q: Please describe the transmission facilities by which the Osprey Energy Center will be connected to the Florida transmission grid.

A: The Osprey Energy Center Project will be connected to the existing Tampa Electric Company's Recker Substation. The interconnection will include switchgear, circuit breakers, and related equipment appropriate for this type of interconnection.

Q: How did you and NCI evaluate the capability of the Osprey Energy Center Project to deliver wholesale power to other retail-service utilities in Florida?

A: We evaluated the transmission system impacts of the Project by conducting power flow studies (also known as load flow studies or load flow analyses) in which we simulated the power flows that would result from sales from the Project to other key utilities in Peninsular Florida. Our power flow studies utilized standard transmission modeling techniques and assumptions. Basically, as discussed in more detail below, we compared the simulated operations of the Florida transmission system with and without the Project's output being delivered to Florida Power & Light Company ("FPL"), Florida Power Corporation ("FPC"), Tampa Electric Company ("TECO"), Jacksonville Electric Authority ("JEA"), and Seminole Electric Cooperative ("Seminole" or "SEC").

We reviewed and utilized the following documents and reports in preparing our power flow studies.

1. FPL's <u>1999 Ten-Year Plant Site Plan</u>.
2. FPC's <u>1999 Ten-Year Site Plan</u>.
3. TECO's <u>1999 Ten-Year Site Plan</u>.
4. Florida Reliability Coordinating Council ("FRCC"), <u>1997 Final Transmission System Constraints Maps</u>.
5. FRCC, <u>1997 Transfer Capability Study: FLA/SOV Interface</u>.
6. FRCC, <u>1999 Reliability Study</u>.

We utilized these documents and reports because at the time our study was done, the 2000 Ten-Year Site Plans were not available. We used the most current data available.

Q: **What are the relevant import and export capabilities of the transmission interface between Peninsular Florida and the Southeastern Electric Reliability Council ("SERC") region?**

A: Peninsular Florida has the capability of importing approximately 3,600 MW of power from the SERC region, and the capability of exporting approximately 2,100 MW of power to the SERC region. This difference exists because the transmission system in southern Georgia becomes constrained, on a first-order contingency basis, at lower loads than does Peninsular Florida.

Q: **Please summarize the results of the power flow studies you conducted for the Osprey Project.**

A: The analyses conducted by NCI indicate that at average loading conditions on the Florida transmission system (60% for the rest of the state, 70% for Tampa), no overload occurs for all the contingencies simulated and for all dispatch scenarios. The studies also indicate that in order to support the delivery of wholesale power from the Project to utilities providing retail service in Florida, under eighteen base cases modeled, none of the transmission lines in the vicinity of the

Osprey Project would be overloaded under normal conditions with all facilities in service. Under summer 2004 peak load, when importing 2400 MW from Southern Company, loss of the Recker-Gapway 230 kV line (a single contingency) causes the Ariana 230/69 kV transformer to load up to 103.8 percent of its emergency rating for all dispatch scenarios. Similarly, loss of the McIntosh-Lake Agnes 230-kV circuit causes the Lake Agnes-Recker 230-kV circuit to load up to 102.6 of its emergency rating when the plant output is scheduled for FPL, FPC, JEA, and SEC. Also, loss of the Griffin-Lakeland West 230-kV circuit causes the Osceola-Lake Agnes 230-kV circuit to load up to 100 percent of its emergency rating when the plant output is scheduled to FPC, JEA and SEC.

During the summer 2004 peak load period, when importing 3600 MW from Georgia, loss of the Recker-Gapway 230-kV circuit causes the Ariana 230/69-kV transformer to load up to 104.6 percent of its emergency rating.

Q: **Did NCI conduct any additional load flow studies?**

A. Yes. NCI then conducted additional load flow analyses to determine the capacity of the surrounding transmission system to effectively transform and transmit the Project's generated electric power to its customers via the Florida transmission grid. This study, using a single contingency approach, identified four critical facilities owned by TECO. Those four critical facilities are the Recker to Lake Agnes 230 kV transmission line, the Recker to Crews Lake 230 kV transmission line, the Crews Lake to Pebbledale 230 kV transmission line, and the 150 MVA, 225Y/130 - 69Y/38.8 kV transformer at Ariana Substation. The analysis conducted by NCI indicates that under maximum loading conditions and single contingency failure of related facilities, the transmission lines interconnecting the Project with the grid should be rated a minimum of 478 MVA. According to TECO, however, the load carrying capacity of the critical transmission lines is 398 MVA. The NCI analysis also indicates that under maximum loading conditions and single contingency failure of associated facilities, the transformer at TECO's Ariana Substation would be overloaded to 220 MVA, or 47 percent above its nominal rating of 150 MVA.

Q: **Please describe any downstream transmission system upgrades that may be needed in connection with the Project.**

A: Based on the single contingency load flow studies, NCI has identified the following downstream transmission upgrades that may be needed:

1. Upgrading the conductor and poles on a 1.4-mile section of the Recker to Crews Lake transmission line;

2. Upgrading all conductor on the 6.3-mile Crews Lake to Pebbledale line and upgrading the poles on approximately 3.2 miles of that line; and
3. Upgrading the transformation capacity at TECO's Ariana Substation, which may include adding cooling capacity to the existing 150 MVA transformer or adding another 150 MVA transformer.

A map showing the transmission interconnection and the transmission facilities in the Osprey Energy Center area is included here as MPA-4.

Q: Did you evaluate the Project's capability to deliver power outside Florida?

A: No. I understand that Calpine's intent is to sell wholesale power from the Project within Peninsular Florida, and accordingly, NCI was not asked to perform any power flow studies for sales outside Peninsular Florida.

Q: Are you aware of any other transmission studies that have been done for the Project?

A: Yes. TECO performed a preliminary transmission service request facilities study and provided a draft to Calpine on May 22, 2000. TECO's study considered double second-order contingencies as well as first single-order contingencies and was therefore more restrictive than NCI's studies. TECO's study also had no cost information related to its suggested upgrades.

Q: Has TECO performed an additional detailed Facilities Study?

A: Yes, TECO's final Facilities Study Report, attached hereto as MPA-5, was completed on August 31, 2000.

Q: What did TECO recommend?

A: Under a second contingency scenario, TECO recommended a new Recker-South Eloise 230-kV line, 11.1 miles of new 230kV pole line and five new breakers, creating a loop from the North Bartow-West Lake Wales line through South Eloise, splitting the line up into two 2-terminal 230kV circuits.

Q: Did TECO estimate the total cost of the interconnection and network upgrades?

A: Yes. The cost to interconnect the Osprey Energy Center to TECO's Recker Substation is estimated at $2.4 million. The cost of the network upgrades required to provide 526 MW of firm point-to-point transmission service is estimated at $11.5 million.

Q: Does the TECO study alter your opinion?

A: No. My analysis and conclusions remain entirely valid in light of the TECO study. My analysis assumes that under a single contingency and NCI's proposed modifications, the plant output can be delivered without causing undue burden on the Florida Transmission Grid. However, the TECO study is also supportable since it postulates a double contingency scenario and an appropriate solution that will provide the needed point-to-point transmission service that is needed.

Q: How will the actual transmission system upgrades be decided?

A: Calpine and TECO will reach an appropriate solution under TECO's Open Access Transmission Tariff. Assuming that Calpine and TECO agree to the transmission upgrades detailed in the Facilities Study Report, those upgrades will support delivery of Osprey Project power to any other utility in Peninsular Florida without materially burdening the transmission grid and without causing any violation of any constraints or contingencies in the grid. Calpine is fully prepared to do what it must to support delivery of its full output to any utility in Peninsular Florida. The details will be a matter to be negotiated between Calpine and TECO pursuant to TECO's tariff.

Q: Based on your analyses and the TECO study, what is your

opinion regarding Calpine's ability to deliver the Osprey Project's output to Seminole?

A: In my opinion, based on my analyses and the TECO study, with the upgrades contemplated by the TECO study, Calpine will be able to deliver the Osprey Project's output to Seminole under all realistic scenarios (excluding extreme force majeure events) without materially burdening the transmission grid and without causing any violation of any constraints or contingencies in the Peninsular Florida grid.

Q: Does this conclude your direct testimony?

A: Yes, it does.

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In Re: Joint Petition for Determination of Need for the Osprey Energy Center in Polk County by Seminole Electric Cooperative, Inc. and Calpine Construction Finance Company, L.P.	)	DOCKET NO. ____________

EXHIBITS

OF

MICHEL P. ARMAND, P.E.

ON BEHALF OF

CALPINE CONSTRUCTION FINANCE COMPANY, L.P.

MICHEL P. ARMAND

Michel Armand is a Senior Engagement Manager in the Transmission Planning sub-practice area of Navigant Consulting, Inc. He has 33 years of utility experience in transmission and distribution planning and engineering both in New York and in Florida. He has conducted numerous studies in the area of transmission reliability and network security, and is extremely knowledgeable of the Florida transmission system. He has expertise in managing corporate staff involved in load flow, short circuit and transient stability studies, including the determination of operating limits, the development of remedial action schemes, and the development of methods to assess system-wide losses. In addition, he has testified before the Nuclear Regulatory Commission (NRC) and various state courts in condemnation hearings, and in Florida PSC power plant "NEED' hearings. He was involved in restructuring and privatization studies of the State Utility Company as Energy Advisor to the Prime Minister of Haiti. He has consulted with the Transmission Agency of Northern California, the Bonneville Power Administration and the California ISO in assessing Operating Transfer Capabilities (OTC) for spring and summer across the California Oregon Interconnection (COI) . Mr. Armand has also performed numerous transmission system impact assessment for merchant power projects in Texas, California and Florida.

EDUCATION

MBA - Baruch College of the City University of New York
New York

BEE - City College of the City University of New York
New York

BA - College St. Martial
Port-Au-Prince, Haiti

PROFESSIONAL HISTORY

Navigant Consulting, Inc. formerly Resource Management International, Inc.
Manager

Government of Haiti
Energy Consultant - Prime Minister's Office

Florida Power & Light Company
Director, Protection and Control Systems

Consolidated Edison Company of New York
Senior Engineer

REPRESENTATIVE PROJECT EXPERIENCE

Duke Energy Power Services. 1998
Duke Energy Power Services retained NCI to provide transmission planning analyses in support of a 500Mw plant at New Smyrna Beach in Florida. Duke also requested that NCI prepare testimony in support of their petition to the Florida Public Service Commission for a Determination of Need for power plants. Michel Armand was project manager for this work and prepared the resulting testimony. NCI conducted Power Flow Studies to determine the best configuration to integrate a 500Mw power plant in the vicinity of New Smyrna Beach, Florida. NCI also prepared and filed testimony in support of Duke's Needs Petition Hearing before the Florida Public Service Commission.

St. Lucie Nuclear Unit No. 2 - Regulatory Licensing. Florida Power and Light Company. Miami, Florida. 1979
As Supervisor of Reliability and System Security for Florida Power and Light Company (FPL), responsible for testing and assessing the dynamic performance of the planned generation and transmission system, I was called to testify about the ability of the system to support the addition of a second nuclear unit at St. Lucie Power Station. In testimony before the NRC Atomic Safety and Licensing Appeal Board, the adequacy of the transmission grid was demonstrated and the operating license was subsequently granted.

500 kV Interconnection with Georgia. Florida Power and Light Company. Miami, Florida. 1980
As Supervisor of Reliability in the System Planning Department at Florida Power and Light Company (FPL), and member of the 500 kV project team, performed the evaluations necessary to justify the construction of two 500 kV lines from the Georgia state line in the north to a point 310 miles south. Wrote testimony in support of the economic and reliability benefits of the lines in proceedings of the Florida Transmission Line Siting Act before the Public Service Commission and the State Cabinet. Conducted technical studies to define the line parameter, the ancillary equipment and the termination of various segments of the project. Given the considerable benefits of reducing oil consumption in favor of coal, the project was given accelerated depreciation privileges for rate making purposes.

Breaker Duty Evaluation Program. Florida Power and Light Company. Miami, Florida. 1981
As Project Manager, oversaw the definition, design, development, testing, and implementation of an automated system to evaluate the adequacy of transmission circuit breakers on the Florida Light and Power (FPL) system. Coordinated the work of equipment specialists, computer programmers and systems planners to arrive at a program which consistently and accurately performs the many calculations required. The very serious potential for human errors was practically eliminated, and these long lead items could be ordered within reasonable schedules.

Audit of Energy Reduction Marketing Program. Florida Power and Light Company. Miami, Florida. 1983
As auditor, performed an independent assessment of the various marketing product offerings and determined their effectiveness in achieving the goals of the demand side programs. Recommended a market segmentation approach where the effectiveness of specific programs was shown to be related to the four distinct weather regions of Florida. Also provided valuable insight to the marketing team on the behavior of the load during

winter and summer, i.e., pool pumps, an 800 MW load then, were rescheduled to different time slots to avoid the early morning peak in the winter and the late afternoon peak in the summer.

Economic Evaluation of Power Generation Asset. Florida Power and Light Company. Miami, Florida. 1984
As Project Manager, conducted examination of options available to determine final disposition of questionable assets. The asset could be kept in use, put into long-term reserve shut down, retired, or sold. Taking into account the various interests of the operating groups, recommendation was made to choose the long-term reserve shut down as the most attractive option financially, from a capacity addition standpoint, and from considerations of system adequacy and reliability.

Analysis of Electric System Losses. Florida Power and Light Company. Miami, Florida. 1984
As lead investigator, I was charged with a determination of accounting for losses on the Florida Power and Light (FPL) system. As the system was experiencing rapid growth, economic decisions to select among alternative proposals were based on crude assumptions regarding system losses. Electric power system losses in the United States run into the billions of dollars each year. Selection among competing alternatives could sometimes be made on the basis of their contribution to reducing system losses. Over a three month period, all the departments having an impact were visited, huge amounts of data collected, tens of employees interviewed and, finally, one document produced. In it, for the first time in one document, the issue of system losses was addressed in all its major components, and its myriad of implications. The report is still used today as a reference document in any effort to reduce system losses in a systematic fashion.

Blackout Prevention by Automated Fast Action. Florida Power and Light Company. Miami, Florida. 1985
As Manager, Power Supply Technical Services, was charged with recommending programs and actions to prevent another blackout similar to the one on May 17, 1985, which put the Greater Miami, Ft. Lauderdale area in the dark for three hours. The result wa a computer program that monitors the system for specific conditions and takes remedial action within a 15-20 second time window. Severe economic penalties were incurred until this system went in place and economic dispatch was resumed. The same concept was replicatd in another part of the system providing additional economic benefit.

Transmission Outage Data Base. Florida Power and Light Company. Miami, Florida. 1989
As Project Manager, was tasked with the charge of researching, developing, and implementing a transmission outage data base system.

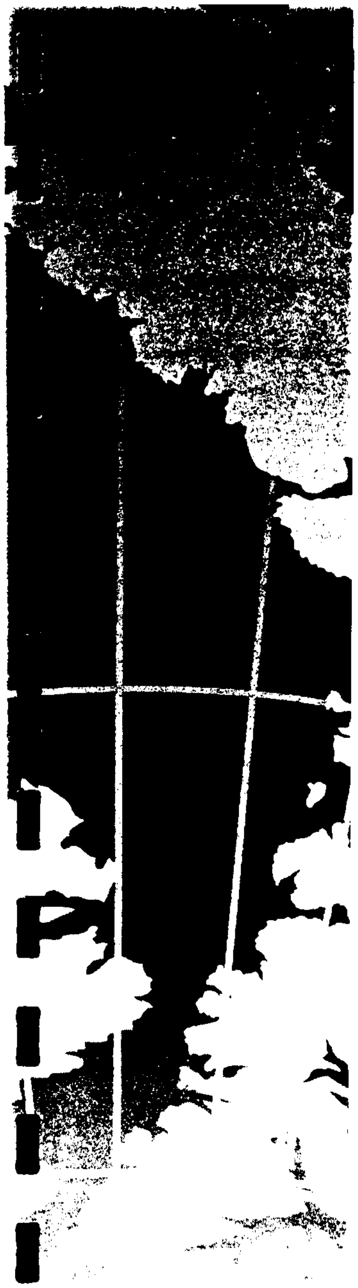
The purpose was to collect information in such a way that it could be stored, analyzed, categorized, and utilized by many departments involved in the designing, engineering, construction, and operation of the transmission system. The task involved the collection of valid requirements from all concerned parties, the resolution of conflicting demands and, finally, securing agreement on analysis and categorization of data covering the prior period of 1983 to 1987. The information proved invaluable to the system operators, transmission maintenance personnel and the transmission design and engineering staff. Unexpected results of this effort: the data was also used to show potential industrial customers the reliability of a particular transmission line (since data went back to 1983); used in court proceedings dealing with the issue of power quality; and used in regulatory hearings dealing with needed new transmission corridors.

Privatization Strategy for Haiti Electric Utility. Prime Minister Office - Government of Haiti. Port-Au-Prince, Haiti. 1996
As Energy Advisor in the office of the Prime Minister, responsible for developing and recommending options t restructure the state owned utility. In the framework of privatization of money-losing state enterprises, I evaluated various of options: restructuring and improving operations as an independent commercial operation owned by the state; contract with a foreign entity for the management and operation within a fixed time period; lease the assets and the franchise for a 25-30 year period with the assets plus additions reverting the state at contract expiration; and an outright sale to private investors, local and/or foreign. Each option was evaluated based on economic, financial, and political risk considerations, and presented to the cabinet. The lease option was selected as the final objective preceded by a five-year management contract to increase the value of the assets and the lease. Parliament approved the concept and laws are being passed or modified to allow the state and the operator to achieve their objective.

PROFESSIONAL MEMBERSHIPS

Society of Professional Engineers
Institute of Electrical & Electronic Engineers

Osprey Energy Center
Calpine
Witness: Michel P. Armand
Exhibit ______ (MPA-2)



PROPOSED 530 MW FLORIDA GENERATING FACILITY

OSPREY ENERGY CENTER

Prepared For

CALPINE EASTERN CORPORATION

Navigant™

Navigant™
CONSULTING, INC.

CONFIDENTIAL

March 1, 2000

VIA FEDERAL EXPRESS

Mr. Paul A. Barnett
Director - Asset Optimization
Calpine Eastern Corporation
The Pilot House, 2nd Floor
Lewis Wharf
Boston, MA 02110

Subject: Transmission System Analysis in Support of Calpine Eastern Corporation Osprey Energy Center

Dear Paul:

Enclosed are four copies of the subject report prepared in accordance with our agreement with Calpine Eastern Corporation.

The starting point for this study is the year 2004 summer peak case filed with the Federal Energy Regulatory Commission (FERC) by the Florida Reliability Coordinating Council (FRCC), fiscal year 1998, Revision 5. This base case was obtained from the FERC-1999 Form 715 Regional Power Flow Cases and Transmission Planning Reports, Website updated 10/12/1999.

The FRCC case submitted to FERC was carefully reviewed, and the data on generation resources was compared to the individual utility Ten Year Site Plans filed with the Florida Public Service Commission. Although several merchant plants have been announced, some requiring a Need Determination approval and some not, none were represented in the base cases. Only generation containing the Official Ten Year Site Plans were represented and dispatched if needed.

The transmission system was scrutinized, especially around the projected site for the Osprey Energy Center. Except for some minor transmission inconsistencies in the FPL system, there appears to be no wholesale tampering with the representation of the Florida transmission system.

Navigant Consulting, Inc. • 3100 Zinfandel Drive, Suite 600, Rancho Cordova, CA 95670-6026 • tel: 916-852-1300 • fax: 916-852-1073

Therefore, the powerflow studies discussed in the enclosed report evaluated:

- Pre- and post-project transmission system performance for the year 2004, when the Florida system experiences peak loading conditions and imports 3,600 MW of power from Georgia.
- Pre- and post-project transmission system performance for the year 2004 when the Florida system is at peak load and imports 2,400 MW of power from Georgia.
- Pre- and post-project transmission system performance for the year 2004 when the Florida system is loaded to 60% of summer peak load and imports 2,400 MW of power from Georgia. This load level is considered the average loading of the Florida system.

Based on the studies discussed in the enclosed report, it appear that:

1. The proposed 530 MW Osprey Energy can reliably deliver its output into the Florida Transmission System.
2. Some minor overloads, at peak and at peak import, following certain system element outages, can be resolved by either system upgrade or reduction in plant output.
3. At average load conditions, 60% of summer peak, no overloaded facility was uncovered under all dispatch scenarios modeled and outages simulated.

We look forward to discussing the enclosed report with you, at your convenience. In the interim, please call me at (407) 895-7000 should you have any questions on the enclosed.

Sincerely,

Michel P. Armand /lcb

Michel P. Armand
Manager

PROPOSED 530 MW FLORIDA GENERATING FACILITY

OSPREY ENERGY CENTER

Prepared For

CALPINE EASTERN CORPORATION

Prepared By

Navigant™
CONSULTING, INC.

SECTION 1

SECTION 1 EXECUTIVE SUMMARY

Calpine Eastern Corporation (Calpine) is proposing to build a 530 MW merchant plant facility in Florida. The facility will be sited in Polk County at the Recker Substation of Tampa Electric Company , and is projected to begin commercial operation before the summer of 2004. Calpine retained Navigant Consulting, Inc. (Navigant Consulting) to assist them in evaluating the interconnection of the proposed Osprey Energy Center (OEC) project with the Florida transmission network.

In providing this support, Navigant Consulting performed a series of preliminary power flow studies evaluating:

- Summer 2004 transmission system performance at peak load, importing 3600 MW from the Southern Company, with and without the Osprey Energy Center project.
- Summer 2004 transmission system performance at peak load, importing 2400 MW from the Southern Company, with and without the Osprey Energy Center project.
- Summer 2004 transmission system performance at an average 60% of peak load (70% of peak for TECO), importing 2400 MW from the Southern Company, with and without the Osprey Energy Center project.

To determine the ability of the project to deliver its output over the Florida transmission system, the total capacity of the plant (530 MW) was scheduled alternatively to Florida Power and Light Company (FPL), Florida Power Corporation (FPC), Tampa Electric Company (TEC), Jacksonville Electric Authority (JEA), and Seminole Electric Cooperative (SEC). Each of these dispatch scenarios was modeled and tested with the three base cases.

In summary, these studies (which are summarized in Table 1-1 and discussed in detail in Sections 2 and 3, show that for the conditions modeled:

1. None of the lines in the vicinity of the proposed Osprey Energy Center were overloaded in the eighteen base cases that were developed for these studies, and which model system normal conditions (all facilities in service).
2. During the summer 2004 peak load period, when importing 2400 MW from Southern, loss of the Recker-Gapway 230-kV line causes the Ariana 230/69-kV transformer to load up the 103.8 percent of its emergency rating for all dispatch scenarios. Similarly, loss of the McIntosh-Lake Agnes 230-kV circuit causes the

Lake Agnes-Recker 230-kV circuit to load up the 102.6 percent of its emergency rating when the plant output is scheduled to FPL, FPC, JEA, and SEC. Also, loss of the Griffin-Lakeland West 230-kV circuit causees the Osceola-Lake Agnes 230-kV circuit to load up to its emergency rating when the plant output is scheduled to FPC, JEA, and SEC.

3. During the summer 2004 peak load period, when importing 3600 MW from Georgia, loss of the Recker-Gapway 230-kV circuit causes the Ariana 230/69-kV transformer to load up to 104.6 percent of its emergency rating.

4. At average loading conditions on the Florida transmission system (60% for the rest of the state, 70% for Tampa), no overload is noticed for all the contingencies simulated and for all dispatch scenarios.

Therefore, based on the preliminary studies discussed in this report, it appears that:

1. 530 MW can be reliably sited at the Osprey Energy Center.

2. The output of the plant can be delivered without imposing undue burden on the Florida transmission system. System upgrade considerations must be weighted against reducing plant output following the specific contingencies which could cause overloads.

TABLE 1-1
SUMMARY OF POWERFLOW BASE CASES EVALUATED

Year	Case	Georgia Imports (MW)	OEC* Generation (MW)	Output Delivered to:
2004	2004.PI	3,600	- 0 -	N/A
	2004.PIa	3,600	530	Florida Power & Light
	2004.PIb	3,600	530	Florida Power Corporation
	2004.PIc	3,600	530	Tampa Electric Company
	2004.PId	3,600	530	Jacksonville Electric Authority
	2004.PIe	3,600	530	Seminole Electric Cooperative
2004	2004.	2,400	- 0 -	N/A
	2004.a	2,400	530	Florida Power & Light
	2004.b	2,400	530	Florida Power Corporation
	2004.c	2,400	530	Tampa Electric Company
	2004.d	2,400	530	Jacksonville Electric Authority
	2004.e	2,400	530	Seminole Electric Cooperative
2004	2004-60	2,400	- 0 -	N/A
	2004-60a	2,400	530	Florida Power & Light
	2004-60b	2,400	530	Florida Power Corporation
	2004-60c	2,400	530	Tampa Electric Company
	2004-60d	2,400	500	Jacksonville Electric Authority
	2004-60e	2,400	530	Seminole Electric Cooperative

* Osprey Energy Center

As discussed in Section 2 (Results of Power Flow Studies), each of the cases summarized in Table 1-1 were used as a starting point in evaluating system performance under both normal and single facility (line or generator) – (N-1) outage conditions.

Documents reviewed and utilized by Navigant Consulting during these studies included:

- FPL's *1999 Ten Year Plant Site Plan*
- FPC's *1999 Ten Year Site Plan*
- TEC's *1999 Ten Year Site Plan*
- FRCC's *1997 Final Transmission System Constraints Maps*
- FRCC's *1997 Transfer Capability Study: FLA/SOV Interface*
- FRCC's *1999 Reliability Study*

The powerflow base cases used in these studies were based on the 2004 Summer Base Case filed with FERC by the Florida Reliability Coordinating Council (FRCC), FY1998, Revision 5. This FRCC case was reviewed and compared to the Ten Year Site Plans of FPL, FPC, TEC, JEA, and SEC.

Case 2004.PI was obtained by increasing the import from Georgia to 3600 MW and reducing FPL generation in the south end by 1,200 MW. All loads were maintained at peak summer level.

Case 2004-60 was obtained by scaling loads in Florida to represent 60% of summer peak (except for Tampa, where the average load level is 70% of summer peak). Generation in Florida was re-dispatched for each control area. Import from the Southern Company was maintained and interchange schedules were modified.

Section 2

SECTION 2 POWERFLOW BASE CASE DEVELOPMENT

As noted in the Executive Summary, the powerflow base cases used in these studies were based on the 2004 summer peak case filed with FERC by the Florida Reliability Coordinating Council (FRCC), fiscal year 1998, Revision 5. This powerflow case represented the system in peninsular Florida as consisting of nineteen control areas with a combined load of approximately 39,860 MW, and on-line generation of approximately 38,520 MW (both utility and non-utility). Interchange into Florida was approximately 2400 MW and Florida system losses were around 1000 MW. The nineteen control areas and the load and generation represented in each, are summarized in Table 2-1.

TABLE 2-1
Florida Control Area Loads and Generation in FRCC 2004 Peak Case

Control Area	Load (MW)	Generation (MW)
FPL	19,544	16,471
FPC	9,834	7,782
Fort Pierce	113	63
Gainesville	438	430
Homestead	62	35
Jacksonville	2,825	3,121
Key West	128	0
Kissimmee	277	392
Lake Worth	85	56
New Smyrna Beach	80	18
Orlando	1,129	1,328
Seminole	318	2,804
Lakeland	601	1,070
City of Starke	16	0
Tallahassee	555	558
Tampa	3,522	3,986
FMPA	152	150
Cedar Bay	0	251
Reedy Creek	182	0

The FRCC case submitted to FERC was carefully reviewed and the data on generation resources was compared to the individual utility Ten Year Site plans filed with the Florida Public Service Commission. Although several merchant plants have been announced, some requiring a Need Determination approval and some not, none were represented in the base cases. Only generation contained the Official Ten Year Site Plans were represented and dispatched if needed.

The transmission system was scrutinized, especially around the projected site for the Osprey Energy Center. Except for some minor transmission inconsistencies in the FPL system, there appears to be no wholesale tampering with the representation of the Florida transmission system.

The result of these efforts was acceptance of the FERC-2004 Summer Base Case, FY1998, Revision 5, as a legitimate starting point for the evaluation, based on the load and resource characteristics summarized in Table 2-2. The Osprey Energy Center generation was added to the base case and was integrated at the Recker Substation bus. This case was labeled 2004.sav.

Case 2004.PI.sav was derived by increasing the import in case 2004.sav to 3600 MW. This was accomplished by increasing generation in Georgia by slightly over 1200 MW, and decreasing FPL generation at Turkey Point and Port Everglades by approximately 1200 MW. Cape Canaveral No. 2, the FPL swing generator, was adjusted to provide the additional capacity required.

Case 2004-60.sav was derived by modifying the base case, 2004.sav, to represent loading conditions of 60% of peak, except for Tampa, which was represented at 70%. The 60% load level is considered average loading of the Florida system, and represents a considerable portion of the load duration curve for Florida. Therefore, this load level has always been the benchmark of all transmission assessment studies by powerflow or by transient stability conducted by the PRCC. To achieve such reduction, the load in each control area was scaled down to sixty percent. The total generation required for each area was calculated by adding load, plus generation, plus interchange, and then re-dispatching each area by the removal of appropriate generating units to achieve total required generation. There were a few exceptions.

TABLE 2-2
2004 – Base Case
FY 1998 – Revision 5
Peak Load 2400 MW Import

LOAD, LOSSES, INTERCHANGE, AND GENERATIONS MODELED

Control Area	Load	Losses	Interchange	Generation
1 FPL	19,544	475	-3,548	16,471
2 FPC	9,834	258	-2,310	7,782
3 Ft. Pierce	113	1	-51	63
4 GVL	438	5	-13	430
5 HST	62	0	-27	35
6 JEA	2,825	52	244	3,121
7 KEY	128	6	-134	0
8 KIS	277	8	107	392
9 LWU	85	0	-29	56
10 NSB	80	0	-62	18
11 OUC	1,129	24	175	1,328
12 SEC	318	52	2,434	2,804
13 LAK	601	7	462	1,070
14 STK	16	0	-16	0
15 TAL	555	14	-11	558
16 TEC	3,522	93	371	3,986
17 FMP	152	2	-4	150
18 NUG	0	1	250.0	251
19 RCU	182	1	-183	0

SECTION 3

SECTION 3 RESULTS OF POWER FLOW STUDIES

As discussed in Section 2, three base cases: 2004.PI.sav, 2004.sav, and 2004-60.sav, were developed as a starting point. These three base cases had the proposed Osprey Energy Center at 0 MW. Next, five individual dispatches were established as follows:

a) Simulated all the plant output being delivered to FPL;

b) Simulated all the plant output being delivered to FPC;

c) Simulated all the plant output being sold to TEC;

d) Simulated all the plant output being delivered to JEA; and

e) Simulated all the plant output being delivered to SEC.

In all, eighteen base cases (summarized in Table 3-1) were developed in order to evaluate the effects of the proposed 530 MW Osprey Energy Center on the performance of the Florida system. Each of these eighteen cases, summarized in Table 3-1, were used as a starting point in evaluating system performance under normal conditions by comparing pre- and post-project powerflows over key lines and equipment in the proximity of the plant and over certain facilities monitored in past FRCC transmission studies.

In addition, thirty-five (35) single line or generator outages (N-1) were simulated on all the eighteen base cases to assess performance under other than normal conditions. Navigant Consulting also monitored flows over twelve of the thirteen constrained transmission paths discussed in the FRCC 1997 Final Transmission System Constraint Maps. Table 3-2 is a list of the single outages simulated on each of the eighteen base cases. Table 3-3 is a tabulation of the FRCC constrained paths and the transmission circuits affected. Constrained paths #15 and #16 are the Stanton-Rio Pinar 230-kV line. Because the studies performed represent summer season peak load conditions, and, therefore, power transfer from Georgia to Florida, Constraint #13 (which deals with flows from Florida to Georgia) was not checked. Appendix IV is a summary of total constrained path flows in graphic and tabular form, representing the pre- and post-project performance for the 18 base cases.

The contingencies listed in Table 3-2 represent a broad array of outages throughout the Florida system designed to test any negative impact this new plant may have. Some of the outages selected are similar to those selected for past FRCC transmission assessment studies. Some are not expected to be impacted by the new plant; others could potentially be influenced by whether the plant output is scheduled to different receiving parties. In all cases, the most pessimistic conditions were modeled.

The circuits monitored, as shown in Table 3-4, represent all facilities around the plant location that could experience loading problems, as well as some circuits that have shown a tendency in past FRCC studies to exhibit thermal loading problems.

2004.PI CASES

The result of these cases, representing summer peak loading in Florida and peak import of 3600 MW from Georgia, are summarized in Appendix I, which presents information about the lines monitored, the specific outage, the pre-project conditions, and the five dispatch scenarios; i.e., the plant output respectively delivered to FPL, FPC, TEC, JEA, and SEC.

The analysis reveals that when the Recker to Gapway 230-kV circuit is out of service, the Ariana 230/69-kV autotransformer loads up to:

- 104.6 percent of its emergency rating when the plant output is dispatched to TEC,
- 104.2 percent when the output is sent to FPL,
- 103.9 percent when the output is dispatched to FPC, and
- 103.8 percent when the output is sent to either JEA or SEC.

Also, under peak import conditions and for the specific control area dispatches simulated, loss of the Manatee-Big Bend 230-kV circuit, causes the Buckeye-Ruskin Metering section of the Big Bend-Johnson 230-kV circuit to reach 100.8 percent of its thermal rating. This loading is highly dependent on actual generation at Manatee, and is not an unusual occurrence.

The distribution of flows over the various lines emanating form the Recker Substation for the various dispatch scenarios are shown in Appendix I-A.

2004. CASES

The results of these cases representing summer peak loading in Florida, and an import of 2400 MW, are summarized in Appendix II, which presents information about the lines monitored, the specific outage, the pre-project conditions, and the five dispatch scenarios, i.e., the plant output respectively delivered to FPL, FPC, TEC, JEA, and SEC.

The analysis reveals again that when the Recker to Gapway 230-kV circuit is out of service, the Ariana 230/69-kV exceeds its rated thermal limit:

- 103.8 percent of its emergency rating when the plant output is dispatched to TEC,
- 103.4 percent when the plant output is dispatched to FPL,
- 103.1 percent when the plant output is dispatched to either FPC or JEA, and
- 103 percent when the output is dispatched to SEC.

Also, when the McIntosh-Lake Agnes 230-kV circuit is out of service under peak load conditions, the Recker-Lake Agnes 230-kV circuit experiences loading around 103 percent of its emergency rating when the plant output is dispatched to FPC, JEA, and SEC, and loading of 100 percent of its emergency rating when the output is dispatched to FPL. However, loading is within limits when the output is dispatched to TEC.

When the 230-kV circuit Griffin-Lakeland West is out of service, the Osceola-Lake Agnes 230-kV circuit reaches it emergency thermal rating when the plant output is dispatched to either FPC, JEA, or SEC. When the output is dispatched to FPL or TEC, the line loading is below its emergency thermal rating. Appendix II-A shows the distribution of flows over the various lines emanating from the Recker Substation for the various dispatch scenarios.

2004-60 CASES

The results of these cases representing 60% of summer peak loading in Florida, and an import of 2400 MW from Georgia are summarized in Appendix III, which presents information about the lines monitored, the specific outage, the pre-project conditions, and the five dispatch scenarios; i.e., the plant output respectively delivered to FPL, FPC, TEC, JEA, and SEC.

The analysis reveals that for all the scenarios and all the contingencies simulated, no monitored lines in the proximity of the plant or around the system reached their thermal limits. Since the 60% load level represents the average loading of the Florida system, it appears that the proposed plant can be dispatched most of the time. Appendix III-A shows the distribution of flows over the various lines coming out of the plant for the various dispatch scenarios.

TABLE 3-1
SUMMARY OF POWERFLOW BASE CASES EVALUATED

Year	Case	Georgia Imports (MW)	OEC * Generation (MW)	Output Delivered to:
2004	2004.PI	3,600	- 0 -	N/A
	2004.PIa	3,600	530	Florida Power & Light
	2004.PIb	3,600	530	Florida Power Corporation
	2004.PIc	3,600	530	Tampa Electric Company
	2004.PId	3,600	530	Jacksonville Electric Authority
	2004.PIe	3,600	530	Seminole Electric Cooperative
2004	2004.	2,400	- 0 -	N/A
	2004.a	2,400	530	Florida Power & Light
	2004.b	2,400	530	Florida Power Corporation
	2004.c	2,400	530	Tampa Electric Company
	2004.d	2,400	530	Jacksonville Electric Authority
	2004.e	2,400	530	Seminole Electric Cooperative
2004	2004-60	2,400	- 0 -	N/A
	2004-60a	2,400	530	Florida Power & Light
	2004-60b	2,400	530	Florida Power Corporation
	2004-60c	2,400	530	Tampa Electric Company
	2004-60d	2,400	530	Jacksonville Electric Authority
	2004-60e	2,400	530	Seminole Electric Cooperative

* OEC = Osprey Energy Center

TABLE 3-2
INDEX TO OUTAGE CONTINGENCIES

Outage #	Bus 1	kV	Bus 2	kV	CKT
1	Osceola	230	OUCCITP2	230	1
2	Osceola	230	LKAGNES	230	1
3	Osceloa	69	Studio	69	1
4	Sheld	230	LK TARPON	230	1
5	Ruskin T	230	Manatee	230	1
6	RUSKMTR8	230	Buckeye	230	1
7	B Bend	230	Manatee	230	1
8	PEBB	230	Barcola	230	1
9	PEBB	230	N Bartow	230	1
10	PEBB	230	CREWSLK	230	1
11	HARDESUB	230	CC Plant	230	1
12	Recker	230	CREWSLK	230	1
13	Recker	230	LKAGNES	230	1
14	Selose T	230	N Bartow	230	1
15	Selose T	230	Wlk Wale	230	1
16	Recker	230	Gapway	230	1
17	Eaton Pk	230	TENOROC	230	1
18	Eaton Pk	230	CREWSLK	230	1
19	TENOROC	230	I-State	230	1
20	West	230	I-State	230	1
21	TENOROC	230	McIntosh	230	1
22	LKAGNES	230	McIntosh	230	1
23	West	230	Barcola	230	1
24	West	230	Griffin	230	1
25	Sheld	230	Sheld-NW	69	1
26	Sheld	230	Sheld-SE	69	1
27	Camp LK	230	Cent Fla	230	1
28	IND RIV	230	Stanton	230	1
29	Curry FD	230	Stanton	230	1
30	BRKRIDGE	500	CRYST RV	500	1
31	Kathleen	500	Cent Fla	500	1
32	Martin 1	22	814 MW	Gen	1
33	Manatee 1	22	783 MW	Gen	1
34	Gannon 6	22	362 MW	Gen	1
35	B Bend4	22	439 MW	Gen	1

TABLE 3-3
LIST OF CONSTRAINED PATHS IN FLORIDA

Const. Number	Constrained Path Name	Transmission Lines Involved
5	Lake Tarpon - Sheldon	Three Lake Tarpon-Sheldon: 230-kV lines.
6	Central-South East	Poinsett-Martin & Poinsett-Midway: 500-kV Lines Malabar-Midway & Malabar-Emerson: 230-kV Lines Malabar-West: 138-kV Line
7	Central-South	Ruskin-Manatee: 230-kV Line Big Bend-Manatee: 230-kV Line Big Bend-Ruskin: 230-kV Line
8	Northwest-Central	2 Silver Spring North-Silver Springs: 230-kv Line
9	Brookridge-South	Brookridge-Lake Tarpon: 500-kV Line Brookridge-Brooksville West: 230-kV Line Brookridge-Hudson: 230-kV Line
10	Northeast-Central	Duval-Poinsett & Rice-Poinsett: 500-kV Lines Putnam-Volusia & Bunnell-Volusia: 230-kV Lines
11	Sylvan-North Longwood	Sylvan-North Longwood: 230-kV Line
12	Georgia-Florida	Hatch-Duval & Thalman-Duval: 500-kV Lines Pine Grove-Sunannee & Kingsland-Yulee: 230-kV Lines South Bainbridge-Tallahassee (sub 20): 230-kV Line Callaway-Port St. Joe: 230-kV Line Pine Grove-Jasper, Tarver-Jasper: 115-kV Line Scholtz-Woodruff: 115-kV Line Twin Lake-Suwannee Pl: 115-kV Line
13	Florida-Georgia	Same as 12 (flows reversed)
14	Crystal River-South	Crystal River-Brookridge: 500-kV Line CR Plant-Brookridge: 230-kV Line CR Plant-Cryst RE: 230-kV Line
15	Cape Canaveral-Indian River	Cape Canaveral-Indian River: 230-kV Line
16	Indian River-Cape Canaveral	Indian River-Cape Canaveral: 230-kV Line
17	Stanton-Central Florida	Stanton-Rio Pinar: 230-kV Line

TABLE 3-4
MONITORED BRANCHES

Bus 1	kV 1	Bus 2	kV 2	CKT	Area
SN Plant	230	Sylvan	230	1	1
Sylvan	230	N Longwd	230	1	1
Ind Riv	230	Stanton	230	1	11
Buckeye	230	Ruskmtr8	230	1	1
Silvr SP	230	Silv Spn	230	1	2
Silvr SP	230	Ocala 1	230	1	2
Rio Pinr	230	Curry FD	230	1	2
Stanton	230	Curry FD	230	1	11
Osceola	230	LkAgnes	230	1	16
Sheld	230	Lk Tarpon	230	1	2
Pebb	230	Crewslk	230	1	16
Pebb	230	N Bartow	230	1	16
Recker	230	LkAgnes	230	1	16
Recker	230	Ariana	230	1	16
Recker	230	Crewslk	230	1	16
B Bend	230	Manatee	230	1	1
Ruskin	230	Manatee	230	1	1
Ind Riv	230	Ind Riv	115	1	11
Sheld	230	Sheld-NW	69	1	16
Largo	230	Largo A	69	1	2
CLMT EST	230	CLMT EST	69	1	16
Eleven W	230	Eleven-E	69	1	16
Winderme	230	Winderme	69	1	2
Pasadena	230	Pasadena	115	1	2
Ariana	230	Ariana N	69	1	16
Selose	230	Selose N	69	1	16
Gapway	230	Gapway	69	1	16
Crewslk	230	Crewslk	69	1	13
Tenoroc	230	Tenoroc	69	1	13
Barcola	230	West	230	1	13
Eaton Pk	230	Crewslk	230	1	13
Eaton Pk	230	Eaton Pk	69	1	13
Eaton Pk	230	Tenorock	230	1	13
Recker	230	Gapway	230	1	16
SN Plant	115	Turner	115	1	1

APPENDICES

APPENDIX I

Table II

Comparison of Line & Transformer Flows
Following N-1 Disturbances
for Various OEC 500 MW Generation Alternatives

100% Load Base Case

All Flows above 100% of Emergency rating are Shown

Monitored Branches							Case 2004PI Base No OEC Gen	Case 2004PIA Sell to FPL	Case 2004PIB Sell to FPC	Case 2004PIC Sell to TEC	Case 2004PID Sell to JEA	Case 2004PIE Sell to SEM
Case	Bus 1	kV 1	Bus 2	kV 2	ckt	Area	Percent	Percent	Percent	Percent	Percent	Percent
2004PI-1	SN PLANT	230	SYLVAN	230	1	1						
2004PI-1	SYLVAN	230	N LONGWD	230	1	1						
2004PI-1	IND RIV	230	STANTON	230	1	11						
2004PI-1	SN PLANT	115	TURNER	115	1	1						
2004PI-1	BUCKEYE	230	RUSKMTR8	230	1	1						
2004PI-1	SILVR SP	230	SILV SPN	230	1	2						
2004PI-1	SILVR SP	230	OCALA 1	230	1	2						
2004PI-1	RIO PINR	230	CURRY FD	230	1	2						
2004PI-1	STANTON	230	CURRY FD	230	1	2						
2004PI-1	OSCEOLA	230	LKAGNES	230	1	16						
2004PI-1	SHELD	230	LK TARPN	230	1	2						
2004PI-1	PEBB	230	CREWSLK	230	1	13						
2004PI-1	PEBB	230	N BARTOW	230	1	2						
2004PI-1	RECKER	230	LKAGNES	230	1	16						
2004PI-1	RECKER	230	ARIANA	230	1	16						
2004PI-1	RECKER	230	CREWSLK	230	1	13						
2004PI-1	B BEND	230	MANATEE	230	1	1						
2004PI-1	RUSKIN T	230	MANATEE	230	1	1						
2004PI-1	IND RIV	230	IND RIV	115	1	11						
2004PI-1	SHELD	230	SHELD-NW	69	1	16						
2004PI-1	LARGO	230	LARGO A	69	1	2						
2004PI-1	CLMT EST	230	CLMT EST	69	1	2						
2004PI-1	11TH AVE	230	ELEVEN-E	69	1	16						
2004PI-1	WINDERME	230	WINDERME	69	1	2						
2004PI-1	PASADENA	230	PASADENA	115	1	2						
2004PI-1	ARIANA	230	ARIANA-N	69	1	16						
2004PI-1	SELOSE	230	SELOSE-N	69	1	16						
2004PI-1	GAPWAY	230	GAPWAY	69	1	16						
2004PI-1	CREWSLK	230	CREWSLK	69	1	13						
2004PI-1	TENOROC	230	TENOROC	69	1	13						
2004PI-1	BARCOLA	230	WEST	230	1	2						
2004PI-1	EATON PK	230	CREWSLK	230	1	13						
2004PI-1	EATON PK	230	EATON PK	69	1	13						
2004PI-1	EATON PK	230	TENOROC	230	1	13						
2004PI-1	RECKER	230	GAPWAY	230	1	16						
2004PI-1	SN PLANT	115	TURNER	115	1	1						
2004PI-2	SN PLANT	230	SYLVAN	230	1	1						
2004PI-2	SYLVAN	230	N LONGWD	230	1	1						
2004PI-2	IND RIV	230	STANTON	230	1	11						
2004PI-2	SN PLANT	115	TURNER	115	1	1						
2004PI-2	BUCKEYE	230	RUSKMTR8	230	1	1		100.8				
2004PI-2	SILVR SP	230	SILV SPN	230	1	2						
2004PI-2	SILVR SP	230	OCALA 1	230	1	2						
2004PI-2	RIO PINR	230	CURRY FD	230	1	2						
2004PI-2	STANTON	230	CURRY FD	230	1	2						
2004PI-2	OSCEOLA	230	LKAGNES	230	1	16						
2004PI-2	SHELD	230	LK TARPN	230	1	2						
2004PI-2	PEBB	230	CREWSLK	230	1	13						
2004PI-2	PEBB	230	N BARTOW	230	1	2						
2004PI-2	RECKER	230	LKAGNES	230	1	16						
2004PI-2	RECKER	230	ARIANA	230	1	16						
2004PI-2	RECKER	230	CREWSLK	230	1	13						
2004PI-2	B BEND	230	MANATEE	230	1	1						
2004PI-2	RUSKIN T	230	MANATEE	230	1	1						
2004PI-2	IND RIV	230	IND RIV	115	1	11						
2004PI-2	SHELD	230	SHELD-NW	69	1	16						
2004PI-2	LARGO	230	LARGO A	69	1	2						
2004PI-2	CLMT EST	230	CLMT EST	69	1	2						
2004PI-2	11TH AVE	230	ELEVEN-E	69	1	16						
2004PI-2	WINDERME	230	WINDERME	69	1	2						
2004PI-2	PASADENA	230	PASADENA	115	1	2						
2004PI-2	ARIANA	230	ARIANA-N	69	1	16						
2004PI-2	SELOSE	230	SELOSE-N	69	1	16						
2004PI-2	GAPWAY	230	GAPWAY	69	1	16						
2004PI-2	CREWSLK	230	CREWSLK	69	1	13						
2004PI-2	TENOROC	230	TENOROC	69	1	13						
2004PI-2	BARCOLA	230	WEST	230	1	2						
2004PI-2	EATON PK	230	CREWSLK	230	1	13						
2004PI-2	EATON PK	230	EATON PK	69	1	13						
2004PI-2	EATON PK	230	TENOROC	230	1	13						
2004PI-2	RECKER	230	GAPWAY	230	1	16						
2004PI-2	SN PLANT	115	TURNER	115	1	1						

Table II

Comparison of Line & Transformer Flows
Following N-1 Disturbances
for Various OEC 500 MW Generation Alternatives

100% Load Base Case

All Flows above 100% of Emergency rating are Shown

Monitored Branches							Case 2004PI Base No OEC Gen	Case 2004PIA Sell to FPL	Case 2004PIB Sell to FPC	Case 2004PIC Sell to TEC	Case 2004PID Sell to JEA	Case 2004PIE Sell to SEM
Case	Bus 1	kV 1	Bus 2	kV 2	ckt	Area	Percent	Percent	Percent	Percent	Percent	Percent
2004PI-3	SN PLANT	230	SYLVAN	230	1	1						
2004PI-3	SYLVAN	230	N LONGWD	230	1	1						
2004PI-3	IND RIV	230	STANTON	230	1	11						
2004PI-3	SN PLANT	115	TURNER	115	1	1						
2004PI-3	BUCKEYE	230	RUSKMTR8	230	1	1						
2004PI-3	SILVR SP	230	SILV SPN	230	1	2						
2004PI-3	SILVR SP	230	OCALA 1	230	1	2						
2004PI-3	RIO PINR	230	CURRY FD	230	1	2						
2004PI-3	STANTON	230	CURRY FD	230	1	2						
2004PI-3	OSCEOLA	230	LKAGNES	230	1	16						
2004PI-3	SHELD	230	LK TARPN	230	1	2						
2004PI-3	PEBB	230	CREWSLK	230	1	13						
2004PI-3	PEBB	230	N BARTOW	230	1	2						
2004PI-3	RECKER	230	LKAGNES	230	1	16						
2004PI-3	RECKER	230	ARIANA	230	1	16						
2004PI-3	RECKER	230	CREWSLK	230	1	13						
2004PI-3	B BEND	230	MANATEE	230	1	1						
2004PI-3	RUSKIN T	230	MANATEE	230	1	1						
2004PI-3	IND RIV	230	IND RIV	115	1	11						
2004PI-3	SHELD	230	SHELD-NW	69	1	16						
2004PI-3	LARGO	230	LARGO A	69	1	2						
2004PI-3	CLMT EST	230	CLMT EST	69	1	2						
2004PI-3	11TH AVE	230	ELEVEN-E	69	1	16						
2004PI-3	WINDERME	230	WINDERME	69	1	2						
2004PI-3	PASADENA	230	PASADENA	115	1	2						
2004PI-3	ARIANA	230	ARIANA-N	69	1	16						
2004PI-3	SELOSE	230	SELOSE-N	69	1	16						
2004PI-3	GAPWAY	230	GAPWAY	69	1	16						
2004PI-3	CREWSLK	230	CREWSLK	69	1	13						
2004PI-3	TENOROC	230	TENOROC	69	1	13						
2004PI-3	BARCOLA	230	WEST	230	1	2						
2004PI-3	EATON PK	230	CREWSLK	230	1	13						
2004PI-3	EATON PK	230	EATON PK	69	1	13						
2004PI-3	EATON PK	230	TENOROC	230	1	13						
2004PI-3	RECKER	230	GAPWAY	230	1	16						
2004PI-3	SN PLANT	115	TURNER	115	1	1						
2004PI-4	SN PLANT	230	SYLVAN	230	1	1						
2004PI-4	SYLVAN	230	N LONGWD	230	1	1						
2004PI-4	IND RIV	230	STANTON	230	1	11						
2004PI-4	SN PLANT	115	TURNER	115	1	1						
2004PI-4	BUCKEYE	230	RUSKMTR8	230	1	1						
2004PI-4	SILVR SP	230	SILV SPN	230	1	2						
2004PI-4	SILVR SP	230	OCALA 1	230	1	2						
2004PI-4	RIO PINR	230	CURRY FD	230	1	2						
2004PI-4	STANTON	230	CURRY FD	230	1	2						
2004PI-4	OSCEOLA	230	LKAGNES	230	1	16						
2004PI-4	SHELD	230	LK TARPN	230	1	2						
2004PI-4	PEBB	230	CREWSLK	230	1	13						
2004PI-4	PEBB	230	N BARTOW	230	1	2						
2004PI-4	RECKER	230	LKAGNES	230	1	16						
2004PI-4	RECKER	230	ARIANA	230	1	16						
2004PI-4	RECKER	230	CREWSLK	230	1	13						
2004PI-4	B BEND	230	MANATEE	230	1	1						
2004PI-4	RUSKIN T	230	MANATEE	230	1	1						
2004PI-4	IND RIV	230	IND RIV	115	1	11						
2004PI-4	SHELD	230	SHELD-NW	69	1	16						
2004PI-4	LARGO	230	LARGO A	69	1	2						
2004PI-4	CLMT EST	230	CLMT EST	69	1	2						
2004PI-4	11TH AVE	230	ELEVEN-E	69	1	16						
2004PI-4	WINDERME	230	WINDERME	69	1	2						
2004PI-4	PASADENA	230	PASADENA	115	1	2						
2004PI-4	ARIANA	230	ARIANA-N	69	1	16						
2004PI-4	SELOSE	230	SELOSE-N	69	1	16						
2004PI-4	GAPWAY	230	GAPWAY	69	1	16						
2004PI-4	CREWSLK	230	CREWSLK	69	1	13						
2004PI-4	TENOROC	230	TENOROC	69	1	13						
2004PI-4	BARCOLA	230	WEST	230	1	2						
2004PI-4	EATON PK	230	CREWSLK	230	1	13						
2004PI-4	EATON PK	230	EATON PK	69	1	13						
2004PI-4	EATON PK	230	TENOROC	230	1	13						
2004PI-4	RECKER	230	GAPWAY	230	1	16						
2004PI-4	SN PLANT	115	TURNER	115	1	1						

Table II

Comparison of Line & Transformer Flows Following N-1 Disturbances for Various OEC 500 MW Generation Alternatives

100% Load Base Case

All Flows above 100% of Emergency rating are Shown

Monitored Branches							Case 2004PI Base No OEC Gen	Case 2004PIA Sell to FPL	Case 2004PIB Sell to FPC	Case 2004PIC Sell to TEC	Case 2004PID Sell to JEA	Case 2004PIE Sell to SEM
Case	Bus 1	kV 1	Bus 2	kV 2	ckt	Area	Percent	Percent	Percent	Percent	Percent	Percent
2004PI-5	SN PLANT	230	SYLVAN	230	1	1						
2004PI-5	SYLVAN	230	N LONGWD	230	1	1						
2004PI-5	IND RIV	230	STANTON	230	1	11						
2004PI-5	SN PLANT	115	TURNER	115	1	1						
2004PI-5	BUCKEYE	230	RUSKMTR8	230	1	1						
2004PI-5	SILVR SP	230	SILV SPN	230	1	2						
2004PI-5	SILVR SP	230	OCALA 1	230	1	2						
2004PI-5	RIO PINR	230	CURRY FD	230	1	2						
2004PI-5	STANTON	230	CURRY FD	230	1	2						
2004PI-5	OSCEOLA	230	LKAGNES	230	1	16						
2004PI-5	SHELD	230	LK TARPN	230	1	2						
2004PI-5	PEBB	230	CREWSLK	230	1	13						
2004PI-5	PEBB	230	N BARTOW	230	1	2						
2004PI-5	RECKER	230	LKAGNES	230	1	16						
2004PI-5	RECKER	230	ARIANA	230	1	16						
2004PI-5	RECKER	230	CREWSLK	230	1	13						
2004PI-5	B BEND	230	MANATEE	230	1	1						
2004PI-5	RUSKIN T	230	MANATEE	230	1	1						
2004PI-5	IND RIV	230	IND RIV	115	1	11						
2004PI-5	SHELD	230	SHELD-NW	69	1	16						
2004PI-5	LARGO	230	LARGO A	69	1	2						
2004PI-5	CLMT EST	230	CLMT EST	69	1	2						
2004PI-5	11TH AVE	230	ELEVEN-E	69	1	16						
2004PI-5	WINDERME	230	WINDERME	69	1	2						
2004PI-5	PASADENA	230	PASADENA	115	1	2						
2004PI-5	ARIANA	230	ARIANA-N	69	1	16						
2004PI-5	SELOSE	230	SELOSE-N	69	1	16						
2004PI-5	GAPWAY	230	GAPWAY	69	1	16						
2004PI-5	CREWSLK	230	CREWSLK	69	1	13						
2004PI-5	TENOROC	230	TENOROC	69	1	13						
2004PI-5	BARCOLA	230	WEST	230	1	2						
2004PI-5	EATON PK	230	CREWSLK	230	1	13						
2004PI-5	EATON PK	230	EATON PK	69	1	13						
2004PI-5	EATON PK	230	TENOROC	230	1	13						
2004PI-5	RECKER	230	GAPWAY	230	1	16						
2004PI-5	SN PLANT	115	TURNER	115	1	1						
2004PI-6	SN PLANT	230	SYLVAN	230	1	1						
2004PI-6	SYLVAN	230	N LONGWD	230	1	1						
2004PI-6	IND RIV	230	STANTON	230	1	11						
2004PI-6	SN PLANT	115	TURNER	115	1	1						
2004PI-6	BUCKEYE	230	RUSKMTR8	230	1	1						
2004PI-6	SILVR SP	230	SILV SPN	230	1	2						
2004PI-6	SILVR SP	230	OCALA 1	230	1	2						
2004PI-6	RIO PINR	230	CURRY FD	230	1	2						
2004PI-6	STANTON	230	CURRY FD	230	1	2						
2004PI-6	OSCEOLA	230	LKAGNES	230	1	16						
2004PI-6	SHELD	230	LK TARPN	230	1	2						
2004PI-6	PEBB	230	CREWSLK	230	1	13						
2004PI-6	PEBB	230	N BARTOW	230	1	2						
2004PI-6	RECKER	230	LKAGNES	230	1	16						
2004PI-6	RECKER	230	ARIANA	230	1	16						
2004PI-6	RECKER	230	CREWSLK	230	1	13						
2004PI-6	B BEND	230	MANATEE	230	1	1						
2004PI-6	RUSKIN T	230	MANATEE	230	1	1						
2004PI-6	IND RIV	230	IND RIV	115	1	11						
2004PI-6	SHELD	230	SHELD-NW	69	1	16						
2004PI-6	LARGO	230	LARGO A	69	1	2						
2004PI-6	CLMT EST	230	CLMT EST	69	1	2						
2004PI-6	11TH AVE	230	ELEVEN-E	69	1	16						
2004PI-6	WINDERME	230	WINDERME	69	1	2						
2004PI-6	PASADENA	230	PASADENA	115	1	2						
2004PI-6	ARIANA	230	ARIANA-N	69	1	16						
2004PI-6	SELOSE	230	SELOSE-N	69	1	16						
2004PI-6	GAPWAY	230	GAPWAY	69	1	16						
2004PI-6	CREWSLK	230	CREWSLK	69	1	13						
2004PI-6	TENOROC	230	TENOROC	69	1	13						
2004PI-6	BARCOLA	230	WEST	230	1	2						
2004PI-6	EATON PK	230	CREWSLK	230	1	13						
2004PI-6	EATON PK	230	EATON PK	69	1	13						
2004PI-6	EATON PK	230	TENOROC	230	1	13						
2004PI-6	RECKER	230	GAPWAY	230	1	16						
2004PI-6	SN PLANT	115	TURNER	115	1	1						

Table II

Comparison of Line & Transformer Flows
Following N-1 Disturbances
for Various OEC 500 MW Generation Alternatives

100% Load Base Case

All Flows above 100% of Emergency rating are Shown

Monitored Branches							Case 2004PI Base No OEC Gen	Case 2004PIA Sell to FPL	Case 2004PIB Sell to FPC	Case 2004PIC Sell to TEC	Case 2004PID Sell to JEA	Case 2004PIE Sell to SEM
Case	Bus 1	kV 1	Bus 2	kV 2	ckt	Area	Percent	Percent	Percent	Percent	Percent	Percent
2004PI-7	SN PLANT	230	SYLVAN	230	1	1						
2004PI-7	SYLVAN	230	N LONGWD	230	1	1						
2004PI-7	IND RIV	230	STANTON	230	1	11						
2004PI-7	SN PLANT	115	TURNER	115	1	1						
2004PI-7	BUCKEYE	230	RUSKMTR8	230	1	1						
2004PI-7	SILVR SP	230	SILV SPN	230	1	2						
2004PI-7	SILVR SP	230	OCALA 1	230	1	2						
2004PI-7	RIO PINR	230	CURRY FD	230	1	2						
2004PI-7	STANTON	230	CURRY FD	230	1	2						
2004PI-7	OSCEOLA	230	LKAGNES	230	1	16						
2004PI-7	SHELD	230	LK TARPN	230	1	2						
2004PI-7	PEBB	230	CREWSLK	230	1	13						
2004PI-7	PEBB	230	N BARTOW	230	1	2						
2004PI-7	RECKER	230	LKAGNES	230	1	16						
2004PI-7	RECKER	230	ARIANA	230	1	16						
2004PI-7	RECKER	230	CREWSLK	230	1	13						
2004PI-7	B BEND	230	MANATEE	230	1	1						
2004PI-7	RUSKIN T	230	MANATEE	230	1	1						
2004PI-7	IND RIV	230	IND RIV	115	1	11						
2004PI-7	SHELD	230	SHELD-NW	69	1	16						
2004PI-7	LARGO	230	LARGO A	69	1	2						
2004PI-7	CLMT EST	230	CLMT EST	69	1	2						
2004PI-7	11TH AVE	230	ELEVEN-E	69	1	16						
2004PI-7	WINDERME	230	WINDERME	69	1	2						
2004PI-7	PASADENA	230	PASADENA	115	1	2						
2004PI-7	ARIANA	230	ARIANA-N	69	1	16						
2004PI-7	SELOSE	230	SELOSE-N	69	1	16						
2004PI-7	GAPWAY	230	GAPWAY	69	1	16						
2004PI-7	CREWSLK	230	CREWSLK	69	1	13						
2004PI-7	TENOROC	230	TENOROC	69	1	13						
2004PI-7	BARCOLA	230	WEST	230	1	2						
2004PI-7	EATON PK	230	CREWSLK	230	1	13						
2004PI-7	EATON PK	230	EATON PK	69	1	13						
2004PI-7	EATON PK	230	TENOROC	230	1	13						
2004PI-7	RECKER	230	GAPWAY	230	1	16						
2004PI-7	SN PLANT	115	TURNER	115	1	1						
2004PI-8	SN PLANT	230	SYLVAN	230	1	1						
2004PI-8	SYLVAN	230	N LONGWD	230	1	1						
2004PI-8	IND RIV	230	STANTON	230	1	11						
2004PI-8	SN PLANT	115	TURNER	115	1	1						
2004PI-8	BUCKEYE	230	RUSKMTR8	230	1	1						
2004PI-8	SILVR SP	230	SILV SPN	230	1	2						
2004PI-8	SILVR SP	230	OCALA 1	230	1	2						
2004PI-8	RIO PINR	230	CURRY FD	230	1	2						
2004PI-8	STANTON	230	CURRY FD	230	1	2						
2004PI-8	OSCEOLA	230	LKAGNES	230	1	16						
2004PI-8	SHELD	230	LK TARPN	230	1	2						
2004PI-8	PEBB	230	CREWSLK	230	1	13						
2004PI-8	PEBB	230	N BARTOW	230	1	2						
2004PI-8	RECKER	230	LKAGNES	230	1	16						
2004PI-8	RECKER	230	ARIANA	230	1	16						
2004PI-8	RECKER	230	CREWSLK	230	1	13						
2004PI-8	B BEND	230	MANATEE	230	1	1						
2004PI-8	RUSKIN T	230	MANATEE	230	1	1						
2004PI-8	IND RIV	230	IND RIV	115	1	11						
2004PI-8	SHELD	230	SHELD-NW	69	1	16						
2004PI-8	LARGO	230	LARGO A	69	1	2						
2004PI-8	CLMT EST	230	CLMT EST	69	1	2						
2004PI-8	11TH AVE	230	ELEVEN-E	69	1	16						
2004PI-8	WINDERME	230	WINDERME	69	1	2						
2004PI-8	PASADENA	230	PASADENA	115	1	2						
2004PI-8	ARIANA	230	ARIANA-N	69	1	16						
2004PI-8	SELOSE	230	SELOSE-N	69	1	16						
2004PI-8	GAPWAY	230	GAPWAY	69	1	16						
2004PI-8	CREWSLK	230	CREWSLK	69	1	13						
2004PI-8	TENOROC	230	TENOROC	69	1	13						
2004PI-8	BARCOLA	230	WEST	230	1	2						
2004PI-8	EATON PK	230	CREWSLK	230	1	13						
2004PI-8	EATON PK	230	EATON PK	69	1	13						
2004PI-8	EATON PK	230	TENOROC	230	1	13						
2004PI-8	RECKER	230	GAPWAY	230	1	16						
2004PI-8	SN PLANT	115	TURNER	115	1	1						

Table II

Comparison of Line & Transformer Flows
Following N-1 Disturbances
for Various OEC 500 MW Generation Alternatives

100% Load Base Case

All Flows above 100% of Emergency rating are Shown

Monitored Branches							Case 2004PI Base No OEC Gen	Case 2004PIA Sell to FPL	Case 2004PIB Sell to FPC	Case 2004PIC Sell to TEC	Case 2004PID Sell to JEA	Case 2004PIE Sell to SEM
Case	Bus 1	kV 1	Bus 2	kV 2	ckt	Area	Percent	Percent	Percent	Percent	Percent	Percent
2004PI-9	SN PLANT	230	SYLVAN	230	1	1						
2004PI-9	SYLVAN	230	N LONGWD	230	1	1						
2004PI-9	IND RIV	230	STANTON	230	1	11						
2004PI-9	SN PLANT	115	TURNER	115	1	1						
2004PI-9	BUCKEYE	230	RUSKMTR8	230	1	1						
2004PI-9	SILVR SP	230	SILV SPN	230	1	2						
2004PI-9	SILVR SP	230	OCALA 1	230	1	2						
2004PI-9	RIO PINR	230	CURRY FD	230	1	2						
2004PI-9	STANTON	230	CURRY FD	230	1	2						
2004PI-9	OSCEOLA	230	LKAGNES	230	1	16						
2004PI-9	SHELD	230	LK TARPN	230	1	2						
2004PI-9	PEBB	230	CREWSLK	230	1	13						
2004PI-9	PEBB	230	N BARTOW	230	1	2						
2004PI-9	RECKER	230	LKAGNES	230	1	16						
2004PI-9	RECKER	230	ARIANA	230	1	16						
2004PI-9	RECKER	230	CREWSLK	230	1	13						
2004PI-9	B BEND	230	MANATEE	230	1	1						
2004PI-9	RUSKIN T	230	MANATEE	230	1	1						
2004PI-9	IND RIV	230	IND RIV	115	1	11						
2004PI-9	SHELD	230	SHELD-NW	69	1	16						
2004PI-9	LARGO	230	LARGO A	69	1	2						
2004PI-9	CLMT EST	230	CLMT EST	69	1	2						
2004PI-9	11TH AVE	230	ELEVEN-E	69	1	16						
2004PI-9	WINDERME	230	WINDERME	69	1	2						
2004PI-9	PASADENA	230	PASADENA	115	1	2						
2004PI-9	ARIANA	230	ARIANA-N	69	1	16						
2004PI-9	SELOSE	230	SELOSE-N	69	1	16						
2004PI-9	GAPWAY	230	GAPWAY	69	1	16						
2004PI-9	CREWSLK	230	CREWSLK	69	1	13						
2004PI-9	TENOROC	230	TENOROC	69	1	13						
2004PI-9	BARCOLA	230	WEST	230	1	2						
2004PI-9	EATON PK	230	CREWSLK	230	1	13						
2004PI-9	EATON PK	230	EATON PK	69	1	13						
2004PI-9	EATON PK	230	TENOROC	230	1	13						
2004PI-9	RECKER	230	GAPWAY	230	1	16						
2004PI-9	SN PLANT	115	TURNER	115	1	1						
2004PI-10	SN PLANT	230	SYLVAN	230	1	1						
2004PI-10	SYLVAN	230	N LONGWD	230	1	1						
2004PI-10	IND RIV	230	STANTON	230	1	11						
2004PI-10	SN PLANT	115	TURNER	115	1	1						
2004PI-10	BUCKEYE	230	RUSKMTR8	230	1	1						
2004PI-10	SILVR SP	230	SILV SPN	230	1	2						
2004PI-10	SILVR SP	230	OCALA 1	230	1	2						
2004PI-10	RIO PINR	230	CURRY FD	230	1	2						
2004PI-10	STANTON	230	CURRY FD	230	1	2						
2004PI-10	OSCEOLA	230	LKAGNES	230	1	16						
2004PI-10	SHELD	230	LK TARPN	230	1	2						
2004PI-10	PEBB	230	CREWSLK	230	1	13						
2004PI-10	PEBB	230	N BARTOW	230	1	2						
2004PI-10	RECKER	230	LKAGNES	230	1	16						
2004PI-10	RECKER	230	ARIANA	230	1	16						
2004PI-10	RECKER	230	CREWSLK	230	1	13						
2004PI-10	B BEND	230	MANATEE	230	1	1						
2004PI-10	RUSKIN T	230	MANATEE	230	1	1						
2004PI-10	IND RIV	230	IND RIV	115	1	11						
2004PI-10	SHELD	230	SHELD-NW	69	1	16						
2004PI-10	LARGO	230	LARGO A	69	1	2						
2004PI-10	CLMT EST	230	CLMT EST	69	1	2						
2004PI-10	11TH AVE	230	ELEVEN-E	69	1	16						
2004PI-10	WINDERME	230	WINDERME	69	1	2						
2004PI-10	PASADENA	230	PASADENA	115	1	2						
2004PI-10	ARIANA	230	ARIANA-N	69	1	16						
2004PI-10	SELOSE	230	SELOSE-N	69	1	16						
2004PI-10	GAPWAY	230	GAPWAY	69	1	16						
2004PI-10	CREWSLK	230	CREWSLK	69	1	13						
2004PI-10	TENOROC	230	TENOROC	69	1	13						
2004PI-10	BARCOLA	230	WEST	230	1	2						
2004PI-10	EATON PK	230	CREWSLK	230	1	13						
2004PI-10	EATON PK	230	EATON PK	69	1	13						
2004PI-10	EATON PK	230	TENOROC	230	1	13						
2004PI-10	RECKER	230	GAPWAY	230	1	16						
2004PI-10	SN PLANT	115	TURNER	115	1	1						

Table II

Comparison of Line & Transformer Flows
Following N-1 Disturbances
for Various OEC 500 MW Generation Alternatives

100% Load Base Case

All Flows above 100% of Emergency rating are Shown

Monitored Branches							Case 2004PI Base No OEC Gen	Case 2004PIA Sell to FPL	Case 2004PIB Sell to FPC	Case 2004PIC Sell to TEC	Case 2004PID Sell to JEA	Case 2004PIE Sell to SEM
Case	Bus 1	kV 1	Bus 2	kV 2	ckt	Area	Percent	Percent	Percent	Percent	Percent	Percent
2004PI-11	SN PLANT	230	SYLVAN	230	1	1						
2004PI-11	SYLVAN	230	N LONGWD	230	1	1						
2004PI-11	IND RIV	230	STANTON	230	1	11						
2004PI-11	SN PLANT	115	TURNER	115	1	1						
2004PI-11	BUCKEYE	230	RUSKMTR8	230	1	1						
2004PI-11	SILVR SP	230	SILV SPN	230	1	2						
2004PI-11	SILVR SP	230	OCALA 1	230	1	2						
2004PI-11	RIO PINR	230	CURRY FD	230	1	2						
2004PI-11	STANTON	230	CURRY FD	230	1	2						
2004PI-11	OSCEOLA	230	LKAGNES	230	1	16						
2004PI-11	SHELD	230	LK TARPN	230	1	2						
2004PI-11	PEBB	230	CREWSLK	230	1	13						
2004PI-11	PEBB	230	N BARTOW	230	1	2						
2004PI-11	RECKER	230	LKAGNES	230	1	16						
2004PI-11	RECKER	230	ARIANA	230	1	16						
2004PI-11	RECKER	230	CREWSLK	230	1	13						
2004PI-11	B BEND	230	MANATEE	230	1	1						
2004PI-11	RUSKIN T	230	MANATEE	230	1	1						
2004PI-11	IND RIV	230	IND RIV	115	1	11						
2004PI-11	SHELD	230	SHELD-NW	69	1	16						
2004PI-11	LARGO	230	LARGO A	69	1	2						
2004PI-11	CLMT EST	230	CLMT EST	69	1	2						
2004PI-11	11TH AVE	230	ELEVEN-E	69	1	16						
2004PI-11	WINDERME	230	WINDERME	69	1	2						
2004PI-11	PASADENA	230	PASADENA	115	1	2						
2004PI-11	ARIANA	230	ARIANA-N	69	1	16						
2004PI-11	SELOSE	230	SELOSE-N	69	1	16						
2004PI-11	GAPWAY	230	GAPWAY	69	1	16						
2004PI-11	CREWSLK	230	CREWSLK	69	1	13						
2004PI-11	TENOROC	230	TENOROC	69	1	13						
2004PI-11	BARCOLA	230	WEST	230	1	2						
2004PI-11	EATON PK	230	CREWSLK	230	1	13						
2004PI-11	EATON PK	230	EATON PK	69	1	13						
2004PI-11	EATON PK	230	TENOROC	230	1	13						
2004PI-11	RECKER	230	GAPWAY	230	1	16						
2004PI-11	SN PLANT	115	TURNER	115	1	1						
2004PI-12	SN PLANT	230	SYLVAN	230	1	1						
2004PI-12	SYLVAN	230	N LONGWD	230	1	1						
2004PI-12	IND RIV	230	STANTON	230	1	11						
2004PI-12	SN PLANT	115	TURNER	115	1	1						
2004PI-12	BUCKEYE	230	RUSKMTR8	230	1	1						
2004PI-12	SILVR SP	230	SILV SPN	230	1	2						
2004PI-12	SILVR SP	230	OCALA 1	230	1	2						
2004PI-12	RIO PINR	230	CURRY FD	230	1	2						
2004PI-12	STANTON	230	CURRY FD	230	1	2						
2004PI-12	OSCEOLA	230	LKAGNES	230	1	16						
2004PI-12	SHELD	230	LK TARPN	230	1	2						
2004PI-12	PEBB	230	CREWSLK	230	1	13						
2004PI-12	PEBB	230	N BARTOW	230	1	2						
2004PI-12	RECKER	230	LKAGNES	230	1	16						
2004PI-12	RECKER	230	ARIANA	230	1	16						
2004PI-12	RECKER	230	CREWSLK	230	1	13						
2004PI-12	B BEND	230	MANATEE	230	1	1						
2004PI-12	RUSKIN T	230	MANATEE	230	1	1						
2004PI-12	IND RIV	230	IND RIV	115	1	11						
2004PI-12	SHELD	230	SHELD-NW	69	1	16						
2004PI-12	LARGO	230	LARGO A	69	1	2						
2004PI-12	CLMT EST	230	CLMT EST	69	1	2						
2004PI-12	11TH AVE	230	ELEVEN-E	69	1	16						
2004PI-12	WINDERME	230	WINDERME	69	1	2						
2004PI-12	PASADENA	230	PASADENA	115	1	2						
2004PI-12	ARIANA	230	ARIANA-N	69	1	16						
2004PI-12	SELOSE	230	SELOSE-N	69	1	16						
2004PI-12	GAPWAY	230	GAPWAY	69	1	16						
2004PI-12	CREWSLK	230	CREWSLK	69	1	13						
2004PI-12	TENOROC	230	TENOROC	69	1	13						
2004PI-12	BARCOLA	230	WEST	230	1	2						
2004PI-12	EATON PK	230	CREWSLK	230	1	13						
2004PI-12	EATON PK	230	EATON PK	69	1	13						
2004PI-12	EATON PK	230	TENOROC	230	1	13						
2004PI-12	RECKER	230	GAPWAY	230	1	16						
2004PI-12	SN PLANT	115	TURNER	115	1	1						

Table II

Comparison of Line & Transformer Flows
Following N-1 Disturbances
for Various OEC 500 MW Generation Alternatives

100% Load Base Case

All Flows above 100% of Emergency rating are Shown

Monitored Branches							Case 2004PI Base No OEC Gen	Case 2004PIA Sell to FPL	Case 2004PIB Sell to FPC	Case 2004PIC Sell to TEC	Case 2004PID Sell to JEA	Case 2004PIE Sell to SEM
Case	Bus 1	kV 1	Bus 2	kV 2	ckt	Area	Percent	Percent	Percent	Percent	Percent	Percent
2004PI-13	SN PLANT	230	SYLVAN	230	1	1						
2004PI-13	SYLVAN	230	N LONGWD	230	1	1						
2004PI-13	IND RIV	230	STANTON	230	1	11						
2004PI-13	SN PLANT	115	TURNER	115	1	1						
2004PI-13	BUCKEYE	230	RUSKMTR8	230	1	1						
2004PI-13	SILVR SP	230	SILV SPN	230	1	2						
2004PI-13	SILVR SP	230	OCALA 1	230	1	2						
2004PI-13	RIO PINR	230	CURRY FD	230	1	2						
2004PI-13	STANTON	230	CURRY FD	230	1	2						
2004PI-13	OSCEOLA	230	LKAGNES	230	1	16						
2004PI-13	SHELD	230	LK TARPN	230	1	2						
2004PI-13	PEBB	230	CREWSLK	230	1	13						
2004PI-13	PEBB	230	N BARTOW	230	1	2						
2004PI-13	RECKER	230	LKAGNES	230	1	16						
2004PI-13	RECKER	230	ARIANA	230	1	16						
2004PI-13	RECKER	230	CREWSLK	230	1	13						
2004PI-13	B BEND	230	MANATEE	230	1	1						
2004PI-13	RUSKIN T	230	MANATEE	230	1	1						
2004PI-13	IND RIV	230	IND RIV	115	1	11						
2004PI-13	SHELD	230	SHELD-NW	69	1	16						
2004PI-13	LARGO	230	LARGO A	69	1	2						
2004PI-13	CLMT EST	230	CLMT EST	69	1	2						
2004PI-13	11TH AVE	230	ELEVEN-E	69	1	16						
2004PI-13	WINDERME	230	WINDERME	69	1	2						
2004PI-13	PASADENA	230	PASADENA	115	1	2						
2004PI-13	ARIANA	230	ARIANA-N	69	1	16						
2004PI-13	SELOSE	230	SELOSE-N	69	1	16						
2004PI-13	GAPWAY	230	GAPWAY	69	1	16						
2004PI-13	CREWSLK	230	CREWSLK	69	1	13						
2004PI-13	TENOROC	230	TENOROC	69	1	13						
2004PI-13	BARCOLA	230	WEST	230	1	2						
2004PI-13	EATON PK	230	CREWSLK	230	1	13						
2004PI-13	EATON PK	230	EATON PK	69	1	13						
2004PI-13	EATON PK	230	TENOROC	230	1	13						
2004PI-13	RECKER	230	GAPWAY	230	1	16						
2004PI-13	SN PLANT	115	TURNER	115	1	1						
2004PI-15	SN PLANT	230	SYLVAN	230	1	1						
2004PI-15	SYLVAN	230	N LONGWD	230	1	1						
2004PI-15	IND RIV	230	STANTON	230	1	11						
2004PI-15	SN PLANT	115	TURNER	115	1	1						
2004PI-15	BUCKEYE	230	RUSKMTR8	230	1	1						
2004PI-15	SILVR SP	230	SILV SPN	230	1	2						
2004PI-15	SILVR SP	230	OCALA 1	230	1	2						
2004PI-15	RIO PINR	230	CURRY FD	230	1	2						
2004PI-15	STANTON	230	CURRY FD	230	1	2						
2004PI-15	OSCEOLA	230	LKAGNES	230	1	16						
2004PI-15	SHELD	230	LK TARPN	230	1	2						
2004PI-15	PEBB	230	CREWSLK	230	1	13						
2004PI-15	PEBB	230	N BARTOW	230	1	2						
2004PI-15	RECKER	230	LKAGNES	230	1	16						
2004PI-15	RECKER	230	ARIANA	230	1	16						
2004PI-15	RECKER	230	CREWSLK	230	1	13						
2004PI-15	B BEND	230	MANATEE	230	1	1						
2004PI-15	RUSKIN T	230	MANATEE	230	1	1						
2004PI-15	IND RIV	230	IND RIV	115	1	11						
2004PI-15	SHELD	230	SHELD-NW	69	1	16						
2004PI-15	LARGO	230	LARGO A	69	1	2						
2004PI-15	CLMT EST	230	CLMT EST	69	1	2						
2004PI-15	11TH AVE	230	ELEVEN-E	69	1	16						
2004PI-15	WINDERME	230	WINDERME	69	1	2						
2004PI-15	PASADENA	230	PASADENA	115	1	2						
2004PI-15	ARIANA	230	ARIANA-N	69	1	16						
2004PI-15	SELOSE	230	SELOSE-N	69	1	16						
2004PI-15	GAPWAY	230	GAPWAY	69	1	16						
2004PI-15	CREWSLK	230	CREWSLK	69	1	13						
2004PI-15	TENOROC	230	TENOROC	69	1	13						
2004PI-15	BARCOLA	230	WEST	230	1	2						
2004PI-15	EATON PK	230	CREWSLK	230	1	13						
2004PI-15	EATON PK	230	EATON PK	69	1	13						
2004PI-15	EATON PK	230	TENOROC	230	1	13						
2004PI-15	RECKER	230	GAPWAY	230	1	16						
2004PI-15	SN PLANT	115	TURNER	115	1	1						

Table II

Comparison of Line & Transformer Flows Following N-1 Disturbances for Various OEC 500 MW Generation Alternatives

100% Load Base Case

All Flows above 100% of Emergency rating are Shown

Monitored Branches							Case 2004PI Base No OEC Gen	Case 2004PIA Sell to FPL	Case 2004PIB Sell to FPC	Case 2004PIC Sell to TEC	Case 2004PID Sell to JEA	Case 2004PIE Sell to SEM
Case	Bus 1	kV 1	Bus 2	kV 2	ckt	Area	Percent	Percent	Percent	Percent	Percent	Percent
2004PI-16	SN PLANT	230	SYLVAN	230	1	1						
2004PI-16	SYLVAN	230	N LONGWD	230	1	1						
2004PI-16	IND RIV	230	STANTON	230	1	11						
2004PI-16	SN PLANT	115	TURNER	115	1	1						
2004PI-16	BUCKEYE	230	RUSKMTR8	230	1	1						
2004PI-16	SILVR SP	230	SILV SPN	230	1	2						
2004PI-16	SILVR SP	230	OCALA 1	230	1	2						
2004PI-16	RIO PINR	230	CURRY FD	230	1	2						
2004PI-16	STANTON	230	CURRY FD	230	1	2						
2004PI-16	OSCEOLA	230	LKAGNES	230	1	16						
2004PI-16	SHELD	230	LK TARPN	230	1	2						
2004PI-16	PEBB	230	CREWSLK	230	1	13						
2004PI-16	PEBB	230	N BARTOW	230	1	2						
2004PI-16	RECKER	230	LKAGNES	230	1	16						
2004PI-16	RECKER	230	ARIANA	230	1	16						
2004PI-16	RECKER	230	CREWSLK	230	1	13						
2004PI-16	B BEND	230	MANATEE	230	1	1						
2004PI-16	RUSKIN T	230	MANATEE	230	1	1						
2004PI-16	IND RIV	230	IND RIV	115	1	11						
2004PI-16	SHELD	230	SHELD-NW	69	1	16						
2004PI-16	LARGO	230	LARGO A	69	1	2						
2004PI-16	CLMT EST	230	CLMT EST	69	1	2						
2004PI-16	11TH AVE	230	ELEVEN-E	69	1	16						
2004PI-16	WINDERME	230	WINDERME	69	1	2						
2004PI-16	PASADENA	230	PASADENA	115	1	2						
2004PI-16	ARIANA	230	ARIANA-N	69	1	16						
2004PI-16	SELOSE	230	SELOSE-N	69	1	16						
2004PI-16	GAPWAY	230	GAPWAY	69	1	16						
2004PI-16	CREWSLK	230	CREWSLK	69	1	13						
2004PI-16	TENOROC	230	TENOROC	69	1	13						
2004PI-16	BARCOLA	230	WEST	230	1	2						
2004PI-16	EATON PK	230	CREWSLK	230	1	13						
2004PI-16	EATON PK	230	EATON PK	69	1	13						
2004PI-16	EATON PK	230	TENOROC	230	1	13						
2004PI-16	RECKER	230	GAPWAY	230	1	16						
2004PI-16	SN PLANT	115	TURNER	115	1	1						
2004PI-17	SN PLANT	230	SYLVAN	230	1	1						
2004PI-17	SYLVAN	230	N LONGWD	230	1	1						
2004PI-17	IND RIV	230	STANTON	230	1	11						
2004PI-17	SN PLANT	115	TURNER	115	1	1						
2004PI-17	BUCKEYE	230	RUSKMTR8	230	1	1						
2004PI-17	SILVR SP	230	SILV SPN	230	1	2						
2004PI-17	SILVR SP	230	OCALA 1	230	1	2						
2004PI-17	RIO PINR	230	CURRY FD	230	1	2						
2004PI-17	STANTON	230	CURRY FD	230	1	2						
2004PI-17	OSCEOLA	230	LKAGNES	230	1	16						
2004PI-17	SHELD	230	LK TARPN	230	1	2						
2004PI-17	PEBB	230	CREWSLK	230	1	13						
2004PI-17	PEBB	230	N BARTOW	230	1	2						
2004PI-17	RECKER	230	LKAGNES	230	1	16						
2004PI-17	RECKER	230	ARIANA	230	1	16						
2004PI-17	RECKER	230	CREWSLK	230	1	13						
2004PI-17	B BEND	230	MANATEE	230	1	1						
2004PI-17	RUSKIN T	230	MANATEE	230	1	1						
2004PI-17	IND RIV	230	IND RIV	115	1	11						
2004PI-17	SHELD	230	SHELD-NW	69	1	16						
2004PI-17	LARGO	230	LARGO A	69	1	2						
2004PI-17	CLMT EST	230	CLMT EST	69	1	2						
2004PI-17	11TH AVE	230	ELEVEN-E	69	1	16						
2004PI-17	WINDERME	230	WINDERME	69	1	2						
2004PI-17	PASADENA	230	PASADENA	115	1	2						
2004PI-17	ARIANA	230	ARIANA-N	69	1	16						
2004PI-17	SELOSE	230	SELOSE-N	69	1	16						
2004PI-17	GAPWAY	230	GAPWAY	69	1	16						
2004PI-17	CREWSLK	230	CREWSLK	69	1	13						
2004PI-17	TENOROC	230	TENOROC	69	1	13						
2004PI-17	BARCOLA	230	WEST	230	1	2						
2004PI-17	EATON PK	230	CREWSLK	230	1	13						
2004PI-17	EATON PK	230	EATON PK	69	1	13						
2004PI-17	EATON PK	230	TENOROC	230	1	13						
2004PI-17	RECKER	230	GAPWAY	230	1	16						
2004PI-17	SN PLANT	115	TURNER	115	1	1						

Table II

Comparison of Line & Transformer Flows Following N-1 Disturbances for Various OEC 500 MW Generation Alternatives

100% Load Base Case

All Flows above 100% of Emergency rating are Shown

Monitored Branches							Case 2004PI Base No OEC Gen	Case 2004PIA Sell to FPL	Case 2004PIB Sell to FPC	Case 2004PIC Sell to TEC	Case 2004PID Sell to JEA	Case 2004PIE Sell to SEM
Case	Bus 1	kV 1	Bus 2	kV 2	ckt	Area	Percent	Percent	Percent	Percent	Percent	Percent
2004PI-18	SN PLANT	230	SYLVAN	230	1	1						
2004PI-18	SYLVAN	230	N LONGWD	230	1	1						
2004PI-18	IND RIV	230	STANTON	230	1	11						
2004PI-18	SN PLANT	115	TURNER	115	1	1						
2004PI-18	BUCKEYE	230	RUSKMTR8	230	1	1						
2004PI-18	SILVR SP	230	SILV SPN	230	1	2						
2004PI-18	SILVR SP	230	OCALA 1	230	1	2						
2004PI-18	RIO PINR	230	CURRY FD	230	1	2						
2004PI-18	STANTON	230	CURRY FD	230	1	2						
2004PI-18	OSCEOLA	230	LKAGNES	230	1	16						
2004PI-18	SHELD	230	LK TARPN	230	1	2						
2004PI-18	PEBB	230	CREWSLK	230	1	13						
2004PI-18	PEBB	230	N BARTOW	230	1	2						
2004PI-18	RECKER	230	LKAGNES	230	1	16						
2004PI-18	RECKER	230	ARIANA	230	1	16						
2004PI-18	RECKER	230	CREWSLK	230	1	13						
2004PI-18	B BEND	230	MANATEE	230	1	1						
2004PI-18	RUSKIN T	230	MANATEE	230	1	1						
2004PI-18	IND RIV	230	IND RIV	115	1	11						
2004PI-18	SHELD	230	SHELD-NW	69	1	16						
2004PI-18	LARGO	230	LARGO A	69	1	2						
2004PI-18	CLMT EST	230	CLMT EST	69	1	2						
2004PI-18	11TH AVE	230	ELEVEN-E	69	1	16						
2004PI-18	WINDERME	230	WINDERME	69	1	2						
2004PI-18	PASADENA	230	PASADENA	115	1	2						
2004PI-18	ARIANA	230	ARIANA-N	69	1	16						
2004PI-18	SELOSE	230	SELOSE-N	69	1	16						
2004PI-18	GAPWAY	230	GAPWAY	69	1	16						
2004PI-18	CREWSLK	230	CREWSLK	69	1	13						
2004PI-18	TENOROC	230	TENOROC	69	1	13						
2004PI-18	BARCOLA	230	WEST	230	1	2						
2004PI-18	EATON PK	230	CREWSLK	230	1	13						
2004PI-18	EATON PK	230	EATON PK	69	1	13						
2004PI-18	EATON PK	230	TENOROC	230	1	13						
2004PI-18	RECKER	230	GAPWAY	230	1	16						
2004PI-18	SN PLANT	115	TURNER	115	1	1						
2004PI-19	SN PLANT	230	SYLVAN	230	1	1						
2004PI-19	SYLVAN	230	N LONGWD	230	1	1						
2004PI-19	IND RIV	230	STANTON	230	1	11						
2004PI-19	SN PLANT	115	TURNER	115	1	1						
2004PI-19	BUCKEYE	230	RUSKMTR8	230	1	1						
2004PI-19	SILVR SP	230	SILV SPN	230	1	2						
2004PI-19	SILVR SP	230	OCALA 1	230	1	2						
2004PI-19	RIO PINR	230	CURRY FD	230	1	2						
2004PI-19	STANTON	230	CURRY FD	230	1	2						
2004PI-19	OSCEOLA	230	LKAGNES	230	1	16						
2004PI-19	SHELD	230	LK TARPN	230	1	2						
2004PI-19	PEBB	230	CREWSLK	230	1	13						
2004PI-19	PEBB	230	N BARTOW	230	1	2						
2004PI-19	RECKER	230	LKAGNES	230	1	16						
2004PI-19	RECKER	230	ARIANA	230	1	16						
2004PI-19	RECKER	230	CREWSLK	230	1	13						
2004PI-19	B BEND	230	MANATEE	230	1	1						
2004PI-19	RUSKIN T	230	MANATEE	230	1	1						
2004PI-19	IND RIV	230	IND RIV	115	1	11						
2004PI-19	SHELD	230	SHELD-NW	69	1	16						
2004PI-19	LARGO	230	LARGO A	69	1	2						
2004PI-19	CLMT EST	230	CLMT EST	69	1	2						
2004PI-19	11TH AVE	230	ELEVEN-E	69	1	16						
2004PI-19	WINDERME	230	WINDERME	69	1	2						
2004PI-19	PASADENA	230	PASADENA	115	1	2						
2004PI-19	ARIANA	230	ARIANA-N	69	1	16						
2004PI-19	SELOSE	230	SELOSE-N	69	1	16						
2004PI-19	GAPWAY	230	GAPWAY	69	1	16						
2004PI-19	CREWSLK	230	CREWSLK	69	1	13						
2004PI-19	TENOROC	230	TENOROC	69	1	13						
2004PI-19	BARCOLA	230	WEST	230	1	2						
2004PI-19	EATON PK	230	CREWSLK	230	1	13						
2004PI-19	EATON PK	230	EATON PK	69	1	13						
2004PI-19	EATON PK	230	TENOROC	230	1	13						
2004PI-19	RECKER	230	GAPWAY	230	1	16						
2004PI-19	SN PLANT	115	TURNER	115	1	1						

Table II

Comparison of Line & Transformer Flows
Following N-1 Disturbances
for Various OEC 500 MW Generation Alternatives

100% Load Base Case

All Flows above 100% of Emergency rating are Shown

Monitored Branches							Case 2004PI Base No OEC Gen	Case 2004PIA Sell to FPL	Case 2004PIB Sell to FPC	Case 2004PIC Sell to TEC	Case 2004PID Sell to JEA	Case 2004PIE Sell to SEM
Case	Bus 1	kV 1	Bus 2	kV 2	ckt	Area	Percent	Percent	Percent	Percent	Percent	Percent
2004PI-20	SN PLANT	230	SYLVAN	230	1	1						
2004PI-20	SYLVAN	230	N LONGWD	230	1	1						
2004PI-20	IND RIV	230	STANTON	230	1	11						
2004PI-20	SN PLANT	115	TURNER	115	1	1						
2004PI-20	BUCKEYE	230	RUSKMTR8	230	1	1						
2004PI-20	SILVR SP	230	SILV SPN	230	1	2						
2004PI-20	SILVR SP	230	OCALA 1	230	1	2						
2004PI-20	RIO PINR	230	CURRY FD	230	1	2						
2004PI-20	STANTON	230	CURRY FD	230	1	2						
2004PI-20	OSCEOLA	230	LKAGNES	230	1	16						
2004PI-20	SHELD	230	LK TARPN	230	1	2						
2004PI-20	PEBB	230	CREWSLK	230	1	13						
2004PI-20	PEBB	230	N BARTOW	230	1	2						
2004PI-20	RECKER	230	LKAGNES	230	1	16						
2004PI-20	RECKER	230	ARIANA	230	1	16						
2004PI-20	RECKER	230	CREWSLK	230	1	13						
2004PI-20	B BEND	230	MANATEE	230	1	1						
2004PI-20	RUSKIN T	230	MANATEE	230	1	1						
2004PI-20	IND RIV	230	IND RIV	115	1	11						
2004PI-20	SHELD	230	SHELD-NW	69	1	16						
2004PI-20	LARGO	230	LARGO A	69	1	2						
2004PI-20	CLMT EST	230	CLMT EST	69	1	2						
2004PI-20	11TH AVE	230	ELEVEN-E	69	1	16						
2004PI-20	WINDERME	230	WINDERME	69	1	2						
2004PI-20	PASADENA	230	PASADENA	115	1	2						
2004PI-20	ARIANA	230	ARIANA-N	69	1	16						
2004PI-20	SELOSE	230	SELOSE-N	69	1	16						
2004PI-20	GAPWAY	230	GAPWAY	69	1	16						
2004PI-20	CREWSLK	230	CREWSLK	69	1	13						
2004PI-20	TENOROC	230	TENOROC	69	1	13						
2004PI-20	BARCOLA	230	WEST	230	1	2						
2004PI-20	EATON PK	230	CREWSLK	230	1	13						
2004PI-20	EATON PK	230	EATON PK	69	1	13						
2004PI-20	EATON PK	230	TENOROC	230	1	13						
2004PI-20	RECKER	230	GAPWAY	230	1	16						
2004PI-20	SN PLANT	115	TURNER	115	1	1						
2004PI-21	SN PLANT	230	SYLVAN	230	1	1						
2004PI-21	SYLVAN	230	N LONGWD	230	1	1						
2004PI-21	IND RIV	230	STANTON	230	1	11						
2004PI-21	SN PLANT	115	TURNER	115	1	1						
2004PI-21	BUCKEYE	230	RUSKMTR8	230	1	1						
2004PI-21	SILVR SP	230	SILV SPN	230	1	2						
2004PI-21	SILVR SP	230	OCALA 1	230	1	2						
2004PI-21	RIO PINR	230	CURRY FD	230	1	2						
2004PI-21	STANTON	230	CURRY FD	230	1	2						
2004PI-21	OSCEOLA	230	LKAGNES	230	1	16						
2004PI-21	SHELD	230	LK TARPN	230	1	2						
2004PI-21	PEBB	230	CREWSLK	230	1	13						
2004PI-21	PEBB	230	N BARTOW	230	1	2						
2004PI-21	RECKER	230	LKAGNES	230	1	16						
2004PI-21	RECKER	230	ARIANA	230	1	16						
2004PI-21	RECKER	230	CREWSLK	230	1	13						
2004PI-21	B BEND	230	MANATEE	230	1	1						
2004PI-21	RUSKIN T	230	MANATEE	230	1	1						
2004PI-21	IND RIV	230	IND RIV	115	1	11						
2004PI-21	SHELD	230	SHELD-NW	69	1	16						
2004PI-21	LARGO	230	LARGO A	69	1	2						
2004PI-21	CLMT EST	230	CLMT EST	69	1	2						
2004PI-21	11TH AVE	230	ELEVEN-E	69	1	16						
2004PI-21	WINDERME	230	WINDERME	69	1	2						
2004PI-21	PASADENA	230	PASADENA	115	1	2						
2004PI-21	ARIANA	230	ARIANA-N	69	1	16						
2004PI-21	SELOSE	230	SELOSE-N	69	1	16						
2004PI-21	GAPWAY	230	GAPWAY	69	1	16						
2004PI-21	CREWSLK	230	CREWSLK	69	1	13						
2004PI-21	TENOROC	230	TENOROC	69	1	13						
2004PI-21	BARCOLA	230	WEST	230	1	2						
2004PI-21	EATON PK	230	CREWSLK	230	1	13						
2004PI-21	EATON PK	230	EATON PK	69	1	13						
2004PI-21	EATON PK	230	TENOROC	230	1	13						
2004PI-21	RECKER	230	GAPWAY	230	1	16						
2004PI-21	SN PLANT	115	TURNER	115	1	1						

Table II

Comparison of Line & Transformer Flows
Following N-1 Disturbances
for Various OEC 500 MW Generation Alternatives

100% Load Base Case

All Flows above 100% of Emergency rating are Shown

Monitored Branches							Case 2004PI Base No OEC Gen	Case 2004PIA Sell to FPL	Case 2004PIB Sell to FPC	Case 2004PIC Sell to TEC	Case 2004PID Sell to JEA	Case 2004PIE Sell to SEM
Case	Bus 1	kV 1	Bus 2	kV 2	ckt	Area	Percent	Percent	Percent	Percent	Percent	Percent
2004PI-22	SN PLANT	230	SYLVAN	230	1	1						
2004PI-22	SYLVAN	230	N LONGWD	230	1	1						
2004PI-22	IND RIV	230	STANTON	230	1	11						
2004PI-22	SN PLANT	115	TURNER	115	1	1						
2004PI-22	BUCKEYE	230	RUSKMTR8	230	1	1						
2004PI-22	SILVR SP	230	SILV SPN	230	1	2						
2004PI-22	SILVR SP	230	OCALA 1	230	1	2						
2004PI-22	RIO PINR	230	CURRY FD	230	1	2						
2004PI-22	STANTON	230	CURRY FD	230	1	2						
2004PI-22	OSCEOLA	230	LKAGNES	230	1	16						
2004PI-22	SHELD	230	LK TARPN	230	1	2						
2004PI-22	PEBB	230	CREWSLK	230	1	13						
2004PI-22	PEBB	230	N BARTOW	230	1	2						
2004PI-22	RECKER	230	LKAGNES	230	1	16						
2004PI-22	RECKER	230	ARIANA	230	1	16						
2004PI-22	RECKER	230	CREWSLK	230	1	13						
2004PI-22	B BEND	230	MANATEE	230	1	1						
2004PI-22	RUSKIN T	230	MANATEE	230	1	1						
2004PI-22	IND RIV	230	IND RIV	115	1	11						
2004PI-22	SHELD	230	SHELD-NW	69	1	16						
2004PI-22	LARGO	230	LARGO A	69	1	2						
2004PI-22	CLMT EST	230	CLMT EST	69	1	2						
2004PI-22	11TH AVE	230	ELEVEN-E	69	1	16						
2004PI-22	WINDERME	230	WINDERME	69	1	2						
2004PI-22	PASADENA	230	PASADENA	115	1	2						
2004PI-22	ARIANA	230	ARIANA-N	69	1	16						
2004PI-22	SELOSE	230	SELOSE-N	69	1	16						
2004PI-22	GAPWAY	230	GAPWAY	69	1	16						
2004PI-22	CREWSLK	230	CREWSLK	69	1	13						
2004PI-22	TENOROC	230	TENOROC	69	1	13						
2004PI-22	BARCOLA	230	WEST	230	1	2						
2004PI-22	EATON PK	230	CREWSLK	230	1	13						
2004PI-22	EATON PK	230	EATON PK	69	1	13						
2004PI-22	EATON PK	230	TENOROC	230	1	13						
2004PI-22	RECKER	230	GAPWAY	230	1	16						
2004PI-22	SN PLANT	115	TURNER	115	1	1						
2004PI-23	SN PLANT	230	SYLVAN	230	1	1						
2004PI-23	SYLVAN	230	N LONGWD	230	1	1						
2004PI-23	IND RIV	230	STANTON	230	1	11						
2004PI-23	SN PLANT	115	TURNER	115	1	1						
2004PI-23	BUCKEYE	230	RUSKMTR8	230	1	1						
2004PI-23	SILVR SP	230	SILV SPN	230	1	2						
2004PI-23	SILVR SP	230	OCALA 1	230	1	2						
2004PI-23	RIO PINR	230	CURRY FD	230	1	2						
2004PI-23	STANTON	230	CURRY FD	230	1	2						
2004PI-23	OSCEOLA	230	LKAGNES	230	1	16						
2004PI-23	SHELD	230	LK TARPN	230	1	2						
2004PI-23	PEBB	230	CREWSLK	230	1	13						
2004PI-23	PEBB	230	N BARTOW	230	1	2						
2004PI-23	RECKER	230	LKAGNES	230	1	16						
2004PI-23	RECKER	230	ARIANA	230	1	16						
2004PI-23	RECKER	230	CREWSLK	230	1	13						
2004PI-23	B BEND	230	MANATEE	230	1	1						
2004PI-23	RUSKIN T	230	MANATEE	230	1	1						
2004PI-23	IND RIV	230	IND RIV	115	1	11						
2004PI-23	SHELD	230	SHELD-NW	69	1	16						
2004PI-23	LARGO	230	LARGO A	69	1	2						
2004PI-23	CLMT EST	230	CLMT EST	69	1	2						
2004PI-23	11TH AVE	230	ELEVEN-E	69	1	16						
2004PI-23	WINDERME	230	WINDERME	69	1	2						
2004PI-23	PASADENA	230	PASADENA	115	1	2						
2004PI-23	ARIANA	230	ARIANA-N	69	1	16						
2004PI-23	SELOSE	230	SELOSE-N	69	1	16						
2004PI-23	GAPWAY	230	GAPWAY	69	1	16						
2004PI-23	CREWSLK	230	CREWSLK	69	1	13						
2004PI-23	TENOROC	230	TENOROC	69	1	13						
2004PI-23	BARCOLA	230	WEST	230	1	2						
2004PI-23	EATON PK	230	CREWSLK	230	1	13						
2004PI-23	EATON PK	230	EATON PK	69	1	13						
2004PI-23	EATON PK	230	TENOROC	230	1	13						
2004PI-23	RECKER	230	GAPWAY	230	1	16						
2004PI-23	SN PLANT	115	TURNER	115	1	1						

Table II

Comparison of Line & Transformer Flows
Following N-1 Disturbances
for Various OEC 500 MW Generation Alternatives

100% Load Base Case

All Flows above 100% of Emergency rating are Shown

Monitored Branches							Case 2004PI Base No OEC Gen	Case 2004PIA Sell to FPL	Case 2004PIB Sell to FPC	Case 2004PIC Sell to TEC	Case 2004PID Sell to JEA	Case 2004PIE Sell to SEM
Case	Bus 1	kV 1	Bus 2	kV 2	ckt	Area	Percent	Percent	Percent	Percent	Percent	Percent
2004PI-24	SN PLANT	230	SYLVAN	230	1	1						
2004PI-24	SYLVAN	230	N LONGWD	230	1	1						
2004PI-24	IND RIV	230	STANTON	230	1	11						
2004PI-24	SN PLANT	115	TURNER	115	1	1						
2004PI-24	BUCKEYE	230	RUSKMTR8	230	1	1						
2004PI-24	SILVR SP	230	SILV SPN	230	1	2						
2004PI-24	SILVR SP	230	OCALA 1	230	1	2						
2004PI-24	RIO PINR	230	CURRY FD	230	1	2						
2004PI-24	STANTON	230	CURRY FD	230	1	2						
2004PI-24	OSCEOLA	230	LKAGNES	230	1	16						
2004PI-24	SHELD	230	LK TARPN	230	1	2						
2004PI-24	PEBB	230	CREWSLK	230	1	13						
2004PI-24	PEBB	230	N BARTOW	230	1	2						
2004PI-24	RECKER	230	LKAGNES	230	1	16						
2004PI-24	RECKER	230	ARIANA	230	1	16						
2004PI-24	RECKER	230	CREWSLK	230	1	13						
2004PI-24	B BEND	230	MANATEE	230	1	1						
2004PI-24	RUSKIN T	230	MANATEE	230	1	1						
2004PI-24	IND RIV	230	IND RIV	115	1	11						
2004PI-24	SHELD	230	SHELD-NW	69	1	16						
2004PI-24	LARGO	230	LARGO A	69	1	2						
2004PI-24	CLMT EST	230	CLMT EST	69	1	2						
2004PI-24	11TH AVE	230	ELEVEN-E	69	1	16						
2004PI-24	WINDERME	230	WINDERME	69	1	2						
2004PI-24	PASADENA	230	PASADENA	115	1	2						
2004PI-24	ARIANA	230	ARIANA-N	69	1	16						
2004PI-24	SELOSE	230	SELOSE-N	69	1	16						
2004PI-24	GAPWAY	230	GAPWAY	69	1	16						
2004PI-24	CREWSLK	230	CREWSLK	69	1	13						
2004PI-24	TENOROC	230	TENOROC	69	1	13						
2004PI-24	BARCOLA	230	WEST	230	1	2						
2004PI-24	EATON PK	230	CREWSLK	230	1	13						
2004PI-24	EATON PK	230	EATON PK	69	1	13						
2004PI-24	EATON PK	230	TENOROC	230	1	13						
2004PI-24	RECKER	230	GAPWAY	230	1	16						
2004PI-24	SN PLANT	115	TURNER	115	1	1						
2004PI-25	SN PLANT	230	SYLVAN	230	1	1						
2004PI-25	SYLVAN	230	N LONGWD	230	1	1						
2004PI-25	IND RIV	230	STANTON	230	1	11						
2004PI-25	SN PLANT	115	TURNER	115	1	1						
2004PI-25	BUCKEYE	230	RUSKMTR8	230	1	1						
2004PI-25	SILVR SP	230	SILV SPN	230	1	2						
2004PI-25	SILVR SP	230	OCALA 1	230	1	2						
2004PI-25	RIO PINR	230	CURRY FD	230	1	2						
2004PI-25	STANTON	230	CURRY FD	230	1	2						
2004PI-25	OSCEOLA	230	LKAGNES	230	1	16						
2004PI-25	SHELD	230	LK TARPN	230	1	2						
2004PI-25	PEBB	230	CREWSLK	230	1	13						
2004PI-25	PEBB	230	N BARTOW	230	1	2						
2004PI-25	RECKER	230	LKAGNES	230	1	16						
2004PI-25	RECKER	230	ARIANA	230	1	16						
2004PI-25	RECKER	230	CREWSLK	230	1	13						
2004PI-25	B BEND	230	MANATEE	230	1	1						
2004PI-25	RUSKIN T	230	MANATEE	230	1	1						
2004PI-25	IND RIV	230	IND RIV	115	1	11						
2004PI-25	SHELD	230	SHELD-NW	69	1	16						
2004PI-25	LARGO	230	LARGO A	69	1	2						
2004PI-25	CLMT EST	230	CLMT EST	69	1	2						
2004PI-25	11TH AVE	230	ELEVEN-E	69	1	16						
2004PI-25	WINDERME	230	WINDERME	69	1	2						
2004PI-25	PASADENA	230	PASADENA	115	1	2						
2004PI-25	ARIANA	230	ARIANA-N	69	1	16						
2004PI-25	SELOSE	230	SELOSE-N	69	1	16						
2004PI-25	GAPWAY	230	GAPWAY	69	1	16						
2004PI-25	CREWSLK	230	CREWSLK	69	1	13						
2004PI-25	TENOROC	230	TENOROC	69	1	13						
2004PI-25	BARCOLA	230	WEST	230	1	2						
2004PI-25	EATON PK	230	CREWSLK	230	1	13						
2004PI-25	EATON PK	230	EATON PK	69	1	13						
2004PI-25	EATON PK	230	TENOROC	230	1	13						
2004PI-25	RECKER	230	GAPWAY	230	1	16						
2004PI-25	SN PLANT	115	TURNER	115	1	1						

Table II

Comparison of Line & Transformer Flows
Following N-1 Disturbances
for Various OEC 500 MW Generation Alternatives

100% Load Base Case

All Flows above 100% of Emergency rating are Shown

Monitored Branches							Case 2004PI Base No OEC Gen	Case 2004PIA Sell to FPL	Case 2004PIB Sell to FPC	Case 2004PIC Sell to TEC	Case 2004PID Sell to JEA	Case 2004PIE Sell to SEM
Case	Bus 1	kV 1	Bus 2	kV 2	ckt	Area	Percent	Percent	Percent	Percent	Percent	Percent
2004PI-26	SN PLANT	230	SYLVAN	230	1	1						
2004PI-26	SYLVAN	230	N LONGWD	230	1	1						
2004PI-26	IND RIV	230	STANTON	230	1	11						
2004PI-26	SN PLANT	115	TURNER	115	1	1						
2004PI-26	BUCKEYE	230	RUSKMTR8	230	1	1						
2004PI-26	SILVR SP	230	SILV SPN	230	1	2						
2004PI-26	SILVR SP	230	OCALA 1	230	1	2						
2004PI-26	RIO PINR	230	CURRY FD	230	1	2						
2004PI-26	STANTON	230	CURRY FD	230	1	2						
2004PI-26	OSCEOLA	230	LKAGNES	230	1	16						
2004PI-26	SHELD	230	LK TARPN	230	1	2						
2004PI-26	PEBB	230	CREWSLK	230	1	13						
2004PI-26	PEBB	230	N BARTOW	230	1	2						
2004PI-26	RECKER	230	LKAGNES	230	1	16						
2004PI-26	RECKER	230	ARIANA	230	1	16						
2004PI-26	RECKER	230	CREWSLK	230	1	13						
2004PI-26	B BEND	230	MANATEE	230	1	1						
2004PI-26	RUSKIN T	230	MANATEE	230	1	1						
2004PI-26	IND RIV	230	IND RIV	115	1	11						
2004PI-26	SHELD	230	SHELD-NW	69	1	16						
2004PI-26	LARGO	230	LARGO A	69	1	2						
2004PI-26	CLMT EST	230	CLMT EST	69	1	2						
2004PI-26	11TH AVE	230	ELEVEN-E	69	1	16						
2004PI-26	WINDERME	230	WINDERME	69	1	2						
2004PI-26	PASADENA	230	PASADENA	115	1	2						
2004PI-26	ARIANA	230	ARIANA-N	69	1	16						
2004PI-26	SELOSE	230	SELOSE-N	69	1	16						
2004PI-26	GAPWAY	230	GAPWAY	69	1	16						
2004PI-26	CREWSLK	230	CREWSLK	69	1	13						
2004PI-26	TENOROC	230	TENOROC	69	1	13						
2004PI-26	BARCOLA	230	WEST	230	1	2						
2004PI-26	EATON PK	230	CREWSLK	230	1	13						
2004PI-26	EATON PK	230	EATON PK	69	1	13						
2004PI-26	EATON PK	230	TENOROC	230	1	13						
2004PI-26	RECKER	230	GAPWAY	230	1	16						
2004PI-26	SN PLANT	115	TURNER	115	1	1						
2004PI-27	SN PLANT	230	SYLVAN	230	1	1						
2004PI-27	SYLVAN	230	N LONGWD	230	1	1						
2004PI-27	IND RIV	230	STANTON	230	1	11						
2004PI-27	SN PLANT	115	TURNER	115	1	1						
2004PI-27	BUCKEYE	230	RUSKMTR8	230	1	1						
2004PI-27	SILVR SP	230	SILV SPN	230	1	2						
2004PI-27	SILVR SP	230	OCALA 1	230	1	2						
2004PI-27	RIO PINR	230	CURRY FD	230	1	2						
2004PI-27	STANTON	230	CURRY FD	230	1	2						
2004PI-27	OSCEOLA	230	LKAGNES	230	1	16						
2004PI-27	SHELD	230	LK TARPN	230	1	2						
2004PI-27	PEBB	230	CREWSLK	230	1	13						
2004PI-27	PEBB	230	N BARTOW	230	1	2						
2004PI-27	RECKER	230	LKAGNES	230	1	16						
2004PI-27	RECKER	230	ARIANA	230	1	16						
2004PI-27	RECKER	230	CREWSLK	230	1	13						
2004PI-27	B BEND	230	MANATEE	230	1	1						
2004PI-27	RUSKIN T	230	MANATEE	230	1	1						
2004PI-27	IND RIV	230	IND RIV	115	1	11						
2004PI-27	SHELD	230	SHELD-NW	69	1	16						
2004PI-27	LARGO	230	LARGO A	69	1	2						
2004PI-27	CLMT EST	230	CLMT EST	69	1	2						
2004PI-27	11TH AVE	230	ELEVEN-E	69	1	16						
2004PI-27	WINDERME	230	WINDERME	69	1	2						
2004PI-27	PASADENA	230	PASADENA	115	1	2						
2004PI-27	ARIANA	230	ARIANA-N	69	1	16						
2004PI-27	SELOSE	230	SELOSE-N	69	1	16						
2004PI-27	GAPWAY	230	GAPWAY	69	1	16						
2004PI-27	CREWSLK	230	CREWSLK	69	1	13						
2004PI-27	TENOROC	230	TENOROC	69	1	13						
2004PI-27	BARCOLA	230	WEST	230	1	2						
2004PI-27	EATON PK	230	CREWSLK	230	1	13						
2004PI-27	EATON PK	230	EATON PK	69	1	13						
2004PI-27	EATON PK	230	TENOROC	230	1	13						
2004PI-27	RECKER	230	GAPWAY	230	1	16						
2004PI-27	SN PLANT	115	TURNER	115	1	1						

Table II

Comparison of Line & Transformer Flows
Following N-1 Disturbances
for Various OEC 500 MW Generation Alternatives

100% Load Base Case

All Flows above 100% of Emergency rating are Shown

Monitored Branches							Case 2004PI Base No OEC Gen	Case 2004PIA Sell to FPL	Case 2004PIB Sell to FPC	Case 2004PIC Sell to TEC	Case 2004PID Sell to JEA	Case 2004PIE Sell to SEM
Case	Bus 1	kV 1	Bus 2	kV 2	ckt	Area	Percent	Percent	Percent	Percent	Percent	Percent
2004PI-28	SN PLANT	230	SYLVAN	230	1	1						
2004PI-28	SYLVAN	230	N LONGWD	230	1	1						
2004PI-28	IND RIV	230	STANTON	230	1	11						
2004PI-28	SN PLANT	115	TURNER	115	1	1						
2004PI-28	BUCKEYE	230	RUSKMTR8	230	1	1						
2004PI-28	SILVR SP	230	SILV SPN	230	1	2						
2004PI-28	SILVR SP	230	OCALA 1	230	1	2						
2004PI-28	RIO PINR	230	CURRY FD	230	1	2						
2004PI-28	STANTON	230	CURRY FD	230	1	2						
2004PI-28	OSCEOLA	230	LKAGNES	230	1	16						
2004PI-28	SHELD	230	LK TARPN	230	1	2						
2004PI-28	PEBB	230	CREWSLK	230	1	13						
2004PI-28	PEBB	230	N BARTOW	230	1	2						
2004PI-28	RECKER	230	LKAGNES	230	1	16						
2004PI-28	RECKER	230	ARIANA	230	1	16						
2004PI-28	RECKER	230	CREWSLK	230	1	13						
2004PI-28	B BEND	230	MANATEE	230	1	1						
2004PI-28	RUSKIN T	230	MANATEE	230	1	1						
2004PI-28	IND RIV	230	IND RIV	115	1	11						
2004PI-28	SHELD	230	SHELD-NW	69	1	16						
2004PI-28	LARGO	230	LARGO A	69	1	2						
2004PI-28	CLMT EST	230	CLMT EST	69	1	2						
2004PI-28	11TH AVE	230	ELEVEN-E	69	1	16						
2004PI-28	WINDERME	230	WINDERME	69	1	2						
2004PI-28	PASADENA	230	PASADENA	115	1	2						
2004PI-28	ARIANA	230	ARIANA-N	69	1	16						
2004PI-28	SELOSE	230	SELOSE-N	69	1	16						
2004PI-28	GAPWAY	230	GAPWAY	69	1	16						
2004PI-28	CREWSLK	230	CREWSLK	69	1	13						
2004PI-28	TENOROC	230	TENOROC	69	1	13						
2004PI-28	BARCOLA	230	WEST	230	1	2						
2004PI-28	EATON PK	230	CREWSLK	230	1	13						
2004PI-28	EATON PK	230	EATON PK	69	1	13						
2004PI-28	EATON PK	230	TENOROC	230	1	13						
2004PI-28	RECKER	230	GAPWAY	230	1	16						
2004PI-28	SN PLANT	115	TURNER	115	1	1						
2004PI-29	SN PLANT	230	SYLVAN	230	1	1						
2004PI-29	SYLVAN	230	N LONGWD	230	1	1						
2004PI-29	IND RIV	230	STANTON	230	1	11						
2004PI-29	SN PLANT	115	TURNER	115	1	1						
2004PI-29	BUCKEYE	230	RUSKMTR8	230	1	1						
2004PI-29	SILVR SP	230	SILV SPN	230	1	2						
2004PI-29	SILVR SP	230	OCALA 1	230	1	2						
2004PI-29	RIO PINR	230	CURRY FD	230	1	2						
2004PI-29	STANTON	230	CURRY FD	230	1	2						
2004PI-29	OSCEOLA	230	LKAGNES	230	1	16						
2004PI-29	SHELD	230	LK TARPN	230	1	2						
2004PI-29	PEBB	230	CREWSLK	230	1	13						
2004PI-29	PEBB	230	N BARTOW	230	1	2						
2004PI-29	RECKER	230	LKAGNES	230	1	16						
2004PI-29	RECKER	230	ARIANA	230	1	16						
2004PI-29	RECKER	230	CREWSLK	230	1	13						
2004PI-29	B BEND	230	MANATEE	230	1	1						
2004PI-29	RUSKIN T	230	MANATEE	230	1	1						
2004PI-29	IND RIV	230	IND RIV	115	1	11						
2004PI-29	SHELD	230	SHELD-NW	69	1	16						
2004PI-29	LARGO	230	LARGO A	69	1	2						
2004PI-29	CLMT EST	230	CLMT EST	69	1	2						
2004PI-29	11TH AVE	230	ELEVEN-E	69	1	16						
2004PI-29	WINDERME	230	WINDERME	69	1	2						
2004PI-29	PASADENA	230	PASADENA	115	1	2						
2004PI-29	ARIANA	230	ARIANA-N	69	1	16		104.2	103.9	104.6	103.8	103.8
2004PI-29	SELOSE	230	SELOSE-N	69	1	16						
2004PI-29	GAPWAY	230	GAPWAY	69	1	16						
2004PI-29	CREWSLK	230	CREWSLK	69	1	13						
2004PI-29	TENOROC	230	TENOROC	69	1	13						
2004PI-29	BARCOLA	230	WEST	230	1	2						
2004PI-29	EATON PK	230	CREWSLK	230	1	13						
2004PI-29	EATON PK	230	EATON PK	69	1	13						
2004PI-29	EATON PK	230	TENOROC	230	1	13						
2004PI-29	RECKER	230	GAPWAY	230	1	16						
2004PI-29	SN PLANT	115	TURNER	115	1	1						

Table II

Comparison of Line & Transformer Flows Following N-1 Disturbances for Various OEC 500 MW Generation Alternatives

100% Load Base Case

All Flows above 100% of Emergency rating are Shown

Monitored Branches							Case 2004PI Base No OEC Gen	Case 2004PIA Sell to FPL	Case 2004PIB Sell to FPC	Case 2004PIC Sell to TEC	Case 2004PID Sell to JEA	Case 2004PIE Sell to SEM
Case	Bus 1	kV 1	Bus 2	kV 2	ckt	Area	Percent	Percent	Percent	Percent	Percent	Percent
2004PI-30	SN PLANT	230	SYLVAN	230	1	1						
2004PI-30	SYLVAN	230	N LONGWD	230	1	1						
2004PI-30	IND RIV	230	STANTON	230	1	11						
2004PI-30	SN PLANT	115	TURNER	115	1	1						
2004PI-30	BUCKEYE	230	RUSKMTR8	230	1	1						
2004PI-30	SILVR SP	230	SILV SPN	230	1	2						
2004PI-30	SILVR SP	230	OCALA 1	230	1	2						
2004PI-30	RIO PINR	230	CURRY FD	230	1	2						
2004PI-30	STANTON	230	CURRY FD	230	1	2						
2004PI-30	OSCEOLA	230	LKAGNES	230	1	16						
2004PI-30	SHELD	230	LK TARPN	230	1	2						
2004PI-30	PEBB	230	CREWSLK	230	1	13						
2004PI-30	PEBB	230	N BARTOW	230	1	2						
2004PI-30	RECKER	230	LKAGNES	230	1	16						
2004PI-30	RECKER	230	ARIANA	230	1	16						
2004PI-30	RECKER	230	CREWSLK	230	1	13						
2004PI-30	B BEND	230	MANATEE	230	1	1						
2004PI-30	RUSKIN T	230	MANATEE	230	1	1						
2004PI-30	IND RIV	230	IND RIV	115	1	11						
2004PI-30	SHELD	230	SHELD-NW	69	1	16						
2004PI-30	LARGO	230	LARGO A	69	1	2						
2004PI-30	CLMT EST	230	CLMT EST	69	1	2						
2004PI-30	11TH AVE	230	ELEVEN-E	69	1	16						
2004PI-30	WINDERME	230	WINDERME	69	1	2						
2004PI-30	PASADENA	230	PASADENA	115	1	2						
2004PI-30	ARIANA	230	ARIANA-N	69	1	16						
2004PI-30	SELOSE	230	SELOSE-N	69	1	16						
2004PI-30	GAPWAY	230	GAPWAY	69	1	16						
2004PI-30	CREWSLK	230	CREWSLK	69	1	13						
2004PI-30	TENOROC	230	TENOROC	69	1	13						
2004PI-30	BARCOLA	230	WEST	230	1	2						
2004PI-30	EATON PK	230	CREWSLK	230	1	13						
2004PI-30	EATON PK	230	EATON PK	69	1	13						
2004PI-30	EATON PK	230	TENOROC	230	1	13						
2004PI-30	RECKER	230	GAPWAY	230	1	16						
2004PI-30	SN PLANT	115	TURNER	115	1	1						
2004PI-31	SN PLANT	230	SYLVAN	230	1	1						
2004PI-31	SYLVAN	230	N LONGWD	230	1	1						
2004PI-31	IND RIV	230	STANTON	230	1	11						
2004PI-31	SN PLANT	115	TURNER	115	1	1						
2004PI-31	BUCKEYE	230	RUSKMTR8	230	1	1						
2004PI-31	SILVR SP	230	SILV SPN	230	1	2						
2004PI-31	SILVR SP	230	OCALA 1	230	1	2						
2004PI-31	RIO PINR	230	CURRY FD	230	1	2						
2004PI-31	STANTON	230	CURRY FD	230	1	2						
2004PI-31	OSCEOLA	230	LKAGNES	230	1	16						
2004PI-31	SHELD	230	LK TARPN	230	1	2						
2004PI-31	PEBB	230	CREWSLK	230	1	13						
2004PI-31	PEBB	230	N BARTOW	230	1	2						
2004PI-31	RECKER	230	LKAGNES	230	1	16						
2004PI-31	RECKER	230	ARIANA	230	1	16						
2004PI-31	RECKER	230	CREWSLK	230	1	13						
2004PI-31	B BEND	230	MANATEE	230	1	1						
2004PI-31	RUSKIN T	230	MANATEE	230	1	1						
2004PI-31	IND RIV	230	IND RIV	115	1	11						
2004PI-31	SHELD	230	SHELD-NW	69	1	16						
2004PI-31	LARGO	230	LARGO A	69	1	2						
2004PI-31	CLMT EST	230	CLMT EST	69	1	2						
2004PI-31	11TH AVE	230	ELEVEN-E	69	1	16						
2004PI-31	WINDERME	230	WINDERME	69	1	2						
2004PI-31	PASADENA	230	PASADENA	115	1	2						
2004PI-31	ARIANA	230	ARIANA-N	69	1	16						
2004PI-31	SELOSE	230	SELOSE-N	69	1	16						
2004PI-31	GAPWAY	230	GAPWAY	69	1	16						
2004PI-31	CREWSLK	230	CREWSLK	69	1	13						
2004PI-31	TENOROC	230	TENOROC	69	1	13						
2004PI-31	BARCOLA	230	WEST	230	1	2						
2004PI-31	EATON PK	230	CREWSLK	230	1	13						
2004PI-31	EATON PK	230	EATON PK	69	1	13						
2004PI-31	EATON PK	230	TENOROC	230	1	13						
2004PI-31	RECKER	230	GAPWAY	230	1	16						
2004PI-31	SN PLANT	115	TURNER	115	1	1						

Table II

Comparison of Line & Transformer Flows Following N-1 Disturbances for Various OEC 500 MW Generation Alternatives

100% Load Base Case

All Flows above 100% of Emergency rating are Shown

Monitored Branches							Case 2004PI Base No OEC Gen	Case 2004PIA Sell to FPL	Case 2004PIB Sell to FPC	Case 2004PIC Sell to TEC	Case 2004PID Sell to JEA	Case 2004PIE Sell to SEM
Case	Bus 1	kV 1	Bus 2	kV 2	ckt	Area	Percent	Percent	Percent	Percent	Percent	Percent
2004PI-32	SN PLANT	230	SYLVAN	230	1	1						
2004PI-32	SYLVAN	230	N LONGWD	230	1	1						
2004PI-32	IND RIV	230	STANTON	230	1	11						
2004PI-32	SN PLANT	115	TURNER	115	1	1						
2004PI-32	BUCKEYE	230	RUSKMTR8	230	1	1						
2004PI-32	SILVR SP	230	SILV SPN	230	1	2						
2004PI-32	SILVR SP	230	OCALA 1	230	1	2						
2004PI-32	RIO PINR	230	CURRY FD	230	1	2						
2004PI-32	STANTON	230	CURRY FD	230	1	2						
2004PI-32	OSCEOLA	230	LKAGNES	230	1	16						
2004PI-32	SHELD	230	LK TARPN	230	1	2						
2004PI-32	PEBB	230	CREWSLK	230	1	13						
2004PI-32	PEBB	230	N BARTOW	230	1	2						
2004PI-32	RECKER	230	LKAGNES	230	1	16						
2004PI-32	RECKER	230	ARIANA	230	1	16						
2004PI-32	RECKER	230	CREWSLK	230	1	13						
2004PI-32	B BEND	230	MANATEE	230	1	1						
2004PI-32	RUSKIN T	230	MANATEE	230	1	1						
2004PI-32	IND RIV	230	IND RIV	115	1	11						
2004PI-32	SHELD	230	SHELD-NW	69	1	16						
2004PI-32	LARGO	230	LARGO A	69	1	2						
2004PI-32	CLMT EST	230	CLMT EST	69	1	2						
2004PI-32	11TH AVE	230	ELEVEN-E	69	1	16						
2004PI-32	WINDERME	230	WINDERME	69	1	2						
2004PI-32	PASADENA	230	PASADENA	115	1	2						
2004PI-32	ARIANA	230	ARIANA-N	69	1	16						
2004PI-32	SELOSE	230	SELOSE-N	69	1	16						
2004PI-32	GAPWAY	230	GAPWAY	69	1	16						
2004PI-32	CREWSLK	230	CREWSLK	69	1	13						
2004PI-32	TENOROC	230	TENOROC	69	1	13						
2004PI-32	BARCOLA	230	WEST	230	1	2						
2004PI-32	EATON PK	230	CREWSLK	230	1	13						
2004PI-32	EATON PK	230	EATON PK	69	1	13						
2004PI-32	EATON PK	230	TENOROC	230	1	13						
2004PI-32	RECKER	230	GAPWAY	230	1	16						
2004PI-32	SN PLANT	115	TURNER	115	1	1						
2004PI-33	SN PLANT	230	SYLVAN	230	1	1						
2004PI-33	SYLVAN	230	N LONGWD	230	1	1						
2004PI-33	IND RIV	230	STANTON	230	1	11						
2004PI-33	SN PLANT	115	TURNER	115	1	1						
2004PI-33	BUCKEYE	230	RUSKMTR8	230	1	1						
2004PI-33	SILVR SP	230	SILV SPN	230	1	2						
2004PI-33	SILVR SP	230	OCALA 1	230	1	2						
2004PI-33	RIO PINR	230	CURRY FD	230	1	2						
2004PI-33	STANTON	230	CURRY FD	230	1	2						
2004PI-33	OSCEOLA	230	LKAGNES	230	1	16						
2004PI-33	SHELD	230	LK TARPN	230	1	2						
2004PI-33	PEBB	230	CREWSLK	230	1	13						
2004PI-33	PEBB	230	N BARTOW	230	1	2						
2004PI-33	RECKER	230	LKAGNES	230	1	16						
2004PI-33	RECKER	230	ARIANA	230	1	16						
2004PI-33	RECKER	230	CREWSLK	230	1	13						
2004PI-33	B BEND	230	MANATEE	230	1	1						
2004PI-33	RUSKIN T	230	MANATEE	230	1	1						
2004PI-33	IND RIV	230	IND RIV	115	1	11						
2004PI-33	SHELD	230	SHELD-NW	69	1	16						
2004PI-33	LARGO	230	LARGO A	69	1	2						
2004PI-33	CLMT EST	230	CLMT EST	69	1	2						
2004PI-33	11TH AVE	230	ELEVEN-E	69	1	16						
2004PI-33	WINDERME	230	WINDERME	69	1	2						
2004PI-33	PASADENA	230	PASADENA	115	1	2						
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2004PI-33	EATON PK	230	TENOROC	230	1	13						
2004PI-33	RECKER	230	GAPWAY	230	1	16						
2004PI-33	SN PLANT	115	TURNER	115	1	1						

Table II

Comparison of Line & Transformer Flows
Following N-1 Disturbances
for Various OEC 500 MW Generation Alternatives

100% Load Base Case

All Flows above 100% of Emergency rating are Shown

Monitored Branches							Case 2004PI Base No OEC Gen	Case 2004PIA Sell to FPL	Case 2004PIB Sell to FPC	Case 2004PIC Sell to TEC	Case 2004PID Sell to JEA	Case 2004PIE Sell to SEM
Case	Bus 1	kV 1	Bus 2	kV 2	ckt	Area	Percent	Percent	Percent	Percent	Percent	Percent
2004PI-34	SN PLANT	230	SYLVAN	230	1	1						
2004PI-34	SYLVAN	230	N LONGWD	230	1	1						
2004PI-34	IND RIV	230	STANTON	230	1	11						
2004PI-34	SN PLANT	115	TURNER	115	1	1						
2004PI-34	BUCKEYE	230	RUSKMTR8	230	1	1						
2004PI-34	SILVR SP	230	SILV SPN	230	1	2						
2004PI-34	SILVR SP	230	OCALA 1	230	1	2						
2004PI-34	RIO PINR	230	CURRY FD	230	1	2						
2004PI-34	STANTON	230	CURRY FD	230	1	2						
2004PI-34	OSCEOLA	230	LKAGNES	230	1	16						
2004PI-34	SHELD	230	LK TARPN	230	1	2						
2004PI-34	PEBB	230	CREWSLK	230	1	13						
2004PI-34	PEBB	230	N BARTOW	230	1	2						
2004PI-34	RECKER	230	LKAGNES	230	1	16						
2004PI-34	RECKER	230	ARIANA	230	1	16						
2004PI-34	RECKER	230	CREWSLK	230	1	13						
2004PI-34	B BEND	230	MANATEE	230	1	1						
2004PI-34	RUSKIN T	230	MANATEE	230	1	1						
2004PI-34	IND RIV	230	IND RIV	115	1	11						
2004PI-34	SHELD	230	SHELD-NW	69	1	16						
2004PI-34	LARGO	230	LARGO A	69	1	2						
2004PI-34	CLMT EST	230	CLMT EST	69	1	2						
2004PI-34	11TH AVE	230	ELEVEN-E	69	1	16						
2004PI-34	WINDERME	230	WINDERME	69	1	2						
2004PI-34	PASADENA	230	PASADENA	115	1	2						
2004PI-34	ARIANA	230	ARIANA-N	69	1	16						
2004PI-34	SELOSE	230	SELOSE-N	69	1	16						
2004PI-34	GAPWAY	230	GAPWAY	69	1	16						
2004PI-34	CREWSLK	230	CREWSLK	69	1	13						
2004PI-34	TENOROC	230	TENOROC	69	1	13						
2004PI-34	BARCOLA	230	WEST	230	1	2						
2004PI-34	EATON PK	230	CREWSLK	230	1	13						
2004PI-34	EATON PK	230	EATON PK	69	1	13						
2004PI-34	EATON PK	230	TENOROC	230	1	13						
2004PI-34	RECKER	230	GAPWAY	230	1	16						
2004PI-34	SN PLANT	115	TURNER	115	1	1						
2004PI-35	SN PLANT	230	SYLVAN	230	1	1						
2004PI-35	SYLVAN	230	N LONGWD	230	1	1						
2004PI-35	IND RIV	230	STANTON	230	1	11						
2004PI-35	SN PLANT	115	TURNER	115	1	1						
2004PI-35	BUCKEYE	230	RUSKMTR8	230	1	1						
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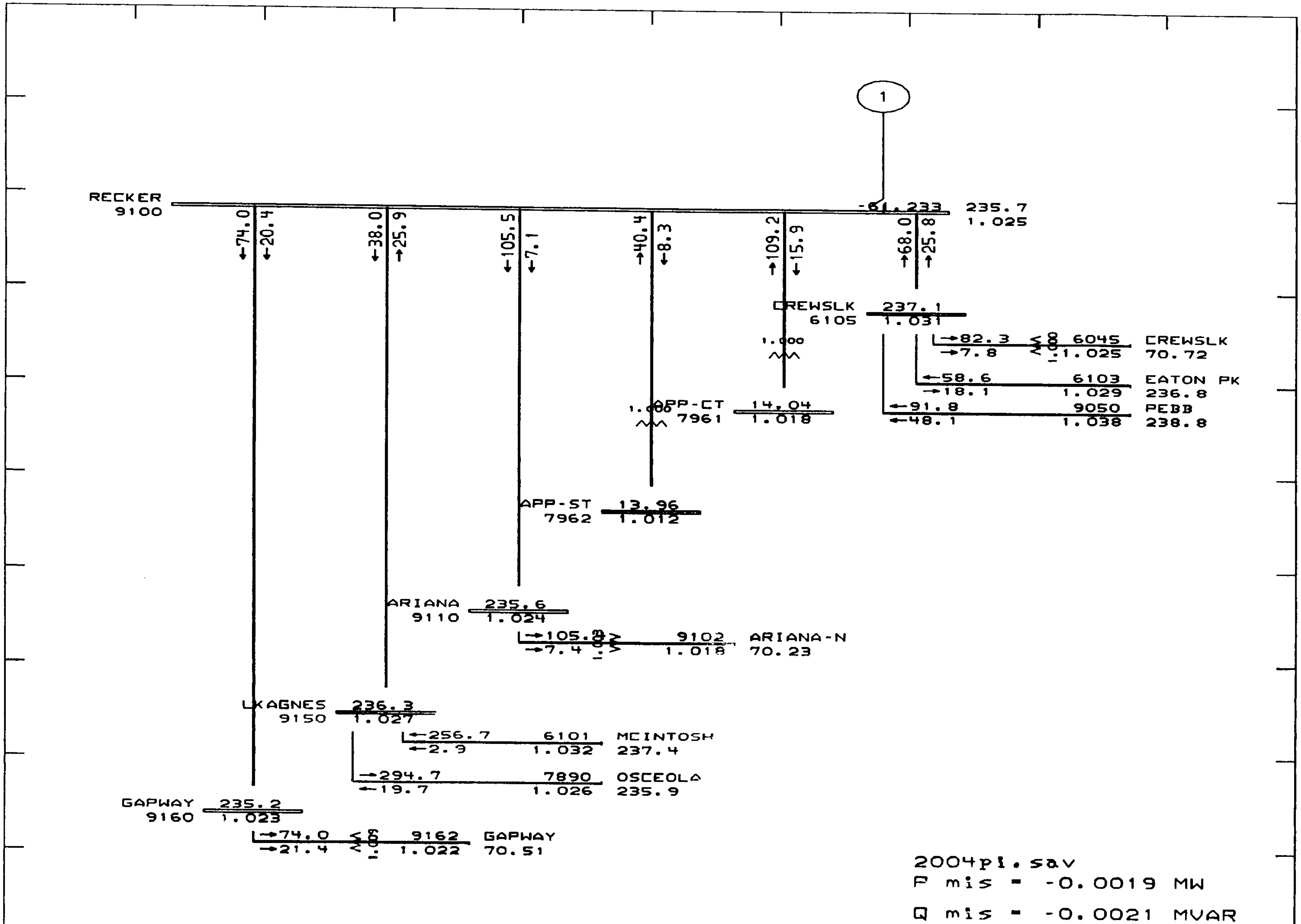
2004PI-35	SILVR SP	230	OCALA 1	230	1	2						
2004PI-35	RIO PINR	230	CURRY FD	230	1	2						
2004PI-35	STANTON	230	CURRY FD	230	1	2						
2004PI-35	OSCEOLA	230	LKAGNES	230	1	16						
2004PI-35	SHELD	230	LK TARPN	230	1	2						
2004PI-35	PEBB	230	CREWSLK	230	1	13						
2004PI-35	PEBB	230	N BARTOW	230	1	2						
2004PI-35	RECKER	230	LKAGNES	230	1	16						
2004PI-35	RECKER	230	ARIANA	230	1	16						
2004PI-35	RECKER	230	CREWSLK	230	1	13						
2004PI-35	B BEND	230	MANATEE	230	1	1						
2004PI-35	RUSKIN T	230	MANATEE	230	1	1						
2004PI-35	IND RIV	230	IND RIV	115	1	11						
2004PI-35	SHELD	230	SHELD-NW	69	1	16						
2004PI-35	LARGO	230	LARGO A	69	1	2						
2004PI-35	CLMT EST	230	CLMT EST	69	1	2						
2004PI-35	11TH AVE	230	ELEVEN-E	69	1	16						
2004PI-35	WINDERME	230	WINDERME	69	1	2						
2004PI-35	PASADENA	230	PASADENA	115	1	2						
2004PI-35	ARIANA	230	ARIANA-N	69	1	16						
2004PI-35	SELOSE	230	SELOSE-N	69	1	16						
2004PI-35	GAPWAY	230	GAPWAY	69	1	16						
2004PI-35	CREWSLK	230	CREWSLK	69	1	13						
2004PI-35	TENOROC	230	TENOROC	69	1	13						
2004PI-35	BARCOLA	230	WEST	230	1	2						
2004PI-35	EATON PK	230	CREWSLK	230	1	13						
2004PI-35	EATON PK	230	EATON PK	69	1	13						
2004PI-35	EATON PK	230	TENOROC	230	1	13						
2004PI-35	RECKER	230	GAPWAY	230	1	16						
2004PI-35	SN PLANT	115	TURNER	115	1	1						

APPENDIX I-A



General Electric Company PSLF Program

GENERAL ELECTRIC COMPANY

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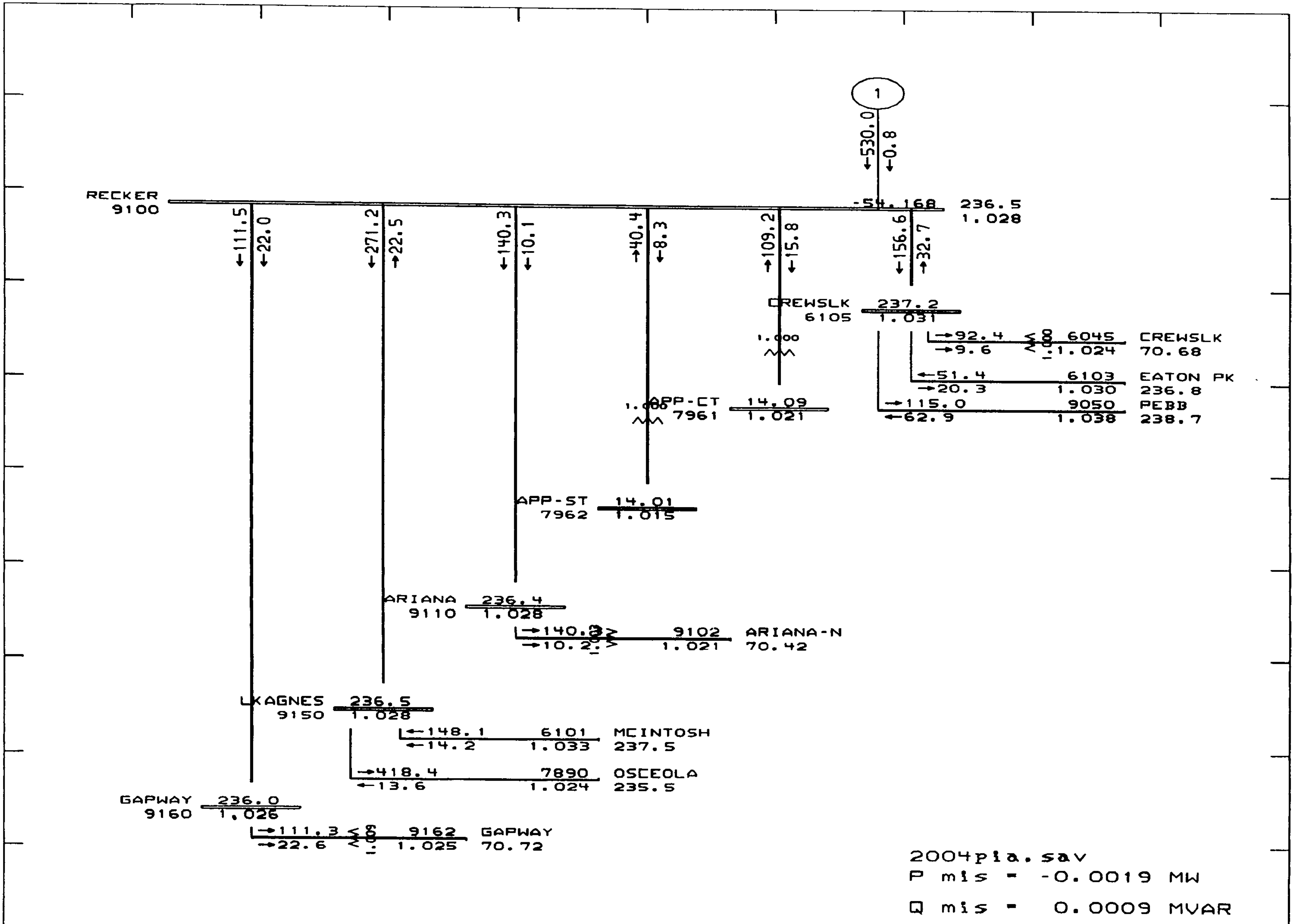

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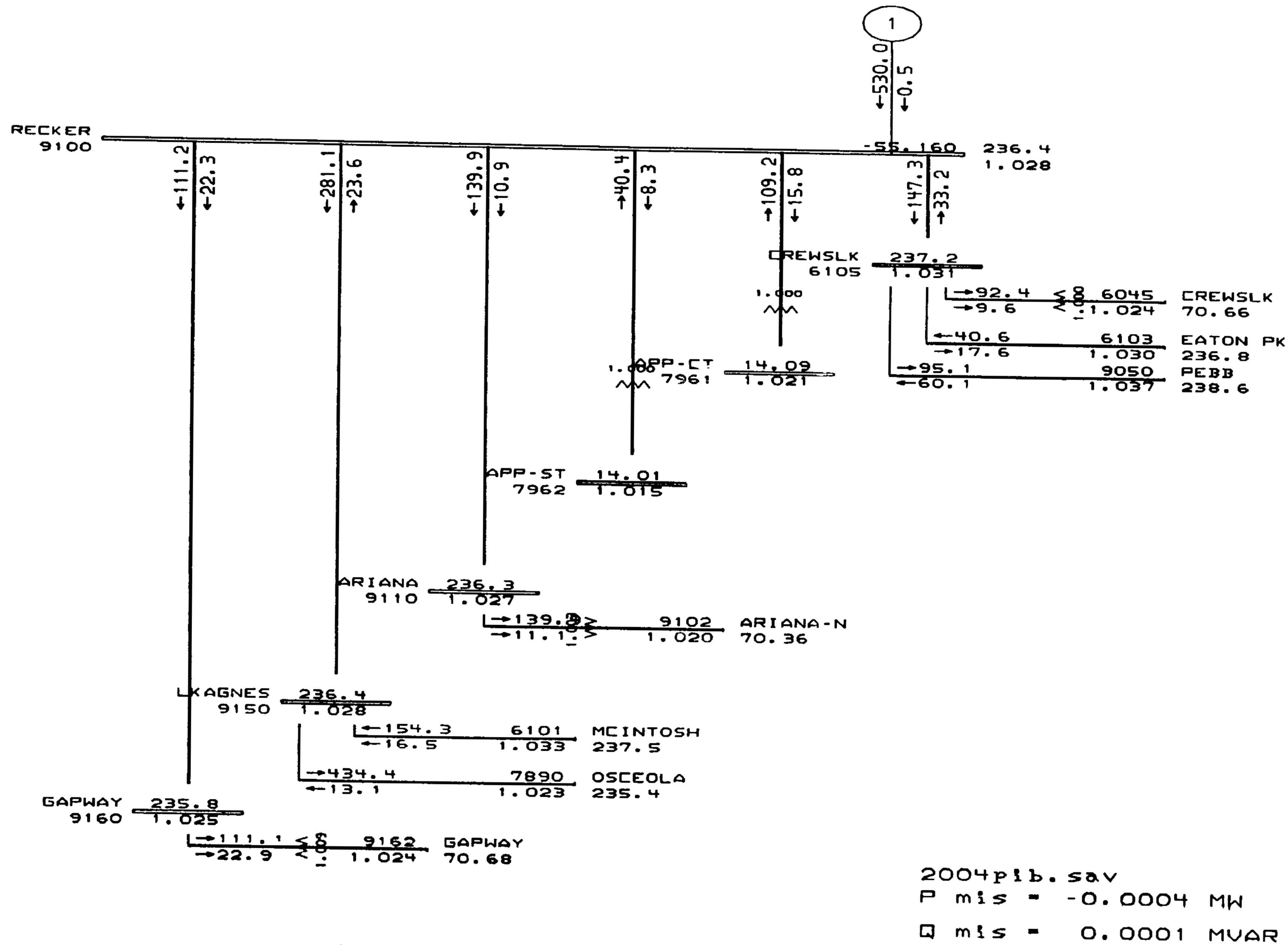

General Electric Company   PSLF Program

GENERAL ELECTRIC COMPANY

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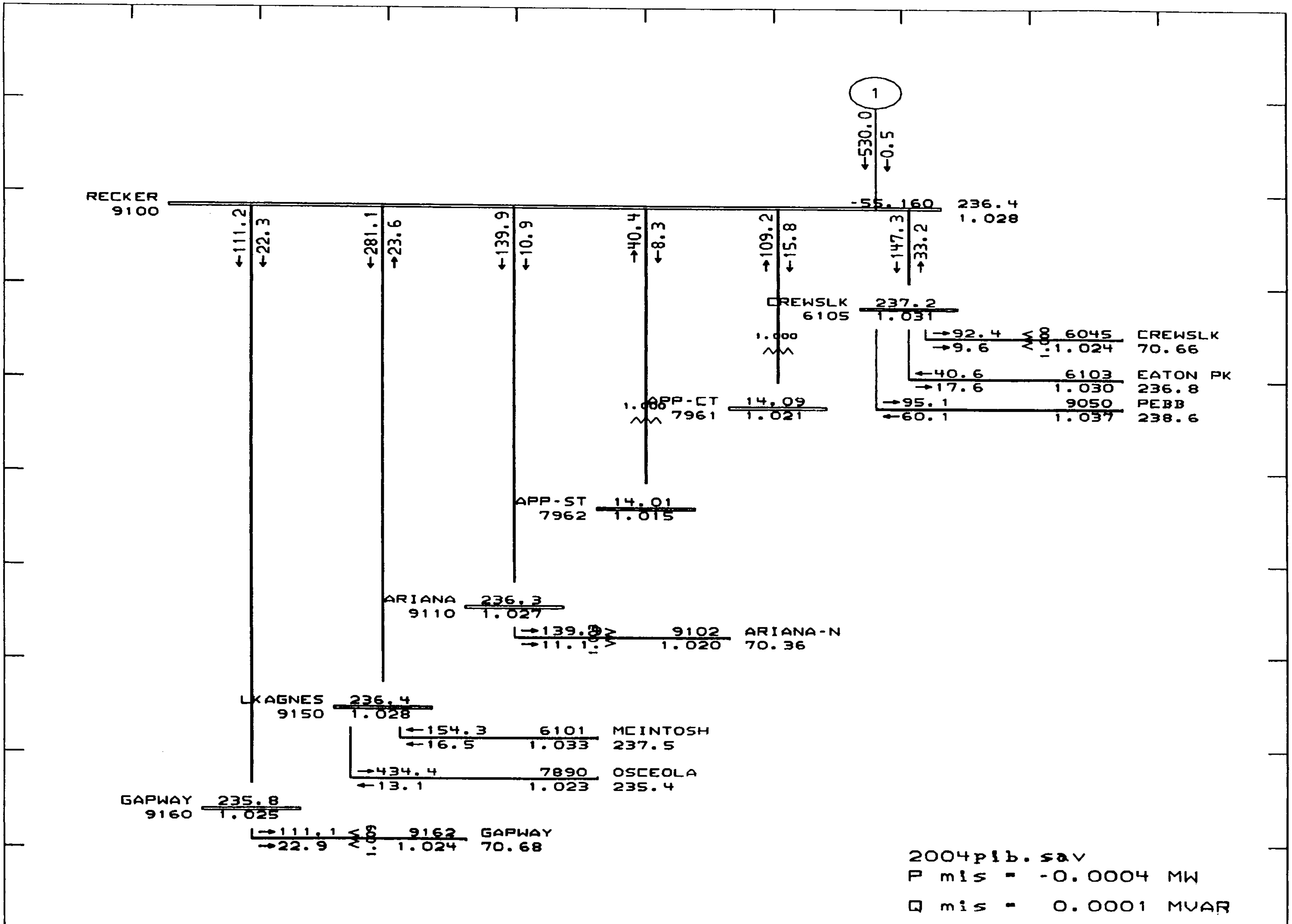

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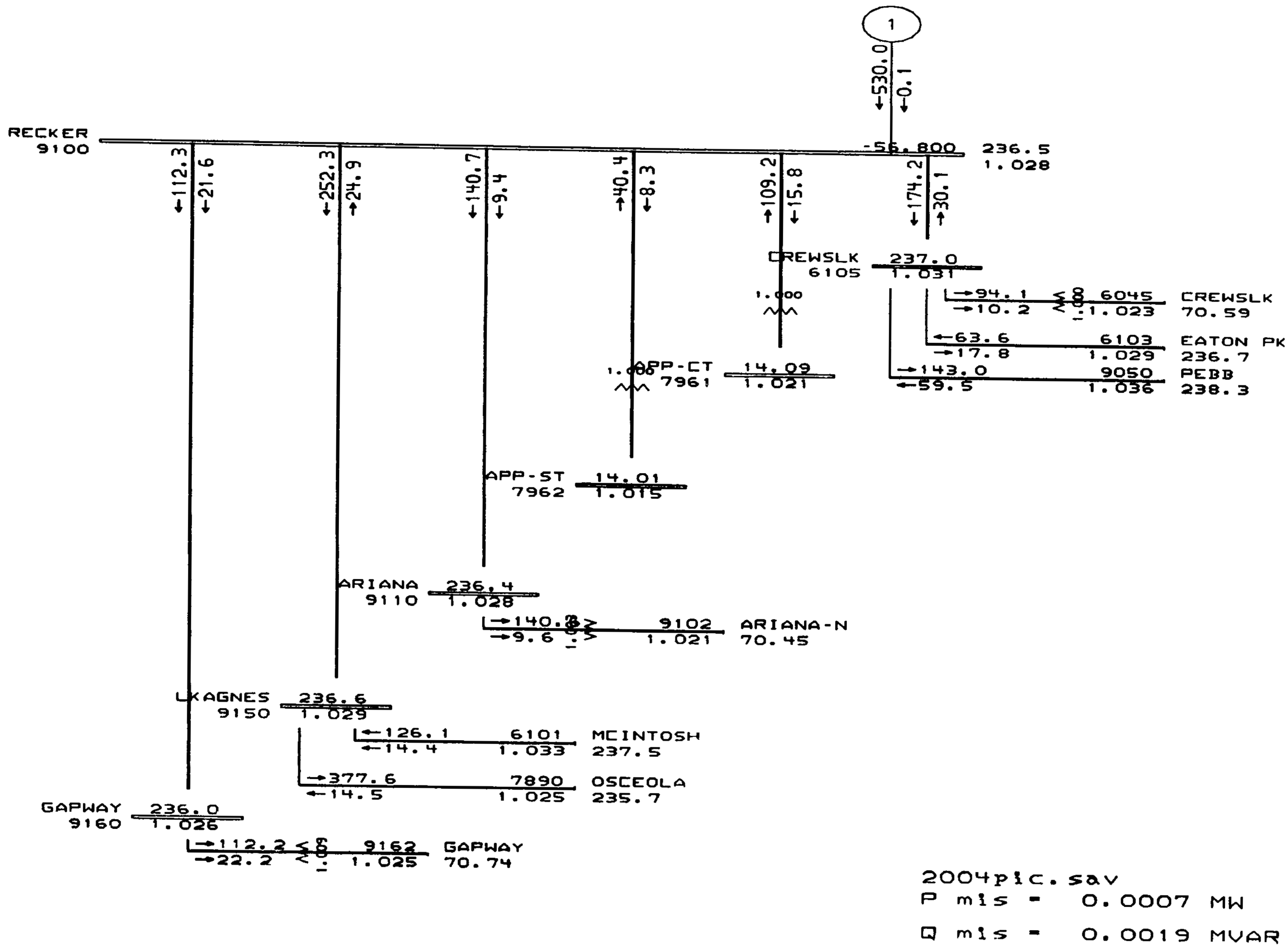

General Electric Company | PSLF Program

GENERAL ELECTRIC COMPANY

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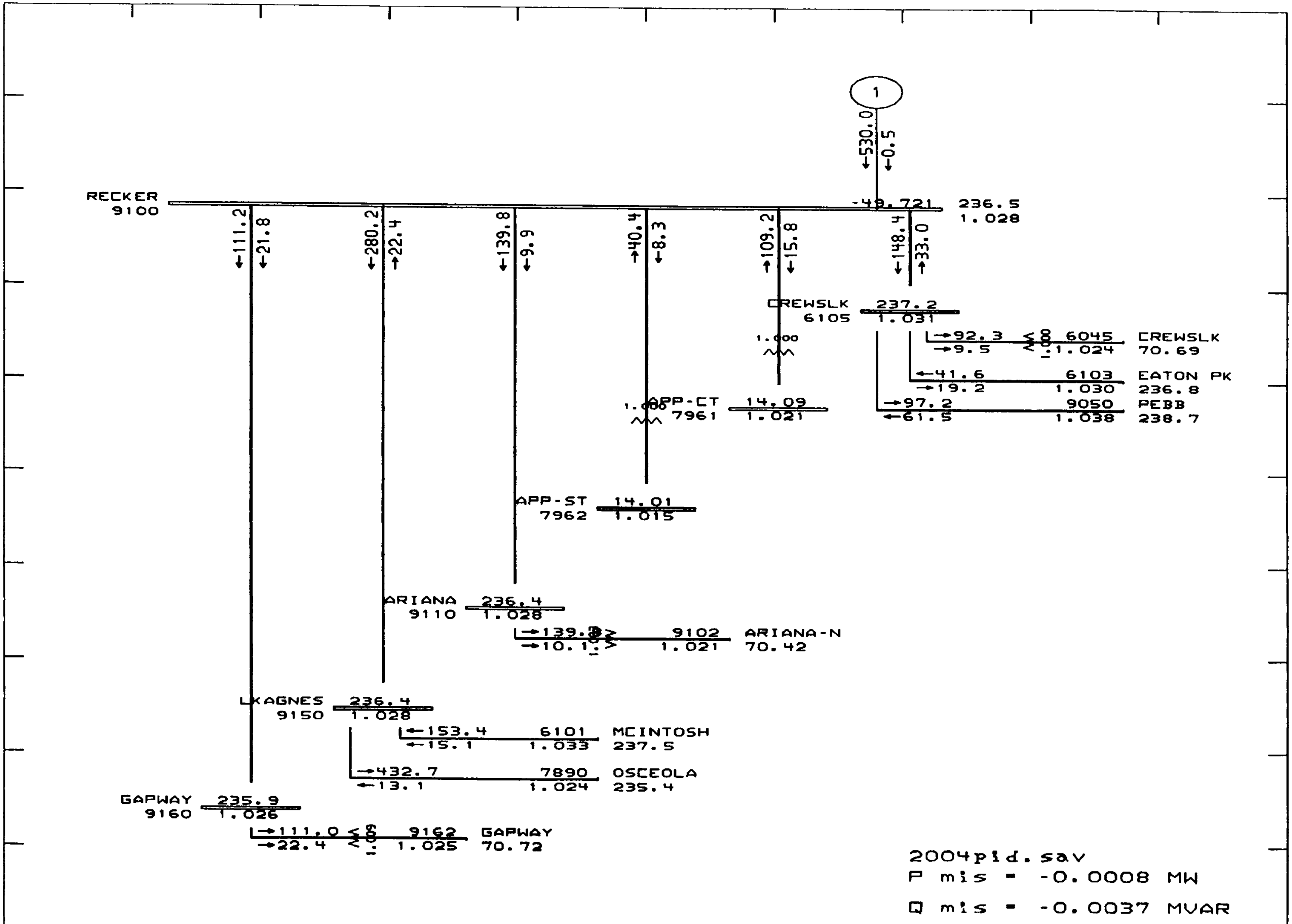

General Electric Company PSLF Program

GENERAL ELECTRIC COMPANY

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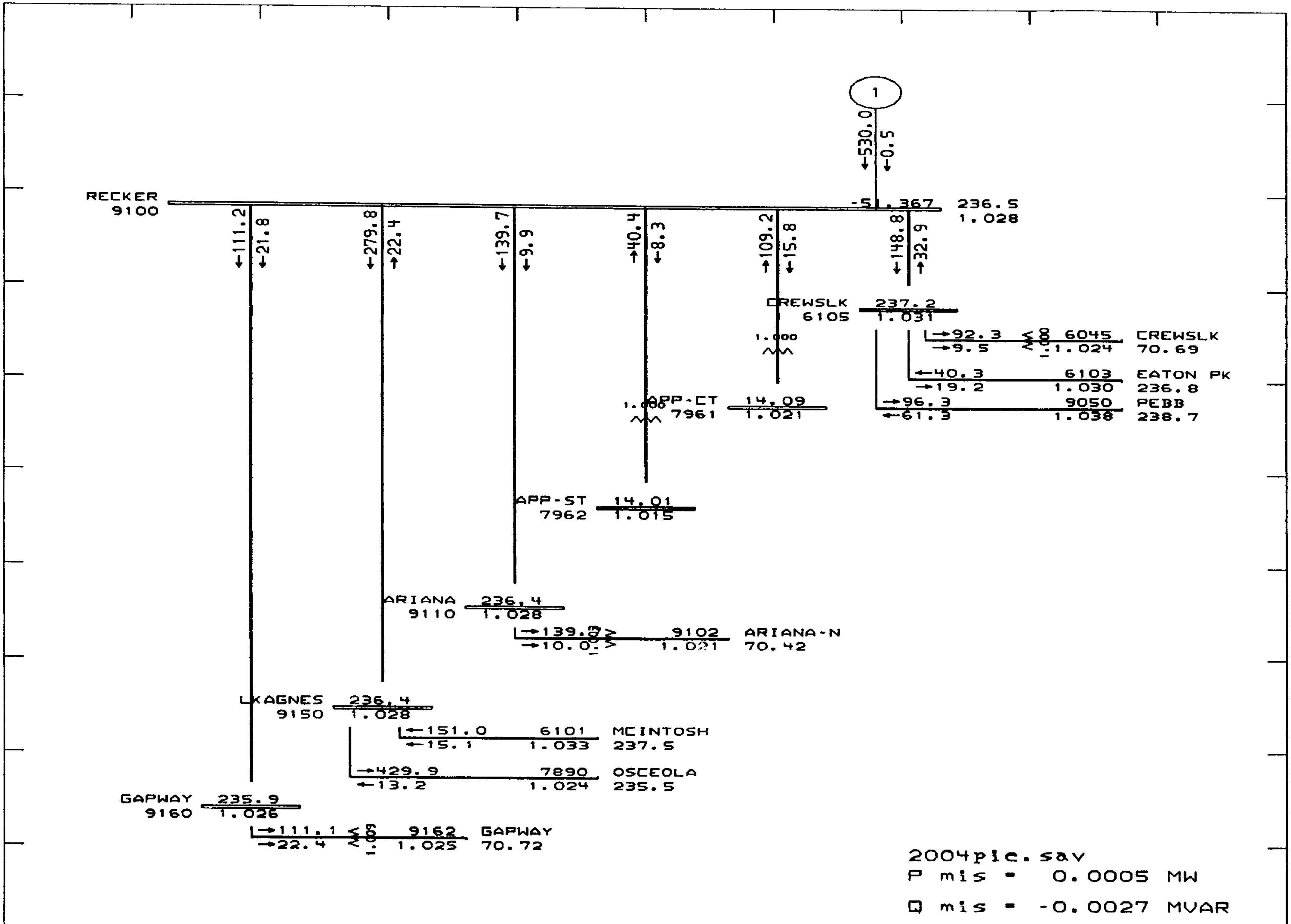

General Electric Company PSLF Program

GENERAL ELECTRIC COMPANY

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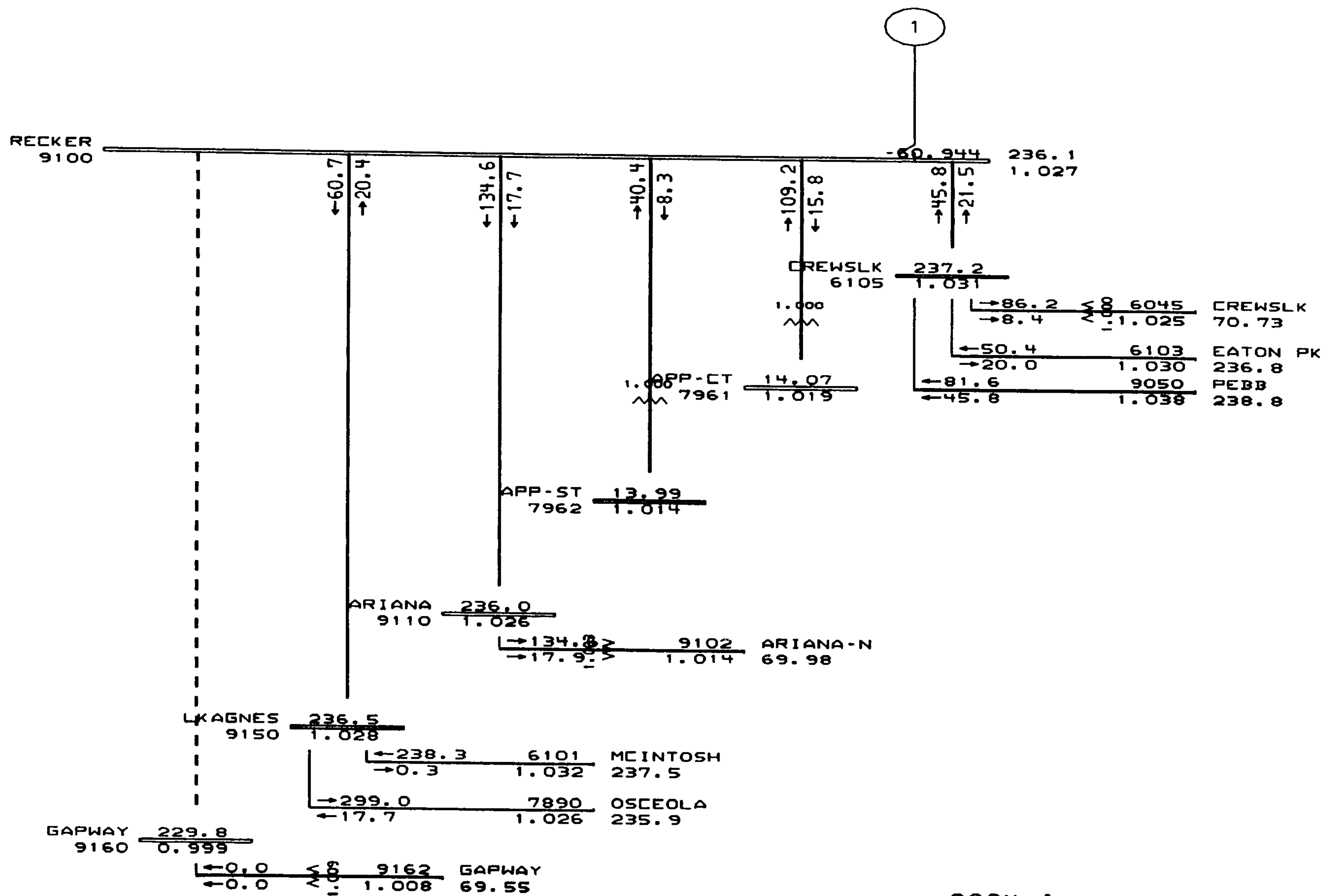

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General Electric Company PSLF Program

GENERAL ELECTRIC COMPANY

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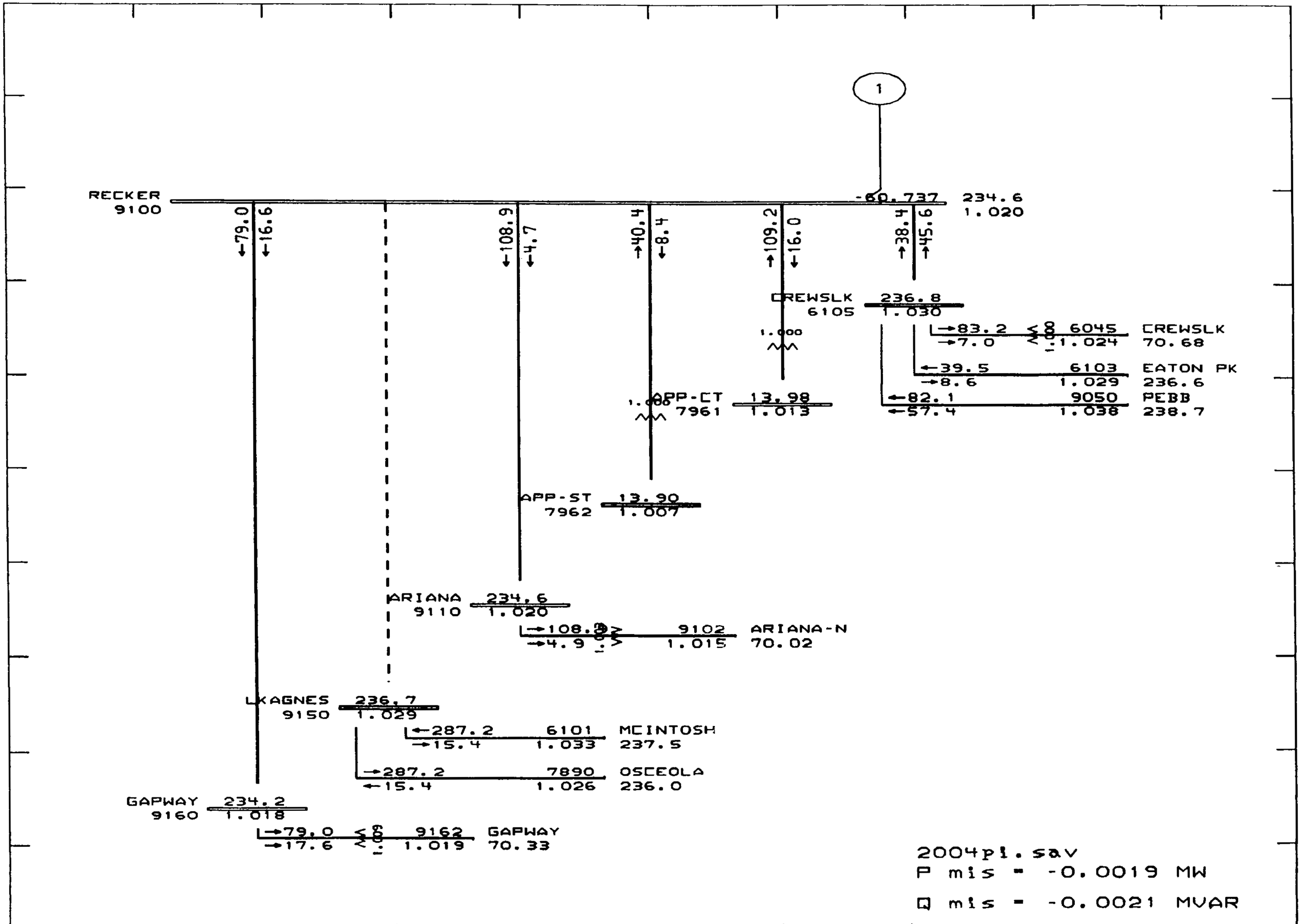

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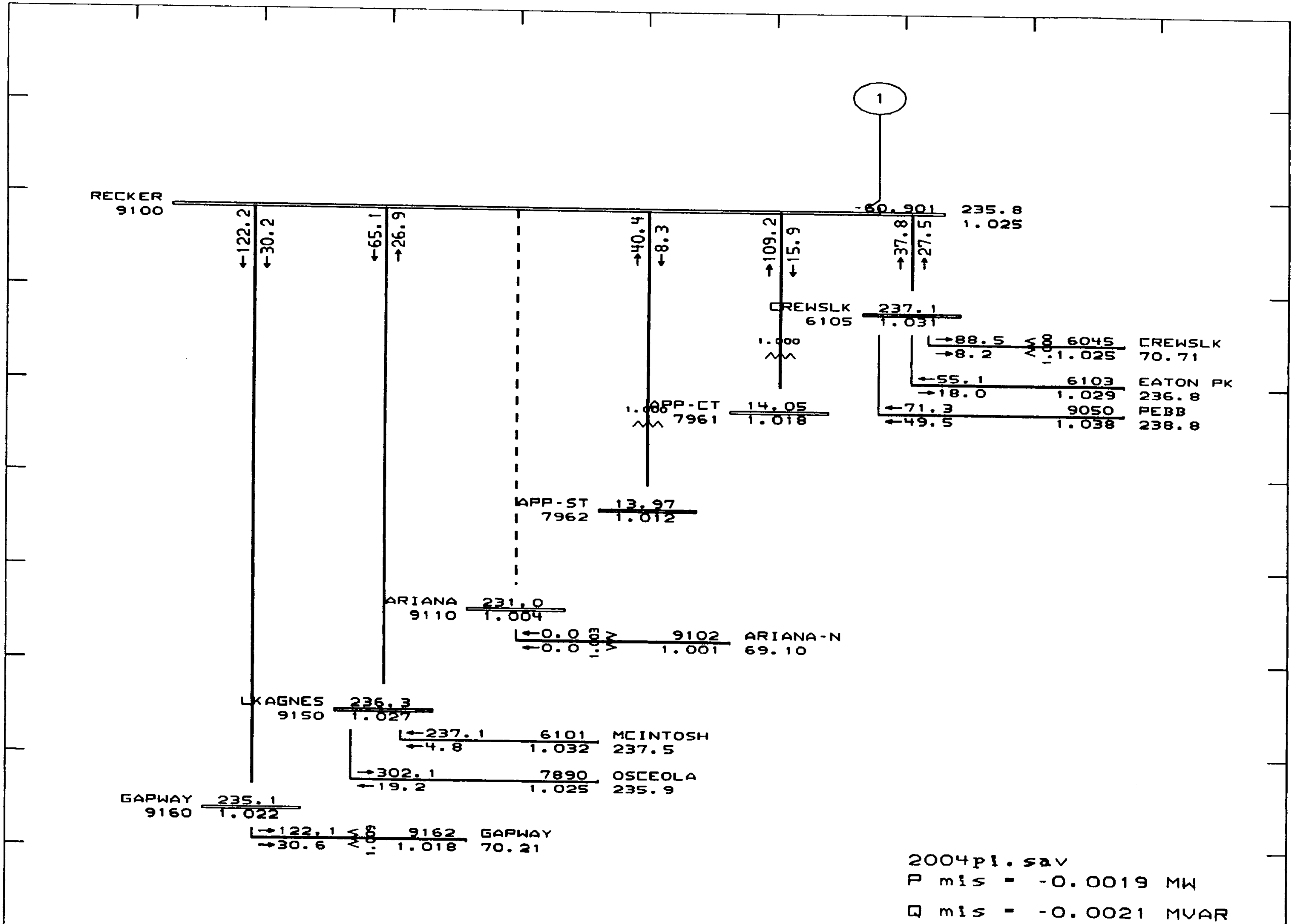

General Electric Company PSLF Program

GENERAL ELECTRIC COMPANY

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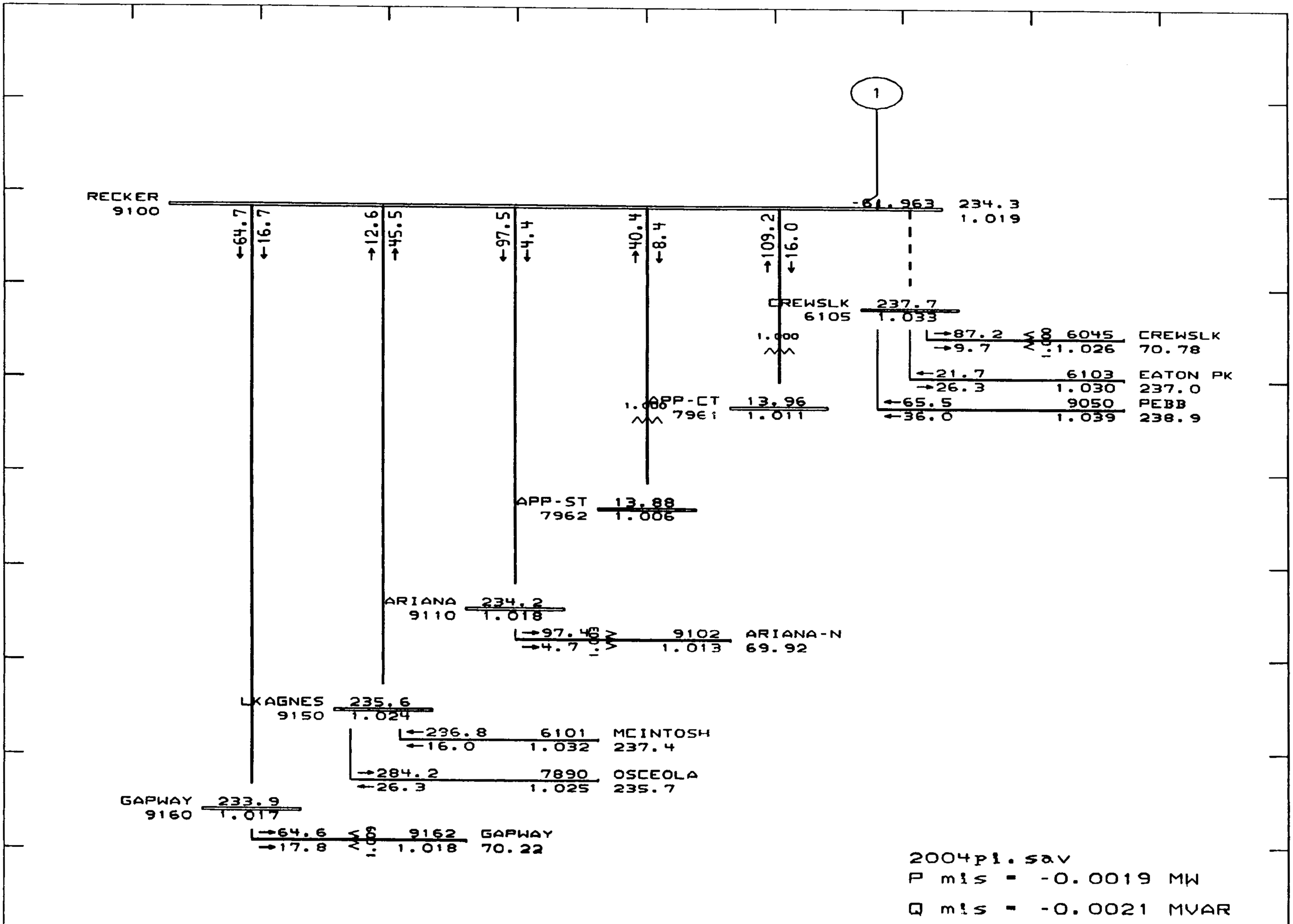

General Electric Company PSLF Program

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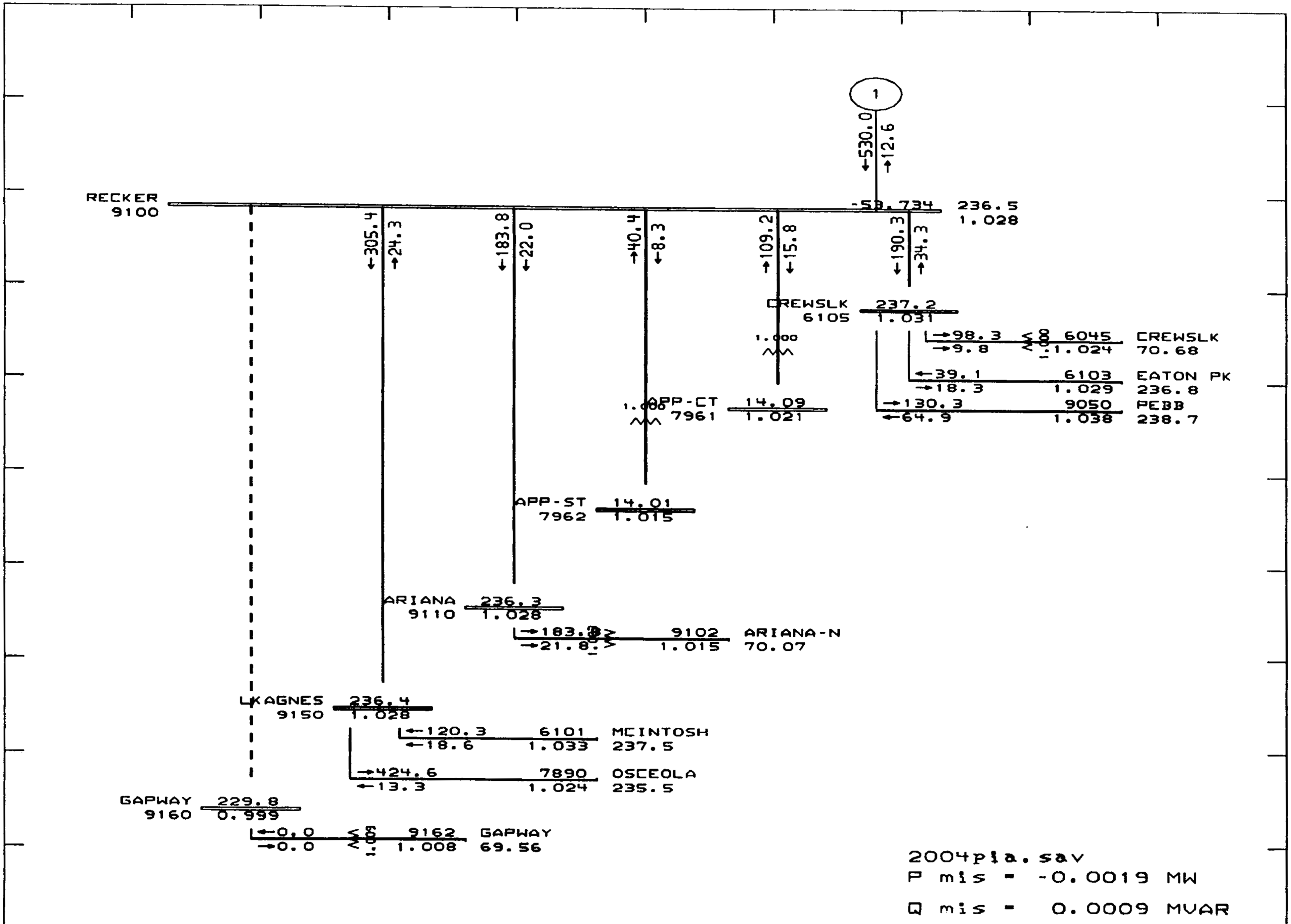

General Electric Company PSLF Program

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
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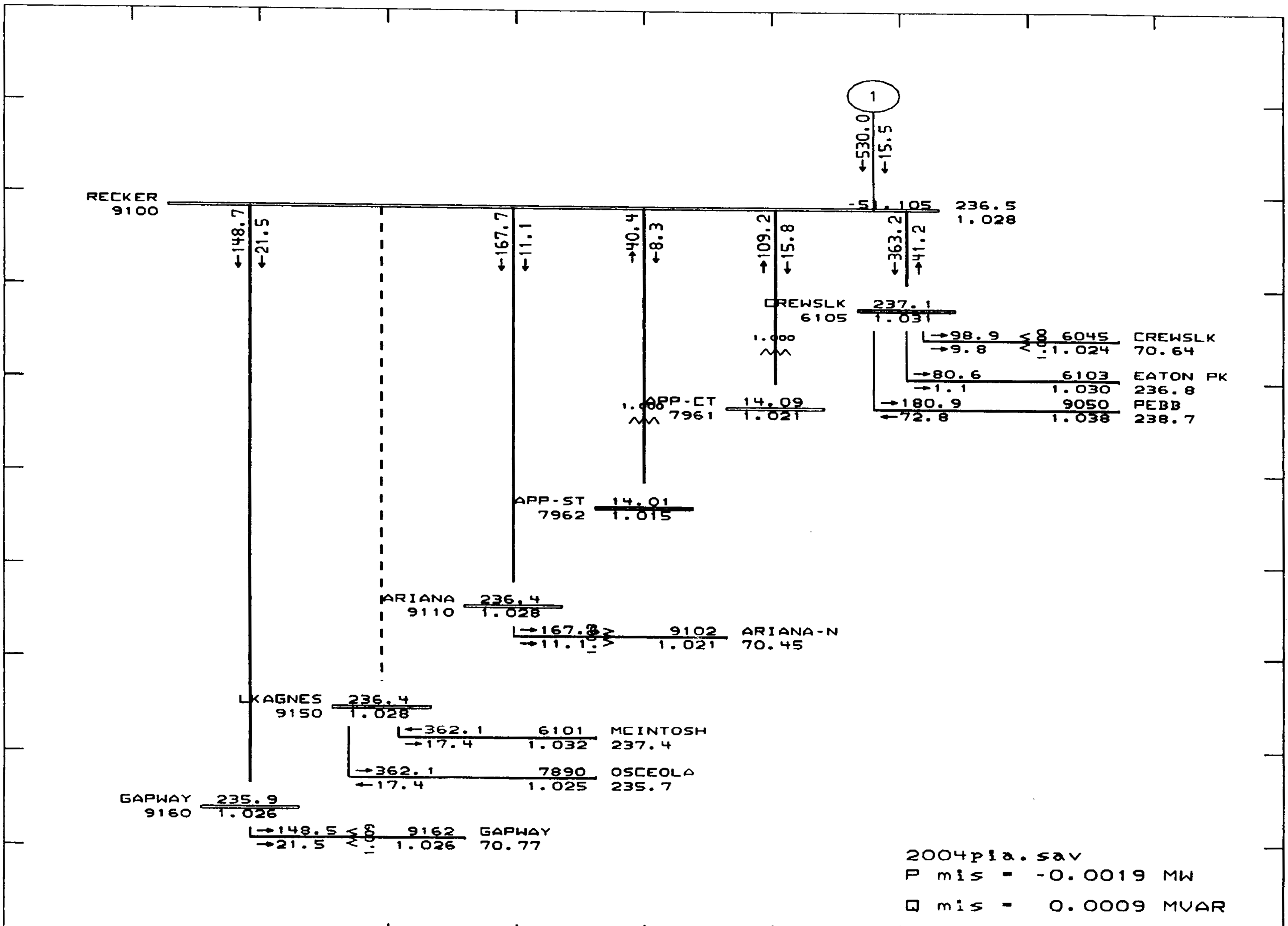

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GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
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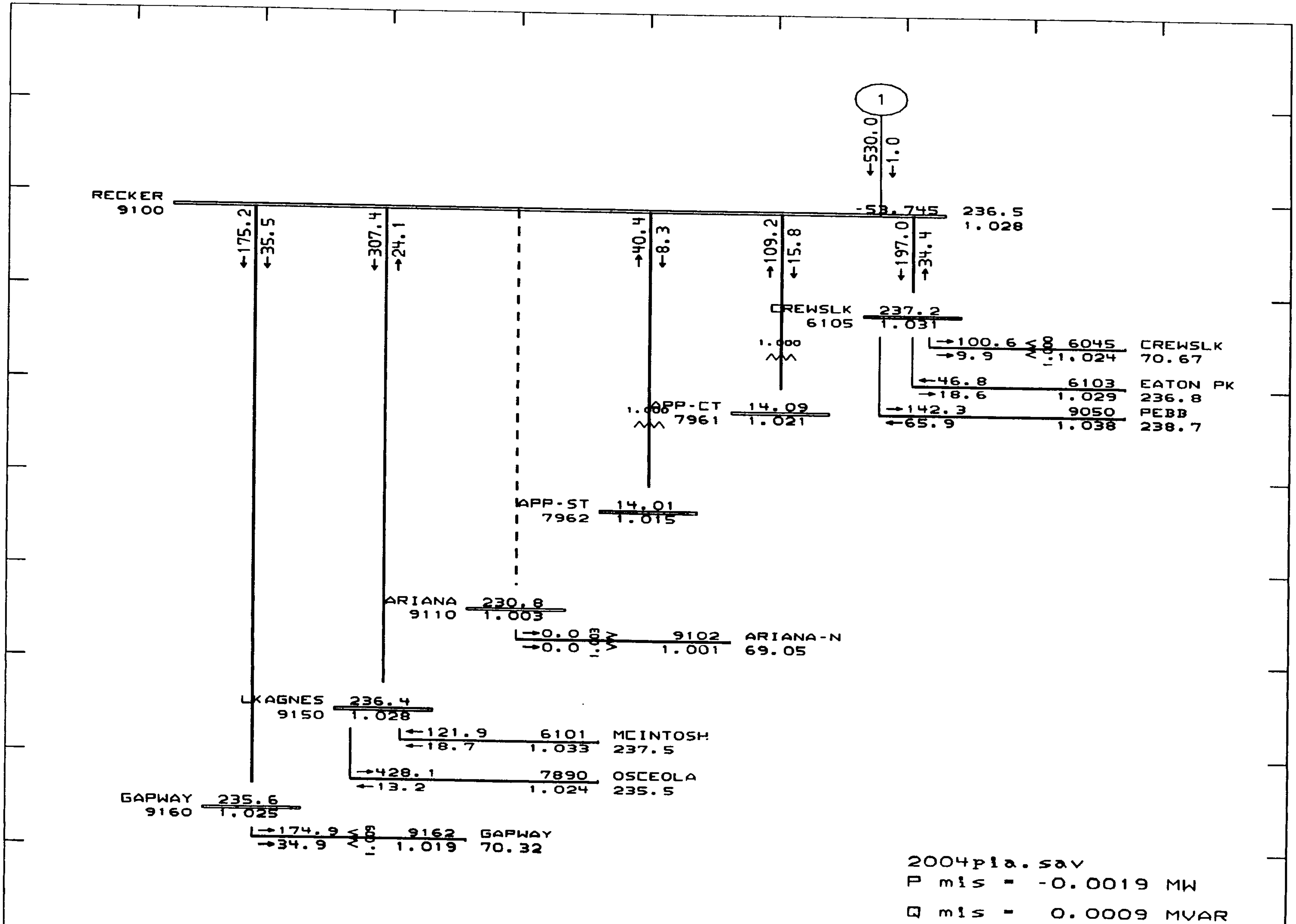


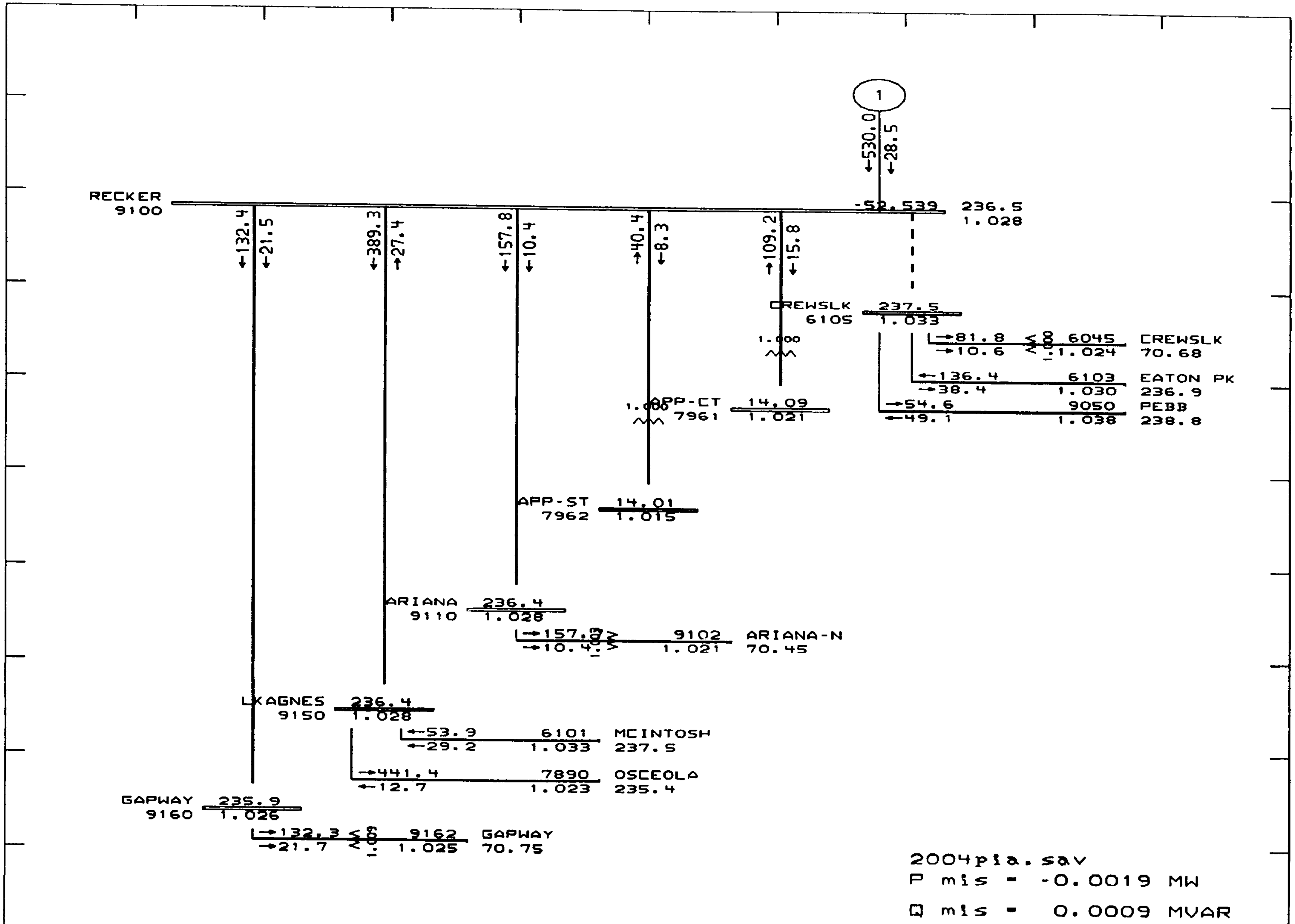
General Electric Company   PSLF Program

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

MW/MVAR   Wed Feb 16 15:01:44 2000

2004pla.sav
Rating = 1



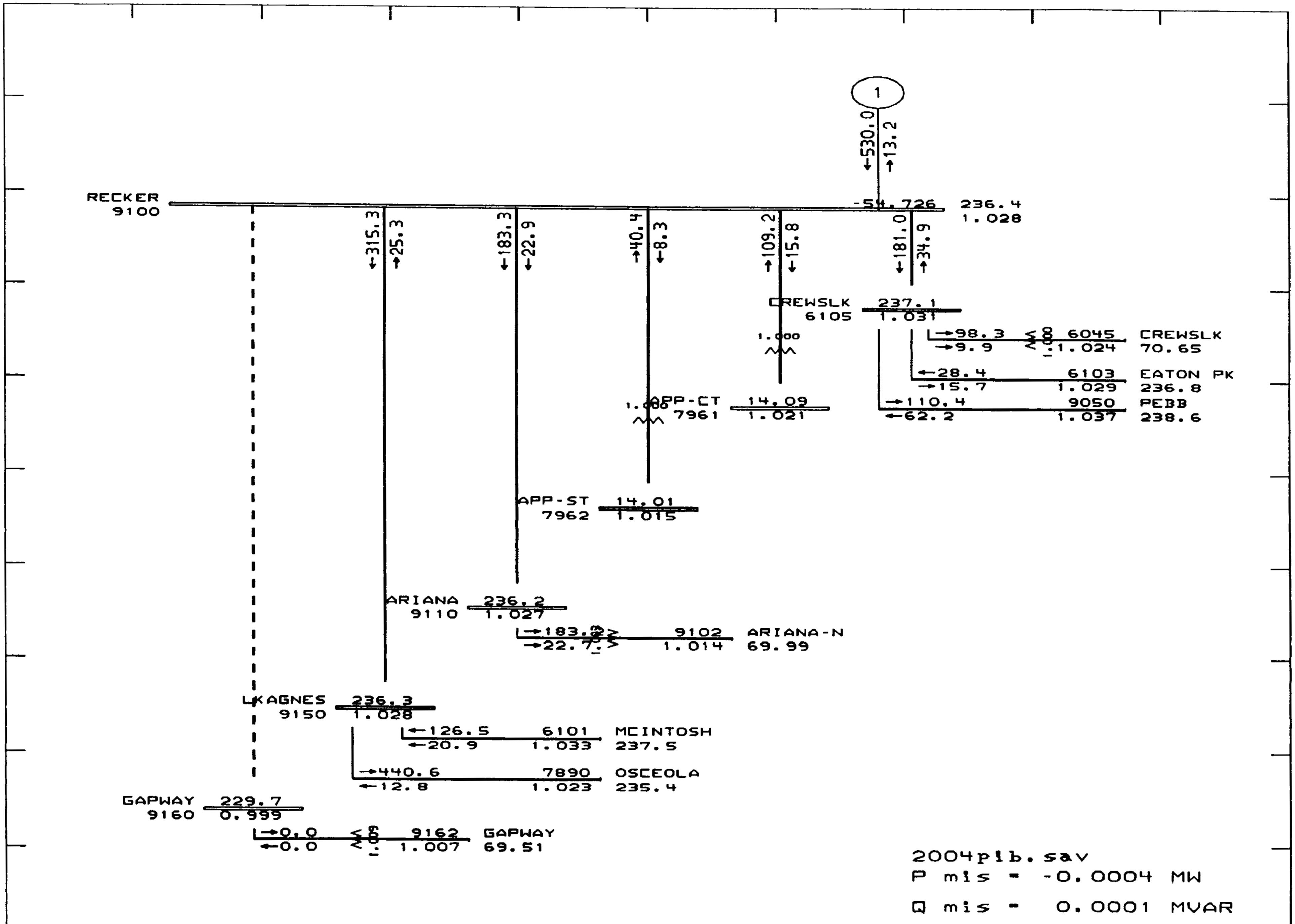
General Electric Company PSLF Program

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

MW/MVAR Wed Feb 16 15:01:59 2000

2004pla.sav
Rating = 1

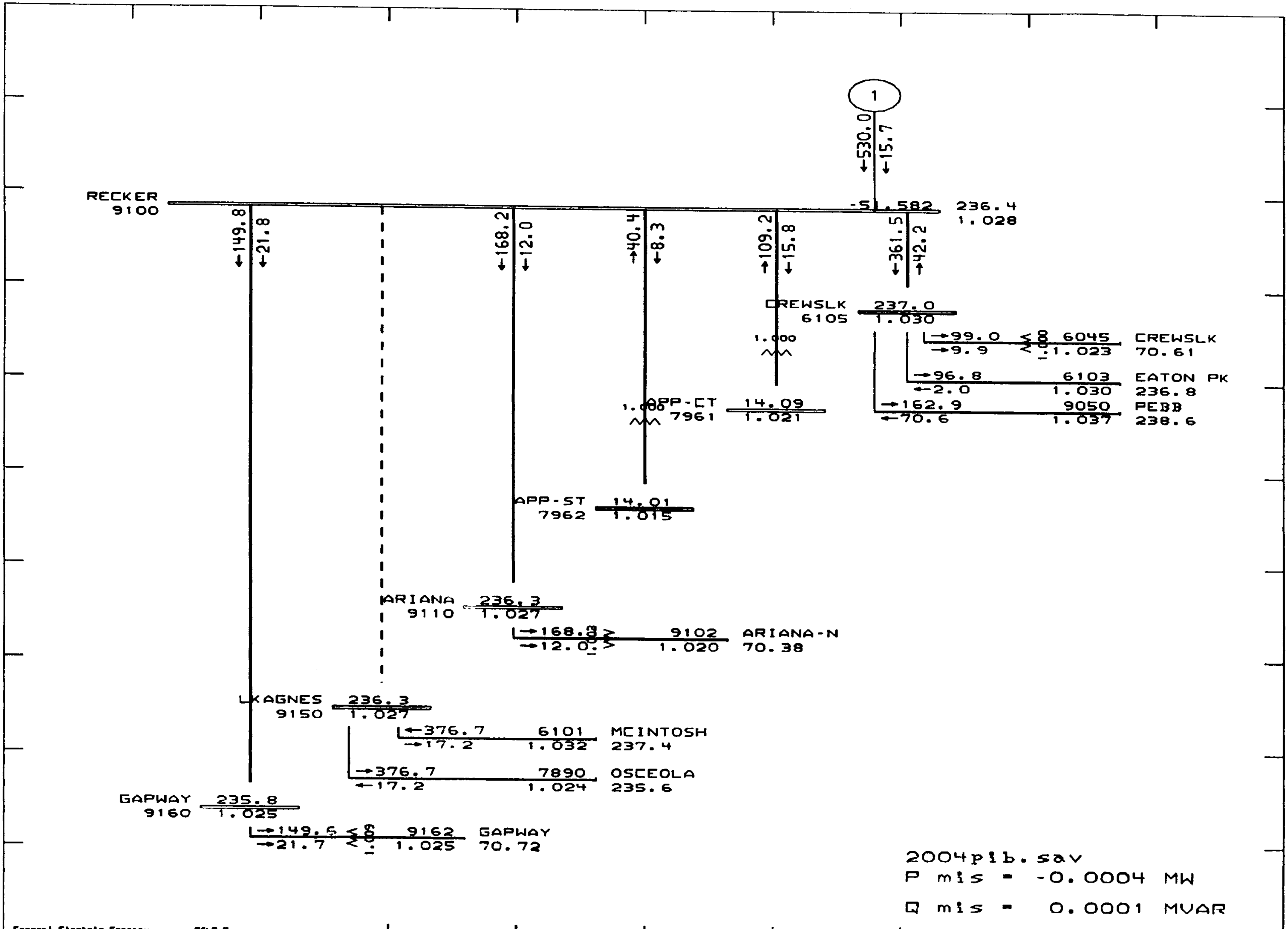


General Electric Company — PSLF Program — MW/MVAR — Wed Feb 16 15:02:15 2000

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

2004plb.sav
Rating = 1



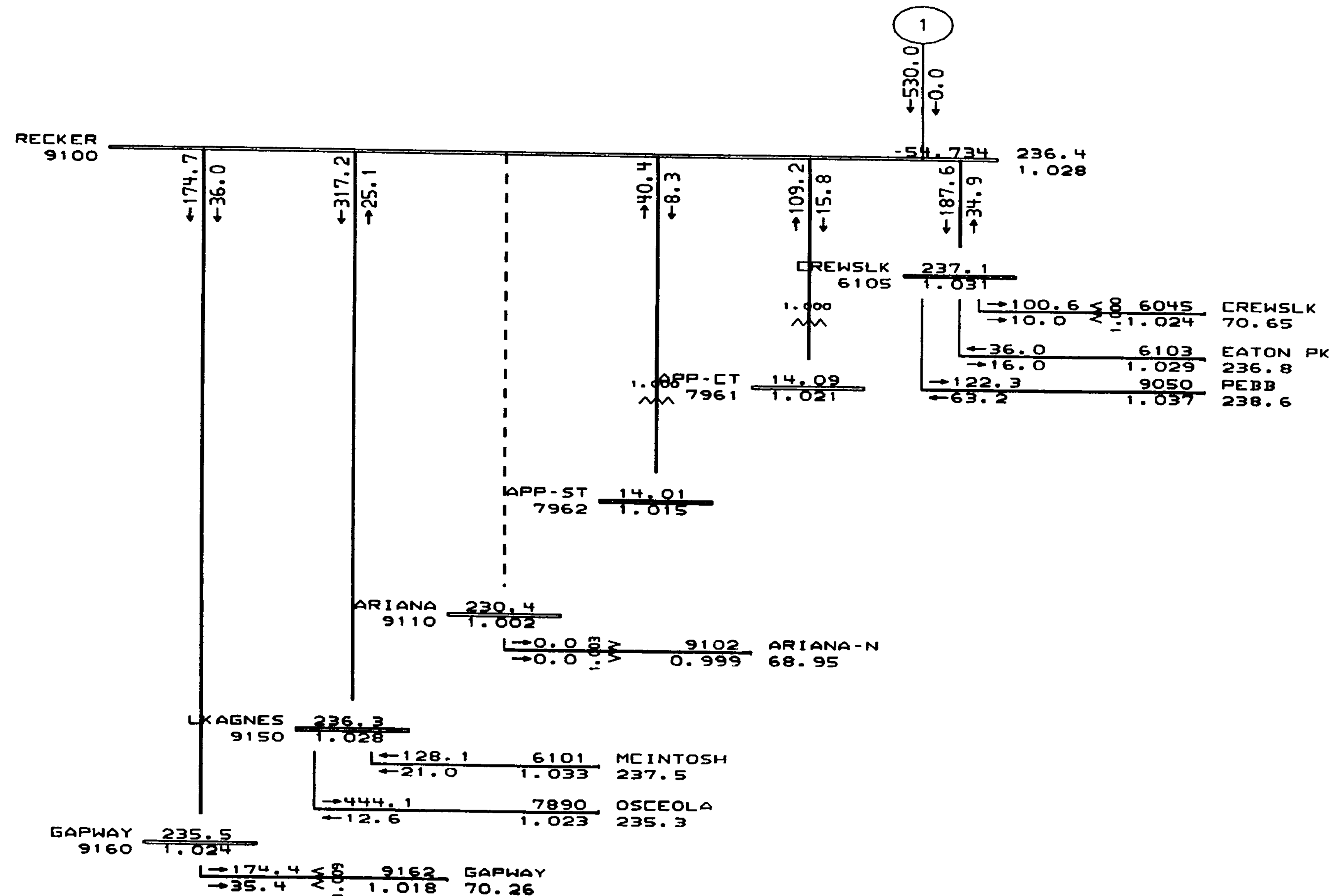
General Electric Company PSLF Program

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

MW/MVAR Wed Feb 16 15:02:31 2000

2004plb.sav
Rating = 1



2004pib.sav
P mis = -0.0004 MW
Q mis = 0.0001 MVAR

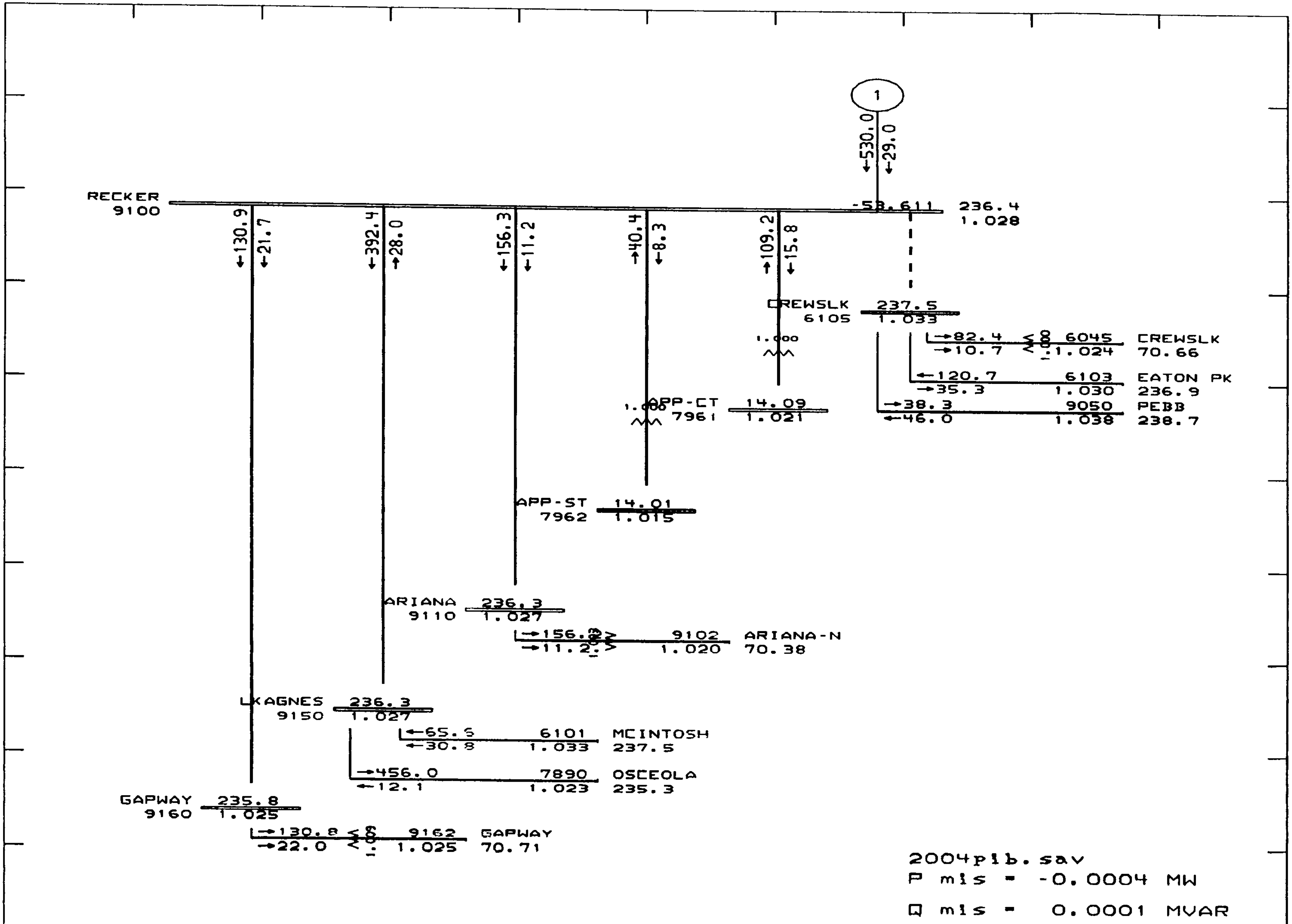
General Electric Company PSLF Program

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

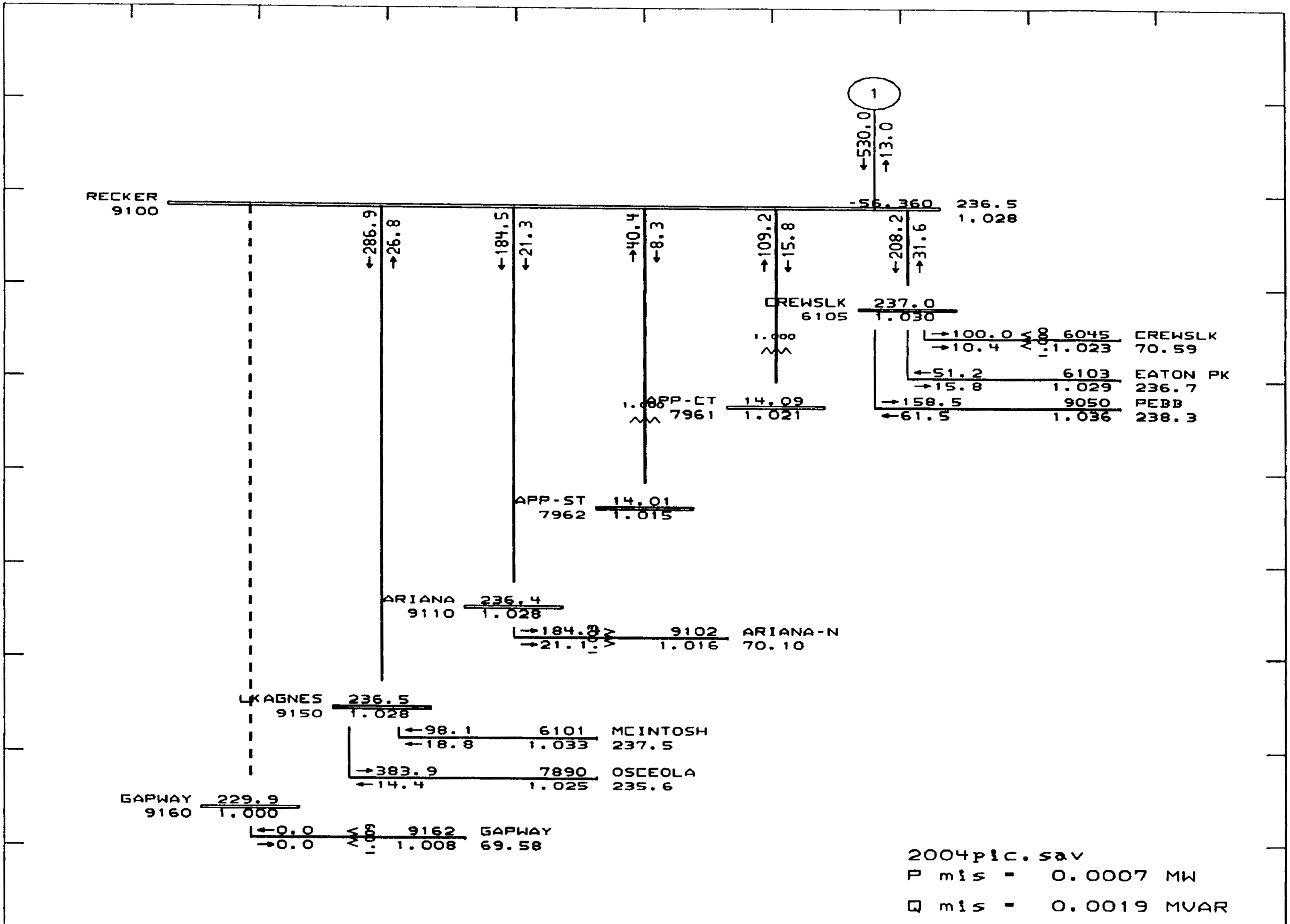
MW/MVAR Wed Feb 16 15:02:49 2000

2004pib.sav
Rating = 1



General Electric Company PSLF Program

GENERAL ELECTRIC COMPANY	FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5 PROPOSED OSPREY ENERGY CENTER		MW/MVAR Wed Feb 16 15:03:10 2000 2004plb.sav Rating = 1

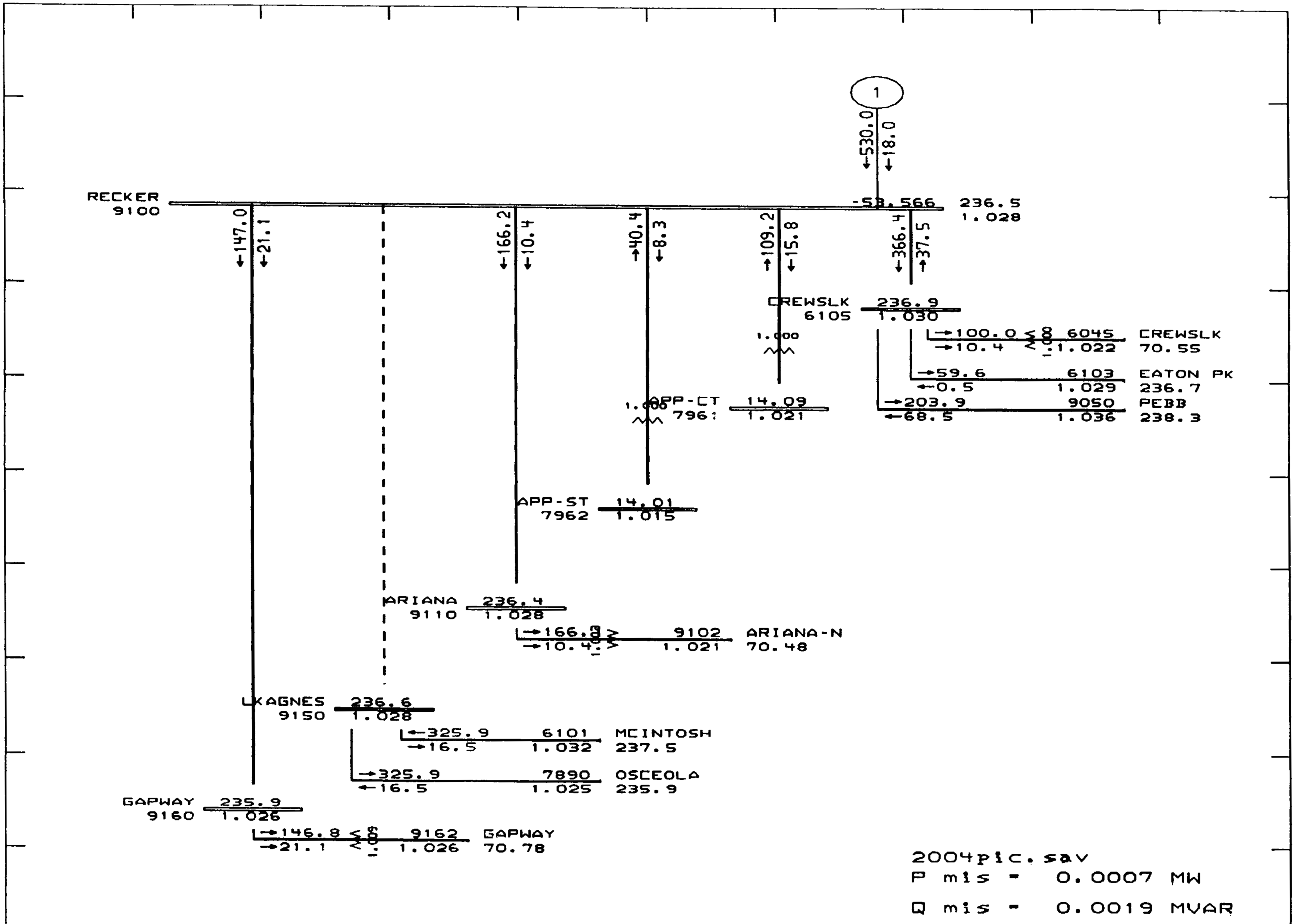


General Electric Company | PSLF Program | MW/MVAR | Wed Feb 16 15:03:27 2000

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

2004plc.sav
Rating = 1

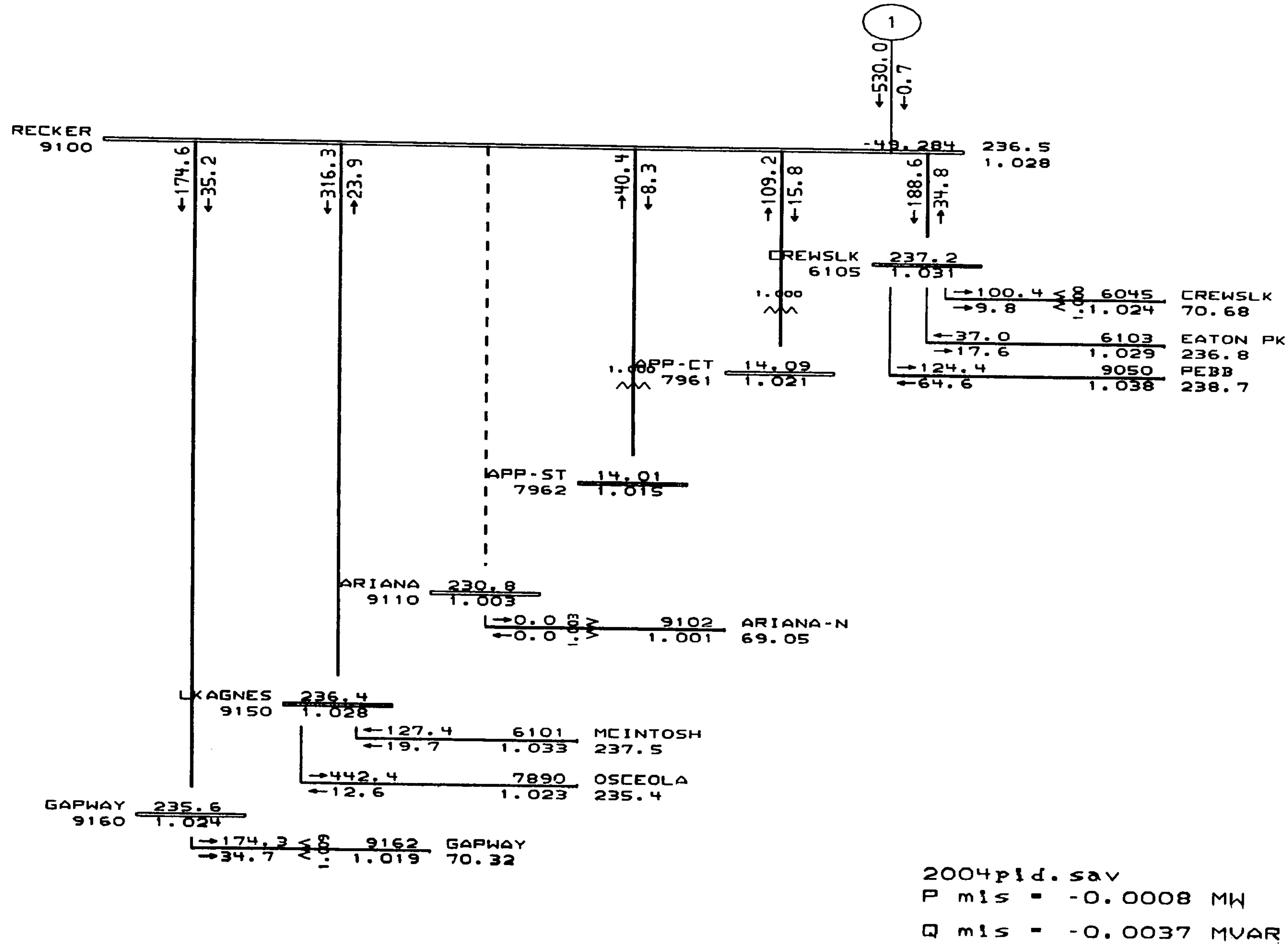


General Electric Company — PSLF Program — MW/MVAR — Wed Feb 16 15:03:42 2000

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

2004pic.sav
Rating = 1



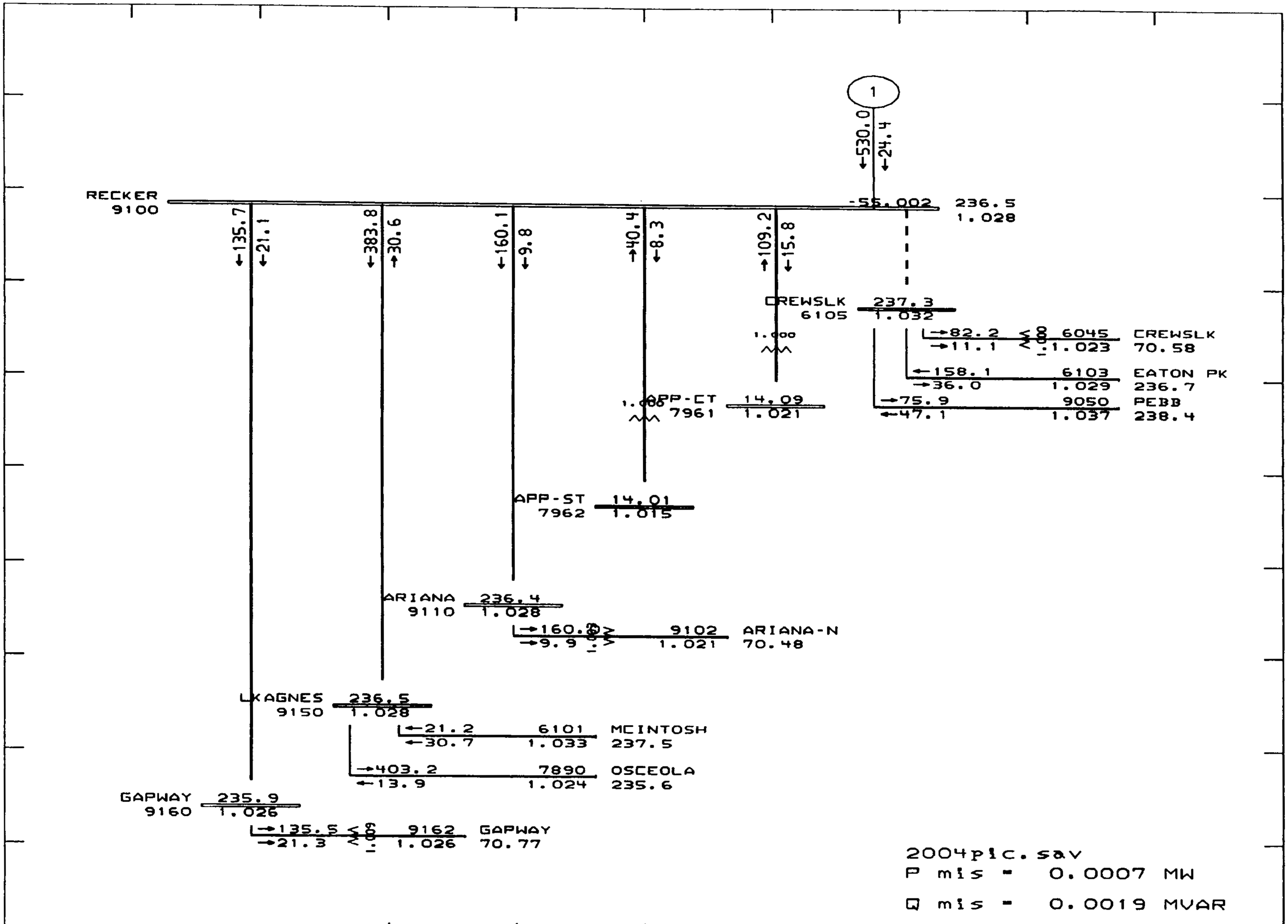
General Electric Company PSLF Program

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

MW/MVAR Wed Feb 16 15:03:59 2000

2004pld.sav
Rating = 1



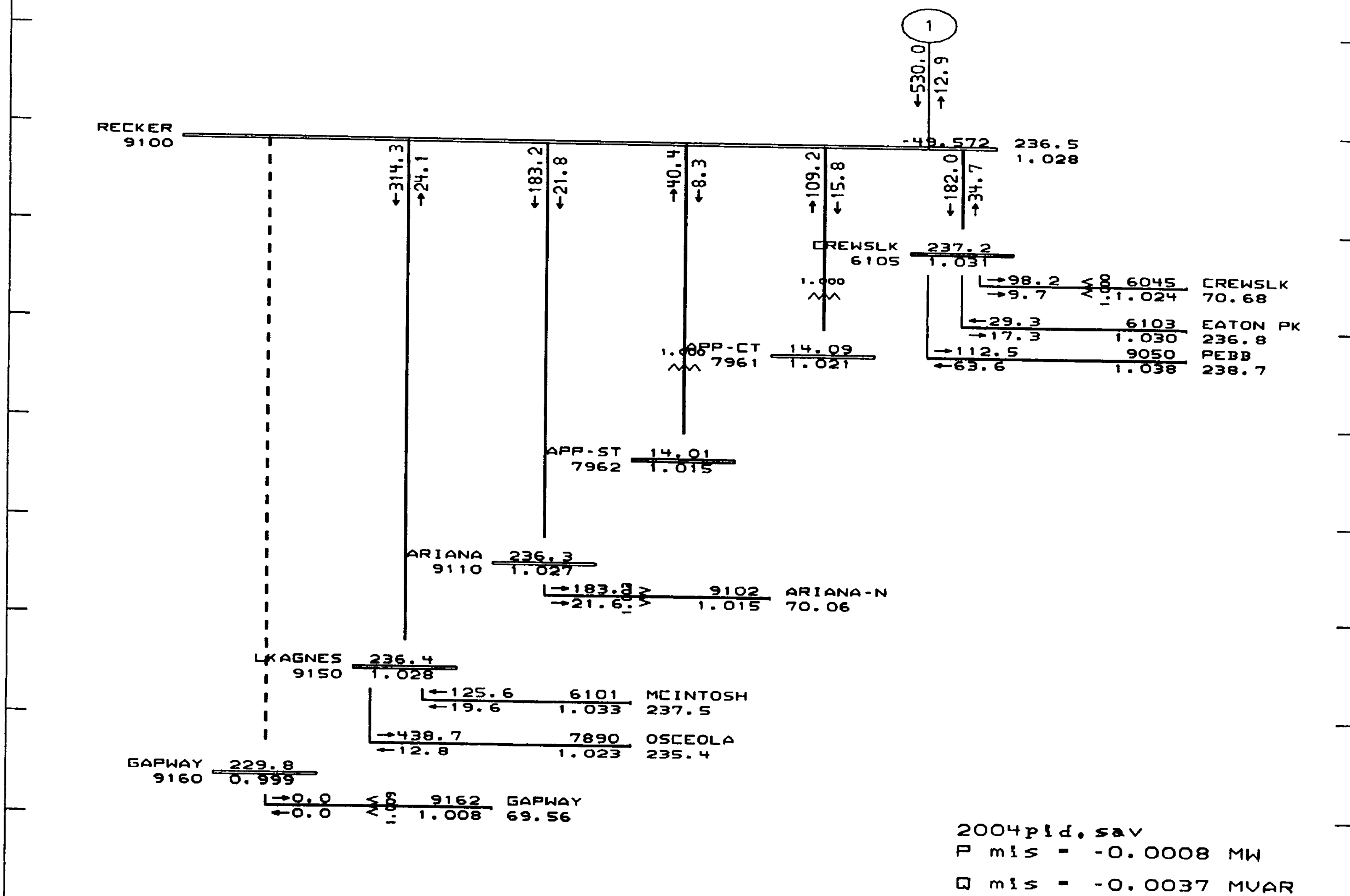
General Electric Company PSLF Program

MW/MVAR Wed Feb 16 15:04:15 2000

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

2004plc.sav
Rating = 1



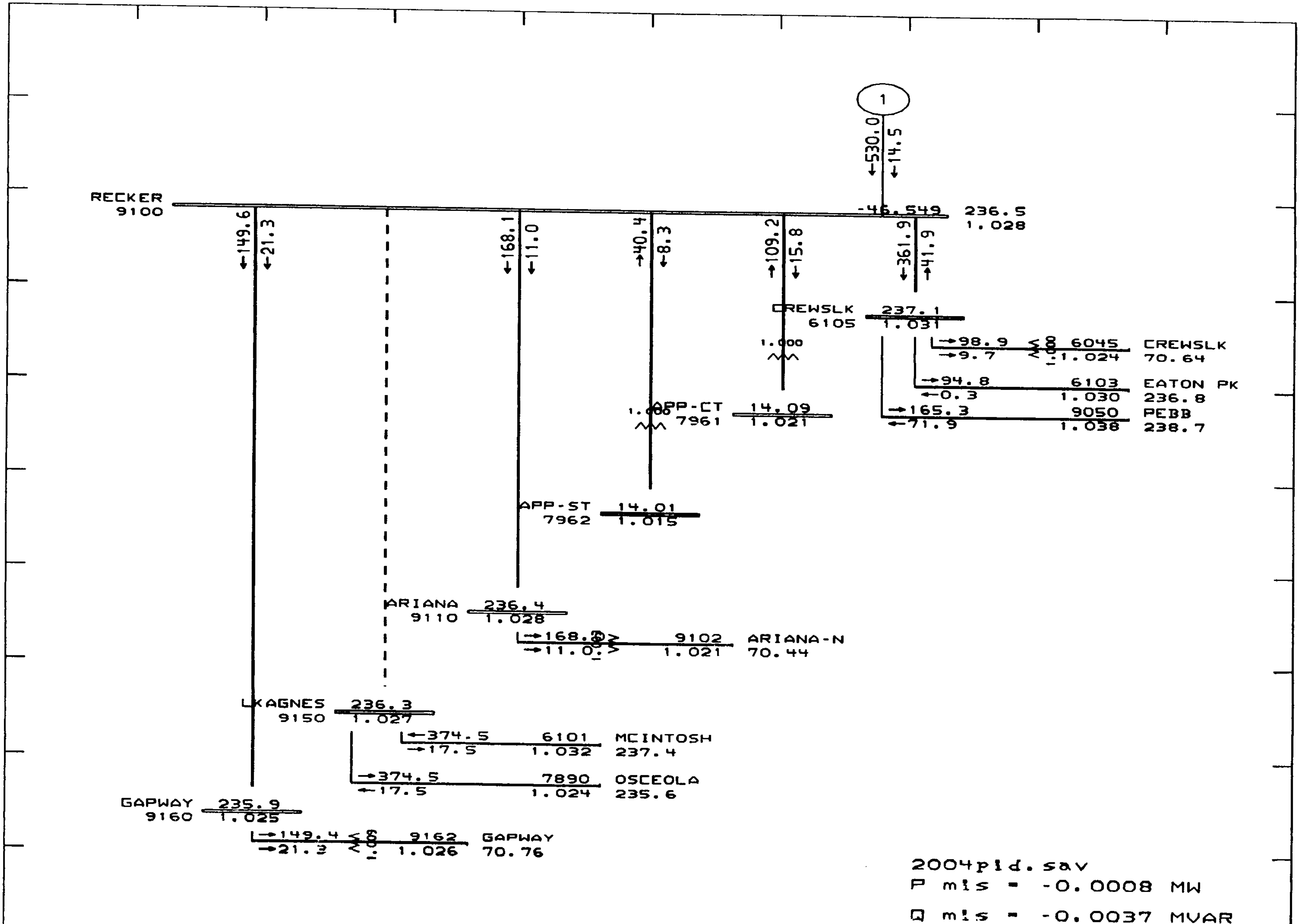
General Electric Company | PSLF Program

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

MW/MVAR | Wed Feb 16 15:04:33 2000

2004pld.sav
Rating = 1



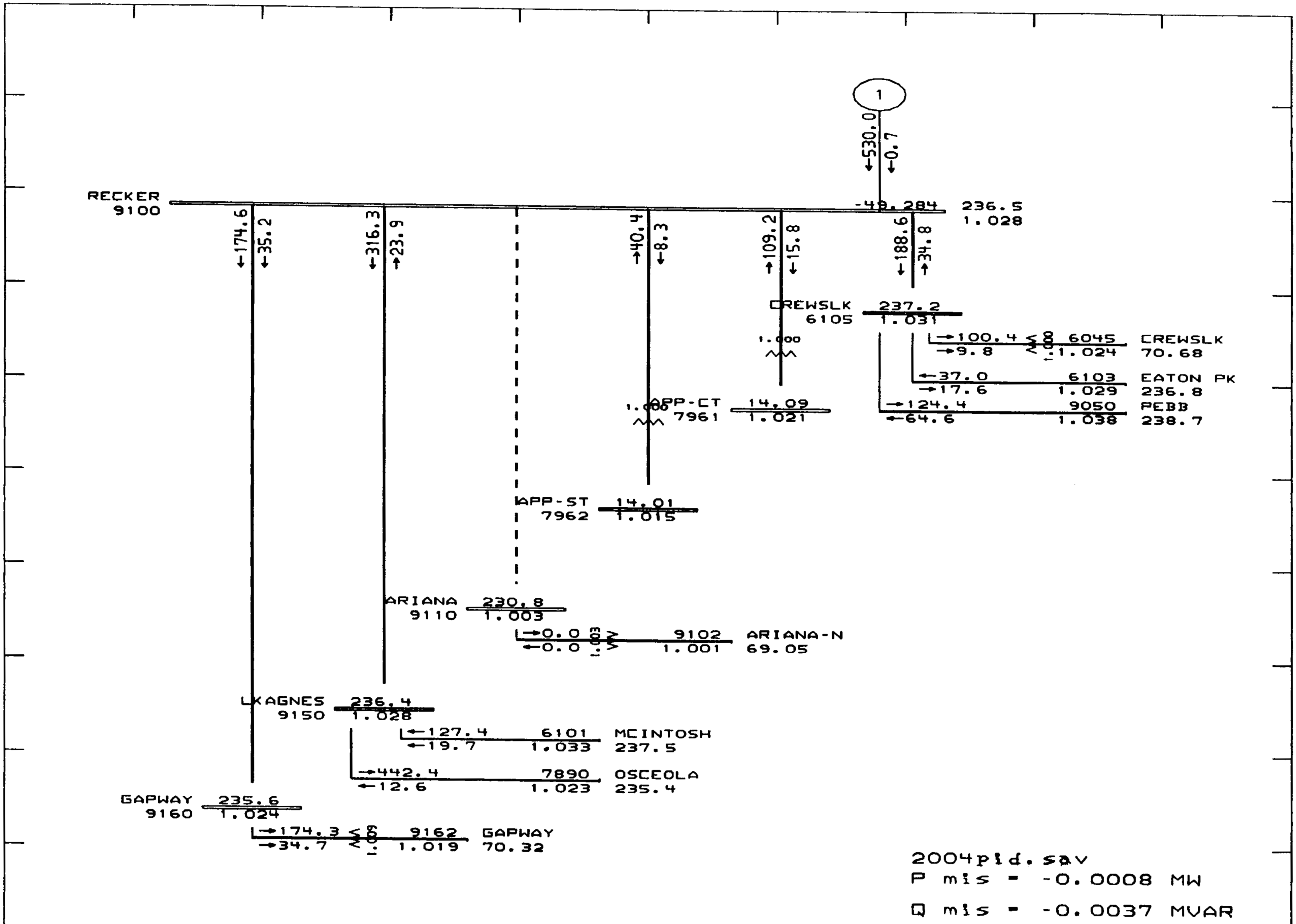
General Electric Company PSLF Program

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

MW/MVAR Wed Feb 16 15:04:55 2000

2004pld.sav
Rating = 1



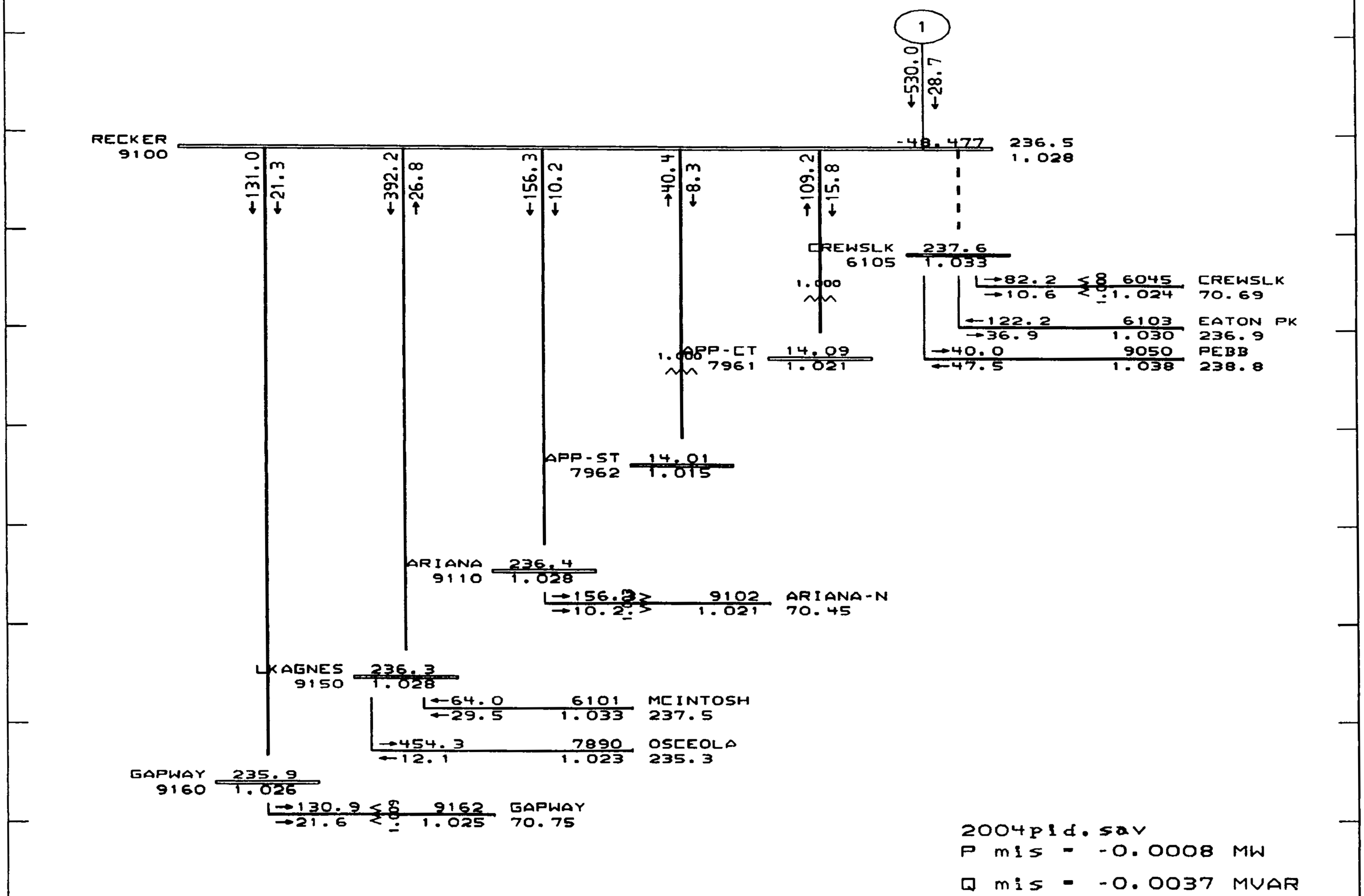
General Electric Company PSLF Program

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

MW/MVAR Wed Feb 16 15:05:09 2000

2004pld.sav
Rating = 1


1
530.0
28.7
RECKER
9100
-48.477
236.5
1.028
131.0
21.3
392.2
26.8
156.3
10.2
40.4
8.3
109.2
15.8
CREWSLK
6105
237.6
1.033
1.000
82.2
10.6
6045
1.024
CREWSLK
70.69
122.2
36.9
6103
1.030
EATON PK
236.9
APP-CT
7961
14.09
1.021
40.0
47.5
9050
1.038
PEBB
238.8
APP-ST
7962
14.01
1.015
ARIANA
9110
236.4
1.028
156.3
10.2
9102
1.021
ARIANA-N
70.45
LKAGNES
9150
236.3
1.028
64.0
29.5
6101
1.033
MCINTOSH
237.5
454.3
12.1
7890
1.023
OSCEOLA
235.3
GAPWAY
9160
235.9
1.026
130.9
21.6
1.009
9162
1.025
GAPWAY
70.75
2004pld.sav
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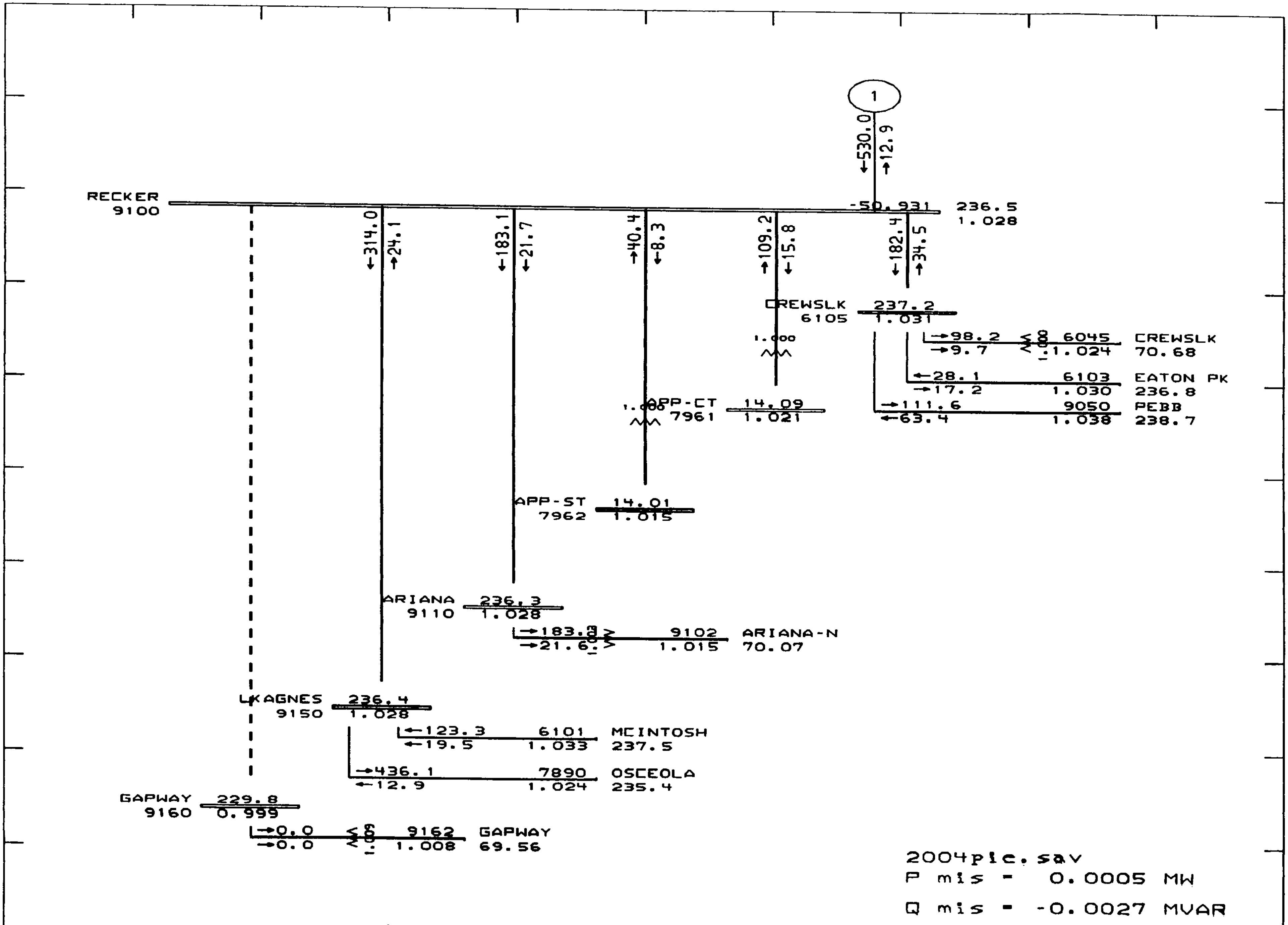
Q mis = -0.0037 MVAR

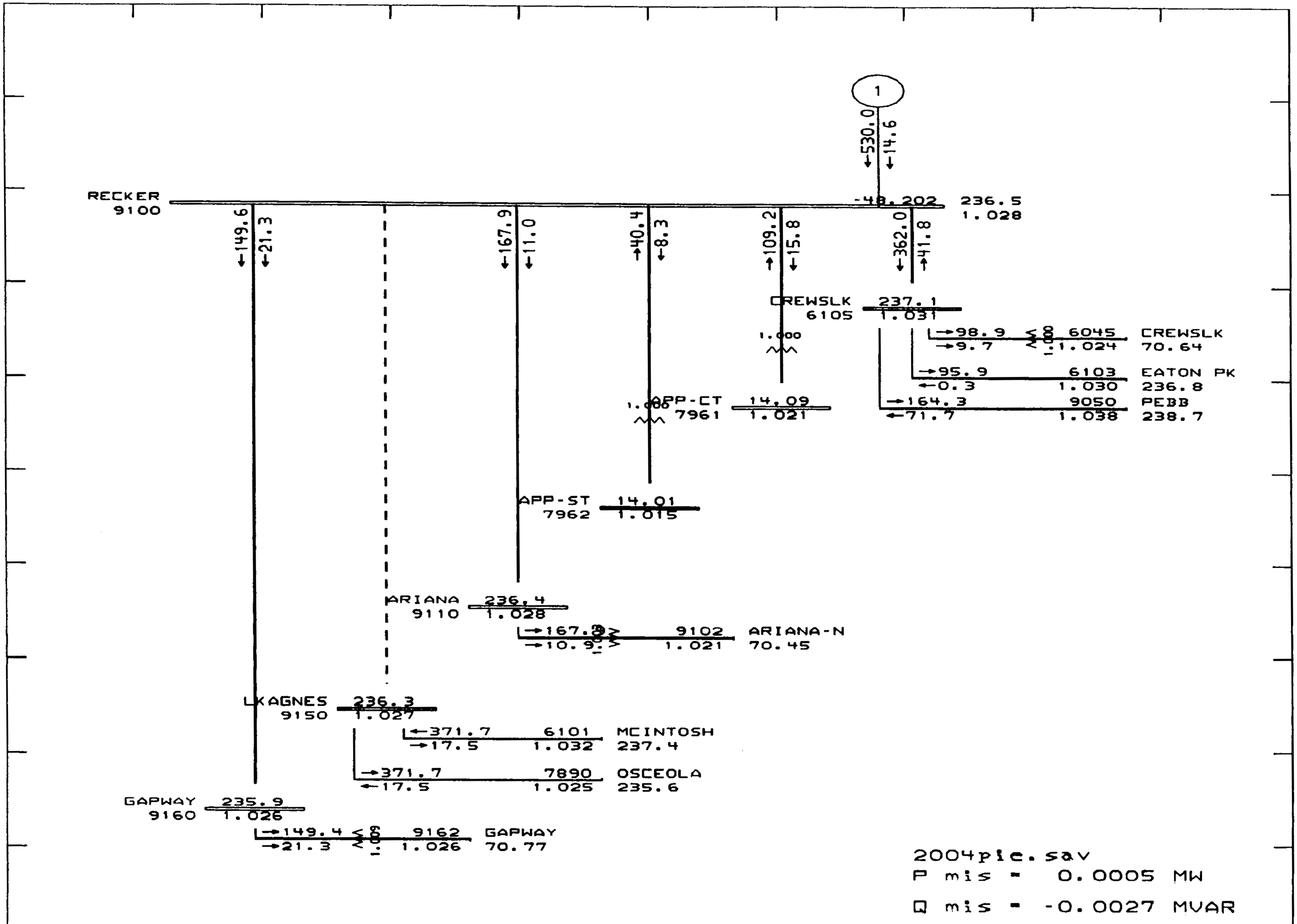


General Electric Company   PSLF Program   MW/MVAR   Wed Feb 16 15:05:43 2000

GENERAL ELECTRIC COMPANY

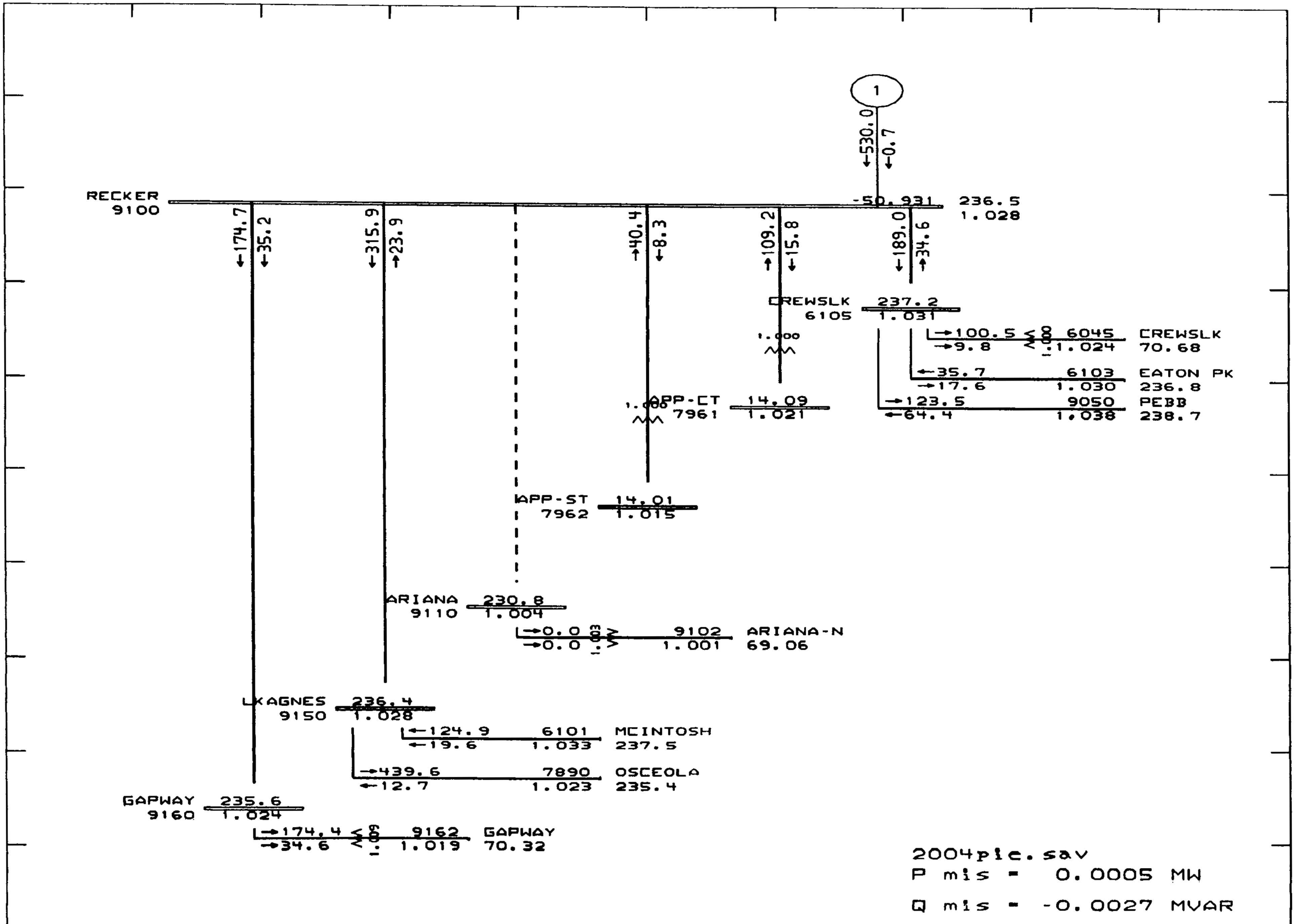
FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

2004plc.sav
Rating = 1



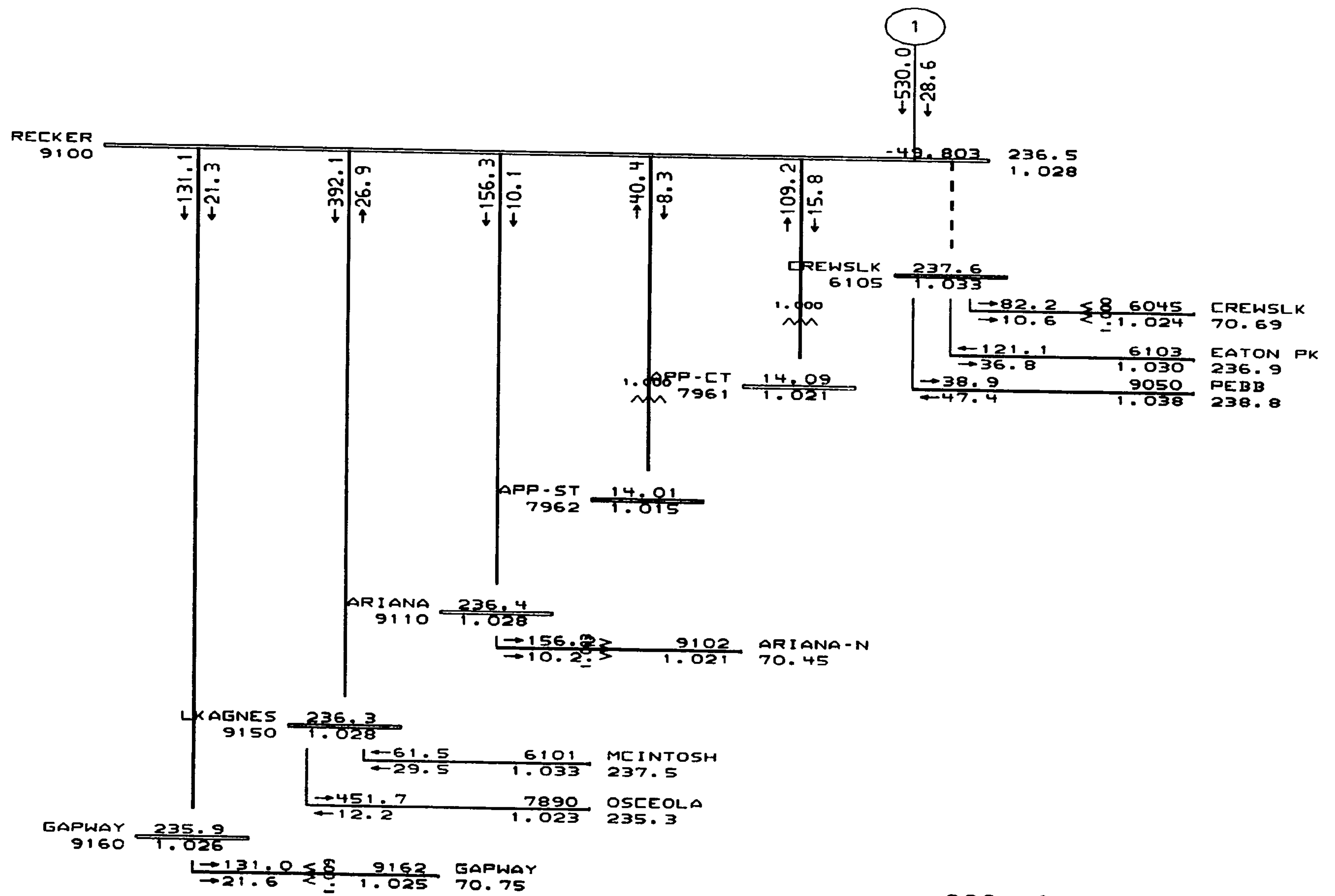
General Electric Company | PSLF Program | MW/MVAR | Wed Feb 16 15:05:58 2000

GENERAL ELECTRIC COMPANY	FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5 PROPOSED OSPREY ENERGY CENTER		2004ple.sav Rating = 1



General Electric Company PSLF Program MW/MVAR Wed Feb 16 15:06:11 2000

GENERAL ELECTRIC COMPANY	FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5 PROPOSED OSPREY ENERGY CENTER	2004ple.sav Rating = 1



2004pic.sav
P mis = 0.0005 MW
Q mis = -0.0027 MVAR

General Electric Company PSLF Program

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

MW/MVAR Wed Feb 16 15:06:26 2000

2004pic.sav
Rating = 1

APPENDIX II

Table I

Comparison of Line & Transformer Flows
Following N-1 Disturbances
for Various OEC 500 MW Generation Alternatives

100% Load Base Case

All Flows above 100% of Emergency rating are Shown

Monitored Branches							Case 2004 Base No OEC Gen	Case 2004A Sell to FPL	Case 2004B Sell to FPC	Case 2004C Sell to TEC	Case 2004D Sell to JEA	Case 2004E Sell to SEM
Case	Bus 1	kV 1	Bus 2	kV 2	ckt	Area	Percent	Percent	Percent	Percent	Percent	Percent
2004-1	SN PLANT	230	SYLVAN	230	1	1						
2004-1	SYLVAN	230	N LONGWD	230	1	1						
2004-1	IND RIV	230	STANTON	230	1	11						
2004-1	SN PLANT	115	TURNER	115	1	1						
2004-1	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-1	SILVR SP	230	SILV SPN	230	1	2						
2004-1	SILVR SP	230	OCALA 1	230	1	2						
2004-1	RIO PINR	230	CURRY FD	230	1	2						
2004-1	STANTON	230	CURRY FD	230	1	2						
2004-1	OSCEOLA	230	LKAGNES	230	1	16						
2004-1	SHELD	230	LK TARPN	230	1	2						
2004-1	PEBB	230	CREWSLK	230	1	13						
2004-1	PEBB	230	N BARTOW	230	1	2						
2004-1	RECKER	230	LKAGNES	230	1	16						
2004-1	RECKER	230	ARIANA	230	1	16						
2004-1	RECKER	230	CREWSLK	230	1	13						
2004-1	B BEND	230	MANATEE	230	1	1						
2004-1	RUSKIN T	230	MANATEE	230	1	1						
2004-1	IND RIV	230	IND RIV	115	1	11						
2004-1	SHELD	230	SHELD-NW	69	1	16						
2004-1	LARGO	230	LARGO A	69	1	2						
2004-1	CLMT EST	230	CLMT EST	69	1	2						
2004-1	11TH AVE	230	ELEVEN-E	69	1	16						
2004-1	WINDERME	230	WINDERME	69	1	2						
2004-1	PASADENA	230	PASADENA	115	1	2						
2004-1	ARIANA	230	ARIANA-N	69	1	16						
2004-1	SELOSE	230	SELOSE-N	69	1	16						
2004-1	GAPWAY	230	GAPWAY	69	1	16						
2004-1	CREWSLK	230	CREWSLK	69	1	13						
2004-1	TENOROC	230	TENOROC	69	1	13						
2004-1	BARCOLA	230	WEST	230	1	2						
2004-1	EATON PK	230	CREWSLK	230	1	13						
2004-1	EATON PK	230	EATON PK	69	1	13						
2004-1	EATON PK	230	TENOROC	230	1	13						
2004-1	RECKER	230	GAPWAY	230	1	16						
2004-1	SN PLANT	115	TURNER	115	1	1						
2004-2	SN PLANT	230	SYLVAN	230	1	1						
2004-2	SYLVAN	230	N LONGWD	230	1	1						
2004-2	IND RIV	230	STANTON	230	1	11						
2004-2	SN PLANT	115	TURNER	115	1	1						
2004-2	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-2	SILVR SP	230	SILV SPN	230	1	2						
2004-2	SILVR SP	230	OCALA 1	230	1	2						
2004-2	RIO PINR	230	CURRY FD	230	1	2						
2004-2	STANTON	230	CURRY FD	230	1	2						
2004-2	OSCEOLA	230	LKAGNES	230	1	16						
2004-2	SHELD	230	LK TARPN	230	1	2						
2004-2	PEBB	230	CREWSLK	230	1	13						
2004-2	PEBB	230	N BARTOW	230	1	2						
2004-2	RECKER	230	LKAGNES	230	1	16						
2004-2	RECKER	230	ARIANA	230	1	16						
2004-2	RECKER	230	CREWSLK	230	1	13						
2004-2	B BEND	230	MANATEE	230	1	1						
2004-2	RUSKIN T	230	MANATEE	230	1	1						
2004-2	IND RIV	230	IND RIV	115	1	11						
2004-2	SHELD	230	SHELD-NW	69	1	16						
2004-2	LARGO	230	LARGO A	69	1	2						
2004-2	CLMT EST	230	CLMT EST	69	1	2						
2004-2	11TH AVE	230	ELEVEN-E	69	1	16						
2004-2	WINDERME	230	WINDERME	69	1	2						
2004-2	PASADENA	230	PASADENA	115	1	2						
2004-2	ARIANA	230	ARIANA-N	69	1	16						
2004-2	SELOSE	230	SELOSE-N	69	1	16						
2004-2	GAPWAY	230	GAPWAY	69	1	16						
2004-2	CREWSLK	230	CREWSLK	69	1	13						
2004-2	TENOROC	230	TENOROC	69	1	13						
2004-2	BARCOLA	230	WEST	230	1	2						
2004-2	EATON PK	230	CREWSLK	230	1	13						
2004-2	EATON PK	230	EATON PK	69	1	13						
2004-2	EATON PK	230	TENOROC	230	1	13						
2004-2	RECKER	230	GAPWAY	230	1	16						
2004-2	SN PLANT	115	TURNER	115	1	1						

Table I

Comparison of Line & Transformer Flows
Following N-1 Disturbances
for Various OEC 500 MW Generation Alternatives

100% Load Base Case

All Flows above 100% of Emergency rating are Shown

Monitored Branches							Case 2004 Base No OEC Gen	Case 2004A Sell to FPL	Case 2004B Sell to FPC	Case 2004C Sell to TEC	Case 2004D Sell to JEA	Case 2004E Sell to SEM
Case	Bus 1	kV 1	Bus 2	kV 2	ckt	Area	Percent	Percent	Percent	Percent	Percent	Percent
2004-3	SN PLANT	230	SYLVAN	230	1	1						
2004-3	SYLVAN	230	N LONGWD	230	1	1						
2004-3	IND RIV	230	STANTON	230	1	11						
2004-3	SN PLANT	115	TURNER	115	1	1						
2004-3	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-3	SILVR SP	230	SILV SPN	230	1	2						
2004-3	SILVR SP	230	OCALA 1	230	1	2						
2004-3	RIO PINR	230	CURRY FD	230	1	2						
2004-3	STANTON	230	CURRY FD	230	1	2						
2004-3	OSCEOLA	230	LKAGNES	230	1	16						
2004-3	SHELD	230	LK TARPN	230	1	2						
2004-3	PEBB	230	CREWSLK	230	1	13						
2004-3	PEBB	230	N BARTOW	230	1	2						
2004-3	RECKER	230	LKAGNES	230	1	16						
2004-3	RECKER	230	ARIANA	230	1	16						
2004-3	RECKER	230	CREWSLK	230	1	13						
2004-3	B BEND	230	MANATEE	230	1	1						
2004-3	RUSKIN T	230	MANATEE	230	1	1						
2004-3	IND RIV	230	IND RIV	115	1	11						
2004-3	SHELD	230	SHELD-NW	69	1	16						
2004-3	LARGO	230	LARGO A	69	1	2						
2004-3	CLMT EST	230	CLMT EST	69	1	2						
2004-3	11TH AVE	230	ELEVEN-E	69	1	16						
2004-3	WINDERME	230	WINDERME	69	1	2						
2004-3	PASADENA	230	PASADENA	115	1	2						
2004-3	ARIANA	230	ARIANA-N	69	1	16						
2004-3	SELOSE	230	SELOSE-N	69	1	16						
2004-3	GAPWAY	230	GAPWAY	69	1	16						
2004-3	CREWSLK	230	CREWSLK	69	1	13						
2004-3	TENOROC	230	TENOROC	69	1	13						
2004-3	BARCOLA	230	WEST	230	1	2						
2004-3	EATON PK	230	CREWSLK	230	1	13						
2004-3	EATON PK	230	EATON PK	69	1	13						
2004-3	EATON PK	230	TENOROC	230	1	13						
2004-3	RECKER	230	GAPWAY	230	1	16						
2004-3	SN PLANT	115	TURNER	115	1	1						
2004-4	SN PLANT	230	SYLVAN	230	1	1						
2004-4	SYLVAN	230	N LONGWD	230	1	1						
2004-4	IND RIV	230	STANTON	230	1	11						
2004-4	SN PLANT	115	TURNER	115	1	1						
2004-4	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-4	SILVR SP	230	SILV SPN	230	1	2						
2004-4	SILVR SP	230	OCALA 1	230	1	2						
2004-4	RIO PINR	230	CURRY FD	230	1	2						
2004-4	STANTON	230	CURRY FD	230	1	2						
2004-4	OSCEOLA	230	LKAGNES	230	1	16						
2004-4	SHELD	230	LK TARPN	230	1	2						
2004-4	PEBB	230	CREWSLK	230	1	13						
2004-4	PEBB	230	N BARTOW	230	1	2						
2004-4	RECKER	230	LKAGNES	230	1	16						
2004-4	RECKER	230	ARIANA	230	1	16						
2004-4	RECKER	230	CREWSLK	230	1	13						
2004-4	B BEND	230	MANATEE	230	1	1						
2004-4	RUSKIN T	230	MANATEE	230	1	1						
2004-4	IND RIV	230	IND RIV	115	1	11						
2004-4	SHELD	230	SHELD-NW	69	1	16						
2004-4	LARGO	230	LARGO A	69	1	2						
2004-4	CLMT EST	230	CLMT EST	69	1	2						
2004-4	11TH AVE	230	ELEVEN-E	69	1	16						
2004-4	WINDERME	230	WINDERME	69	1	2						
2004-4	PASADENA	230	PASADENA	115	1	2						
2004-4	ARIANA	230	ARIANA-N	69	1	16						
2004-4	SELOSE	230	SELOSE-N	69	1	16						
2004-4	GAPWAY	230	GAPWAY	69	1	16						
2004-4	CREWSLK	230	CREWSLK	69	1	13						
2004-4	TENOROC	230	TENOROC	69	1	13						
2004-4	BARCOLA	230	WEST	230	1	2						
2004-4	EATON PK	230	CREWSLK	230	1	13						
2004-4	EATON PK	230	EATON PK	69	1	13						
2004-4	EATON PK	230	TENOROC	230	1	13						
2004-4	RECKER	230	GAPWAY	230	1	16						
2004-4	SN PLANT	115	TURNER	115	1	1						

Table I

Comparison of Line & Transformer Flows
Following N-1 Disturbances
for Various OEC 500 MW Generation Alternatives

100% Load Base Case

All Flows above 100% of Emergency rating are Shown

Monitored Branches							Case 2004 Base No OEC Gen	Case 2004A Sell to FPL	Case 2004B Sell to FPC	Case 2004C Sell to TEC	Case 2004D Sell to JEA	Case 2004E Sell to SEM
Case	Bus 1	kV 1	Bus 2	kV 2	ckt	Area	Percent	Percent	Percent	Percent	Percent	Percent
2004-5	SN PLANT	230	SYLVAN	230	1	1						
2004-5	SYLVAN	230	N LONGWD	230	1	1						
2004-5	IND RIV	230	STANTON	230	1	11						
2004-5	SN PLANT	115	TURNER	115	1	1						
2004-5	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-5	SILVR SP	230	SILV SPN	230	1	2						
2004-5	SILVR SP	230	OCALA 1	230	1	2						
2004-5	RIO PINR	230	CURRY FD	230	1	2						
2004-5	STANTON	230	CURRY FD	230	1	2						
2004-5	OSCEOLA	230	LKAGNES	230	1	16						
2004-5	SHELD	230	LK TARPN	230	1	2						
2004-5	PEBB	230	CREWSLK	230	1	13						
2004-5	PEBB	230	N BARTOW	230	1	2						
2004-5	RECKER	230	LKAGNES	230	1	16						
2004-5	RECKER	230	ARIANA	230	1	16						
2004-5	RECKER	230	CREWSLK	230	1	13						
2004-5	B BEND	230	MANATEE	230	1	1						
2004-5	RUSKIN T	230	MANATEE	230	1	1						
2004-5	IND RIV	230	IND RIV	115	1	11						
2004-5	SHELD	230	SHELD-NW	69	1	16						
2004-5	LARGO	230	LARGO A	69	1	2						
2004-5	CLMT EST	230	CLMT EST	69	1	2						
2004-5	11TH AVE	230	ELEVEN-E	69	1	16						
2004-5	WINDERME	230	WINDERME	69	1	2						
2004-5	PASADENA	230	PASADENA	115	1	2						
2004-5	ARIANA	230	ARIANA-N	69	1	16						
2004-5	SELOSE	230	SELOSE-N	69	1	16						
2004-5	GAPWAY	230	GAPWAY	69	1	16						
2004-5	CREWSLK	230	CREWSLK	69	1	13						
2004-5	TENOROC	230	TENOROC	69	1	13						
2004-5	BARCOLA	230	WEST	230	1	2						
2004-5	EATON PK	230	CREWSLK	230	1	13						
2004-5	EATON PK	230	EATON PK	69	1	13						
2004-5	EATON PK	230	TENOROC	230	1	13						
2004-5	RECKER	230	GAPWAY	230	1	16						
2004-5	SN PLANT	115	TURNER	115	1	1						
2004-6	SN PLANT	230	SYLVAN	230	1	1						
2004-6	SYLVAN	230	N LONGWD	230	1	1						
2004-6	IND RIV	230	STANTON	230	1	11						
2004-6	SN PLANT	115	TURNER	115	1	1						
2004-6	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-6	SILVR SP	230	SILV SPN	230	1	2						
2004-6	SILVR SP	230	OCALA 1	230	1	2						
2004-6	RIO PINR	230	CURRY FD	230	1	2						
2004-6	STANTON	230	CURRY FD	230	1	2						
2004-6	OSCEOLA	230	LKAGNES	230	1	16			100.8		100.2	100.1
2004-6	SHELD	230	LK TARPN	230	1	2						
2004-6	PEBB	230	CREWSLK	230	1	13						
2004-6	PEBB	230	N BARTOW	230	1	2						
2004-6	RECKER	230	LKAGNES	230	1	16						
2004-6	RECKER	230	ARIANA	230	1	16						
2004-6	RECKER	230	CREWSLK	230	1	13						
2004-6	B BEND	230	MANATEE	230	1	1						
2004-6	RUSKIN T	230	MANATEE	230	1	1						
2004-6	IND RIV	230	IND RIV	115	1	11						
2004-6	SHELD	230	SHELD-NW	69	1	16						
2004-6	LARGO	230	LARGO A	69	1	2						
2004-6	CLMT EST	230	CLMT EST	69	1	2						
2004-6	11TH AVE	230	ELEVEN-E	69	1	16						
2004-6	WINDERME	230	WINDERME	69	1	2						
2004-6	PASADENA	230	PASADENA	115	1	2						
2004-6	ARIANA	230	ARIANA-N	69	1	16						
2004-6	SELOSE	230	SELOSE-N	69	1	16						
2004-6	GAPWAY	230	GAPWAY	69	1	16						
2004-6	CREWSLK	230	CREWSLK	69	1	13						
2004-6	TENOROC	230	TENOROC	69	1	13						
2004-6	BARCOLA	230	WEST	230	1	2						
2004-6	EATON PK	230	CREWSLK	230	1	13						
2004-6	EATON PK	230	EATON PK	69	1	13						
2004-6	EATON PK	230	TENOROC	230	1	13						
2004-6	RECKER	230	GAPWAY	230	1	16						
2004-6	SN PLANT	115	TURNER	115	1	1						

Table I

Comparison of Line & Transformer Flows
Following N-1 Disturbances
for Various OEC 500 MW Generation Alternatives

100% Load Base Case

All Flows above 100% of Emergency rating are Shown

Monitored Branches							Case 2004 Base No OEC Gen	Case 2004A Sell to FPL	Case 2004B Sell to FPC	Case 2004C Sell to TEC	Case 2004D Sell to JEA	Case 2004E Sell to SEM
Case	Bus 1	kV 1	Bus 2	kV 2	ckt	Area	Percent	Percent	Percent	Percent	Percent	Percent
2004-7	SN PLANT	230	SYLVAN	230	1	1						
2004-7	SYLVAN	230	N LONGWD	230	1	1						
2004-7	IND RIV	230	STANTON	230	1	11						
2004-7	SN PLANT	115	TURNER	115	1	1						
2004-7	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-7	SILVR SP	230	SILV SPN	230	1	2						
2004-7	SILVR SP	230	OCALA 1	230	1	2						
2004-7	RIO PINR	230	CURRY FD	230	1	2						
2004-7	STANTON	230	CURRY FD	230	1	2						
2004-7	OSCEOLA	230	LKAGNES	230	1	16						
2004-7	SHELD	230	LK TARPN	230	1	2						
2004-7	PEBB	230	CREWSLK	230	1	13						
2004-7	PEBB	230	N BARTOW	230	1	2						
2004-7	RECKER	230	LKAGNES	230	1	16						
2004-7	RECKER	230	ARIANA	230	1	16						
2004-7	RECKER	230	CREWSLK	230	1	13						
2004-7	B BEND	230	MANATEE	230	1	1						
2004-7	RUSKIN T	230	MANATEE	230	1	1						
2004-7	IND RIV	230	IND RIV	115	1	11						
2004-7	SHELD	230	SHELD-NW	69	1	16						
2004-7	LARGO	230	LARGO A	69	1	2						
2004-7	CLMT EST	230	CLMT EST	69	1	2						
2004-7	11TH AVE	230	ELEVEN-E	69	1	16						
2004-7	WINDERME	230	WINDERME	69	1	2						
2004-7	PASADENA	230	PASADENA	115	1	2						
2004-7	ARIANA	230	ARIANA-N	69	1	16						
2004-7	SELOSE	230	SELOSE-N	69	1	16						
2004-7	GAPWAY	230	GAPWAY	69	1	16						
2004-7	CREWSLK	230	CREWSLK	69	1	13						
2004-7	TENOROC	230	TENOROC	69	1	13						
2004-7	BARCOLA	230	WEST	230	1	2						
2004-7	EATON PK	230	CREWSLK	230	1	13						
2004-7	EATON PK	230	EATON PK	69	1	13						
2004-7	EATON PK	230	TENOROC	230	1	13						
2004-7	RECKER	230	GAPWAY	230	1	16						
2004-7	SN PLANT	115	TURNER	115	1	1						
2004-8	SN PLANT	230	SYLVAN	230	1	1						
2004-8	SYLVAN	230	N LONGWD	230	1	1						
2004-8	IND RIV	230	STANTON	230	1	11						
2004-8	SN PLANT	115	TURNER	115	1	1						
2004-8	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-8	SILVR SP	230	SILV SPN	230	1	2						
2004-8	SILVR SP	230	OCALA 1	230	1	2						
2004-8	RIO PINR	230	CURRY FD	230	1	2						
2004-8	STANTON	230	CURRY FD	230	1	2						
2004-8	OSCEOLA	230	LKAGNES	230	1	16						
2004-8	SHELD	230	LK TARPN	230	1	2						
2004-8	PEBB	230	CREWSLK	230	1	13						
2004-8	PEBB	230	N BARTOW	230	1	2						
2004-8	RECKER	230	LKAGNES	230	1	16						
2004-8	RECKER	230	ARIANA	230	1	16						
2004-8	RECKER	230	CREWSLK	230	1	13						
2004-8	B BEND	230	MANATEE	230	1	1						
2004-8	RUSKIN T	230	MANATEE	230	1	1						
2004-8	IND RIV	230	IND RIV	115	1	11						
2004-8	SHELD	230	SHELD-NW	69	1	16						
2004-8	LARGO	230	LARGO A	69	1	2						
2004-8	CLMT EST	230	CLMT EST	69	1	2						
2004-8	11TH AVE	230	ELEVEN-E	69	1	16						
2004-8	WINDERME	230	WINDERME	69	1	2						
2004-8	PASADENA	230	PASADENA	115	1	2						
2004-8	ARIANA	230	ARIANA-N	69	1	16						
2004-8	SELOSE	230	SELOSE-N	69	1	16						
2004-8	GAPWAY	230	GAPWAY	69	1	16						
2004-8	CREWSLK	230	CREWSLK	69	1	13						
2004-8	TENOROC	230	TENOROC	69	1	13						
2004-8	BARCOLA	230	WEST	230	1	2						
2004-8	EATON PK	230	CREWSLK	230	1	13						
2004-8	EATON PK	230	EATON PK	69	1	13						
2004-8	EATON PK	230	TENOROC	230	1	13						
2004-8	RECKER	230	GAPWAY	230	1	16						
2004-8	SN PLANT	115	TURNER	115	1	1						

Table I

Comparison of Line & Transformer Flows
Following N-1 Disturbances
for Various OEC 500 MW Generation Alternatives

100% Load Base Case

All Flows above 100% of Emergency rating are Shown

Monitored Branches							Case 2004 Base No OEC Gen	Case 2004A Sell to FPL	Case 2004B Sell to FPC	Case 2004C Sell to TEC	Case 2004D Sell to JEA	Case 2004E Sell to SEM
Case	Bus 1	kV 1	Bus 2	kV 2	ckt	Area	Percent	Percent	Percent	Percent	Percent	Percent
2004-9	SN PLANT	230	SYLVAN	230	1	1						
2004-9	SYLVAN	230	N LONGWD	230	1	1						
2004-9	IND RIV	230	STANTON	230	1	11						
2004-9	SN PLANT	115	TURNER	115	1	1						
2004-9	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-9	SILVR SP	230	SILV SPN	230	1	2						
2004-9	SILVR SP	230	OCALA 1	230	1	2						
2004-9	RIO PINR	230	CURRY FD	230	1	2						
2004-9	STANTON	230	CURRY FD	230	1	2						
2004-9	OSCEOLA	230	LKAGNES	230	1	16						
2004-9	SHELD	230	LK TARPN	230	1	2						
2004-9	PEBB	230	CREWSLK	230	1	13						
2004-9	PEBB	230	N BARTOW	230	1	2						
2004-9	RECKER	230	LKAGNES	230	1	16						
2004-9	RECKER	230	ARIANA	230	1	16						
2004-9	RECKER	230	CREWSLK	230	1	13						
2004-9	B BEND	230	MANATEE	230	1	1						
2004-9	RUSKIN T	230	MANATEE	230	1	1						
2004-9	IND RIV	230	IND RIV	115	1	11						
2004-9	SHELD	230	SHELD-NW	69	1	16						
2004-9	LARGO	230	LARGO A	69	1	2						
2004-9	CLMT EST	230	CLMT EST	69	1	2						
2004-9	11TH AVE	230	ELEVEN-E	69	1	16						
2004-9	WINDERME	230	WINDERME	69	1	2						
2004-9	PASADENA	230	PASADENA	115	1	2						
2004-9	ARIANA	230	ARIANA-N	69	1	16						
2004-9	SELOSE	230	SELOSE-N	69	1	16						
2004-9	GAPWAY	230	GAPWAY	69	1	16						
2004-9	CREWSLK	230	CREWSLK	69	1	13						
2004-9	TENOROC	230	TENOROC	69	1	13						
2004-9	BARCOLA	230	WEST	230	1	2						
2004-9	EATON PK	230	CREWSLK	230	1	13						
2004-9	EATON PK	230	EATON PK	69	1	13						
2004-9	EATON PK	230	TENOROC	230	1	13						
2004-9	RECKER	230	GAPWAY	230	1	16						
2004-9	SN PLANT	115	TURNER	115	1	1						
2004-10	SN PLANT	230	SYLVAN	230	1	1						
2004-10	SYLVAN	230	N LONGWD	230	1	1						
2004-10	IND RIV	230	STANTON	230	1	11						
2004-10	SN PLANT	115	TURNER	115	1	1						
2004-10	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-10	SILVR SP	230	SILV SPN	230	1	2						
2004-10	SILVR SP	230	OCALA 1	230	1	2						
2004-10	RIO PINR	230	CURRY FD	230	1	2						
2004-10	STANTON	230	CURRY FD	230	1	2						
2004-10	OSCEOLA	230	LKAGNES	230	1	16						
2004-10	SHELD	230	LK TARPN	230	1	2						
2004-10	PEBB	230	CREWSLK	230	1	13						
2004-10	PEBB	230	N BARTOW	230	1	2						
2004-10	RECKER	230	LKAGNES	230	1	16						
2004-10	RECKER	230	ARIANA	230	1	16						
2004-10	RECKER	230	CREWSLK	230	1	13						
2004-10	B BEND	230	MANATEE	230	1	1						
2004-10	RUSKIN T	230	MANATEE	230	1	1						
2004-10	IND RIV	230	IND RIV	115	1	11						
2004-10	SHELD	230	SHELD-NW	69	1	16						
2004-10	LARGO	230	LARGO A	69	1	2						
2004-10	CLMT EST	230	CLMT EST	69	1	2						
2004-10	11TH AVE	230	ELEVEN-E	69	1	16						
2004-10	WINDERME	230	WINDERME	69	1	2						
2004-10	PASADENA	230	PASADENA	115	1	2						
2004-10	ARIANA	230	ARIANA-N	69	1	16						
2004-10	SELOSE	230	SELOSE-N	69	1	16						
2004-10	GAPWAY	230	GAPWAY	69	1	16						
2004-10	CREWSLK	230	CREWSLK	69	1	13						
2004-10	TENOROC	230	TENOROC	69	1	13						
2004-10	BARCOLA	230	WEST	230	1	2						
2004-10	EATON PK	230	CREWSLK	230	1	13						
2004-10	EATON PK	230	EATON PK	69	1	13						
2004-10	EATON PK	230	TENOROC	230	1	13						
2004-10	RECKER	230	GAPWAY	230	1	16						
2004-10	SN PLANT	115	TURNER	115	1	1						

Table I

Comparison of Line & Transformer Flows Following N-1 Disturbances for Various OEC 500 MW Generation Alternatives

100% Load Base Case

All Flows above 100% of Emergency rating are Shown

Monitored Branches							Case 2004 Base No OEC Gen	Case 2004A Sell to FPL	Case 2004B Sell to FPC	Case 2004C Sell to TEC	Case 2004D Sell to JEA	Case 2004E Sell to SEM
Case	Bus 1	kV 1	Bus 2	kV 2	ckt	Area	Percent	Percent	Percent	Percent	Percent	Percent
2004-11	SN PLANT	230	SYLVAN	230	1	1						
2004-11	SYLVAN	230	N LONGWD	230	1	1						
2004-11	IND RIV	230	STANTON	230	1	11						
2004-11	SN PLANT	115	TURNER	115	1	1						
2004-11	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-11	SILVR SP	230	SILV SPN	230	1	2						
2004-11	SILVR SP	230	OCALA 1	230	1	2						
2004-11	RIO PINR	230	CURRY FD	230	1	2						
2004-11	STANTON	230	CURRY FD	230	1	2						
2004-11	OSCEOLA	230	LKAGNES	230	1	16						
2004-11	SHELD	230	LK TARPN	230	1	2						
2004-11	PEBB	230	CREWSLK	230	1	13						
2004-11	PEBB	230	N BARTOW	230	1	2						
2004-11	RECKER	230	LKAGNES	230	1	16						
2004-11	RECKER	230	ARIANA	230	1	16						
2004-11	RECKER	230	CREWSLK	230	1	13						
2004-11	B BEND	230	MANATEE	230	1	1						
2004-11	RUSKIN T	230	MANATEE	230	1	1						
2004-11	IND RIV	230	IND RIV	115	1	11						
2004-11	SHELD	230	SHELD-NW	69	1	16						
2004-11	LARGO	230	LARGO A	69	1	2						
2004-11	CLMT EST	230	CLMT EST	69	1	2						
2004-11	11TH AVE	230	ELEVEN-E	69	1	16						
2004-11	WINDERME	230	WINDERME	69	1	2						
2004-11	PASADENA	230	PASADENA	115	1	2						
2004-11	ARIANA	230	ARIANA-N	69	1	16						
2004-11	SELOSE	230	SELOSE-N	69	1	16						
2004-11	GAPWAY	230	GAPWAY	69	1	16						
2004-11	CREWSLK	230	CREWSLK	69	1	13						
2004-11	TENOROC	230	TENOROC	69	1	13						
2004-11	BARCOLA	230	WEST	230	1	2						
2004-11	EATON PK	230	CREWSLK	230	1	13						
2004-11	EATON PK	230	EATON PK	69	1	13						
2004-11	EATON PK	230	TENOROC	230	1	13						
2004-11	RECKER	230	GAPWAY	230	1	16						
2004-11	SN PLANT	115	TURNER	115	1	1						
2004-12	SN PLANT	230	SYLVAN	230	1	1						
2004-12	SYLVAN	230	N LONGWD	230	1	1						
2004-12	IND RIV	230	STANTON	230	1	11						
2004-12	SN PLANT	115	TURNER	115	1	1						
2004-12	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-12	SILVR SP	230	SILV SPN	230	1	2						
2004-12	SILVR SP	230	OCALA 1	230	1	2						
2004-12	RIO PINR	230	CURRY FD	230	1	2						
2004-12	STANTON	230	CURRY FD	230	1	2						
2004-12	OSCEOLA	230	LKAGNES	230	1	16						
2004-12	SHELD	230	LK TARPN	230	1	2						
2004-12	PEBB	230	CREWSLK	230	1	13						
2004-12	PEBB	230	N BARTOW	230	1	2						
2004-12	RECKER	230	LKAGNES	230	1	16						
2004-12	RECKER	230	ARIANA	230	1	16						
2004-12	RECKER	230	CREWSLK	230	1	13						
2004-12	B BEND	230	MANATEE	230	1	1						
2004-12	RUSKIN T	230	MANATEE	230	1	1						
2004-12	IND RIV	230	IND RIV	115	1	11						
2004-12	SHELD	230	SHELD-NW	69	1	16						
2004-12	LARGO	230	LARGO A	69	1	2						
2004-12	CLMT EST	230	CLMT EST	69	1	2						
2004-12	11TH AVE	230	ELEVEN-E	69	1	16						
2004-12	WINDERME	230	WINDERME	69	1	2						
2004-12	PASADENA	230	PASADENA	115	1	2						
2004-12	ARIANA	230	ARIANA-N	69	1	16						
2004-12	SELOSE	230	SELOSE-N	69	1	16						
2004-12	GAPWAY	230	GAPWAY	69	1	16						
2004-12	CREWSLK	230	CREWSLK	69	1	13						
2004-12	TENOROC	230	TENOROC	69	1	13						
2004-12	BARCOLA	230	WEST	230	1	2						
2004-12	EATON PK	230	CREWSLK	230	1	13						
2004-12	EATON PK	230	EATON PK	69	1	13						
2004-12	EATON PK	230	TENOROC	230	1	13						
2004-12	RECKER	230	GAPWAY	230	1	16						
2004-12	SN PLANT	115	TURNER	115	1	1						

Table I

Comparison of Line & Transformer Flows
Following N-1 Disturbances
for Various OEC 500 MW Generation Alternatives

100% Load Base Case

All Flows above 100% of Emergency rating are Shown

Monitored Branches							Case 2004 Base No OEC Gen	Case 2004A Sell to FPL	Case 2004B Sell to FPC	Case 2004C Sell to TEC	Case 2004D Sell to JEA	Case 2004E Sell to SEM
Case	Bus 1	kV 1	Bus 2	kV 2	ckt	Area	Percent	Percent	Percent	Percent	Percent	Percent
2004-13	SN PLANT	230	SYLVAN	230	1	1						
2004-13	SYLVAN	230	N LONGWD	230	1	1						
2004-13	IND RIV	230	STANTON	230	1	11						
2004-13	SN PLANT	115	TURNER	115	1	1						
2004-13	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-13	SILVR SP	230	SILV SPN	230	1	2						
2004-13	SILVR SP	230	OCALA 1	230	1	2						
2004-13	RIO PINR	230	CURRY FD	230	1	2						
2004-13	STANTON	230	CURRY FD	230	1	2						
2004-13	OSCEOLA	230	LKAGNES	230	1	16						
2004-13	SHELD	230	LK TARPN	230	1	2						
2004-13	PEBB	230	CREWSLK	230	1	13						
2004-13	PEBB	230	N BARTOW	230	1	2						
2004-13	RECKER	230	LKAGNES	230	1	16						
2004-13	RECKER	230	ARIANA	230	1	16						
2004-13	RECKER	230	CREWSLK	230	1	13						
2004-13	B BEND	230	MANATEE	230	1	1						
2004-13	RUSKIN T	230	MANATEE	230	1	1						
2004-13	IND RIV	230	IND RIV	115	1	11						
2004-13	SHELD	230	SHELD-NW	69	1	16						
2004-13	LARGO	230	LARGO A	69	1	2						
2004-13	CLMT EST	230	CLMT EST	69	1	2						
2004-13	11TH AVE	230	ELEVEN-E	69	1	16						
2004-13	WINDERME	230	WINDERME	69	1	2						
2004-13	PASADENA	230	PASADENA	115	1	2						
2004-13	ARIANA	230	ARIANA-N	69	1	16						
2004-13	SELOSE	230	SELOSE-N	69	1	16						
2004-13	GAPWAY	230	GAPWAY	69	1	16						
2004-13	CREWSLK	230	CREWSLK	69	1	13						
2004-13	TENOROC	230	TENOROC	69	1	13						
2004-13	BARCOLA	230	WEST	230	1	2						
2004-13	EATON PK	230	CREWSLK	230	1	13						
2004-13	EATON PK	230	EATON PK	69	1	13						
2004-13	EATON PK	230	TENOROC	230	1	13						
2004-13	RECKER	230	GAPWAY	230	1	16						
2004-13	SN PLANT	115	TURNER	115	1	1						
2004-15	SN PLANT	230	SYLVAN	230	1	1						
2004-15	SYLVAN	230	N LONGWD	230	1	1						
2004-15	IND RIV	230	STANTON	230	1	11						
2004-15	SN PLANT	115	TURNER	115	1	1						
2004-15	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-15	SILVR SP	230	SILV SPN	230	1	2						
2004-15	SILVR SP	230	OCALA 1	230	1	2						
2004-15	RIO PINR	230	CURRY FD	230	1	2						
2004-15	STANTON	230	CURRY FD	230	1	2						
2004-15	OSCEOLA	230	LKAGNES	230	1	16						
2004-15	SHELD	230	LK TARPN	230	1	2						
2004-15	PEBB	230	CREWSLK	230	1	13						
2004-15	PEBB	230	N BARTOW	230	1	2						
2004-15	RECKER	230	LKAGNES	230	1	16						
2004-15	RECKER	230	ARIANA	230	1	16						
2004-15	RECKER	230	CREWSLK	230	1	13						
2004-15	B BEND	230	MANATEE	230	1	1						
2004-15	RUSKIN T	230	MANATEE	230	1	1						
2004-15	IND RIV	230	IND RIV	115	1	11						
2004-15	SHELD	230	SHELD-NW	69	1	16						
2004-15	LARGO	230	LARGO A	69	1	2						
2004-15	CLMT EST	230	CLMT EST	69	1	2						
2004-15	11TH AVE	230	ELEVEN-E	69	1	16						
2004-15	WINDERME	230	WINDERME	69	1	2						
2004-15	PASADENA	230	PASADENA	115	1	2						
2004-15	ARIANA	230	ARIANA-N	69	1	16						
2004-15	SELOSE	230	SELOSE-N	69	1	16						
2004-15	GAPWAY	230	GAPWAY	69	1	16						
2004-15	CREWSLK	230	CREWSLK	69	1	13						
2004-15	TENOROC	230	TENOROC	69	1	13						
2004-15	BARCOLA	230	WEST	230	1	2						
2004-15	EATON PK	230	CREWSLK	230	1	13						
2004-15	EATON PK	230	EATON PK	69	1	13						
2004-15	EATON PK	230	TENOROC	230	1	13						
2004-15	RECKER	230	GAPWAY	230	1	16						
2004-15	SN PLANT	115	TURNER	115	1	1						

Table I

Comparison of Line & Transformer Flows
Following N-1 Disturbances
for Various OEC 500 MW Generation Alternatives

100% Load Base Case

All Flows above 100% of Emergency rating are Shown

Monitored Branches							Case 2004 Base No OEC Gen	Case 2004A Sell to FPL	Case 2004B Sell to FPC	Case 2004C Sell to TEC	Case 2004D Sell to JEA	Case 2004E Sell to SEM
Case	Bus 1	kV 1	Bus 2	kV 2	ckt	Area	Percent	Percent	Percent	Percent	Percent	Percent
2004-16	SN PLANT	230	SYLVAN	230	1	1						
2004-16	SYLVAN	230	N LONGWD	230	1	1						
2004-16	IND RIV	230	STANTON	230	1	11						
2004-16	SN PLANT	115	TURNER	115	1	1						
2004-16	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-16	SILVR SP	230	SILV SPN	230	1	2						
2004-16	SILVR SP	230	OCALA 1	230	1	2						
2004-16	RIO PINR	230	CURRY FD	230	1	2						
2004-16	STANTON	230	CURRY FD	230	1	2						
2004-16	OSCEOLA	230	LKAGNES	230	1	16						
2004-16	SHELD	230	LK TARPN	230	1	2						
2004-16	PEBB	230	CREWSLK	230	1	13						
2004-16	PEBB	230	N BARTOW	230	1	2						
2004-16	RECKER	230	LKAGNES	230	1	16						
2004-16	RECKER	230	ARIANA	230	1	16						
2004-16	RECKER	230	CREWSLK	230	1	13						
2004-16	B BEND	230	MANATEE	230	1	1						
2004-16	RUSKIN T	230	MANATEE	230	1	1						
2004-16	IND RIV	230	IND RIV	115	1	11						
2004-16	SHELD	230	SHELD-NW	69	1	16						
2004-16	LARGO	230	LARGO A	69	1	2						
2004-16	CLMT EST	230	CLMT EST	69	1	2						
2004-16	11TH AVE	230	ELEVEN-E	69	1	16						
2004-16	WINDERME	230	WINDERME	69	1	2						
2004-16	PASADENA	230	PASADENA	115	1	2						
2004-16	ARIANA	230	ARIANA-N	69	1	16						
2004-16	SELOSE	230	SELOSE-N	69	1	16						
2004-16	GAPWAY	230	GAPWAY	69	1	16						
2004-16	CREWSLK	230	CREWSLK	69	1	13						
2004-16	TENOROC	230	TENOROC	69	1	13						
2004-16	BARCOLA	230	WEST	230	1	2						
2004-16	EATON PK	230	CREWSLK	230	1	13						
2004-16	EATON PK	230	EATON PK	69	1	13						
2004-16	EATON PK	230	TENOROC	230	1	13						
2004-16	RECKER	230	GAPWAY	230	1	16						
2004-16	SN PLANT	115	TURNER	115	1	1						
2004-17	SN PLANT	230	SYLVAN	230	1	1						
2004-17	SYLVAN	230	N LONGWD	230	1	1						
2004-17	IND RIV	230	STANTON	230	1	11						
2004-17	SN PLANT	115	TURNER	115	1	1						
2004-17	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-17	SILVR SP	230	SILV SPN	230	1	2						
2004-17	SILVR SP	230	OCALA 1	230	1	2						
2004-17	RIO PINR	230	CURRY FD	230	1	2						
2004-17	STANTON	230	CURRY FD	230	1	2						
2004-17	OSCEOLA	230	LKAGNES	230	1	16						
2004-17	SHELD	230	LK TARPN	230	1	2						
2004-17	PEBB	230	CREWSLK	230	1	13						
2004-17	PEBB	230	N BARTOW	230	1	2						
2004-17	RECKER	230	LKAGNES	230	1	16						
2004-17	RECKER	230	ARIANA	230	1	16						
2004-17	RECKER	230	CREWSLK	230	1	13						
2004-17	B BEND	230	MANATEE	230	1	1						
2004-17	RUSKIN T	230	MANATEE	230	1	1						
2004-17	IND RIV	230	IND RIV	115	1	11						
2004-17	SHELD	230	SHELD-NW	69	1	16						
2004-17	LARGO	230	LARGO A	69	1	2						
2004-17	CLMT EST	230	CLMT EST	69	1	2						
2004-17	11TH AVE	230	ELEVEN-E	69	1	16						
2004-17	WINDERME	230	WINDERME	69	1	2						
2004-17	PASADENA	230	PASADENA	115	1	2						
2004-17	ARIANA	230	ARIANA-N	69	1	16						
2004-17	SELOSE	230	SELOSE-N	69	1	16						
2004-17	GAPWAY	230	GAPWAY	69	1	16						
2004-17	CREWSLK	230	CREWSLK	69	1	13						
2004-17	TENOROC	230	TENOROC	69	1	13						
2004-17	BARCOLA	230	WEST	230	1	2						
2004-17	EATON PK	230	CREWSLK	230	1	13						
2004-17	EATON PK	230	EATON PK	69	1	13						
2004-17	EATON PK	230	TENOROC	230	1	13						
2004-17	RECKER	230	GAPWAY	230	1	16						
2004-17	SN PLANT	115	TURNER	115	1	1						

Table I

Comparison of Line & Transformer Flows
Following N-1 Disturbances
for Various OEC 500 MW Generation Alternatives

100% Load Base Case

All Flows above 100% of Emergency rating are Shown

Monitored Branches							Case 2004 Base No OEC Gen	Case 2004A Sell to FPL	Case 2004B Sell to FPC	Case 2004C Sell to TEC	Case 2004D Sell to JEA	Case 2004E Sell to SEM
Case	Bus 1	kV 1	Bus 2	kV 2	ckt	Area	Percent	Percent	Percent	Percent	Percent	Percent
2004-18	SN PLANT	230	SYLVAN	230	1	1						
2004-18	SYLVAN	230	N LONGWD	230	1	1						
2004-18	IND RIV	230	STANTON	230	1	11						
2004-18	SN PLANT	115	TURNER	115	1	1						
2004-18	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-18	SILVR SP	230	SILV SPN	230	1	2						
2004-18	SILVR SP	230	OCALA 1	230	1	2						
2004-18	RIO PINR	230	CURRY FD	230	1	2						
2004-18	STANTON	230	CURRY FD	230	1	2						
2004-18	OSCEOLA	230	LKAGNES	230	1	16						
2004-18	SHELD	230	LK TARPN	230	1	2						
2004-18	PEBB	230	CREWSLK	230	1	13						
2004-18	PEBB	230	N BARTOW	230	1	2						
2004-18	RECKER	230	LKAGNES	230	1	16		100.0	103.2		102.6	102.1
2004-18	RECKER	230	ARIANA	230	1	16						
2004-18	RECKER	230	CREWSLK	230	1	13						
2004-18	B BEND	230	MANATEE	230	1	1						
2004-18	RUSKIN T	230	MANATEE	230	1	1						
2004-18	IND RIV	230	IND RIV	115	1	11						
2004-18	SHELD	230	SHELD-NW	69	1	16						
2004-18	LARGO	230	LARGO A	69	1	2						
2004-18	CLMT EST	230	CLMT EST	69	1	2						
2004-18	11TH AVE	230	ELEVEN-E	69	1	16						
2004-18	WINDERME	230	WINDERME	69	1	2						
2004-18	PASADENA	230	PASADENA	115	1	2						
2004-18	ARIANA	230	ARIANA-N	69	1	16						
2004-18	SELOSE	230	SELOSE-N	69	1	16						
2004-18	GAPWAY	230	GAPWAY	69	1	16						
2004-18	CREWSLK	230	CREWSLK	69	1	13						
2004-18	TENOROC	230	TENOROC	69	1	13						
2004-18	BARCOLA	230	WEST	230	1	2						
2004-18	EATON PK	230	CREWSLK	230	1	13						
2004-18	EATON PK	230	EATON PK	69	1	13						
2004-18	EATON PK	230	TENOROC	230	1	13						
2004-18	RECKER	230	GAPWAY	230	1	16						
2004-18	SN PLANT	115	TURNER	115	1	1						
2004-19	SN PLANT	230	SYLVAN	230	1	1						
2004-19	SYLVAN	230	N LONGWD	230	1	1						
2004-19	IND RIV	230	STANTON	230	1	11						
2004-19	SN PLANT	115	TURNER	115	1	1						
2004-19	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-19	SILVR SP	230	SILV SPN	230	1	2						
2004-19	SILVR SP	230	OCALA 1	230	1	2						
2004-19	RIO PINR	230	CURRY FD	230	1	2						
2004-19	STANTON	230	CURRY FD	230	1	2						
2004-19	OSCEOLA	230	LKAGNES	230	1	16						
2004-19	SHELD	230	LK TARPN	230	1	2						
2004-19	PEBB	230	CREWSLK	230	1	13						
2004-19	PEBB	230	N BARTOW	230	1	2						
2004-19	RECKER	230	LKAGNES	230	1	16						
2004-19	RECKER	230	ARIANA	230	1	16						
2004-19	RECKER	230	CREWSLK	230	1	13						
2004-19	B BEND	230	MANATEE	230	1	1						
2004-19	RUSKIN T	230	MANATEE	230	1	1						
2004-19	IND RIV	230	IND RIV	115	1	11						
2004-19	SHELD	230	SHELD-NW	69	1	16						
2004-19	LARGO	230	LARGO A	69	1	2						
2004-19	CLMT EST	230	CLMT EST	69	1	2						
2004-19	11TH AVE	230	ELEVEN-E	69	1	16						
2004-19	WINDERME	230	WINDERME	69	1	2						
2004-19	PASADENA	230	PASADENA	115	1	2						
2004-19	ARIANA	230	ARIANA-N	69	1	16						
2004-19	SELOSE	230	SELOSE-N	69	1	16						
2004-19	GAPWAY	230	GAPWAY	69	1	16						
2004-19	CREWSLK	230	CREWSLK	69	1	13						
2004-19	TENOROC	230	TENOROC	69	1	13						
2004-19	BARCOLA	230	WEST	230	1	2						
2004-19	EATON PK	230	CREWSLK	230	1	13						
2004-19	EATON PK	230	EATON PK	69	1	13						
2004-19	EATON PK	230	TENOROC	230	1	13						
2004-19	RECKER	230	GAPWAY	230	1	16						
2004-19	SN PLANT	115	TURNER	115	1	1						

Table I

Comparison of Line & Transformer Flows
Following N-1 Disturbances
for Various OEC 500 MW Generation Alternatives

100% Load Base Case

All Flows above 100% of Emergency rating are Shown

Monitored Branches							Case 2004 Base No OEC Gen	Case 2004A Sell to FPL	Case 2004B Sell to FPC	Case 2004C Sell to TEC	Case 2004D Sell to JEA	Case 2004E Sell to SEM
Case	Bus 1	kV 1	Bus 2	kV 2	ckt	Area	Percent	Percent	Percent	Percent	Percent	Percent
2004-20	SN PLANT	230	SYLVAN	230	1	1						
2004-20	SYLVAN	230	N LONGWD	230	1	1						
2004-20	IND RIV	230	STANTON	230	1	11						
2004-20	SN PLANT	115	TURNER	115	1	1						
2004-20	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-20	SILVR SP	230	SILV SPN	230	1	2						
2004-20	SILVR SP	230	OCALA 1	230	1	2						
2004-20	RIO PINR	230	CURRY FD	230	1	2						
2004-20	STANTON	230	CURRY FD	230	1	2						
2004-20	OSCEOLA	230	LKAGNES	230	1	16						
2004-20	SHELD	230	LK TARPN	230	1	2						
2004-20	PEBB	230	CREWSLK	230	1	13						
2004-20	PEBB	230	N BARTOW	230	1	2						
2004-20	RECKER	230	LKAGNES	230	1	16						
2004-20	RECKER	230	ARIANA	230	1	16						
2004-20	RECKER	230	CREWSLK	230	1	13						
2004-20	B BEND	230	MANATEE	230	1	1						
2004-20	RUSKIN T	230	MANATEE	230	1	1						
2004-20	IND RIV	230	IND RIV	115	1	11						
2004-20	SHELD	230	SHELD-NW	69	1	16						
2004-20	LARGO	230	LARGO A	69	1	2						
2004-20	CLMT EST	230	CLMT EST	69	1	2						
2004-20	11TH AVE	230	ELEVEN-E	69	1	16						
2004-20	WINDERME	230	WINDERME	69	1	2						
2004-20	PASADENA	230	PASADENA	115	1	2						
2004-20	ARIANA	230	ARIANA-N	69	1	16						
2004-20	SELOSE	230	SELOSE-N	69	1	16						
2004-20	GAPWAY	230	GAPWAY	69	1	16						
2004-20	CREWSLK	230	CREWSLK	69	1	13						
2004-20	TENOROC	230	TENOROC	69	1	13						
2004-20	BARCOLA	230	WEST	230	1	2						
2004-20	EATON PK	230	CREWSLK	230	1	13						
2004-20	EATON PK	230	EATON PK	69	1	13						
2004-20	EATON PK	230	TENOROC	230	1	13						
2004-20	RECKER	230	GAPWAY	230	1	16						
2004-20	SN PLANT	115	TURNER	115	1	1						
2004-21	SN PLANT	230	SYLVAN	230	1	1						
2004-21	SYLVAN	230	N LONGWD	230	1	1						
2004-21	IND RIV	230	STANTON	230	1	11						
2004-21	SN PLANT	115	TURNER	115	1	1						
2004-21	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-21	SILVR SP	230	SILV SPN	230	1	2						
2004-21	SILVR SP	230	OCALA 1	230	1	2						
2004-21	RIO PINR	230	CURRY FD	230	1	2						
2004-21	STANTON	230	CURRY FD	230	1	2						
2004-21	OSCEOLA	230	LKAGNES	230	1	16						
2004-21	SHELD	230	LK TARPN	230	1	2						
2004-21	PEBB	230	CREWSLK	230	1	13						
2004-21	PEBB	230	N BARTOW	230	1	2						
2004-21	RECKER	230	LKAGNES	230	1	16						
2004-21	RECKER	230	ARIANA	230	1	16						
2004-21	RECKER	230	CREWSLK	230	1	13						
2004-21	B BEND	230	MANATEE	230	1	1						
2004-21	RUSKIN T	230	MANATEE	230	1	1						
2004-21	IND RIV	230	IND RIV	115	1	11						
2004-21	SHELD	230	SHELD-NW	69	1	16						
2004-21	LARGO	230	LARGO A	69	1	2						
2004-21	CLMT EST	230	CLMT EST	69	1	2						
2004-21	11TH AVE	230	ELEVEN-E	69	1	16						
2004-21	WINDERME	230	WINDERME	69	1	2						
2004-21	PASADENA	230	PASADENA	115	1	2						
2004-21	ARIANA	230	ARIANA-N	69	1	16						
2004-21	SELOSE	230	SELOSE-N	69	1	16						
2004-21	GAPWAY	230	GAPWAY	69	1	16						
2004-21	CREWSLK	230	CREWSLK	69	1	13						
2004-21	TENOROC	230	TENOROC	69	1	13						
2004-21	BARCOLA	230	WEST	230	1	2						
2004-21	EATON PK	230	CREWSLK	230	1	13						
2004-21	EATON PK	230	EATON PK	69	1	13						
2004-21	EATON PK	230	TENOROC	230	1	13						
2004-21	RECKER	230	GAPWAY	230	1	16						
2004-21	SN PLANT	115	TURNER	115	1	1						

Table I

Comparison of Line & Transformer Flows
Following N-1 Disturbances
for Various OEC 500 MW Generation Alternatives

100% Load Base Case

All Flows above 100% of Emergency rating are Shown

Monitored Branches							Case 2004 Base No OEC Gen	Case 2004A Sell to FPL	Case 2004B Sell to FPC	Case 2004C Sell to TEC	Case 2004D Sell to JEA	Case 2004E Sell to SEM
Case	Bus 1	kV 1	Bus 2	kV 2	ckt	Area	Percent	Percent	Percent	Percent	Percent	Percent
2004-22	SN PLANT	230	SYLVAN	230	1	1						
2004-22	SYLVAN	230	N LONGWD	230	1	1						
2004-22	IND RIV	230	STANTON	230	1	11						
2004-22	SN PLANT	115	TURNER	115	1	1						
2004-22	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-22	SILVR SP	230	SILV SPN	230	1	2						
2004-22	SILVR SP	230	OCALA 1	230	1	2						
2004-22	RIO PINR	230	CURRY FD	230	1	2						
2004-22	STANTON	230	CURRY FD	230	1	2						
2004-22	OSCEOLA	230	LKAGNES	230	1	16						
2004-22	SHELD	230	LK TARPN	230	1	2						
2004-22	PEBB	230	CREWSLK	230	1	13						
2004-22	PEBB	230	N BARTOW	230	1	2						
2004-22	RECKER	230	LKAGNES	230	1	16						
2004-22	RECKER	230	ARIANA	230	1	16						
2004-22	RECKER	230	CREWSLK	230	1	13						
2004-22	B BEND	230	MANATEE	230	1	1						
2004-22	RUSKIN T	230	MANATEE	230	1	1						
2004-22	IND RIV	230	IND RIV	115	1	11						
2004-22	SHELD	230	SHELD-NW	69	1	16						
2004-22	LARGO	230	LARGO A	69	1	2						
2004-22	CLMT EST	230	CLMT EST	69	1	2						
2004-22	11TH AVE	230	ELEVEN-E	69	1	16						
2004-22	WINDERME	230	WINDERME	69	1	2						
2004-22	PASADENA	230	PASADENA	115	1	2						
2004-22	ARIANA	230	ARIANA-N	69	1	16						
2004-22	SELOSE	230	SELOSE-N	69	1	16						
2004-22	GAPWAY	230	GAPWAY	69	1	16						
2004-22	CREWSLK	230	CREWSLK	69	1	13						
2004-22	TENOROC	230	TENOROC	69	1	13						
2004-22	BARCOLA	230	WEST	230	1	2						
2004-22	EATON PK	230	CREWSLK	230	1	13						
2004-22	EATON PK	230	EATON PK	69	1	13						
2004-22	EATON PK	230	TENOROC	230	1	13						
2004-22	RECKER	230	GAPWAY	230	1	16						
2004-22	SN PLANT	115	TURNER	115	1	1						
2004-23	SN PLANT	230	SYLVAN	230	1	1						
2004-23	SYLVAN	230	N LONGWD	230	1	1						
2004-23	IND RIV	230	STANTON	230	1	11						
2004-23	SN PLANT	115	TURNER	115	1	1						
2004-23	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-23	SILVR SP	230	SILV SPN	230	1	2						
2004-23	SILVR SP	230	OCALA 1	230	1	2						
2004-23	RIO PINR	230	CURRY FD	230	1	2						
2004-23	STANTON	230	CURRY FD	230	1	2						
2004-23	OSCEOLA	230	LKAGNES	230	1	16						
2004-23	SHELD	230	LK TARPN	230	1	2						
2004-23	PEBB	230	CREWSLK	230	1	13						
2004-23	PEBB	230	N BARTOW	230	1	2						
2004-23	RECKER	230	LKAGNES	230	1	16						
2004-23	RECKER	230	ARIANA	230	1	16						
2004-23	RECKER	230	CREWSLK	230	1	13						
2004-23	B BEND	230	MANATEE	230	1	1						
2004-23	RUSKIN T	230	MANATEE	230	1	1						
2004-23	IND RIV	230	IND RIV	115	1	11						
2004-23	SHELD	230	SHELD-NW	69	1	16						
2004-23	LARGO	230	LARGO A	69	1	2						
2004-23	CLMT EST	230	CLMT EST	69	1	2						
2004-23	11TH AVE	230	ELEVEN-E	69	1	16						
2004-23	WINDERME	230	WINDERME	69	1	2						
2004-23	PASADENA	230	PASADENA	115	1	2						
2004-23	ARIANA	230	ARIANA-N	69	1	16						
2004-23	SELOSE	230	SELOSE-N	69	1	16						
2004-23	GAPWAY	230	GAPWAY	69	1	16						
2004-23	CREWSLK	230	CREWSLK	69	1	13						
2004-23	TENOROC	230	TENOROC	69	1	13						
2004-23	BARCOLA	230	WEST	230	1	2						
2004-23	EATON PK	230	CREWSLK	230	1	13						
2004-23	EATON PK	230	EATON PK	69	1	13						
2004-23	EATON PK	230	TENOROC	230	1	13						
2004-23	RECKER	230	GAPWAY	230	1	16						
2004-23	SN PLANT	115	TURNER	115	1	1						

Table I

Comparison of Line & Transformer Flows
Following N-1 Disturbances
for Various OEC 500 MW Generation Alternatives

100% Load Base Case

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Monitored Branches							Case 2004 Base No OEC Gen	Case 2004A Sell to FPL	Case 2004B Sell to FPC	Case 2004C Sell to TEC	Case 2004D Sell to JEA	Case 2004E Sell to SEM
Case	Bus 1	kV 1	Bus 2	kV 2	ckt	Area	Percent	Percent	Percent	Percent	Percent	Percent
2004-24	SN PLANT	230	SYLVAN	230	1	1						
2004-24	SYLVAN	230	N LONGWD	230	1	1						
2004-24	IND RIV	230	STANTON	230	1	11						
2004-24	SN PLANT	115	TURNER	115	1	1						
2004-24	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-24	SILVR SP	230	SILV SPN	230	1	2						
2004-24	SILVR SP	230	OCALA 1	230	1	2						
2004-24	RIO PINR	230	CURRY FD	230	1	2						
2004-24	STANTON	230	CURRY FD	230	1	2						
2004-24	OSCEOLA	230	LKAGNES	230	1	16						
2004-24	SHELD	230	LK TARPN	230	1	2						
2004-24	PEBB	230	CREWSLK	230	1	13						
2004-24	PEBB	230	N BARTOW	230	1	2						
2004-24	RECKER	230	LKAGNES	230	1	16						
2004-24	RECKER	230	ARIANA	230	1	16						
2004-24	RECKER	230	CREWSLK	230	1	13						
2004-24	B BEND	230	MANATEE	230	1	1						
2004-24	RUSKIN T	230	MANATEE	230	1	1						
2004-24	IND RIV	230	IND RIV	115	1	11						
2004-24	SHELD	230	SHELD-NW	69	1	16						
2004-24	LARGO	230	LARGO A	69	1	2						
2004-24	CLMT EST	230	CLMT EST	69	1	2						
2004-24	11TH AVE	230	ELEVEN-E	69	1	16						
2004-24	WINDERME	230	WINDERME	69	1	2						
2004-24	PASADENA	230	PASADENA	115	1	2						
2004-24	ARIANA	230	ARIANA-N	69	1	16						
2004-24	SELOSE	230	SELOSE-N	69	1	16						
2004-24	GAPWAY	230	GAPWAY	69	1	16						
2004-24	CREWSLK	230	CREWSLK	69	1	13						
2004-24	TENOROC	230	TENOROC	69	1	13						
2004-24	BARCOLA	230	WEST	230	1	2						
2004-24	EATON PK	230	CREWSLK	230	1	13						
2004-24	EATON PK	230	EATON PK	69	1	13						
2004-24	EATON PK	230	TENOROC	230	1	13						
2004-24	RECKER	230	GAPWAY	230	1	16						
2004-24	SN PLANT	115	TURNER	115	1	1						
2004-25	SN PLANT	230	SYLVAN	230	1	1						
2004-25	SYLVAN	230	N LONGWD	230	1	1						
2004-25	IND RIV	230	STANTON	230	1	11						
2004-25	SN PLANT	115	TURNER	115	1	1						
2004-25	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-25	SILVR SP	230	SILV SPN	230	1	2						
2004-25	SILVR SP	230	OCALA 1	230	1	2						
2004-25	RIO PINR	230	CURRY FD	230	1	2						
2004-25	STANTON	230	CURRY FD	230	1	2						
2004-25	OSCEOLA	230	LKAGNES	230	1	16						
2004-25	SHELD	230	LK TARPN	230	1	2						
2004-25	PEBB	230	CREWSLK	230	1	13						
2004-25	PEBB	230	N BARTOW	230	1	2						
2004-25	RECKER	230	LKAGNES	230	1	16						
2004-25	RECKER	230	ARIANA	230	1	16						
2004-25	RECKER	230	CREWSLK	230	1	13						
2004-25	B BEND	230	MANATEE	230	1	1						
2004-25	RUSKIN T	230	MANATEE	230	1	1						
2004-25	IND RIV	230	IND RIV	115	1	11						
2004-25	SHELD	230	SHELD-NW	69	1	16						
2004-25	LARGO	230	LARGO A	69	1	2						
2004-25	CLMT EST	230	CLMT EST	69	1	2						
2004-25	11TH AVE	230	ELEVEN-E	69	1	16						
2004-25	WINDERME	230	WINDERME	69	1	2						
2004-25	PASADENA	230	PASADENA	115	1	2						
2004-25	ARIANA	230	ARIANA-N	69	1	16						
2004-25	SELOSE	230	SELOSE-N	69	1	16						
2004-25	GAPWAY	230	GAPWAY	69	1	16						
2004-25	CREWSLK	230	CREWSLK	69	1	13						
2004-25	TENOROC	230	TENOROC	69	1	13						
2004-25	BARCOLA	230	WEST	230	1	2						
2004-25	EATON PK	230	CREWSLK	230	1	13						
2004-25	EATON PK	230	EATON PK	69	1	13						
2004-25	EATON PK	230	TENOROC	230	1	13						
2004-25	RECKER	230	GAPWAY	230	1	16						
2004-25	SN PLANT	115	TURNER	115	1	1						

Table I

Comparison of Line & Transformer Flows
Following N-1 Disturbances
for Various OEC 500 MW Generation Alternatives

100% Load Base Case

All Flows above 100% of Emergency rating are Shown

Monitored Branches							Case 2004 Base No OEC Gen	Case 2004A Sell to FPL	Case 2004B Sell to FPC	Case 2004C Sell to TEC	Case 2004D Sell to JEA	Case 2004E Sell to SEM
Case	Bus 1	kV 1	Bus 2	kV 2	ckt	Area	Percent	Percent	Percent	Percent	Percent	Percent
2004-26	SN PLANT	230	SYLVAN	230	1	1						
2004-26	SYLVAN	230	N LONGWD	230	1	1						
2004-26	IND RIV	230	STANTON	230	1	11						
2004-26	SN PLANT	115	TURNER	115	1	1						
2004-26	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-26	SILVR SP	230	SILV SPN	230	1	2						
2004-26	SILVR SP	230	OCALA 1	230	1	2						
2004-26	RIO PINR	230	CURRY FD	230	1	2						
2004-26	STANTON	230	CURRY FD	230	1	2						
2004-26	OSCEOLA	230	LKAGNES	230	1	16						
2004-26	SHELD	230	LK TARPN	230	1	2						
2004-26	PEBB	230	CREWSLK	230	1	13						
2004-26	PEBB	230	N BARTOW	230	1	2						
2004-26	RECKER	230	LKAGNES	230	1	16						
2004-26	RECKER	230	ARIANA	230	1	16						
2004-26	RECKER	230	CREWSLK	230	1	13						
2004-26	B BEND	230	MANATEE	230	1	1						
2004-26	RUSKIN T	230	MANATEE	230	1	1						
2004-26	IND RIV	230	IND RIV	115	1	11						
2004-26	SHELD	230	SHELD-NW	69	1	16						
2004-26	LARGO	230	LARGO A	69	1	2						
2004-26	CLMT EST	230	CLMT EST	69	1	2						
2004-26	11TH AVE	230	ELEVEN-E	69	1	16						
2004-26	WINDERME	230	WINDERME	69	1	2						
2004-26	PASADENA	230	PASADENA	115	1	2						
2004-26	ARIANA	230	ARIANA-N	69	1	16						
2004-26	SELOSE	230	SELOSE-N	69	1	16						
2004-26	GAPWAY	230	GAPWAY	69	1	16						
2004-26	CREWSLK	230	CREWSLK	69	1	13						
2004-26	TENOROC	230	TENOROC	69	1	13						
2004-26	BARCOLA	230	WEST	230	1	2						
2004-26	EATON PK	230	CREWSLK	230	1	13						
2004-26	EATON PK	230	EATON PK	69	1	13						
2004-26	EATON PK	230	TENOROC	230	1	13						
2004-26	RECKER	230	GAPWAY	230	1	16						
2004-26	SN PLANT	115	TURNER	115	1	1						
2004-27	SN PLANT	230	SYLVAN	230	1	1						
2004-27	SYLVAN	230	N LONGWD	230	1	1						
2004-27	IND RIV	230	STANTON	230	1	11						
2004-27	SN PLANT	115	TURNER	115	1	1						
2004-27	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-27	SILVR SP	230	SILV SPN	230	1	2						
2004-27	SILVR SP	230	OCALA 1	230	1	2						
2004-27	RIO PINR	230	CURRY FD	230	1	2						
2004-27	STANTON	230	CURRY FD	230	1	2						
2004-27	OSCEOLA	230	LKAGNES	230	1	16						
2004-27	SHELD	230	LK TARPN	230	1	2						
2004-27	PEBB	230	CREWSLK	230	1	13						
2004-27	PEBB	230	N BARTOW	230	1	2						
2004-27	RECKER	230	LKAGNES	230	1	16						
2004-27	RECKER	230	ARIANA	230	1	16						
2004-27	RECKER	230	CREWSLK	230	1	13						
2004-27	B BEND	230	MANATEE	230	1	1						
2004-27	RUSKIN T	230	MANATEE	230	1	1						
2004-27	IND RIV	230	IND RIV	115	1	11						
2004-27	SHELD	230	SHELD-NW	69	1	16						
2004-27	LARGO	230	LARGO A	69	1	2						
2004-27	CLMT EST	230	CLMT EST	69	1	2						
2004-27	11TH AVE	230	ELEVEN-E	69	1	16						
2004-27	WINDERME	230	WINDERME	69	1	2						
2004-27	PASADENA	230	PASADENA	115	1	2						
2004-27	ARIANA	230	ARIANA-N	69	1	16						
2004-27	SELOSE	230	SELOSE-N	69	1	16						
2004-27	GAPWAY	230	GAPWAY	69	1	16						
2004-27	CREWSLK	230	CREWSLK	69	1	13						
2004-27	TENOROC	230	TENOROC	69	1	13						
2004-27	BARCOLA	230	WEST	230	1	2						
2004-27	EATON PK	230	CREWSLK	230	1	13						
2004-27	EATON PK	230	EATON PK	69	1	13						
2004-27	EATON PK	230	TENOROC	230	1	13						
2004-27	RECKER	230	GAPWAY	230	1	16						
2004-27	SN PLANT	115	TURNER	115	1	1						

Table I

Comparison of Line & Transformer Flows
Following N-1 Disturbances
for Various OEC 500 MW Generation Alternatives

100% Load Base Case

All Flows above 100% of Emergency rating are Shown

Monitored Branches							Case 2004 Base No OEC Gen	Case 2004A Sell to FPL	Case 2004B Sell to FPC	Case 2004C Sell to TEC	Case 2004D Sell to JEA	Case 2004E Sell to SEM
Case	Bus 1	kV 1	Bus 2	kV 2	ckt	Area	Percent	Percent	Percent	Percent	Percent	Percent
2004-28	SN PLANT	230	SYLVAN	230	1	1						
2004-28	SYLVAN	230	N LONGWD	230	1	1						
2004-28	IND RIV	230	STANTON	230	1	11						
2004-28	SN PLANT	115	TURNER	115	1	1						
2004-28	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-28	SILVR SP	230	SILV SPN	230	1	2						
2004-28	SILVR SP	230	OCALA 1	230	1	2						
2004-28	RIO PINR	230	CURRY FD	230	1	2						
2004-28	STANTON	230	CURRY FD	230	1	2						
2004-28	OSCEOLA	230	LKAGNES	230	1	16						
2004-28	SHELD	230	LK TARPN	230	1	2						
2004-28	PEBB	230	CREWSLK	230	1	13						
2004-28	PEBB	230	N BARTOW	230	1	2						
2004-28	RECKER	230	LKAGNES	230	1	16						
2004-28	RECKER	230	ARIANA	230	1	16						
2004-28	RECKER	230	CREWSLK	230	1	13						
2004-28	B BEND	230	MANATEE	230	1	1						
2004-28	RUSKIN T	230	MANATEE	230	1	1						
2004-28	IND RIV	230	IND RIV	115	1	11						
2004-28	SHELD	230	SHELD-NW	69	1	16						
2004-28	LARGO	230	LARGO A	69	1	2						
2004-28	CLMT EST	230	CLMT EST	69	1	2						
2004-28	11TH AVE	230	ELEVEN-E	69	1	16						
2004-28	WINDERME	230	WINDERME	69	1	2						
2004-28	PASADENA	230	PASADENA	115	1	2						
2004-28	ARIANA	230	ARIANA-N	69	1	16						
2004-28	SELOSE	230	SELOSE-N	69	1	16						
2004-28	GAPWAY	230	GAPWAY	69	1	16						
2004-28	CREWSLK	230	CREWSLK	69	1	13						
2004-28	TENOROC	230	TENOROC	69	1	13						
2004-28	BARCOLA	230	WEST	230	1	2						
2004-28	EATON PK	230	CREWSLK	230	1	13						
2004-28	EATON PK	230	EATON PK	69	1	13						
2004-28	EATON PK	230	TENOROC	230	1	13						
2004-28	RECKER	230	GAPWAY	230	1	16						
2004-28	SN PLANT	115	TURNER	115	1	1						
2004-29	SN PLANT	230	SYLVAN	230	1	1						
2004-29	SYLVAN	230	N LONGWD	230	1	1						
2004-29	IND RIV	230	STANTON	230	1	11						
2004-29	SN PLANT	115	TURNER	115	1	1						
2004-29	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-29	SILVR SP	230	SILV SPN	230	1	2						
2004-29	SILVR SP	230	OCALA 1	230	1	2						
2004-29	RIO PINR	230	CURRY FD	230	1	2						
2004-29	STANTON	230	CURRY FD	230	1	2						
2004-29	OSCEOLA	230	LKAGNES	230	1	16						
2004-29	SHELD	230	LK TARPN	230	1	2						
2004-29	PEBB	230	CREWSLK	230	1	13						
2004-29	PEBB	230	N BARTOW	230	1	2						
2004-29	RECKER	230	LKAGNES	230	1	16						
2004-29	RECKER	230	ARIANA	230	1	16						
2004-29	RECKER	230	CREWSLK	230	1	13						
2004-29	B BEND	230	MANATEE	230	1	1						
2004-29	RUSKIN T	230	MANATEE	230	1	1						
2004-29	IND RIV	230	IND RIV	115	1	11						
2004-29	SHELD	230	SHELD-NW	69	1	16						
2004-29	LARGO	230	LARGO A	69	1	2						
2004-29	CLMT EST	230	CLMT EST	69	1	2						
2004-29	11TH AVE	230	ELEVEN-E	69	1	16						
2004-29	WINDERME	230	WINDERME	69	1	2						
2004-29	PASADENA	230	PASADENA	115	1	2						
2004-29	ARIANA	230	ARIANA-N	69	1	16		103.4	103.1	103.8	103.1	103.0
2004-29	SELOSE	230	SELOSE-N	69	1	16						
2004-29	GAPWAY	230	GAPWAY	69	1	16						
2004-29	CREWSLK	230	CREWSLK	69	1	13						
2004-29	TENOROC	230	TENOROC	69	1	13						
2004-29	BARCOLA	230	WEST	230	1	2						
2004-29	EATON PK	230	CREWSLK	230	1	13						
2004-29	EATON PK	230	EATON PK	69	1	13						
2004-29	EATON PK	230	TENOROC	230	1	13						
2004-29	RECKER	230	GAPWAY	230	1	16						
2004-29	SN PLANT	115	TURNER	115	1	1						

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Comparison of Line & Transformer Flows
Following N-1 Disturbances
for Various OEC 500 MW Generation Alternatives

100% Load Base Case

All Flows above 100% of Emergency rating are Shown

Monitored Branches							Case 2004 Base No OEC Gen	Case 2004A Sell to FPL	Case 2004B Sell to FPC	Case 2004C Sell to TEC	Case 2004D Sell to JEA	Case 2004E Sell to SEM
Case	Bus 1	kV 1	Bus 2	kV 2	ckt	Area	Percent	Percent	Percent	Percent	Percent	Percent
2004-30	SN PLANT	230	SYLVAN	230	1	1						
2004-30	SYLVAN	230	N LONGWD	230	1	1						
2004-30	IND RIV	230	STANTON	230	1	11						
2004-30	SN PLANT	115	TURNER	115	1	1						
2004-30	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-30	SILVR SP	230	SILV SPN	230	1	2						
2004-30	SILVR SP	230	OCALA 1	230	1	2						
2004-30	RIO PINR	230	CURRY FD	230	1	2						
2004-30	STANTON	230	CURRY FD	230	1	2						
2004-30	OSCEOLA	230	LKAGNES	230	1	16						
2004-30	SHELD	230	LK TARPN	230	1	2						
2004-30	PEBB	230	CREWSLK	230	1	13						
2004-30	PEBB	230	N BARTOW	230	1	2						
2004-30	RECKER	230	LKAGNES	230	1	16						
2004-30	RECKER	230	ARIANA	230	1	16						
2004-30	RECKER	230	CREWSLK	230	1	13						
2004-30	B BEND	230	MANATEE	230	1	1						
2004-30	RUSKIN T	230	MANATEE	230	1	1						
2004-30	IND RIV	230	IND RIV	115	1	11						
2004-30	SHELD	230	SHELD-NW	69	1	16						
2004-30	LARGO	230	LARGO A	69	1	2						
2004-30	CLMT EST	230	CLMT EST	69	1	2						
2004-30	11TH AVE	230	ELEVEN-E	69	1	16						
2004-30	WINDERME	230	WINDERME	69	1	2						
2004-30	PASADENA	230	PASADENA	115	1	2						
2004-30	ARIANA	230	ARIANA-N	69	1	16						
2004-30	SELOSE	230	SELOSE-N	69	1	16						
2004-30	GAPWAY	230	GAPWAY	69	1	16						
2004-30	CREWSLK	230	CREWSLK	69	1	13						
2004-30	TENOROC	230	TENOROC	69	1	13						
2004-30	BARCOLA	230	WEST	230	1	2						
2004-30	EATON PK	230	CREWSLK	230	1	13						
2004-30	EATON PK	230	EATON PK	69	1	13						
2004-30	EATON PK	230	TENOROC	230	1	13						
2004-30	RECKER	230	GAPWAY	230	1	16						
2004-30	SN PLANT	115	TURNER	115	1	1						
2004-31	SN PLANT	230	SYLVAN	230	1	1						
2004-31	SYLVAN	230	N LONGWD	230	1	1						
2004-31	IND RIV	230	STANTON	230	1	11						
2004-31	SN PLANT	115	TURNER	115	1	1						
2004-31	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-31	SILVR SP	230	SILV SPN	230	1	2						
2004-31	SILVR SP	230	OCALA 1	230	1	2						
2004-31	RIO PINR	230	CURRY FD	230	1	2						
2004-31	STANTON	230	CURRY FD	230	1	2						
2004-31	OSCEOLA	230	LKAGNES	230	1	16						
2004-31	SHELD	230	LK TARPN	230	1	2						
2004-31	PEBB	230	CREWSLK	230	1	13						
2004-31	PEBB	230	N BARTOW	230	1	2						
2004-31	RECKER	230	LKAGNES	230	1	16						
2004-31	RECKER	230	ARIANA	230	1	16						
2004-31	RECKER	230	CREWSLK	230	1	13						
2004-31	B BEND	230	MANATEE	230	1	1						
2004-31	RUSKIN T	230	MANATEE	230	1	1						
2004-31	IND RIV	230	IND RIV	115	1	11						
2004-31	SHELD	230	SHELD-NW	69	1	16						
2004-31	LARGO	230	LARGO A	69	1	2						
2004-31	CLMT EST	230	CLMT EST	69	1	2						
2004-31	11TH AVE	230	ELEVEN-E	69	1	16						
2004-31	WINDERME	230	WINDERME	69	1	2						
2004-31	PASADENA	230	PASADENA	115	1	2						
2004-31	ARIANA	230	ARIANA-N	69	1	16						
2004-31	SELOSE	230	SELOSE-N	69	1	16						
2004-31	GAPWAY	230	GAPWAY	69	1	16						
2004-31	CREWSLK	230	CREWSLK	69	1	13						
2004-31	TENOROC	230	TENOROC	69	1	13						
2004-31	BARCOLA	230	WEST	230	1	2						
2004-31	EATON PK	230	CREWSLK	230	1	13						
2004-31	EATON PK	230	EATON PK	69	1	13						
2004-31	EATON PK	230	TENOROC	230	1	13						
2004-31	RECKER	230	GAPWAY	230	1	16						
2004-31	SN PLANT	115	TURNER	115	1	1						

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100% Load Base Case

All Flows above 100% of Emergency rating are Shown

Monitored Branches							Case 2004 Base No OEC Gen	Case 2004A Sell to FPL	Case 2004B Sell to FPC	Case 2004C Sell to TEC	Case 2004D Sell to JEA	Case 2004E Sell to SEM
Case	Bus 1	kV 1	Bus 2	kV 2	ckt	Area	Percent	Percent	Percent	Percent	Percent	Percent
2004-32	SN PLANT	230	SYLVAN	230	1	1						
2004-32	SYLVAN	230	N LONGWD	230	1	1						
2004-32	IND RIV	230	STANTON	230	1	11						
2004-32	SN PLANT	115	TURNER	115	1	1						
2004-32	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-32	SILVR SP	230	SILV SPN	230	1	2						
2004-32	SILVR SP	230	OCALA 1	230	1	2						
2004-32	RIO PINR	230	CURRY FD	230	1	2						
2004-32	STANTON	230	CURRY FD	230	1	2						
2004-32	OSCEOLA	230	LKAGNES	230	1	16						
2004-32	SHELD	230	LK TARPN	230	1	2						
2004-32	PEBB	230	CREWSLK	230	1	13						
2004-32	PEBB	230	N BARTOW	230	1	2						
2004-32	RECKER	230	LKAGNES	230	1	16						
2004-32	RECKER	230	ARIANA	230	1	16						
2004-32	RECKER	230	CREWSLK	230	1	13						
2004-32	B BEND	230	MANATEE	230	1	1						
2004-32	RUSKIN T	230	MANATEE	230	1	1						
2004-32	IND RIV	230	IND RIV	115	1	11						
2004-32	SHELD	230	SHELD-NW	69	1	16						
2004-32	LARGO	230	LARGO A	69	1	2						
2004-32	CLMT EST	230	CLMT EST	69	1	2						
2004-32	11TH AVE	230	ELEVEN-E	69	1	16						
2004-32	WINDERME	230	WINDERME	69	1	2						
2004-32	PASADENA	230	PASADENA	115	1	2						
2004-32	ARIANA	230	ARIANA-N	69	1	16						
2004-32	SELOSE	230	SELOSE-N	69	1	16						
2004-32	GAPWAY	230	GAPWAY	69	1	16						
2004-32	CREWSLK	230	CREWSLK	69	1	13						
2004-32	TENOROC	230	TENOROC	69	1	13						
2004-32	BARCOLA	230	WEST	230	1	2						
2004-32	EATON PK	230	CREWSLK	230	1	13						
2004-32	EATON PK	230	EATON PK	69	1	13						
2004-32	EATON PK	230	TENOROC	230	1	13						
2004-32	RECKER	230	GAPWAY	230	1	16						
2004-32	SN PLANT	115	TURNER	115	1	1						
2004-33	SN PLANT	230	SYLVAN	230	1	1						
2004-33	SYLVAN	230	N LONGWD	230	1	1						
2004-33	IND RIV	230	STANTON	230	1	11						
2004-33	SN PLANT	115	TURNER	115	1	1						
2004-33	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-33	SILVR SP	230	SILV SPN	230	1	2						
2004-33	SILVR SP	230	OCALA 1	230	1	2						
2004-33	RIO PINR	230	CURRY FD	230	1	2						
2004-33	STANTON	230	CURRY FD	230	1	2						
2004-33	OSCEOLA	230	LKAGNES	230	1	16						
2004-33	SHELD	230	LK TARPN	230	1	2						
2004-33	PEBB	230	CREWSLK	230	1	13						
2004-33	PEBB	230	N BARTOW	230	1	2						
2004-33	RECKER	230	LKAGNES	230	1	16						
2004-33	RECKER	230	ARIANA	230	1	16						
2004-33	RECKER	230	CREWSLK	230	1	13						
2004-33	B BEND	230	MANATEE	230	1	1						
2004-33	RUSKIN T	230	MANATEE	230	1	1						
2004-33	IND RIV	230	IND RIV	115	1	11						
2004-33	SHELD	230	SHELD-NW	69	1	16						
2004-33	LARGO	230	LARGO A	69	1	2						
2004-33	CLMT EST	230	CLMT EST	69	1	2						
2004-33	11TH AVE	230	ELEVEN-E	69	1	16						
2004-33	WINDERME	230	WINDERME	69	1	2						
2004-33	PASADENA	230	PASADENA	115	1	2						
2004-33	ARIANA	230	ARIANA-N	69	1	16						
2004-33	SELOSE	230	SELOSE-N	69	1	16						
2004-33	GAPWAY	230	GAPWAY	69	1	16						
2004-33	CREWSLK	230	CREWSLK	69	1	13						
2004-33	TENOROC	230	TENOROC	69	1	13						
2004-33	BARCOLA	230	WEST	230	1	2						
2004-33	EATON PK	230	CREWSLK	230	1	13						
2004-33	EATON PK	230	EATON PK	69	1	13						
2004-33	EATON PK	230	TENOROC	230	1	13						
2004-33	RECKER	230	GAPWAY	230	1	16						
2004-33	SN PLANT	115	TURNER	115	1	1						

Table I

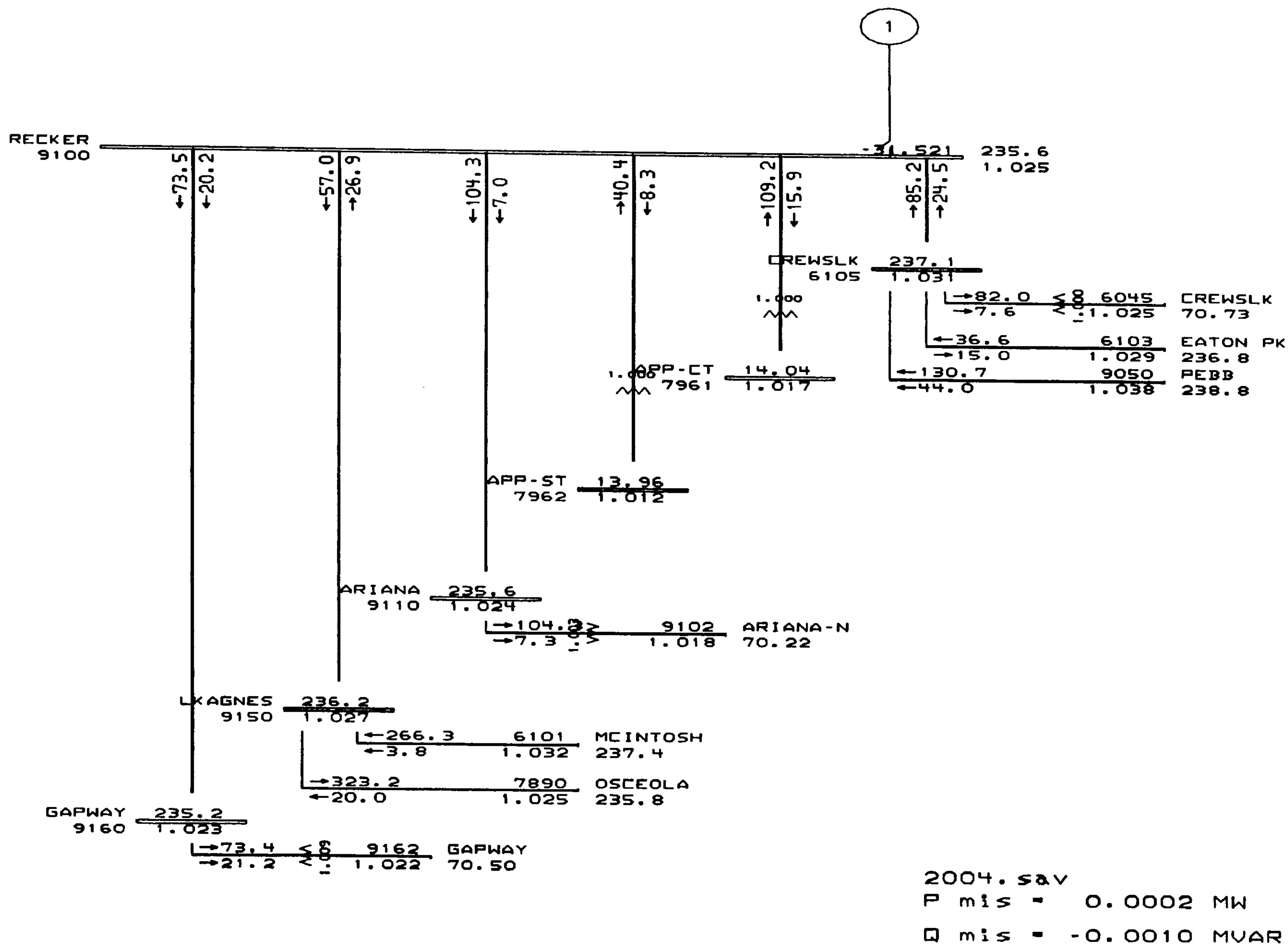
Comparison of Line & Transformer Flows Following N-1 Disturbances for Various OEC 500 MW Generation Alternatives

100% Load Base Case

All Flows above 100% of Emergency rating are Shown

Monitored Branches							Case 2004 Base No OEC Gen	Case 2004A Sell to FPL	Case 2004B Sell to FPC	Case 2004C Sell to TEC	Case 2004D Sell to JEA	Case 2004E Sell to SEM
Case	Bus 1	kV 1	Bus 2	kV 2	ckt	Area	Percent	Percent	Percent	Percent	Percent	Percent
2004-34	SN PLANT	230	SYLVAN	230	1	1						
2004-34	SYLVAN	230	N LONGWD	230	1	1						
2004-34	IND RIV	230	STANTON	230	1	11						
2004-34	SN PLANT	115	TURNER	115	1	1						
2004-34	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-34	SILVR SP	230	SILV SPN	230	1	2						
2004-34	SILVR SP	230	OCALA 1	230	1	2						
2004-34	RIO PINR	230	CURRY FD	230	1	2						
2004-34	STANTON	230	CURRY FD	230	1	2						
2004-34	OSCEOLA	230	LKAGNES	230	1	16						
2004-34	SHELD	230	LK TARPN	230	1	2						
2004-34	PEBB	230	CREWSLK	230	1	13						
2004-34	PEBB	230	N BARTOW	230	1	2						
2004-34	RECKER	230	LKAGNES	230	1	16						
2004-34	RECKER	230	ARIANA	230	1	16						
2004-34	RECKER	230	CREWSLK	230	1	13						
2004-34	B BEND	230	MANATEE	230	1	1						
2004-34	RUSKIN T	230	MANATEE	230	1	1						
2004-34	IND RIV	230	IND RIV	115	1	11						
2004-34	SHELD	230	SHELD-NW	69	1	16						
2004-34	LARGO	230	LARGO A	69	1	2						
2004-34	CLMT EST	230	CLMT EST	69	1	2						
2004-34	11TH AVE	230	ELEVEN-E	69	1	16						
2004-34	WINDERME	230	WINDERME	69	1	2						
2004-34	PASADENA	230	PASADENA	115	1	2						
2004-34	ARIANA	230	ARIANA-N	69	1	16						
2004-34	SELOSE	230	SELOSE-N	69	1	16						
2004-34	GAPWAY	230	GAPWAY	69	1	16						
2004-34	CREWSLK	230	CREWSLK	69	1	13						
2004-34	TENOROC	230	TENOROC	69	1	13						
2004-34	BARCOLA	230	WEST	230	1	2						
2004-34	EATON PK	230	CREWSLK	230	1	13						
2004-34	EATON PK	230	EATON PK	69	1	13						
2004-34	EATON PK	230	TENOROC	230	1	13						
2004-34	RECKER	230	GAPWAY	230	1	16						
2004-34	SN PLANT	115	TURNER	115	1	1						
2004-35	SN PLANT	230	SYLVAN	230	1	1						
2004-35	SYLVAN	230	N LONGWD	230	1	1						
2004-35	IND RIV	230	STANTON	230	1	11						
2004-35	SN PLANT	115	TURNER	115	1	1						
2004-35	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-35	SILVR SP	230	SILV SPN	230	1	2						
2004-35	SILVR SP	230	OCALA 1	230	1	2						
2004-35	RIO PINR	230	CURRY FD	230	1	2						
2004-35	STANTON	230	CURRY FD	230	1	2						
2004-35	OSCEOLA	230	LKAGNES	230	1	16						
2004-35	SHELD	230	LK TARPN	230	1	2						
2004-35	PEBB	230	CREWSLK	230	1	13						
2004-35	PEBB	230	N BARTOW	230	1	2						
2004-35	RECKER	230	LKAGNES	230	1	16						
2004-35	RECKER	230	ARIANA	230	1	16						
2004-35	RECKER	230	CREWSLK	230	1	13						
2004-35	B BEND	230	MANATEE	230	1	1						
2004-35	RUSKIN T	230	MANATEE	230	1	1						
2004-35	IND RIV	230	IND RIV	115	1	11						
2004-35	SHELD	230	SHELD-NW	69	1	16						
2004-35	LARGO	230	LARGO A	69	1	2						
2004-35	CLMT EST	230	CLMT EST	69	1	2						
2004-35	11TH AVE	230	ELEVEN-E	69	1	16						
2004-35	WINDERME	230	WINDERME	69	1	2						
2004-35	PASADENA	230	PASADENA	115	1	2						
2004-35	ARIANA	230	ARIANA-N	69	1	16						
2004-35	SELOSE	230	SELOSE-N	69	1	16						
2004-35	GAPWAY	230	GAPWAY	69	1	16						
2004-35	CREWSLK	230	CREWSLK	69	1	13						
2004-35	TENOROC	230	TENOROC	69	1	13						
2004-35	BARCOLA	230	WEST	230	1	2						
2004-35	EATON PK	230	CREWSLK	230	1	13						
2004-35	EATON PK	230	EATON PK	69	1	13						
2004-35	EATON PK	230	TENOROC	230	1	13						
2004-35	RECKER	230	GAPWAY	230	1	16						
2004-35	SN PLANT	115	TURNER	115	1	1						

APPENDIX II-A



General Electric Company — PSLF Program

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

MW/MVAR — Fri Feb 25 10:09:55 2000

2004.sav
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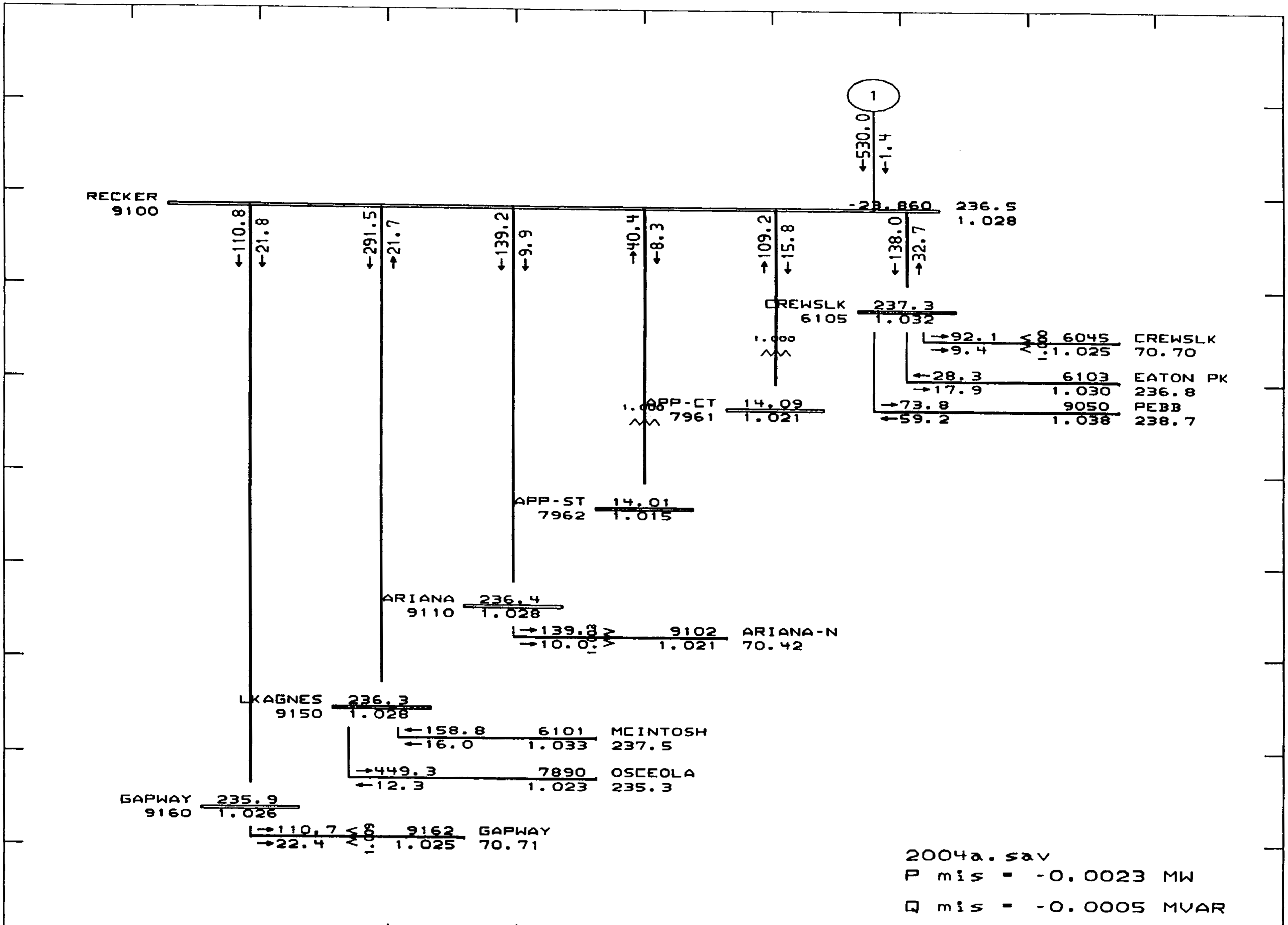

General Electric Company PSLF Program

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

MW/MVAR Fri Feb 25 10:10:05 2000

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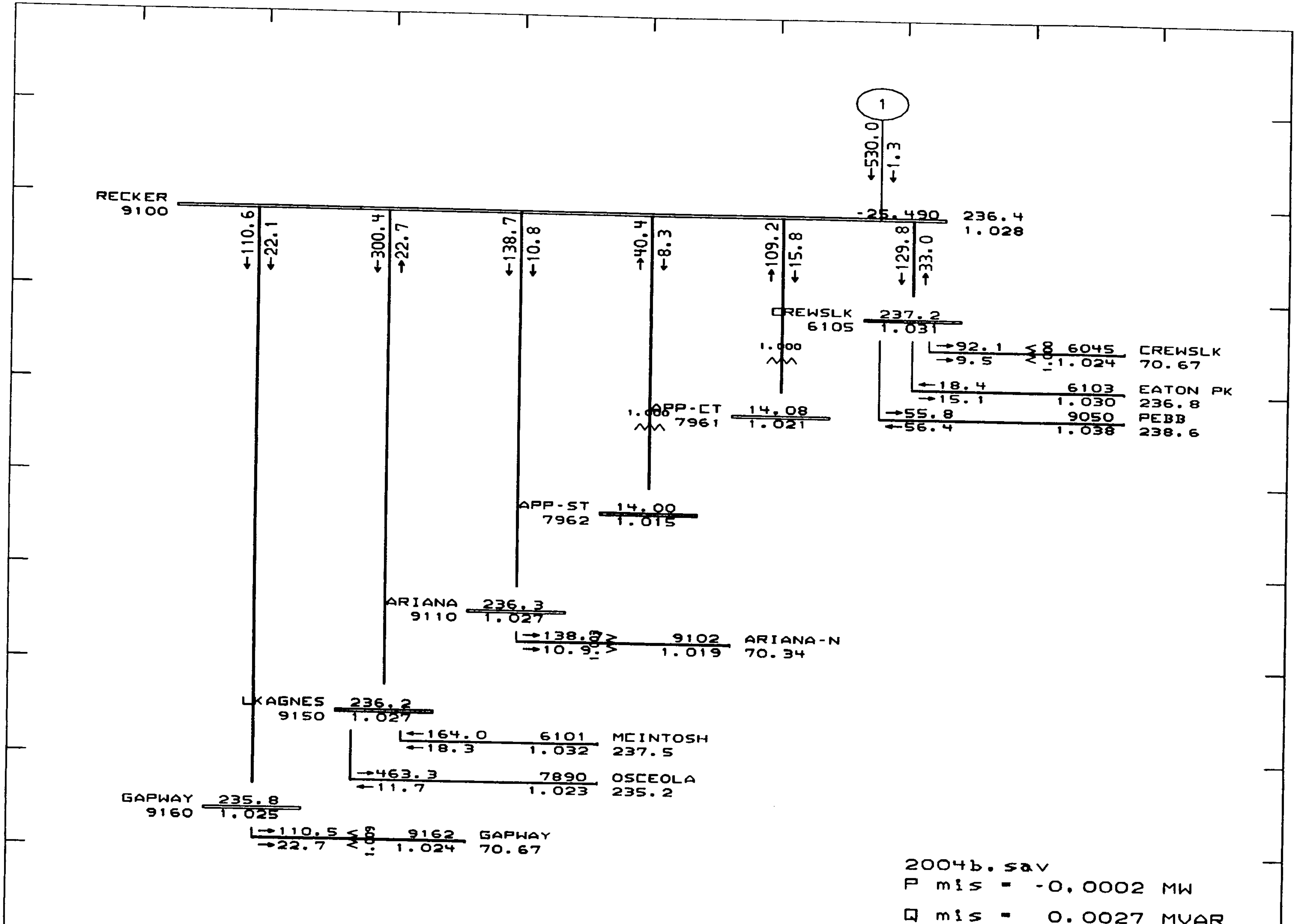

General Electric Company   PSLF Program

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

MW/MVAR   Fri Feb 25 10:10:19 2000

2004b.sav
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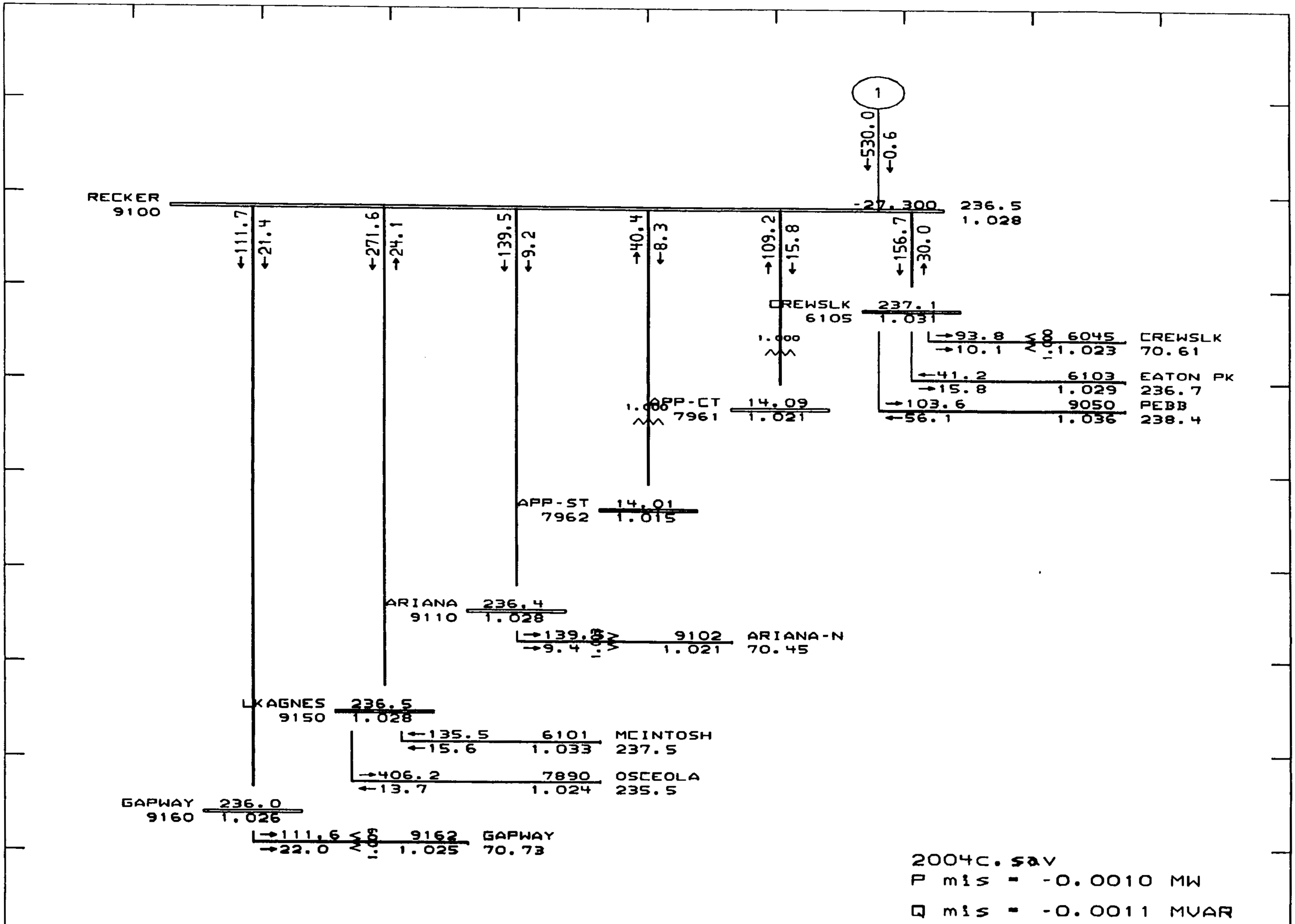

General Electric Company | PSLF Program | MW/MVAR | Fri Feb 25 10:10:30 2000

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

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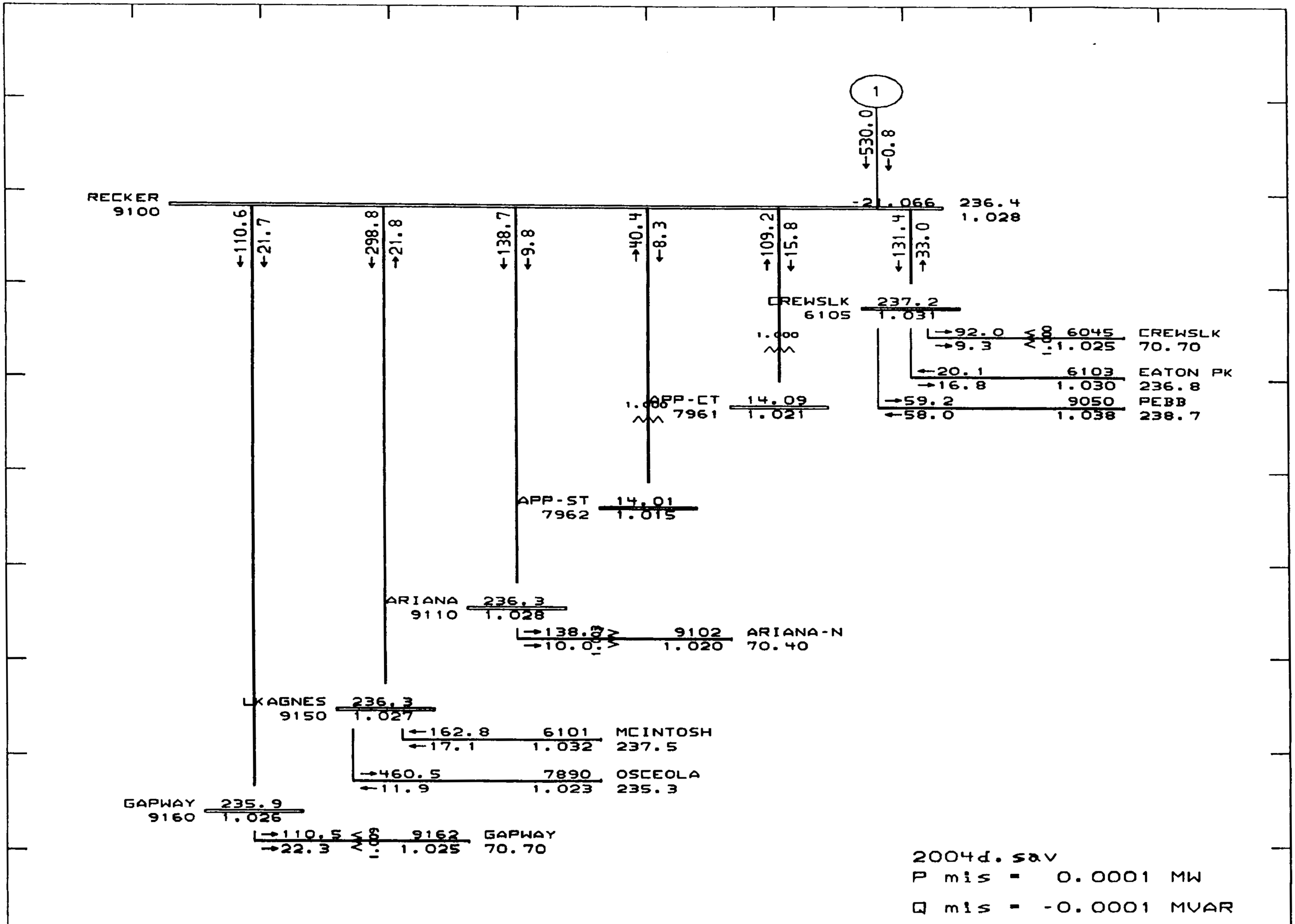

General Electric Company PSLF Program MW/MVAR Fri Feb 25 10:10:40 2000

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

2004d.sav
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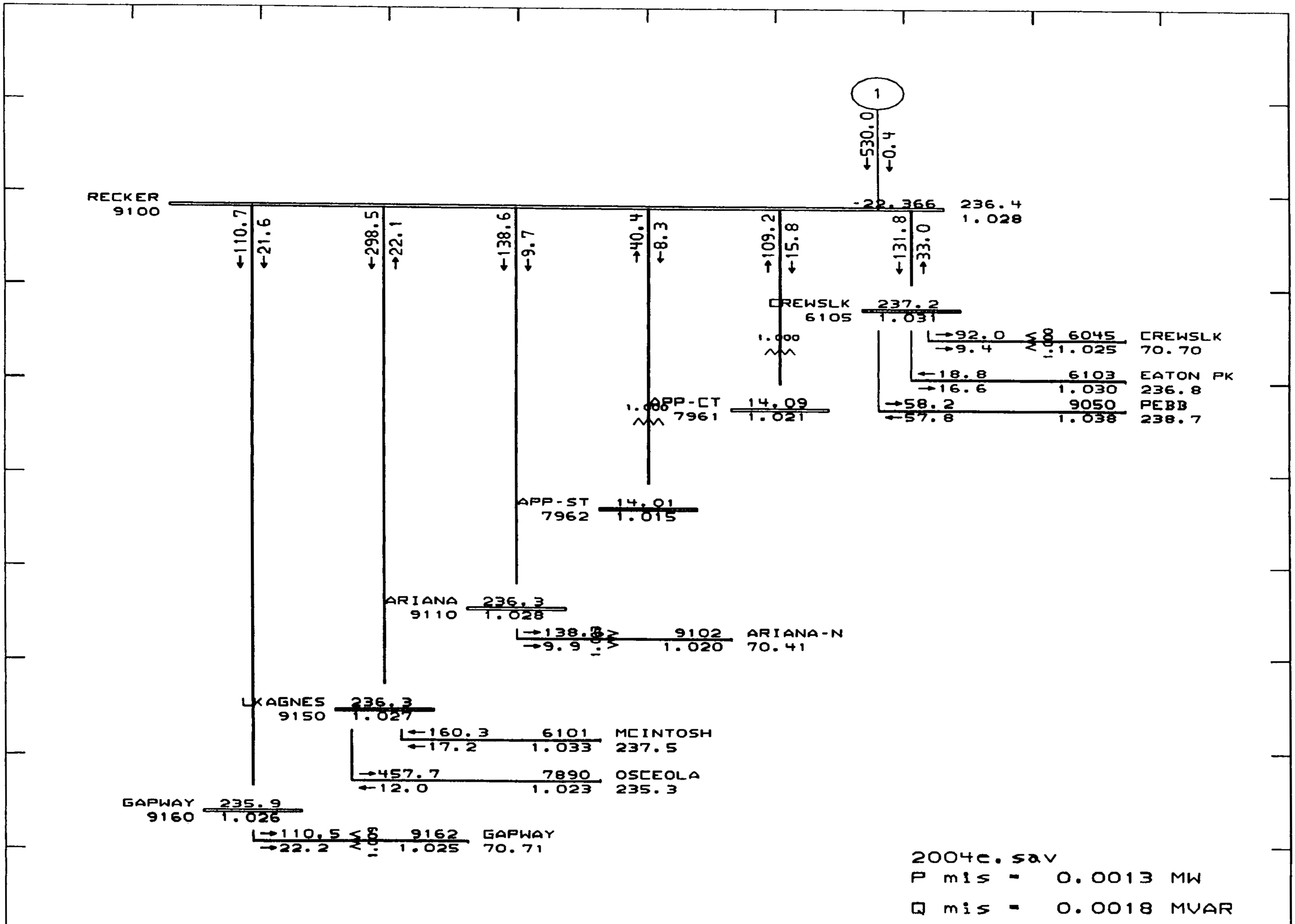

General Electric Company PSLF Program

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

MW/MVAR Fri Feb 25 10:10:58 2000

2004e.sav
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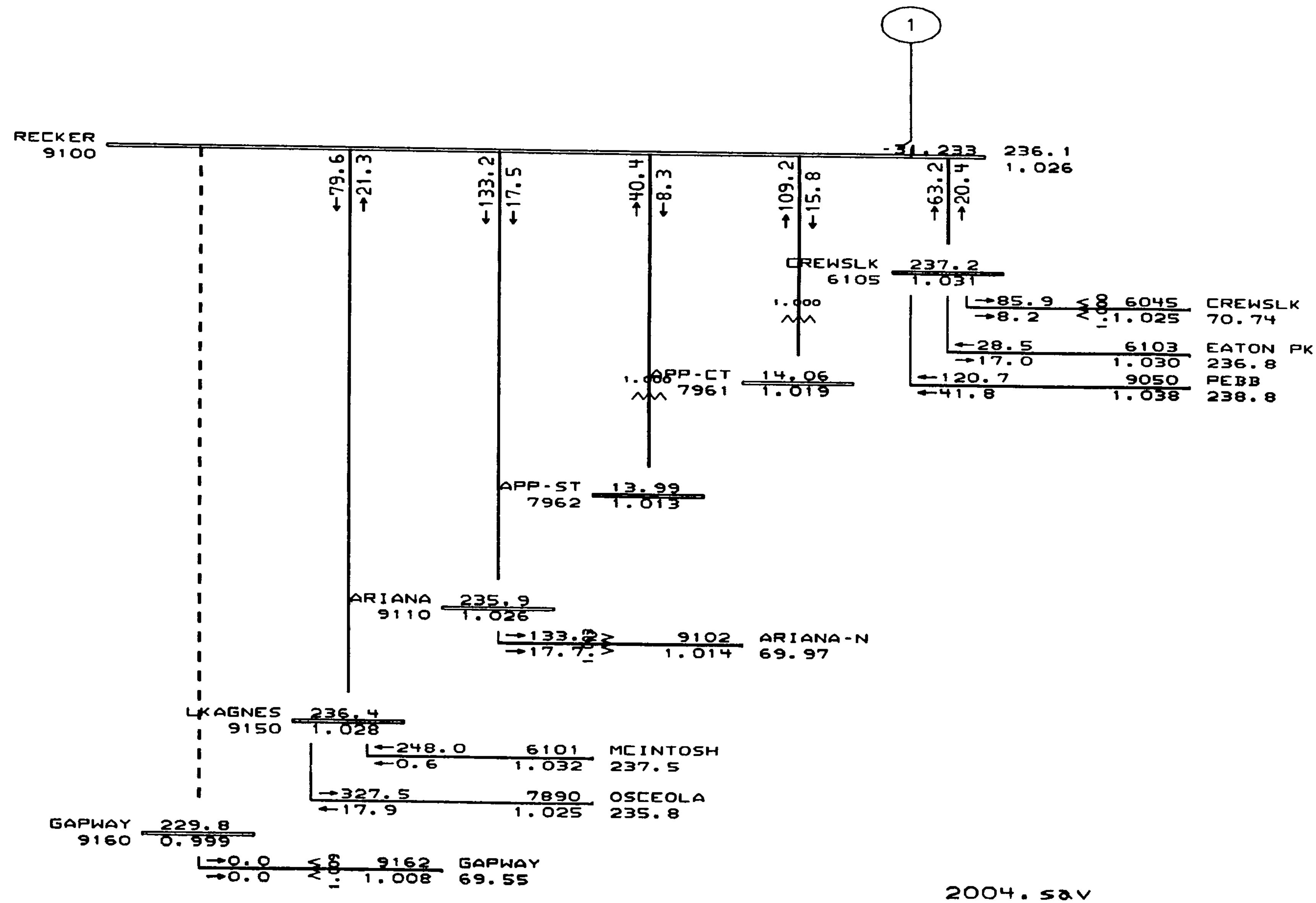

2004.sav
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General Electric Company — PSLF Program

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

MW/MVAR — Wed Feb 16 14:51:49 2000

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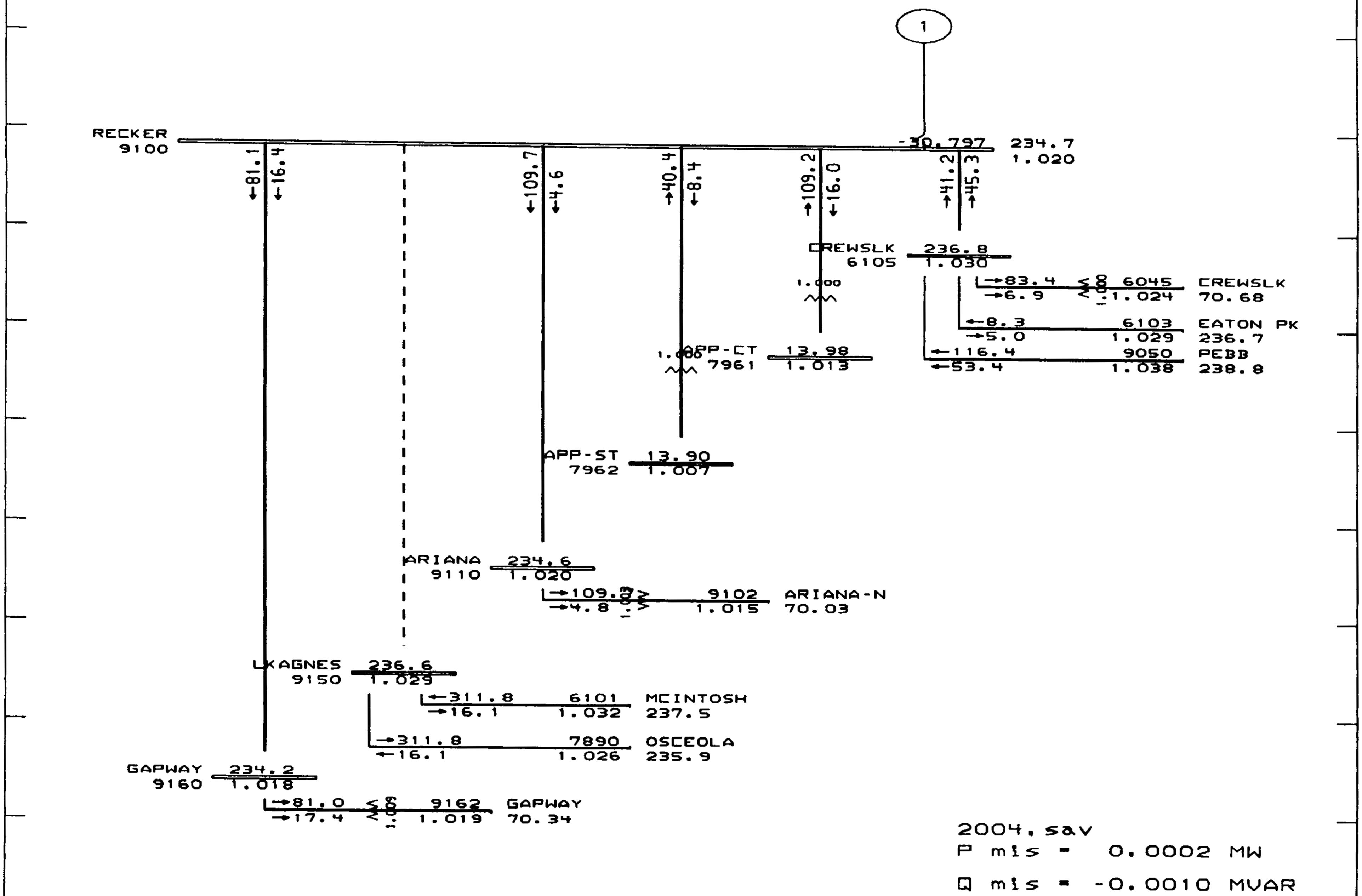

General Electric Company PSLF Program

MW/MVAR Wed Feb 16 15:14:48 2000

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

2004.sav
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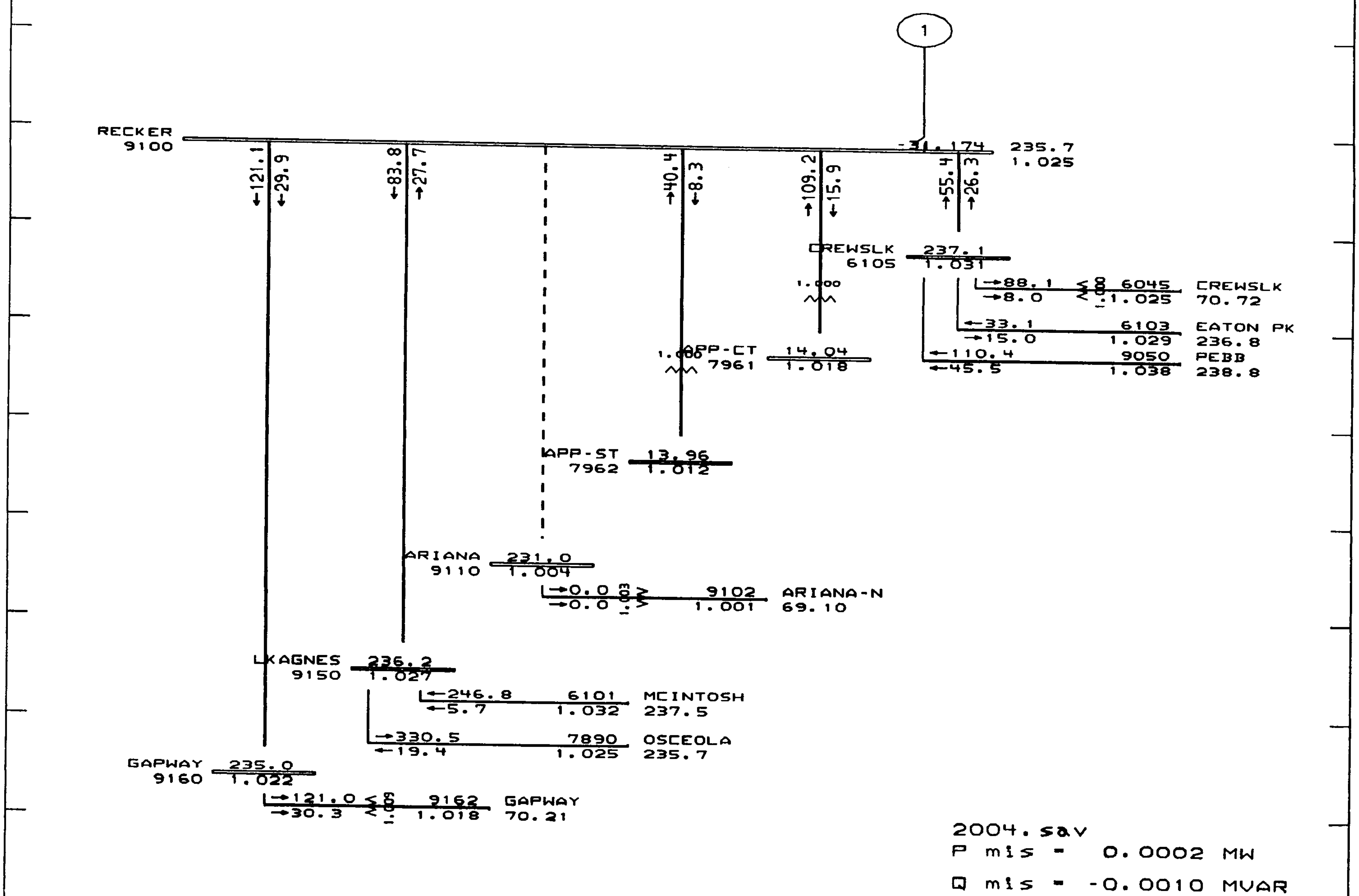

General Electric Company | PSLF Program

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

MW/MVAR Wed Feb 16 15:15:07 2000

2004.sav
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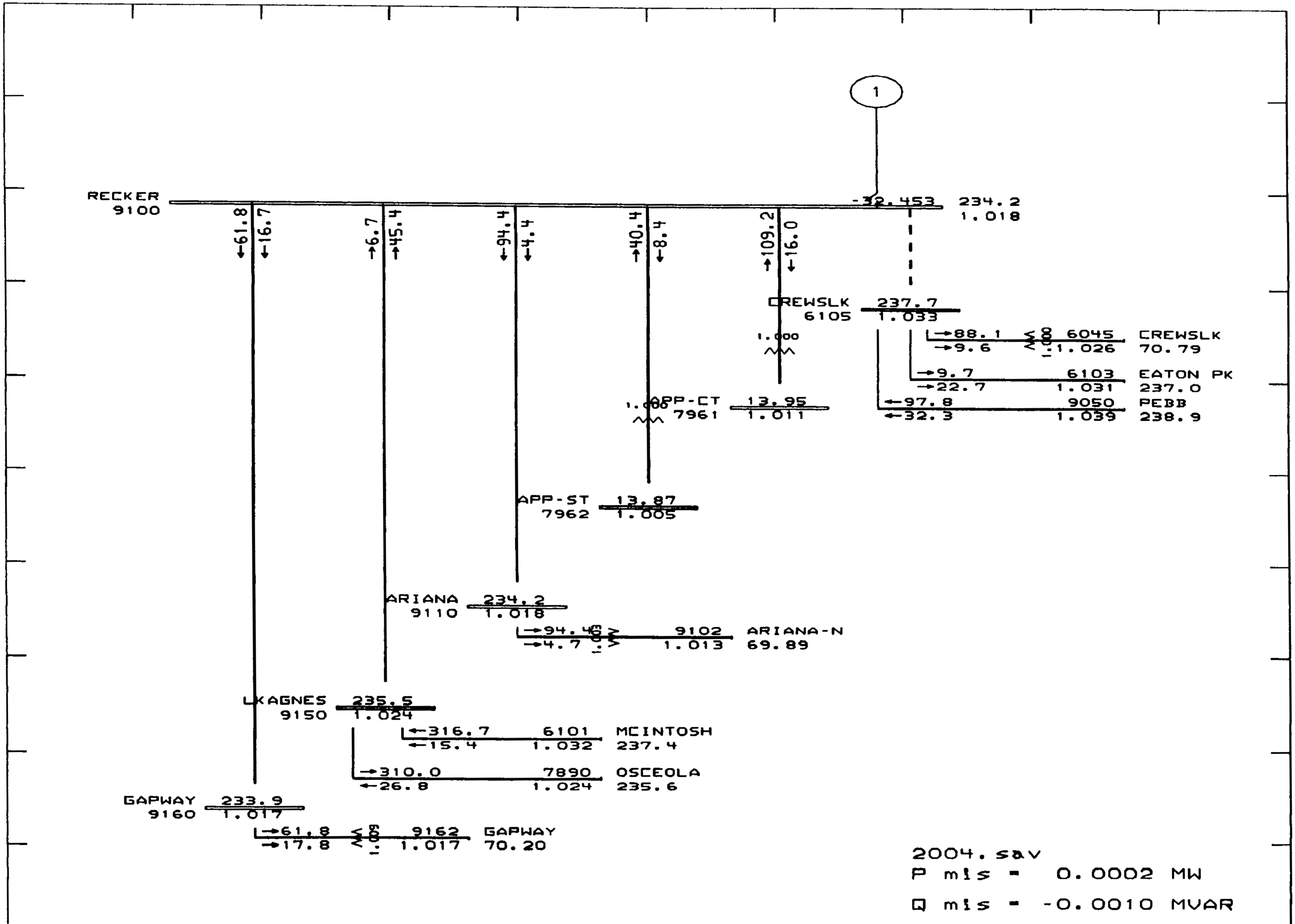

General Electric Company PSLF Program MW/MVAR Wed Feb 16 15:15:29 2000

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

2004.sav
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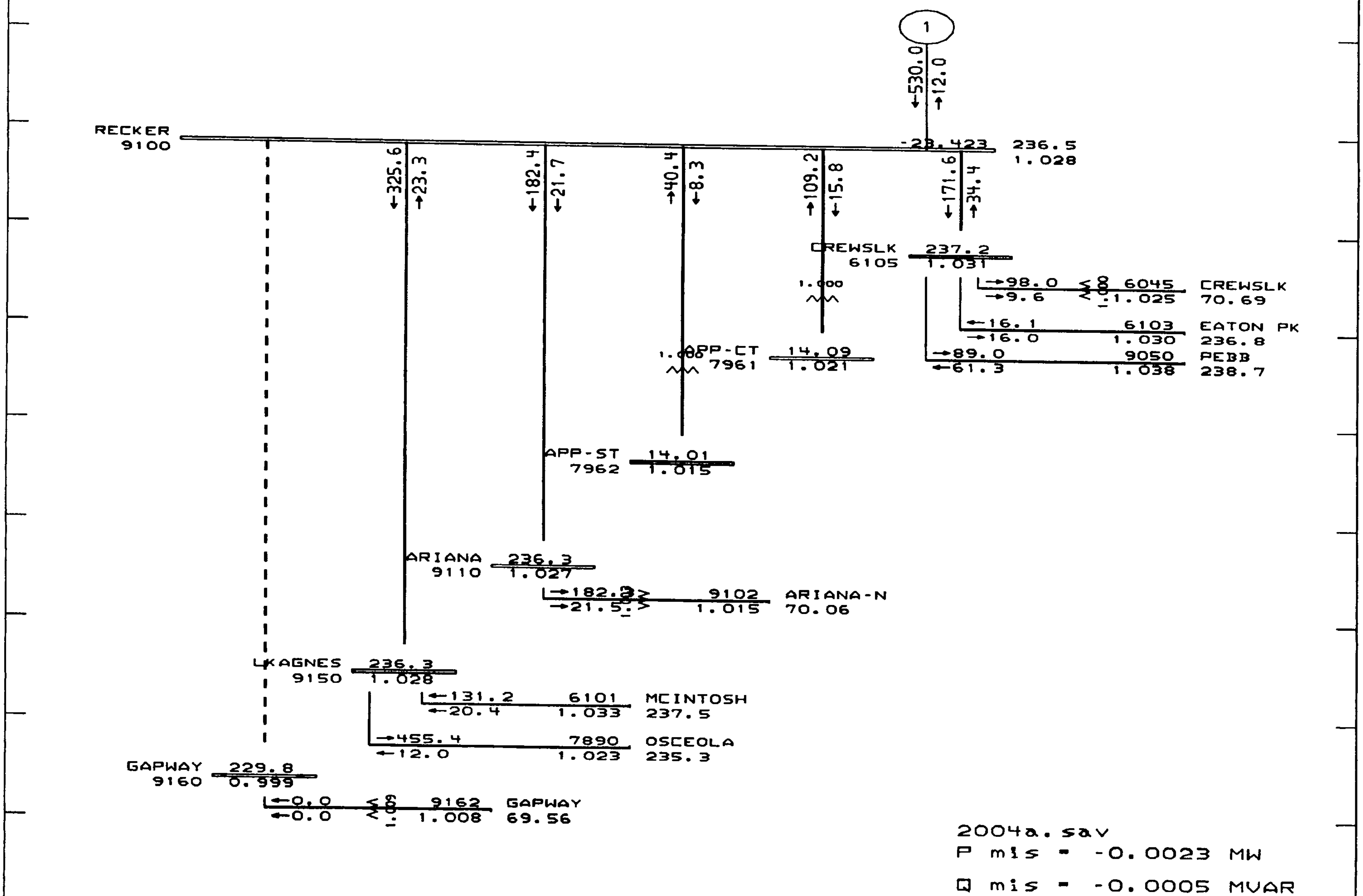

General Electric Company PSLF Program

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

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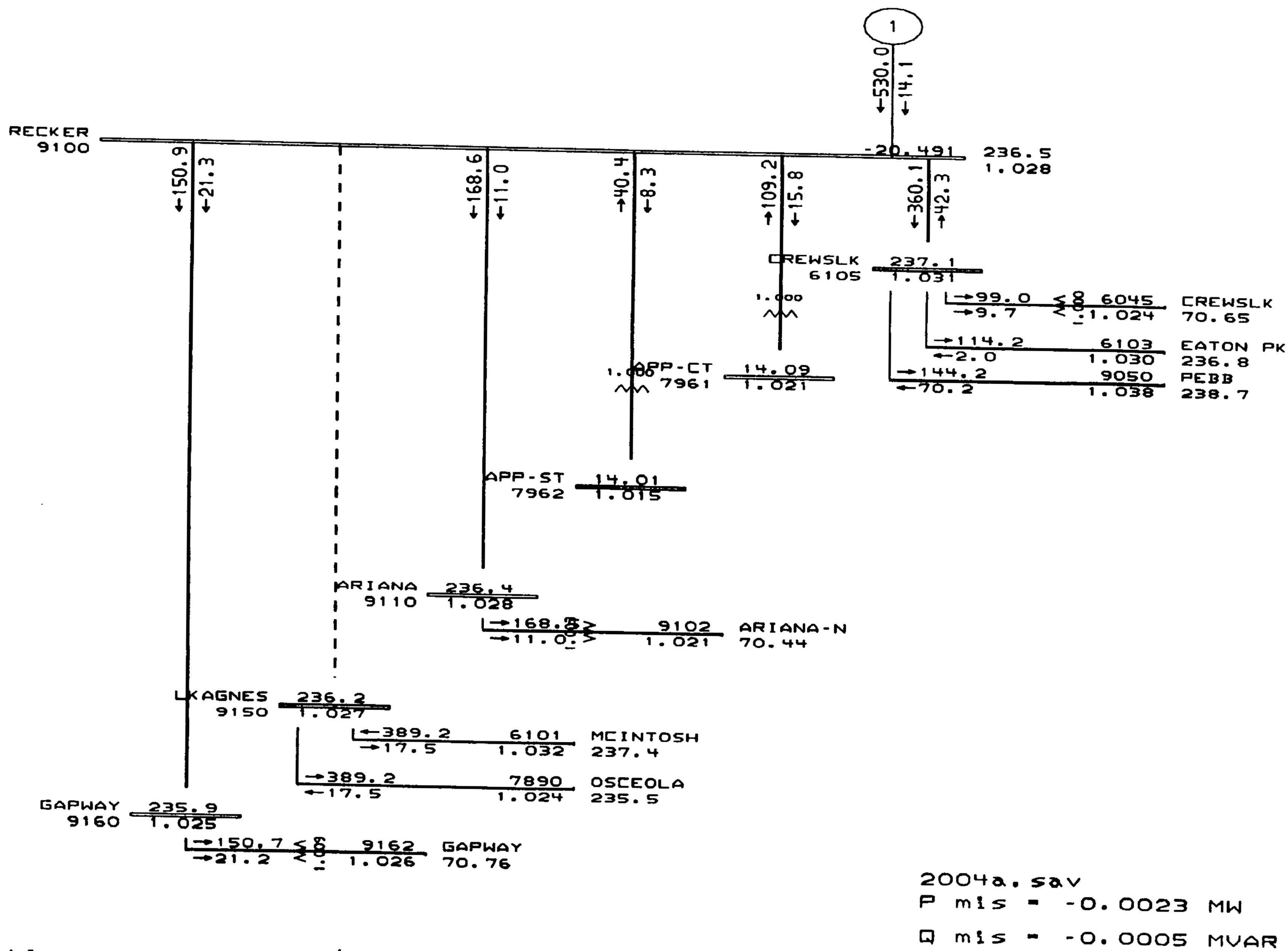

General Electric Company PSLF Program

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

MW/MVAR Wed Feb 16 14:52:08 2000

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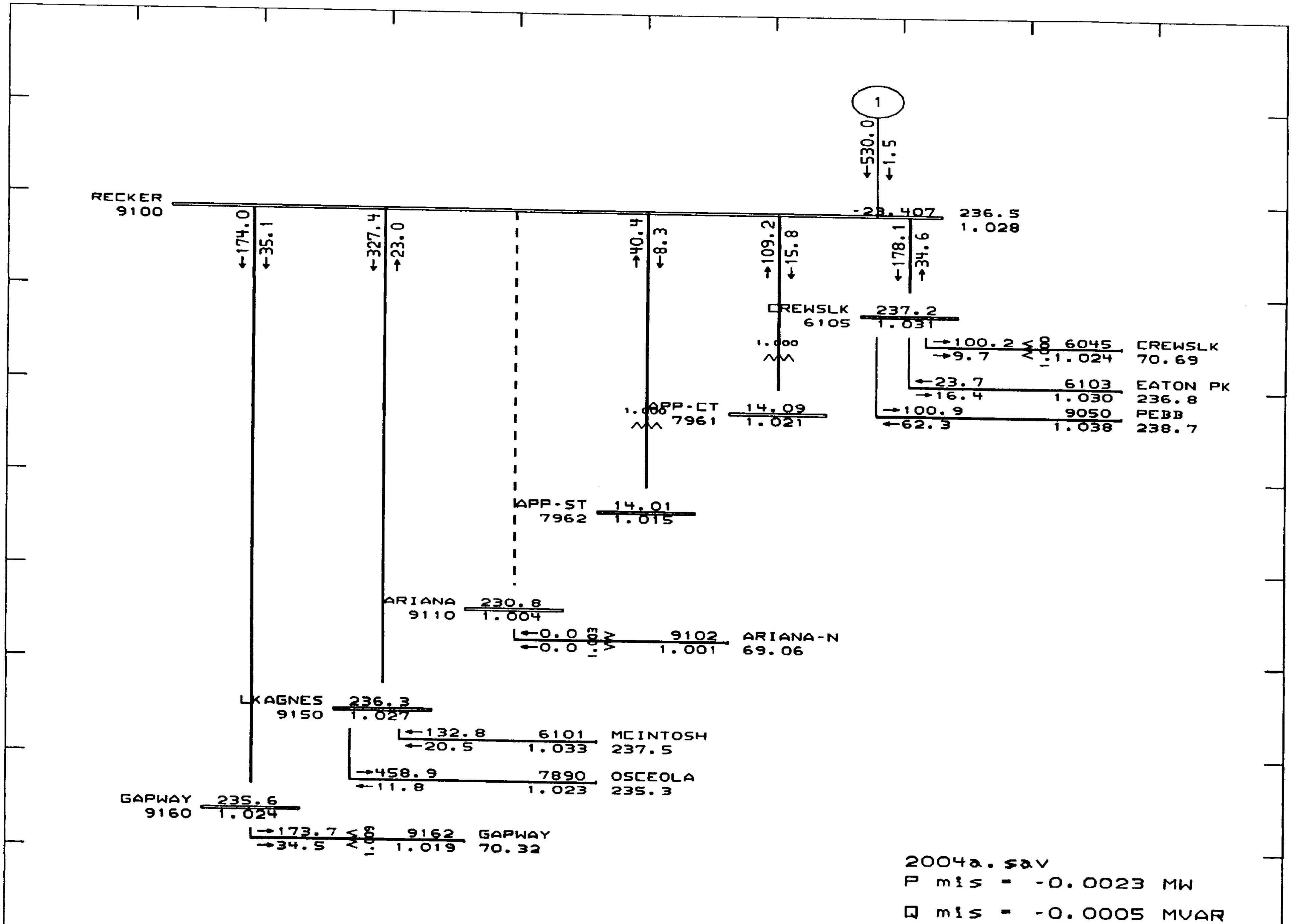

General Electric Company PSLF Program

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

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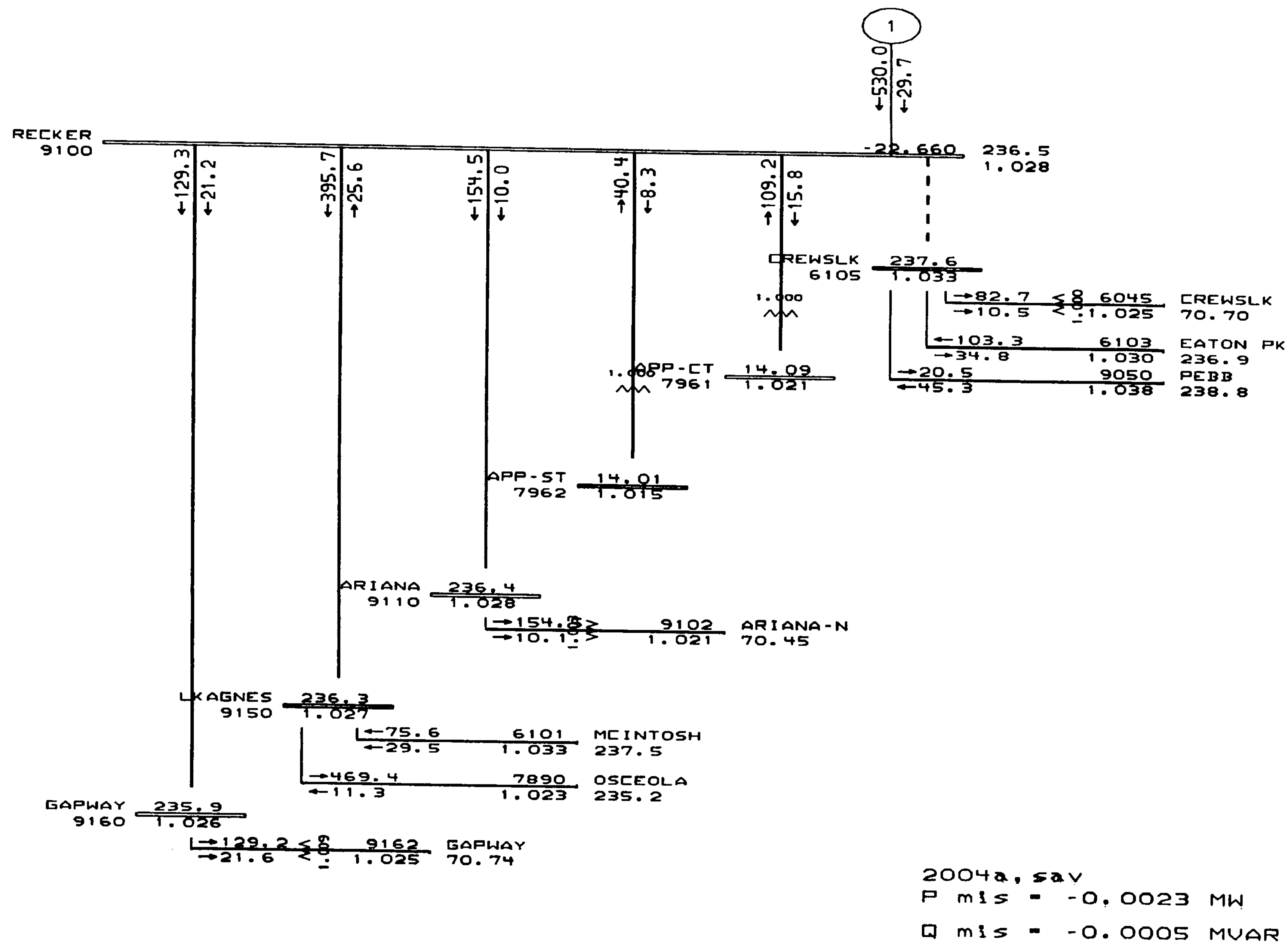

General Electric Company — PSLF Program

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

MW/MVAR — Wed Feb 16 14:52:40 2000

2004a.sav
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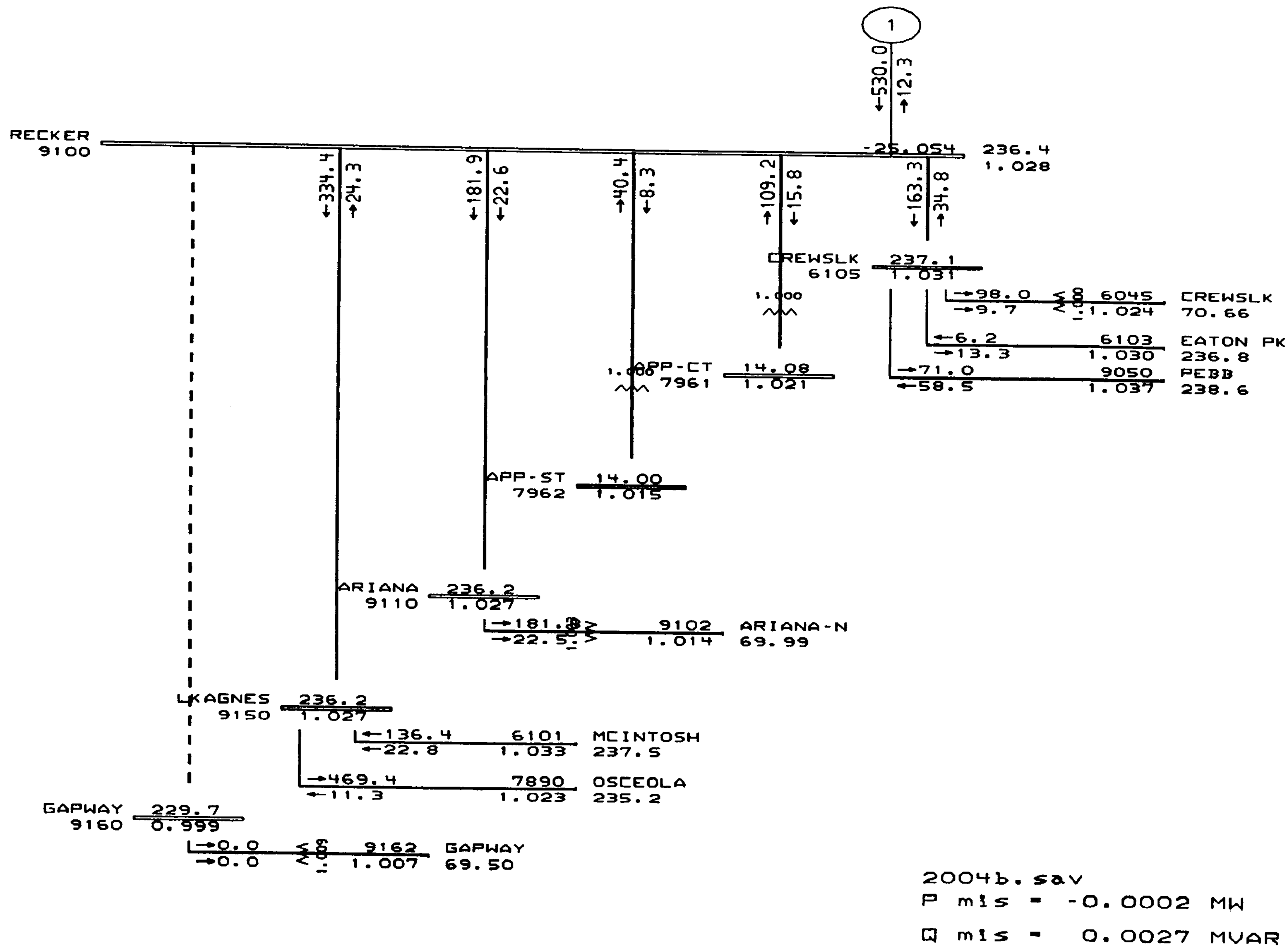

General Electric Company PSLF Program

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

MW/MVAR

Wed Feb 16 14:52:59 2000

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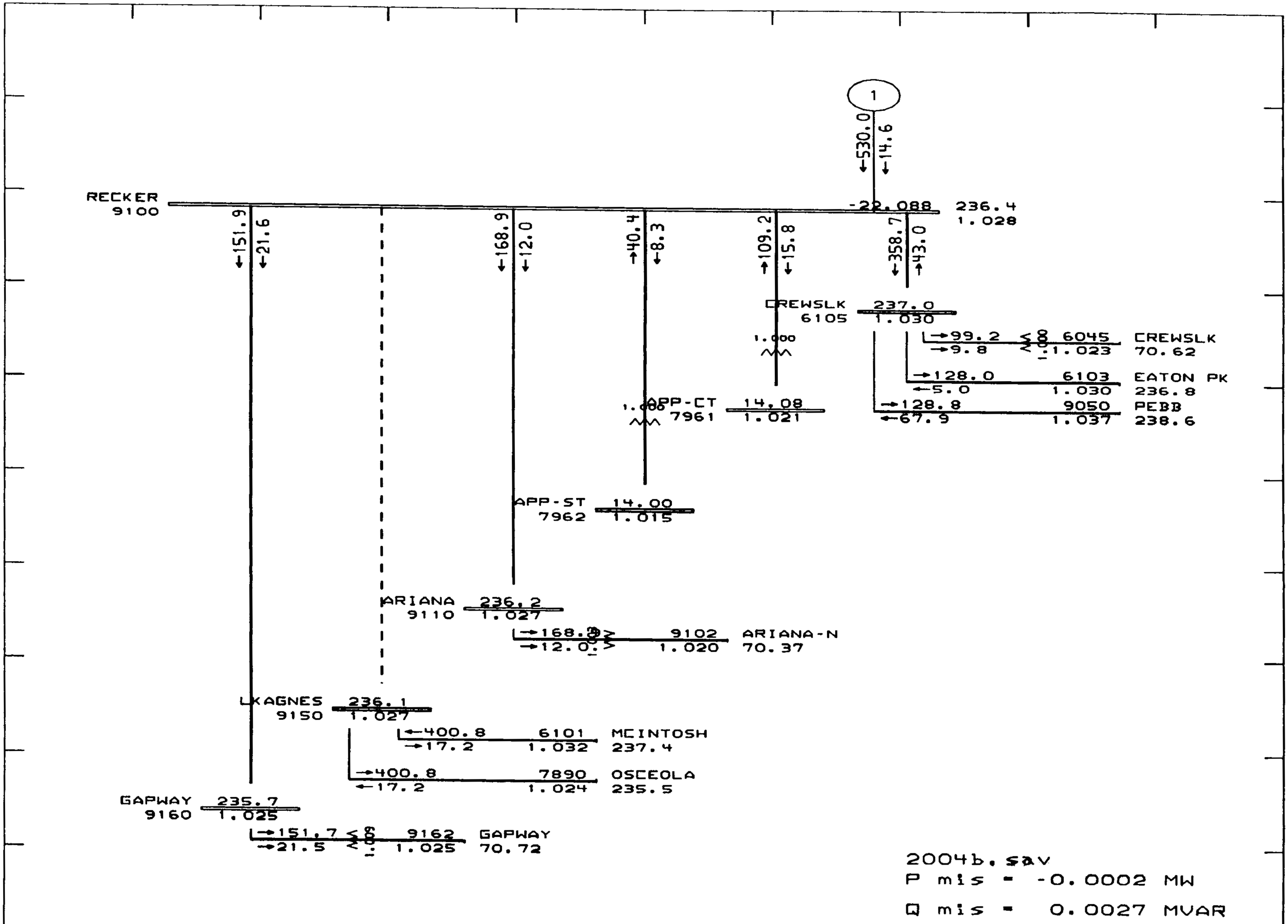

General Electric Company PSLF Program

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

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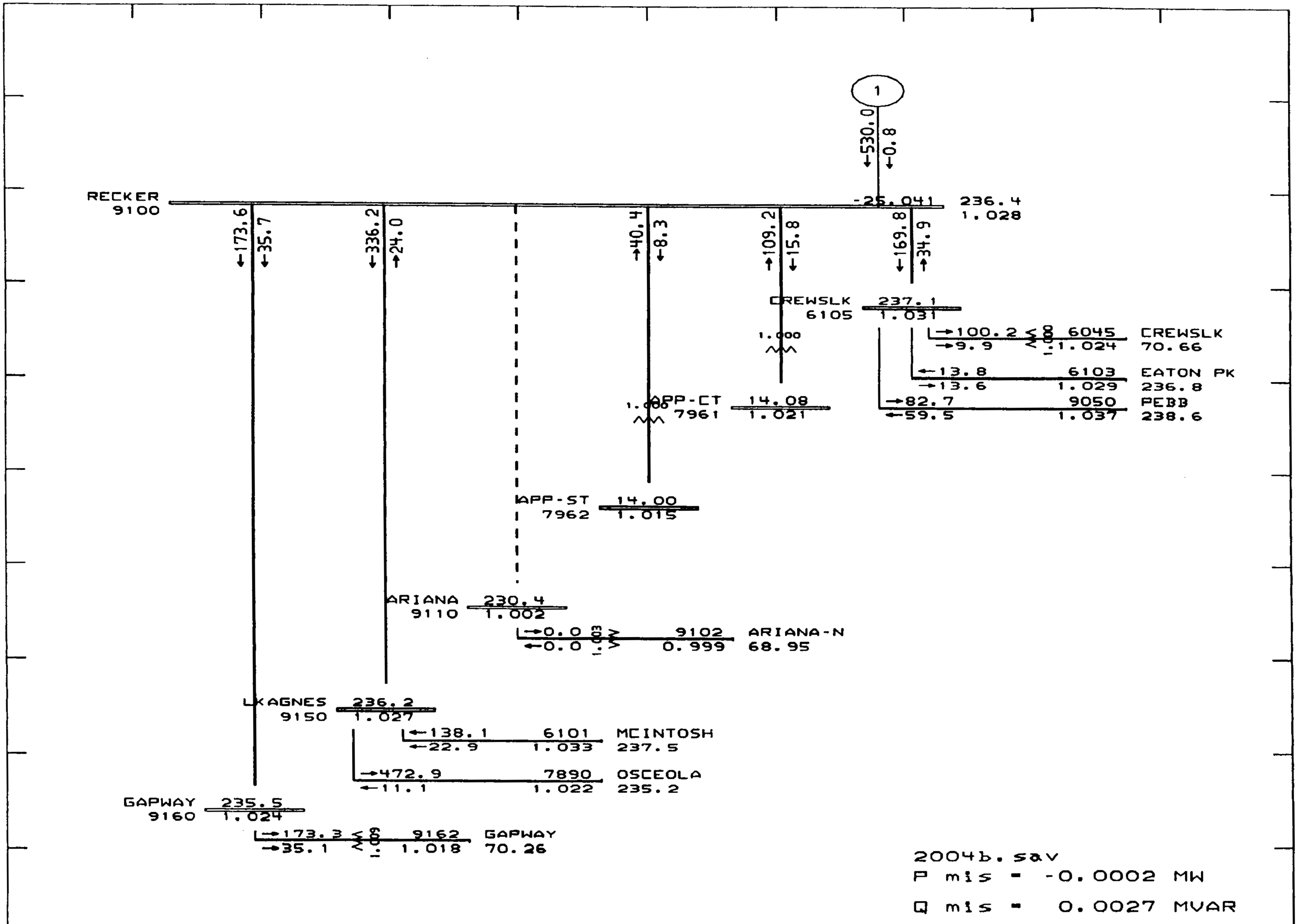

General Electric Company PSLF Program MW/MVAR Wed Feb 16 14:53:30 2000

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

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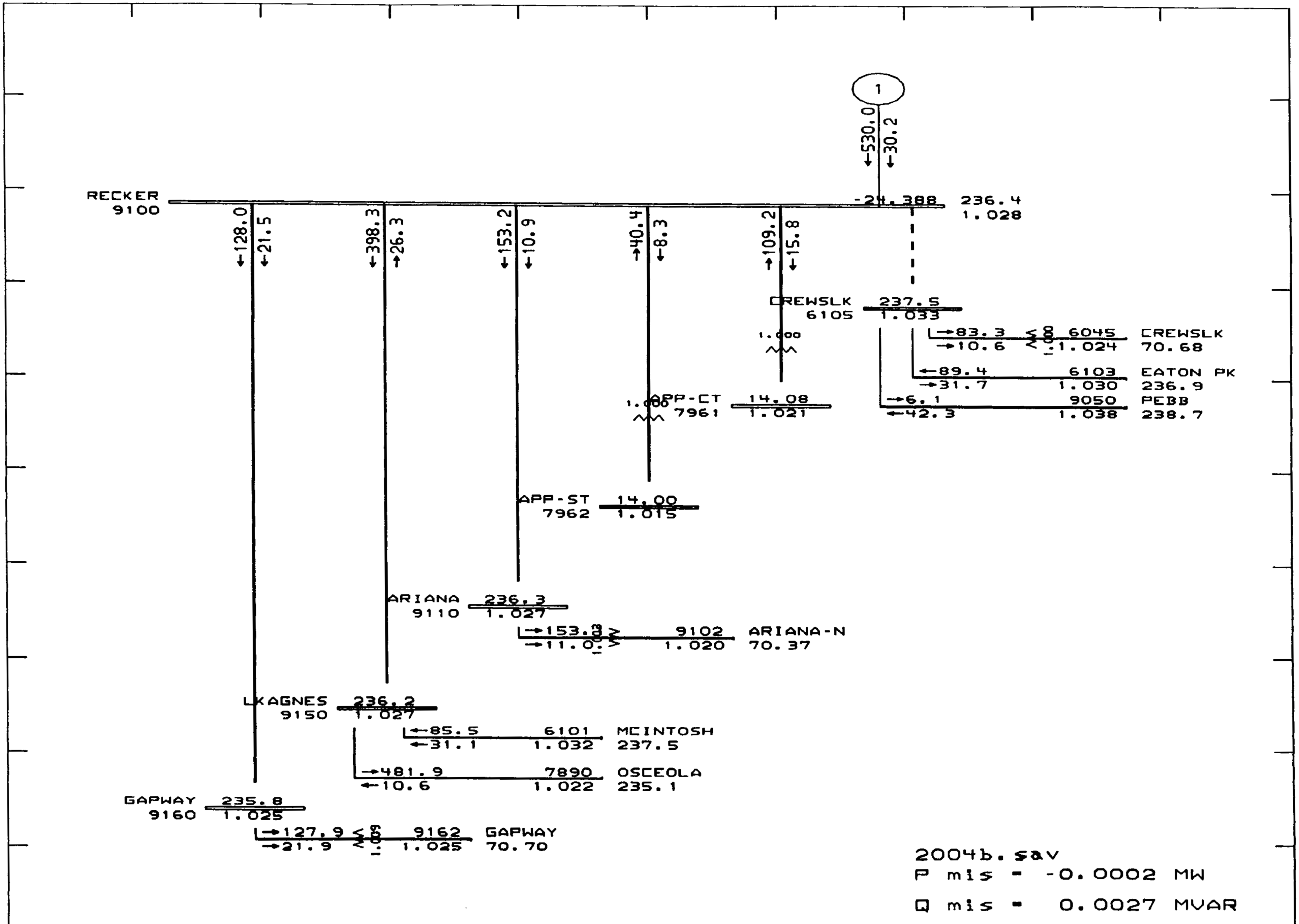
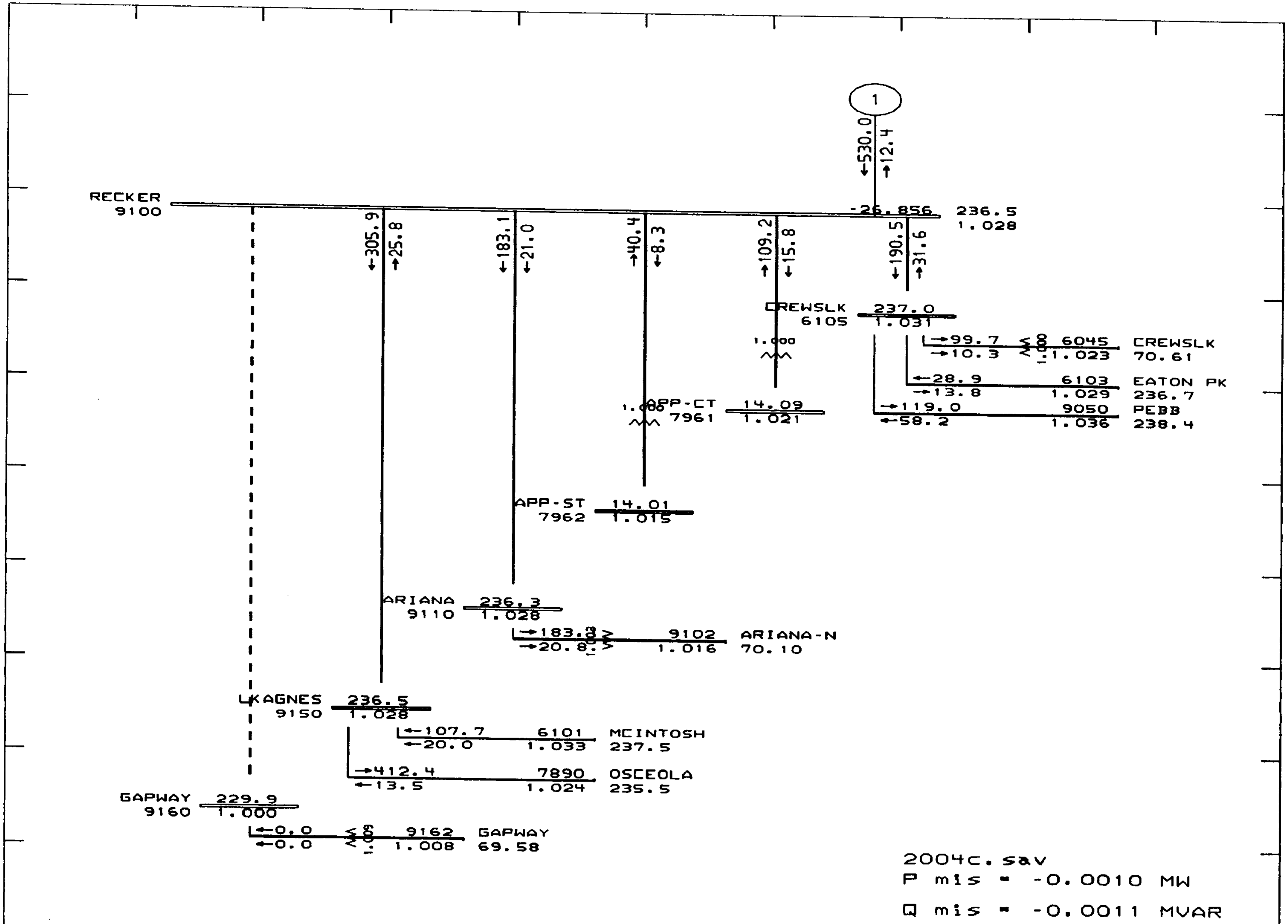


General Electric Company PSLF Program MW/MVAR Wed Feb 16 14:53:47 2000

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

2004b.sav
Rating = 1



General Electric Company PSLF Program

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

MW/MVAR Wed Feb 16 14:54:03 2000

2004c.sav
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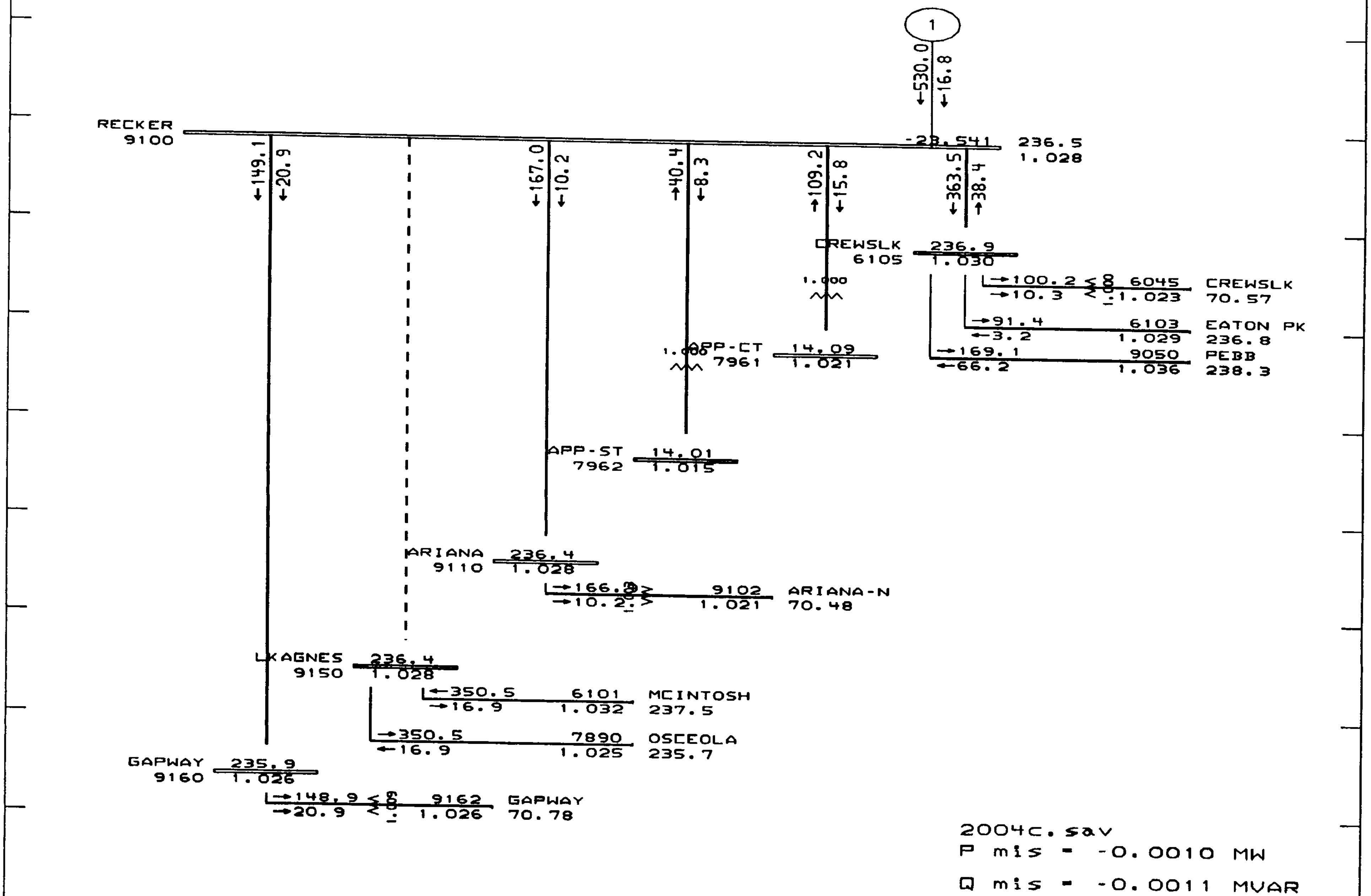

General Electric Company PSLF Program

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

MW/MVAR Wed Feb 16 14:54:17 2000

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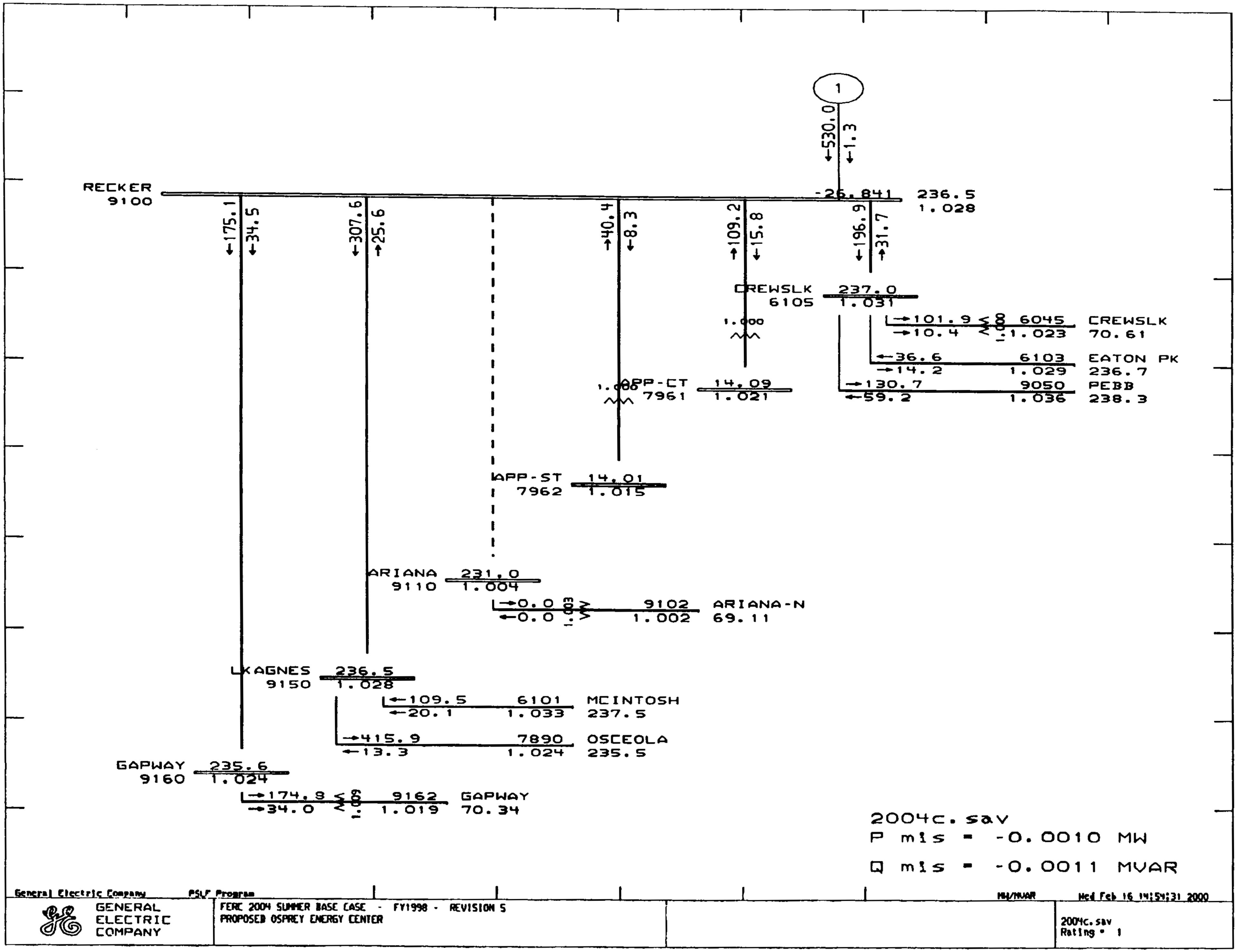
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1.000
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CREWSLK
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6101
1.033
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415.9
13.3
7890
1.024
OSCEOLA
235.5
GAPWAY
9160
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1.024
174.8
34.0
9162
1.019
GAPWAY
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Q mis = -0.0011 MVAR
General Electric Company
PSLF Program
MW/MVAR
Wed Feb 16 14:54:31 2000
GENERAL ELECTRIC COMPANY
FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER
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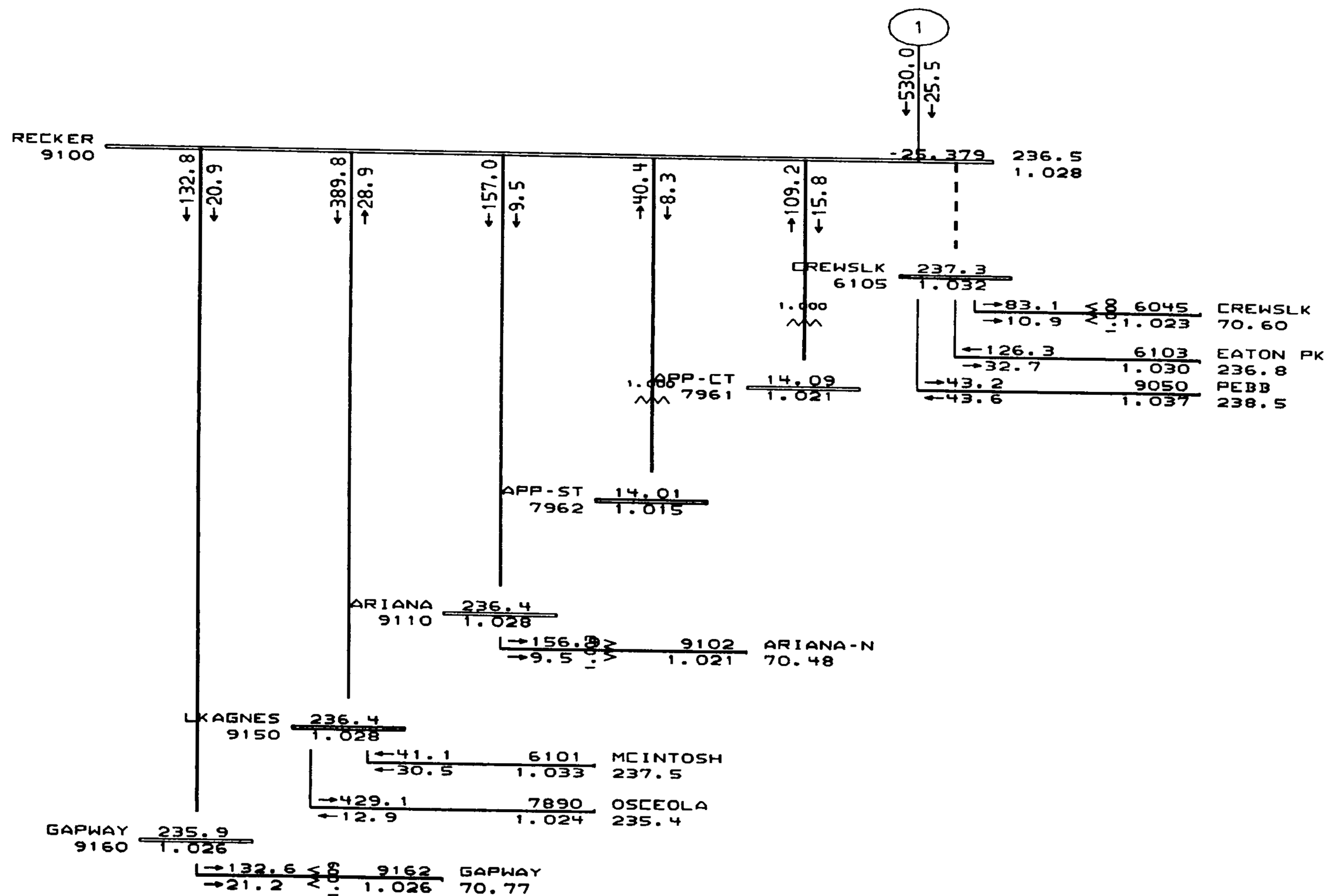

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General Electric Company | PSLF Program

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

MW/MVAR | Wed Feb 16 14:54:47 2000

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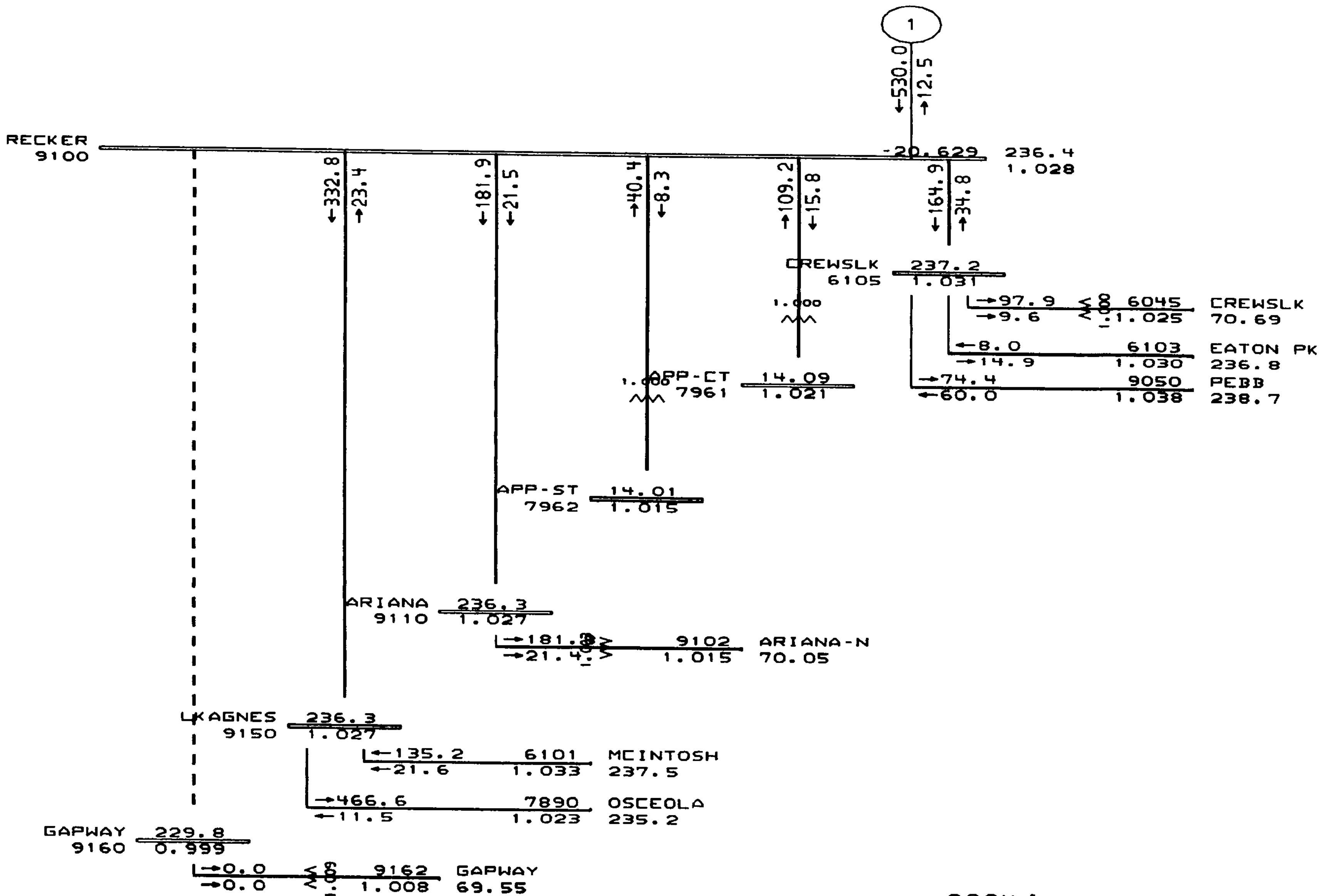

2004d.sav
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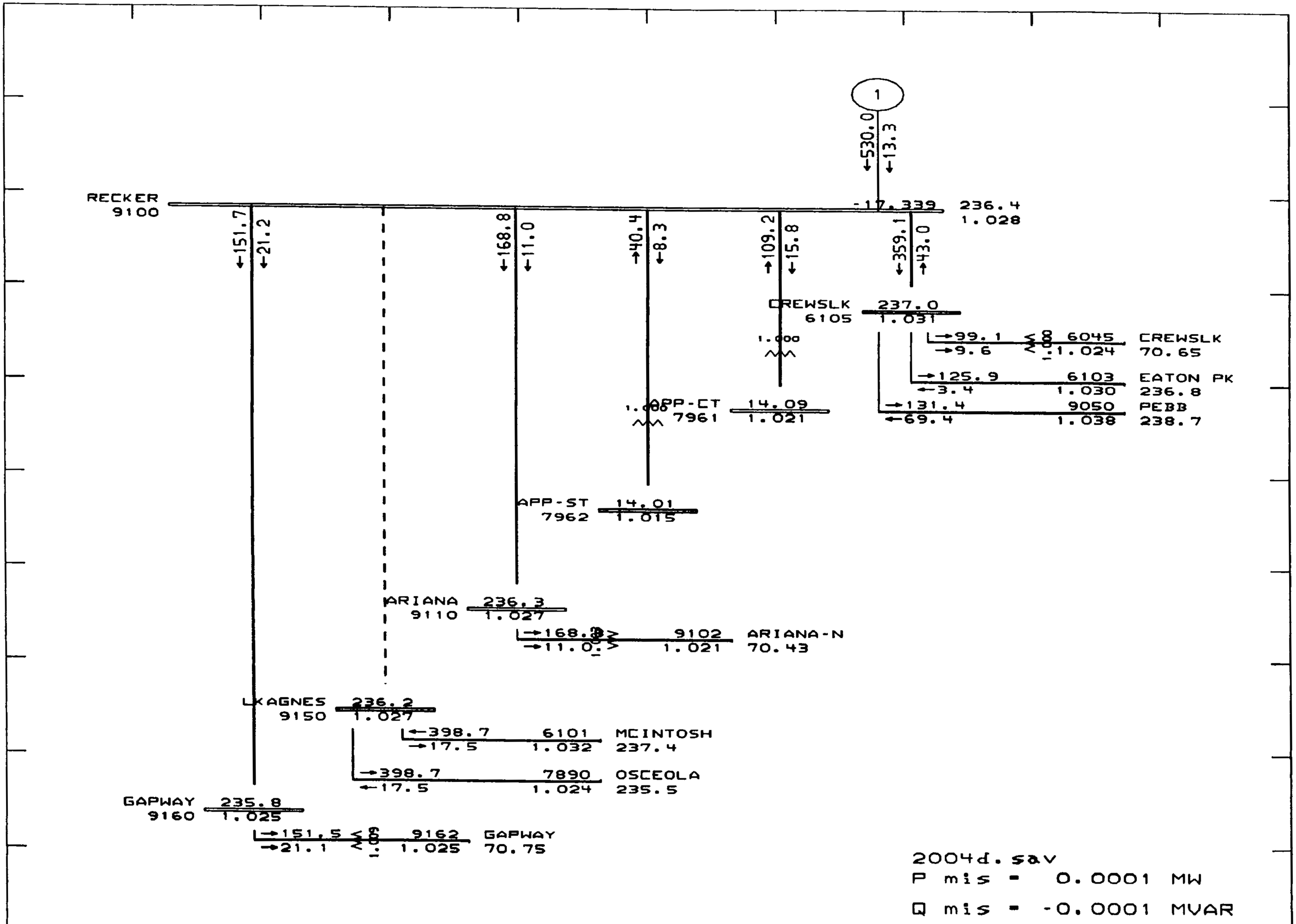
General Electric Company PSLF Program

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

MW/MVAR Wed Feb 16 14:55:08 2000

2004d.sav
Rating = 1

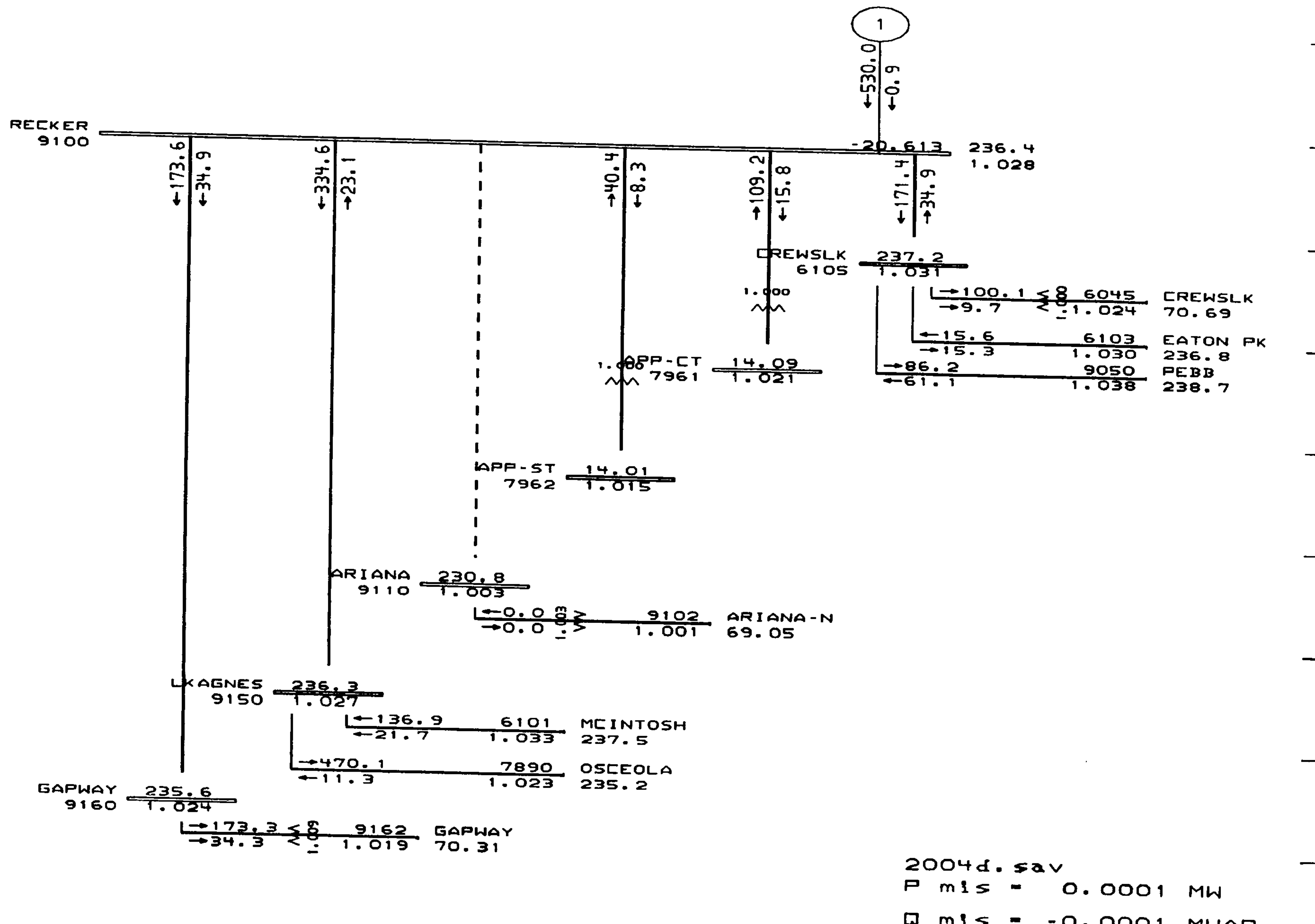


General Electric Company PSLF Program MW/MVAR Wed Feb 16 14:55:33 2000

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

2004d.sav
Rating = 1



General Electric Company

PSLF Program

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

MW/MVAR

Wed Feb 16 14:55:50 2000

2004d.sav
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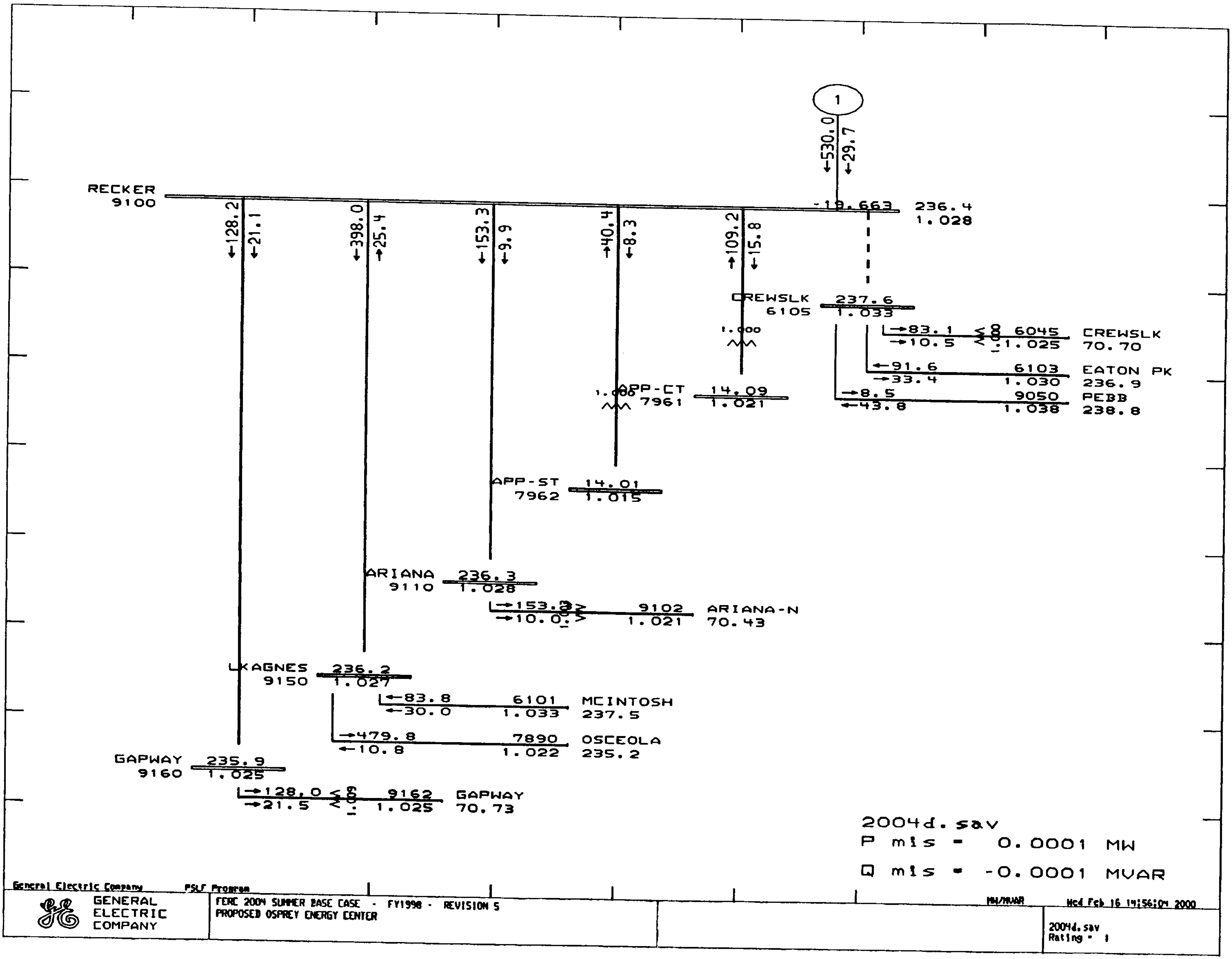

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109.2
15.8
CREWSLK
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153.3
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10.8
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OSCEOLA
235.2
GAPWAY
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21.5
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GAPWAY
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2004d.sav
P mis = 0.0001 MW
Q mis = -0.0001 MVAR
General Electric Company
PSLF Program
GENERAL ELECTRIC COMPANY
FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER
MW/MVAR
Wed Feb 16 14:56:04 2000
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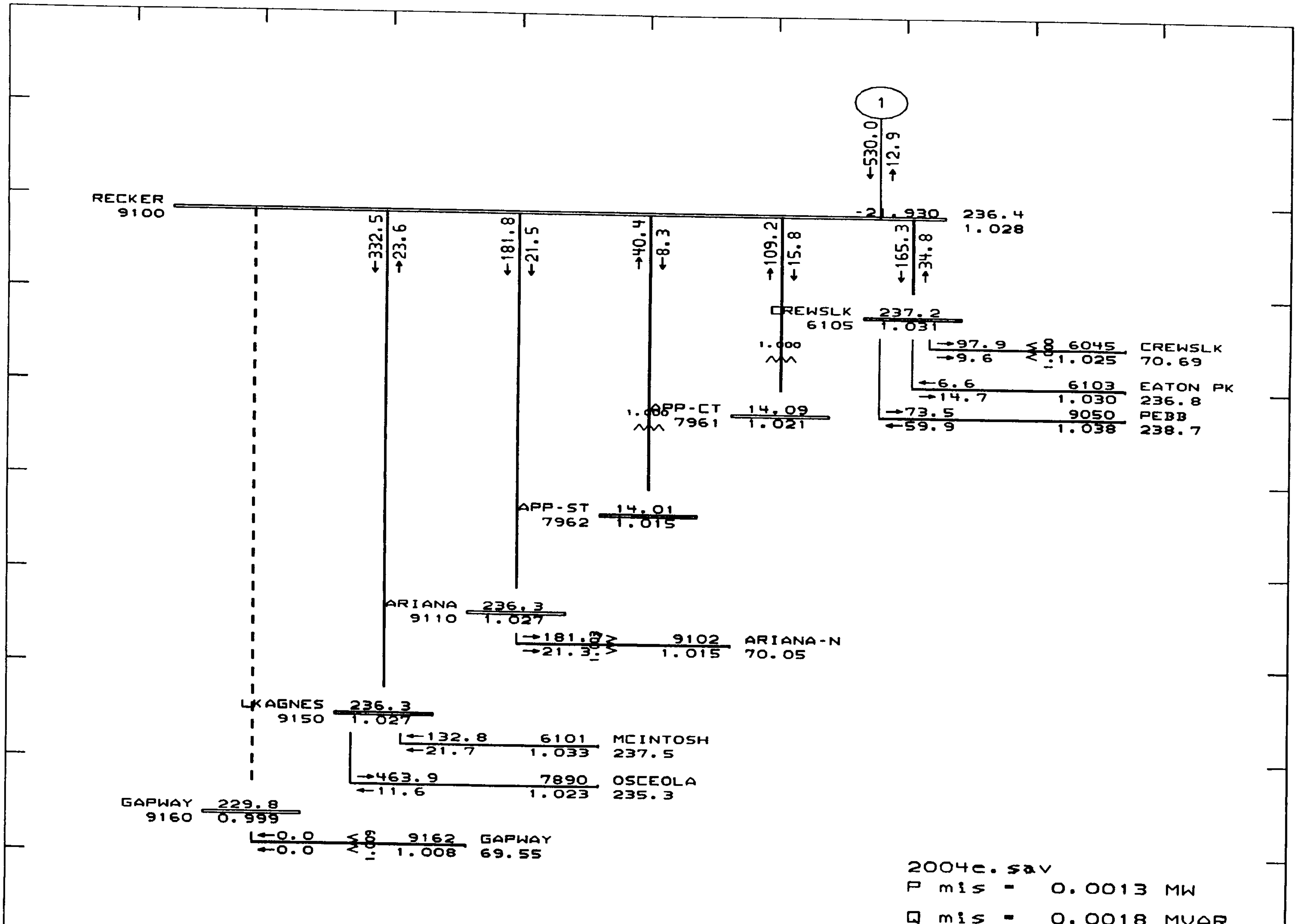

General Electric Company PSLF Program

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

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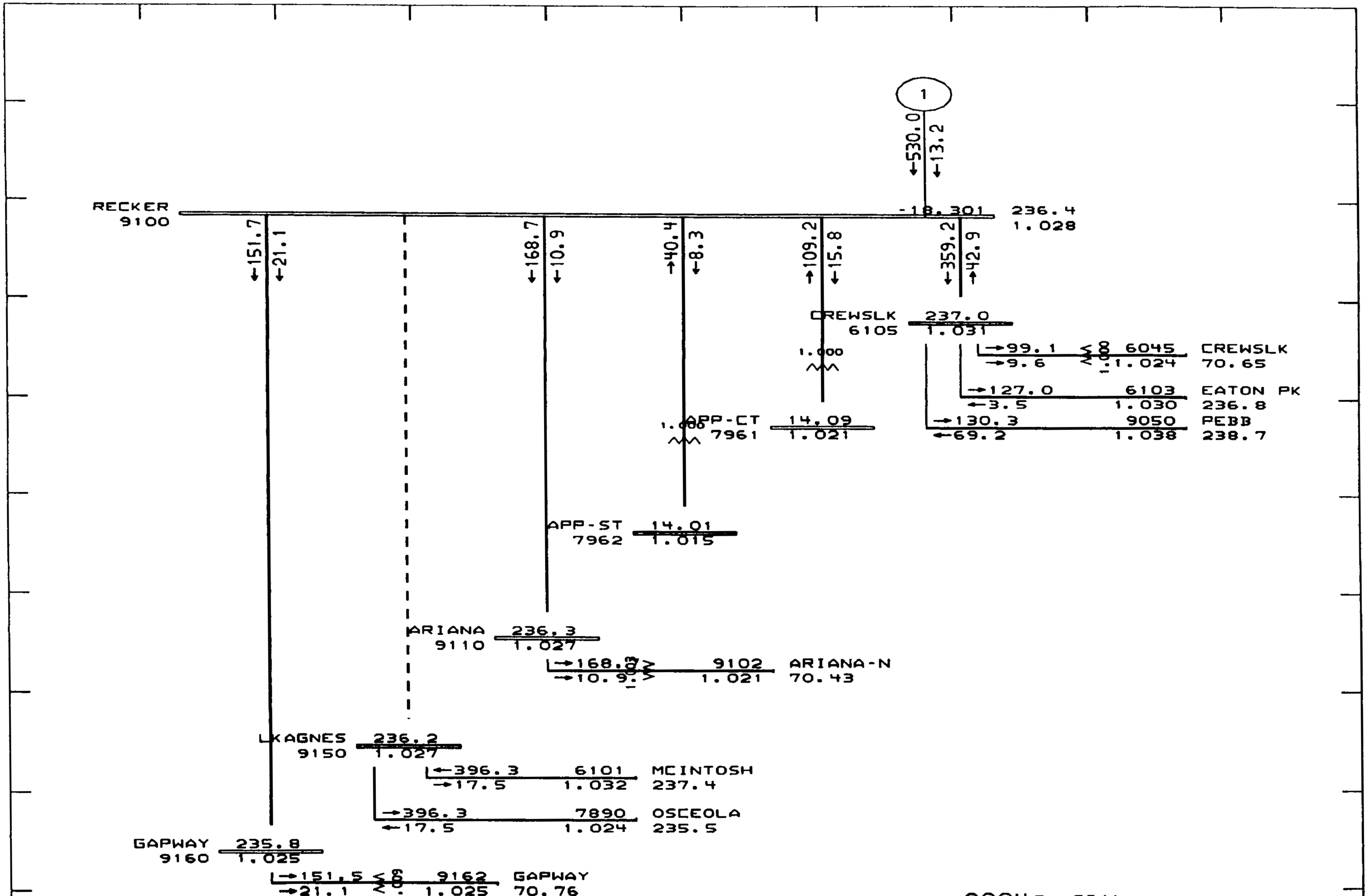

2004e.sav
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General Electric Company PSLF Program MW/MVAR Wed Feb 16 14:56:40 2000

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

2004e.sav
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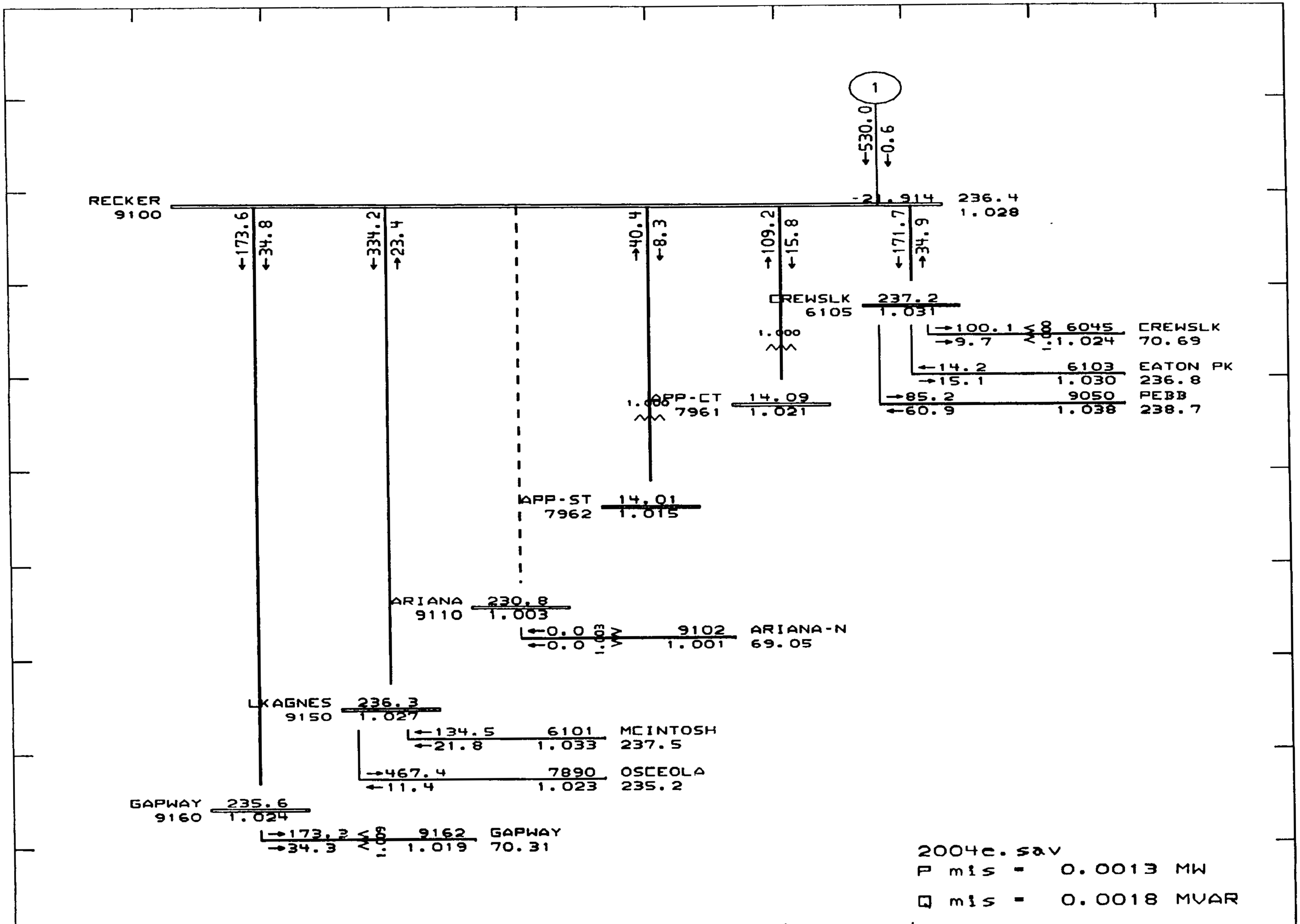

General Electric Company | PSLF Program | MW/MVAR | Wed Feb 16 15:17:18 2000

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

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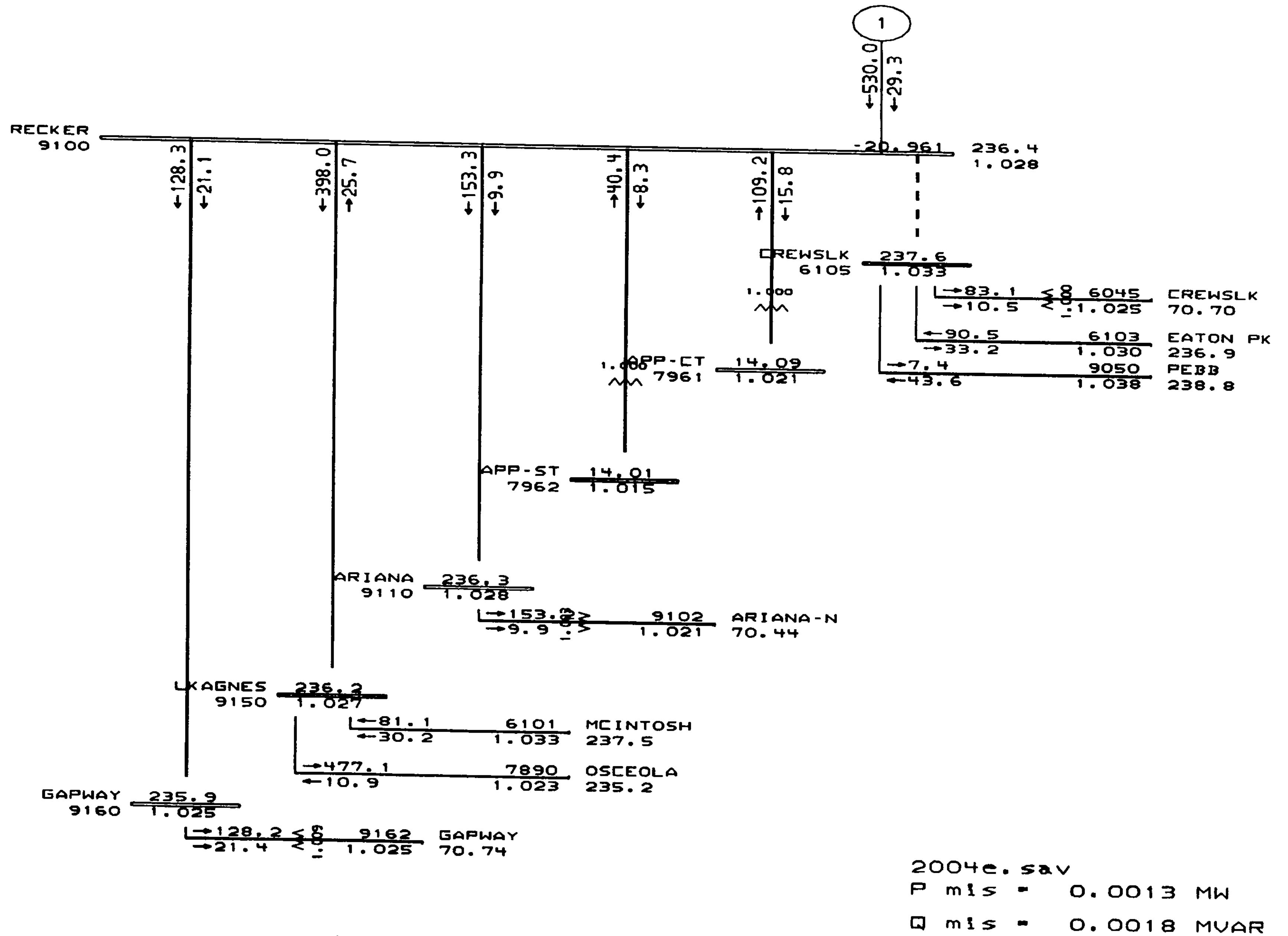


General Electric Company PSLF Program

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

MW/MVAR Wed Feb 16 14:57:10 2000

2004e.sav
Rating = 1

APPENDIX III

Table III

Comparison of Line & Transformer Flows Following N-1 Disturbances for Various OEC 500 MW Generation Alternatives

60% Load Base Case

All Flows above 100% of Emergency rating are Shown

Monitored Branches							Case 2004-60 Base No OEC Gen	Case 2004-60A Sell to FPL	Case 2004-60B Sell to FPC	Case 2004-60C Sell to TEC	Case 2004-60D Sell to JEA	Case 2004-60E Sell to SEM
Case	Bus 1	kV 1	Bus 2	kV 2	ckt	Area	Percent	Percent	Percent	Percent	Percent	Percent
2004-60-1	SN PLANT	230	SYLVAN	230	1	1						
2004-60-1	SYLVAN	230	N LONGWD	230	1	1						
2004-60-1	IND RIV	230	STANTON	230	1	11						
2004-60-1	SN PLANT	115	TURNER	115	1	1						
2004-60-1	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-60-1	SILVR SP	230	SILV SPN	230	1	2						
2004-60-1	SILVR SP	230	OCALA 1	230	1	2						
2004-60-1	RIO PINR	230	CURRY FD	230	1	2						
2004-60-1	STANTON	230	CURRY FD	230	1	2						
2004-60-1	OSCEOLA	230	LKAGNES	230	1	16						
2004-60-1	SHELD	230	LK TARPN	230	1	2						
2004-60-1	PEBB	230	CREWSLK	230	1	13						
2004-60-1	PEBB	230	N BARTOW	230	1	2						
2004-60-1	RECKER	230	LKAGNES	230	1	16						
2004-60-1	RECKER	230	ARIANA	230	1	16						
2004-60-1	RECKER	230	CREWSLK	230	1	13						
2004-60-1	B BEND	230	MANATEE	230	1	1						
2004-60-1	RUSKIN T	230	MANATEE	230	1	1						
2004-60-1	IND RIV	230	IND RIV	115	1	11						
2004-60-1	SHELD	230	SHELD-NW	69	1	16						
2004-60-1	LARGO	230	LARGO A	69	1	2						
2004-60-1	CLMT EST	230	CLMT EST	69	1	2						
2004-60-1	11TH AVE	230	ELEVEN-E	69	1	16						
2004-60-1	WINDERME	230	WINDERME	69	1	2						
2004-60-1	PASADENA	230	PASADENA	115	1	2						
2004-60-1	ARIANA	230	ARIANA-N	69	1	16						
2004-60-1	SELOSE	230	SELOSE-N	69	1	16						
2004-60-1	GAPWAY	230	GAPWAY	69	1	16						
2004-60-1	CREWSLK	230	CREWSLK	69	1	13						
2004-60-1	TENOROC	230	TENOROC	69	1	13						
2004-60-1	BARCOLA	230	WEST	230	1	2						
2004-60-1	EATON PK	230	CREWSLK	230	1	13						
2004-60-1	EATON PK	230	EATON PK	69	1	13						
2004-60-1	EATON PK	230	TENOROC	230	1	13						
2004-60-1	RECKER	230	GAPWAY	230	1	16						
2004-60-1	SN PLANT	115	TURNER	115	1	1						
2004-60-2	SN PLANT	230	SYLVAN	230	1	1						
2004-60-2	SYLVAN	230	N LONGWD	230	1	1						
2004-60-2	IND RIV	230	STANTON	230	1	11						
2004-60-2	SN PLANT	115	TURNER	115	1	1						
2004-60-2	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-60-2	SILVR SP	230	SILV SPN	230	1	2						
2004-60-2	SILVR SP	230	OCALA 1	230	1	2						
2004-60-2	RIO PINR	230	CURRY FD	230	1	2						
2004-60-2	STANTON	230	CURRY FD	230	1	2						
2004-60-2	OSCEOLA	230	LKAGNES	230	1	16						
2004-60-2	SHELD	230	LK TARPN	230	1	2						
2004-60-2	PEBB	230	CREWSLK	230	1	13						
2004-60-2	PEBB	230	N BARTOW	230	1	2						
2004-60-2	RECKER	230	LKAGNES	230	1	16						
2004-60-2	RECKER	230	ARIANA	230	1	16						
2004-60-2	RECKER	230	CREWSLK	230	1	13						
2004-60-2	B BEND	230	MANATEE	230	1	1						
2004-60-2	RUSKIN T	230	MANATEE	230	1	1						
2004-60-2	IND RIV	230	IND RIV	115	1	11						
2004-60-2	SHELD	230	SHELD-NW	69	1	16						
2004-60-2	LARGO	230	LARGO A	69	1	2						
2004-60-2	CLMT EST	230	CLMT EST	69	1	2						
2004-60-2	11TH AVE	230	ELEVEN-E	69	1	16						
2004-60-2	WINDERME	230	WINDERME	69	1	2						
2004-60-2	PASADENA	230	PASADENA	115	1	2						
2004-60-2	ARIANA	230	ARIANA-N	69	1	16						
2004-60-2	SELOSE	230	SELOSE-N	69	1	16						
2004-60-2	GAPWAY	230	GAPWAY	69	1	16						
2004-60-2	CREWSLK	230	CREWSLK	69	1	13						
2004-60-2	TENOROC	230	TENOROC	69	1	13						
2004-60-2	BARCOLA	230	WEST	230	1	2						
2004-60-2	EATON PK	230	CREWSLK	230	1	13						
2004-60-2	EATON PK	230	EATON PK	69	1	13						
2004-60-2	EATON PK	230	TENOROC	230	1	13						
2004-60-2	RECKER	230	GAPWAY	230	1	16						
2004-60-2	SN PLANT	115	TURNER	115	1	1						

Table III

Comparison of Line & Transformer Flows
Following N-1 Disturbances
for Various OEC 500 MW Generation Alternatives

60% Load Base Case

All Flows above 100% of Emergency rating are Shown

Monitored Branches							Case 2004-60 Base No OEC Gen	Case 2004-60A Sell to FPL	Case 2004-60B Sell to FPC	Case 2004-60C Sell to TEC	Case 2004-60D Sell to JEA	Case 2004-60E Sell to SEM
Case	Bus 1	kV 1	Bus 2	kV 2	ckt	Area	Percent	Percent	Percent	Percent	Percent	Percent
2004-60-3	SN PLANT	230	SYLVAN	230	1	1						
2004-60-3	SYLVAN	230	N LONGWD	230	1	1						
2004-60-3	IND RIV	230	STANTON	230	1	11						
2004-60-3	SN PLANT	115	TURNER	115	1	1						
2004-60-3	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-60-3	SILVR SP	230	SILV SPN	230	1	2						
2004-60-3	SILVR SP	230	OCALA 1	230	1	2						
2004-60-3	RIO PINR	230	CURRY FD	230	1	2						
2004-60-3	STANTON	230	CURRY FD	230	1	2						
2004-60-3	OSCEOLA	230	LKAGNES	230	1	16						
2004-60-3	SHELD	230	LK TARPN	230	1	2						
2004-60-3	PEBB	230	CREWSLK	230	1	13						
2004-60-3	PEBB	230	N BARTOW	230	1	2						
2004-60-3	RECKER	230	LKAGNES	230	1	16						
2004-60-3	RECKER	230	ARIANA	230	1	16						
2004-60-3	RECKER	230	CREWSLK	230	1	13						
2004-60-3	B BEND	230	MANATEE	230	1	1						
2004-60-3	RUSKIN T	230	MANATEE	230	1	1						
2004-60-3	IND RIV	230	IND RIV	115	1	11						
2004-60-3	SHELD	230	SHELD-NW	69	1	16						
2004-60-3	LARGO	230	LARGO A	69	1	2						
2004-60-3	CLMT EST	230	CLMT EST	69	1	2						
2004-60-3	11TH AVE	230	ELEVEN-E	69	1	16						
2004-60-3	WINDERME	230	WINDERME	69	1	2						
2004-60-3	PASADENA	230	PASADENA	115	1	2						
2004-60-3	ARIANA	230	ARIANA-N	69	1	16						
2004-60-3	SELOSE	230	SELOSE-N	69	1	16						
2004-60-3	GAPWAY	230	GAPWAY	69	1	16						
2004-60-3	CREWSLK	230	CREWSLK	69	1	13						
2004-60-3	TENOROC	230	TENOROC	69	1	13						
2004-60-3	BARCOLA	230	WEST	230	1	2						
2004-60-3	EATON PK	230	CREWSLK	230	1	13						
2004-60-3	EATON PK	230	EATON PK	69	1	13						
2004-60-3	EATON PK	230	TENOROC	230	1	13						
2004-60-3	RECKER	230	GAPWAY	230	1	16						
2004-60-3	SN PLANT	115	TURNER	115	1	1						
2004-60-4	SN PLANT	230	SYLVAN	230	1	1						
2004-60-4	SYLVAN	230	N LONGWD	230	1	1						
2004-60-4	IND RIV	230	STANTON	230	1	11						
2004-60-4	SN PLANT	115	TURNER	115	1	1						
2004-60-4	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-60-4	SILVR SP	230	SILV SPN	230	1	2						
2004-60-4	SILVR SP	230	OCALA 1	230	1	2						
2004-60-4	RIO PINR	230	CURRY FD	230	1	2						
2004-60-4	STANTON	230	CURRY FD	230	1	2						
2004-60-4	OSCEOLA	230	LKAGNES	230	1	16						
2004-60-4	SHELD	230	LK TARPN	230	1	2						
2004-60-4	PEBB	230	CREWSLK	230	1	13						
2004-60-4	PEBB	230	N BARTOW	230	1	2						
2004-60-4	RECKER	230	LKAGNES	230	1	16						
2004-60-4	RECKER	230	ARIANA	230	1	16						
2004-60-4	RECKER	230	CREWSLK	230	1	13						
2004-60-4	B BEND	230	MANATEE	230	1	1						
2004-60-4	RUSKIN T	230	MANATEE	230	1	1						
2004-60-4	IND RIV	230	IND RIV	115	1	11						
2004-60-4	SHELD	230	SHELD-NW	69	1	16						
2004-60-4	LARGO	230	LARGO A	69	1	2						
2004-60-4	CLMT EST	230	CLMT EST	69	1	2						
2004-60-4	11TH AVE	230	ELEVEN-E	69	1	16						
2004-60-4	WINDERME	230	WINDERME	69	1	2						
2004-60-4	PASADENA	230	PASADENA	115	1	2						
2004-60-4	ARIANA	230	ARIANA-N	69	1	16						
2004-60-4	SELOSE	230	SELOSE-N	69	1	16						
2004-60-4	GAPWAY	230	GAPWAY	69	1	16						
2004-60-4	CREWSLK	230	CREWSLK	69	1	13						
2004-60-4	TENOROC	230	TENOROC	69	1	13						
2004-60-4	BARCOLA	230	WEST	230	1	2						
2004-60-4	EATON PK	230	CREWSLK	230	1	13						
2004-60-4	EATON PK	230	EATON PK	69	1	13						
2004-60-4	EATON PK	230	TENOROC	230	1	13						
2004-60-4	RECKER	230	GAPWAY	230	1	16						
2004-60-4	SN PLANT	115	TURNER	115	1	1						

Table III

Comparison of Line & Transformer Flows
Following N-1 Disturbances
for Various OEC 500 MW Generation Alternatives

60% Load Base Case

All Flows above 100% of Emergency rating are Shown

Monitored Branches							Case 2004-60 Base No OEC Gen	Case 2004-60A Sell to FPL	Case 2004-60B Sell to FPC	Case 2004-60C Sell to TEC	Case 2004-60D Sell to JEA	Case 2004-60E Sell to SEM
Case	Bus 1	kV 1	Bus 2	kV 2	ckt	Area	Percent	Percent	Percent	Percent	Percent	Percent
2004-60-5	SN PLANT	230	SYLVAN	230	1	1						
2004-60-5	SYLVAN	230	N LONGWD	230	1	1						
2004-60-5	IND RIV	230	STANTON	230	1	11						
2004-60-5	SN PLANT	115	TURNER	115	1	1						
2004-60-5	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-60-5	SILVR SP	230	SILV SPN	230	1	2						
2004-60-5	SILVR SP	230	OCALA 1	230	1	2						
2004-60-5	RIO PINR	230	CURRY FD	230	1	2						
2004-60-5	STANTON	230	CURRY FD	230	1	2						
2004-60-5	OSCEOLA	230	LKAGNES	230	1	16						
2004-60-5	SHELD	230	LK TARPN	230	1	2						
2004-60-5	PEBB	230	CREWSLK	230	1	13						
2004-60-5	PEBB	230	N BARTOW	230	1	2						
2004-60-5	RECKER	230	LKAGNES	230	1	16						
2004-60-5	RECKER	230	ARIANA	230	1	16						
2004-60-5	RECKER	230	CREWSLK	230	1	13						
2004-60-5	B BEND	230	MANATEE	230	1	1						
2004-60-5	RUSKIN T	230	MANATEE	230	1	1						
2004-60-5	IND RIV	230	IND RIV	115	1	11						
2004-60-5	SHELD	230	SHELD-NW	69	1	16						
2004-60-5	LARGO	230	LARGO A	69	1	2						
2004-60-5	CLMT EST	230	CLMT EST	69	1	2						
2004-60-5	11TH AVE	230	ELEVEN-E	69	1	16						
2004-60-5	WINDERME	230	WINDERME	69	1	2						
2004-60-5	PASADENA	230	PASADENA	115	1	2						
2004-60-5	ARIANA	230	ARIANA-N	69	1	16						
2004-60-5	SELOSE	230	SELOSE-N	69	1	16						
2004-6C-5	GAPWAY	230	GAPWAY	69	1	16						
2004-60-5	CREWSLK	230	CREWSLK	69	1	13						
2004-60-5	TENOROC	230	TENOROC	69	1	13						
2004-60-5	BARCOLA	230	WEST	230	1	2						
2004-60-5	EATON PK	230	CREWSLK	230	1	13						
2004-60-5	EATON PK	230	EATON PK	69	1	13						
2004-60-5	EATON PK	230	TENOROC	230	1	13						
2004-60-5	RECKER	230	GAPWAY	230	1	16						
2004-60-5	SN PLANT	115	TURNER	115	1	1						
2004-60-6	SN PLANT	230	SYLVAN	230	1	1						
2004-60-6	SYLVAN	230	N LONGWD	230	1	1						
2004-60-6	IND RIV	230	STANTON	230	1	11						
2004-60-6	SN PLANT	115	TURNER	115	1	1						
2004-60-6	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-60-6	SILVR SP	230	SILV SPN	230	1	2						
2004-60-6	SILVR SP	230	OCALA 1	230	1	2						
2004-60-6	RIO PINR	230	CURRY FD	230	1	2						
2004-60-6	STANTON	230	CURRY FD	230	1	2						
2004-60-6	OSCEOLA	230	LKAGNES	230	1	16						
2004-60-6	SHELD	230	LK TARPN	230	1	2						
2004-60-6	PEBB	230	CREWSLK	230	1	13						
2004-60-6	PEBB	230	N BARTOW	230	1	2						
2004-60-6	RECKER	230	LKAGNES	230	1	16						
2004-60-6	RECKER	230	ARIANA	230	1	16						
2004-60-6	RECKER	230	CREWSLK	230	1	13						
2004-60-6	B BEND	230	MANATEE	230	1	1						
2004-60-6	RUSKIN T	230	MANATEE	230	1	1						
2004-60-6	IND RIV	230	IND RIV	115	1	11						
2004-60-6	SHELD	230	SHELD-NW	69	1	16						
2004-60-6	LARGO	230	LARGO A	69	1	2						
2004-60-6	CLMT EST	230	CLMT EST	69	1	2						
2004-60-6	11TH AVE	230	ELEVEN-E	69	1	16						
2004-60-6	WINDERME	230	WINDERME	69	1	2						
2004-60-6	PASADENA	230	PASADENA	115	1	2						
2004-60-6	ARIANA	230	ARIANA-N	69	1	16						
2004-60-6	SELOSE	230	SELOSE-N	69	1	16						
2004-60-6	GAPWAY	230	GAPWAY	69	1	16						
2004-60-6	CREWSLK	230	CREWSLK	69	1	13						
2004-60-6	TENOROC	230	TENOROC	69	1	13						
2004-60-6	BARCOLA	230	WEST	230	1	2						
2004-60-6	EATON PK	230	CREWSLK	230	1	13						
2004-60-6	EATON PK	230	EATON PK	69	1	13						
2004-60-6	EATON PK	230	TENOROC	230	1	13						
2004-60-6	RECKER	230	GAPWAY	230	1	16						
2004-60-6	SN PLANT	115	TURNER	115	1	1						

Table III

Comparison of Line & Transformer Flows
Following N-1 Disturbances
for Various OEC 500 MW Generation Alternatives

60% Load Base Case

All Flows above 100% of Emergency rating are Shown

Monitored Branches							Case 2004-60 Base No OEC Gen	Case 2004-60A Sell to FPL	Case 2004-60B Sell to FPC	Case 2004-60C Sell to TEC	Case 2004-60D Sell to JEA	Case 2004-60E Sell to SEM
Case	Bus 1	kV 1	Bus 2	kV 2	ckt	Area	Percent	Percent	Percent	Percent	Percent	Percent
2004-60-7	SN PLANT	230	SYLVAN	230	1	1						
2004-60-7	SYLVAN	230	N LONGWD	230	1	1						
2004-60-7	IND RIV	230	STANTON	230	1	11						
2004-60-7	SN PLANT	115	TURNER	115	1	1						
2004-60-7	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-60-7	SILVR SP	230	SILV SPN	230	1	2						
2004-60-7	SILVR SP	230	OCALA 1	230	1	2						
2004-60-7	RIO PINR	230	CURRY FD	230	1	2						
2004-60-7	STANTON	230	CURRY FD	230	1	2						
2004-60-7	OSCEOLA	230	LKAGNES	230	1	16						
2004-60-7	SHELD	230	LK TARPN	230	1	2						
2004-60-7	PEBB	230	CREWSLK	230	1	13						
2004-60-7	PEBB	230	N BARTOW	230	1	2						
2004-60-7	RECKER	230	LKAGNES	230	1	16						
2004-60-7	RECKER	230	ARIANA	230	1	16						
2004-60-7	RECKER	230	CREWSLK	230	1	13						
2004-60-7	B BEND	230	MANATEE	230	1	1						
2004-60-7	RUSKIN T	230	MANATEE	230	1	1						
2004-60-7	IND RIV	230	IND RIV	115	1	11						
2004-60-7	SHELD	230	SHELD-NW	69	1	16						
2004-60-7	LARGO	230	LARGO A	69	1	2						
2004-60-7	CLMT EST	230	CLMT EST	69	1	2						
2004-60-7	11TH AVE	230	ELEVEN-E	69	1	16						
2004-60-7	WINDERME	230	WINDERME	69	1	2						
2004-60-7	PASADENA	230	PASADENA	115	1	2						
2004-60-7	ARIANA	230	ARIANA-N	69	1	16						
2004-60-7	SELOSE	230	SELOSE-N	69	1	16						
2004-60-7	GAPWAY	230	GAPWAY	69	1	16						
2004-60-7	CREWSLK	230	CREWSLK	69	1	13						
2004-60-7	TENOROC	230	TENOROC	69	1	13						
2004-60-7	BARCOLA	230	WEST	230	1	2						
2004-60-7	EATON PK	230	CREWSLK	230	1	13						
2004-60-7	EATON PK	230	EATON PK	69	1	13						
2004-60-7	EATON PK	230	TENOROC	230	1	13						
2004-60-7	RECKER	230	GAPWAY	230	1	16						
2004-60-7	SN PLANT	115	TURNER	115	1	1						
2004-60-8	SN PLANT	230	SYLVAN	230	1	1						
2004-60-8	SYLVAN	230	N LONGWD	230	1	1						
2004-60-8	IND RIV	230	STANTON	230	1	11						
2004-60-8	SN PLANT	115	TURNER	115	1	1						
2004-60-8	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-60-8	SILVR SP	230	SILV SPN	230	1	2						
2004-60-8	SILVR SP	230	OCALA 1	230	1	2						
2004-60-8	RIO PINR	230	CURRY FD	230	1	2						
2004-60-8	STANTON	230	CURRY FD	230	1	2						
2004-60-8	OSCEOLA	230	LKAGNES	230	1	16						
2004-60-8	SHELD	230	LK TARPN	230	1	2						
2004-60-8	PEBB	230	CREWSLK	230	1	13						
2004-60-8	PEBB	230	N BARTOW	230	1	2						
2004-60-8	RECKER	230	LKAGNES	230	1	16						
2004-60-8	RECKER	230	ARIANA	230	1	16						
2004-60-8	RECKER	230	CREWSLK	230	1	13						
2004-60-8	B BEND	230	MANATEE	230	1	1						
2004-60-8	RUSKIN T	230	MANATEE	230	1	1						
2004-60-8	IND RIV	230	IND RIV	115	1	11						
2004-60-8	SHELD	230	SHELD-NW	69	1	16						
2004-60-8	LARGO	230	LARGO A	69	1	2						
2004-60-8	CLMT EST	230	CLMT EST	69	1	2						
2004-60-8	11TH AVE	230	ELEVEN-E	69	1	16						
2004-60-8	WINDERME	230	WINDERME	69	1	2						
2004-60-8	PASADENA	230	PASADENA	115	1	2						
2004-60-8	ARIANA	230	ARIANA-N	69	1	16						
2004-60-8	SELOSE	230	SELOSE-N	69	1	16						
2004-60-8	GAPWAY	230	GAPWAY	69	1	16						
2004-60-8	CREWSLK	230	CREWSLK	69	1	13						
2004-60-8	TENOROC	230	TENOROC	69	1	13						
2004-60-8	BARCOLA	230	WEST	230	1	2						
2004-60-8	EATON PK	230	CREWSLK	230	1	13						
2004-60-8	EATON PK	230	EATON PK	69	1	13						
2004-60-8	EATON PK	230	TENOROC	230	1	13						
2004-60-8	RECKER	230	GAPWAY	230	1	16						
2004-60-8	SN PLANT	115	TURNER	115	1	1						

Table III

Comparison of Line & Transformer Flows
Following N-1 Disturbances
for Various OEC 500 MW Generation Alternatives

60% Load Base Case

All Flows above 100% of Emergency rating are Shown

Monitored Branches							Case 2004-60 Base No OEC Gen	Case 2004-60A Sell to FPL	Case 2004-60B Sell to FPC	Case 2004-60C Sell to TEC	Case 2004-60D Sell to JEA	Case 2004-60E Sell to SEM
Case	Bus 1	kV 1	Bus 2	kV 2	ckt	Area	Percent	Percent	Percent	Percent	Percent	Percent
2004-60-9	SN PLANT	230	SYLVAN	230	1	1						
2004-60-9	SYLVAN	230	N LONGWD	230	1	1						
2004-60-9	IND RIV	230	STANTON	230	1	11						
2004-60-9	SN PLANT	115	TURNER	115	1	1						
2004-60-9	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-60-9	SILVR SP	230	SILV SPN	230	1	2						
2004-60-9	SILVR SP	230	OCALA 1	230	1	2						
2004-60-9	RIO PINR	230	CURRY FD	230	1	2						
2004-60-9	STANTON	230	CURRY FD	230	1	2						
2004-60-9	OSCEOLA	230	LKAGNES	230	1	16						
2004-60-9	SHELD	230	LK TARPN	230	1	2						
2004-60-9	PEBB	230	CREWSLK	230	1	13						
2004-60-9	PEBB	230	N BARTOW	230	1	2						
2004-60-9	RECKER	230	LKAGNES	230	1	16						
2004-60-9	RECKER	230	ARIANA	230	1	16						
2004-60-9	RECKER	230	CREWSLK	230	1	13						
2004-60-9	B BEND	230	MANATEE	230	1	1						
2004-60-9	RUSKIN T	230	MANATEE	230	1	1						
2004-60-9	IND RIV	230	IND RIV	115	1	11						
2004-60-9	SHELD	230	SHELD-NW	69	1	16						
2004-60-9	LARGO	230	LARGO A	69	1	2						
2004-60-9	CLMT EST	230	CLMT EST	69	1	2						
2004-60-9	11TH AVE	230	ELEVEN-E	69	1	16						
2004-60-9	WINDERME	230	WINDERME	69	1	2						
2004-60-9	PASADENA	230	PASADENA	115	1	2						
2004-60-9	ARIANA	230	ARIANA-N	69	1	16						
2004-60-9	SELOSE	230	SELOSE-N	69	1	16						
2004-60-9	GAPWAY	230	GAPWAY	69	1	16						
2004-60-9	CREWSLK	230	CREWSLK	69	1	13						
2004-60-9	TENOROC	230	TENOROC	69	1	13						
2004-60-9	BARCOLA	230	WEST	230	1	2						
2004-60-9	EATON PK	230	CREWSLK	230	1	13						
2004-60-9	EATON PK	230	EATON PK	69	1	13						
2004-60-9	EATON PK	230	TENOROC	230	1	13						
2004-60-9	RECKER	230	GAPWAY	230	1	16						
2004-60-9	SN PLANT	115	TURNER	115	1	1						
2004-60-10	SN PLANT	230	SYLVAN	230	1	1						
2004-60-10	SYLVAN	230	N LONGWD	230	1	1						
2004-60-10	IND RIV	230	STANTON	230	1	11						
2004-60-10	SN PLANT	115	TURNER	115	1	1						
2004-60-10	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-60-10	SILVR SP	230	SILV SPN	230	1	2						
2004-60-10	SILVR SP	230	OCALA 1	230	1	2						
2004-60-10	RIO PINR	230	CURRY FD	230	1	2						
2004-60-10	STANTON	230	CURRY FD	230	1	2						
2004-60-10	OSCEOLA	230	LKAGNES	230	1	16						
2004-60-10	SHELD	230	LK TARPN	230	1	2						
2004-60-10	PEBB	230	CREWSLK	230	1	13						
2004-60-10	PEBB	230	N BARTOW	230	1	2						
2004-60-10	RECKER	230	LKAGNES	230	1	16						
2004-60-10	RECKER	230	ARIANA	230	1	16						
2004-60-10	RECKER	230	CREWSLK	230	1	13						
2004-60-10	B BEND	230	MANATEE	230	1	1						
2004-60-10	RUSKIN T	230	MANATEE	230	1	1						
2004-60-10	IND RIV	230	IND RIV	115	1	11						
2004-60-10	SHELD	230	SHELD-NW	69	1	16						
2004-60-10	LARGO	230	LARGO A	69	1	2						
2004-60-10	CLMT EST	230	CLMT EST	69	1	2						
2004-60-10	11TH AVE	230	ELEVEN-E	69	1	16						
2004-60-10	WINDERME	230	WINDERME	69	1	2						
2004-60-10	PASADENA	230	PASADENA	115	1	2						
2004-60-10	ARIANA	230	ARIANA-N	69	1	16						
2004-60-10	SELOSE	230	SELOSE-N	69	1	16						
2004-60-10	GAPWAY	230	GAPWAY	69	1	16						
2004-60-10	CREWSLK	230	CREWSLK	69	1	13						
2004-60-10	TENOROC	230	TENOROC	69	1	13						
2004-60-10	BARCOLA	230	WEST	230	1	2						
2004-60-10	EATON PK	230	CREWSLK	230	1	13						
2004-60-10	EATON PK	230	EATON PK	69	1	13						
2004-60-10	EATON PK	230	TENOROC	230	1	13						
2004-60-10	RECKER	230	GAPWAY	230	1	16						
2004-60-10	SN PLANT	115	TURNER	115	1	1						

Table III

Comparison of Line & Transformer Flows
Following N-1 Disturbances
for Various OEC 500 MW Generation Alternatives

60% Load Base Case

All Flows above 100% of Emergency rating are Shown

Monitored Branches							Case 2004-60 Base No OEC Gen	Case 2004-60A Sell to FPL	Case 2004-60B Sell to FPC	Case 2004-60C Sell to TEC	Case 2004-60D Sell to JEA	Case 2004-60E Sell to SEM
Case	Bus 1	kV 1	Bus 2	kV 2	ckt	Area	Percent	Percent	Percent	Percent	Percent	Percent
2004-60-11	SN PLANT	230	SYLVAN	230	1	1						
2004-60-11	SYLVAN	230	N LONGWD	230	1	1						
2004-60-11	IND RIV	230	STANTON	230	1	11						
2004-60-11	SN PLANT	115	TURNER	115	1	1						
2004-60-11	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-60-11	SILVR SP	230	SILV SPN	230	1	2						
2004-60-11	SILVR SP	230	OCALA 1	230	1	2						
2004-60-11	RIO PINR	230	CURRY FD	230	1	2						
2004-60-11	STANTON	230	CURRY FD	230	1	2						
2004-60-11	OSCEOLA	230	LKAGNES	230	1	16						
2004-60-11	SHELD	230	LK TARPN	230	1	2						
2004-60-11	PEBB	230	CREWSLK	230	1	13						
2004-60-11	PEBB	230	N BARTOW	230	1	2						
2004-60-11	RECKER	230	LKAGNES	230	1	16						
2004-60-11	RECKER	230	ARIANA	230	1	16						
2004-60-11	RECKER	230	CREWSLK	230	1	13						
2004-60-11	B BEND	230	MANATEE	230	1	1						
2004-60-11	RUSKIN T	230	MANATEE	230	1	1						
2004-60-11	IND RIV	230	IND RIV	115	1	11						
2004-60-11	SHELD	230	SHELD-NW	69	1	16						
2004-60-11	LARGO	230	LARGO A	69	1	2						
2004-60-11	CLMT EST	230	CLMT EST	69	1	2						
2004-60-11	11TH AVE	230	ELEVEN-E	69	1	16						
2004-60-11	WINDERME	230	WINDERME	69	1	2						
2004-60-11	PASADENA	230	PASADENA	115	1	2						
2004-60-11	ARIANA	230	ARIANA-N	69	1	16						
2004-60-11	SELOSE	230	SELOSE-N	69	1	16						
2004-60-11	GAPWAY	230	GAPWAY	69	1	16						
2004-60-11	CREWSLK	230	CREWSLK	69	1	13						
2004-60-11	TENOROC	230	TENOROC	69	1	13						
2004-60-11	BARCOLA	230	WEST	230	1	2						
2004-60-11	EATON PK	230	CREWSLK	230	1	13						
2004-60-11	EATON PK	230	EATON PK	69	1	13						
2004-60-11	EATON PK	230	TENOROC	230	1	13						
2004-60-11	RECKER	230	GAPWAY	230	1	16						
2004-60-11	SN PLANT	115	TURNER	115	1	1						
2004-60-12	SN PLANT	230	SYLVAN	230	1	1						
2004-60-12	SYLVAN	230	N LONGWD	230	1	1						
2004-60-12	IND RIV	230	STANTON	230	1	11						
2004-60-12	SN PLANT	115	TURNER	115	1	1						
2004-60-12	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-60-12	SILVR SP	230	SILV SPN	230	1	2						
2004-60-12	SILVR SP	230	OCALA 1	230	1	2						
2004-60-12	RIO PINR	230	CURRY FD	230	1	2						
2004-60-12	STANTON	230	CURRY FD	230	1	2						
2004-60-12	OSCEOLA	230	LKAGNES	230	1	16						
2004-60-12	SHELD	230	LK TARPN	230	1	2						
2004-60-12	PEBB	230	CREWSLK	230	1	13						
2004-60-12	PEBB	230	N BARTOW	230	1	2						
2004-60-12	RECKER	230	LKAGNES	230	1	16						
2004-60-12	RECKER	230	ARIANA	230	1	16						
2004-60-12	RECKER	230	CREWSLK	230	1	13						
2004-60-12	B BEND	230	MANATEE	230	1	1						
2004-60-12	RUSKIN T	230	MANATEE	230	1	1						
2004-60-12	IND RIV	230	IND RIV	115	1	11						
2004-60-12	SHELD	230	SHELD-NW	69	1	16						
2004-60-12	LARGO	230	LARGO A	69	1	2						
2004-60-12	CLMT EST	230	CLMT EST	69	1	2						
2004-60-12	11TH AVE	230	ELEVEN-E	69	1	16						
2004-60-12	WINDERME	230	WINDERME	69	1	2						
2004-60-12	PASADENA	230	PASADENA	115	1	2						
2004-60-12	ARIANA	230	ARIANA-N	69	1	16						
2004-60-12	SELOSE	230	SELOSE-N	69	1	16						
2004-60-12	GAPWAY	230	GAPWAY	69	1	16						
2004-60-12	CREWSLK	230	CREWSLK	69	1	13						
2004-60-12	TENOROC	230	TENOROC	69	1	13						
2004-60-12	BARCOLA	230	WEST	230	1	2						
2004-60-12	EATON PK	230	CREWSLK	230	1	13						
2004-60-12	EATON PK	230	EATON PK	69	1	13						
2004-60-12	EATON PK	230	TENOROC	230	1	13						
2004-60-12	RECKER	230	GAPWAY	230	1	16						
2004-60-12	SN PLANT	115	TURNER	115	1	1						

Table III

Comparison of Line & Transformer Flows
Following N-1 Disturbances
for Various OEC 500 MW Generation Alternatives

60% Load Base Case

All Flows above 100% of Emergency rating are Shown

Monitored Branches							Case 2004-60 Base No OEC Gen	Case 2004-60A Sell to FPL	Case 2004-60B Sell to FPC	Case 2004-60C Sell to TEC	Case 2004-60D Sell to JEA	Case 2004-60E Sell to SEM
Case	Bus 1	kV 1	Bus 2	kV 2	ckt	Area	Percent	Percent	Percent	Percent	Percent	Percent
2004-60-13	SN PLANT	230	SYLVAN	230	1	1						
2004-60-13	SYLVAN	230	N LONGWD	230	1	1						
2004-60-13	IND RIV	230	STANTON	230	1	11						
2004-60-13	SN PLANT	115	TURNER	115	1	1						
2004-60-13	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-60-13	SILVR SP	230	SILV SPN	230	1	2						
2004-60-13	SILVR SP	230	OCALA 1	230	1	2						
2004-60-13	RIO PINR	230	CURRY FD	230	1	2						
2004-60-13	STANTON	230	CURRY FD	230	1	2						
2004-60-13	OSCEOLA	230	LKAGNES	230	1	16						
2004-60-13	SHELD	230	LK TARPN	230	1	2						
2004-60-13	PEBB	230	CREWSLK	230	1	13						
2004-60-13	PEBB	230	N BARTOW	230	1	2						
2004-60-13	RECKER	230	LKAGNES	230	1	16						
2004-60-13	RECKER	230	ARIANA	230	1	16						
2004-60-13	RECKER	230	CREWSLK	230	1	13						
2004-60-13	B BEND	230	MANATEE	230	1	1						
2004-60-13	RUSKIN T	230	MANATEE	230	1	1						
2004-60-13	IND RIV	230	IND RIV	115	1	11						
2004-60-13	SHELD	230	SHELD-NW	69	1	16						
2004-60-13	LARGO	230	LARGO A	69	1	2						
2004-60-13	CLMT EST	230	CLMT EST	69	1	2						
2004-60-13	11TH AVE	230	ELEVEN-E	69	1	16						
2004-60-13	WINDERME	230	WINDERME	69	1	2						
2004-60-13	PASADENA	230	PASADENA	115	1	2						
2004-60-13	ARIANA	230	ARIANA-N	69	1	16						
2004-60-13	SELOSE	230	SELOSE-N	69	1	16						
2004-60-13	GAPWAY	230	GAPWAY	69	1	16						
2004-60-13	CREWSLK	230	CREWSLK	69	1	13						
2004-60-13	TENOROC	230	TENOROC	69	1	13						
2004-60-13	BARCOLA	230	WEST	230	1	2						
2004-60-13	EATON PK	230	CREWSLK	230	1	13						
2004-60-13	EATON PK	230	EATON PK	69	1	13						
2004-60-13	EATON PK	230	TENOROC	230	1	13						
2004-60-13	RECKER	230	GAPWAY	230	1	16						
2004-60-13	SN PLANT	115	TURNER	115	1	1						
2004-60-15	SN PLANT	230	SYLVAN	230	1	1						
2004-60-15	SYLVAN	230	N LONGWD	230	1	1						
2004-60-15	IND RIV	230	STANTON	230	1	11						
2004-60-15	SN PLANT	115	TURNER	115	1	1						
2004-60-15	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-60-15	SILVR SP	230	SILV SPN	230	1	2						
2004-60-15	SILVR SP	230	OCALA 1	230	1	2						
2004-60-15	RIO PINR	230	CURRY FD	230	1	2						
2004-60-15	STANTON	230	CURRY FD	230	1	2						
2004-60-15	OSCEOLA	230	LKAGNES	230	1	16						
2004-60-15	SHELD	230	LK TARPN	230	1	2						
2004-60-15	PEBB	230	CREWSLK	230	1	13						
2004-60-15	PEBB	230	N BARTOW	230	1	2						
2004-60-15	RECKER	230	LKAGNES	230	1	16						
2004-60-15	RECKER	230	ARIANA	230	1	16						
2004-60-15	RECKER	230	CREWSLK	230	1	13						
2004-60-15	B BEND	230	MANATEE	230	1	1						
2004-60-15	RUSKIN T	230	MANATEE	230	1	1						
2004-60-15	IND RIV	230	IND RIV	115	1	11						
2004-60-15	SHELD	230	SHELD-NW	69	1	16						
2004-60-15	LARGO	230	LARGO A	69	1	2						
2004-60-15	CLMT EST	230	CLMT EST	69	1	2						
2004-60-15	11TH AVE	230	ELEVEN-E	69	1	16						
2004-60-15	WINDERME	230	WINDERME	69	1	2						
2004-60-15	PASADENA	230	PASADENA	115	1	2						
2004-60-15	ARIANA	230	ARIANA-N	69	1	16						
2004-60-15	SELOSE	230	SELOSE-N	69	1	16						
2004-60-15	GAPWAY	230	GAPWAY	69	1	16						
2004-60-15	CREWSLK	230	CREWSLK	69	1	13						
2004-60-15	TENOROC	230	TENOROC	69	1	13						
2004-60-15	BARCOLA	230	WEST	230	1	2						
2004-60-15	EATON PK	230	CREWSLK	230	1	13						
2004-60-15	EATON PK	230	EATON PK	69	1	13						
2004-60-15	EATON PK	230	TENOROC	230	1	13						
2004-60-15	RECKER	230	GAPWAY	230	1	16						
2004-60-15	SN PLANT	115	TURNER	115	1	1						

Table III

Comparison of Line & Transformer Flows
Following N-1 Disturbances
for Various OEC 500 MW Generation Alternatives

60% Load Base Case

All Flows above 100% of Emergency rating are Shown

Monitored Branches							Case 2004-60 Base No OEC Gen	Case 2004-60A Sell to FPL	Case 2004-60B Sell to FPC	Case 2004-60C Sell to TEC	Case 2004-60D Sell to JEA	Case 2004-60E Sell to SEM
Case	Bus 1	kV 1	Bus 2	kV 2	ckt	Area	Percent	Percent	Percent	Percent	Percent	Percent
2004-60-16	SN PLANT	230	SYLVAN	230	1	1						
2004-60-16	SYLVAN	230	N LONGWD	230	1	1						
2004-60-16	IND RIV	230	STANTON	230	1	11						
2004-60-16	SN PLANT	115	TURNER	115	1	1						
2004-60-16	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-60-16	SILVR SP	230	SILV SPN	230	1	2						
2004-60-16	SILVR SP	230	OCALA 1	230	1	2						
2004-60-16	RIO PINR	230	CURRY FD	230	1	2						
2004-60-16	STANTON	230	CURRY FD	230	1	2						
2004-60-16	OSCEOLA	230	LKAGNES	230	1	16						
2004-60-16	SHELD	230	LK TARPN	230	1	2						
2004-60-16	PEBB	230	CREWSLK	230	1	13						
2004-60-16	PEBB	230	N BARTOW	230	1	2						
2004-60-16	RECKER	230	LKAGNES	230	1	16						
2004-60-16	RECKER	230	ARIANA	230	1	16						
2004-60-16	RECKER	230	CREWSLK	230	1	13						
2004-60-16	B BEND	230	MANATEE	230	1	1						
2004-60-16	RUSKIN T	230	MANATEE	230	1	1						
2004-60-16	IND RIV	230	IND RIV	115	1	11						
2004-60-16	SHELD	230	SHELD-NW	69	1	16						
2004-60-16	LARGO	230	LARGO A	69	1	2						
2004-60-16	CLMT EST	230	CLMT EST	69	1	2						
2004-60-16	11TH AVE	230	ELEVEN-E	69	1	16						
2004-60-16	WINDERME	230	WINDERME	69	1	2						
2004-60-16	PASADENA	230	PASADENA	115	1	2						
2004-60-16	ARIANA	230	ARIANA-N	69	1	16						
2004-60-16	SELOSE	230	SELOSE-N	69	1	16						
2004-60-16	GAPWAY	230	GAPWAY	69	1	16						
2004-60-16	CREWSLK	230	CREWSLK	69	1	13						
2004-60-16	TENOROC	230	TENOROC	69	1	13						
2004-60-16	BARCOLA	230	WEST	230	1	2						
2004-60-16	EATON PK	230	CREWSLK	230	1	13						
2004-60-16	EATON PK	230	EATON PK	69	1	13						
2004-60-16	EATON PK	230	TENOROC	230	1	13						
2004-60-16	RECKER	230	GAPWAY	230	1	16						
2004-60-16	SN PLANT	115	TURNER	115	1	1						
2004-60-17	SN PLANT	230	SYLVAN	230	1	1						
2004-60-17	SYLVAN	230	N LONGWD	230	1	1						
2004-60-17	IND RIV	230	STANTON	230	1	11						
2004-60-17	SN PLANT	115	TURNER	115	1	1						
2004-60-17	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-60-17	SILVR SP	230	SILV SPN	230	1	2						
2004-60-17	SILVR SP	230	OCALA 1	230	1	2						
2004-60-17	RIO PINR	230	CURRY FD	230	1	2						
2004-60-17	STANTON	230	CURRY FD	230	1	2						
2004-60-17	OSCEOLA	230	LKAGNES	230	1	16						
2004-60-17	SHELD	230	LK TARPN	230	1	2						
2004-60-17	PEBB	230	CREWSLK	230	1	13						
2004-60-17	PEBB	230	N BARTOW	230	1	2						
2004-60-17	RECKER	230	LKAGNES	230	1	16						
2004-60-17	RECKER	230	ARIANA	230	1	16						
2004-60-17	RECKER	230	CREWSLK	230	1	13						
2004-60-17	B BEND	230	MANATEE	230	1	1						
2004-60-17	RUSKIN T	230	MANATEE	230	1	1						
2004-60-17	IND RIV	230	IND RIV	115	1	11						
2004-60-17	SHELD	230	SHELD-NW	69	1	16						
2004-60-17	LARGO	230	LARGO A	69	1	2						
2004-60-17	CLMT EST	230	CLMT EST	69	1	2						
2004-60-17	11TH AVE	230	ELEVEN-E	69	1	16						
2004-60-17	WINDERME	230	WINDERME	69	1	2						
2004-60-17	PASADENA	230	PASADENA	115	1	2						
2004-60-17	ARIANA	230	ARIANA-N	69	1	16						
2004-60-17	SELOSE	230	SELOSE-N	69	1	16						
2004-60-17	GAPWAY	230	GAPWAY	69	1	16						
2004-60-17	CREWSLK	230	CREWSLK	69	1	13						
2004-60-17	TENOROC	230	TENOROC	69	1	13						
2004-60-17	BARCOLA	230	WEST	230	1	2						
2004-60-17	EATON PK	230	CREWSLK	230	1	13						
2004-60-17	EATON PK	230	EATON PK	69	1	13						
2004-60-17	EATON PK	230	TENOROC	230	1	13						
2004-60-17	RECKER	230	GAPWAY	230	1	16						
2004-60-17	SN PLANT	115	TURNER	115	1	1						

Table III

Comparison of Line & Transformer Flows
Following N-1 Disturbances
for Various OEC 500 MW Generation Alternatives

60% Load Base Case

All Flows above 100% of Emergency rating are Shown

Monitored Branches							Case 2004-60 Base No OEC Gen	Case 2004-60A Sell to FPL	Case 2004-60B Sell to FPC	Case 2004-60C Sell to TEC	Case 2004-60D Sell to JEA	Case 2004-60E Sell to SEM
Case	Bus 1	kV 1	Bus 2	kV 2	ckt	Area	Percent	Percent	Percent	Percent	Percent	Percent
2004-60-18	SN PLANT	230	SYLVAN	230	1	1						
2004-60-18	SYLVAN	230	N LONGWD	230	1	1						
2004-60-18	IND RIV	230	STANTON	230	1	11						
2004-60-18	SN PLANT	115	TURNER	115	1	1						
2004-60-18	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-60-18	SILVR SP	230	SILV SPN	230	1	2						
2004-60-18	SILVR SP	230	OCALA 1	230	1	2						
2004-60-18	RIO PINR	230	CURRY FD	230	1	2						
2004-60-18	STANTON	230	CURRY FD	230	1	2						
2004-60-18	OSCEOLA	230	LKAGNES	230	1	16						
2004-60-18	SHELD	230	LK TARPN	230	1	2						
2004-60-18	PEBB	230	CREWSLK	230	1	13						
2004-60-18	PEBB	230	N BARTOW	230	1	2						
2004-60-18	RECKER	230	LKAGNES	230	1	16						
2004-60-18	RECKER	230	ARIANA	230	1	16						
2004-60-18	RECKER	230	CREWSLK	230	1	13						
2004-60-18	B BEND	230	MANATEE	230	1	1						
2004-60-18	RUSKIN T	230	MANATEE	230	1	1						
2004-60-18	IND RIV	230	IND RIV	115	1	11						
2004-60-18	SHELD	230	SHELD-NW	69	1	16						
2004-60-18	LARGO	230	LARGO A	69	1	2						
2004-60-18	CLMT EST	230	CLMT EST	69	1	2						
2004-60-18	11TH AVE	230	ELEVEN-E	69	1	16						
2004-60-18	WINDERME	230	WINDERME	69	1	2						
2004-60-18	PASADENA	230	PASADENA	115	1	2						
2004-60-18	ARIANA	230	ARIANA-N	69	1	16						
2004-60-18	SELOSE	230	SELOSE-N	69	1	16						
2004-60-18	GAPWAY	230	GAPWAY	69	1	16						
2004-60-18	CREWSLK	230	CREWSLK	69	1	13						
2004-60-18	TENOROC	230	TENOROC	69	1	13						
2004-60-18	BARCOLA	230	WEST	230	1	2						
2004-60-18	EATON PK	230	CREWSLK	230	1	13						
2004-60-18	EATON PK	230	EATON PK	69	1	13						
2004-60-18	EATON PK	230	TENOROC	230	1	13						
2004-60-18	RECKER	230	GAPWAY	230	1	16						
2004-60-18	SN PLANT	115	TURNER	115	1	1						
2004-60-19	SN PLANT	230	SYLVAN	230	1	1						
2004-60-19	SYLVAN	230	N LONGWD	230	1	1						
2004-60-19	IND RIV	230	STANTON	230	1	11						
2004-60-19	SN PLANT	115	TURNER	115	1	1						
2004-60-19	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-60-19	SILVR SP	230	SILV SPN	230	1	2						
2004-60-19	SILVR SP	230	OCALA 1	230	1	2						
2004-60-19	RIO PINR	230	CURRY FD	230	1	2						
2004-60-19	STANTON	230	CURRY FD	230	1	2						
2004-60-19	OSCEOLA	230	LKAGNES	230	1	16						
2004-60-19	SHELD	230	LK TARPN	230	1	2						
2004-60-19	PEBB	230	CREWSLK	230	1	13						
2004-60-19	PEBB	230	N BARTOW	230	1	2						
2004-60-19	RECKER	230	LKAGNES	230	1	16						
2004-60-19	RECKER	230	ARIANA	230	1	16						
2004-60-19	RECKER	230	CREWSLK	230	1	13						
2004-60-19	B BEND	230	MANATEE	230	1	1						
2004-60-19	RUSKIN T	230	MANATEE	230	1	1						
2004-60-19	IND RIV	230	IND RIV	115	1	11						
2004-60-19	SHELD	230	SHELD-NW	69	1	16						
2004-60-19	LARGO	230	LARGO A	69	1	2						
2004-60-19	CLMT EST	230	CLMT EST	69	1	2						
2004-60-19	11TH AVE	230	ELEVEN-E	69	1	16						
2004-60-19	WINDERME	230	WINDERME	69	1	2						
2004-60-19	PASADENA	230	PASADENA	115	1	2						
2004-60-19	ARIANA	230	ARIANA-N	69	1	16						
2004-60-19	SELOSE	230	SELOSE-N	69	1	16						
2004-60-19	GAPWAY	230	GAPWAY	69	1	16						
2004-60-19	CREWSLK	230	CREWSLK	69	1	13						
2004-60-19	TENOROC	230	TENOROC	69	1	13						
2004-60-19	BARCOLA	230	WEST	230	1	2						
2004-60-19	EATON PK	230	CREWSLK	230	1	13						
2004-60-19	EATON PK	230	EATON PK	69	1	13						
2004-60-19	EATON PK	230	TENOROC	230	1	13						
2004-60-19	RECKER	230	GAPWAY	230	1	16						
2004-60-19	SN PLANT	115	TURNER	115	1	1						

Table III

Comparison of Line & Transformer Flows
Following N-1 Disturbances
for Various OEC 500 MW Generation Alternatives

60% Load Base Case

All Flows above 100% of Emergency rating are Shown

Monitored Branches							Case 2004-60 Base No OEC Gen	Case 2004-60A Sell to FPL	Case 2004-60B Sell to FPC	Case 2004-60C Sell to TEC	Case 2004-60D Sell to JEA	Case 2004-60E Sell to SEM
Case	Bus 1	kV 1	Bus 2	kV 2	ckt	Area	Percent	Percent	Percent	Percent	Percent	Percent
2004-60-20	SN PLANT	230	SYLVAN	230	1	1						
2004-60-20	SYLVAN	230	N LONGWD	230	1	1						
2004-60-20	IND RIV	230	STANTON	230	1	11						
2004-60-20	SN PLANT	115	TURNER	115	1	1						
2004-60-20	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-60-20	SILVR SP	230	SILV SPN	230	1	2						
2004-60-20	SILVR SP	230	OCALA 1	230	1	2						
2004-60-20	RIO PINR	230	CURRY FD	230	1	2						
2004-60-20	STANTON	230	CURRY FD	230	1	2						
2004-60-20	OSCEOLA	230	LKAGNES	230	1	16						
2004-60-20	SHELD	230	LK TARPN	230	1	2						
2004-60-20	PEBB	230	CREWSLK	230	1	13						
2004-60-20	PEBB	230	N BARTOW	230	1	2						
2004-60-20	RECKER	230	LKAGNES	230	1	16						
2004-60-20	RECKER	230	ARIANA	230	1	16						
2004-60-20	RECKER	230	CREWSLK	230	1	13						
2004-60-20	B BEND	230	MANATEE	230	1	1						
2004-60-20	RUSKIN T	230	MANATEE	230	1	1						
2004-60-20	IND RIV	230	IND RIV	115	1	11						
2004-60-20	SHELD	230	SHELD-NW	69	1	16						
2004-60-20	LARGO	230	LARGO A	69	1	2						
2004-60-20	CLMT EST	230	CLMT EST	69	1	2						
2004-60-20	11TH AVE	230	ELEVEN-E	69	1	16						
2004-60-20	WINDERME	230	WINDERME	69	1	2						
2004-60-20	PASADENA	230	PASADENA	115	1	2						
2004-60-20	ARIANA	230	ARIANA-N	69	1	16						
2004-60-20	SELOSE	230	SELOSE-N	69	1	16						
2004-60-20	GAPWAY	230	GAPWAY	69	1	16						
2004-60-20	CREWSLK	230	CREWSLK	69	1	13						
2004-60-20	TENOROC	230	TENOROC	69	1	13						
2004-60-20	BARCOLA	230	WEST	230	1	2						
2004-60-20	EATON PK	230	CREWSLK	230	1	13						
2004-60-20	EATON PK	230	EATON PK	69	1	13						
2004-60-20	EATON PK	230	TENOROC	230	1	13						
2004-60-20	RECKER	230	GAPWAY	230	1	16						
2004-60-20	SN PLANT	115	TURNER	115	1	1						
2004-60-21	SN PLANT	230	SYLVAN	230	1	1						
2004-60-21	SYLVAN	230	N LONGWD	230	1	1						
2004-60-21	IND RIV	230	STANTON	230	1	11						
2004-60-21	SN PLANT	115	TURNER	115	1	1						
2004-60-21	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-60-21	SILVR SP	230	SILV SPN	230	1	2						
2004-60-21	SILVR SP	230	OCALA 1	230	1	2						
2004-60-21	RIO PINR	230	CURRY FD	230	1	2						
2004-60-21	STANTON	230	CURRY FD	230	1	2						
2004-60-21	OSCEOLA	230	LKAGNES	230	1	16						
2004-60-21	SHELD	230	LK TARPN	230	1	2						
2004-60-21	PEBB	230	CREWSLK	230	1	13						
2004-60-21	PEBB	230	N BARTOW	230	1	2						
2004-60-21	RECKER	230	LKAGNES	230	1	16						
2004-60-21	RECKER	230	ARIANA	230	1	16						
2004-60-21	RECKER	230	CREWSLK	230	1	13						
2004-60-21	B BEND	230	MANATEE	230	1	1						
2004-60-21	RUSKIN T	230	MANATEE	230	1	1						
2004-60-21	IND RIV	230	IND RIV	115	1	11						
2004-60-21	SHELD	230	SHELD-NW	69	1	16						
2004-60-21	LARGO	230	LARGO A	69	1	2						
2004-60-21	CLMT EST	230	CLMT EST	69	1	2						
2004-60-21	11TH AVE	230	ELEVEN-E	69	1	16						
2004-60-21	WINDERME	230	WINDERME	69	1	2						
2004-60-21	PASADENA	230	PASADENA	115	1	2						
2004-60-21	ARIANA	230	ARIANA-N	69	1	16						
2004-60-21	SELOSE	230	SELOSE-N	69	1	16						
2004-60-21	GAPWAY	230	GAPWAY	69	1	16						
2004-60-21	CREWSLK	230	CREWSLK	69	1	13						
2004-60-21	TENOROC	230	TENOROC	69	1	13						
2004-60-21	BARCOLA	230	WEST	230	1	2						
2004-60-21	EATON PK	230	CREWSLK	230	1	13						
2004-60-21	EATON PK	230	EATON PK	69	1	13						
2004-60-21	EATON PK	230	TENOROC	230	1	13						
2004-60-21	RECKER	230	GAPWAY	230	1	16						
2004-60-21	SN PLANT	115	TURNER	115	1	1						

Table III

Comparison of Line & Transformer Flows
Following N-1 Disturbances
for Various OEC 500 MW Generation Alternatives

60% Load Base Case

All Flows above 100% of Emergency rating are Shown

Monitored Branches							Case 2004-60 Base No OEC Gen	Case 2004-60A Sell to FPL	Case 2004-60B Sell to FPC	Case 2004-60C Sell to TEC	Case 2004-60D Sell to JEA	Case 2004-60E Sell to SEM
Case	Bus 1	kV 1	Bus 2	kV 2	ckt	Area	Percent	Percent	Percent	Percent	Percent	Percent
2004-60-22	SN PLANT	230	SYLVAN	230	1	1						
2004-60-22	SYLVAN	230	N LONGWD	230	1	1						
2004-60-22	IND RIV	230	STANTON	230	1	11						
2004-60-22	SN PLANT	115	TURNER	115	1	1						
2004-60-22	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-60-22	SILVR SP	230	SILV SPN	230	1	2						
2004-60-22	SILVR SP	230	OCALA 1	230	1	2						
2004-60-22	RIO PINR	230	CURRY FD	230	1	2						
2004-60-22	STANTON	230	CURRY FD	230	1	2						
2004-60-22	OSCEOLA	230	LKAGNES	230	1	16						
2004-60-22	SHELD	230	LK TARPN	230	1	2						
2004-60-22	PEBB	230	CREWSLK	230	1	13						
2004-60-22	PEBB	230	N BARTOW	230	1	2						
2004-60-22	RECKER	230	LKAGNES	230	1	16						
2004-60-22	RECKER	230	ARIANA	230	1	16						
2004-60-22	RECKER	230	CREWSLK	230	1	13						
2004-60-22	B BEND	230	MANATEE	230	1	1						
2004-60-22	RUSKIN T	230	MANATEE	230	1	1						
2004-60-22	IND RIV	230	IND RIV	115	1	11						
2004-60-22	SHELD	230	SHELD-NW	69	1	16						
2004-60-22	LARGO	230	LARGO A	69	1	2						
2004-60-22	CLMT EST	230	CLMT EST	69	1	2						
2004-60-22	11TH AVE	230	ELEVEN-E	69	1	16						
2004-60-22	WINDERME	230	WINDERME	69	1	2						
2004-60-22	PASADENA	230	PASADENA	115	1	2						
2004-60-22	ARIANA	230	ARIANA-N	69	1	16						
2004-60-22	SELOSE	230	SELOSE-N	69	1	16						
2004-60-22	GAPWAY	230	GAPWAY	69	1	16						
2004-60-22	CREWSLK	230	CREWSLK	69	1	13						
2004-60-22	TENOROC	230	TENOROC	69	1	13						
2004-60-22	BARCOLA	230	WEST	230	1	2						
2004-60-22	EATON PK	230	CREWSLK	230	1	13						
2004-60-22	EATON PK	230	EATON PK	69	1	13						
2004-60-22	EATON PK	230	TENOROC	230	1	13						
2004-60-22	RECKER	230	GAPWAY	230	1	16						
2004-60-22	SN PLANT	115	TURNER	115	1	1						
2004-60-23	SN PLANT	230	SYLVAN	230	1	1						
2004-60-23	SYLVAN	230	N LONGWD	230	1	1						
2004-60-23	IND RIV	230	STANTON	230	1	11						
2004-60-23	SN PLANT	115	TURNER	115	1	1						
2004-60-23	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-60-23	SILVR SP	230	SILV SPN	230	1	2						
2004-60-23	SILVR SP	230	OCALA 1	230	1	2						
2004-60-23	RIO PINR	230	CURRY FD	230	1	2						
2004-60-23	STANTON	230	CURRY FD	230	1	2						
2004-60-23	OSCEOLA	230	LKAGNES	230	1	16						
2004-60-23	SHELD	230	LK TARPN	230	1	2						
2004-60-23	PEBB	230	CREWSLK	230	1	13						
2004-60-23	PEBB	230	N BARTOW	230	1	2						
2004-60-23	RECKER	230	LKAGNES	230	1	16						
2004-60-23	RECKER	230	ARIANA	230	1	16						
2004-60-23	RECKER	230	CREWSLK	230	1	13						
2004-60-23	B BEND	230	MANATEE	230	1	1						
2004-60-23	RUSKIN T	230	MANATEE	230	1	1						
2004-60-23	IND RIV	230	IND RIV	115	1	11						
2004-60-23	SHELD	230	SHELD-NW	69	1	16						
2004-60-23	LARGO	230	LARGO A	69	1	2						
2004-60-23	CLMT EST	230	CLMT EST	69	1	2						
2004-60-23	11TH AVE	230	ELEVEN-E	69	1	16						
2004-60-23	WINDERME	230	WINDERME	69	1	2						
2004-60-23	PASADENA	230	PASADENA	115	1	2						
2004-60-23	ARIANA	230	ARIANA-N	69	1	16						
2004-60-23	SELOSE	230	SELOSE-N	69	1	16						
2004-60-23	GAPWAY	230	GAPWAY	69	1	16						
2004-60-23	CREWSLK	230	CREWSLK	69	1	13						
2004-60-23	TENOROC	230	TENOROC	69	1	13						
2004-60-23	BARCOLA	230	WEST	230	1	2						
2004-60-23	EATON PK	230	CREWSLK	230	1	13						
2004-60-23	EATON PK	230	EATON PK	69	1	13						
2004-60-23	EATON PK	230	TENOROC	230	1	13						
2004-60-23	RECKER	230	GAPWAY	230	1	16						
2004-60-23	SN PLANT	115	TURNER	115	1	1						

Table III

Comparison of Line & Transformer Flows
Following N-1 Disturbances
for Various OEC 500 MW Generation Alternatives

60% Load Base Case

All Flows above 100% of Emergency rating are Shown

Monitored Branches							Case 2004-60 Base No OEC Gen	Case 2004-60A Sell to FPL	Case 2004-60B Sell to FPC	Case 2004-60C Sell to TEC	Case 2004-60D Sell to JEA	Case 2004-60E Sell to SEM
Case	Bus 1	kV 1	Bus 2	kV 2	ckt	Area	Percent	Percent	Percent	Percent	Percent	Percent
2004-60-24	SN PLANT	230	SYLVAN	230	1	1						
2004-60-24	SYLVAN	230	N LONGWD	230	1	1						
2004-60-24	IND RIV	230	STANTON	230	1	11						
2004-60-24	SN PLANT	115	TURNER	115	1	1						
2004-60-24	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-60-24	SILVR SP	230	SILV SPN	230	1	2						
2004-60-24	SILVR SP	230	OCALA 1	230	1	2						
2004-60-24	RIO PINR	230	CURRY FD	230	1	2						
2004-60-24	STANTON	230	CURRY FD	230	1	2						
2004-60-24	OSCEOLA	230	LKAGNES	230	1	16						
2004-60-24	SHELD	230	LK TARPN	230	1	2						
2004-60-24	PEBB	230	CREWSLK	230	1	13						
2004-60-24	PEBB	230	N BARTOW	230	1	2						
2004-60-24	RECKER	230	LKAGNES	230	1	16						
2004-60-24	RECKER	230	ARIANA	230	1	16						
2004-60-24	RECKER	230	CREWSLK	230	1	13						
2004-60-24	B BEND	230	MANATEE	230	1	1						
2004-60-24	RUSKIN T	230	MANATEE	230	1	1						
2004-60-24	IND RIV	230	IND RIV	115	1	11						
2004-60-24	SHELD	230	SHELD-NW	69	1	16						
2004-60-24	LARGO	230	LARGO A	69	1	2						
2004-60-24	CLMT EST	230	CLMT EST	69	1	2						
2004-60-24	11TH AVE	230	ELEVEN-E	69	1	16						
2004-60-24	WINDERME	230	WINDERME	69	1	2						
2004-60-24	PASADENA	230	PASADENA	115	1	2						
2004-60-24	ARIANA	230	ARIANA-N	69	1	16						
2004-60-24	SELOSE	230	SELOSE-N	69	1	16						
2004-60-24	GAPWAY	230	GAPWAY	69	1	16						
2004-60-24	CREWSLK	230	CREWSLK	69	1	13						
2004-60-24	TENOROC	230	TENOROC	69	1	13						
2004-60-24	BARCOLA	230	WEST	230	1	2						
2004-60-24	EATON PK	230	CREWSLK	230	1	13						
2004-60-24	EATON PK	230	EATON PK	69	1	13						
2004-60-24	EATON PK	230	TENOROC	230	1	13						
2004-60-24	RECKER	230	GAPWAY	230	1	16						
2004-60-24	SN PLANT	115	TURNER	115	1	1						
2004-60-25	SN PLANT	230	SYLVAN	230	1	1						
2004-60-25	SYLVAN	230	N LONGWD	230	1	1						
2004-60-25	IND RIV	230	STANTON	230	1	11						
2004-60-25	SN PLANT	115	TURNER	115	1	1						
2004-60-25	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-60-25	SILVR SP	230	SILV SPN	230	1	2						
2004-60-25	SILVR SP	230	OCALA 1	230	1	2						
2004-60-25	RIO PINR	230	CURRY FD	230	1	2						
2004-60-25	STANTON	230	CURRY FD	230	1	2						
2004-60-25	OSCEOLA	230	LKAGNES	230	1	16						
2004-60-25	SHELD	230	LK TARPN	230	1	2						
2004-60-25	PEBB	230	CREWSLK	230	1	13						
2004-60-25	PEBB	230	N BARTOW	230	1	2						
2004-60-25	RECKER	230	LKAGNES	230	1	16						
2004-60-25	RECKER	230	ARIANA	230	1	16						
2004-60-25	RECKER	230	CREWSLK	230	1	13						
2004-60-25	B BEND	230	MANATEE	230	1	1						
2004-60-25	RUSKIN T	230	MANATEE	230	1	1						
2004-60-25	IND RIV	230	IND RIV	115	1	11						
2004-60-25	SHELD	230	SHELD-NW	69	1	16						
2004-60-25	LARGO	230	LARGO A	69	1	2						
2004-60-25	CLMT EST	230	CLMT EST	69	1	2						
2004-60-25	11TH AVE	230	ELEVEN-E	69	1	16						
2004-60-25	WINDERME	230	WINDERME	69	1	2						
2004-60-25	PASADENA	230	PASADENA	115	1	2						
2004-60-25	ARIANA	230	ARIANA-N	69	1	16						
2004-60-25	SELOSE	230	SELOSE-N	69	1	16						
2004-60-25	GAPWAY	230	GAPWAY	69	1	16						
2004-60-25	CREWSLK	230	CREWSLK	69	1	13						
2004-60-25	TENOROC	230	TENOROC	69	1	13						
2004-60-25	BARCOLA	230	WEST	230	1	2						
2004-60-25	EATON PK	230	CREWSLK	230	1	13						
2004-60-25	EATON PK	230	EATON PK	69	1	13						
2004-60-25	EATON PK	230	TENOROC	230	1	13						
2004-60-25	RECKER	230	GAPWAY	230	1	16						
2004-60-25	SN PLANT	115	TURNER	115	1	1						

Table III

Comparison of Line & Transformer Flows
Following N-1 Disturbances
for Various OEC 500 MW Generation Alternatives

60% Load Base Case

All Flows above 100% of Emergency rating are Shown

Monitored Branches							Case 2004-60 Base No OEC Gen	Case 2004-60A Sell to FPL	Case 2004-60B Sell to FPC	Case 2004-60C Sell to TEC	Case 2004-60D Sell to JEA	Case 2004-60E Sell to SEM
Case	Bus 1	kV 1	Bus 2	kV 2	ckt	Area	Percent	Percent	Percent	Percent	Percent	Percent
2004-60-26	SN PLANT	230	SYLVAN	230	1	1						
2004-60-26	SYLVAN	230	N LONGWD	230	1	1						
2004-60-26	IND RIV	230	STANTON	230	1	11						
2004-60-26	SN PLANT	115	TURNER	115	1	1						
2004-60-26	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-60-26	SILVR SP	230	SILV SPN	230	1	2						
2004-60-26	SILVR SP	230	OCALA 1	230	1	2						
2004-60-26	RIO PINR	230	CURRY FD	230	1	2						
2004-60-26	STANTON	230	CURRY FD	230	1	2						
2004-60-26	OSCEOLA	230	LKAGNES	230	1	16						
2004-60-26	SHELD	230	LK TARPN	230	1	2						
2004-60-26	PEBB	230	CREWSLK	230	1	13						
2004-60-26	PEBB	230	N BARTOW	230	1	2						
2004-60-26	RECKER	230	LKAGNES	230	1	16						
2004-60-26	RECKER	230	ARIANA	230	1	16						
2004-60-26	RECKER	230	CREWSLK	230	1	13						
2004-60-26	B BEND	230	MANATEE	230	1	1						
2004-60-26	RUSKIN T	230	MANATEE	230	1	1						
2004-60-26	IND RIV	230	IND RIV	115	1	11						
2004-60-26	SHELD	230	SHELD-NW	69	1	16						
2004-60-26	LARGO	230	LARGO A	69	1	2						
2004-60-26	CLMT EST	230	CLMT EST	69	1	2						
2004-60-26	11TH AVE	230	ELEVEN-E	69	1	16						
2004-60-26	WINDERME	230	WINDERME	69	1	2						
2004-60-26	PASADENA	230	PASADENA	115	1	2						
2004-60-26	ARIANA	230	ARIANA-N	69	1	16						
2004-60-26	SELOSE	230	SELOSE-N	69	1	16						
2004-60-26	GAPWAY	230	GAPWAY	69	1	16						
2004-60-26	CREWSLK	230	CREWSLK	69	1	13						
2004-60-26	TENOROC	230	TENOROC	69	1	13						
2004-60-26	BARCOLA	230	WEST	230	1	2						
2004-60-26	EATON PK	230	CREWSLK	230	1	13						
2004-60-26	EATON PK	230	EATON PK	69	1	13						
2004-60-26	EATON PK	230	TENOROC	230	1	13						
2004-60-26	RECKER	230	GAPWAY	230	1	16						
2004-60-26	SN PLANT	115	TURNER	115	1	1						
2004-60-27	SN PLANT	230	SYLVAN	230	1	1						
2004-60-27	SYLVAN	230	N LONGWD	230	1	1						
2004-60-27	IND RIV	230	STANTON	230	1	11						
2004-60-27	SN PLANT	115	TURNER	115	1	1						
2004-60-27	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-60-27	SILVR SP	230	SILV SPN	230	1	2						
2004-60-27	SILVR SP	230	OCALA 1	230	1	2						
2004-60-27	RIO PINR	230	CURRY FD	230	1	2						
2004-60-27	STANTON	230	CURRY FD	230	1	2						
2004-60-27	OSCEOLA	230	LKAGNES	230	1	16						
2004-60-27	SHELD	230	LK TARPN	230	1	2						
2004-60-27	PEBB	230	CREWSLK	230	1	13						
2004-60-27	PEBB	230	N BARTOW	230	1	2						
2004-60-27	RECKER	230	LKAGNES	230	1	16						
2004-60-27	RECKER	230	ARIANA	230	1	16						
2004-60-27	RECKER	230	CREWSLK	230	1	13						
2004-60-27	B BEND	230	MANATEE	230	1	1						
2004-60-27	RUSKIN T	230	MANATEE	230	1	1						
2004-60-27	IND RIV	230	IND RIV	115	1	11						
2004-60-27	SHELD	230	SHELD-NW	69	1	16						
2004-60-27	LARGO	230	LARGO A	69	1	2						
2004-60-27	CLMT EST	230	CLMT EST	69	1	2						
2004-60-27	11TH AVE	230	ELEVEN-E	69	1	16						
2004-60-27	WINDERME	230	WINDERME	69	1	2						
2004-60-27	PASADENA	230	PASADENA	115	1	2						
2004-60-27	ARIANA	230	ARIANA-N	69	1	16						
2004-60-27	SELOSE	230	SELOSE-N	69	1	16						
2004-60-27	GAPWAY	230	GAPWAY	69	1	16						
2004-60-27	CREWSLK	230	CREWSLK	69	1	13						
2004-60-27	TENOROC	230	TENOROC	69	1	13						
2004-60-27	BARCOLA	230	WEST	230	1	2						
2004-60-27	EATON PK	230	CREWSLK	230	1	13						
2004-60-27	EATON PK	230	EATON PK	69	1	13						
2004-60-27	EATON PK	230	TENOROC	230	1	13						
2004-60-27	RECKER	230	GAPWAY	230	1	16						
2004-60-27	SN PLANT	115	TURNER	115	1	1						

Table III

Comparison of Line & Transformer Flows
Following N-1 Disturbances
for Various OEC 500 MW Generation Alternatives

60% Load Base Case

All Flows above 100% of Emergency rating are Shown

Monitored Branches							Case 2004-60 Base No OEC Gen	Case 2004-60A Sell to FPL	Case 2004-60B Sell to FPC	Case 2004-60C Sell to TEC	Case 2004-60D Sell to JEA	Case 2004-60E Sell to SEM
Case	Bus 1	kV 1	Bus 2	kV 2	ckt	Area	Percent	Percent	Percent	Percent	Percent	Percent
2004-60-28	SN PLANT	230	SYLVAN	230	1	1						
2004-60-28	SYLVAN	230	N LONGWD	230	1	1						
2004-60-28	IND RIV	230	STANTON	230	1	11						
2004-60-28	SN PLANT	115	TURNER	115	1	1						
2004-60-28	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-60-28	SILVR SP	230	SILV SPN	230	1	2						
2004-60-28	SILVR SP	230	OCALA 1	230	1	2						
2004-60-28	RIO PINR	230	CURRY FD	230	1	2						
2004-60-28	STANTON	230	CURRY FD	230	1	2						
2004-60-28	OSCEOLA	230	LKAGNES	230	1	16						
2004-60-28	SHELD	230	LK TARPN	230	1	2						
2004-60-28	PEBB	230	CREWSLK	230	1	13						
2004-60-28	PEBB	230	N BARTOW	230	1	2						
2004-60-28	RECKER	230	LKAGNES	230	1	16						
2004-60-28	RECKER	230	ARIANA	230	1	16						
2004-60-28	RECKER	230	CREWSLK	230	1	13						
2004-60-28	B BEND	230	MANATEE	230	1	1						
2004-60-28	RUSKIN T	230	MANATEE	230	1	1						
2004-60-28	IND RIV	230	IND RIV	115	1	11						
2004-60-28	SHELD	230	SHELD-NW	69	1	16						
2004-60-28	LARGO	230	LARGO A	69	1	2						
2004-60-28	CLMT EST	230	CLMT EST	69	1	2						
2004-60-28	11TH AVE	230	ELEVEN-E	69	1	16						
2004-60-28	WINDERME	230	WINDERME	69	1	2						
2004-60-28	PASADENA	230	PASADENA	115	1	2						
2004-60-28	ARIANA	230	ARIANA-N	69	1	16						
2004-60-28	SELOSE	230	SELOSE-N	69	1	16						
2004-60-28	GAPWAY	230	GAPWAY	69	1	16						
2004-60-28	CREWSLK	230	CREWSLK	69	1	13						
2004-60-28	TENOROC	230	TENOROC	69	1	13						
2004-60-28	BARCOLA	230	WEST	230	1	2						
2004-60-28	EATON PK	230	CREWSLK	230	1	13						
2004-60-28	EATON PK	230	EATON PK	69	1	13						
2004-60-28	EATON PK	230	TENOROC	230	1	13						
2004-60-28	RECKER	230	GAPWAY	230	1	16						
2004-60-28	SN PLANT	115	TURNER	115	1	1						
2004-60-29	SN PLANT	230	SYLVAN	230	1	1						
2004-60-29	SYLVAN	230	N LONGWD	230	1	1						
2004-60-29	IND RIV	230	STANTON	230	1	11						
2004-60-29	SN PLANT	115	TURNER	115	1	1						
2004-60-29	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-60-29	SILVR SP	230	SILV SPN	230	1	2						
2004-60-29	SILVR SP	230	OCALA 1	230	1	2						
2004-60-29	RIO PINR	230	CURRY FD	230	1	2						
2004-60-29	STANTON	230	CURRY FD	230	1	2						
2004-60-29	OSCEOLA	230	LKAGNES	230	1	16						
2004-60-29	SHELD	230	LK TARPN	230	1	2						
2004-60-29	PEBB	230	CREWSLK	230	1	13						
2004-60-29	PEBB	230	N BARTOW	230	1	2						
2004-60-29	RECKER	230	LKAGNES	230	1	16						
2004-60-29	RECKER	230	ARIANA	230	1	16						
2004-60-29	RECKER	230	CREWSLK	230	1	13						
2004-60-29	B BEND	230	MANATEE	230	1	1						
2004-60-29	RUSKIN T	230	MANATEE	230	1	1						
2004-60-29	IND RIV	230	IND RIV	115	1	11						
2004-60-29	SHELD	230	SHELD-NW	69	1	16						
2004-60-29	LARGO	230	LARGO A	69	1	2						
2004-60-29	CLMT EST	230	CLMT EST	69	1	2						
2004-60-29	11TH AVE	230	ELEVEN-E	69	1	16						
2004-60-29	WINDERME	230	WINDERME	69	1	2						
2004-60-29	PASADENA	230	PASADENA	115	1	2						
2004-60-29	ARIANA	230	ARIANA-N	69	1	16						
2004-60-29	SELOSE	230	SELOSE-N	69	1	16						
2004-60-29	GAPWAY	230	GAPWAY	69	1	16						
2004-60-29	CREWSLK	230	CREWSLK	69	1	13						
2004-60-29	TENOROC	230	TENOROC	69	1	13						
2004-60-29	BARCOLA	230	WEST	230	1	2						
2004-60-29	EATON PK	230	CREWSLK	230	1	13						
2004-60-29	EATON PK	230	EATON PK	69	1	13						
2004-60-29	EATON PK	230	TENOROC	230	1	13						
2004-60-29	RECKER	230	GAPWAY	230	1	16						
2004-60-29	SN PLANT	115	TURNER	115	1	1						

Table III

Comparison of Line & Transformer Flows
Following N-1 Disturbances
for Various OEC 500 MW Generation Alternatives

60% Load Base Case

All Flows above 100% of Emergency rating are Shown

Monitored Branches							Case 2004-60 Base No OEC Gen	Case 2004-60A Sell to FPL	Case 2004-60B Sell to FPC	Case 2004-60C Sell to TEC	Case 2004-60D Sell to JEA	Case 2004-60E Sell to SEM
Case	Bus 1	kV 1	Bus 2	kV 2	ckt	Area	Percent	Percent	Percent	Percent	Percent	Percent
2004-60-30	SN PLANT	230	SYLVAN	230	1	1						
2004-60-30	SYLVAN	230	N LONGWD	230	1	1						
2004-60-30	IND RIV	230	STANTON	230	1	11						
2004-60-30	SN PLANT	115	TURNER	115	1	1						
2004-60-30	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-60-30	SILVR SP	230	SILV SPN	230	1	2						
2004-60-30	SILVR SP	230	OCALA 1	230	1	2						
2004-60-30	RIO PINR	230	CURRY FD	230	1	2						
2004-60-30	STANTON	230	CURRY FD	230	1	2						
2004-60-30	OSCEOLA	230	LKAGNES	230	1	16						
2004-60-30	SHELD	230	LK TARPN	230	1	2						
2004-60-30	PEBB	230	CREWSLK	230	1	13						
2004-60-30	PEBB	230	N BARTOW	230	1	2						
2004-60-30	RECKER	230	LKAGNES	230	1	16						
2004-60-30	RECKER	230	ARIANA	230	1	16						
2004-60-30	RECKER	230	CREWSLK	230	1	13						
2004-60-30	B BEND	230	MANATEE	230	1	1						
2004-60-30	RUSKIN T	230	MANATEE	230	1	1						
2004-60-30	IND RIV	230	IND RIV	115	1	11						
2004-60-30	SHELD	230	SHELD-NW	69	1	16						
2004-60-30	LARGO	230	LARGO A	69	1	2						
2004-60-30	CLMT EST	230	CLMT EST	69	1	2						
2004-60-30	11TH AVE	230	ELEVEN-E	69	1	16						
2004-60-30	WINDERME	230	WINDERME	69	1	2						
2004-60-30	PASADENA	230	PASADENA	115	1	2						
2004-60-30	ARIANA	230	ARIANA-N	69	1	16						
2004-60-30	SELOSE	230	SELOSE-N	69	1	16						
2004-60-30	GAPWAY	230	GAPWAY	69	1	16						
2004-60-30	CREWSLK	230	CREWSLK	69	1	13						
2004-60-30	TENOROC	230	TENOROC	69	1	13						
2004-60-30	BARCOLA	230	WEST	230	1	2						
2004-60-30	EATON PK	230	CREWSLK	230	1	13						
2004-60-30	EATON PK	230	EATON PK	69	1	13						
2004-60-30	EATON PK	230	TENOROC	230	1	13						
2004-60-30	RECKER	230	GAPWAY	230	1	16						
2004-60-30	SN PLANT	115	TURNER	115	1	1						
2004-60-31	SN PLANT	230	SYLVAN	230	1	1						
2004-60-31	SYLVAN	230	N LONGWD	230	1	1						
2004-60-31	IND RIV	230	STANTON	230	1	11						
2004-60-31	SN PLANT	115	TURNER	115	1	1						
2004-60-31	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-60-31	SILVR SP	230	SILV SPN	230	1	2						
2004-60-31	SILVR SP	230	OCALA 1	230	1	2						
2004-60-31	RIO PINR	230	CURRY FD	230	1	2						
2004-60-31	STANTON	230	CURRY FD	230	1	2						
2004-60-31	OSCEOLA	230	LKAGNES	230	1	16						
2004-60-31	SHELD	230	LK TARPN	230	1	2						
2004-60-31	PEBB	230	CREWSLK	230	1	13						
2004-60-31	PEBB	230	N BARTOW	230	1	2						
2004-60-31	RECKER	230	LKAGNES	230	1	16						
2004-60-31	RECKER	230	ARIANA	230	1	16						
2004-60-31	RECKER	230	CREWSLK	230	1	13						
2004-60-31	B BEND	230	MANATEE	230	1	1						
2004-60-31	RUSKIN T	230	MANATEE	230	1	1						
2004-60-31	IND RIV	230	IND RIV	115	1	11						
2004-60-31	SHELD	230	SHELD-NW	69	1	16						
2004-60-31	LARGO	230	LARGO A	69	1	2						
2004-60-31	CLMT EST	230	CLMT EST	69	1	2						
2004-60-31	11TH AVE	230	ELEVEN-E	69	1	16						
2004-60-31	WINDERME	230	WINDERME	69	1	2						
2004-60-31	PASADENA	230	PASADENA	115	1	2						
2004-60-31	ARIANA	230	ARIANA-N	69	1	16						
2004-60-31	SELOSE	230	SELOSE-N	69	1	16						
2004-60-31	GAPWAY	230	GAPWAY	69	1	16						
2004-60-31	CREWSLK	230	CREWSLK	69	1	13						
2004-60-31	TENOROC	230	TENOROC	69	1	13						
2004-60-31	BARCOLA	230	WEST	230	1	2						
2004-60-31	EATON PK	230	CREWSLK	230	1	13						
2004-60-31	EATON PK	230	EATON PK	69	1	13						
2004-60-31	EATON PK	230	TENOROC	230	1	13						
2004-60-31	RECKER	230	GAPWAY	230	1	16						
2004-60-31	SN PLANT	115	TURNER	115	1	1						

Table III

Comparison of Line & Transformer Flows
Following N-1 Disturbances
for Various OEC 500 MW Generation Alternatives

60% Load Base Case

All Flows above 100% of Emergency rating are Shown

Monitored Branches							Case 2004-60 Base No OEC Gen	Case 2004-60A Sell to FPL	Case 2004-60B Sell to FPC	Case 2004-60C Sell to TEC	Case 2004-60D Sell to JEA	Case 2004-60E Sell to SEM
Case	Bus 1	kV 1	Bus 2	kV 2	ckt	Area	Percent	Percent	Percent	Percent	Percent	Percent
2004-60-32	SN PLANT	230	SYLVAN	230	1	1						
2004-60-32	SYLVAN	230	N LONGWD	230	1	1						
2004-60-32	IND RIV	230	STANTON	230	1	11						
2004-60-32	SN PLANT	115	TURNER	115	1	1						
2004-60-32	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-60-32	SILVR SP	230	SILV SPN	230	1	2						
2004-60-32	SILVR SP	230	OCALA 1	230	1	2						
2004-60-32	RIO PINR	230	CURRY FD	230	1	2						
2004-60-32	STANTON	230	CURRY FD	230	1	2						
2004-60-32	OSCEOLA	230	LKAGNES	230	1	16						
2004-60-32	SHELD	230	LK TARPN	230	1	2						
2004-60-32	PEBB	230	CREWSLK	230	1	13						
2004-60-32	PEBB	230	N BARTOW	230	1	2						
2004-60-32	RECKER	230	LKAGNES	230	1	16						
2004-60-32	RECKER	230	ARIANA	230	1	16						
2004-60-32	RECKER	230	CREWSLK	230	1	13						
2004-60-32	B BEND	230	MANATEE	230	1	1						
2004-60-32	RUSKIN T	230	MANATEE	230	1	1						
2004-60-32	IND RIV	230	IND RIV	115	1	11						
2004-60-32	SHELD	230	SHELD-NW	69	1	16						
2004-60-32	LARGO	230	LARGO A	69	1	2						
2004-60-32	CLMT EST	230	CLMT EST	69	1	2						
2004-60-32	11TH AVE	230	ELEVEN-E	69	1	16						
2004-60-32	WINDERME	230	WINDERME	69	1	2						
2004-60-32	PASADENA	230	PASADENA	115	1	2						
2004-60-32	ARIANA	230	ARIANA-N	69	1	16						
2004-60-32	SELOSE	230	SELOSE-N	69	1	16						
2004-60-32	GAPWAY	230	GAPWAY	69	1	16						
2004-60-32	CREWSLK	230	CREWSLK	69	1	13						
2004-60-32	TENOROC	230	TENOROC	69	1	13						
2004-60-32	BARCOLA	230	WEST	230	1	2						
2004-60-32	EATON PK	230	CREWSLK	230	1	13						
2004-60-32	EATON PK	230	EATON PK	69	1	13						
2004-60-32	EATON PK	230	TENOROC	230	1	13						
2004-60-32	RECKER	230	GAPWAY	230	1	16						
2004-60-32	SN PLANT	115	TURNER	115	1	1						
2004-60-33	SN PLANT	230	SYLVAN	230	1	1						
2004-60-33	SYLVAN	230	N LONGWD	230	1	1						
2004-60-33	IND RIV	230	STANTON	230	1	11						
2004-60-33	SN PLANT	115	TURNER	115	1	1						
2004-60-33	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-60-33	SILVR SP	230	SILV SPN	230	1	2						
2004-60-33	SILVR SP	230	OCALA 1	230	1	2						
2004-60-33	RIO PINR	230	CURRY FD	230	1	2						
2004-60-33	STANTON	230	CURRY FD	230	1	2						
2004-60-33	OSCEOLA	230	LKAGNES	230	1	16						
2004-60-33	SHELD	230	LK TARPN	230	1	2						
2004-60-33	PEBB	230	CREWSLK	230	1	13						
2004-60-33	PEBB	230	N BARTOW	230	1	2						
2004-60-33	RECKER	230	LKAGNES	230	1	16						
2004-60-33	RECKER	230	ARIANA	230	1	16						
2004-60-33	RECKER	230	CREWSLK	230	1	13						
2004-60-33	B BEND	230	MANATEE	230	1	1						
2004-60-33	RUSKIN T	230	MANATEE	230	1	1						
2004-60-33	IND RIV	230	IND RIV	115	1	11						
2004-60-33	SHELD	230	SHELD-NW	69	1	16						
2004-60-33	LARGO	230	LARGO A	69	1	2						
2004-60-33	CLMT EST	230	CLMT EST	69	1	2						
2004-60-33	11TH AVE	230	ELEVEN-E	69	1	16						
2004-60-33	WINDERME	230	WINDERME	69	1	2						
2004-60-33	PASADENA	230	PASADENA	115	1	2						
2004-60-33	ARIANA	230	ARIANA-N	69	1	16						
2004-60-33	SELOSE	230	SELOSE-N	69	1	16						
2004-60-33	GAPWAY	230	GAPWAY	69	1	16						
2004-60-33	CREWSLK	230	CREWSLK	69	1	13						
2004-60-33	TENOROC	230	TENOROC	69	1	13						
2004-60-33	BARCOLA	230	WEST	230	1	2						
2004-60-33	EATON PK	230	CREWSLK	230	1	13						
2004-60-33	EATON PK	230	EATON PK	69	1	13						
2004-60-33	EATON PK	230	TENOROC	230	1	13						
2004-60-33	RECKER	230	GAPWAY	230	1	16						
2004-60-33	SN PLANT	115	TURNER	115	1	1						

Table III

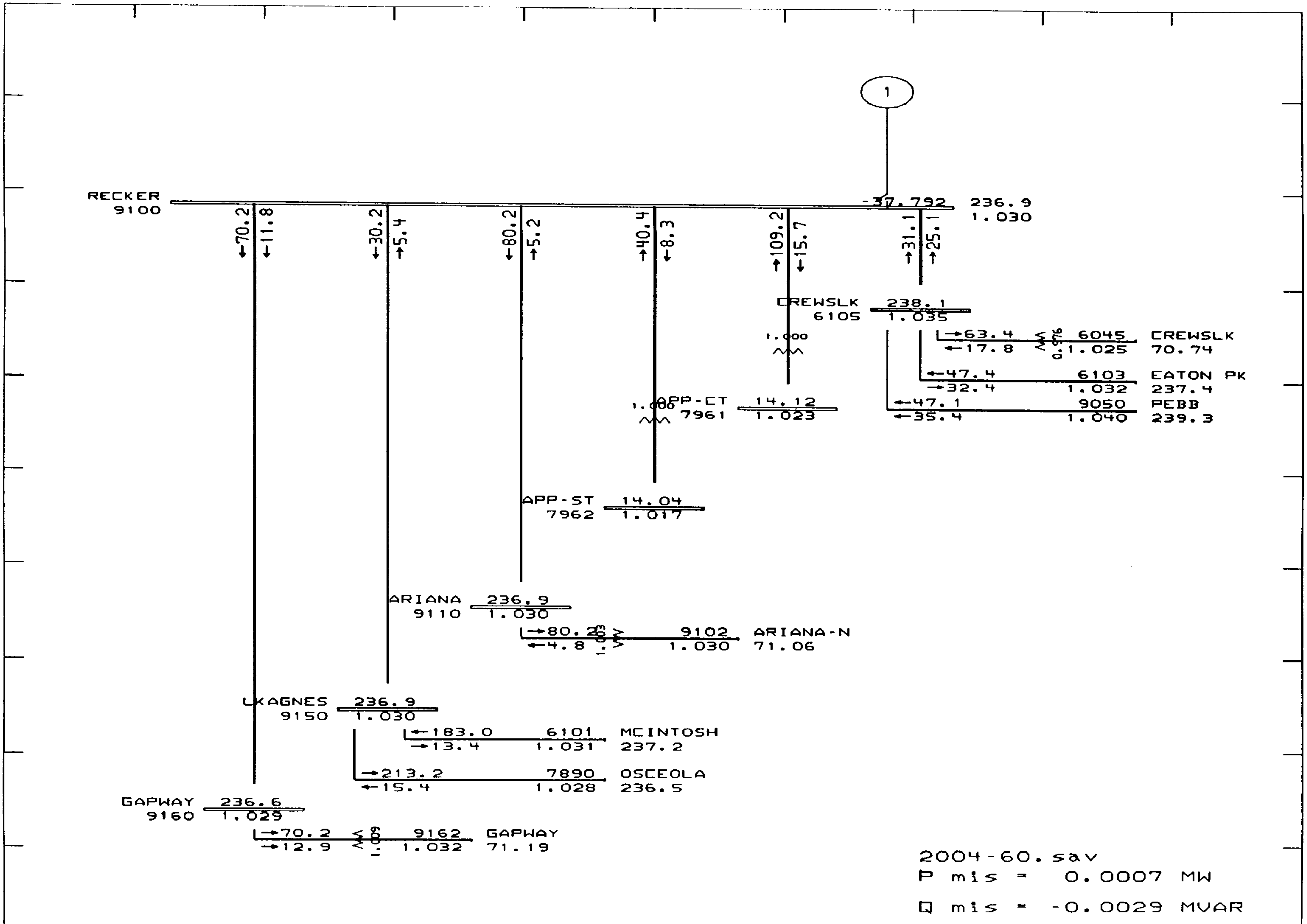
Comparison of Line & Transformer Flows
Following N-1 Disturbances
for Various OEC 500 MW Generation Alternatives

60% Load Base Case

All Flows above 100% of Emergency rating are Shown

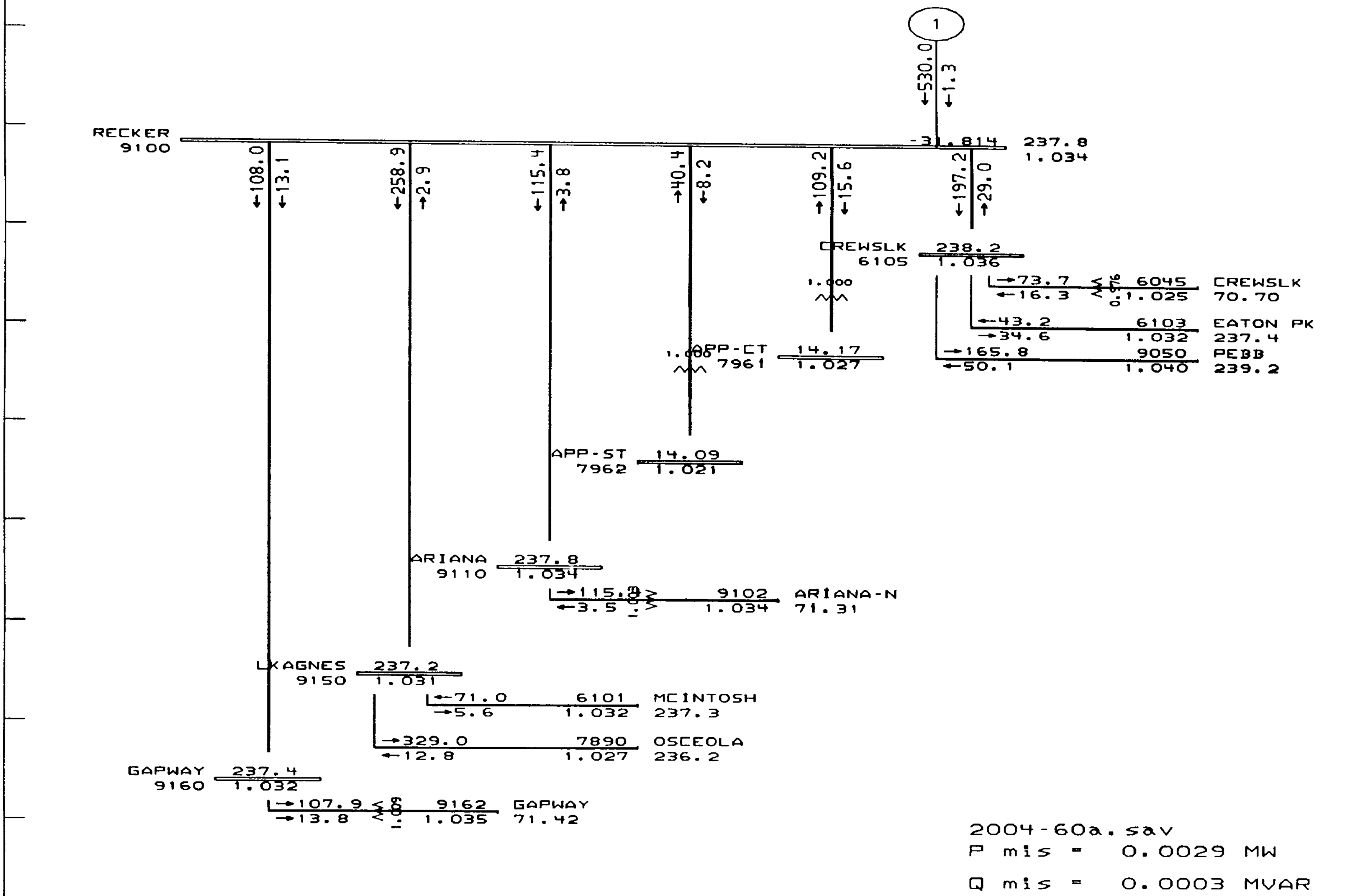
Monitored Branches							Case 2004-60 Base No OEC Gen	Case 2004-60A Sell to FPL	Case 2004-60B Sell to FPC	Case 2004-60C Sell to TEC	Case 2004-60D Sell to JEA	Case 2004-60E Sell to SEM
Case	Bus 1	kV 1	Bus 2	kV 2	ckt	Area	Percent	Percent	Percent	Percent	Percent	Percent
2004-60-34	SN PLANT	230	SYLVAN	230	1	1						
2004-60-34	SYLVAN	230	N LONGWD	230	1	1						
2004-60-34	IND RIV	230	STANTON	230	1	11						
2004-60-34	SN PLANT	115	TURNER	115	1	1						
2004-60-34	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-60-34	SILVR SP	230	SILV SPN	230	1	2						
2004-60-34	SILVR SP	230	OCALA 1	230	1	2						
2004-60-34	RIO PINR	230	CURRY FD	230	1	2						
2004-60-34	STANTON	230	CURRY FD	230	1	2						
2004-60-34	OSCEOLA	230	LKAGNES	230	1	16						
2004-60-34	SHELD	230	LK TARPN	230	1	2						
2004-60-34	PEBB	230	CREWSLK	230	1	13						
2004-60-34	PEBB	230	N BARTOW	230	1	2						
2004-60-34	RECKER	230	LKAGNES	230	1	16						
2004-60-34	RECKER	230	ARIANA	230	1	16						
2004-60-34	RECKER	230	CREWSLK	230	1	13						
2004-60-34	B BEND	230	MANATEE	230	1	1						
2004-60-34	RUSKIN T	230	MANATEE	230	1	1						
2004-60-34	IND RIV	230	IND RIV	115	1	11						
2004-60-34	SHELD	230	SHELD-NW	69	1	16						
2004-60-34	LARGO	230	LARGO A	69	1	2						
2004-60-34	CLMT EST	230	CLMT EST	69	1	2						
2004-60-34	11TH AVE	230	ELEVEN-E	69	1	16						
2004-60-34	WINDERME	230	WINDERME	69	1	2						
2004-60-34	PASADENA	230	PASADENA	115	1	2						
2004-60-34	ARIANA	230	ARIANA-N	69	1	16						
2004-60-34	SELOSE	230	SELOSE-N	69	1	16						
2004-60-34	GAPWAY	230	GAPWAY	69	1	16						
2004-60-34	CREWSLK	230	CREWSLK	69	1	13						
2004-60-34	TENOROC	230	TENOROC	69	1	13						
2004-60-34	BARCOLA	230	WEST	230	1	2						
2004-60-34	EATON PK	230	CREWSLK	230	1	13						
2004-60-34	EATON PK	230	EATON PK	69	1	13						
2004-60-34	EATON PK	230	TENOROC	230	1	13						
2004-60-34	RECKER	230	GAPWAY	230	1	16						
2004-60-34	SN PLANT	115	TURNER	115	1	1						
2004-60-35	SN PLANT	230	SYLVAN	230	1	1						
2004-60-35	SYLVAN	230	N LONGWD	230	1	1						
2004-60-35	IND RIV	230	STANTON	230	1	11						
2004-60-35	SN PLANT	115	TURNER	115	1	1						
2004-60-35	BUCKEYE	230	RUSKMTR8	230	1	1						
2004-60-35	SILVR SP	230	SILV SPN	230	1	2						
2004-60-35	SILVR SP	230	OCALA 1	230	1	2						
2004-60-35	RIO PINR	230	CURRY FD	230	1	2						
2004-60-35	STANTON	230	CURRY FD	230	1	2						
2004-60-35	OSCEOLA	230	LKAGNES	230	1	16						
2004-60-35	SHELD	230	LK TARPN	230	1	2						
2004-60-35	PEBB	230	CREWSLK	230	1	13						
2004-60-35	PEBB	230	N BARTOW	230	1	2						
2004-60-35	RECKER	230	LKAGNES	230	1	16						
2004-60-35	RECKER	230	ARIANA	230	1	16						
2004-60-35	RECKER	230	CREWSLK	230	1	13						
2004-60-35	B BEND	230	MANATEE	230	1	1						
2004-60-35	RUSKIN T	230	MANATEE	230	1	1						
2004-60-35	IND RIV	230	IND RIV	115	1	11						
2004-60-35	SHELD	230	SHELD-NW	69	1	16						
2004-60-35	LARGO	230	LARGO A	69	1	2						
2004-60-35	CLMT EST	230	CLMT EST	69	1	2						
2004-60-35	11TH AVE	230	ELEVEN-E	69	1	16						
2004-60-35	WINDERME	230	WINDERME	69	1	2						
2004-60-35	PASADENA	230	PASADENA	115	1	2						
2004-60-35	ARIANA	230	ARIANA-N	69	1	16						
2004-60-35	SELOSE	230	SELOSE-N	69	1	16						
2004-60-35	GAPWAY	230	GAPWAY	69	1	16						
2004-60-35	CREWSLK	230	CREWSLK	69	1	13						
2004-60-35	TENOROC	230	TENOROC	69	1	13						
2004-60-35	BARCOLA	230	WEST	230	1	2						
2004-60-35	EATON PK	230	CREWSLK	230	1	13						
2004-60-35	EATON PK	230	EATON PK	69	1	13						
2004-60-35	EATON PK	230	TENOROC	230	1	13						
2004-60-35	RECKER	230	GAPWAY	230	1	16						
2004-60-35	SN PLANT	115	TURNER	115	1	1						

APPENDIX III-A



General Electric Company PSLF Program MW/MVAR Fri Feb 25 10:08:29 2000

GENERAL ELECTRIC COMPANY	FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5 PROPOSED OSPREY ENERGY CENTER		2004-60.sav Rating = 1

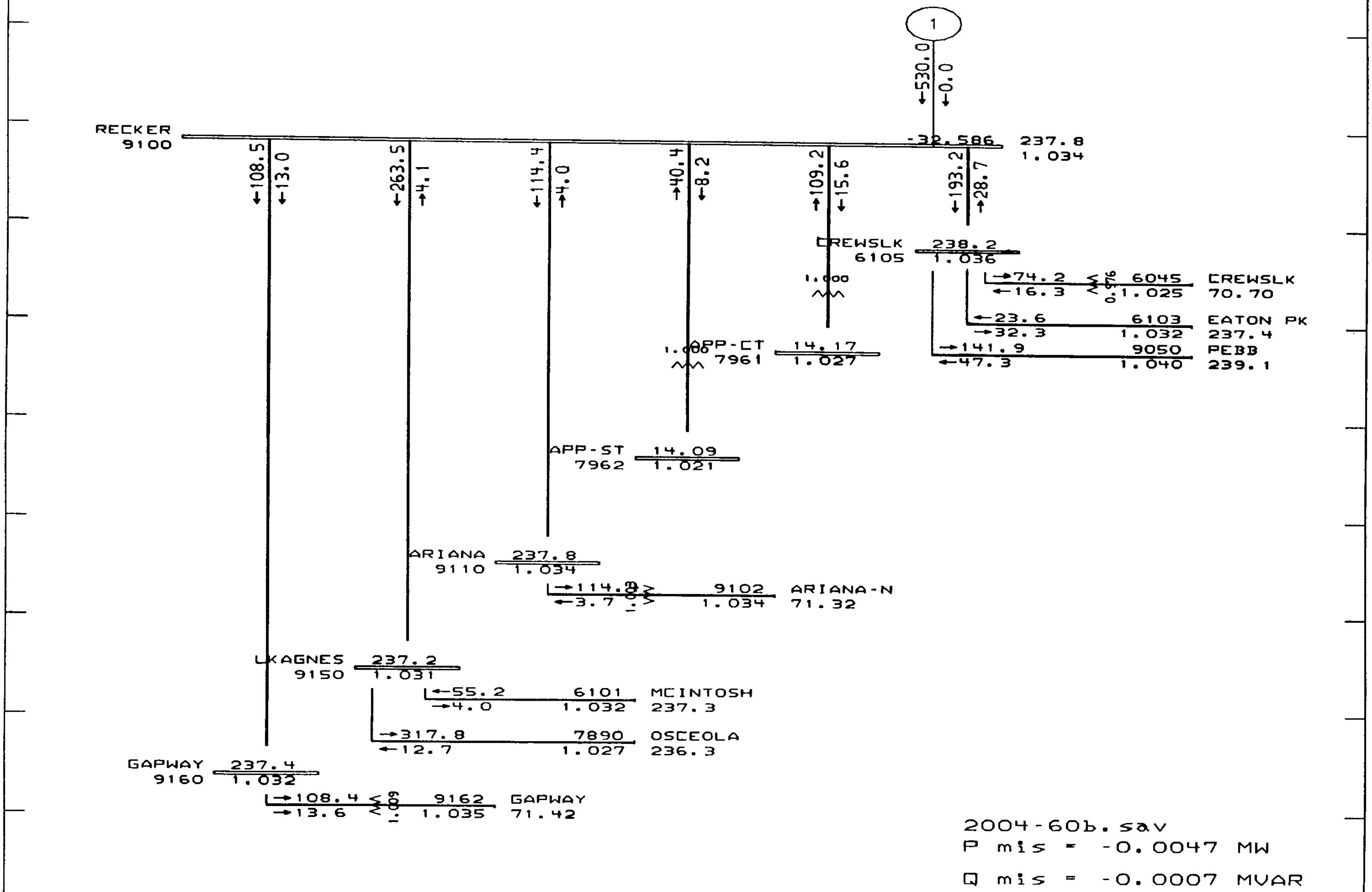


General Electric Company | PSLF Program | MW/MVAR | Fri Feb 25 10:08:39 2000

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

2004-60a.sav
Rating = 1



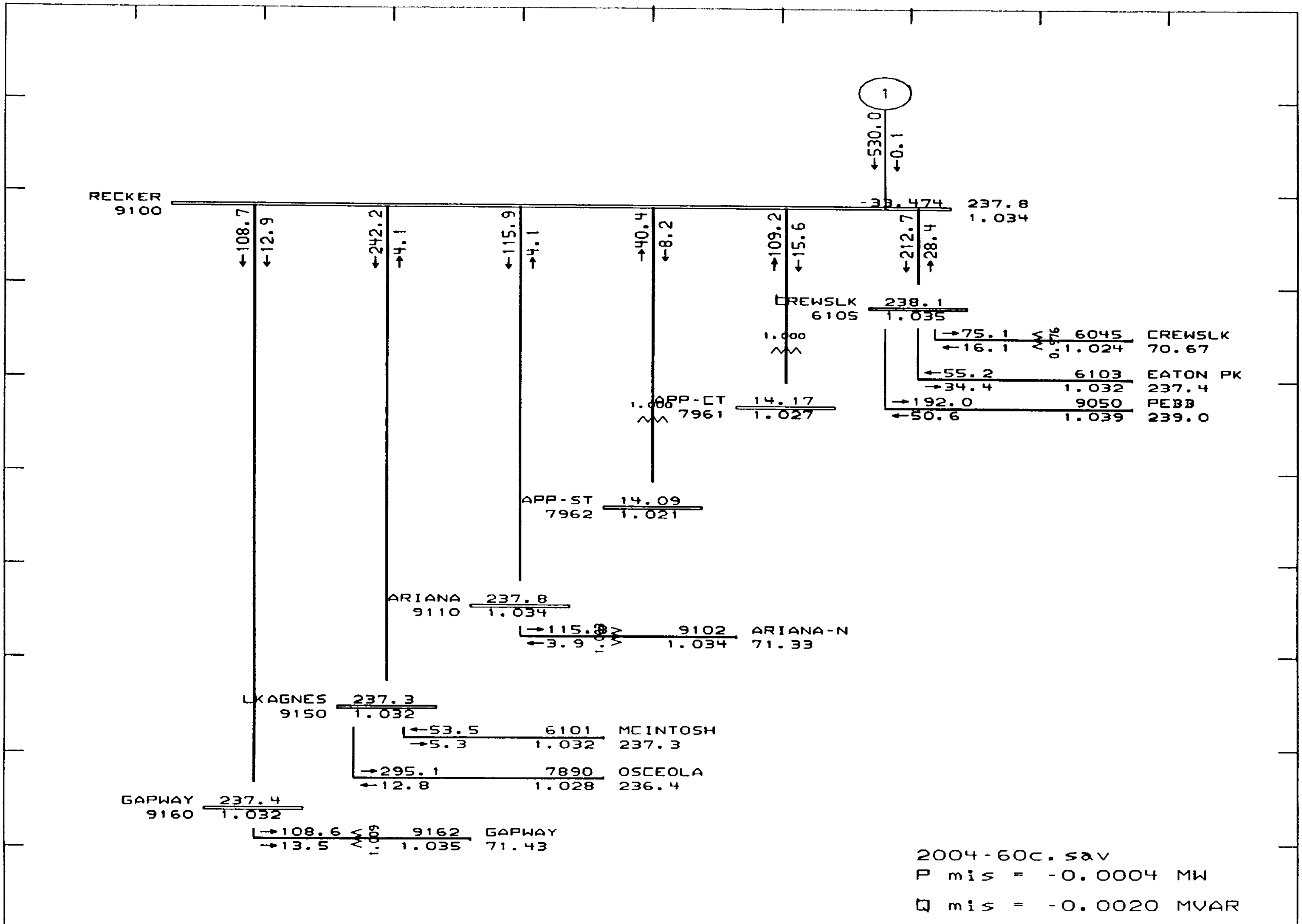
General Electric Company PSLF Program

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

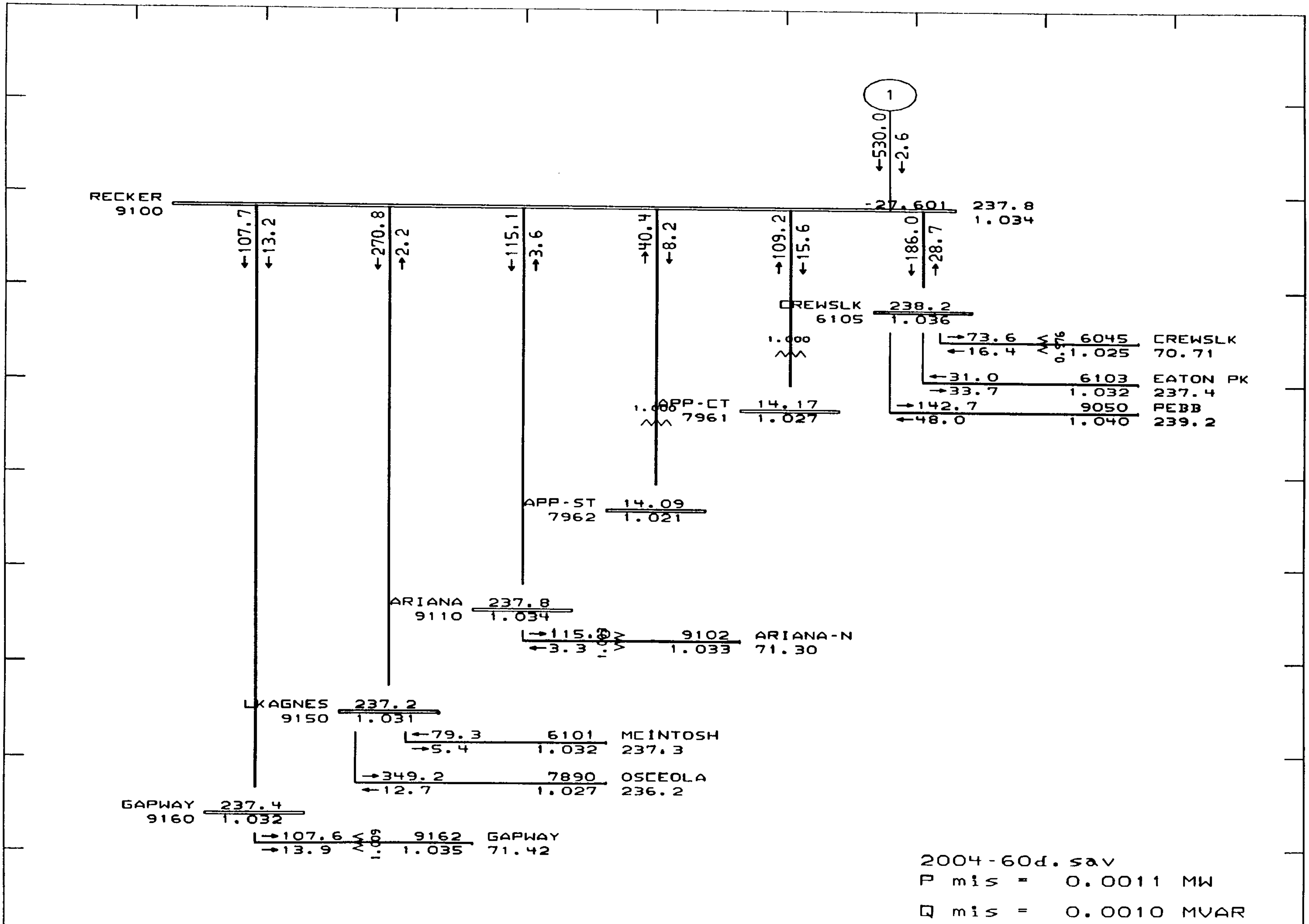
MW/MVAR Fri Feb 25 10:09:02 2000

2004-60b.sav
Rating = 1



General Electric Company PSLF Program MW/MVAR Fri Feb 25 10:09:16 2000

GENERAL ELECTRIC COMPANY	FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5 PROPOSED OSPREY ENERGY CENTER		2004-60c.sav Rating = 1



General Electric Company PSLF Program

MW/MVAR Fri Feb 25 10:09:28 2000

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

2004-60d.sav
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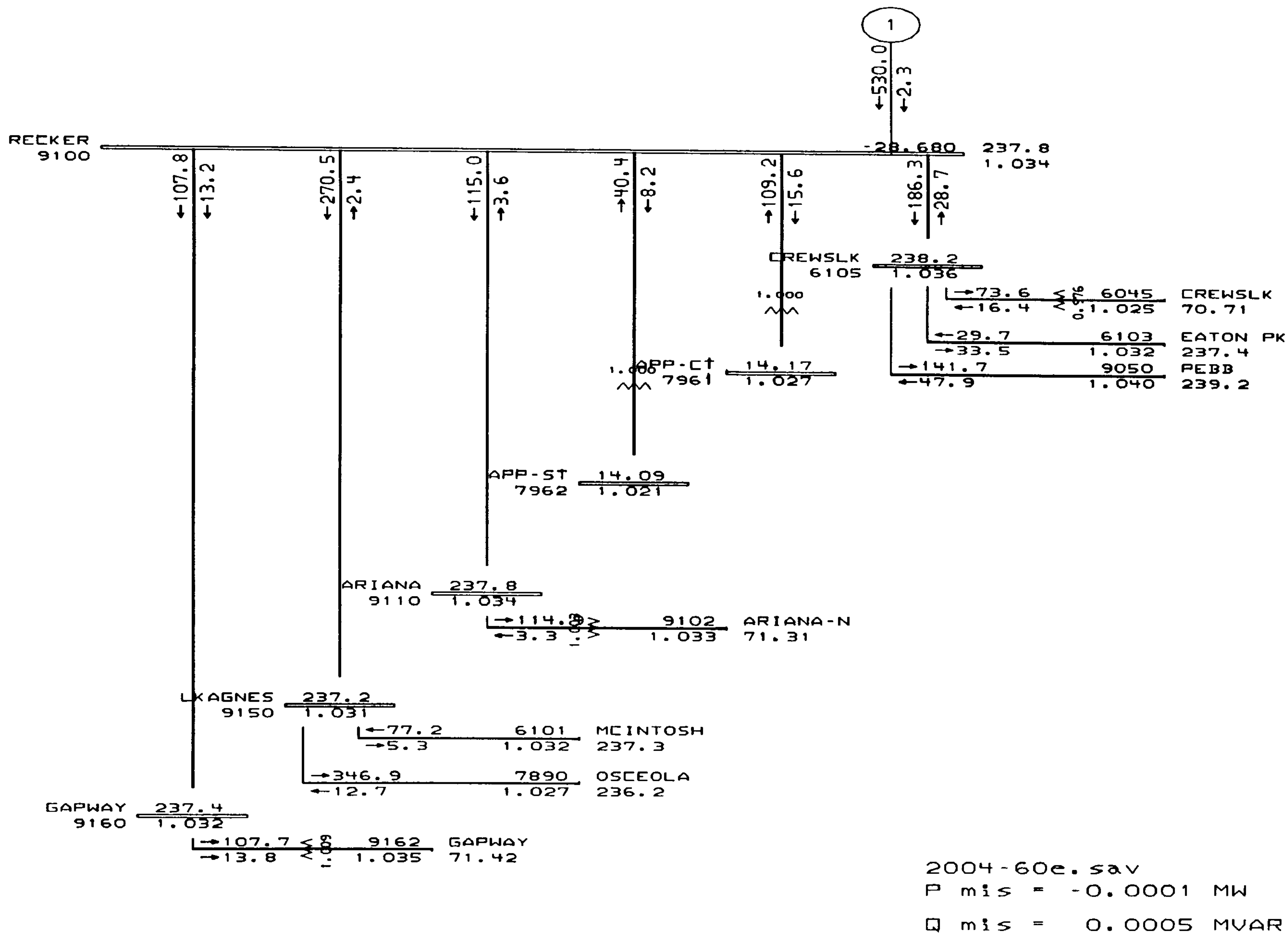

General Electric Company PSLF Program MW/MVAR Fri Feb 25 10:09:39 2000

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

2004-60e.sav
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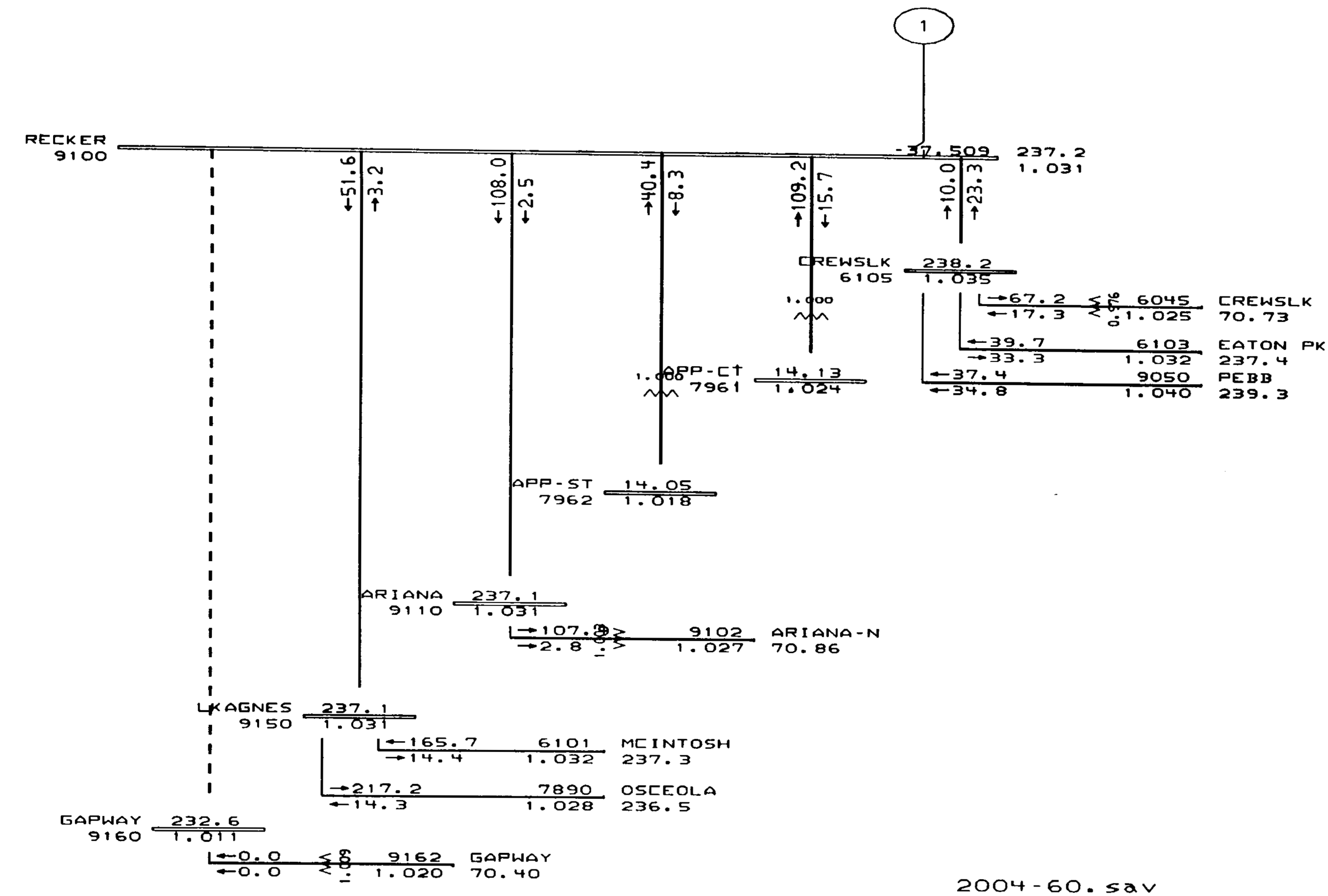


2004-60.sav
P mis = 0.0007 MW
Q mis = -0.0029 MVAR

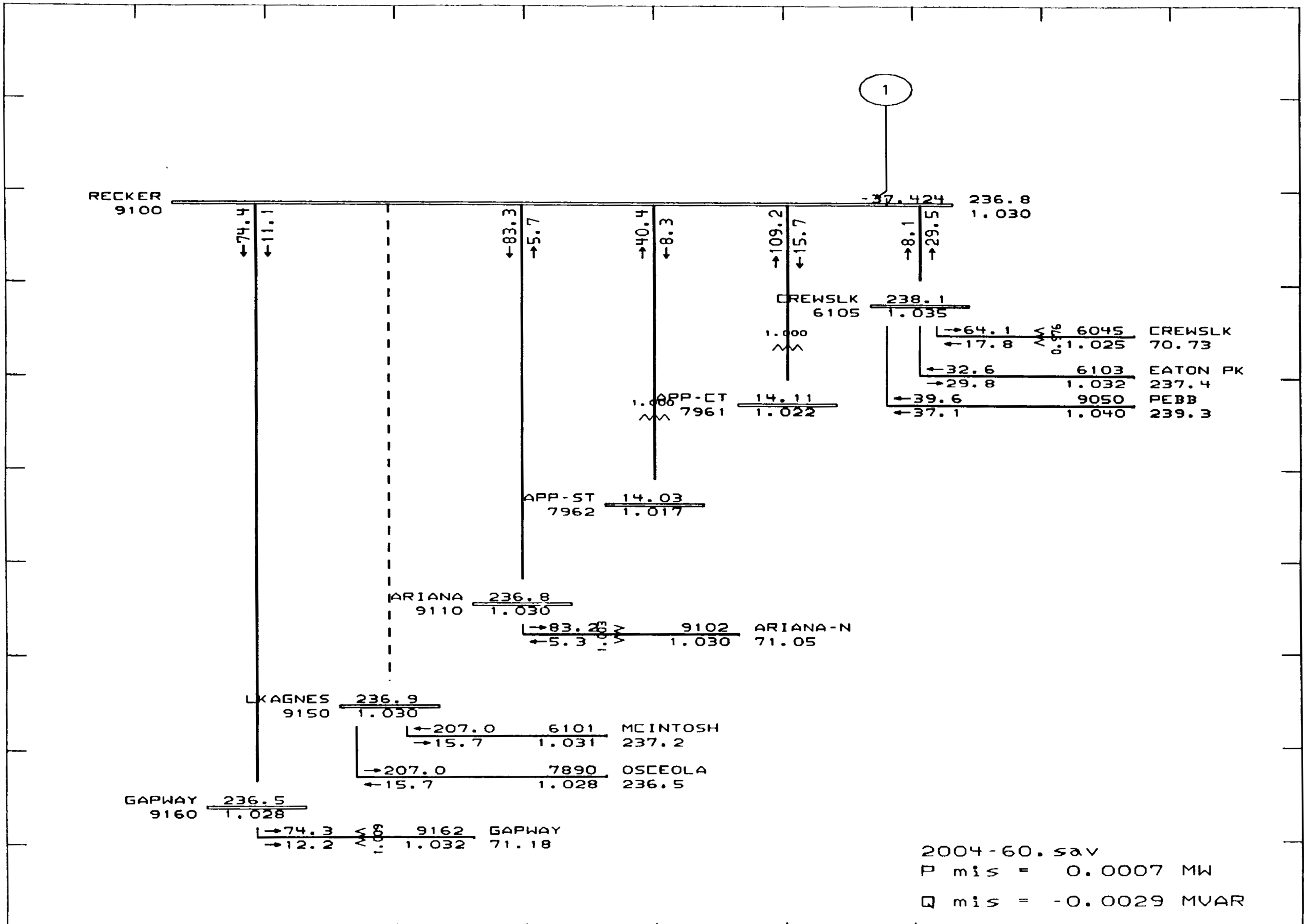
General Electric Company — PSLF Program

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

MW/MVAR — Wed Feb 16 14:43:21 2000

2004-60.sav
Rating = 1

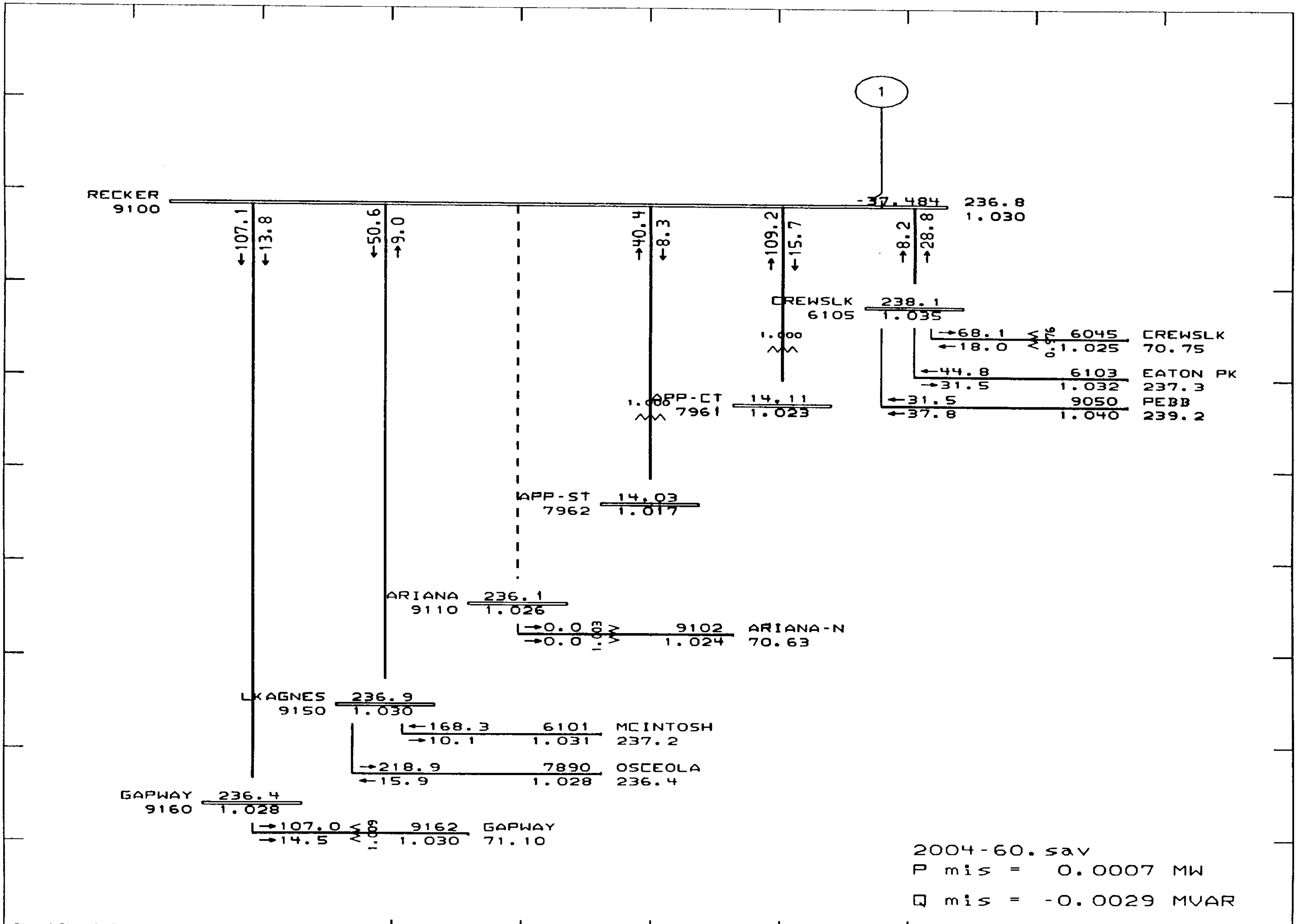


General Electric Company PSLF Program MW/MVAR Wed Feb 16 14:43:39 2000

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

2004-60.sav
Rating = 1



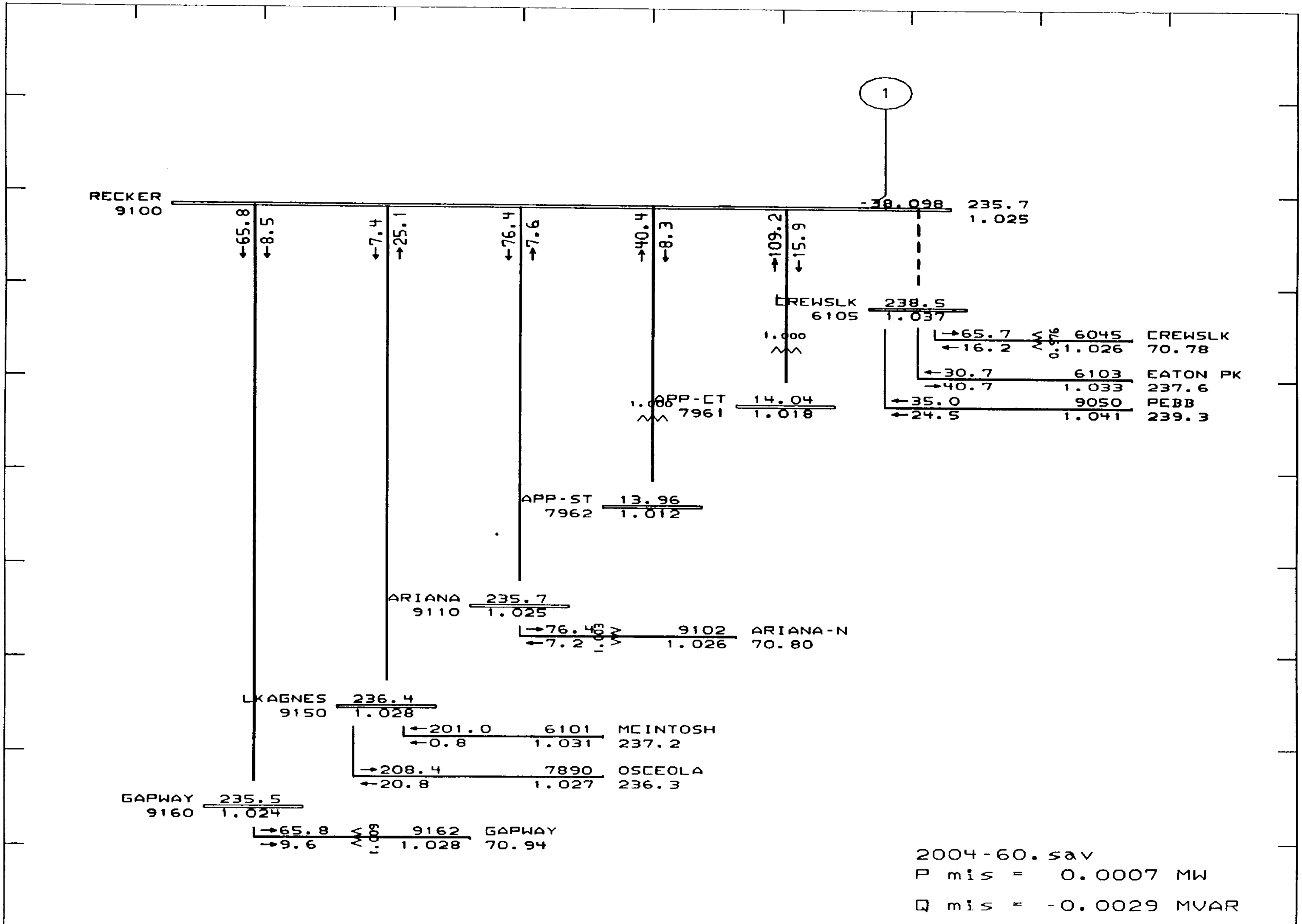
General Electric Company PSLF Program

MW/MVAR Wed Feb 16 14:43:54 2000

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

2004-60.sav
Rating = 1



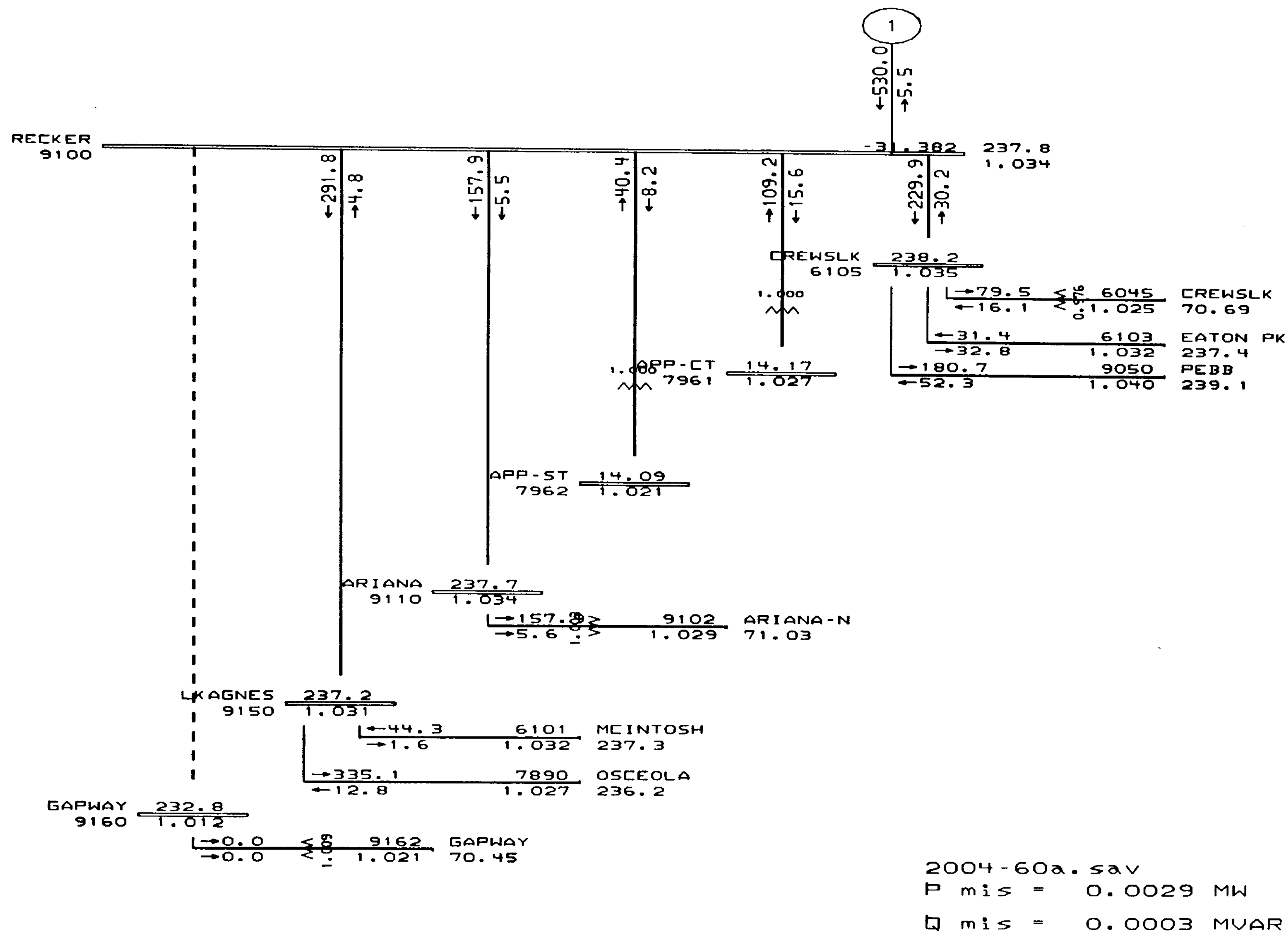
General Electric Company PSLF Program

MW/MVAR Wed Feb 16 14:44:10 2000

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

2004-60.sav
Rating = 1

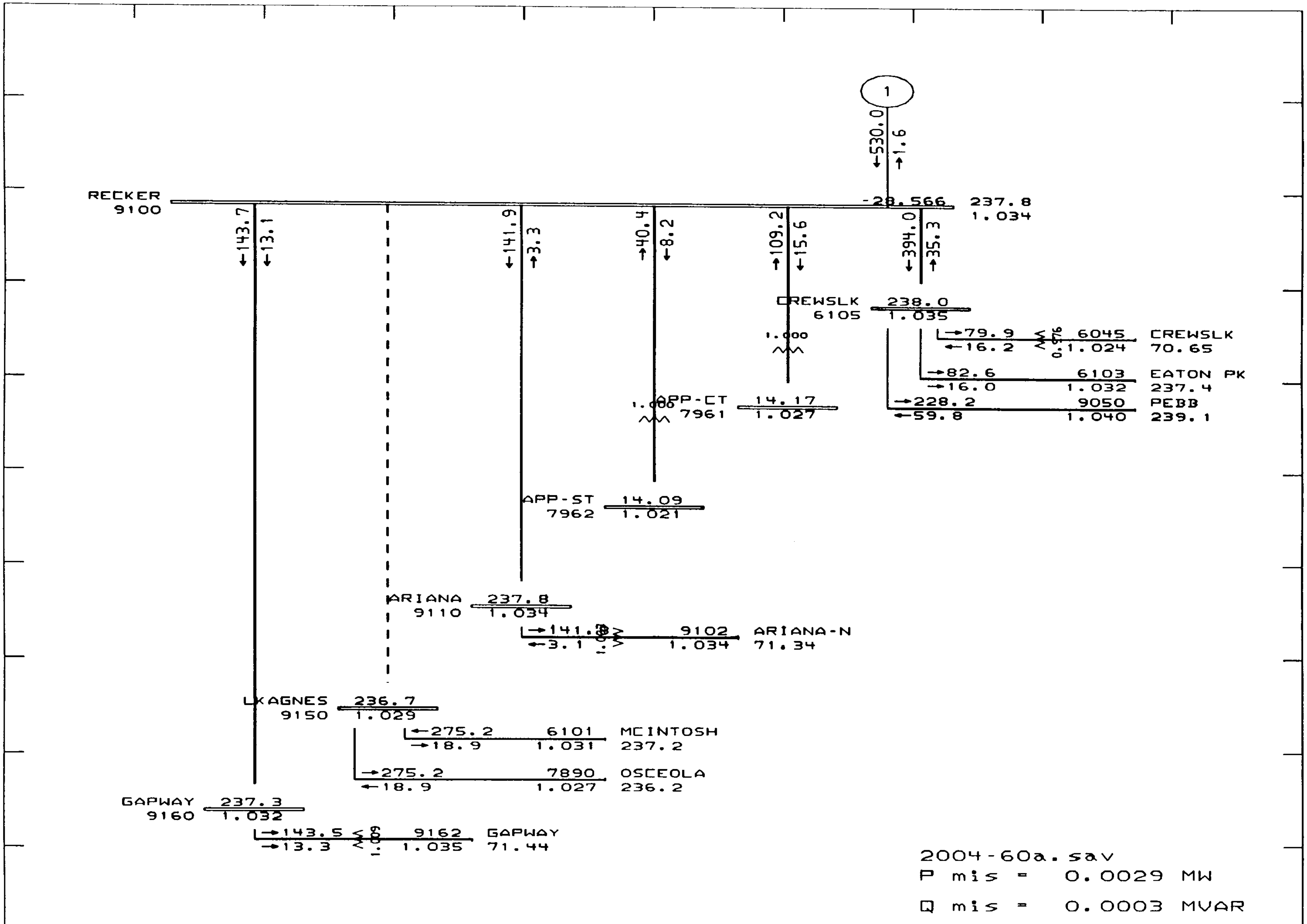


General Electric Company PSLF Program MW/MVAR Wed Feb 16 14:45:07 2000

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

2004-60a.sav
Rating = 1

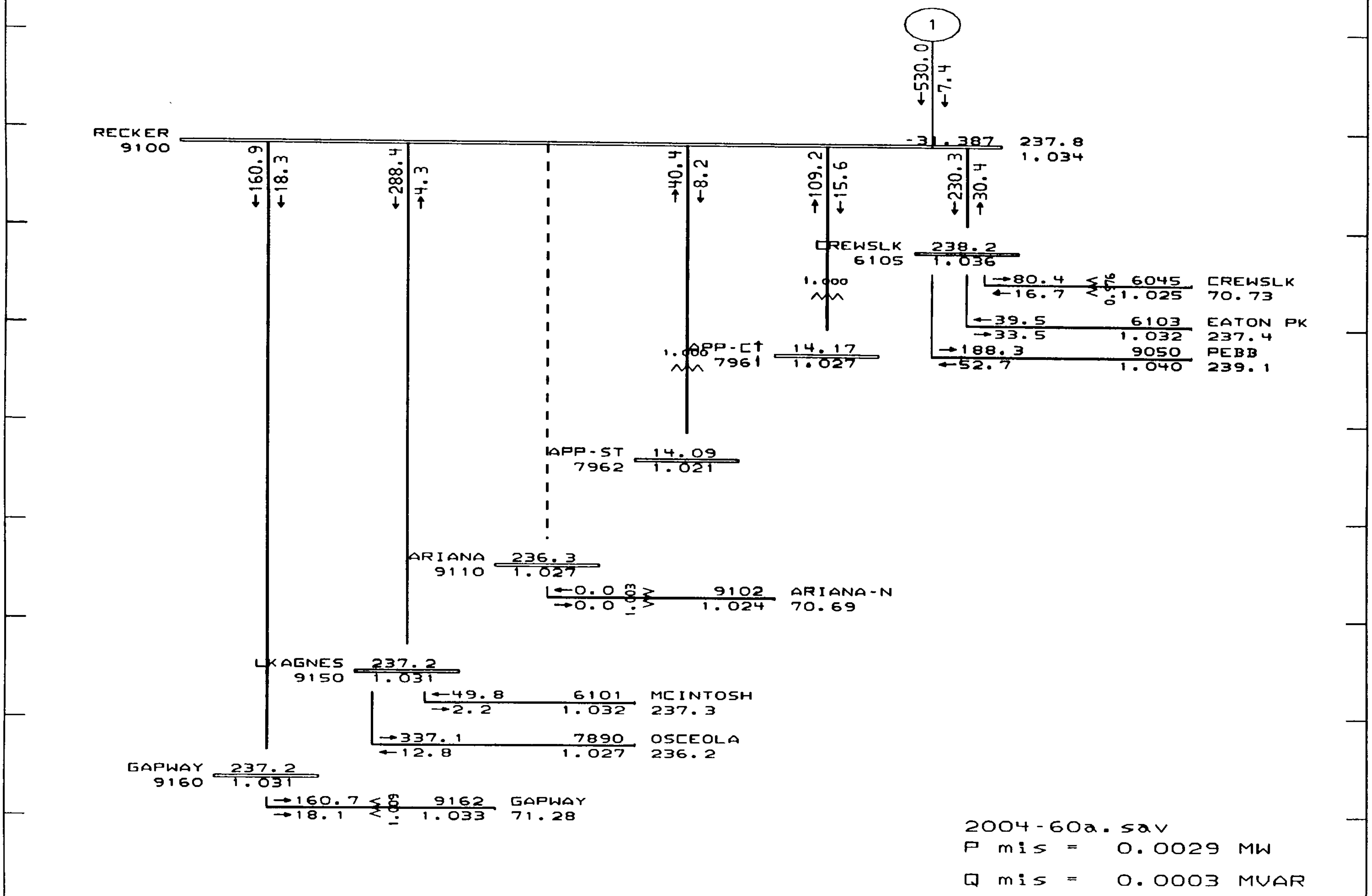


General Electric Company PSLF Program MW/MVAR Wed Feb 16 14:45:36 2000

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

2004-60a.sav
Rating = 1



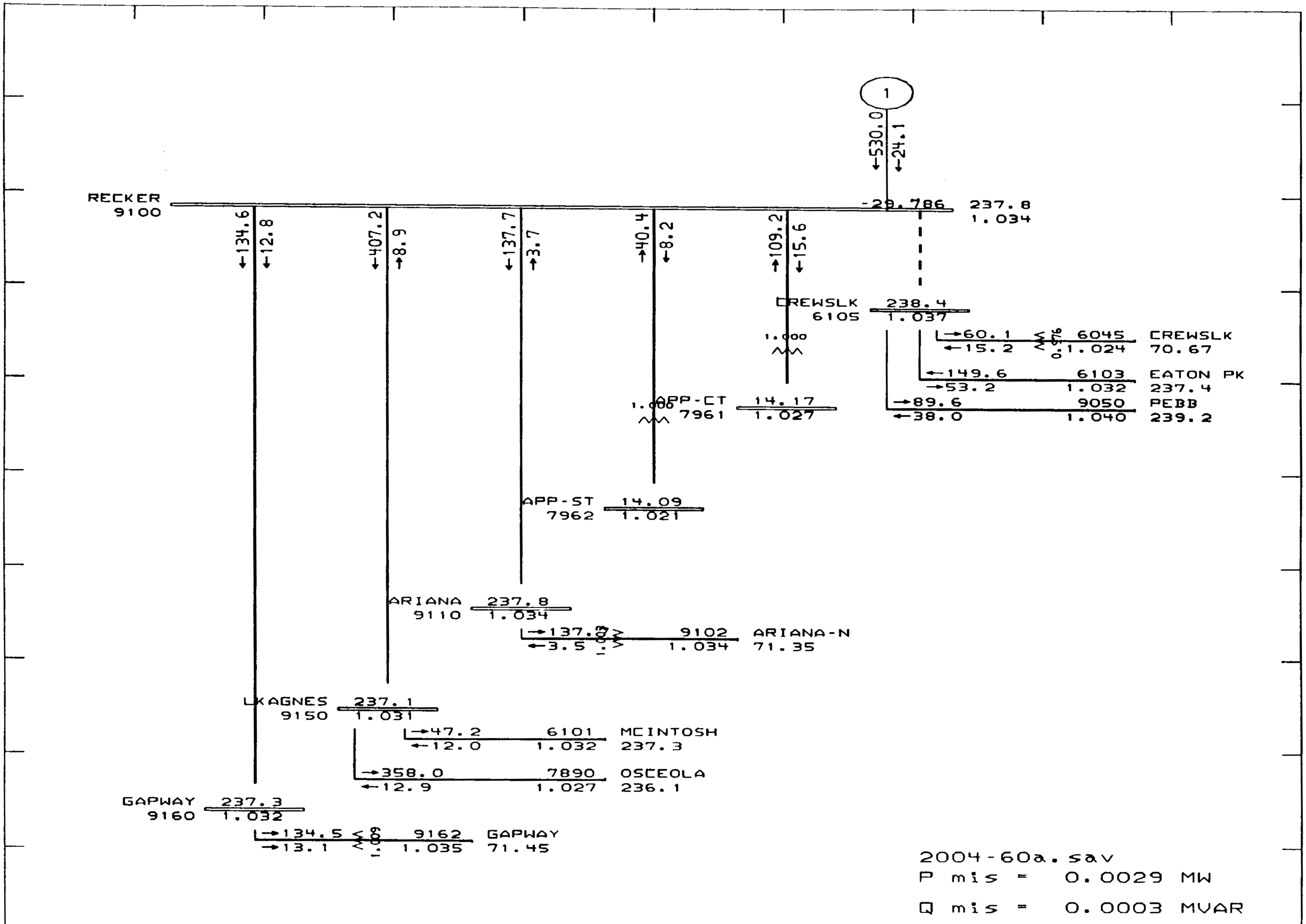
General Electric Company PSLF Program

MW/MVAR Wed Feb 16 14:45:56 2000

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

2004-60a.sav
Rating = 1

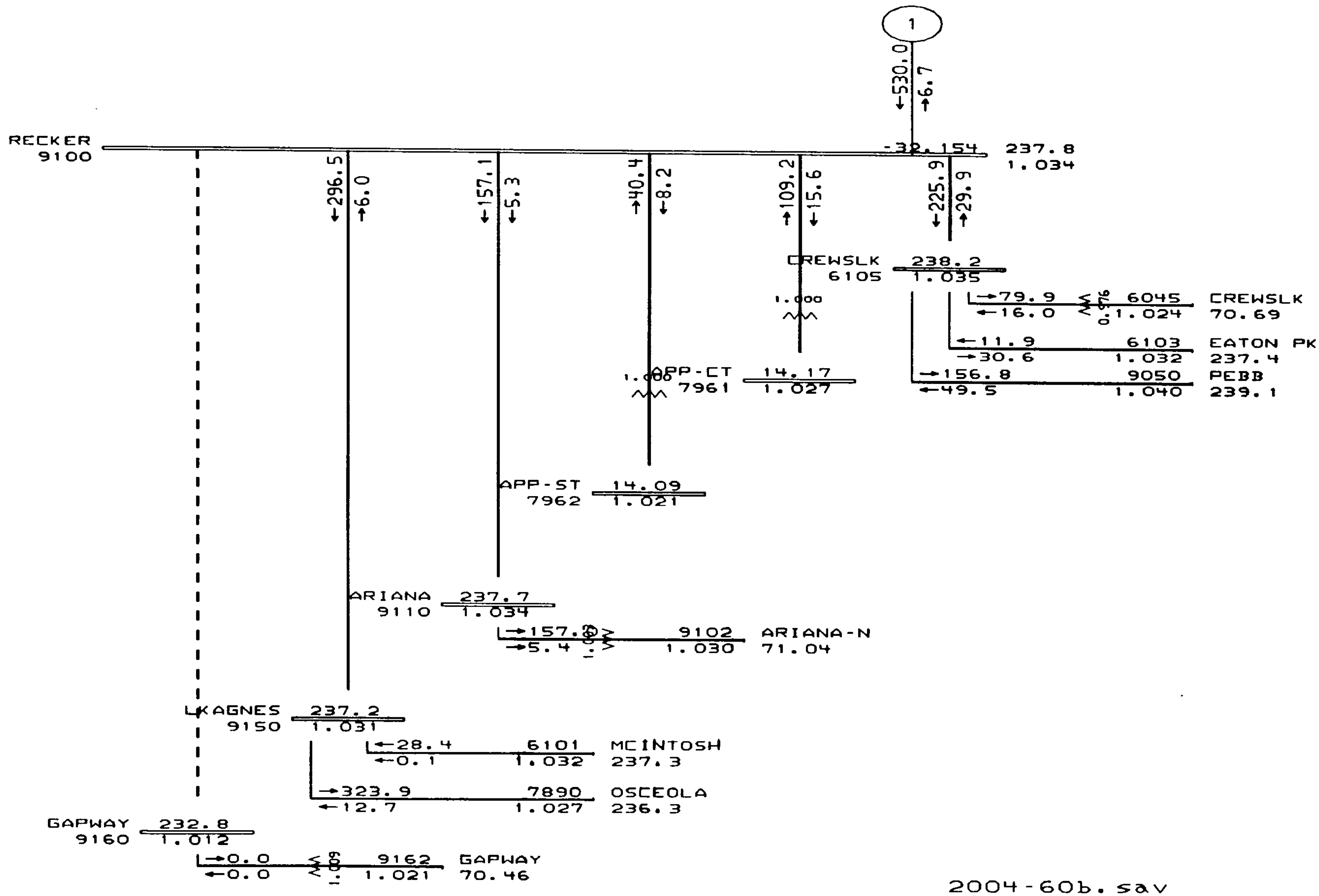


General Electric Company PSLF Program MW/MVAR Wed Feb 16 14:46:18 2000

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

2004-60a.sav
Rating = 1



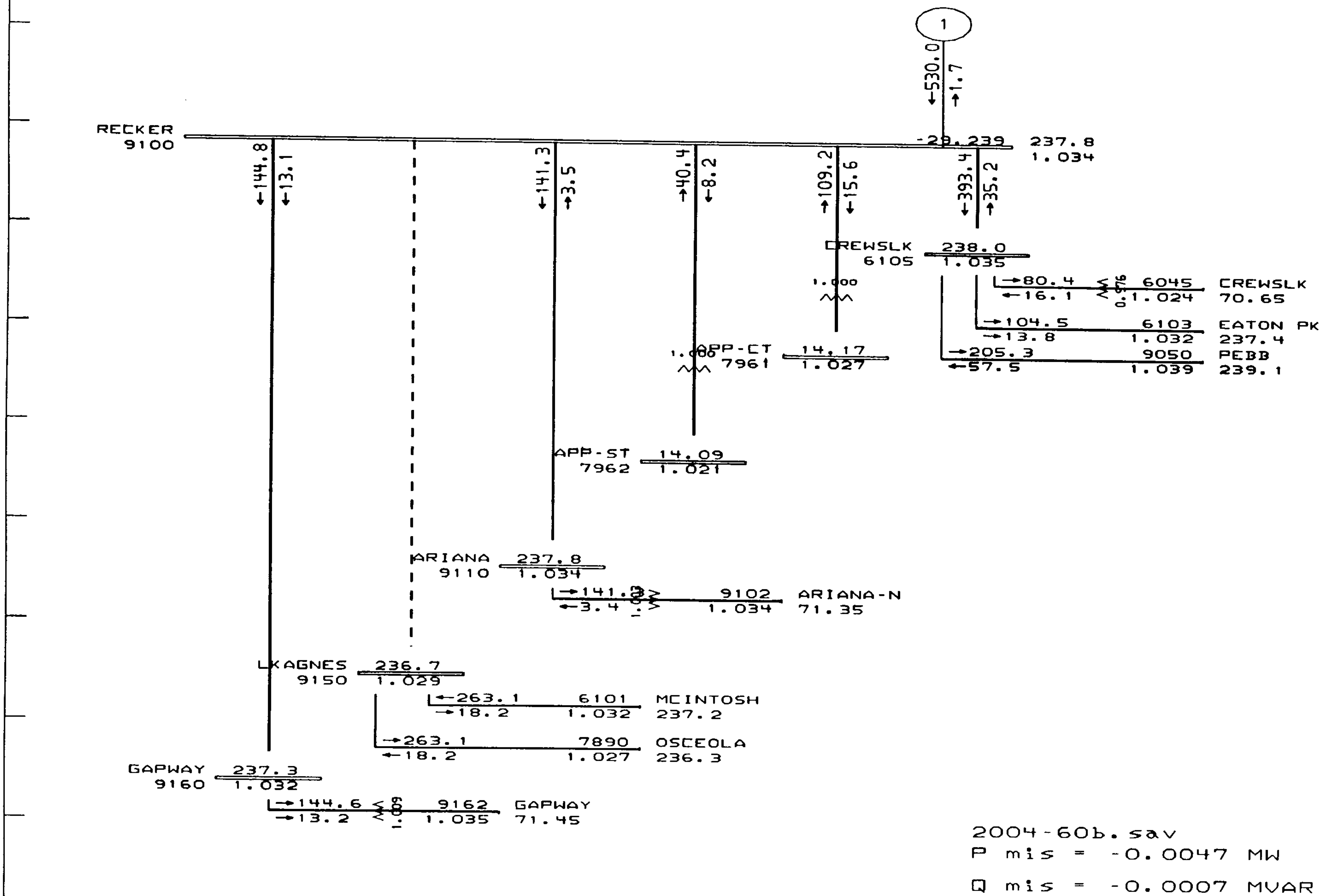
2004-60b.sav
P mis = -0.0047 MW
Q mis = -0.0007 MVAR

General Electric Company | PSLF Program | MW/MVAR | Wed Feb 16 14:46:39 2000

GENERAL ELECTRIC COMPANY

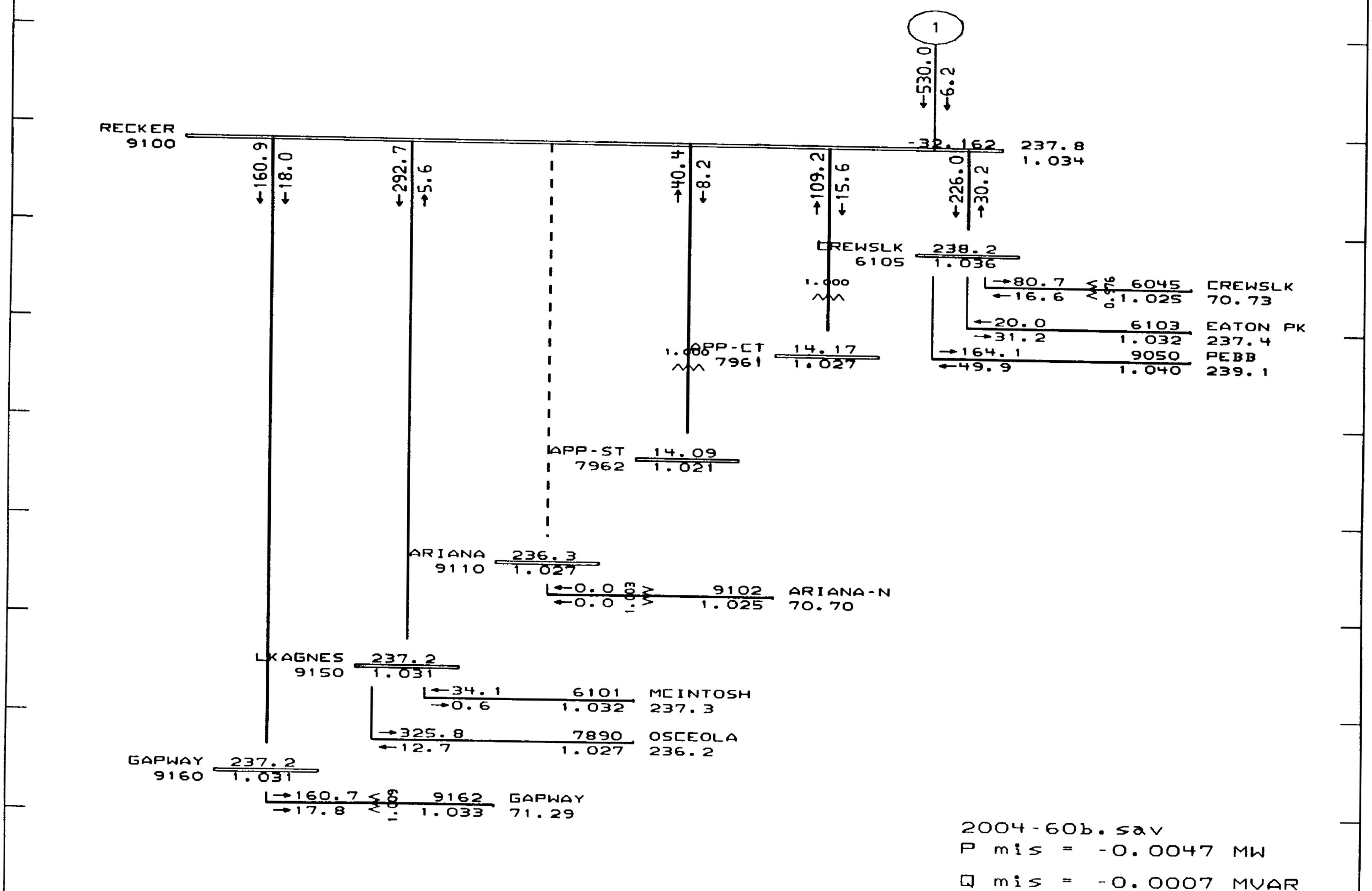
FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

2004-60b.sav
Rating = 1



General Electric Company PSLF Program

GENERAL ELECTRIC COMPANY	FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5 PROPOSED OSPREY ENERGY CENTER		MW/MVAR Wed Feb 16 14:46:57 2000 2004-60b.sav Rating = 1



General Electric Company

PSLF Program

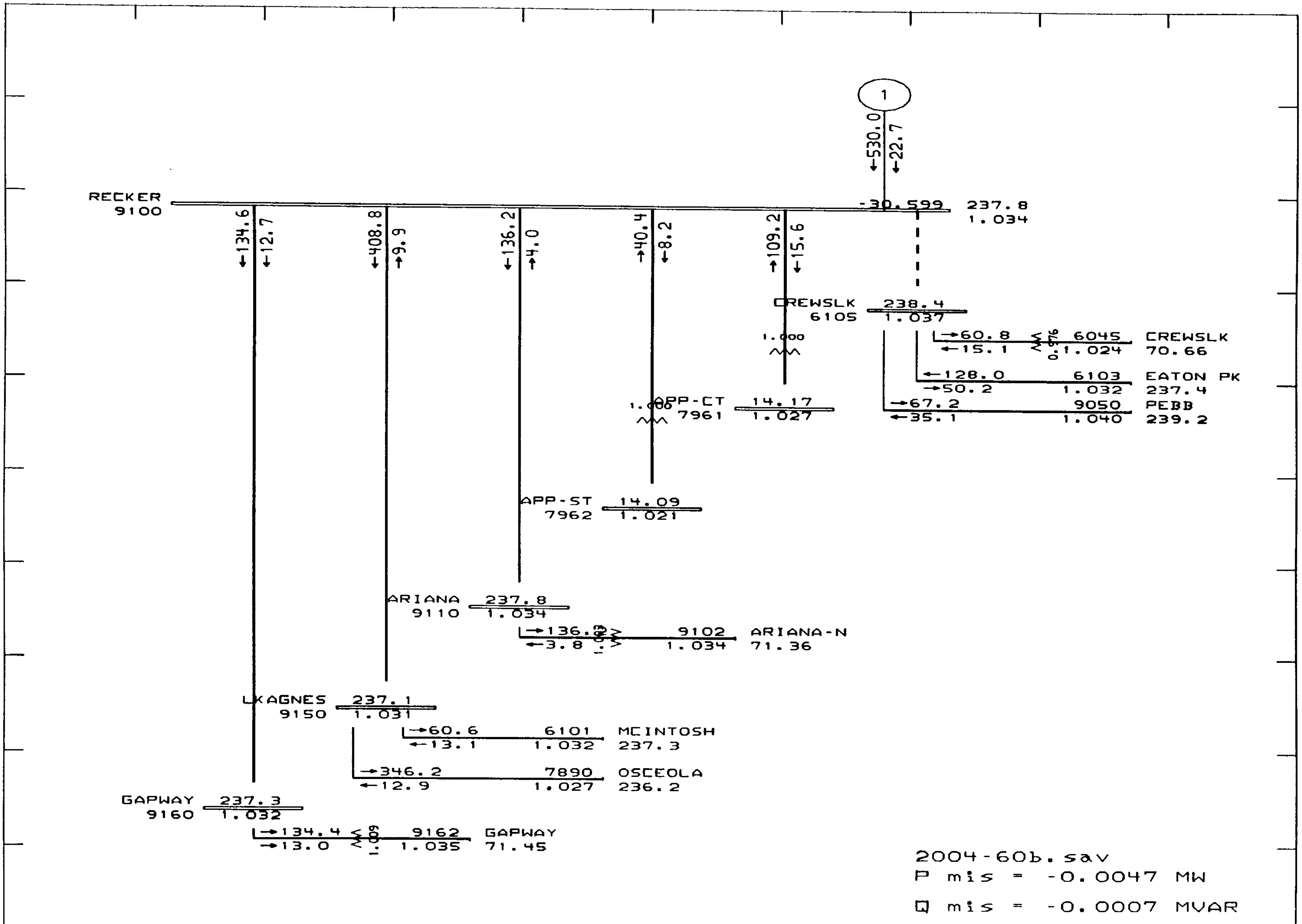
GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

MW/MVAR

Wed Feb 16 14:47:12 2000

2004-60b.sav
Rating = 1

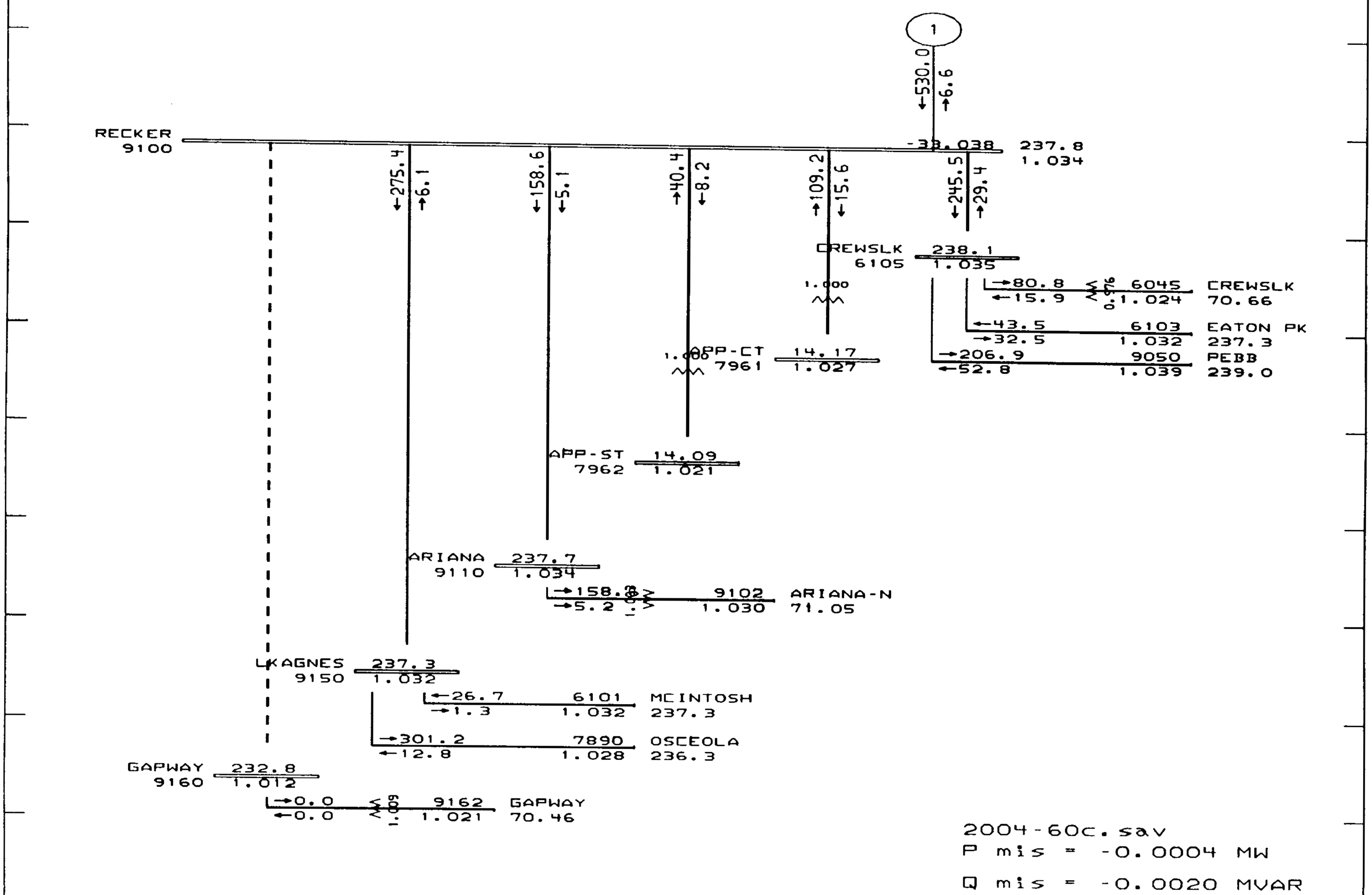


General Electric Company PSLF Program MW/MVAR Wed Feb 16 14:47:31 2000

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

2004-60b.sav
Rating = 1



General Electric Company | PSLF Program

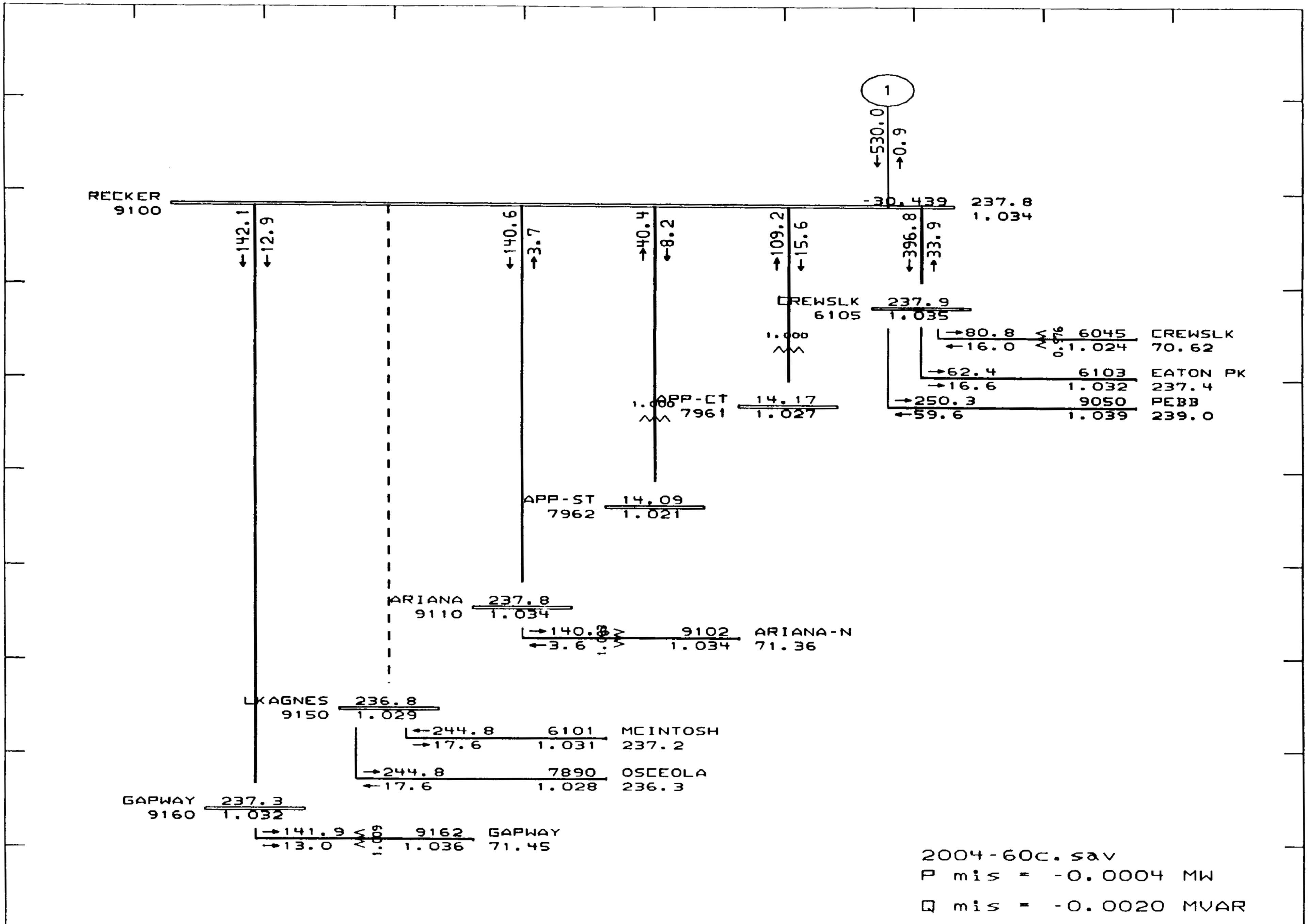
GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

MW/MVAR

Wed Feb 16 14:47:49 2000

2004-60c.sav
Rating = 1



General Electric Company PSLF Program MW/MVAR Wed Feb 16 14:48:04 2000

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

2004-60c.sav
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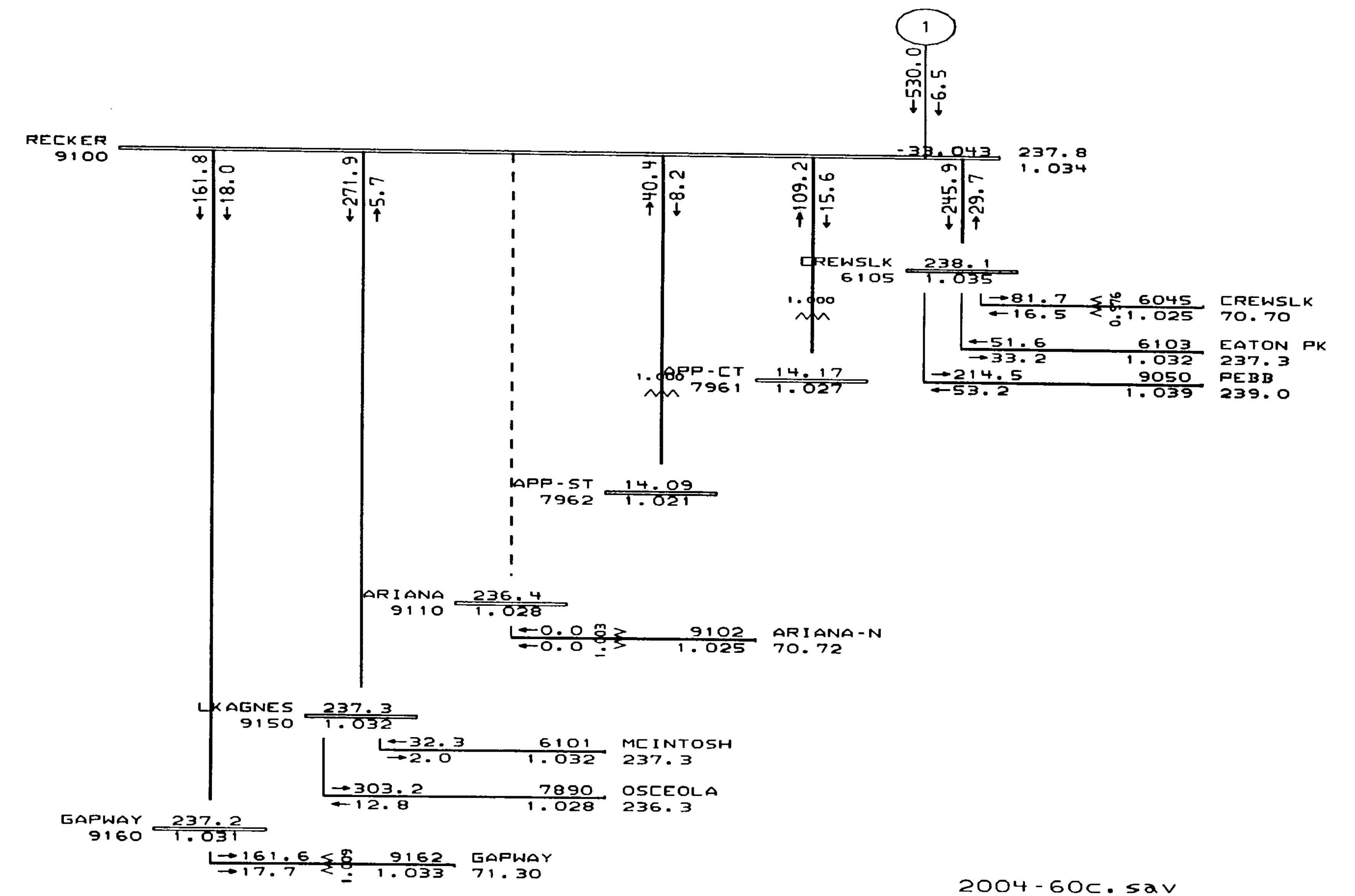

2004-60c.sav
P mis = -0.0004 MW
Q mis = -0.0020 MVAR

General Electric Company | PSLF Program | MW/MVAR | Wed Feb 16 14:48:59 2000

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

2004-60c.sav
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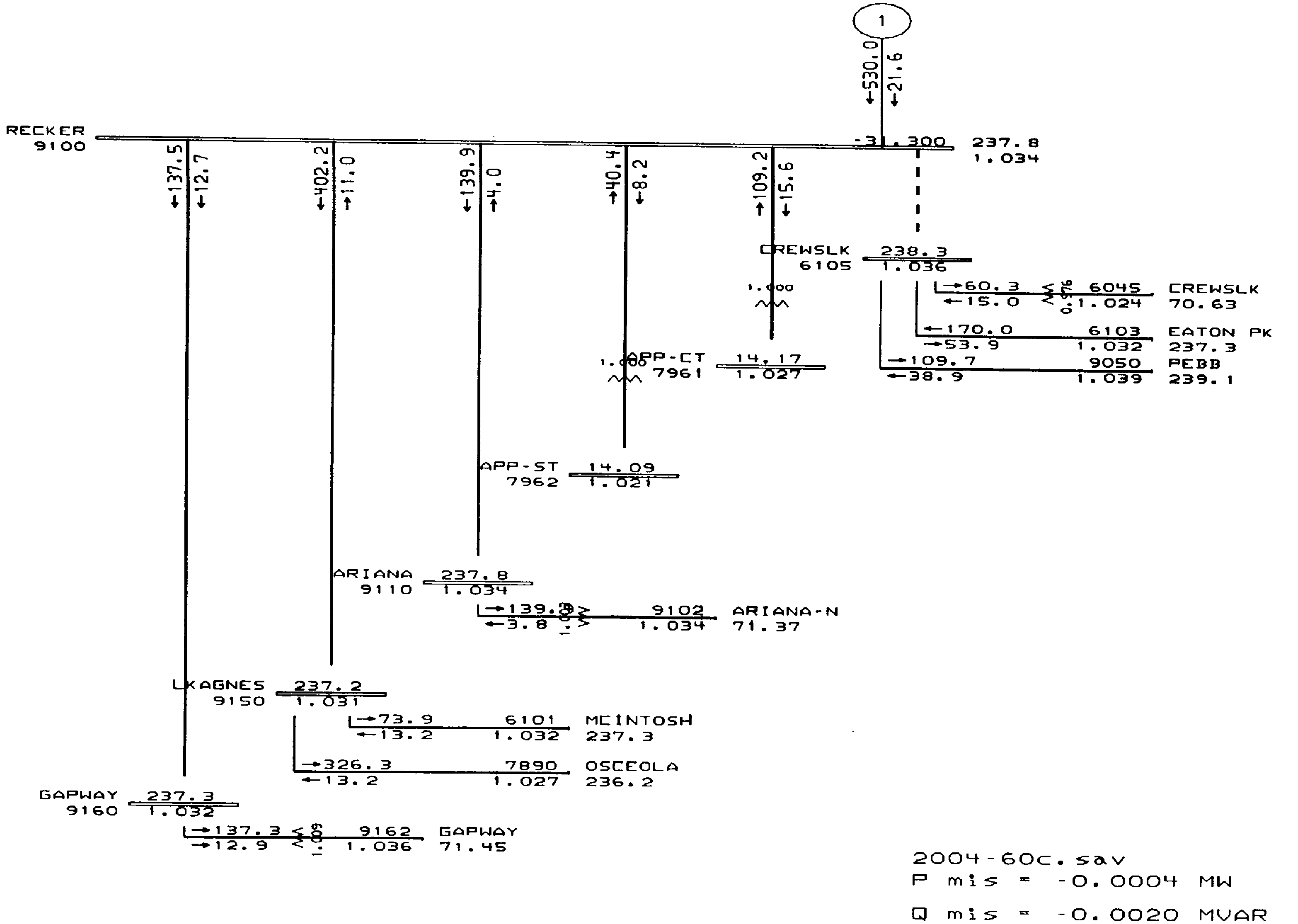

General Electric Company | PSLF Program

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

MW/MVAR | Wed Feb 16 14:49:15 2000

2004-60c.sav
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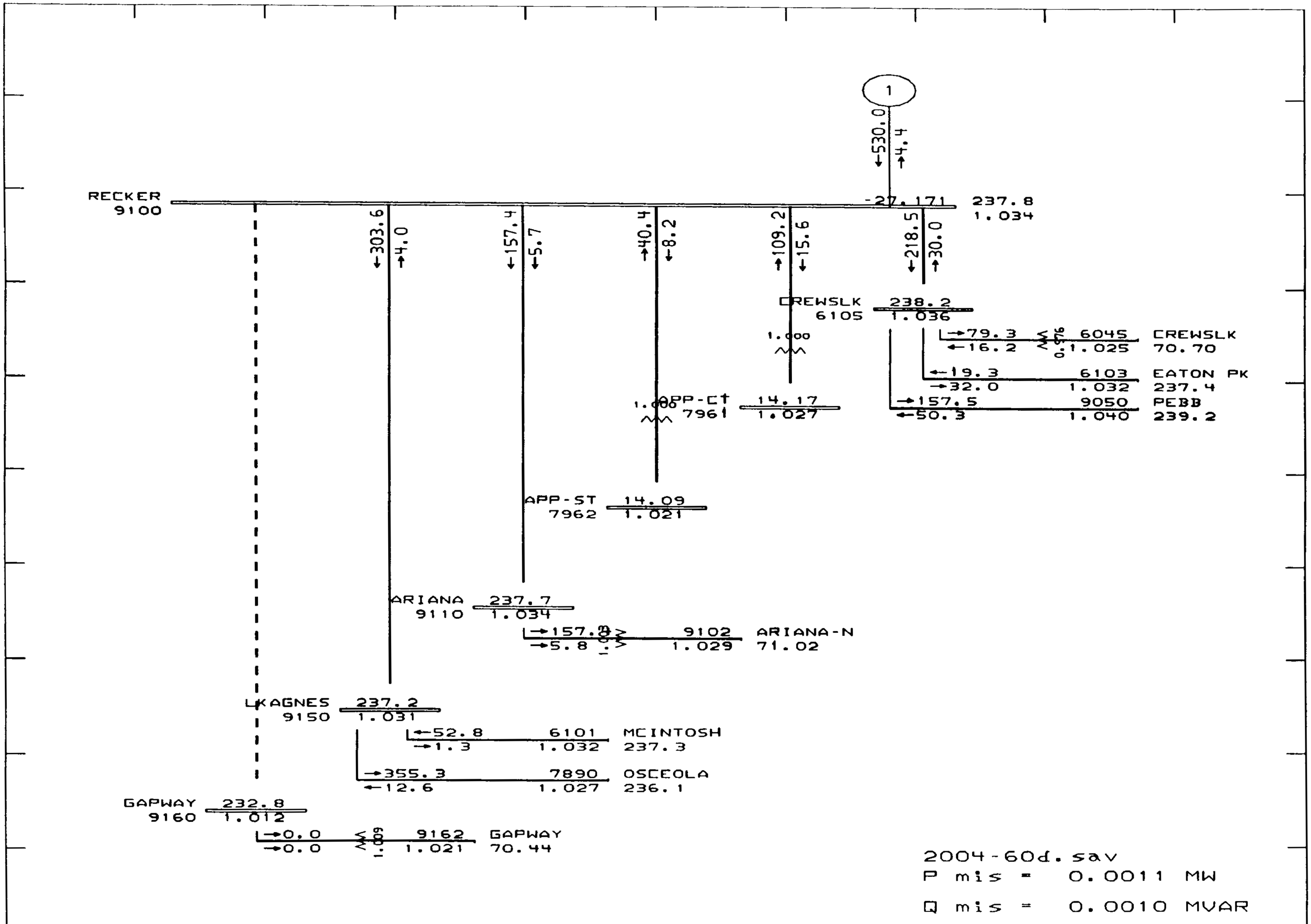

General Electric Company PSLF Program MW/MVAR Wed Feb 16 14:49:34 2000

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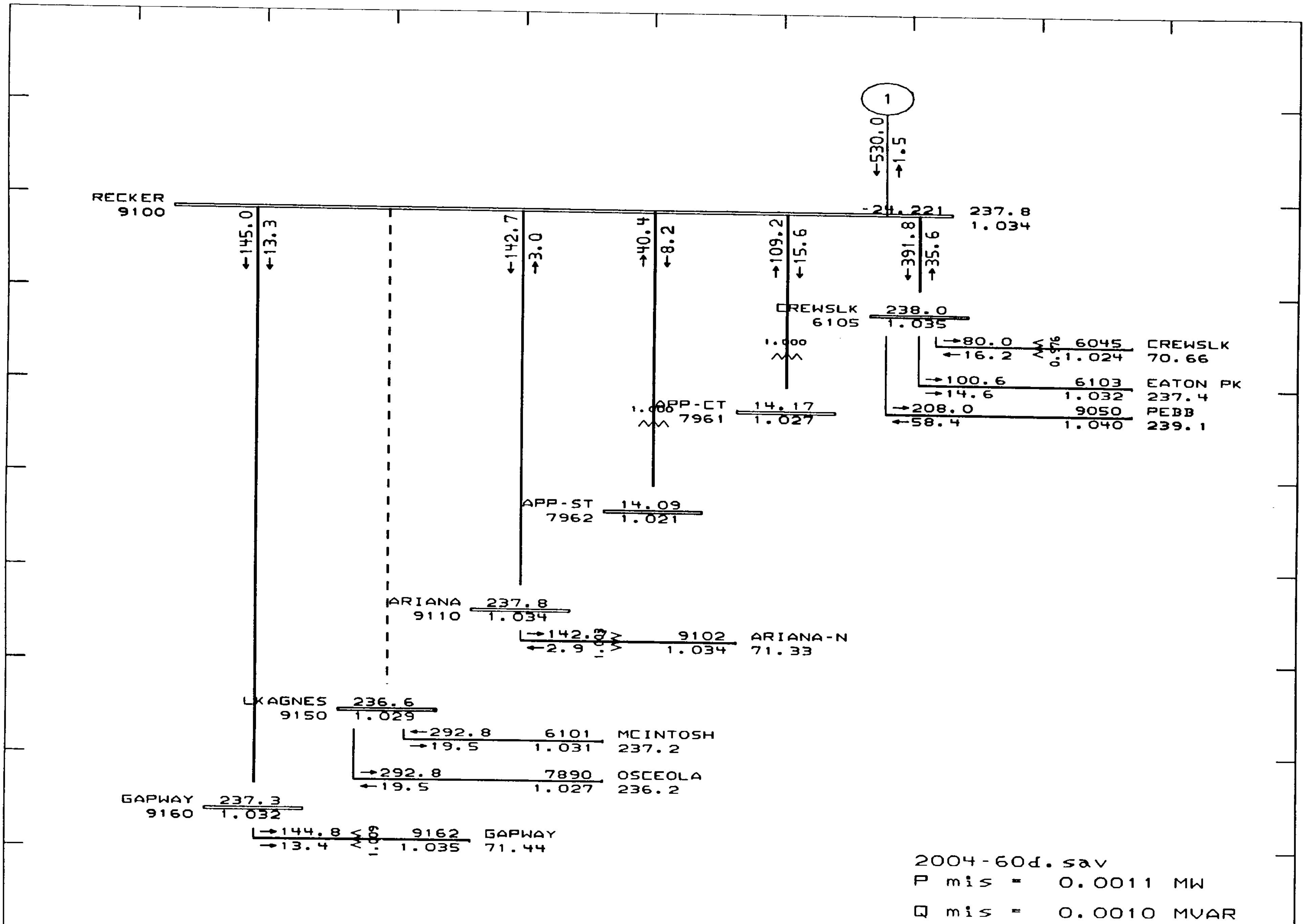


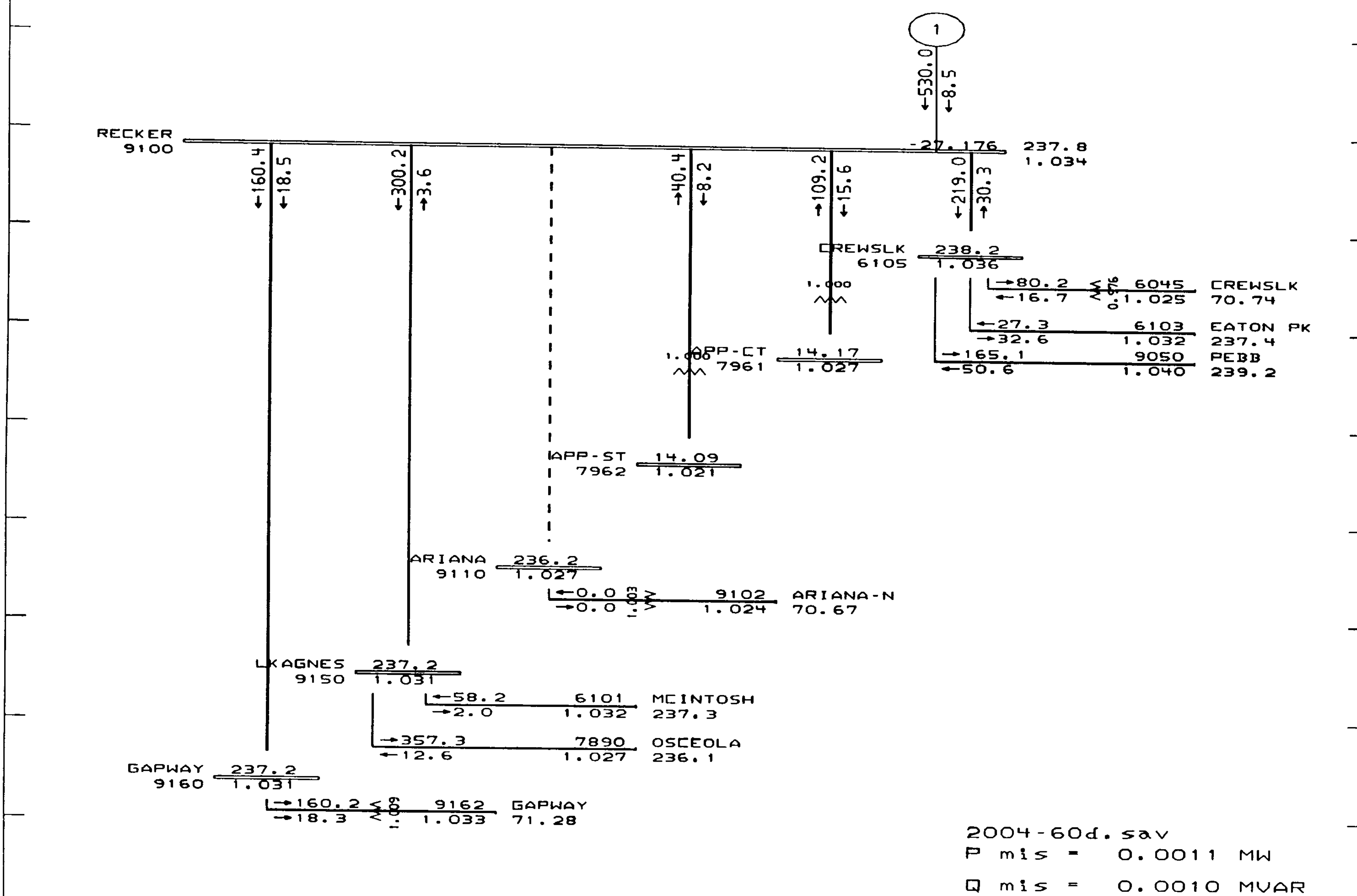
General Electric Company PSLF Program

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

MW/MVAR Wed Feb 16 14:49:50 2000

2004-60d.sav
Rating = 1



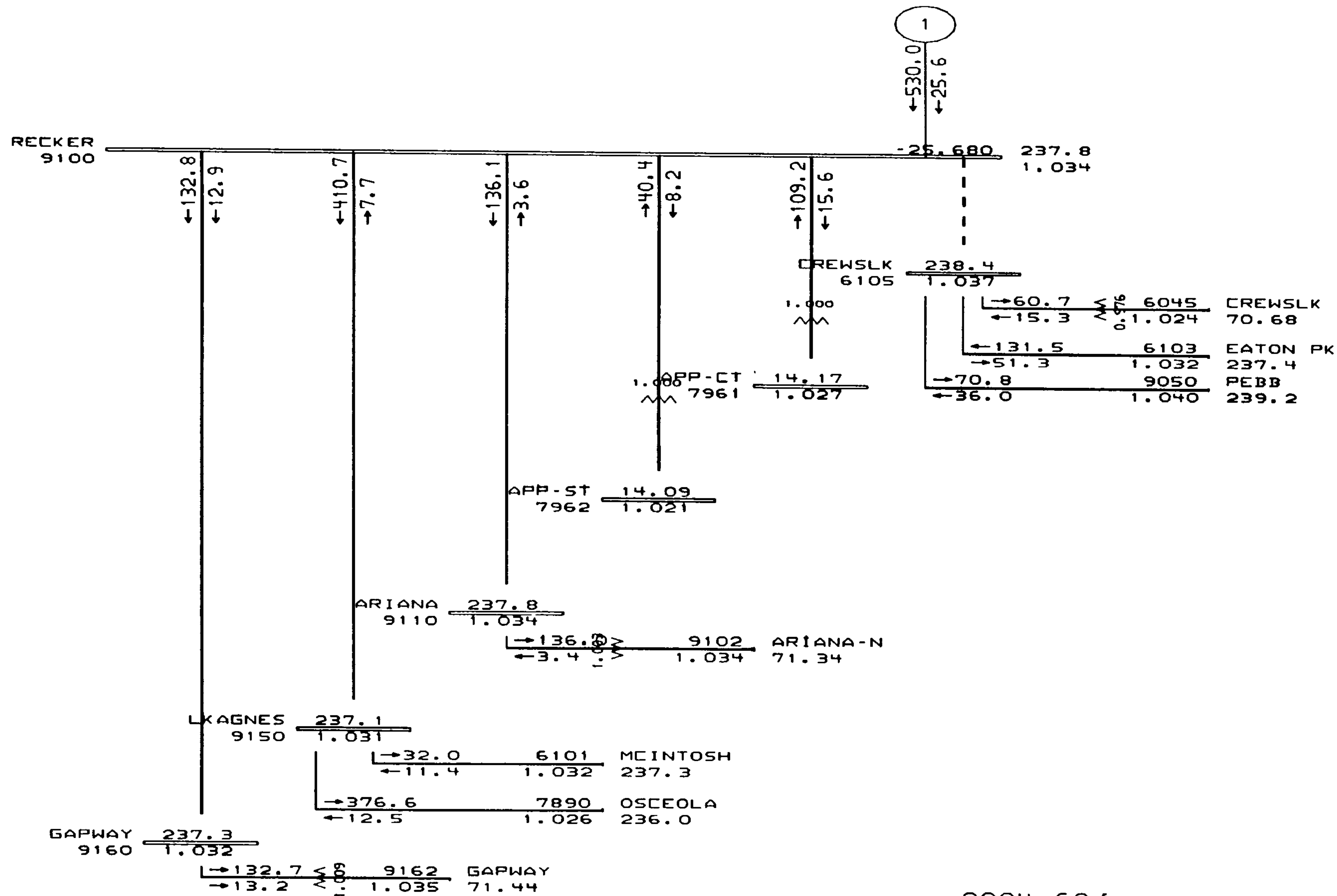
General Electric Company PSLF Program

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

MW/MVAR Wed Feb 16 15:12:36 2000

2004-60d.sav
Rating = 1



2004-60d.sav
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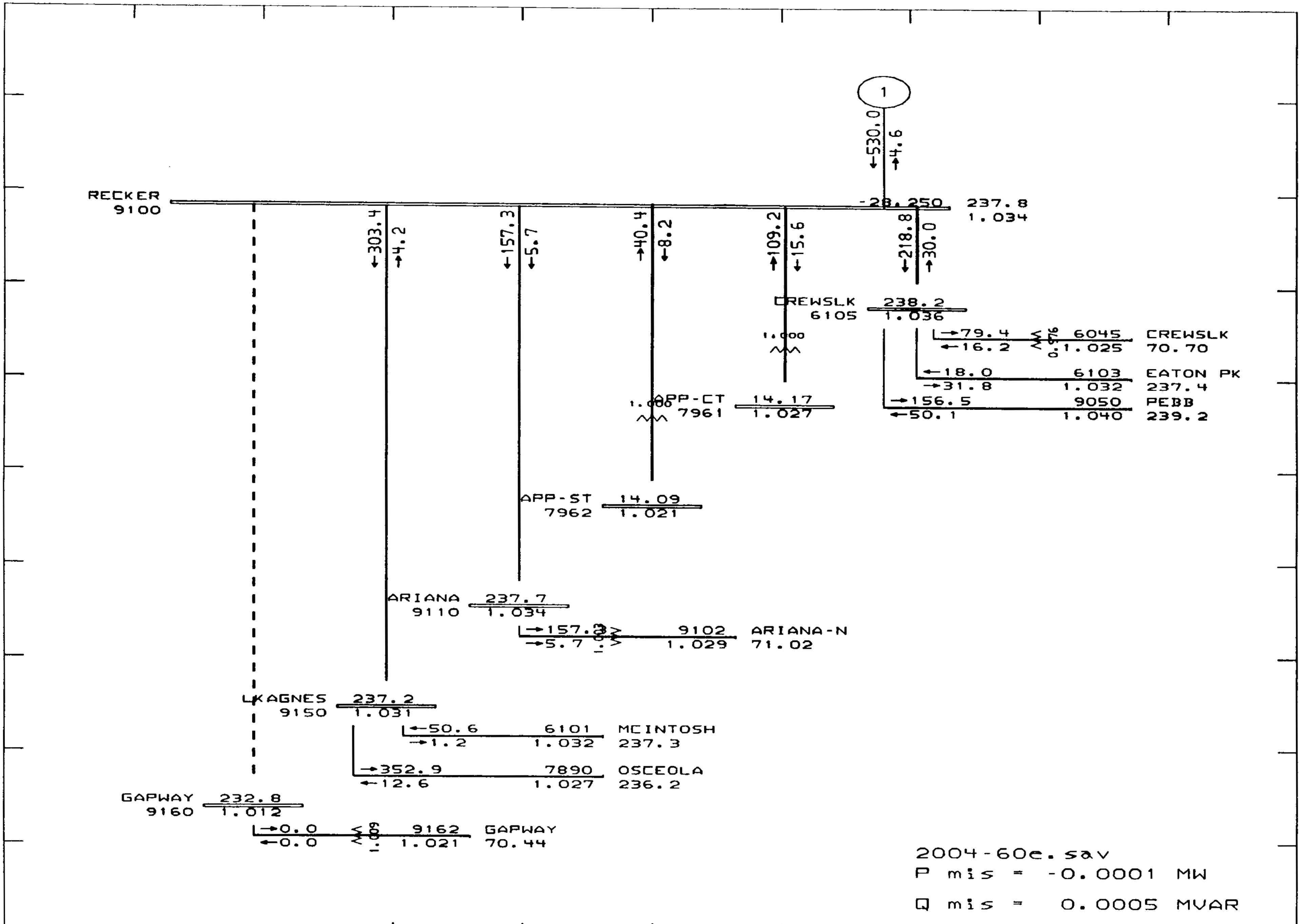
Q mis = 0.0010 MVAR

General Electric Company — PSLF Program — MW/MVAR — Wed Feb 16 14:50:17 2000

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

2004-60d.sav
Rating = 1



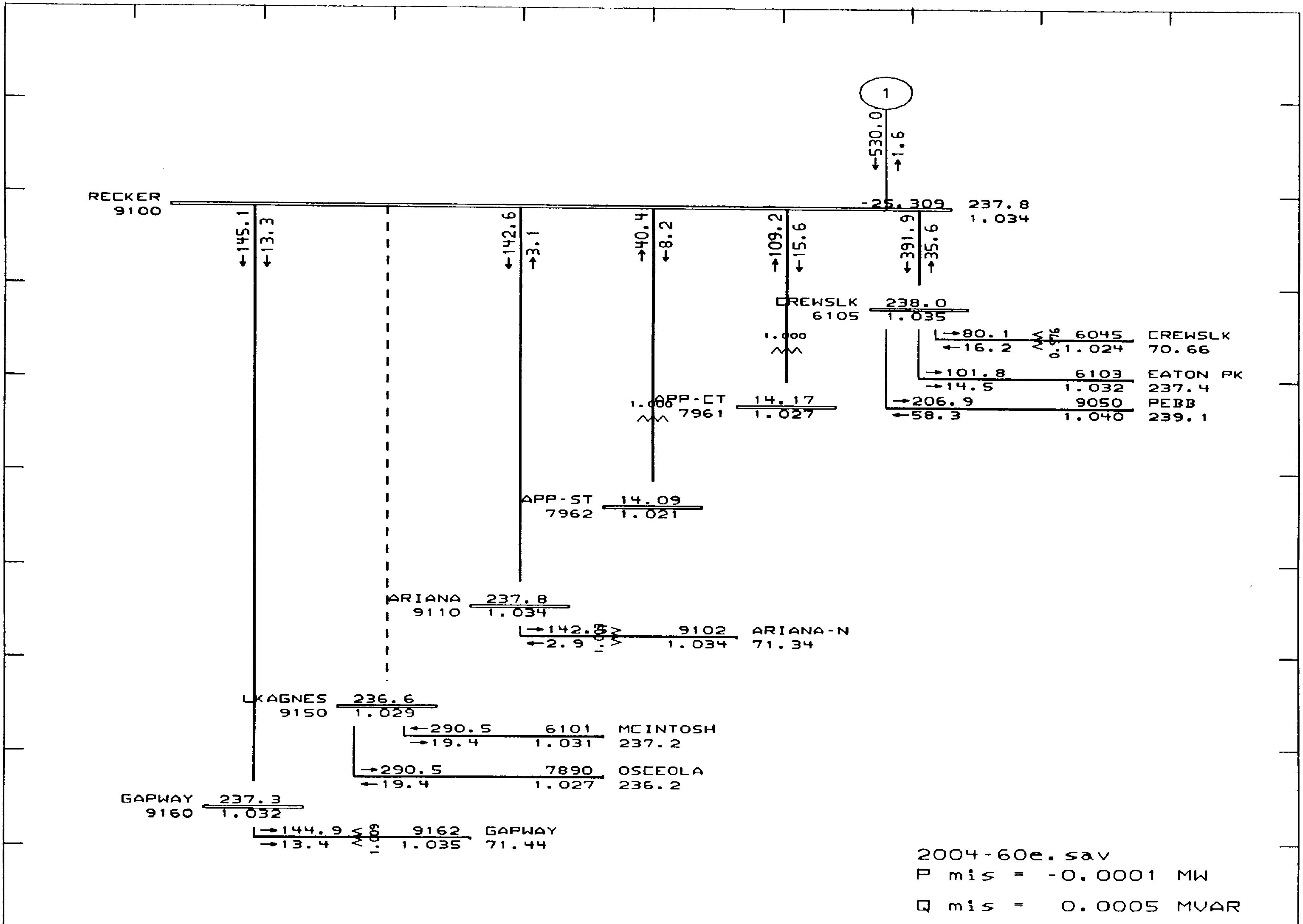
General Electric Company PSLF Program

MW/MVAR Wed Feb 16 14:50:33 2000

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

2004-60e.sav
Rating = 1



General Electric Company PSLF Program

GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

MW/MVAR Wed Feb 16 14:50:50 2000

2004-60e.sav
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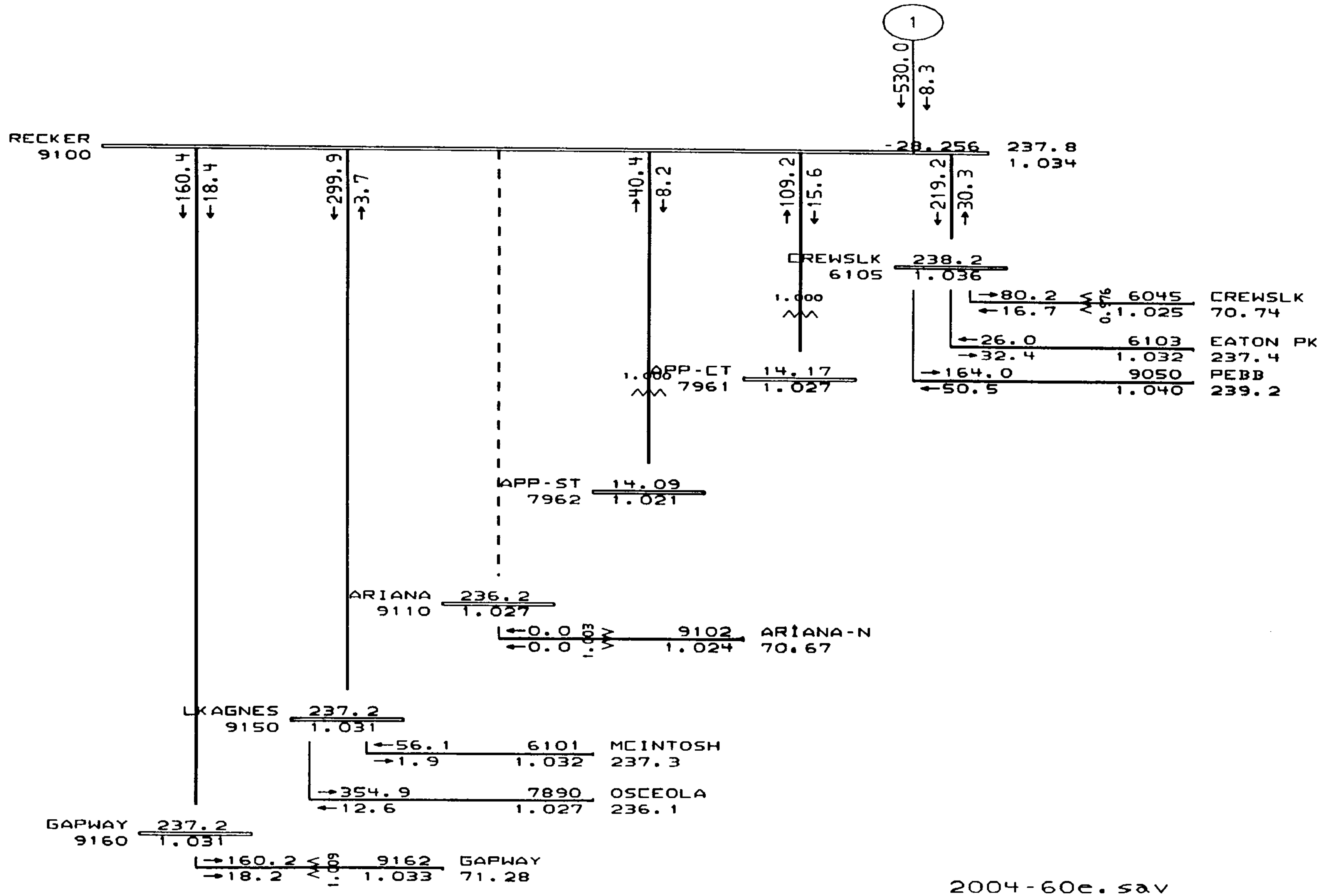

2004-60e.sav
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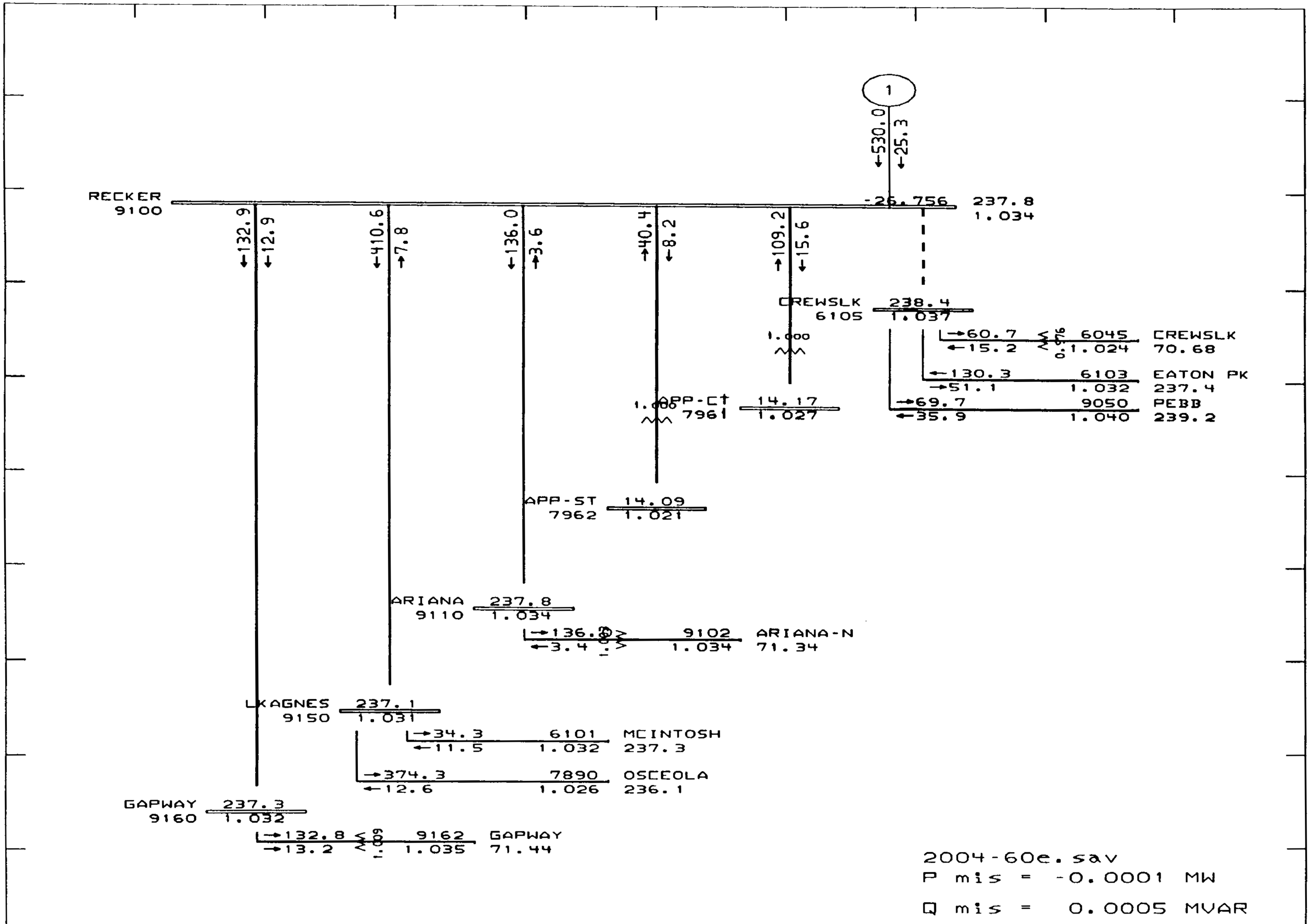
Q mis = 0.0005 MVAR

General Electric Company — PSLF Program — MW/MVAR — Wed Feb 16 14:51:10 2000

GENERAL ELECTRIC COMPANY	FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5 PROPOSED OSPREY ENERGY CENTER		2004-60e.sav Rating = 1



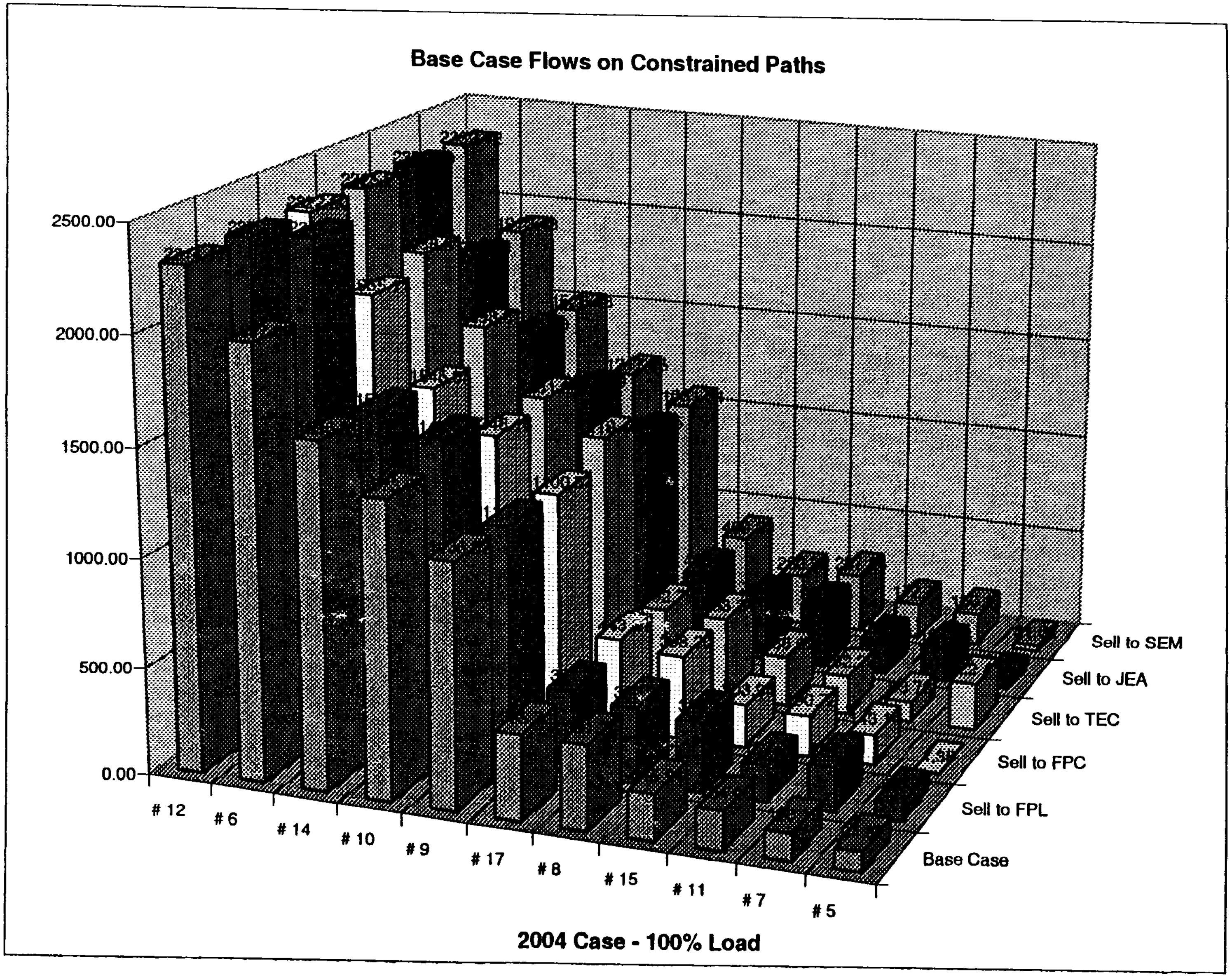
General Electric Company PSLF Program MW/MVAR Wed Feb 16 14:51:29 2000

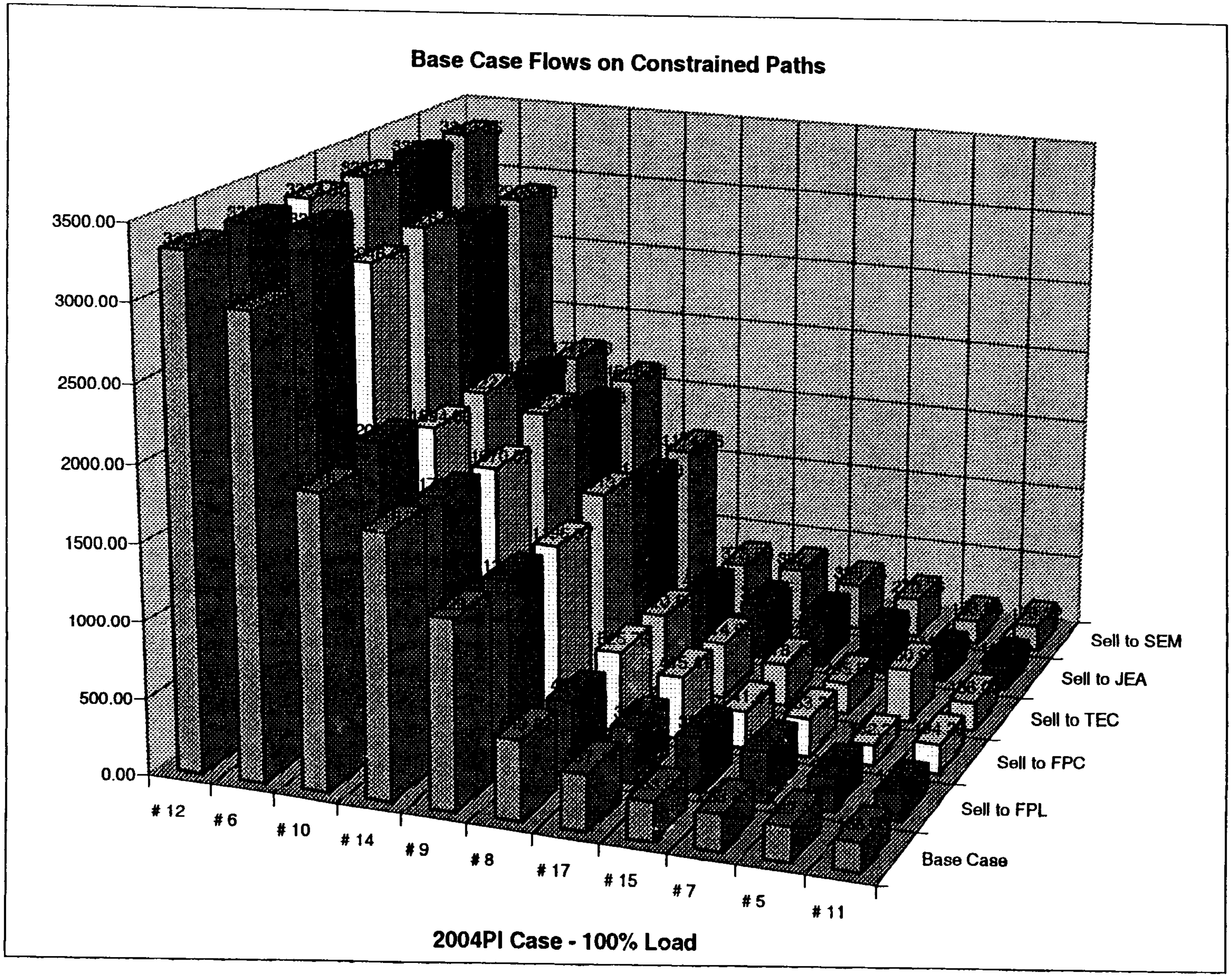
GENERAL ELECTRIC COMPANY

FERC 2004 SUMMER BASE CASE - FY1998 - REVISION 5
PROPOSED OSPREY ENERGY CENTER

2004-60e.sav
Rating = 1

APPENDIX IV


Base Case Flows on Constrained Paths
2500.00
2000.00
1500.00
1000.00
500.00
0.00
12
6
14
10
9
17
8
15
11
7
5
Sell to SEM
Sell to JEA
Sell to TEC
Sell to FPC
Sell to FPL
Base Case
2004 Case - 100% Load


Base Case Flows on Constrained Paths
3500.00
3000.00
2500.00
2000.00
1500.00
1000.00
500.00
0.00
12
6
10
14
9
8
17
15
7
5
11
Sell to SEM
Sell to JEA
Sell to TEC
Sell to FPC
Sell to FPL
Base Case
2004PI Case - 100% Load

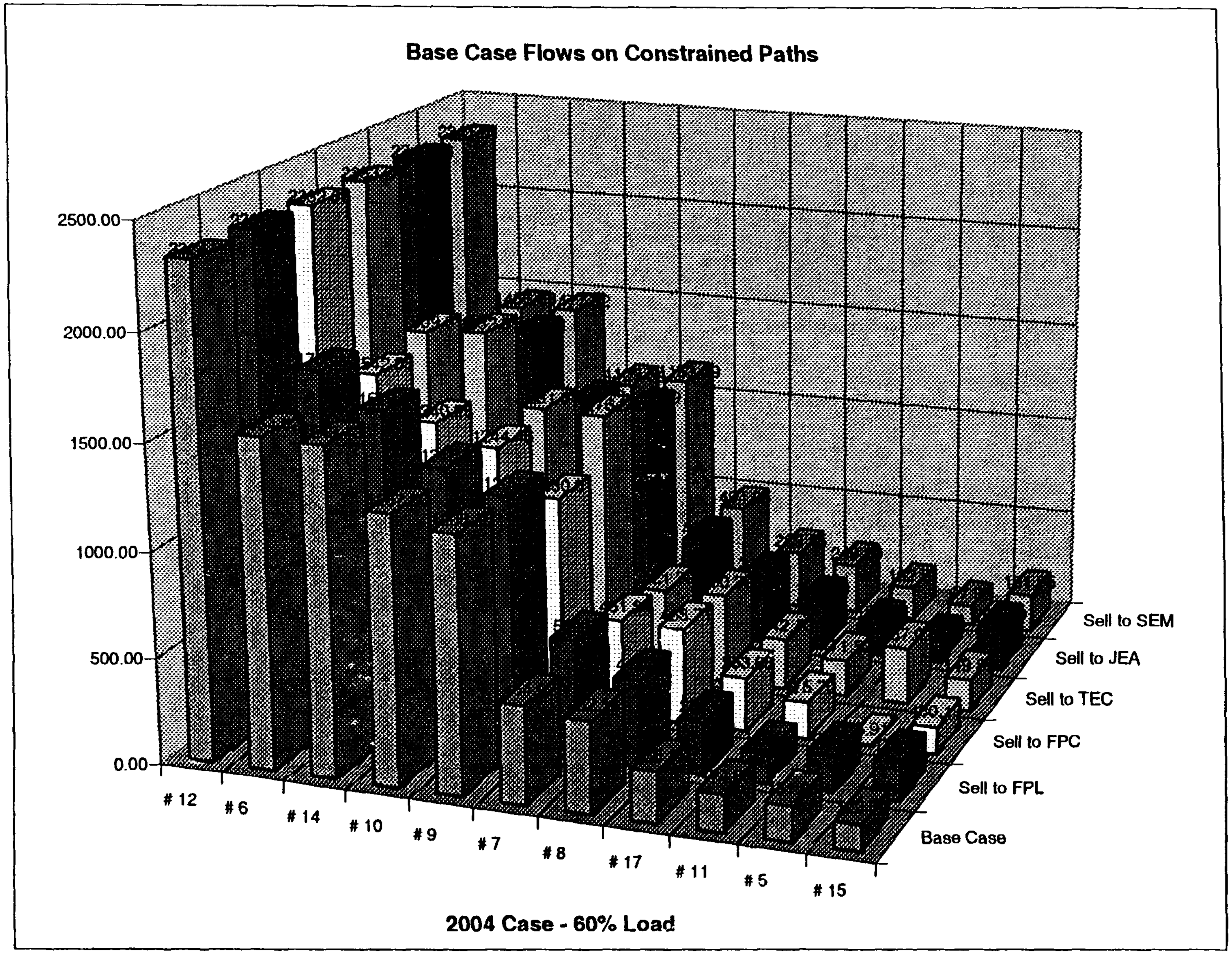

Base Case Flows on Constrained Paths
2500.00
2000.00
1500.00
1000.00
500.00
0.00
12
6
14
10
9
7
8
17
11
5
15
Sell to SEM
Sell to JEA
Sell to TEC
Sell to FPC
Sell to FPL
Base Case
2004 Case - 60% Load

Table 1
Summary of Constrained Paths in Base Case & OEC Alternatives

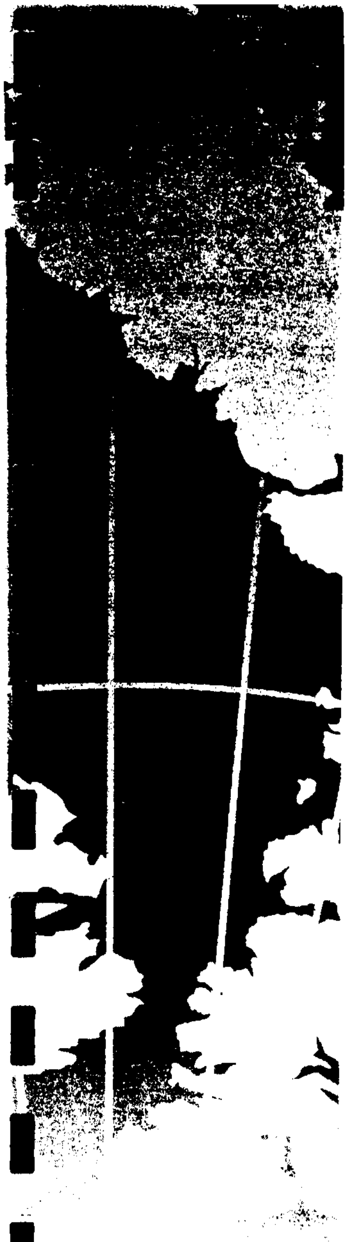
		OEC Sell 500 MW to :				
	Case 2004	Case 2004A	Case 2004B	Case 2004C	Case 2004D	Case 2004E
	Base Case	Sell to FPL	Sell to FPC	Sell to TEC	Sell to JEA	Sell to SEM
# 12	2314.17	2320.28	2322.50	2325.21	2330.50	2332.42
# 6	1997.09	2344.98	1955.11	2038.61	1903.84	1912.43
# 14	1596.51	1578.06	1545.64	1698.67	1535.50	1526.48
# 10	1373.65	1483.49	1348.16	1381.96	1273.29	1217.95
# 9	1136.02	1121.98	1100.54	1219.46	1088.65	1081.64
# 17	395.20	391.21	443.31	402.78	406.67	409.93
# 8	391.70	350.70	398.20	393.24	300.83	250.92
# 15	215.94	328.18	203.94	238.97	303.16	287.24
# 11	184.08	169.91	190.72	182.29	164.78	172.71
# 7	128.19	204.39	143.14	93.76	164.33	160.21
# 5	94.52	86.08	1.38	222.41	40.76	31.62

Table 2
Summary of Constrained Paths in Base Case & OEC Alternatives

	Case 2004PI	OEC Sell 500 MW to :				
		Case 2004PIA	Case 2004PIB	Case 2004PIC	Case 2004PID	Case 2004PIE
	Base Case	Sell to FPL	Sell to FPC	Sell to TEC	Sell to JEA	Sell to SEM
# 12	3328.22	3333.06	3334.80	3334.25	3337.70	3343.05
# 6	2985.61	3332.69	2946.20	3026.09	2898.11	2905.90
# 10	1916.15	2008.69	1894.00	1922.86	1830.74	1772.86
# 14	1718.75	1706.43	1670.07	1822.92	1655.43	1646.84
# 9	1229.97	1220.86	1196.37	1313.92	1181.00	1174.06
# 8	519.82	483.65	525.76	520.56	423.80	373.66
# 17	367.14	363.04	415.41	374.06	378.78	382.17
# 15	253.01	357.05	241.41	278.43	341.67	325.34
# 7	239.25	323.59	253.35	205.55	274.10	270.26
# 5	222.42	220.80	132.21	350.91	167.19	158.60
# 11	188.06	174.06	194.39	186.00	168.72	176.32

Table 3
Summary of Constrained Paths
in Base Case & OEC Alternatives

	Case 2004-60	OEC Sell 500 MW to :				
		Case 2004-60A	Case 2004-60B	Case 2004-60C	Case 2004-60D	Case 2004-60E
	Base Case	Sell to FPL	Sell to FPC	Sell to TEC	Sell to JEA	Sell to SEM
# 12	2324.79	2336.76	2332.36	2333.64	2341.56	2341.01
# 6	1554.62	1705.13	1542.08	1609.81	1458.73	1466.53
# 14	1549.13	1549.36	1340.28	1632.35	1485.41	1477.82
# 10	1267.60	1313.02	1244.46	1281.31	1169.55	1109.54
# 9	1208.88	1209.82	1030.01	1276.56	1159.69	1153.29
# 7	464.02	560.89	461.34	421.32	497.47	494.05
# 8	432.14	412.76	453.71	430.39	341.46	289.45
# 17	236.16	251.67	253.68	242.40	246.50	249.80
# 11	174.03	144.22	175.70	171.52	154.69	162.51
# 5	161.86	174.15	5.91	267.02	105.74	97.97
# 15	122.54	179.14	130.19	149.89	207.59	191.95



Osprey Energy Center
Calpine
Witness: Michel P. Armand
Exhibit ______ (MPA-3)

ANALYSIS OF TRANSMISSION SYSTEM IMPROVEMENTS IN SUPPORT OF OSPREY ENERGY CENTER

APRIL 18, 2000

Prepared For

CALPINE EASTERN CORPORATION

Navigant™

Navigant
CONSULTING, INC.

April 18, 2000

Mr. Paul A. Barnett
Calpine Eastern Corporation
The Pilot House, Lewis Wharf
Boston, MA 02110

Subject: Final Report on Transmission System Upgrade Study for Osprey Energy Center

Dear Mr. Barnett:

Enclosed are three copies of the final report on the transmission system upgrade study performed by Navigant Consulting, Inc. (Navigant Consulting) for the Osprey Energy Center. As we discussed last week, the transmission lines impacted will need to be rebuilt using stronger single pole, spun concrete structures to support the larger conductors required to increase line capacity. Calculations performed to make this determination and associated construction cost estimates are included in the report.

Three technically feasible options emerged for increasing the capacity of the existing 150-MVA transformer at Ariana Substation. Two of these options are: adding auxiliary cooling equipment to the existing transformer and adding a second transformer at the substation. Analyses performed to evaluate these options are included in the report along with associated construction cost estimates.

A third option involves no physical changes to the existing substation or transformer. It involves negotiating with Tampa Electric Cooperative to allow the intermittent, short term overloading of the existing transformer, thus incurring a measured loss in the life expectancy of the transformer. Calpine would then reimburse Tampa Electric Company for the loss of life of the transformer at a pre-determined rate. The actual cost of this option could not be determined at this time, and would depend on the amount of transformer loss of life and the negotiated rate of reimbursement agreed to between Calpine and Tampa Electric Company. However, assuming a reasonable rate can be agreed upon, the overall cost for this option should be much less than either of the other two options.

We hope this report and accompanying documents provide you with the information you needed. If you have any questions regarding the report or any other related issue, please call me.

Sincerely,

Frank Alonso

Frank Alonso, P.E.

ANALYSIS OF TRANSMISSION SYSTEM IMPROVEMENTS IN SUPPORT OF OSPREY ENERGY CENTER

APRIL 18, 2000

Prepared For

CALPINE EASTERN CORPORATION

Prepared By

Navigant™
CONSULTING, INC.

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ANALYSIS OF TRANSMISSION SYSTEM IMPROVEMENTS IN SUPPORT OF OSPREY ENERGY CENTER
APRIL 18, 2000

SECTION 1

SECTION 1 INTRODUCTION

In support of the proposed Osprey Energy Center, Calpine Eastern Corporation (Calpine), the project's developer, contracted Navigant Consulting, Inc. (NCI) to perform a load flow analysis to determine the capacity of the surrounding transmission system to effectively transform and transmit the center's generated electric power to its customers via the Florida transmission grid. The results of that analysis initially indicated that under certain conditions, four existing facilities would restrict the flow of power out from the energy center. The four critical facilities identified in the analysis are owned by Tampa Electric Company (TECO) and are described as follows:

- The Recker to Lake Agnes 230-kV Transmission Line
- The Recker to Crews Lake 230-kV Transmission Line
- The Crews Lake to Pebbledale 230-kV Transmission Line
- The 150-MVA, 225Y/130 - 69Y/38.8 kV transformer at Ariana Substation.

These lines and substation transformer are located in Polk County, Florida near the City of Auburndale, Florida. A schematic diagram of these lines is shown in Drawing No. 1 in Appendix C.

The analysis conducted by NCI indicates that under maximum loading conditions and single contingency failure of related facilities, the transmission lines interconnecting the energy center with the Florida transmission grid should be rated a minimum of 478-MVA. According to TECO, the overall load carrying capacity of the critical transmission lines is to 398-MVA.

The NCI analysis also indicates that under maximum loading conditions and single contingency failure of associated facilities, the transformer at TECO's Ariana Substation will be overloaded to 220-MVA or 47% above its nominal rating of 150-MVA.

Under certain equipment failure scenarios and maximum loading conditions, the existing transmission system does not have the capacity to accommodate the proposed Osprey Energy Center.

In view of the impact the transmission lines and substation transformer could have on the ability of Calpine to operate the generation units at the Osprey Energy Center at full capacity, Calpine has contracted with NCI to perform this analysis of potential transmission system modifications to increase the capacities of these critical facilities.

The scope of this analysis includes a feasibility study to determine how these facilities could be modified, improved, or replaced so that they are able to carry the additional anticipated loads. Cost estimates are provided for recommended modifications and improvements.

SECTION 2

SECTION 2 BACKGROUND

PROBLEM DEFINITION

Most of the Recker to Lake Agnes 230-kV Transmission Line uses tubular steel pole construction with 1590-kcmil, ACSR conductor. However, according to the original information provided by TECO, there was a short line section of old wood pole, H-frame construction with 954-kcmil, ACSR conductors. That section of line was responsible for limiting the overall load carrying capacity of the line to 398-MVA. The rest of the line is rated for 550-MVA. According to more recent information received from TECO, these old sections of the line have been upgraded so that the entire line is now rated 550-MVA.

The Recker to Crews Lake 230-kV Transmission Line is approximately 17 miles long. A major portion of the line uses H-frame structures and 1590-kcmil, ACSR conductor, which provides a load carrying capacity of 550-MVA. However, two short sections of the line, totaling 1.4 miles, located immediately north of Crews Lake Substation, use 954-kcmil, ACSR conductors on wood, H-frame structures. These two short line sections limit the overall capacity of the line to 398-MVA. The capacity of these two line sections needs to be upgraded to match the rest of the line.

The Crews Lake to Pebbledale 230-kV Transmission Line is approximately 6.3 miles long. The entire line uses 954-kcmil, ACSR conductor which limits its load carrying capacity to 398-MVA. The first line section out of Crews Lake Substation is approximately 2.2 miles long and uses wood, H-frame structures. The middle section is approximately 3.1 miles long and uses tubular steel poles with long spans; some exceeding 1000'. The last section of the line is approximately one mile long and uses single pole wood structures. The entire line must be upgraded to 1590-kcmil, ACSR conductor to provide the additional capacity required for the new energy center.

The 230/69-kV auto-transformer at Ariana Substation has a nominal, liquid-immersed, self-cooled (OA) rating of 150-MVA and a liquid-immersed, forced liquid-cooling, forced air-cooled (FOA) rating of 168-MVA (12% over OA rating) with a 55°C/65°C temperature rise. Because of the additional generation at the Osprey Energy Center, under certain load flow conditions, this transformer will be overloaded by almost 50% to 220-MVA. Although this overload condition is not projected to be long lasting, TECO has indicated that they are not willing to operate their transformer above the FOA rating of 168-MVA. Given that constraint, additional transformer capacity will be required at Ariana Substation.

SITE INSPECTION AND DATA GATHERING

On March 22, 2000, representatives from TECO and NCI met at TECO's Recker Substation. The TECO representatives provided line design information and criteria for the two lines under consideration. In addition, they provided nameplate information for the transformer at Ariana Substation. A cursory inspection of the transmission lines near Recker and Ariana Substation was conducted. A visit to Ariana Substation provided a close-up inspection of the 150-MVA transformer.

Photographs taken during the site inspection are included in Appendix B.

SECTION 3

SECTION 3 ANALYSIS

TRANSMISSION LINE OPTIONS

There are only two possible option for increasing the capacity of a power transmission line: increase the line operating voltage or increasing the current carrying capacity of the line by installing a larger conductor or bundling two or more conductors per phase.

For existing lines that are already interconnected within an existing transmission grid, the option to increase the line operating voltage is not cost effective. It involves:

- Voltage transformations at both ends of the line -- from the transmission grid voltage to the new line voltage at one end and back from the line voltage to the grid voltage at the other end (The large transformers required makes this option very costly.),
- Replacement of all line structures to accommodate the increased line to ground clearances, conductor to structure clearances, and structure strength requirements, and
- Acquisition of additional right-of-way for operating the line at a higher voltage.

Therefore, in this situation, this option is not cost effective.

Upgrading the transmission line's capacity by increasing the size of the line conductors can sometimes be accomplished with minimal costs. Such would be the case if only the conductors are replaced and all the other hardware and equipment are reused with minor structure adjustments for ground clearances and for the increased loading resulting from the larger conductors. However, typically, the structures are old or not originally designed to handle the increased loading resulting from the larger conductors. Also, in some cases the insulators have to be changed to higher strength type insulators. In most cases, the conductor and shield wire attachment points on the structures will have to be raised to accommodate the greater sag associated with the larger conductors.

TRANSMISSION LINE DESIGN CRITERIA

The Recker to Crews Lake and the Crews lake to Pebbledale 230-kV Transmission Lines were designed and constructed in the 1960's and use old wood, H-frame structures with suspension insulators or single pole wood structures with post insulators to support the 954 or 1590-kcmil, ACSR conductors. A 3.1-mile section of the Crews Lake to Pebbledale Line uses tubular steel poles with 954-kcmil, ACSR conductor.

The original design met the requirements of the then applicable edition of the National Electrical Safety Code. Any future modifications or improvements to the lines will have to comply with the requirements in the current edition of the same code. Drawing No. 2 in

Appendix C shows TECO's original wood, H-frame structure design used for the major portions of these lines.

A summary of the original design criteria used for the existing H-frame, wood pole line is presented in Table 1 along with TECO's current line design criteria applicable to future lines.

Table 1

	Design Criteria for Existing Lines	Design Criteria for New Lines
CONDUCTOR •	954-kcmil, ACSR-S, Code Name "Cardinal"	1590-kcmil, ACSR, Code Name "Lapwing"
OHGW	3/8" HS steel	3/8" HS steel
INSULATION	For wood, H-frame: 11 units 5-3/4" X 10"suspension type For single wood poles: 230-kV post insulators For tubular steel poles: polymer insulators in braced post arrangement	If exiting H-frames reused, 11 units 5-3/4" X 10" high strength suspension type If structures are changed to concrete or tubular steel poles, use polymer insulators in a braced post arrangement
LOADING CONDITIONS	Not known.	NESC Light with following limiting conditions: 75^{0}F with 45psf wind (TECO Extreme) 212^{0}F with no-wind (Maximum Sag) 30^{0}F with no-wind (Minimum Sag)
CONDUCTOR SPACING	For H-frame construction: 17' - 6" with 36' crossarm 19' - 6" with 40' crossarm For single pole construction: 10' between phase conductors 12' between top phase conductor and OHGW.	For H-frame construction: 17' - 6" with 36' crossarm 19' - 6" with 40' crossarm For concrete or steel pole construction: 10' between phase conductors 12' between top phase conductor and OHGW.
BASIC POLE HEIGHT	70' - 75' for H-frames 80' - 85' for single poles	70' - 75' for H-frames 80' - 85' for single poles
CLEARANCE TO GROUND	25'	25'

Both sets of design criteria were used in this analysis to evaluate the feasibility of the various options considered for upgrading the transmission lines to 550-MVA capacity. The design criteria for existing lines were used to determine the design loading of the existing transmission lines. The design criteria for new lines were used to determine if the existing lines can support the larger sized conductor and to determine the required strength of new concrete or steel poles to be used if lines had to be rebuilt.

TRANSMISSION LINE OPTIONS FOR INCREASING CONDUCTOR SIZE

Increasing the size of the phase conductors on the existing transmission lines can be accomplished by re-framing the existing wood, H-frame structures or by replacing them with concrete or tubular steel poles. In either case, we assumed the spans lengths and structure alignments remain the same. If the existing structures are reused, obviously, they will be re-framed in place. If new concrete or steel structures are used, they will be installed in close proximity to the existing structures and along the same centerline. With this approach, no additional right-of-way will be required.

Three options were considered in this analysis for increasing the line conductor size to 1590-kcmil. The three options are described as follows:

Option L1: Reuse the existing wood, H-frame or single pole, wood structures. Modify structures as required and install new 1590-kcmil conductor.

Option L2: Rebuild line in place using spun concrete poles. Install new 1590-kcmil, ACSR conductors on new concrete poles. Then, remove existing wood H-frame structures with 954-kcmil ACSR conductors.

Option L3: Rebuild line in place using tubular steel poles. Install new 1590-kcmil, ACSR conductors on new steel poles. Then, remove existing wood H-frame structures with 954-kcmil ACSR conductors.

TRANSMISSION LINE TECHNICAL FEASIBILITY ANALYSIS

Table 2 lists the basic line criteria, conductor data, conductor loads, preliminary structure loading criteria and capacity factors, and resultant vertical and horizontal loads for H-frame, spun concrete, and tubular steel structures proposed for the three options being considered. Overload factors and safety factors are in accordance with applicable sections of the National Electrical Safety Code (NESC).

Table 2

Basic Line Criteria

Max. Wind (psf)	45	(Extreme wind condition on cylindrical surfaces per TECO)
Average Span (ft.)	457	
Max Wind Span (ft.)	571	
Max Weight Span (ft.)	686	
Conductor Loading Const.	0.05	(in lbs./LF from NESC Table 251-1)
Cylindrical Shape Factor	1.0	(Per NESC 252.B.2.a)

Conductor Data

Conductor Type	954 ACSR	1590 ACSR	3/8" HS Steel	7#10 AW
Weight (lbs./LF)	1.229	1.792	0.237	0.1647
Diameter (in.)	1.196	1.504	0.12	0.306

Conductor Loading per NESC 251

Conductor Type	954 ACSR	1590 ACSR	3/8" HS Steel	7#10 AW
Vertical Load (lbs.)	842	1228	187	113
Horizontal Loads (lbs.)	2562	3222	257	656
Resultant Load (lbs.)	2697	3448	318	665
Total Load (lbs.)	2720	3471	341	688

(Total loads include NESC Loading Constant.)

Structure Loading Criteria and Capacity Factors per NESC 252

(Assumed H-frame structures use Class 1 type wood poles.)

	H-Frame W/954	H-Frame w/1590	Concrete Pole	Tubular Steel Pole
Overload Capacity Factors				
Vertical Loads	2.20	2.20	1.50	1.50
Transverse Loads	4.00	4.00	2.50	2.50
Longitudinal Loads	1.33	1.33	1.10	1.10
Average Pole Height (ft.)	70	70	85	85
Setting Depth (ft.)	10.0	10.0	10.5	10.5
Pole Length Exposed to Wind Load (ft.)	60.0	60.0	74.5	74.5
Pole Top Diameter (in.)	8.6	8.6	18.0	13.0
Pole Diameter at Ground Line (in.)	15.76	15.76	32.9	27.9
Pole Wind Load Area (sq. ft.)	63.1	63.1	158.0	127.0

Table 2
(Continued)

Resultant Vertical and Horizontal Loads

	H-Frame W/954	H-Frame w/1590	Concrete Pole	Tubular Steel Pole
Conductor Vertical Load/Phase (lbs.)	1869	2720	1855	1855
OHGW Vertical Load/Wire (lbs.)	257	441	301	301
Weight of Insulators/Phase (lbs.)	363	165	113	113
Conductor Wind Load/Phase (lbs.)	10335	12973	8108	8108
OHGW Wind Load/Wire (lbs.)	2712	1102	689	689
Wind Load on Poles (lbs.)	2839	2839	7110	5713

TECHNICAL FEASIBILITY OF OPTION L1

The main consideration when increasing the size of line conductors is to determine if the existing structures can support the increased loading resulting from the higher weight and wind loading associated with the larger conductors.

Inherently, wood, H-frame structures are relatively strong and provide greater flexibility than single pole steel or concrete structures. However, they are statically indeterminate structures and difficult to analyze. There are various techniques available for analyzing H-frame structures: (1) classical indeterminate structural analysis, (2) matrix method of structural analysis, and (3) approximate method. The approximate method will be used for this feasibility analysis for the following reasons:

- Wood is a variable product. More accurate analysis techniques do not always mean assured safety,
- Classical indeterminate analysis and matrix methods are too cumbersome,
- Loading inputs for the classical indeterminate analysis and matrix methods cannot be predicted or determined with a high degree of accuracy.

The approximate method was used to analyze the strength of the existing H-frame structures to determine if they can withstand the additional loading resulting from the use of 1590-kcmil ACSR phase conductors. The calculations, included in Appendix A, show the maximum span limitations resulting from comparing the resultant moment from wind loading on poles and conductors at selected critical points along the length of the poles with the available moment capacity of the poles at that same point. The results of the calculations show the following:

- The resultant moment at the point of crossarm attachment allows a maximum span of 352 ft. This is much less than the existing average span of 457 ft.

- The resultant moment at the top cross brace attachment point allows a maximum span of 448 ft. Again, this is less than the existing average span.

- The resultant moment at the bottom cross brace attachment point allows a maximum span of 105 ft. It is also well below the existing average span.

- The resultant ground line moment allows for a maximum span of 203 ft.

Single pole wood structures are easier to analyze than H-frame structures. The typical structure strength calculations are included in Appendix A. They show that the maximum span resulting from comparing the resultant moment from wind loading on the pole and conductors with the ultimate ground line moment of the pole is 14.49 feet which is much less than the existing average span of 275.4 feet.

Clearly, from the results of the H-frame and single pole maximum allowable spans calculations, the existing H-frame and single wood pole structures cannot support the 1590-kcmil, ACSR conductors without major modifications that would be more costly than total line replacement. For this reason, this option was eliminated from further consideration.

TECHNICAL FEASIBILITY OF OPTIONS L2 AND L3

The technical analysis of these two options can be combined because they are very similar in construction and appearance. The loading analysis for these structures is very similar. Currently TECO uses both spun cast concrete poles and tubular steel poles for 230-kV transmission lines throughout their system. The technical feasibility of using either of these types of structures for upgrading the lines has been proven by other existing TECO lines that use 1590-kcmil, ACSR conductors. (See Pictures 12 through 14, 18 through 21, and 24 in Appendix B.)

Generally, tubular steel poles are stronger than wood or concrete poles. They are typically used in situations where guying is required, but not possible, or where longer spans are desired or required. Self supported angle and corner structures are typically made from tubular steel. Tubular steel poles are fabricated and shipped in sections that are assembled at the job site. Thus, they require smaller cranes and erection equipment during construction. Because they are fabricated in sections, they are also better suited for lines built along right-of-ways with difficult or limited access. The smaller pole sections are easier to maneuver through difficult turns and restricted areas.

The major disadvantages of tubular steel poles are higher initial cost, corrosion, the need for foundations and anchor bolts, and they are difficult to modify in the field.

Although steel galvanizing processes have improved, the section joints and other bolted connections on tubular steel poles are prone to corrosion problems. These can be minimized by careful installation procedures that minimize the damaged to the galvanizing coating. Because they are susceptible to corrosion, most utilities avoid direct burial of tubular steel poles. Typically, they are provided with a concrete foundation that requires precise placement, spacing, and embedment of anchor bolts. The foundations and anchor bolts also increase overall line construction costs.

Modification of tubular steel pole structures in the field is very difficult because they cannot be field drilled. They are shipped from the factory complete with welded flanges and other provisions for the installation of insulators and other hardware. Any field modifications are usually accomplished with steel bands around the pole or by having factory personnel come out to the field to make the required modifications. Any field changes that involve removing and replacing the galvanizing coat on the steel becomes a potential source for corrosion.

The initial cost of tubular steel poles can be 30 to 50% higher than concrete poles. However, because they are stronger, the average span of the line can be increased thereby reducing the total number of poles required and bringing the overall constructed cost of the line down to the same range as with concrete poles. Since we will not be changing the existing span lengths for the existing transmission lines, the ability to go longer spans is not applicable negating the strength advantage tubular steel poles have over concrete poles.

Spun cast concrete poles are heavier than but not as strong or as expensive as tubular steel poles. They provide sufficient strength for average transmission line spans of 400 to 600 feet, depending on the size of the conductors, maximum wind loading conditions, and soil conditions. Concrete poles can be directly buried requiring no foundation or anchor bolts. Where soil conditions require it, they are provided with a concrete footing to spread the bearing load at the bottom of the pole and with concrete backfill to provide greater distribution of side bearing loads on the sides of the hole.

With certain limitations, spun concrete poles can be field drilled by construction crews making it possible to make framing modifications during construction.

For upgrading the existing transmission lines, we recommend the use of spun concrete poles. They are currently used by TECO on other transmission lines and they provide the strength and versatility required for such a project. Most of the structures will have a tangent conductor alignment. Where guying is required, the existing right-of-way is wide enough to allow it. In fact, the existing structures are guyed at angle locations.

The cost estimate for increasing the electrical load carrying capacity of the existing transmission lines from Recker to Crews Lake and from Crews Lake to Pebbledale were prepared based on the use of spun cast concrete poles.

SUBSTATION TRANSFORMER OPTIONS

There are two options for increasing the capacity of the transformer at Ariana Substation. They are described as follows:

Option T1: Increase the capacity of the existing transformer by adding auxiliary cooling equipment, or

Option T2: Adding a second transformer at the substation.

EXISTING TRANSFORMER RATINGS

The nameplate information for the existing transformer was provided by TECO and is summarized in the following Table 3.

Table 3

Manufacturer:	McGraw-Edison Power Systems Division
Serial Number:	C04020-5-1
Class:	FOA
Number of Phases:	3
Frequency:	60-Hz
KVA Rating:	150000/168000 kVA
Voltage Ratings:	225000GRD.Y/129904-69000GRD.Y/39837 Volts
Temperature Rise:	55^0/65^{0}C Rise @ Full Load Continuously
Percent Impedance:	8.6% at 150000-kVA
Basic Lightning Impulse Insulation Level:	825-kV high voltage side 350-kV low voltage side 150-kV neutral bushings
Approximate Total Mass:	318,400 Lbs.
Insulating Liquid:	Mineral Oil

TRANSFORMER TECHNICAL FEASIBILITY ANALYSIS

The autotransformer at Ariana Substation has a nominal, OA rating of 150-MVA. To reach its FOA rating of 168-MVA, it has two sets of radiators, oil pumps, and fans mounted on the north side of the transformer as shown in Pictures 2, 3, 6 and 7 in Appendix B. It is not clear, if the FOA rating is achieved in stages or if the cooling fans and pumps all come on at the same time. They seem to be separate, independent systems.

The substation layout provides space for the future addition of a second transformer next to the existing one.

The American National Standards Institute (ANSI) Standard C57.92, IEEE Guide for Loading Mineral-Oil-Immersed Power Transformers Up to and Including 100-MVA with 55 ^{0}C or 65 ^{0}C Average Winding Rise, provides transformer loading limits for normal operation and for moderate sacrifice of life. Although intended for transformers rated less than 100-MVA the Standard can be applicable to this transformer with certain restrictions. The standard says:

> *"Loading of transformers larger than 100-MVA may be limited by factors other than insulation aging such as stray flux, etc. When it is known that such limitations do not exist and insulation aging rather than oil temperature, gassing, tank heating, etc is the controlling factor, this guide may be used."*

Assuming the loading of the transformer at Ariana Substation is not restricted by any of the limiting factors referred to in ANSI Standard C57.92 and that the original transformer design was performed in accordance with ANSI Standard C57.12.00, then its loading limitations can be determined using the information provided in ANSI Standard C57.92.

According to Table 5(l) of ANSI C57.92, with ambient temperature of 30 ^{0}C (86 ^{0}F), the Ariana transformer can be continuously loaded to 100% of its FOA rating. Under those loading conditions, according to the ANSI Standard, the transformer will reach its normal life expectancy of 6.5 X 10^4 hours (7.4 years) which represents a normal daily loss of life of 0.0369%. The actual life expectancy of the transformer should be considerably greater than 6.5 X 10^4 hours since it is not fully loaded 100% of the time and ambient temperature is not always 30^{0}C. For most transformers, actual life expectancy is 30 to 35 years.

To stay within the temperature rise limitations of the transformer, the continuous load has to be reduced whenever the ambient temperature increases above 30 ^{0}C. For example, at 40 ^{0}C (104 ^{0}F), the continuous load has to be reduced to 91% of the FOA rating or 153-MVA so as not to shorten the life expectancy of the transformer.

At the 30°C ambient temperature, the transformer can be loaded as follows:

Duration	Peak Load (MVA)	Percent of FOA Rating	Percent Loss of Life
½ Hour	274	163	0.25
1 Hour	250	149	0.25
2 Hours	232	138	0.25
4 Hours	217	129	0.25
8 Hours	207	123	0.25
24 Hours	193	1.15	0.25

The table shows that for a 0.25% reduction in the normal life expectancy of the transformer it can be loaded for over 4 hours at 220-MVA which is the overload condition projected by the NCI study for the transformer at Ariana.

This points to an option that cannot be quantified at this time, but one we recommend pursuing with TECO. According to the NCI study, the transformer overload condition is expected to last less than one-hour. Since it will be of such short duration, the anticipated loss of life will be less than 0.25%. We have extrapolated the data provided in Table 5 (l) in ANSI Standard C57.92 and determined that the projected loss of life for operating the transformer at 220-MVA for one-hour each day would be 0.16%. That equates to a reduction of 4.3 days from the normal life expectancy of the transformer for each occurrence of this overload condition.

It should be possible, and probably less costly to negotiate a price with TECO for this projected loss of life so that they would be made whole in case such an overload condition occurred. This would eliminate the need to pursue the options being considered.

TECHNICAL FEASIBILITY OF OPTION T1

Before considering the detailed technical feasibility of this option, the construction sequence for its implementation should be reviewed. Replacing the radiator, cooling fans and oil circulating pumps on the existing transformer will require its removal from service for a long time. Since this is the only transformer at Ariana Substation, removing it from service essentially shuts down the entire substation and removes one source feeding TECO's 69-kV system. Therefore, to perform the required transformer modifications, the installation of a temporary transformer may be required to maintain the substation operational while the transformer is being modified.

This requirement will be included in the cost assessment of this option.

To increase the forced cooled loading capacity of the existing transformer to 220-MVA (50% above its OA rating), additional auxiliary cooling equipment such as fans, external forced-oil coolers, or water spray equipment will have to be provided. The amount of additional loading capacity resulting from the addition of auxiliary cooling equipment varies widely, depending upon:

- Design characteristics of the transformer
- Type of auxiliary cooling equipment provided

No general rules can be given for such supplemental cooling. Each transformer must be evaluated individually.

The standard levels of overload capacity using auxiliary cooling equipment are 125%, 133%, and 166% of the transformer's OA rating, corresponding to 187.5, 199.5, and 249-MVA respectively for the Ariana Substation transformer. These levels are industry wide standards. Therefore, an increase to 220-MVA rating for the Ariana transformer is within standard industry practice.

However, unless provisions were made in the original transformer design for the future addition of cooling equipment, retrofitting such equipment on an existing transformer can be expensive and limited by the original design criteria. And, the effectiveness of such modifications is not always predictable.

Internal limitations may also exist that are difficult to evaluate without additional information about the detailed design of the transformer. Some of these are:

- Capacity for oil expansion
- Size of internal leads
- Tap Changer current carrying capacity
- Stray flux heating.

In addition, there are external limitations that must also be considered such as the thermal capability of associated equipment such as busses, conductors, cables, circuit breakers, disconnecting switches, and current transformers.

At 69-kV, the original design provided for a minimum of 1400-A per phase at the FOA loading level. At the projected load of 220-MVA, the phase current would be 1840-A. That represents an additional 440-A per phase on the 69-kV side of the transformer. All external 230-kV and 69-kV equipment associated with the transformer should be capable of carrying the additional current.

Assuming there are no internal or external limitations to increasing the rating of the transformer to 220-MVA, adding cooling fans to the existing transformer would require major modifications. The existing radiators would have to be replaced with much larger units with greater surface area to make the fans more efficient. Additional radiators would be required. They could be installed on the west side of the transformer, which is the only unencumbered side. The potential transformers and air-break switches north of the transformer will have to be relocated along with their associated support structures and foundations. (See Pictures 6, 7, 10, 11, 16, and 17 in Appendix B.)

The existing fans and oil circulating pumps are fed from an auxiliary transformer rated 75-kVA. It will not have sufficient capacity to provide a viable source of power for the larger number of fans and oil circulating pumps required. The associated power distribution panelboard will also have to be replaced to provide a greater number of circuits for the new fans and pumps.

Pumping the oil through the radiators would reduce the number of fans required. However, the efficiency of forced oil circulation is limited by diminishing returns. In order to release the optimum amount of heat the oil has to be in contact with the cooled radiator surfaces for a given period of time. The length of contact time required is determined by the ambient temperature and humidity, the heat exchange ratios between the oil and the radiators, and the amount of heat the external fans can remove from the radiators.

Forcing the flow of oil through the radiators faster than the required amount of time it takes for optimum heat removal is not cost effective. Typically, oil-pumping equipment can provide between a 12% and 20% increase in the rating of the transformer. That would provide a boost of 18 to 30-MVA. The remaining 40 to 52-MVA required over the OA rating will have to be provided by cooling fans.

In conclusion, while the addition of auxiliary cooling equipment to increase the rating of the existing transformer at Ariana Substation is technically feasible, it will require extensive modifications to the transformer and the surrounding equipment. It will also require the installation of a temporary transformer to maintain the substation in service during construction.

The proposed modifications will include the following as minimum:

- Coordinating with TECO and transformer manufacturer to verify that the rating increase is not limited by the internal transformer limitations discussed previously,
- Verifying that the ratings and capacities of associated equipment and hardware are high enough to accept the increased currents and associated heating,
- Installing a temporary transformer with associated busses, disconnect switches, and with self contained metering and relaying devices,
- If required, replacing external equipment that is undersized for the increased current flows,
- Relocating existing air-break switches and potential transformers with associated supports,
- Removing existing radiators with associated fans, oil circulating pumps, and associated piping and replacing with larger radiators with new fans, oil circulating pumps, and piping, and
- Relocating existing lightning arrestors currently located directly over the existing radiators.

TECHNICAL FEASIBILITY OF OPTION T2

The approach for adding a second transformer at the Ariana Substation includes providing a new transformer bay adjacent to the existing transformer. The substation layout provides space for a second transformer to be added at a future date. There are no technical limitations for the implementation of this option.

SECTION 4

SECTION 4 COST ESTIMATES

Prices for equipment, materials, and labor were obtained from past NCI projects, local contractors, vendors, manufacturers, and other utilities. All prices were adjusted to 1999 prices using the "handy-Whitman Index of Public Utility Construction Costs". The 1999 prices were increased by 3% to approximate Y2000 prices. This increase is based on an assumed annual inflation rate of 3%.

Table 4 provides a breakdown of the estimated construction cost for upgrading the two short sections of the Recker to Crews Lake Line that currently uses 954-kcmil, ACSR conductor. Table 5 provides a breakdown of the estimated cost for upgrading the structures and conductors in the wood pole sections of the Crews Lake to Pebbledale Line and the conductor in the existing section of he line that currently uses single pole tubular steel structures. Table 6 provides a breakdown of the estimated construction costs for adding auxiliary cooling equipment to the existing 150-MVA transformer at Ariana Substation. Finally, Table 7 provides a breakdown of the estimated construction cost for adding a second transformer at Ariana Substation.

The following budget level construction cost estimates have an accuracy of ± 15%.

Table 4

**Construction Cost Estimate for
Upgrading Sections of the
Recker to Crews Lake 230-kV Transmission Line**

Assumptions:
Flat terrain
Normal access
1590-kcmil ACSR conductor
3/8" overhead ground wire
Existing right-of-way is adequate
No environmental statement required
Poles are spun cast concrete
Line is single circuit
Line section length is 7387' (= 1.4 miles)
Number of tangent structures = 14
Number of corner structures = 4
Number of deadend structures = 1

Table 4

(Continued)

Cost Estimate:

Concrete Poles	104,710
Guying	23,000
Conductor	209,860
Overhead Ground Wire	34,010
Insulators and Hardware	53,120
Demolition	12,470
Surveying	4,200
Geological Investigation	7,000
Engineering	67,260
Construction Services	53,800
TOTAL	**$569,430**

Table 5

Construction Cost Estimate for
Upgrading the Crews Lake to Pebbledale 230-kV Transmission Line

Assumptions:
- Flat terrain
- Normal access
- 1590-kcmil ACSR conductor
- 3/8" overhead ground wire
- Existing right-of-way is adequate
- No environmental statement required
- New poles will be spun cast concrete
- Line is single circuit
- Line length is 33,088′ (= 6.3 miles)
- Number of tangent structures = 47
- Number of corner structures = 10
- Number of deadend structures = 2
- Number of angle structures = 6

Cost Estimate:

Concrete Poles	155,340
Guying	50,600
Conductor	710,940
Overhead Ground Wire	110,420
Insulators and Hardware	83,900
Demolition	40,440
Surveying	9,600
Geological Investigation	16,000
Engineering	129,500
Construction Services	117,720
TOTAL	**$1,424,460**

Table 6

Construction Cost Estimate for Adding Auxiliary Cooling Equipment to Existing Transformer at Ariana Substation

Assumptions:
- No site work required
- Normal access
- Soil is adequate for new equipment foundations
- No additional land required
- No control building required
- No environmental statement required
- Existing transformer suitable for upgrading

Cost Estimate:

Auxiliary Cooling Equipment	370,330
Modifications to Existing Transformer	166,650
Installation of Cooling Equipment	53,700
Adjustments and Relocation of Surrounding Equipment	113,130
Temporary Transformer	281,420
Demolition	83,770
Surveying	7,200
Engineering	160,350
Construction Services	128,280
TOTAL	**$1,364,830**

Table 7

Construction Cost Estimate for
Adding a Second Transformer at Ariana Substation

Assumptions:
- No site work required
- Normal access
- Soil is adequate for new foundations
- No additional land required
- No control building required
- No environmental statement required
- Existing transformer stays
- New transformer is 150-MVA, FOA to match existing

Cost Estimate:

New Transformer	2,574,690
Circuit Protection Device (Breaker)	187,720
Switches	58,740
Control and Protection Systems	83,010
Bus Systems (230-kV and 69-kV)	126,420
Equipment Support Foundations	152,390
Surveying	12,000
Engineering	477,450
Construction Services	381,960
TOTAL	**$4,054,380**

SECTION 5

SECTION 5 CONCLUSIONS AND RECOMMENDATIONS

The existing wood, H-frame and single pole structures in sections of the Recker to Crews Lake and Crews Lake to Pebbledale 230-kV Transmission Lines are not strong enough to support the larger 1590-kcmil, ACSR conductors. Therefore, those line sections should be upgraded using spun cast concrete poles. Upgrading the line sections in the Recker to Crews Lake Line will cost approximately $549,880. Upgrading the sections of the Crews Lake to Pebbledale Line will cost approximately $1,424,460.

To resolve the transformer overloading problem at Ariana Substation we looked at two conventional options and one potential option that requires no physical modifications to the Substation; but does require entering into negotiations with TECO regarding compensation for the planned loss of life of the transformer.

For obvious economic and scheduling reasons, we recommend pursuing the following options in the order in which they are:

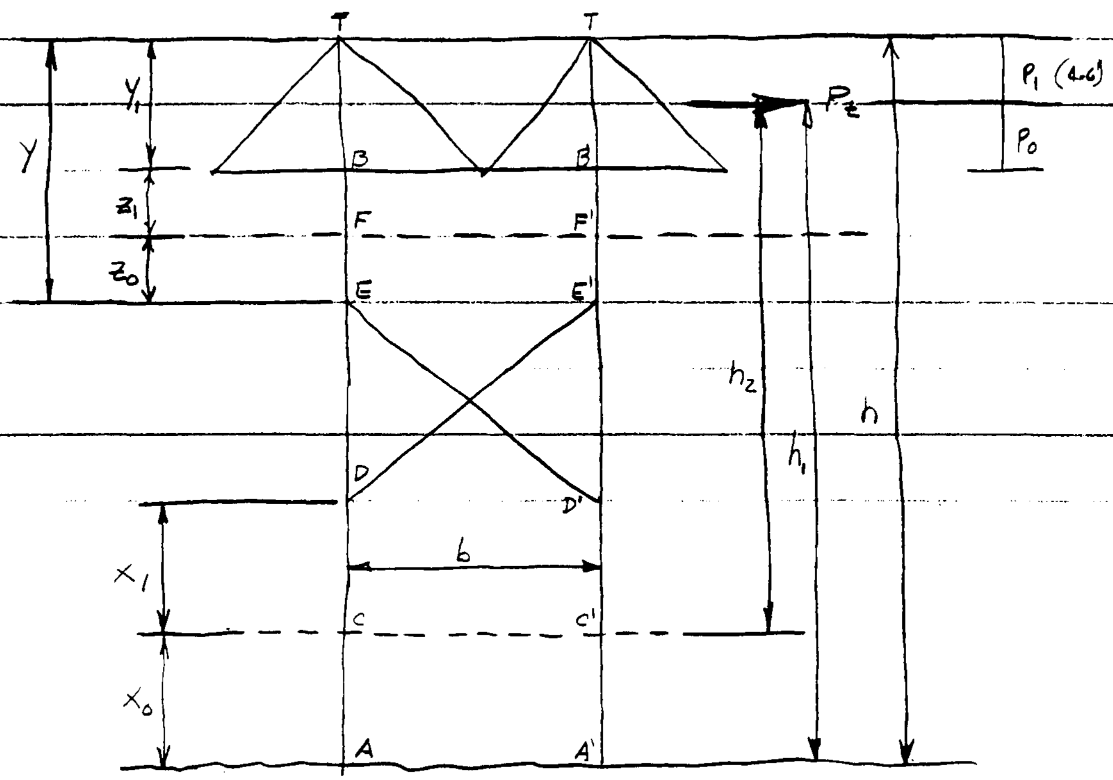
- Making no changes at the substation and entering negotiations with TECO to arrive at an equitable method for reimbursing them for the loss of life of the transformer resulting from the short periods of overloading above its FOA rating.
- Adding auxiliary cooling equipment to the existing transformer to increase its capacity by 50% to 220-MVA. While this is technically feasible and less costly than installing a new larger transformer at the Substation, it is subject to many limitations including those limitations imposed by the original transformer design. These limitations are not apparent from a physical inspection of the transformer. Therefore, we were not able to evaluate them. This option requires the installation of a temporary second transformer at the substation to maintain the station in service while the modifications are made to the existing transformer.
- Adding a second transformer at Ariana Substation is the most costly option. While it does not carry any of the caveats that the two previous options have, it is three times more costly than the addition of cooling equipment to the existing transformer. It requires the installation of a new transformer bay at the station with associated breakers, bus, and switches.

APPENDICES

APPENDIX A CALCULATIONS

Calculation of Max Horiz Spans for H-Frame, Wood Pole Structure

Conductor is 1590 ACSR



For the TECO Structure:

$Y = 19'$ $\quad x_1 + x_0 = 21'$

$Y_1 = 10'$ $\quad z_1 + z_0 = 9'$

$h = 59'\text{-}6''$ $\quad P_1 + P_0 = 10'$

$b = 19'\text{-}6''$ $\quad h_1 = 60' - 4.6' = 55.4'$

$$\frac{x_0}{x_1 + x_0} = \frac{C_A(2C_A + C_D)}{2(C_A^2 + C_A C_D + C_D^2)}$$

$h_2 = h_1 - x_0 = 55.4' - 11.3$

$h_2 = 44.1'$

Where: C_A = circumference at point A = 49.5"

C_D = circumference at point D = 44"

$$X_o = \left[\frac{\overset{143}{49.5\left[(2\times 49.5)+44\right]}}{\underset{6564.25}{2\left[(49.5)^2+(49.5\times 44)+(44^2)\right]}}\right]\times 21'$$

$x_o = 11.3' \implies x_1 = 9.7'$

Also

$$\frac{Z_o}{Z_1+Z_o} = \frac{C_E\,(2C_E+C_B)}{2(C_E^2+C_EC_B+C_B^2)}$$

Where: C_E = circumference at point E = 3[illegible]

C_B = circumference at point B = 30.[illegible]

$$Z_o = \left[\frac{\overset{3443.1}{34.5\left[(2\times 34.5)+30.8\right]}}{\underset{6402.98}{2\left[(34.5)^2+(34.5\times 30.8)+(30.8)^2\right]}}\right] 9$$

$Z_o = 4.8 \implies Z_1 = 4.2'$

$$\frac{P_o}{P_1+P_o} = \frac{C_B\,(2C_B+C_T)}{2(C_B^2+C_BC_T+C_T^2)}$$

C_B = circumference at point B = 30.8"

C_T = circumference at point T = 27"

$$P_o = \left[\frac{\overset{2728.88}{30.8\left[(2\times 30.8)+27\right]}}{\underset{5018.48}{2\left[(30.8)^2+(30.8\times 27)+(27)^2\right]}}\right] 10'$$

$P_o = 5.4' \implies P_1 = 4.6'$

Max Horizontal Spans (w/ 1590 ACSR Cond. on H-Frames)

$$HS_B = \left[M_B - \frac{(OCF)(F)(Y - Z_0)(d_t + d_F)(Z_1)}{2} \right] \Big/ \left[\frac{(OCF)(P_t)(Z_1)}{2} \right]$$

Where: HS_B = Max. Horiz. Span due to moments at point B

2?,300 lbs M_B = Moment capacity at point B (ft-lbs)

OCF = Overload capacity factor

F = Wind pressure on cylindrical surface (psf)

Y = 19'

Z_0 = 4.8'

d_t = Pole diameter at pole top (ft)

d_F = Pole diameter at point F (ft)

Z_1 = 4.2'

P_t = Total horiz force/LF due to wind on conductors & OHGW (lbs/ft)

In this case: M_B = 61,400 (ft-lbs) from REA Bulletin 1724E-200, Appendix F Page F-11

OCF = 4.0 from NESC

F = 45 (psf)

d_t = 8.6/12 (ft)

d_F = 10.97/12 (ft)

P_t = (5.64 lbs/ft × 3) + (.45 lbs/LF × 2)

= 17.82

So:

$$HS_B = \frac{\left[61{,}400 - \frac{4.0 \times 45 \times 14.2 \times 1.63 \times 4.2}{2}\right]}{\left[\frac{4.0 \times 17.82 \times 4.2}{2}\right]}$$

$$HS_B = \frac{61{,}400 - 8749.19}{149.69} = \underline{\underline{351.73'}} < 457' \text{ Exist. Avg. Span}$$

$$HS_E = \left[M_E - \frac{(OCF)(F)(Y - Z_o)(d_t + d_f)(Z_o)}{2}\right] \Big/ \left[\frac{(OCF)(P_T)(Z_o)}{2}\right]$$

Where: HS_E = Max. Horiz. Span due to moments at point E
M_E = Moment capacity at point E (ft-lbs)

All other variables are the same

In this case: M_E = 86,700 (ft-lbs)

$$HS_E = \left[86{,}700 - \frac{4.0 \times 45 \times 14.2 \times 1.63 \times 4.8}{2}\right] \Big/ \left[\frac{4.0 \times 17.82 \times 4.8}{2}\right]$$

$$HS_E = \frac{86{,}700 - 9999.07}{171.07} = \underline{\underline{448.36'}} < 457' \text{ Avg. Span}$$

$$HS_D = \left[M_D - \frac{(OCF)(F)(h-x_0)(x_1)(d_t+d_c)}{2} \right] \Big/ \left[\frac{(OCF)(P_t)(x_1)}{2} \right]$$

Where: HS_D = Max Horiz. Span due to moments at point D

M_D = Moment capacity at point D (ft-lbs)

d_c = Pole diameter at Point C (ft)

In this case: M_D = 152,200 (ft-lbs)

d_c = 14.08/12 ft

All other variables have the same meanings & values

So:

$$HS_D = \left[152,200 - \frac{4 \times 45 \times 48.2 \times 9.7 \times 1.89}{2} \right] \Big/ \left[\frac{4 \times 17.82 \times 9.7}{2} \right]$$

$$HS_D = \frac{152,200 - 79,528.55}{691.42} = 105.1'$$

105.1' << 457' Exist Avg Sp

$$HS_A = \left[M_A - \frac{(OCF)(F)(h-X_o)(X_o)(d_t-d_c)}{2} \right] / \left[\frac{(OCF)(P_t)(X_o)}{2} \right]$$

Where: HS_A = Max. Horiz. Span due to moments at point A, ground line moments.

M_A = Moment capacity at point A (ft-lbs)

In this case: M_A = 256,000 (ft-lbs)

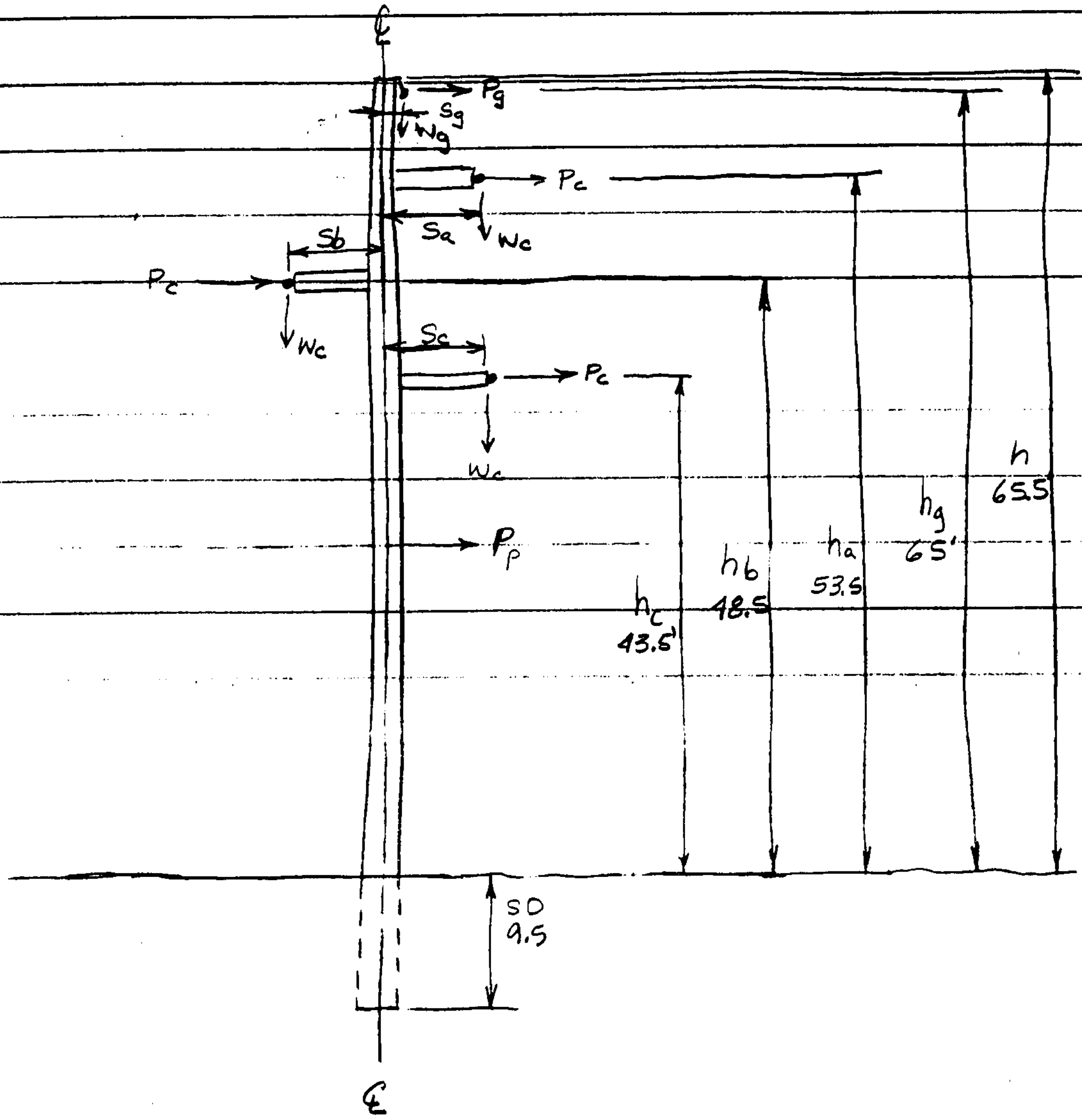
All other variables have the same meanings & values

So:

$$HS_A = \left[256000 - \frac{4.0 \times 45 \times 48.2 \times 11.3 \times 1.89}{2} \right] / \left[\frac{4 \times 17.82 \times 11.3}{2} \right]$$

$$HS_A = \frac{256{,}000 - 92{,}646.67}{805.46} = 202.8' < 457'$$

Calculation of Max Horiz Spans for
Single, Wood Pole Structure



Assume: Pole is 75' tall
Conductors are Δ configuration
Max wind loading 45psf
Horiz. Span = 280'
Vertical Span = 300'
Ruling Span = 275.4' (Calculated)
No adjustment Required for additional sag.
Assume Poles are Class H-1

Max Horiz. Span (w/ 1590 ACSR Cond.)

$$HS = \frac{M_A - (OCF)(M_{wp})}{(OCF)[(P_c)(h_a + h_b + h_c) + (P_g)(h_g)] + (OCF)[(W_c)(S_a + S_b + S_c) + (W_g)(S_g)]}$$

Where: M_A = Ultimate Groundline Moment Capacity of Pole

OCF = Overload Capacity Factor (from NESC)

$M_{wp} = \frac{(P_p)(2d_t + d_a)(h)^2}{6}$ = Moment Due to Wind on pole (ft-lbs)

Where: P_p = Wind Press. on Pole (psf)

d_t = Pole Top Diameter (ft)

d_a = Pole Groundline Diameter (ft)

h = Pole Height Above Groundline (ft)

HS = Horizontal Span (ft)

P_c = Wind Pressure on Conductor per Unit Length (lbs/ft)

h_a = Height of A Phase (ft)

h_b = " " B Phase (ft)

h_c = Height of C Phase (ft)

P_g = Wind Press. on OHGW per Unit Length (lbs/ft)

h_g = Height of OHGW (ft)

W_c = Weight of Cond per Unit Length (lbs/ft)

S_a = Horiz. Dist. from Pole Center to A Phase (ft)

S_b = " " " " " " B Phase (ft)

S_c = " " " " " " C Phase (ft)

W_g = Weight of OHGW per Unit Length (lbs/ft)

S_g = Horiz. Dist. from Pole Center to OHGW (ft)

In this case:

M_A = 331,700 ft-lbs (from REA Bulletin 1724E-200, App. F, Pg F-1

OCF = 4.0 (from NESC)

P_p = 45 psf

d_t = .769 ft

d_a = 1.43 ft

h = 65.5 ft

P_c = 5.64 lbs/ft

h_a = 53.5 ft

h_b = 48.5 ft

h_c = 43.5 ft

P_g = .45 lbs/ft

h_g = 65 ft

W_c = 1.792 lbs/ft

S_a = 5 ft

S_b = 5 ft

S_c = 5 ft

W_g = .273 lbs/ft

S_g = .63 ft

So:

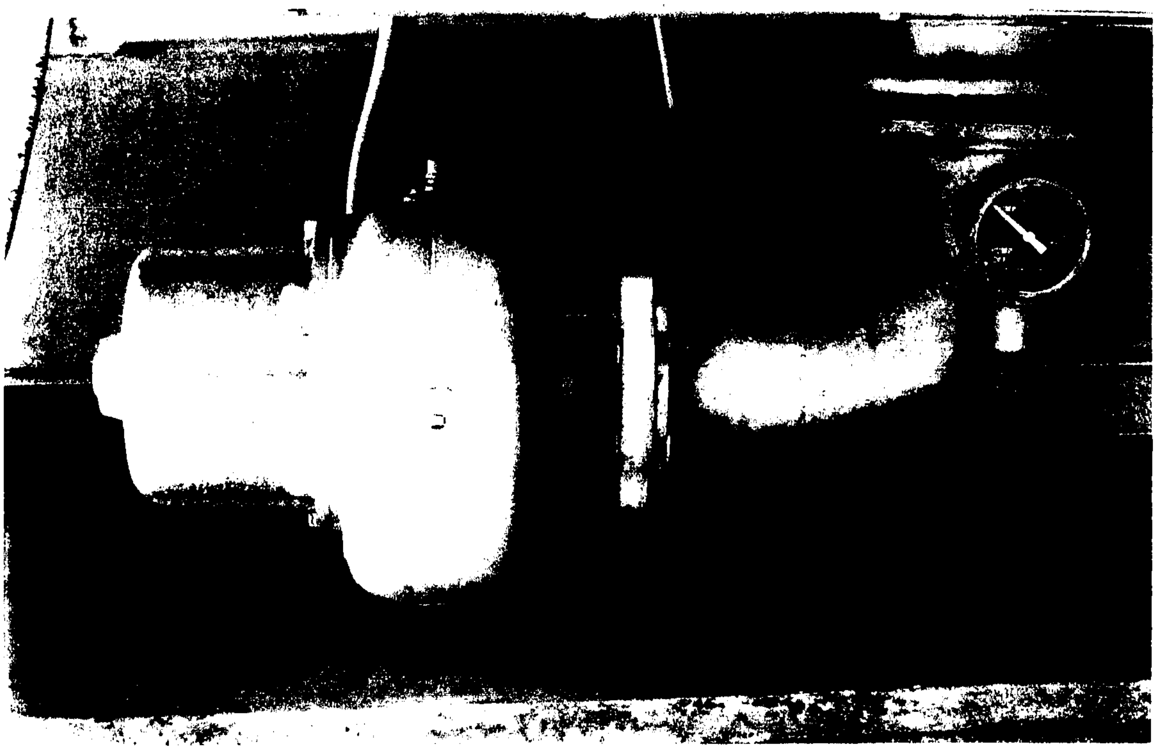
$$M_{wp} = \frac{45 \times (2 \times .769 + 1.43)(65.5)^2}{6} = \underline{\underline{95,501}} \text{ ft-lbs}$$

$$HS = \frac{331,700 - (4 \times 95,501)}{4[5.64 \times \underset{145.5}{(53.5+48.5+43.5)} + \underset{29.25}{.45 \times 65}] + 4[\underset{17.92}{1.792(10)} + \underset{.17199}{.273 \times (.63)}]}$$

$$HS = \frac{331,700 - 382,004}{3399.48 + 72.37} = -\frac{50,304}{3471.85} = -\underline{\underline{14.49'}}$$

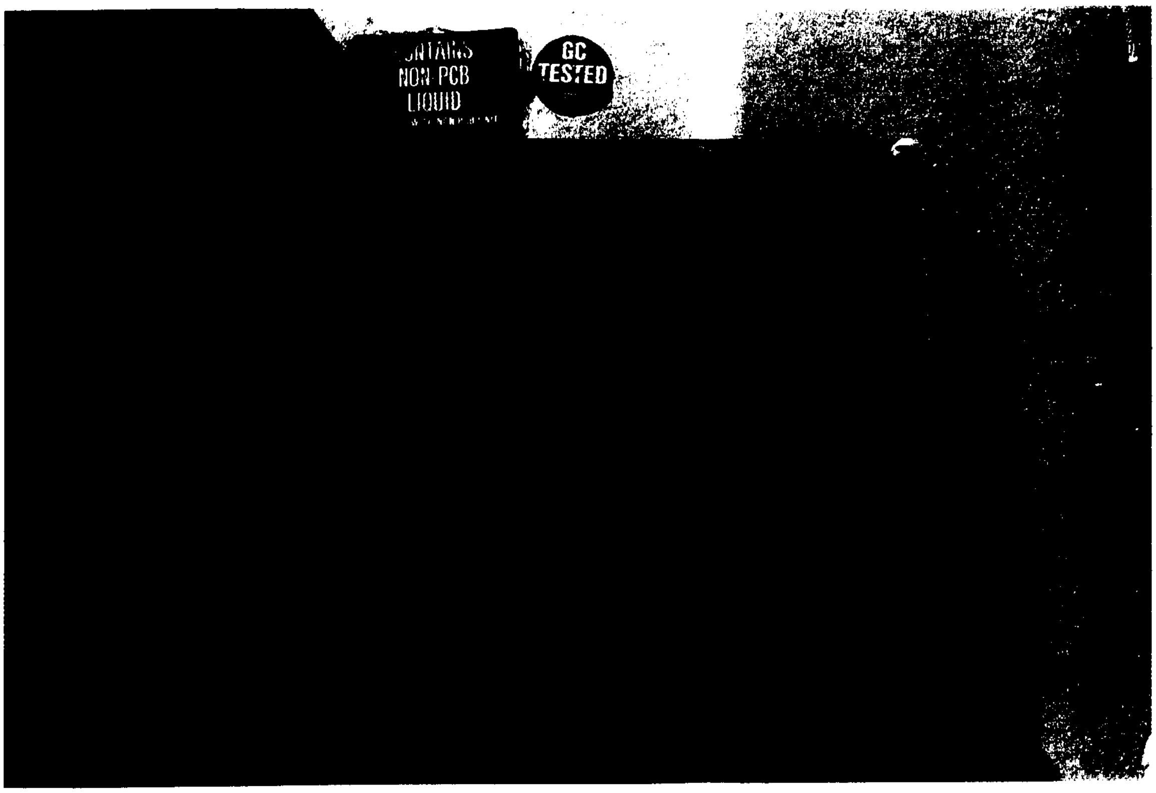
Negative No. implies pole is not strong enough to carry 1590 kcmil conductors.

Picture 1: Nameplate for 75-KVA station power transformer mounted on 150-MVA transformer at Ariana Substation.

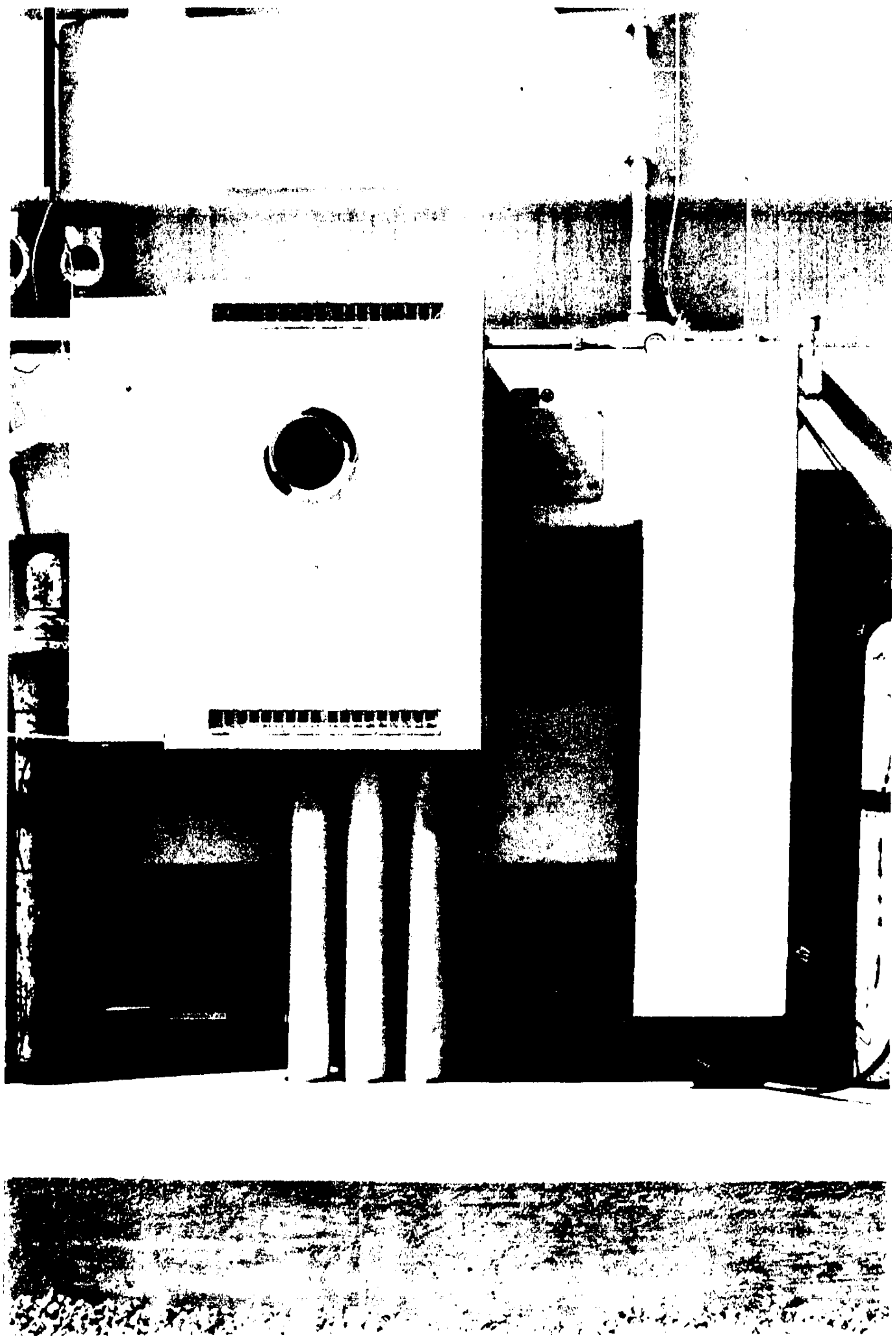


Picture 2: Oil pump for west radiator on 150-MVA transformer

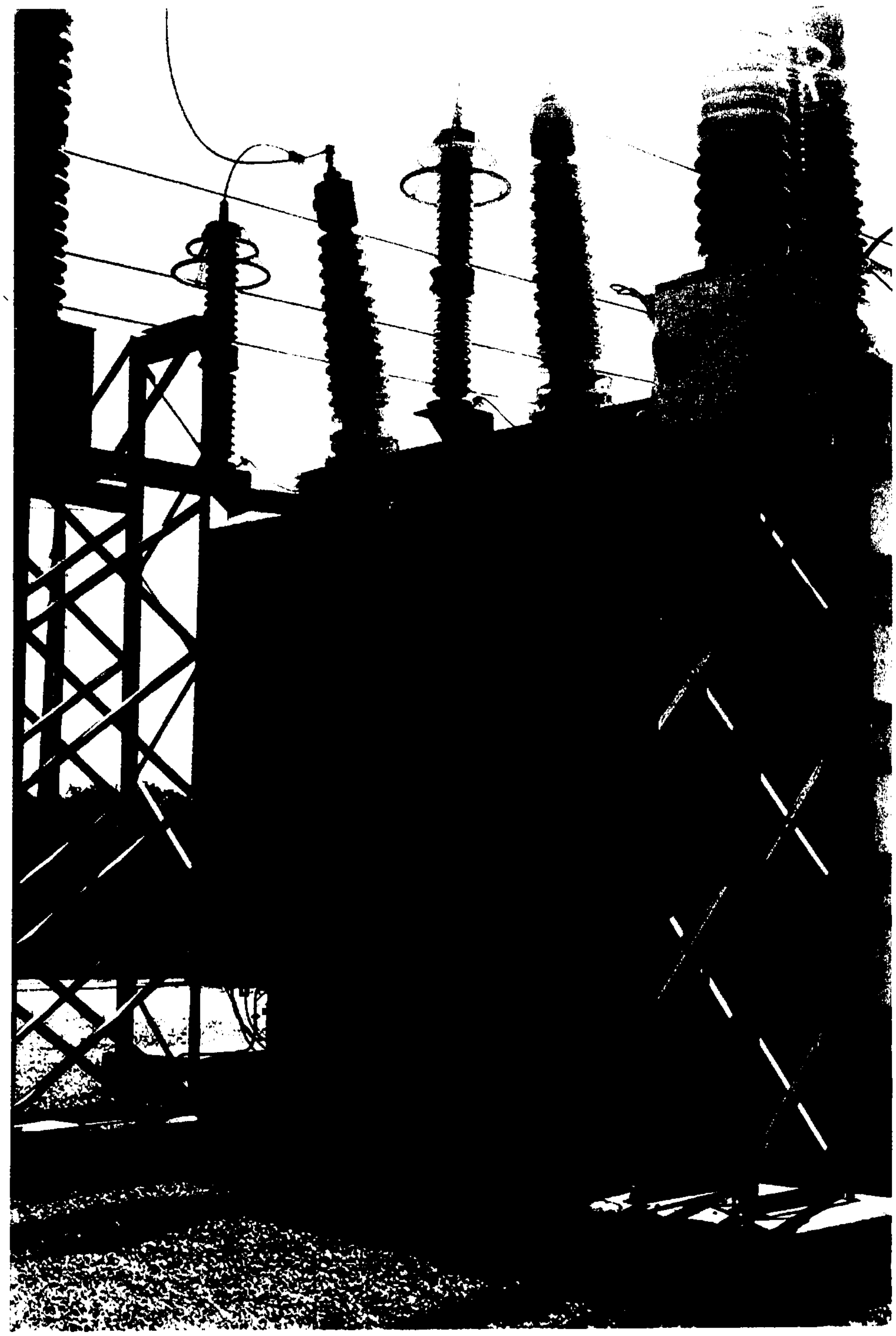
Picture 3: Oil pump for east radiator on 150-MVA transformer



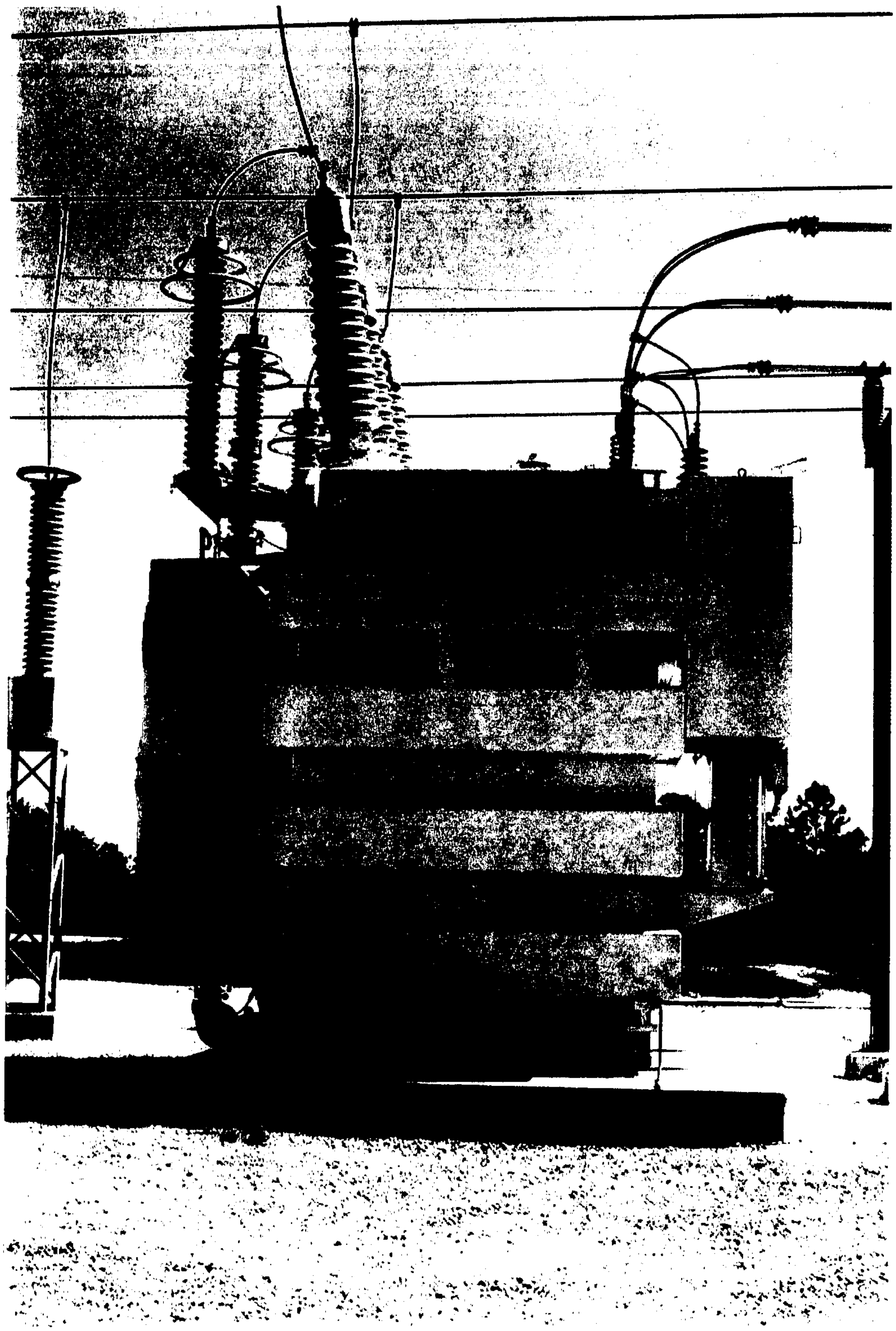
Picture 4: 150-MVA Transformer Nameplate



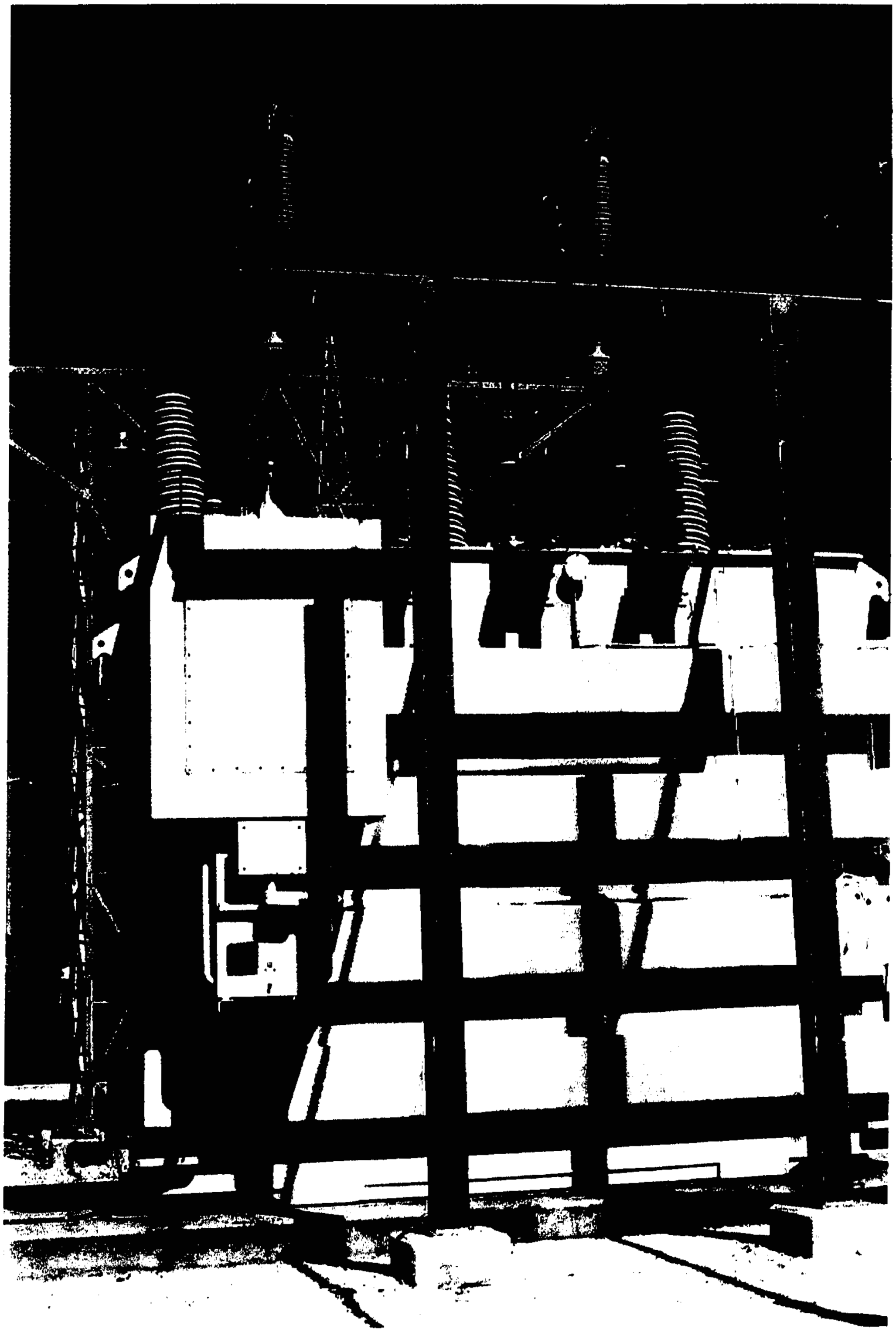
Picture 5: 480-V power distribution panel board on 150-MVA transformer



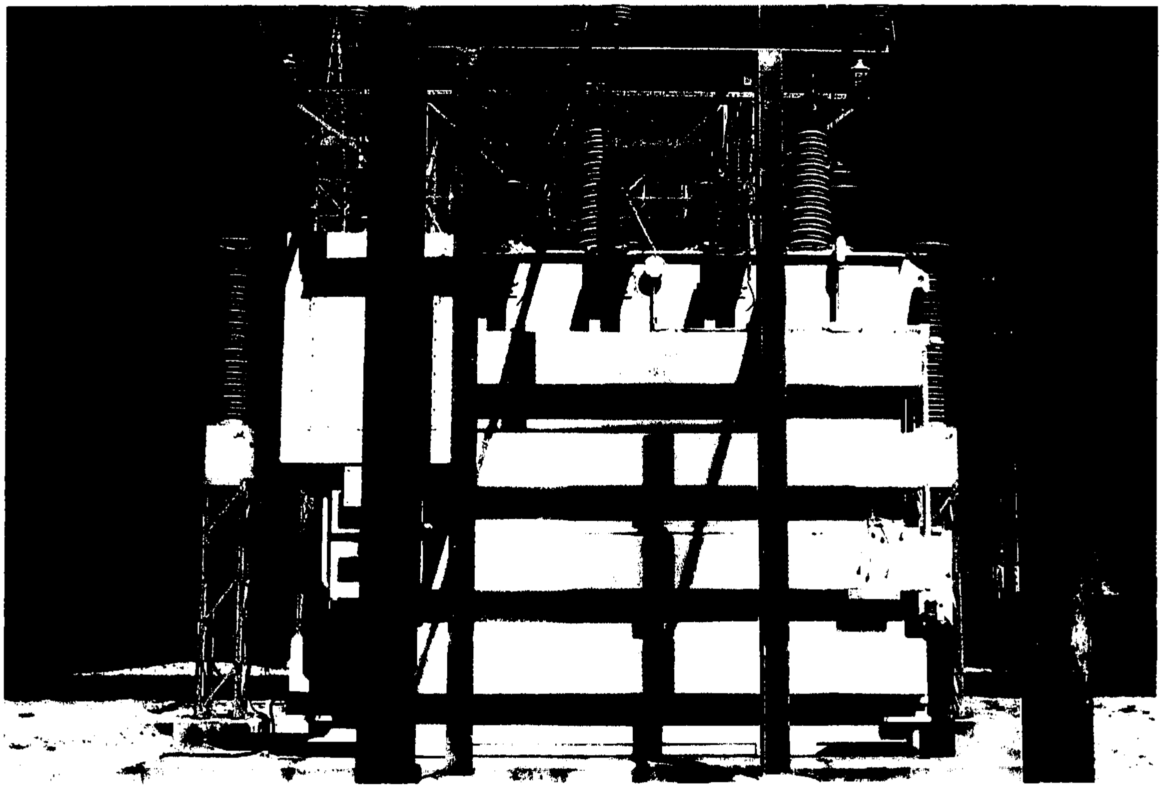
Picture 6: View of existing radiators and fans on 150-MVA transformer (Note proximity to potential device supports)



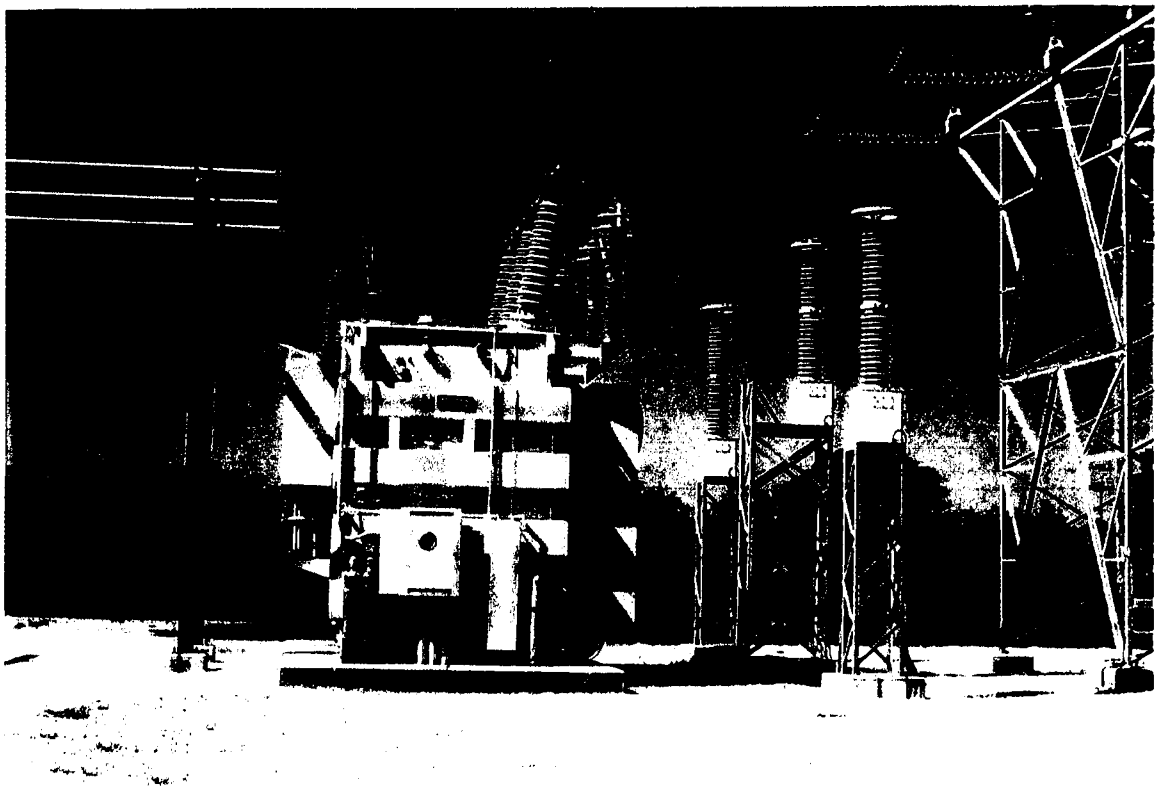
Picture 7: West side of 150-MVA transformer. Potential location for new auxiliary cooling devices.



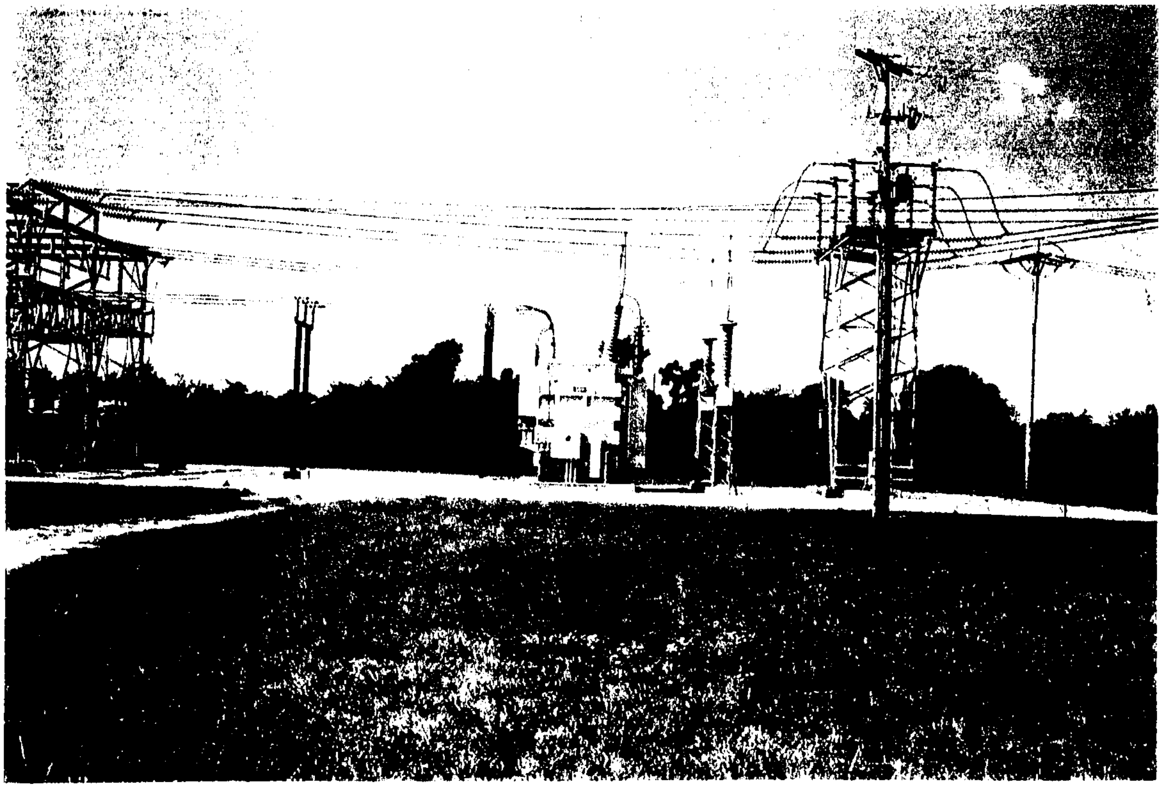
Picture 8: South side of 150-MVA transformer showing LTC.



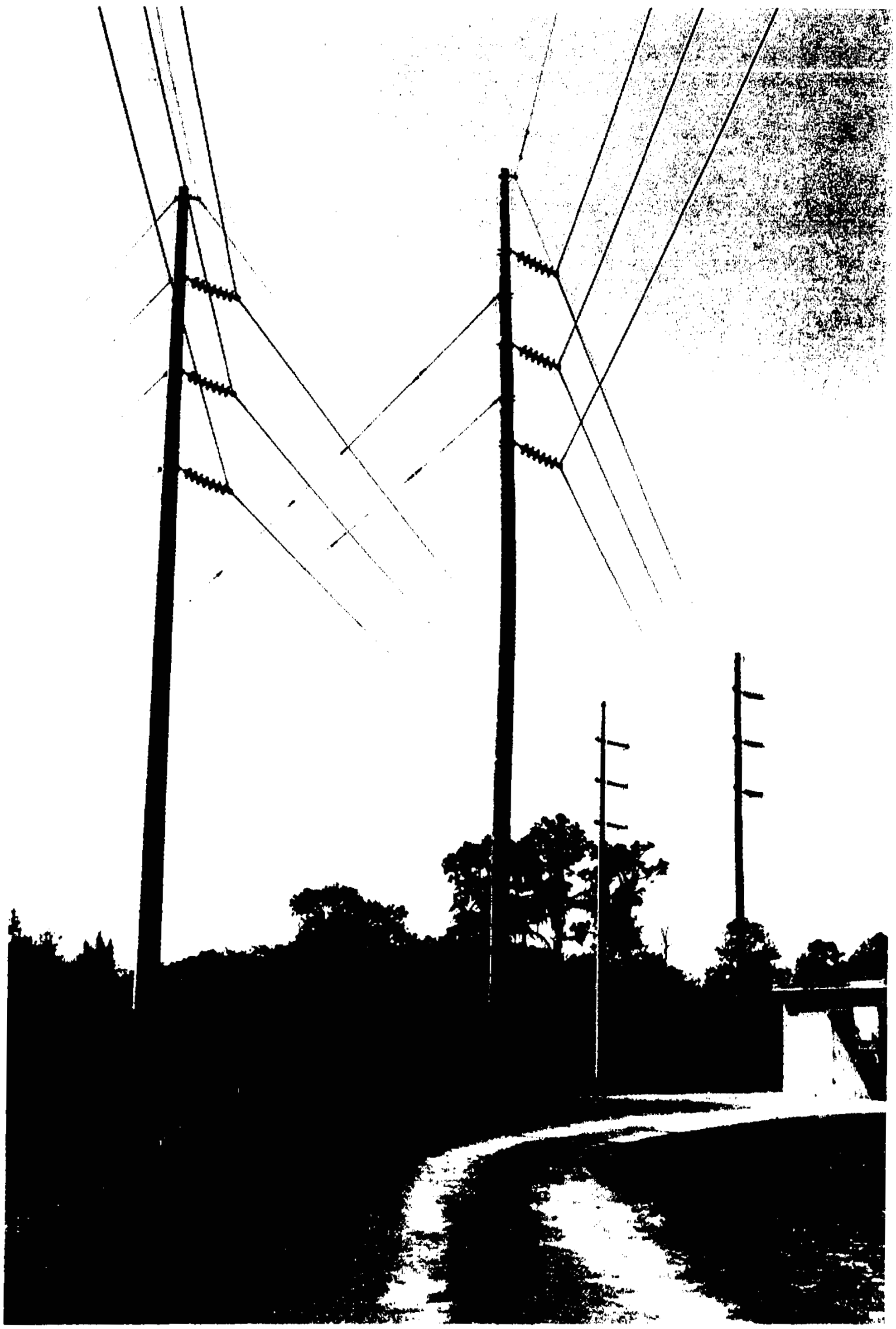
Picture 9: South side of 150-MVA transformer



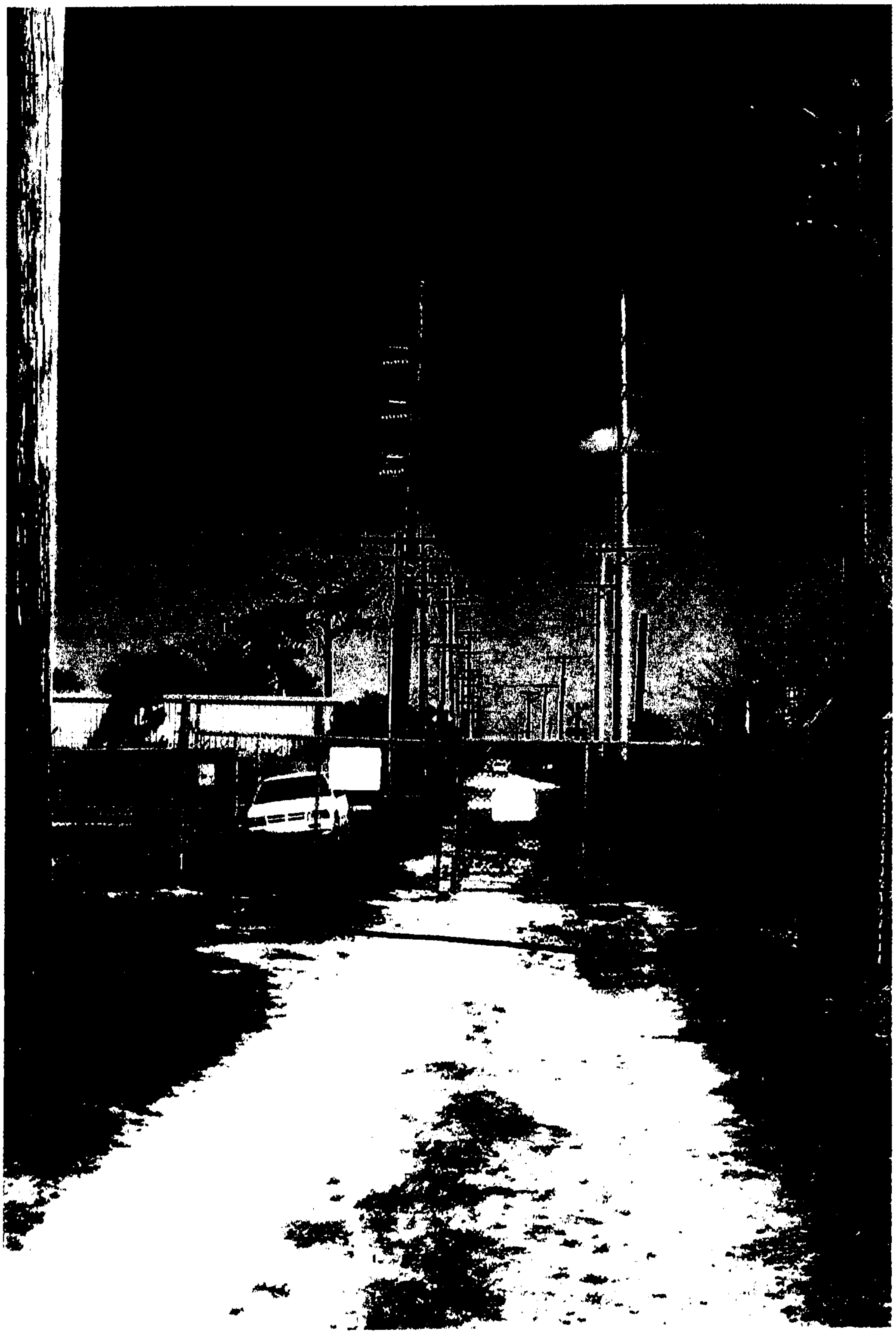
Picture 10: East side of 150-MVA transformer showing bus arrangement and surrounding facilities



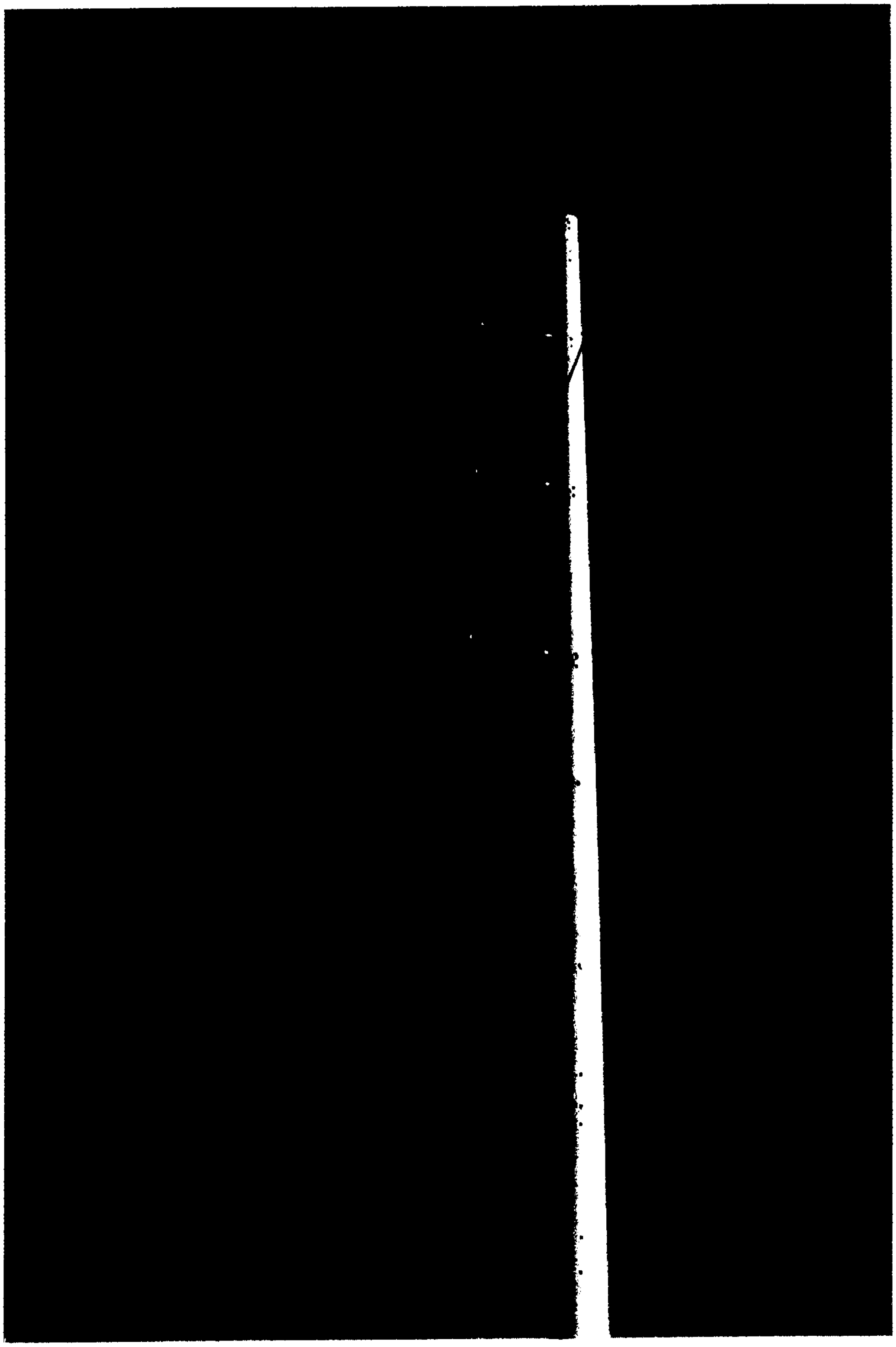
Picture 11: Panoramic view of Ariana Substation



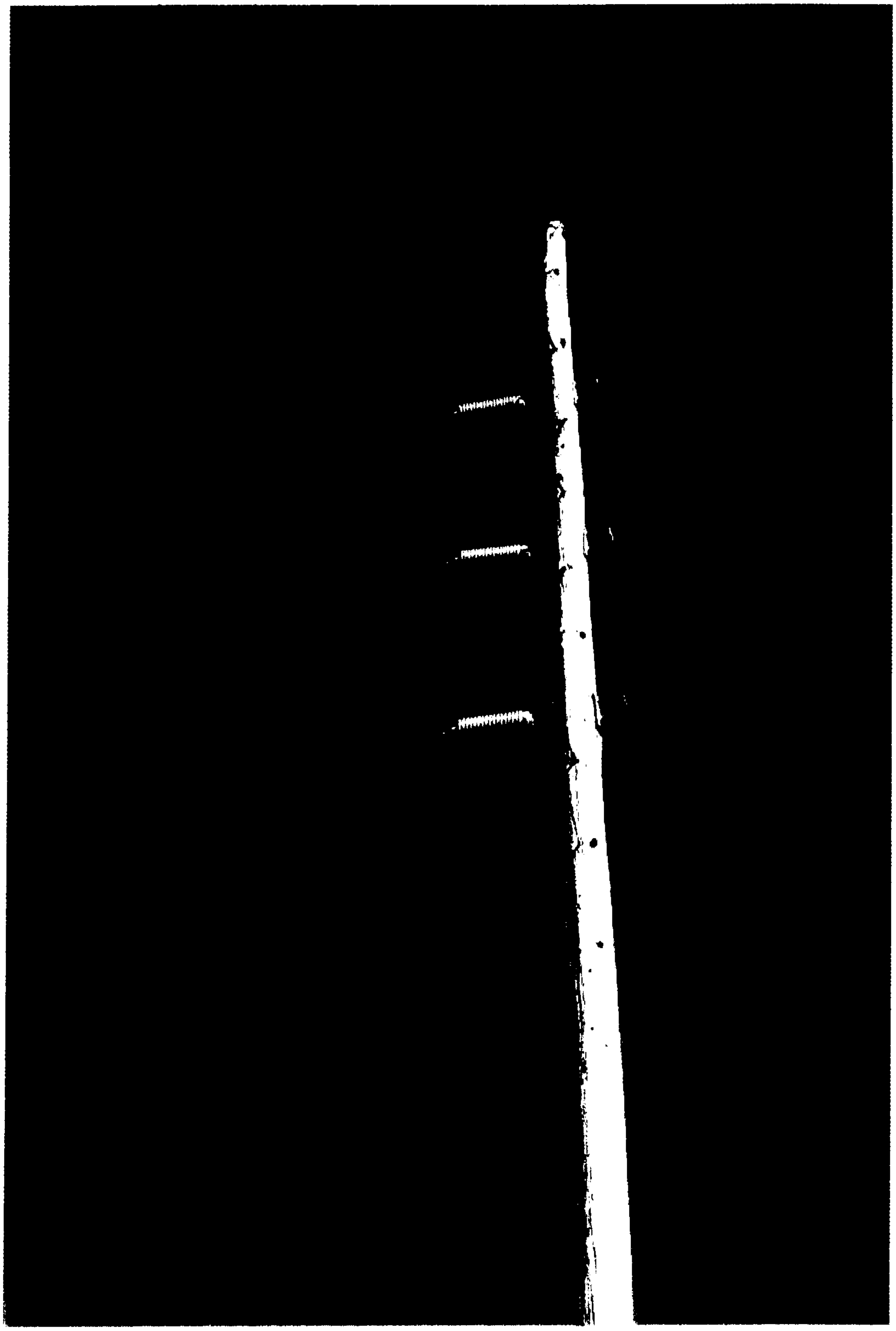
Picture 12: Typical single pole wood and concrete angle structures



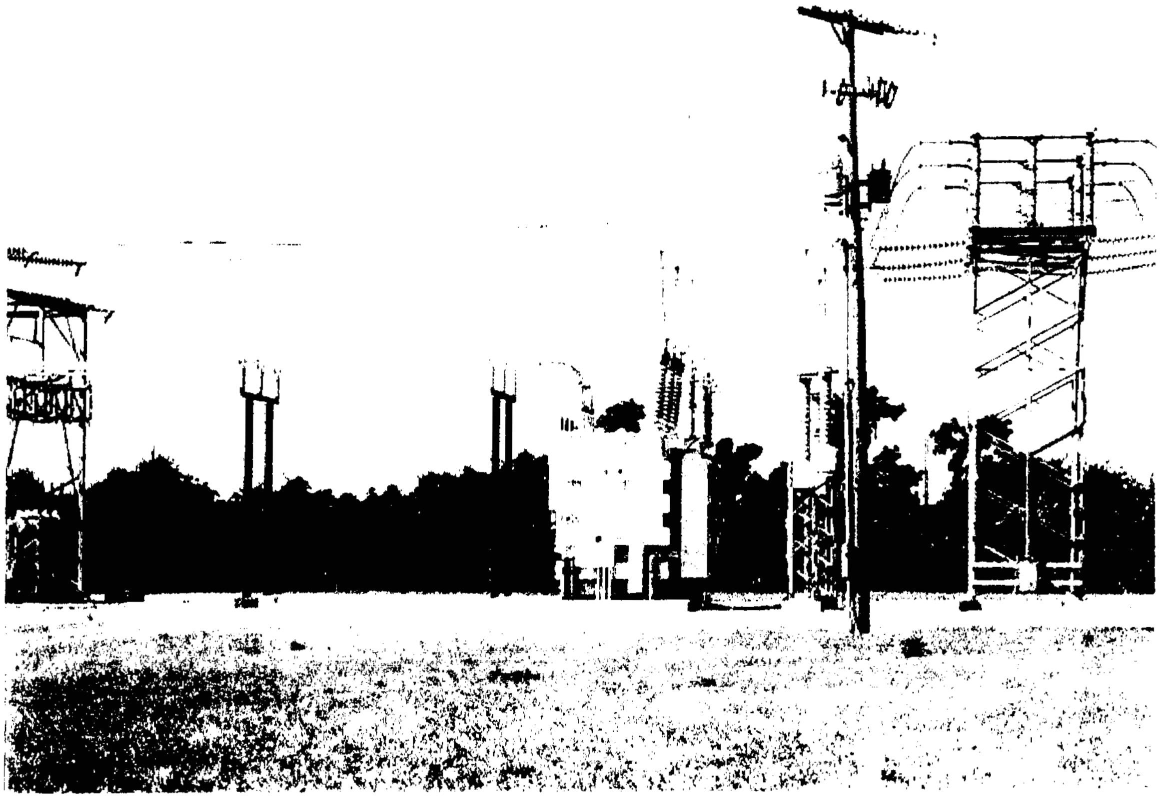
Picture 13: Access road to Ariana Substation. Background shows typical single pole wood and concrete corner structures.



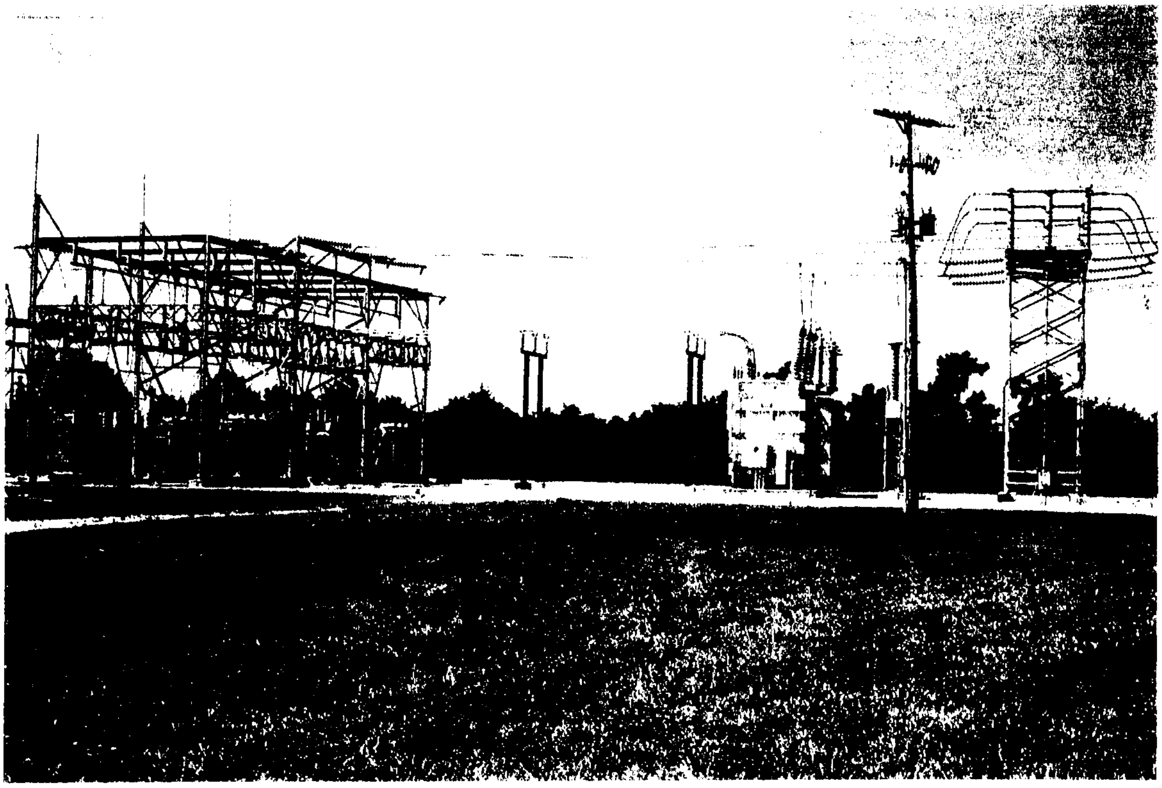
Picture 14: Typical single pole concrete tangent structure



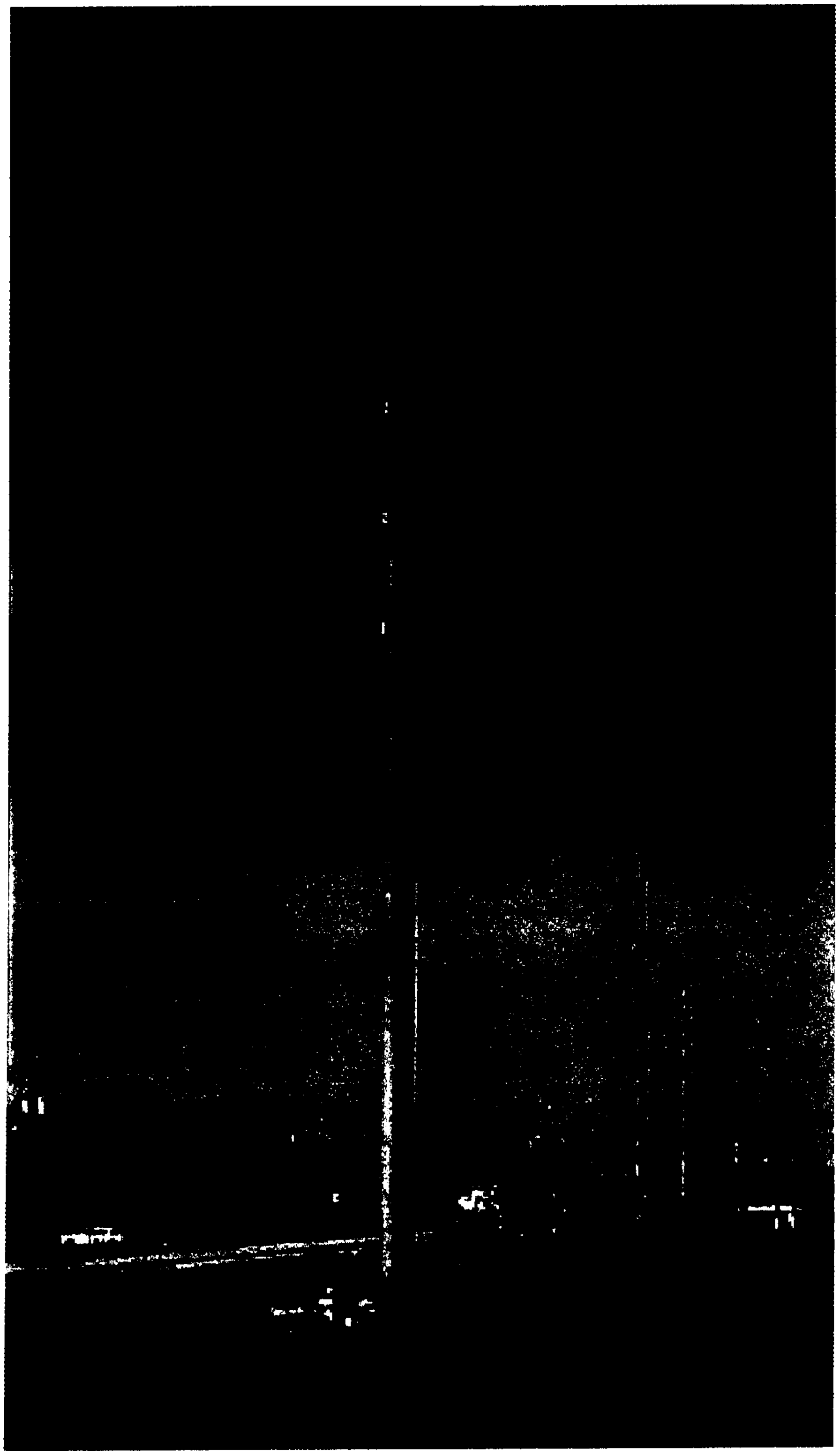
Picture 15: Typical single pole wood tangent structure



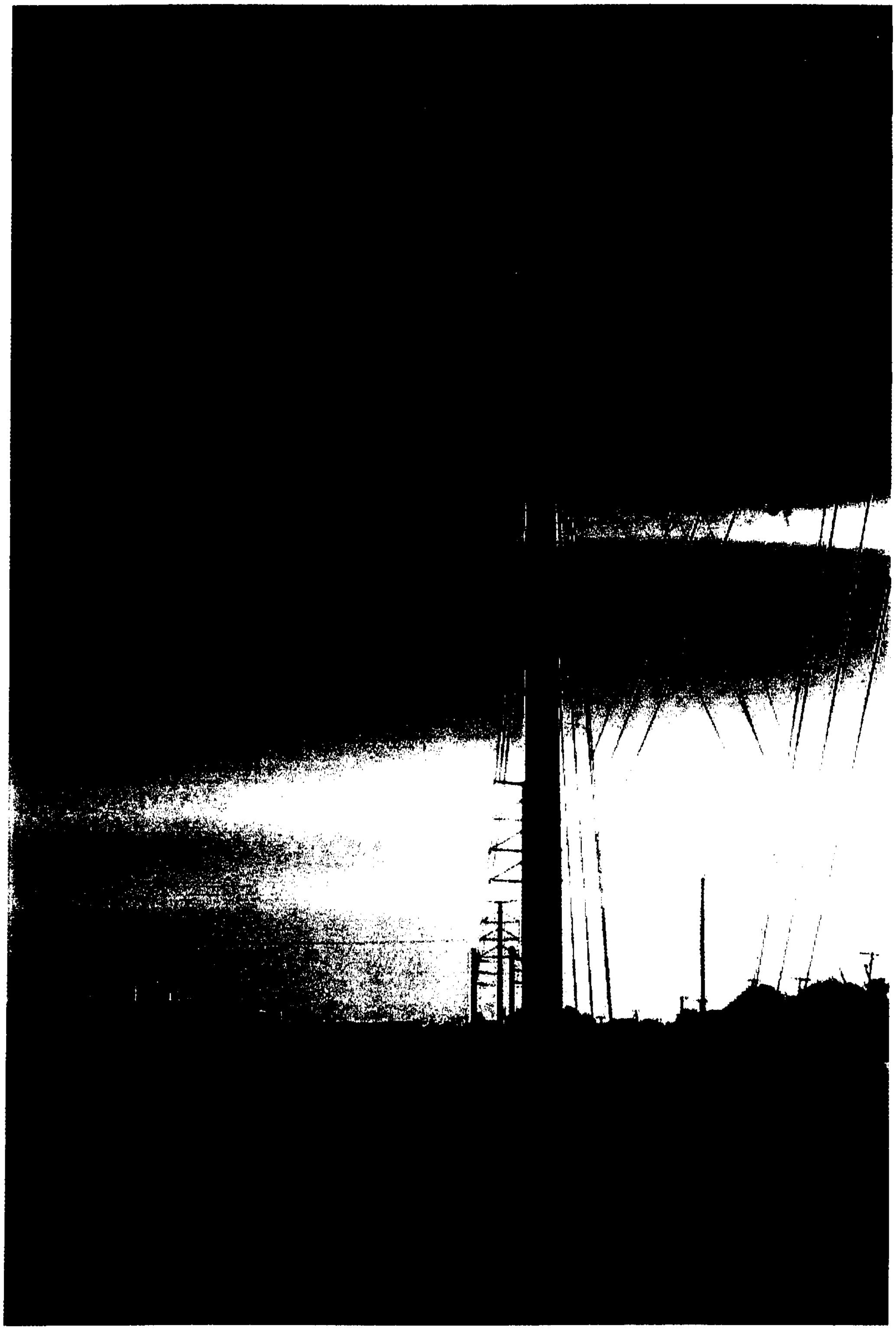
Picture 16: Panoramic view of Ariana Substation



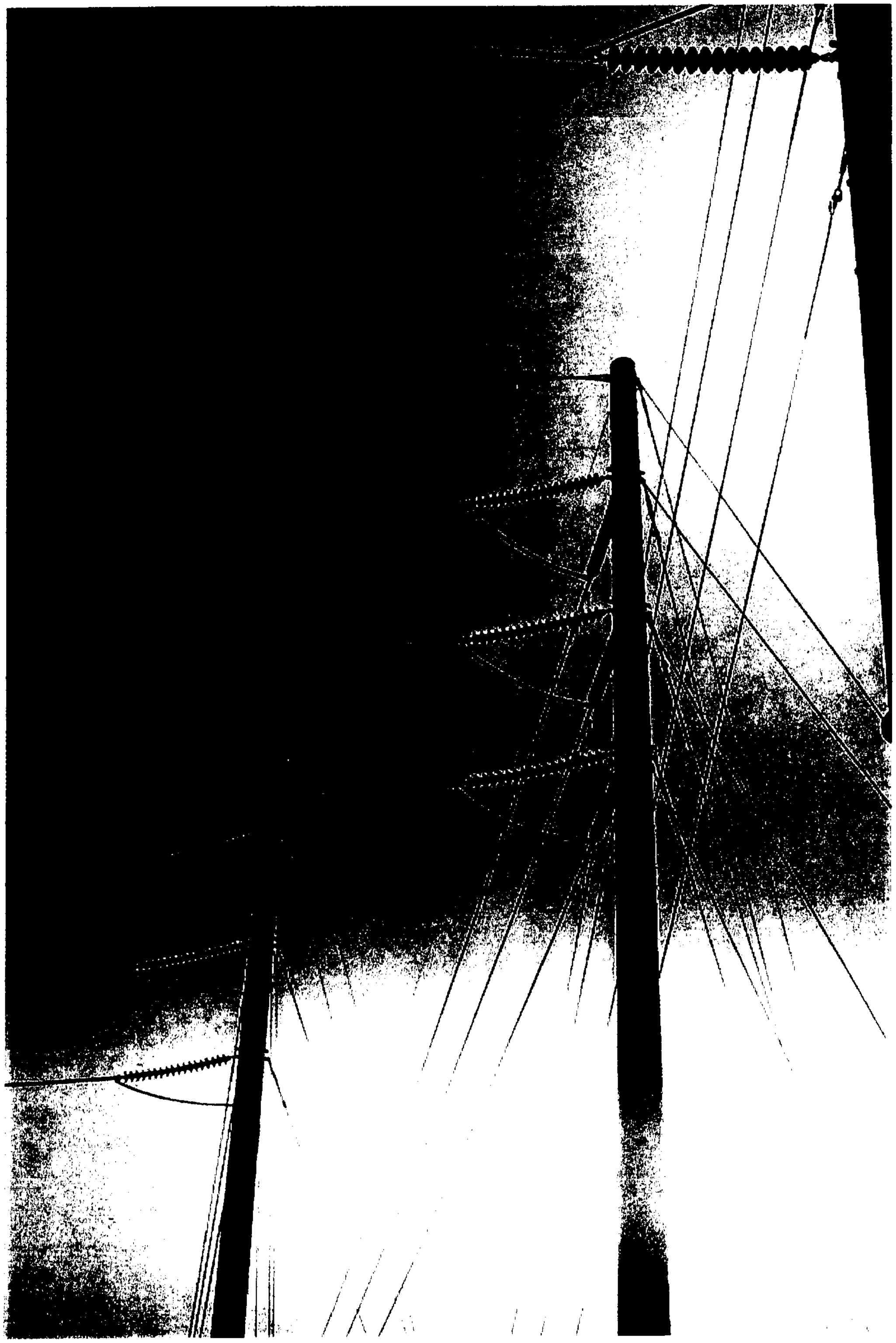
Picture 17: Panoramic view of Ariana Substation



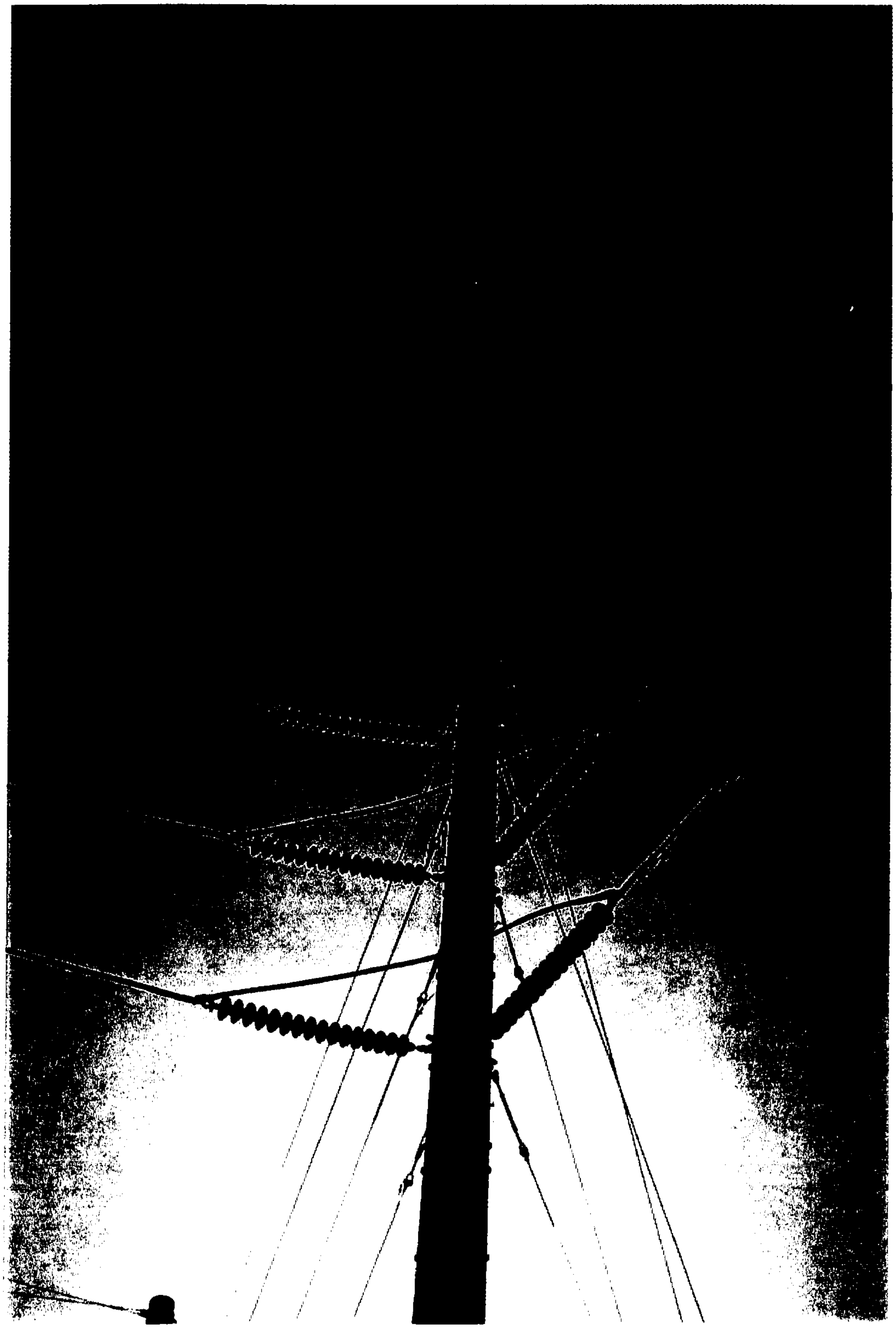
Picture 18: Typical single pole tubular steel tangent structure



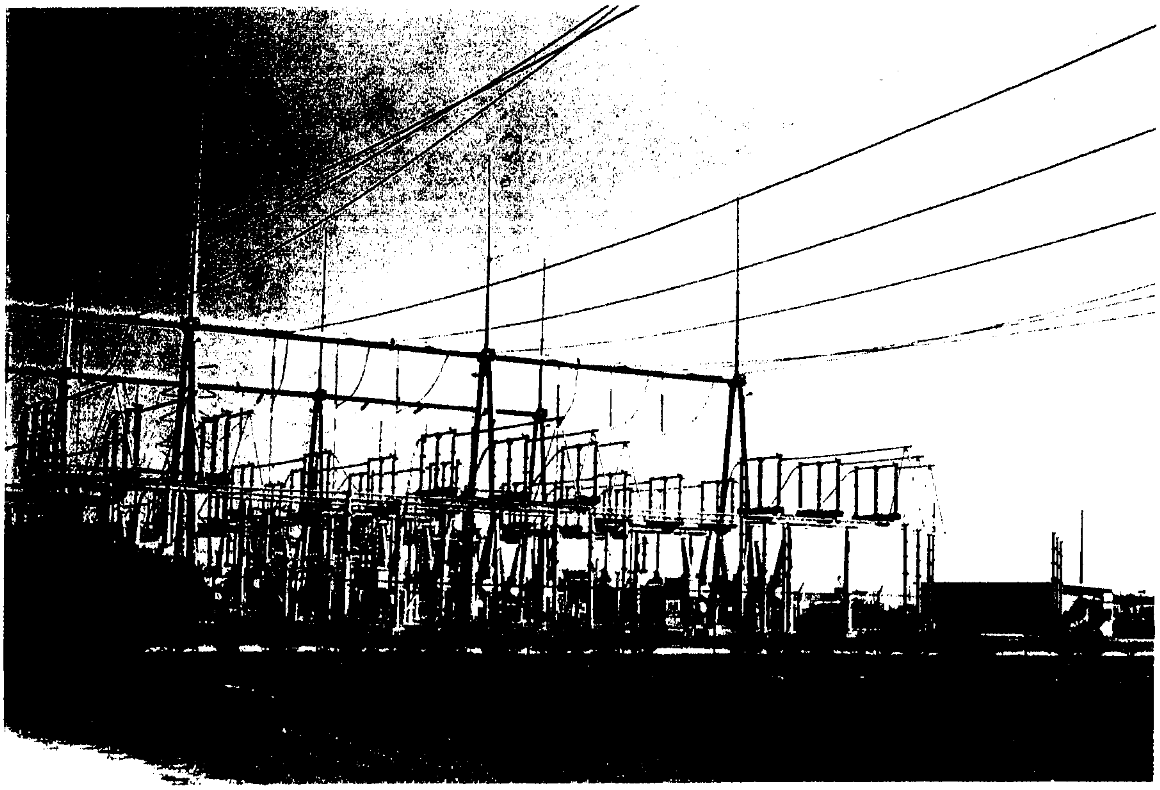
Picture 19: Typical single pole tubular steel corner structure



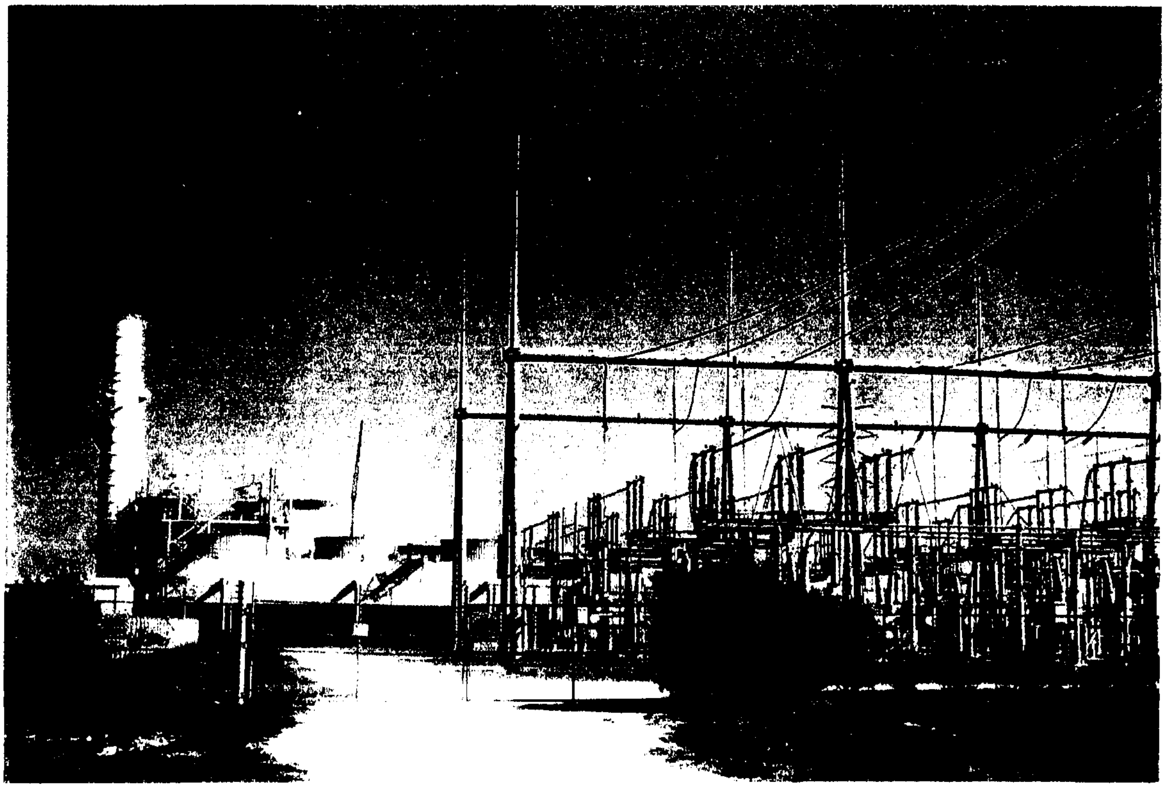
Picture 20: Pole top framing for single pole tubular steel corner structure



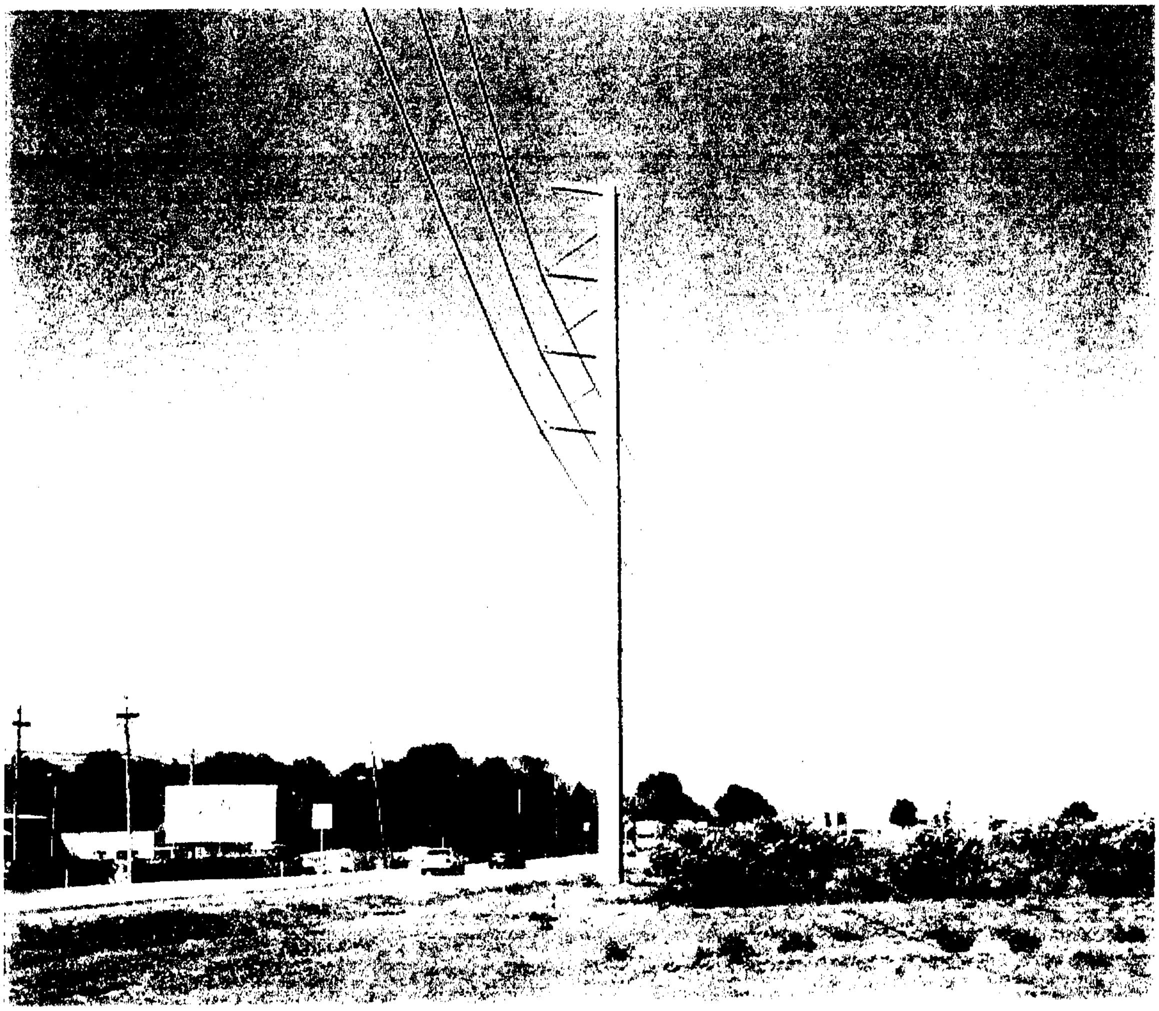
Picture 21: Pole top framing for single pole tubular steel corner structure



Picture 22: East half of Recker Substation

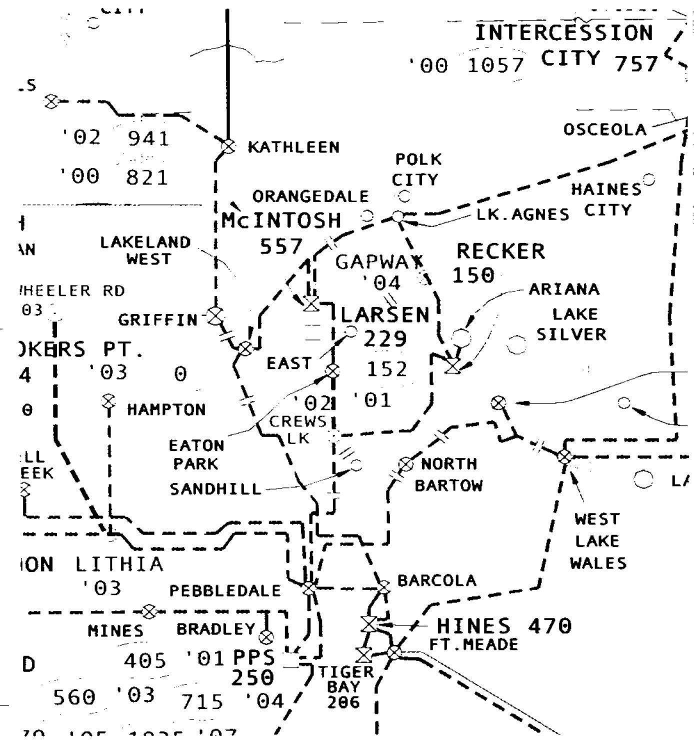


Picture 23: West half of Recker Substation



Picture 24: Typical single pole tubular steel tangent structure in Recker to Lake Agnes 230-kV line

APPENDIX C DRAWINGS



LEGEND

TRANSMISSION LINES | FUTURE

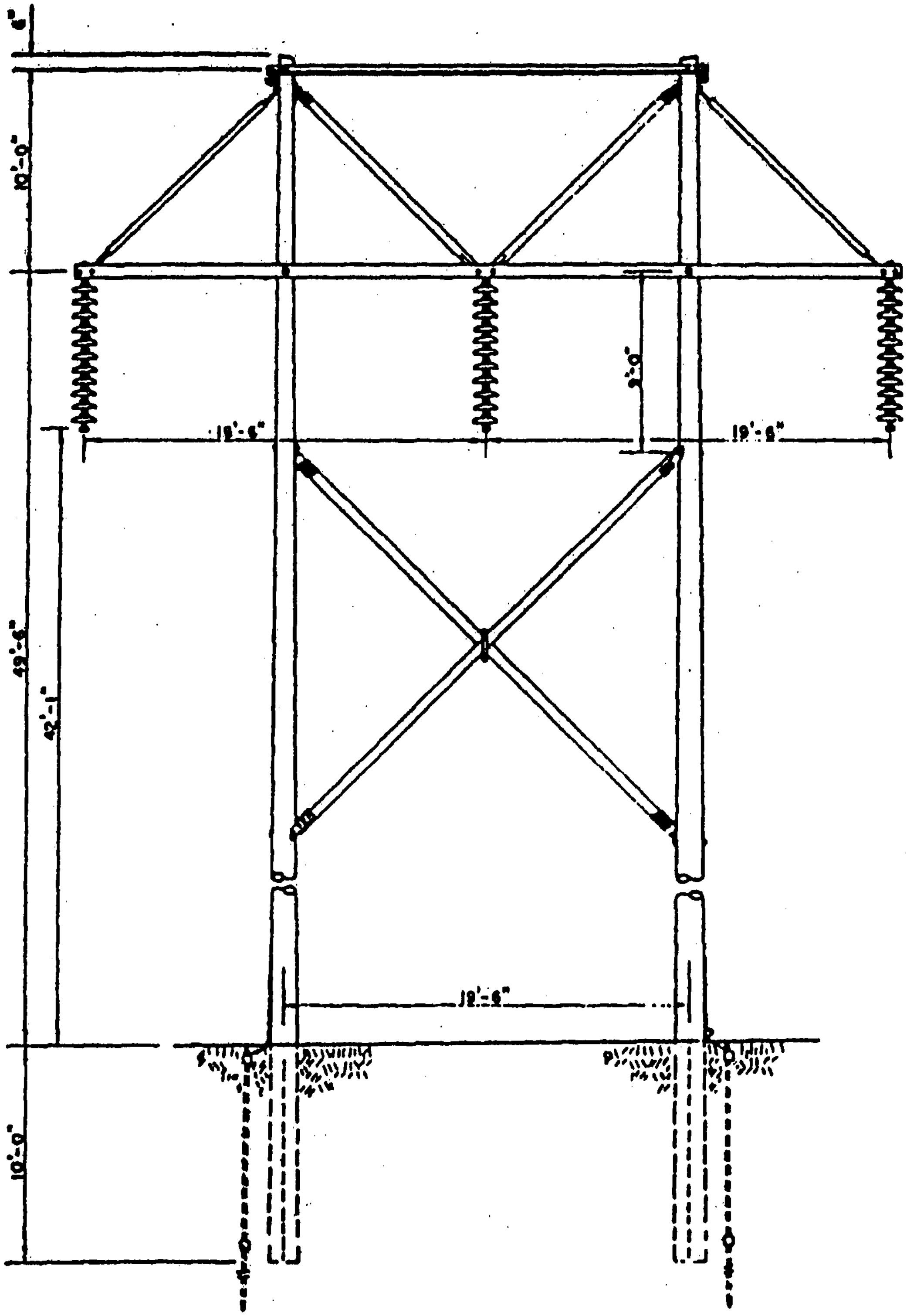
500kV
230kV
138kV
115kV
69kV
UNDERGROUND CABLE
INTERCONNECTION
TRANSMISSION SERVICE

GENERATING PLANTS & SUBSTATIONS

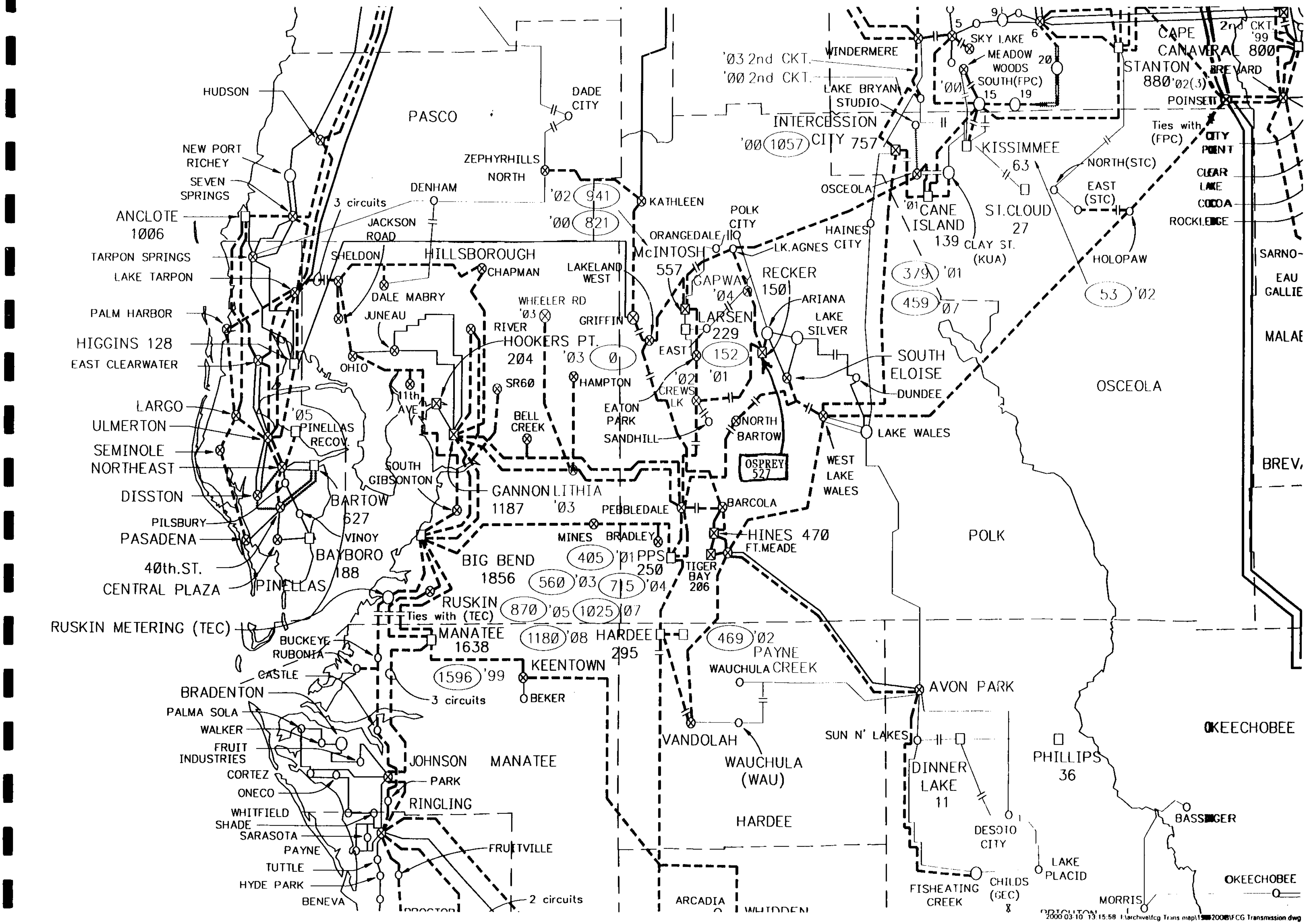
GENERATING PLANT — CAPABILITY IN NET MEGAWATTS
GENERATING PLANT WITH TRANSFORMATION OF TRANSMISSION VOLTAGE
TRANSMISSION SUBSTATION
TRANSMISSION SUBSTATION WITH TRANSFORMATION OF TRANSMISSION VOLTAGE
DISTRIBUTION SUBSTATION

Designed by:
Drawn by:
Scale: N.T.S.
Job No.: 2357
CAD Ref: MAP

Navigant Consulting, Inc.


6"
10'-0"
2'-0"
19'-6"
19'-6"
49'-6"
42'-1"
19'-6"
10'-0"

REGIONAL TRANSMISSION MAP OF WEST CENTRAL FLORIDA



TAMPA ELECTRIC

Calpine - Osprey Energy Center Transmission Service Request Facilities Study Report

Performed by:

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Regan B. Haines, Senior Engineer

Tampa Electric Company
Energy Delivery
System Planning Department

August 31, 2000

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INTRODUCTION

Description of Project

Calpine Eastern Corporation (Calpine) has proposed to interconnect a 526 MW (summer rating) natural gas combined cycle generation plant named Osprey Energy Center with Tampa Electric Company's (TEC) transmission system near the City of Auburndale, Florida. The site is adjacent to, and the plant would interconnect to, the Recker 230kV Substation, owned and operated by Tampa Electric Company (TEC). Calpine has requested TEC to interconnect with this proposed generation plant and to provide 526 MW of firm point-to-point transmission service from this point of receipt to TEC's interconnections with Florida Power Corporation's transmission system, from June 2002 through December 2008.

Project Milestones

Completed Request for Transmission Service	December 7, 1999
System Impact Study Complete	March 8, 2000
Facilities Study Complete	August 31, 2000
Provide 230kV Station Service to Three GSU Transformers	December 1, 2001 (projected)
Provide 230kV Firm Transmission Service to Three Generators	June 1, 2002 (projected)

Executive Summary

The following facilities study determines the most cost-effective facilities required to interconnect Calpine's proposed Osprey Energy Center to the TEC transmission system at Recker 230kV Substation. This study also determines the most cost-effective facilities required to reliably deliver 526 MW of firm point-to-point transmission service from Recker Substation to the FPC transmission system, from June 2002 through December 2008. The addition of the proposed system improvements allows Tampa Electric Company to continue to satisfy its planning criteria as stated in its FERC 715 filing. Transmission facilities owned by both FPC and the City of Lakeland Electric Department were also monitored in all loadflow analyses, but no adverse impacts were identified.

The central purpose of transmission interconnection and service request studies is to assess the extent to which a contemplated project impacts the reliability of the transmission system. To this end, parallel analysis was performed on the TEC base case models and models containing the Calpine Osprey project. The base case models used are from TEC's published 10-year transmission plan at the time of Calpine's December 7, 1999 completed request for interconnection and transmission service. The conclusions of this study are based on comparisons of these parallel results. Therefore, the study addresses those impacts related to the addition of the Calpine generation and its delivery to FPC, while filtering out any pre-existing system problems.

The analysis of this request for transmission interconnection and service revealed various impacts, including a minor overload with all facilities in-service, two major single-contingency overloads, and numerous major double-contingency (at 70% of peak) overloads in the first year of service (2002). While a low-cost automatic transfer-trip scheme could be implemented to prevent the identified system impacts, Calpine has indicated that this is not a viable option for firm transmission service. To solve these impacts, two projects were identified, Recker-South Eloise 230kV Loop and the Osceola 10 Ohm Reactor. These projects, which were found to most cost-effectively mitigate identified impacts in 2002 and 2003, were estimated in detail at TEC's Job-Order rate. The actual costs would be assessed to Calpine in order to provide the requested firm transmission service. Two single-contingency-impacted facilities in 2004 were mitigated by accelerating a planned TEC project from 2005 (Gapway 230/69kV Autotransformer). No voltage or fault duty problems were identified in any of the studies. The proposed Osprey generation significantly increases power oscillations among various generators and across various transmission lines in central Florida. In accordance with recommendations by the FRCC Stability Working Group (1999 Export Oscillation Study, September 1998, p. 3), and in keeping with TEC's policy for its own generation additions, power system stabilizers will be required on all three generators at the proposed Osprey Energy Center. The combination of these stabilizers and the Recker-South Eloise 230kV Loop is expected to mitigate identified stability impacts.

The cost to interconnect the Osprey Energy Center to TEC's Recker Substation is estimated at $2.4 million. In addition, the cost of the network upgrades required to provide 526 MW of firm point-to-point transmission service is estimated at $11.5 million. These estimates do not include O&M, tax, carrying charges and other expenses.

FACILITIES STUDY RESULTS

General Description of the Interconnection

This section describes the layout and costs of interconnecting the Osprey Energy Center to TEC's Recker Substation.

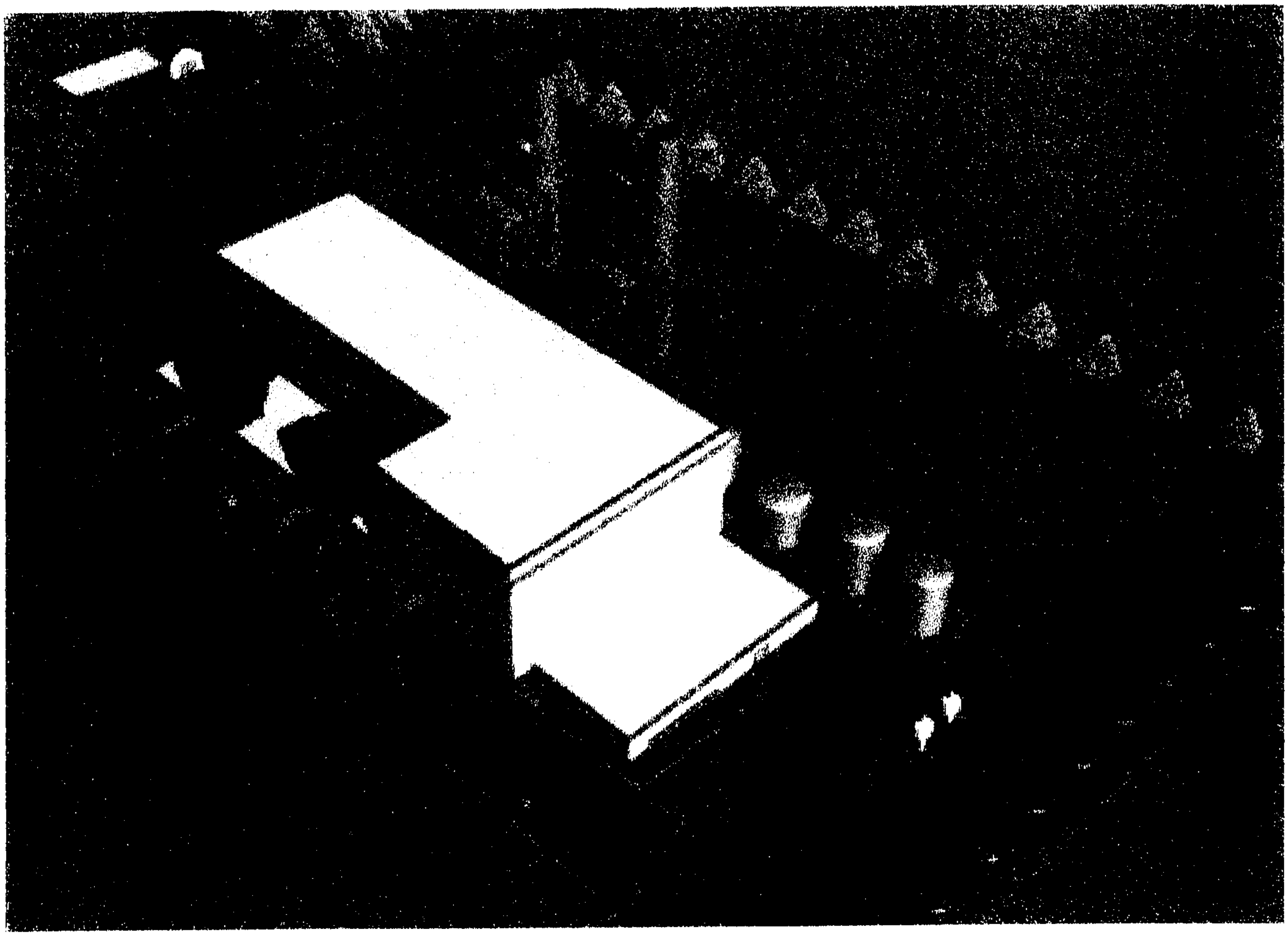
The following list is a subset of the complete interconnection requirements. Please see Tampa Electric Company's *Facility Connection Requirements* documentation for further requirements.

- Two 230kV circuits from Recker Switching Station, terminating at three Calpine-owned deadend towers at the Osprey site.
- One of these circuits uses an existing bay, requiring one circuit breaker and one disconnect switch.
- One of these circuits requires extending the 230kV bus west to provide a new bay, with two breakers and four disconnects.
- All new breakers at Recker will be rated at least 2000 A and 40 kA and at most 2.5 cycle.
- Each of the two circuits requires (3) CCVTs, an LFCB for primary relaying, and a PG10 for backup relaying.
- Each of the two circuits requires (3) PTs and (3) CTs and metering at Recker.
- A fiber optic cable between Osprey and Recker and an RFL 9700 digital protection channel are required for telemetry and transfer trip.
- Calpine must provide a disconnect switch at each of the deadend towers at Osprey, with remote indication and capability of being locked and tagged out-of-service by TEC personnel.
- Calpine must provide and install revenue-grade 3-element metering CTs and PTs for each of the three generators and two station service transformers.
- Calpine must provide cabinet space, conduit and electrical connections at Osprey for a TEC RTU and five 9S meters.
- Calpine must provide system backup protection to trip the Osprey generators in case of primary and backup protection failure on the TEC system.
- A detailed cost-estimate performed by the engineering departments, reveals that the interconnection of Osprey to Recker is expected to cost $2.4 million.

See Figure 1 for an artist's conception of Calpine's proposed Osprey Energy Center and Figure 2 for an aerial photograph of Calpine's Auburndale Power Plant, TEC's Recker 230kV Substation and the site of Calpine's proposed Osprey Energy Center.

See Figure 3 for the one-line diagram detailing the proposed interconnection of Calpine's proposed Osprey Energy Center to TEC's Recker 230kV Substation. Existing facilities are shown in black. New facilities are shown in red. Locations reserved for future facilities are shown in red with dashed lines.

Figure 1. Artist's conception of Calpine's proposed Osprey Energy Center.



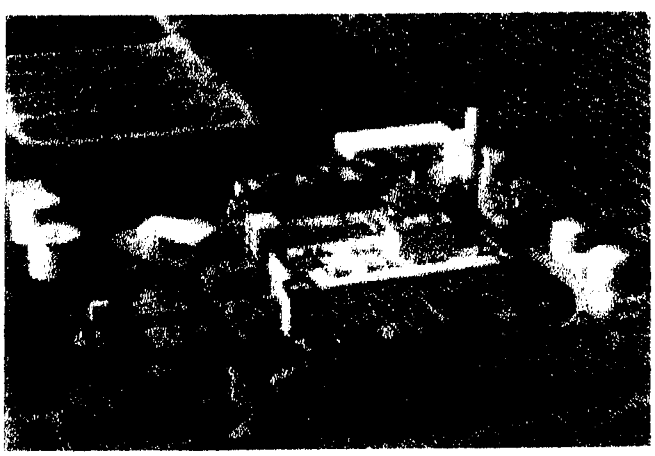


Figure 2. Aerial photograph of Calpine's Auburndale Power Plant (front), TEC's Recker 230kV Substation (back-left) and site of proposed Osprey Energy Center (back-right).

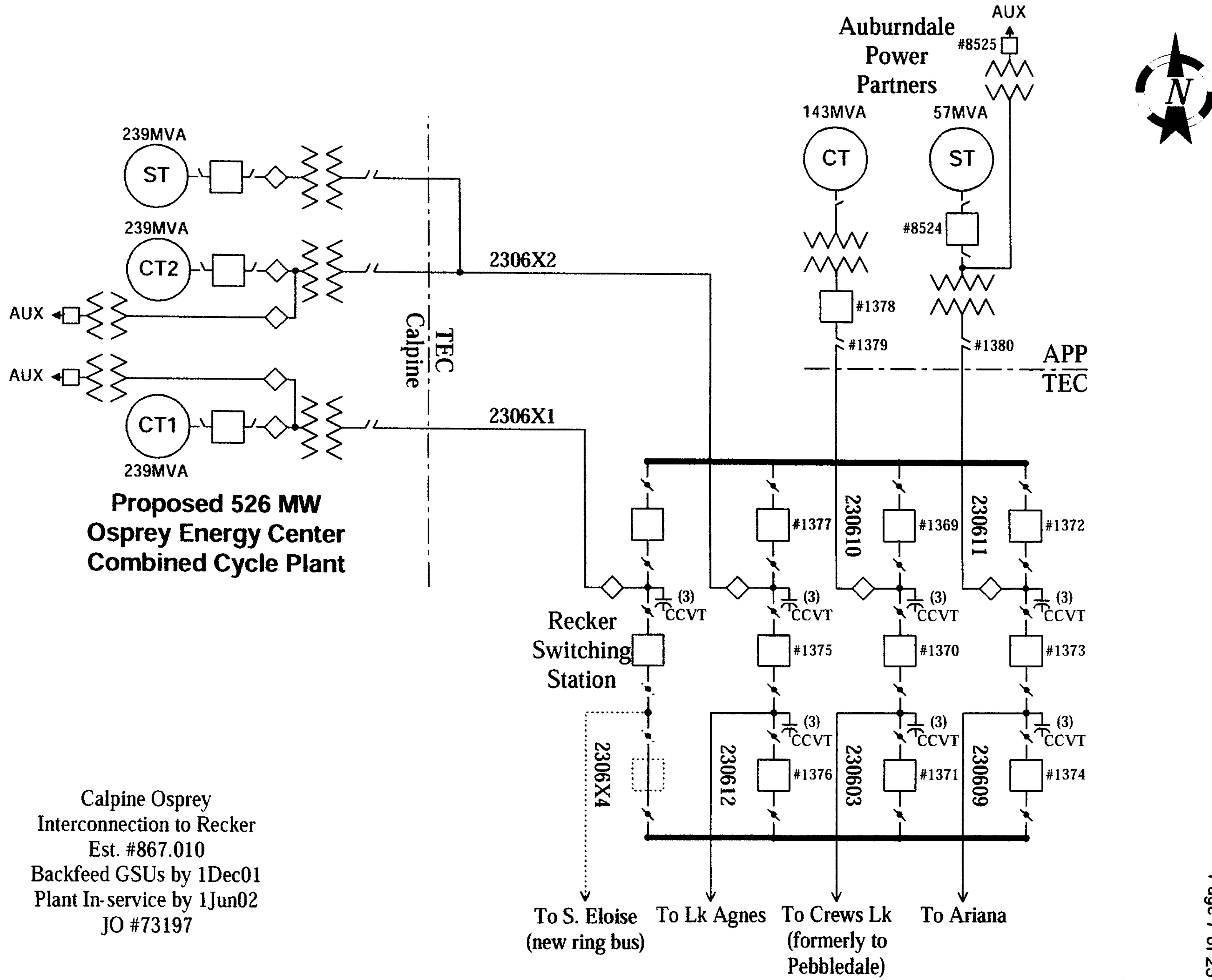


Figure 3 Calpine Osprey Interconnection to TEC's Recker Substation

Load Flow Analysis

Tampa Electric's planning criteria was used to evaluate the impact of dispatching the Osprey plant at both peak and off-peak load conditions for the requested time frame (2002-2008). The following describes the overloaded facilities and the required upgrades to mitigate them.

2002 at 100% of peak, all facilities in service

TEC planning criteria states that with all facilities in service, there must be no equipment loaded above 100% of its normal rating (Rate-A). Table 1 clearly shows that, without system improvements, the Osprey plant would violate this criteria in the first year of the requested transmission service.

Table 1. 2002 at 100% of peak, all facilities in service

Facility	Base Case	Osprey Case
Ariana 230/69 (168 MVA Rate-A)	75.0% (125.9 MVA)	102.7% (172.5 MVA)

2002 at 100% of peak, single contingencies

TEC planning criteria states that, at 100% of peak system load, the transmission system must be able to withstand any single contingency, with no equipment loaded above 100% of it emergency rating (Rate-B). TEC planning criteria also specifies that, as long as the original overload does not exceed 115%, a reasonable amount of remotely controlled switching operations are allowed to reduce loading to 100% or less. There were two branches that developed single contingency overloads in excess of 115% due the addition of Osprey, as listed in Table 2 below.

Table 2. 2002 at 100% of peak, single contingencies

Worst Contingency	Overloaded Branch	Base Case	Osprey Case
Circuit 230617 Osceola-Cane Island	Circuit 66701 Osceola-Studio Cable (143 MVA Rate-B)	92.1% (131.7 MVA)	126.7% (185.4 MVA)
Circuit 230612 Recker-Lake Agnes	Transformer Ariana 230/69 (176 MVA Rate-B)	75.5% (132.9 MVA)	126.2% (222.0 MVA)

2002 at 70% of peak, double contingencies

TEC planning criteria states that, with each FRCC control area's load scaled down to 70% of peak and generation redispatched economically, the transmission system must be able to withstand any double contingency, with no equipment loaded above 100% of it emergency rating (Rate-B). TEC planning criteria also specifies that, as long as the original overload does not exceed 115%, a reasonable amount of remotely controlled switching operations are allowed to reduce loading to 100% or less.

- In the base case (without Osprey), several contingencies result in overloads below 115%, all of which can be alleviated with remote switching.
- With Osprey, the double contingency of 230603 Recker-Crews Lake and 230612 Recker-Lake Agnes, forces the entire output of Auburndale Power Partners (131 MW) and Osprey Energy Center (526 MW) is forced through the Ariana 230/69kV autotransformer. This results in 16 overloaded branches, as listed below.

```
2002 summer at 70% of peak, with Osprey, double contingencies:
X-------- C O N T I N G E N C Y   E V E N T S --------X X-- O V E R L O A D E D   L I N E S --X  X--MVA(MW)FLOW--X
           X---- MULTI-SECTION LINE GROUPINGS ----X   FROM      NAME        TO      NAME     CKT  PRE-CNT  POST-CNT  RATING  PERCENT
OPEN LINE FROM BUS 9100 [RECKER  230.00] TO BUS 6105 [CREWSLK 230.00] CKT 1 -------------------------------------- CONTINGENCY 1
OPEN LINE FROM BUS 9100 [RECKER  230.00] TO BUS 9150 [LKAGNES 230.00] CKT 1
                                                      9124 SELOSE-N69.0  9172*JAN PHYL69.0 1     35.8    254.7     57.4    465.5
                                                      9102 ARIANA-N69.0  9110*ARIANA   230 1    142.7    685.2    176.0    389.3
                                                      9102*ARIANA-N69.0  9174 JANPHYLN69.0 1     53.4    273.5    124.0    230.0
                                                      9172*JAN PHYL69.0  9174 JANPHYLN69.0 1     48.0    266.6    124.0    225.6
                                                      9158 BERKLY  69.0  9166*BERKLY T69.0 1     24.5    188.3     93.0    212.6
                                                      9102*ARIANA-N69.0  9166 BERKLY T69.0 1     24.5    189.6     93.0    212.6
                                                      9158*BERKLY  69.0  9162 GAPWAY  69.0 1      9.4    174.4     93.2    197.2
                                                      9114*DAIRY RD69.0  9126 LKGUM   69.0 1     27.5    147.8     93.0    168.0
                                                      9102 ARIANA-N69.0  9106*ARIANA T69.0 1     44.6    166.3    120.0    144.7
                                                      9106 ARIANA T69.0  9112*MNTMD T 69.0 1     44.6    165.8    120.0    144.6
                                                      9112*MNTMD T 69.0  9114 DAIRY RD69.0 1     43.8    165.2    120.7    143.3
                                                      9100 RECKER   230  9110*ARIANA   230 1    142.4    685.2    478.0    138.1
                                                      9162*GAPWAY  69.0  9164 PLKCTY  69.0 1      4.0     77.9     63.3    129.4
                                                      9164*PLKCTY  69.0  6028 ORNGDALE69.0 1      9.3     73.8     63.0    123.1
                                                      9162*GAPWAY  69.0  6044 EAST    69.0 1     16.0    107.8    105.0    107.9
                                                      9122*SELOSE-S69.0  9176 GORDNVIL69.0 1      7.0     58.2     57.0    107.2
```

These overloads are not dependent on system load level, nor are they dependent on the point of delivery of transmission service. Rather, they are strictly dependent on the amount of generation connected to Recker Substation (657 MW). This situation could result in widespread blackouts and catastrophic damage to transmission lines and substation equipment, and the overloads cannot be remedied by simply upgrading equipment. This double contingency is specified by the NERC Planning Standards as Category C.3 "SLG or 3 Phase Fault, with Normal Clearing, Manual System Adjustments, followed by another SLG or 3 Phase Fault, with Normal Clearing." Following the first contingency, the only "manual system adjustment" that would prevent these overloads upon the second contingency, would be to completely trip the Osprey Energy Center. Thus, the plant could never remain on-line during a single contingency outage or maintenance outage of either 230603 Recker-Crews Lake (14.1 miles) or 230612 Recker-Lake Agnes (9.9 miles). The option to use relays to automatically transfer-trip the plant following a single-contingency was proposed in a meeting with Calpine. However, Calpine clearly indicated the desire for this base-load plant to remain on-line during contingencies, so this option was ruled out and not pursued any further by TEC. Therefore, firm transmission service from the Osprey Energy Center requires additional transmission expansion to tie Recker into the 230kV grid.

Several alternatives were considered to solve this problem:

1. Recker-Crews Lake 2nd 230kV Circuit. This requires 14.1 miles of new transmission in an existing corridor and at least two breakers. This new line

would drastically aggravate overloads on 66654 Crews Lake-Sandhill (3.0 miles) and 230608 Crews Lake-Pebbledale (9.6 miles). Because this project would require a joint study to establish a new interconnect with Lakeland, it is not considered a viable solution, given the scope and time frame of this Facilities Study.

2. Recker-Pebbledale 230kV Circuit. This requires 23.7 miles of new transmission in an existing corridor and at least two breakers. This new line would drastically aggravate overloads on 230005 Pebbledale-Hampton Tap-Gannon (33.8 miles), 230021 Pebbledale-Bell Creek (25.4 miles) and 230004 Bell Creek-Gannon (8.4 miles). Also, this line would consume an available circuit position at Pebbledale that must be reserved for the buildout of Polk Power Station. This is not considered a viable solution.

3. Recker-Lake Agnes 2nd 230kV Circuit. This requires 9.9 miles of transmission, at least 4.9 miles of which would require new poles in an existing corridor, and at least five new breakers. This would drastically aggravate overloads on TEC's 66701 Osceola-Studio, Orlando's 230616 Lake Agnes-Osceola and Lakeland's 230kV Tenoroc-Interstate line. Because this project would require a joint study to establish a new interconnect with Lakeland and Orlando, it is not considered a viable solution, given the scope and time frame of this Facilities Study.

4. Recker-West Lake Wales 230kV Circuit. This requires 17.0 miles of new transmission (7.1 miles on road right-of-way, 7.6 miles in an existing TEC corridor and 2.3 miles in an existing FPC corridor), at least five new breakers, and a new interconnect with FPC. This would consume an available circuit position at West Lake Wales that FPC has reserved for the buildout of Hines Energy Complex, and would drastically aggravate overloads on the West Lake Wales-Intercession City 230kV line. Because this project would require a joint study to establish a new interconnect with FPC, it is not considered a viable solution, given the scope and time frame of this Facilities Study.

5. Recker-South Eloise 230kV Loop. This requires 11.1 miles of new transmission (3.2 miles on new road right-of-way, 4.4 overbuilding existing line, and 3.5 miles in an existing TEC corridor) and five new breakers. The South Eloise 230/69kV transformer is currently sourced by a 3.5 mile radial line, tapped from circuit 230604 North Bartow-West Lake Wales. Because South Eloise is the 3rd terminal (and weak source) of this circuit, one cannot simply build a 230kV circuit from Recker to South Eloise. Thus, 3.5 miles of line must be built to loop the North Bartow-West Lake Wales line through South Eloise, splitting it up into two 2-terminal circuits. This is considered a viable solution.

6. Ariana-South Eloise 230kV Loop. This project is similar to alternative 5, except that it would require a new three-breaker 230kV station at Ariana and the re-rating of 1.5 miles of existing line, in order to avoid 1.5 miles of new line construction and one breaker at Recker. This is considered a viable alternative. However, the additional substation costs at Ariana would more than offset the avoided transmission costs. Also, this alternative, by extending an existing line from Recker, would provide substantially less reliability than alternative 5, which builds an entirely new line from Recker.

7. Recker-South Eloise-New Station 230kV Circuits. This project is also similar to the alternative 5, except that it would require an entirely new three-breaker 230kV switching station to be built at the tap point of 230604, in order to avoid building 3.5 miles of new 230kV line in an existing corridor. This is considered a viable alternative. However, the additional substation, real estate and telecommunication costs to build a new switching station would more than offset the avoided transmission costs.

The Recker-South Eloise 230kV Loop (alternative 5) was selected as the most economical and reliable solution to the no-contingency, single-contingency and double-contingency problems at Recker and Ariana. Note that this 230kV loop causes circuit 230604 South Eloise-West Lake Wales to load up to 98.5% of its 402 MVA rating for the contingency loss of FPC's Ft. Meade-West Lake Wales 230kV line in the summer of 2002. Therefore, included, as part of the project will be any work necessary to rerate the 7.6-mile TEC portion of this tie line to 550 MVA. The 2.3-mile FPC owned section of this circuit is presently rated 603 MVA (Rate-B). This project was modeled and included in all further analysis of the Osprey cases. A detailed cost-estimate performed by TEC engineering departments, identifies an expected capital cost of $11.1 million.

See Figure 4 and Figure 5 for one-line diagrams detailing the proposed Recker-South Eloise 230kV Loop project. See also the first two pages of Appendix A for a geographic transmission map of the greater Winter Haven area and a close-up map of the Recker-South Eloise area.

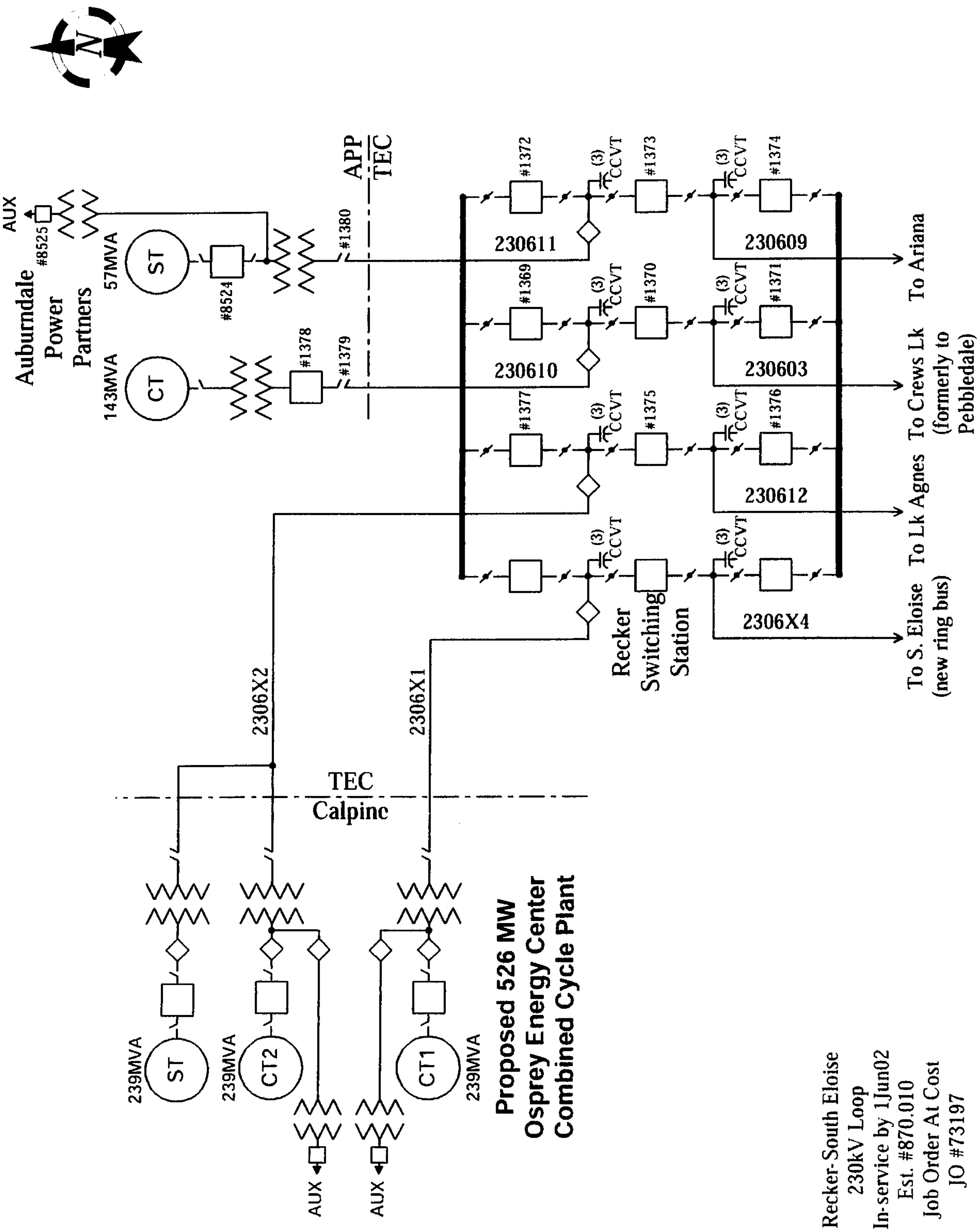
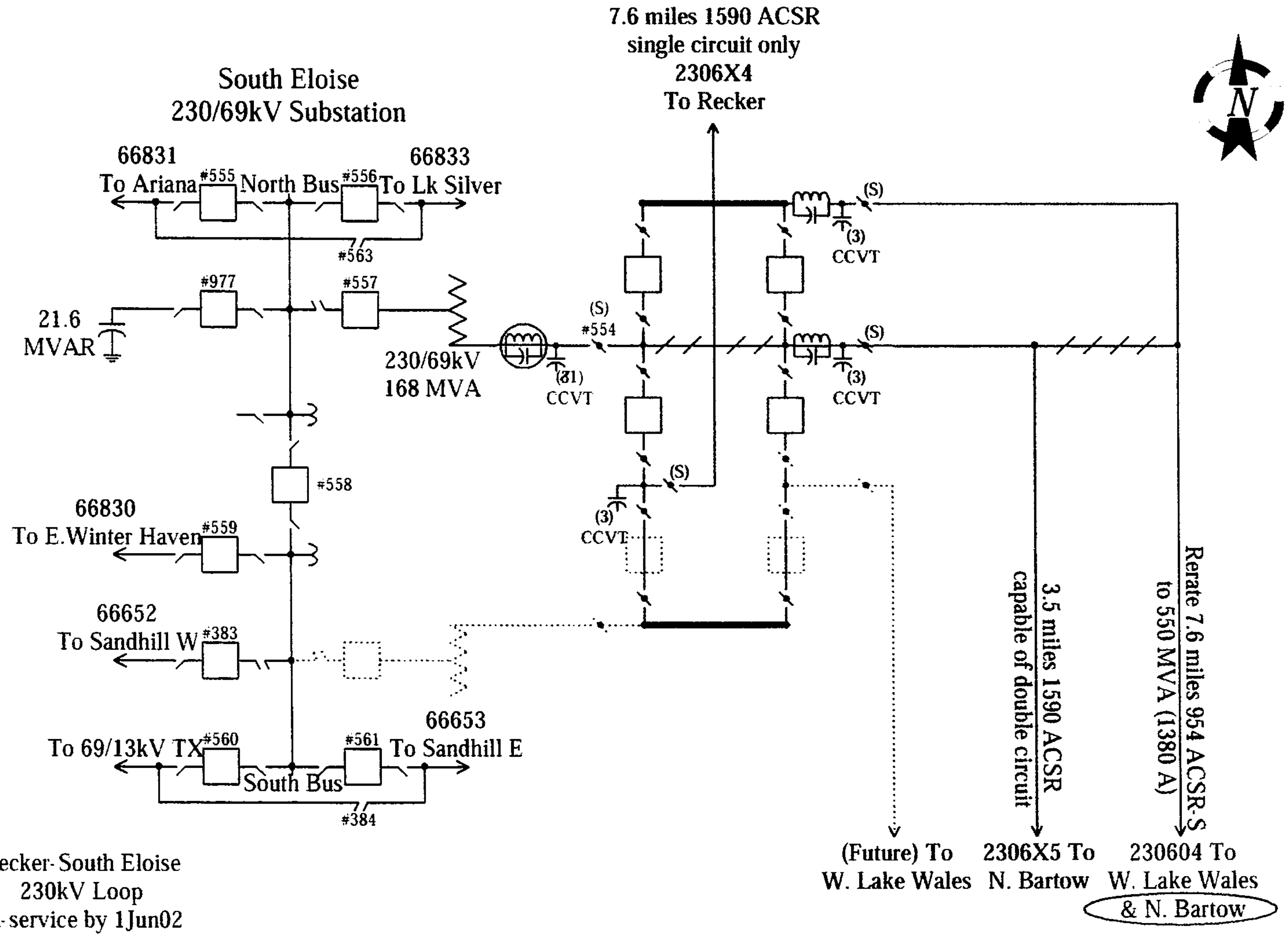


Figure 4. Recker-South Eloise 230kV Loop Project



Recker-South Eloise
230kV Loop
In-service by 1Jun02
Est. #870.010
Job Order At Cost
JO #73197

Figure 5. Recker-South Eloise 230kV Loop Project

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2002 at 100% of peak, single contingencies (continued)

The single contingency overload of 66701, the Osceola-Studio cable, although reduced slightly (from 126.7% to 122.0%) by the Recker-South Eloise 230kV Loop, must still be addressed in 2002. Please refer to the 3rd page of Appendix A for a geographic transmission map of the Osceola-Studio area. The contingency that causes the overload is 230617 Osceola-Cane Island. Since Osceola is a 3-element ring bus, when this line removed, the Osceola 230/69kV autotransformer and the Osceola-Studio 69kV cable form a direct low-impedance path from Lake Agnes 230kV Switching Station to Reedy Creek's Studio 69/13kV Substation. Since Tampa Electric has no other facilities in this area, there is no remedial switching action for alleviating overloads that are less than 115%. Therefore, the single contingency loading must not be allowed to exceed 100%. Circuit 66701 presently includes 4 Ohm series reactors, that adequately prevent single contingency overloads through 2006. Tampa Electric's base case plan calls for replacing these reactors with 8 Ohm reactors in 2007. The Osprey cases require that this project be accelerated from 2007 to 2002 and that reactors greater than 8 Ohm be used. An impedance of 10 Ohm is required to prevent single contingency overloads through 2008 (the duration of the Calpine service request). Therefore, the Osceola 10 Ohm Reactor Project was modeled and will be included in all further analysis of the Osprey cases. The table below lists the circuit loadings for each study year, with the base case, the Osprey case (including the Recker-South Eloise 230kV Loop) and the Osprey case with 10 Ohm reactors installed in 2002. A detailed cost-estimate of this project shows an expected capital cost of approximately $237 thousand.

Table 3. Loading on 66701 Osceola-Studio Cable (143 MVA Rate-B), Due to Single Contingency (230617 Osceola-Cane Island)

Year	Base Case	Osprey Case	Osprey Case w/10 Ohm
2002	92.1% (131.7 MVA)	114.0% (163.0 MVA)	79.8% (114.1 MVA)
2003	80.6% (115.2 MVA)	105.9% (151.5 MVA)	74.2% (106.0 MVA)
2004	84.2% (120.3 MVA)	109.3% (156.3 MVA)	76.5% (109.3 MVA)
2005	95.3% (136.2 MVA)	123.6% (181.7 MVA)	86.3% (123.5 MVA)
2006	97.8% (139.8 MVA)	127.1% (181.7 MVA)	88.6% (126.7 MVA)
2007	83.3% (119.2 MVA)*	107.6% (153.9 MVA)*	96.7% (138.3 MVA)
2008	82.3% (117.7 MVA)*	105.8% (151.3 MVA)*	95.1% (136.0 MVA)

*Base case plan calls for changing out 4 Ohm reactors to 8 Ohm in 2007.

2002 at 70% of peak, double contingencies (continued)

The study now focuses on any remaining overloads that exceed 115% of rating. The following compares the worst double contingency overloads (exceeding 115%) between the base case (case1) and the Osprey case (case2).

```
Branch SELOSE-N69.0( 9124) TO JAN PHYL69.0( 9172) CKT 1 RATING SET B   57.4 MVA
  113.2% in case1 when: OPEN LINE FROM BUS 9120 [SELOSE  230.00] TO BUS 9124 [SELOSE-N69.000] CKT 1
                        OPEN LINE FROM BUS 9126 [LKGUM    69.000] TO BUS 9132 [LKALFRED69.000] CKT 1
  130.7% in case2 when: same
   17.5% change from case 1 to case 2
```

The circuit shown here as exceeding 115% in the 2002 case due to Osprey would have overloaded without Osprey in 2003. Therefore, the following TEC base case project for 2003 would have to be accelerated to 2002 to accommodate Osprey.

Circuit 66831 Rebuild

- Rebuild 4.4 miles of 4/0 CU from South Eloise to Jan Phyl.
- Standard 954 AAC is sufficient for all new conductor.

<u>2002 at 70% of peak, double contingencies (continued)</u>

Now that all overloads exceeding 115% have been addressed, the study considers any remaining overloads that are significantly attributable to the Osprey project. The following compares the worst double contingency overloads between the base case (case1) and the Osprey case (case2).

```
case1: base02_70
case2: calpine02_70 (with Osceola Reactor Upgrade and Recker-South Eloise 230kV Loop)

Branch ARIANA-N69.0( 9102) TO ARIANA   230( 9110) CKT 1 RATING SET B  176.0 MVA
 < 90.0% in case1
  109.9% in case2 when: OPEN LINE FROM BUS 6105 [CREWSLK 230.00] TO BUS 9100 [RECKER  230.00] CKT 1
                        OPEN LINE FROM BUS 9100 [RECKER  230.00] TO BUS 9120 [SELOSE  230.00] CKT 1
   19.9% change from case1 to case2 (at least)

Branch FOWLER  69.0( 8322) TO FOWLER-E69.0( 8324) CKT 1 RATING SET B  130.0 MVA
   90.3% in case1 when: OPEN LINE FROM BUS 8302 [RIVER-N 69.000] TO BUS 8438 [GTE-COLL69.000] CKT 1
                        OPEN LINE FROM BUS 8400 [CHAPMAN 230.00] TO BUS 8730 [SR 60   230.00] CKT 1
  104.7% in case2 when: same contingency
   14.4% change from case1 to case2

Branch CREWSLK  230( 6105) TO PEBB     230( 9050) CKT 1 RATING SET B  402.0 MVA
 < 90.0% in case1
  102.5% in case2 when: OPEN LINE FROM BUS 6104 [TENOROC 230.00] TO BUS 6106 [I-STATE 230.00] CKT 1
                        OPEN LINE FROM BUS 9100 [RECKER  230.00] TO BUS 9120 [SELOSE  230.00] CKT 1
   12.5% change from case1 to case2 (at least)

Branch RIVER-S 69.0( 8308) TO FOWLER-E69.0( 8324) CKT 1 RATING SET B  143.0 MVA
 < 90.0% in case1
  102.5% in case2 when: OPEN LINE FROM BUS 8302 [RIVER-N 69.000] TO BUS 8438 [GTE-COLL69.000] CKT 1
                        OPEN LINE FROM BUS 8400 [CHAPMAN 230.00] TO BUS 8730 [SR 60   230.00] CKT 1
   12.5% change from case1 to case2 (at least)

Branch RIVER-N 69.0( 8302) TO GTE-COLL69.0( 8438) CKT 1 RATING SET B  143.0 MVA
 < 90.0% in case1
  102.5% in case2 when: OPEN LINE FROM BUS 8308 [RIVER-S 69.000] TO BUS 8324 [FOWLER-E69.000] CKT 1
                        OPEN LINE FROM BUS 8400 [CHAPMAN 230.00] TO BUS 8730 [SR 60   230.00] CKT 1
   12.5% change from case1 to case2 (at least)

Branch FORT6 T 69.0( 8316) TO GTE-COLL69.0( 8438) CKT 1 RATING SET B  128.0 MVA
 < 90.0% in case1
  102.4% in case2 when: OPEN LINE FROM BUS 8308 [RIVER-S 69.000] TO BUS 8324 [FOWLER-E69.000] CKT 1
                        OPEN LINE FROM BUS 8400 [CHAPMAN 230.00] TO BUS 8730 [SR 60   230.00] CKT 1
   12.4% change from case1 to case2 (at least)
```

```
Branch CARGILL 69.0( 8704) TO BAYMET T69.0( 8786) CKT 1 RATING SET B   93.0 MVA
 < 90.0% in case1
  101.3% in case2 when: OPEN LINE FROM BUS 8500 [11TH AVE230.00] TO BUS 8900 [B BEND  230.00] CKT 1
                        OPEN LINE FROM BUS 8730 [SR 60   230.00] TO BUS 8900 [B BEND  230.00] CKT 1
   11.3% change from case1 to case2 (at least)

Branch FORTY6T269.0( 8318) TO FOWLER  69.0( 8322) CKT 1 RATING SET B  121.0 MVA
 < 90.0% in case1
  101.2% in case2 when: OPEN LINE FROM BUS 8302 [RIVER-N 69.000] TO BUS 8438 [GTE-COLL69.000] CKT 1
                        OPEN LINE FROM BUS 8400 [CHAPMAN 230.00] TO BUS 8730 [SR 60   230.00] CKT 1
   11.2% change from case1 to case2 (at least)

Branch FORTY6T269.0( 8318) TO MCKINLEY69.0( 8326) CKT 1 RATING SET B  121.0 MVA
 < 90.0% in case1
  101.2% in case2 when: OPEN LINE FROM BUS 8302 [RIVER-N 69.000] TO BUS 8438 [GTE-COLL69.000] CKT 1
                        OPEN LINE FROM BUS 8400 [CHAPMAN 230.00] TO BUS 8730 [SR 60   230.00] CKT 1
   11.2% change from case1 to case2 (at least)

Branch SELOSE-N69.0( 9124) TO JAN PHYL69.0( 9172) CKT 1 RATING SET B   57.4 MVA
  114.4% in case1 when: OPEN LINE FROM BUS 9120 [SELOSE   230.00] TO BUS 9124 [SELOSE-N69.000] CKT 1
                        OPEN LINE FROM BUS 9126 [LKGUM    69.000] TO BUS 9132 [LKALFRED69.000] CKT 1
 < 90.0% in case2
  -24.4% change from case1 to case2 (at least)
```

Most of these impacted circuits are remote from the Osprey site, and are impacted primarily due to the redispatch of FPC units to accommodate the requested transmission service from Calpine to FPC. The two local impacts (due simply to interconnecting 526 MW of additional generation at Recker) are the Crews Lake-Pebbledale 230kV line and the Ariana 230/69kV autotransformer. Although these overloads can be alleviated by post-contingency switching, the impacts must still be documented.

2003 at 100% of peak, single contingencies

Now that all impacts in the initial year (2002) have been addressed or documented, the study proceeds to the later year cases (2003 - 2008).

```
case1: base03
case2: calpine03 (with Osceola Reactor Upgrade and Recker-South Eloise 230kV Loop)

Branch SELOSE   230( 9120) TO SELOSE-N69.0( 9124) CKT 1 RATING SET B  177.0 MVA
   99.4% in case1 when: OPEN LINE FROM BUS 9102 [ARIANA-N69.000] TO BUS 9110 [ARIANA  230.00] CKT 1
  114.2% in case2 when: same contingency
   14.8% change from case1 to case2

Branch ARIANA-N69.0( 9102) TO ARIANA   230( 9110) CKT 1 RATING SET B  176.0 MVA
  102.1% in case1 when: OPEN LINE FROM BUS 9120 [SELOSE  230.00] TO BUS 9124 [SELOSE-N69.000] CKT 1
  113.7% in case2 when: same contingency
   11.6% change from case1 to case2
```

Both of these overloads can be alleviated with post-contingency switching.

2003 at 70% of peak, double contingencies

```
case1: base03_70
case2: calpine03_70 (with Osceola Reactor Upgrade and Recker-South Eloise 230kV Loop)
```

```
Branch ARIANA-N69.0( 9102) TO ARIANA   230( 9110) CKT 1 RATING SET B  176.0 MVA
 < 90.0% in case1
  114.3% in case2 when: OPEN LINE FROM BUS 6105 [CREWSLK 230.00] TO BUS 9100 [RECKER  230.00] CKT 1
                        OPEN LINE FROM BUS 9100 [RECKER  230.00] TO BUS 9120 [SELOSE  230.00] CKT 1
   24.3% change from case1 to case2 (at least)

Branch CREWSLK  230( 6105) TO PEBB     230( 9050) CKT 1 RATING SET B  402.0 MVA
 < 90.0% in case1
  112.7% in case2 when: OPEN LINE FROM BUS 6104 [TENOROC 230.00] TO BUS 6106 [I-STATE 230.00] CKT 1
                        OPEN LINE FROM BUS 9100 [RECKER  230.00] TO BUS 9120 [SELOSE  230.00] CKT 1
   22.7% change from case1 to case2 (at least)

Branch HOPEWELL69.0( 8652) TO MULB-S  69.0( 8662) CKT 1 RATING SET B   61.0 MVA
   96.0% in case1 when: OPEN LINE FROM BUS 8600 [HAMPTN  230.00] TO BUS 8602 [HAMPTN  69.000] CKT 1
                        OPEN LINE FROM BUS 8648 [IMPRLK T69.000] TO BUS 8662 [MULB-S  69.000] CKT 1
  103.4% in case2 when: same contingency
    7.4% change from case1 to case2

Branch MULB-S  69.0( 8662) TO RDGWD T269.0( 9074) CKT 1 RATING SET B   97.0 MVA
   98.3% in case1 when: OPEN LINE FROM BUS 8600 [HAMPTN  230.00] TO BUS 8602 [HAMPTN  69.000] CKT 1
                        OPEN LINE FROM BUS 8662 [MULB-S  69.000] TO BUS 9081 [ROYSTR T69.000] CKT 1
  104.3% in case2 when: same contingency
    6.0% change from case1 to case2

Branch SANDHL-W69.0( 9032) TO ROYSTR T69.0( 9081) CKT 1 RATING SET B   97.0 MVA
   96.3% in case1 when: OPEN LINE FROM BUS 8600 [HAMPTN  230.00] TO BUS 8602 [HAMPTN  69.000] CKT 1
                        OPEN LINE FROM BUS 8662 [MULB-S  69.000] TO BUS 9074 [RDGWD T269.000] CKT 1
  102.1% in case2 when: same contingency
    5.8% change from case1 to case2

Branch MULB-S  69.0( 8662) TO ROYSTR T69.0( 9081) CKT 1 RATING SET B   97.0 MVA
   96.3% in case1 when: OPEN LINE FROM BUS 8600 [HAMPTN  230.00] TO BUS 8602 [HAMPTN  69.000] CKT 1
                        OPEN LINE FROM BUS 8662 [MULB-S  69.000] TO BUS 9074 [RDGWD T269.000] CKT 1
  102.1% in case2 when: same contingency
    5.8% change from case1 to case2
```

All of these overloads can be alleviated with post-contingency switching.

2004 at 100% of peak, single contingencies

```
case1: base04
case2: calpine04 (with Osceola Reactor Upgrade and Recker-South Eloise 230kV Loop)

Branch SELOSE   230( 9120) TO SELOSE-N69.0( 9124) CKT 1 RATING SET B  177.0 MVA
  107.0% in case1 when: OPEN LINE FROM BUS 9102 [ARIANA-N69.000] TO BUS 9110 [ARIANA  230.00] CKT 1
  122.6% in case2 when: same contingency
   15.6% change from case1 to case2

Branch ARIANA-N69.0( 9102) TO ARIANA   230( 9110) CKT 1 RATING SET B  176.0 MVA
  110.7% in case1 when: OPEN LINE FROM BUS 9120 [SELOSE  230.00] TO BUS 9124 [SELOSE-N69.000] CKT 1
  122.8% in case2 when: same contingency
   12.1% change from case1 to case2

Branch SELOSE-S69.0( 9122) TO SELOSE-N69.0( 9124) CKT 1 RATING SET B  143.4 MVA
   91.0% in case1 when: OPEN LINE FROM BUS 9124 [SELOSE-N69.000] TO BUS 9154 [LKWNTRST69.000] CKT 1
  100.0% in case2 when: same contingency
    9.0% change from case1 to case2
```

2004 at 70% of peak, double contingencies

```
case1: base04_70
case2: calpine04_70 (with Osceola Reactor Upgrade and Recker-South Eloise 230kV Loop)

Branch ARIANA-N69.0( 9102) TO ARIANA   230( 9110) CKT 1 RATING SET B  176.0 MVA
 < 90.0% in case1
  116.4% in case2 when: OPEN LINE FROM BUS 6105 [CREWSLK 230.00] TO BUS 9100 [RECKER  230.00] CKT 1
                        OPEN LINE FROM BUS 9100 [RECKER  230.00] TO BUS 9120 [SELOSE  230.00] CKT 1
   26.4% change from case1 to case2 (at least)
```

```
Branch CREWSLK  230( 6105) TO PEBB      230( 9050) CKT 1 RATING SET B  402.0 MVA
 < 90.0% in case1
  110.3% in case2 when: OPEN LINE FROM BUS 6104 [TENOROC 230.00] TO BUS 6106 [I-STATE 230.00] CKT 1
                        OPEN LINE FROM BUS 9100 [RECKER  230.00] TO BUS 9120 [SELOSE  230.00] CKT 1
   20.3% change from case1 to case2 (at least)

Branch MULB-S  69.0( 8662) TO RDGWD T269.0( 9074) CKT 1 RATING SET B   97.0 MVA
   96.5% in case1 when: OPEN LINE FROM BUS 8600 [HAMPTN  230.00] TO BUS 8602 [HAMPTN  69.000] CKT 1
                        OPEN LINE FROM BUS 8662 [MULB-S  69.000] TO BUS 9081 [ROYSTR T69.000] CKT 1
  102.3% in case2 when: same contingency
    5.8% change from case1 to case2

Branch MULB-S  69.0( 8662) TO ROYSTR T69.0( 9081) CKT 1 RATING SET B   97.0 MVA
   94.5% in case1 when: OPEN LINE FROM BUS 8600 [HAMPTN  230.00] TO BUS 8602 [HAMPTN  69.000] CKT 1
                        OPEN LINE FROM BUS 8662 [MULB-S  69.000] TO BUS 9074 [RDGWD T269.000] CKT 1
  100.3% in case2 when: same contingency
    5.8% change from case1 to case2
```

In 2004, both the South Eloise and the Ariana 230/69kV autotransformers are impacted to such a degree that their single contingency loading exceeds the 115% criteria. Also, at a system load level of 70% of peak in 2004, the Ariana transformer is pushed over the 115% criteria upon the double-contingency loss of the Recker-South Eloise and Recker-Crews Lake 230kV circuits. Therefore, firm transmission service to Osprey Energy Center requires a solution to these autotransformer overloads to be implemented prior to the summer of 2004.

Tampa Electric's base case plan includes a new 230/69kV autotransformer at Gapway Substation in 2005. This transformer installation requires a single 69kV breaker, a 1,000-foot tap to the Recker-Lake Agnes 230kV circuit, and three 230kV switches. This project alleviates the Ariana and South Eloise overloads in the base cases and the Osprey cases from 2005 through 2008. Therefore, the Gapway project must be accelerated from 2005 to 2004 to mitigate the impacts due to Osprey. The following lists show the remaining impacts (single-contingency only) caused by the Osprey project, for the years 2005 through 2008.

<u>2005 at 100% of peak, single contingencies</u>

```
case1: base05
case2: calpine05 (with Osceola Reactor Upgrade and Recker-South Eloise 230kV Loop)

no changes exceeding 5%
```

<u>2006 at 100% of peak, single contingencies</u>

```
case1: base06
case2: calpine06 (with Osceola Reactor Upgrade and Recker-South Eloise 230kV Loop)

Branch ARIANA-N69.0( 9102) TO ARIANA   230( 9110) CKT 1 RATING SET B  176.0 MVA
   90.0% in case1 when: OPEN LINE FROM BUS 9120 [SELOSE  230.00] TO BUS 9124 [SELOSE-N69.000] CKT 1
  100.7% in case2 when: same contingency
   10.7% change from case1 to case2

Branch SELOSE   230( 9120) TO SELOSE-N69.0( 9124) CKT 1 RATING SET B  177.0 MVA
   98.3% in case1 when: OPEN LINE FROM BUS 9102 [ARIANA-N69.000] TO BUS 9110 [ARIANA  230.00] CKT 1
  104.9% in case2 when: same contingency
    6.6% change from case1 to case2
```

```
Branch LK BRYAN69.0( 2120) TO LK BRYAN 230( 2166) CKT 2 RATING SET B  280.0 MVA
   93.8% in case1 when: OPEN LINE FROM BUS 2120 [LK BRYAN69.000] TO BUS 2166 [LK BRYAN230.00] CKT 1
  100.2% in case2 when: same contingency
    6.4% change from case1 to case2

Branch LK BRYAN69.0( 2120) TO LK BRYAN 230( 2166) CKT 1 RATING SET B  280.0 MVA
   93.8% in case1 when: OPEN LINE FROM BUS 2120 [LK BRYAN69.000] TO BUS 2166 [LK BRYAN230.00] CKT 2
  100.2% in case2 when: same contingency
    6.4% change from case1 to case2
```

2007 at 100% of peak, single contingencies

```
case1: base07
case2: calpine07 (with Osceola Reactor Upgrade and Recker-South Eloise 230kV Loop)

Branch OSCEOLA  230( 7890) TO LKAGNES  230( 9150) CKT 1 RATING SET B  553.0 MVA
 < 80.0% in case1
  113.5% in case2 when: OPEN LINE FROM BUS 2876 [LOUGHMAN230.00] TO BUS 2891 [WLK WALE230.00] CKT 1
   33.5% change from case1 to case2 (at least)

Branch LOUGHMAN 230( 2876) TO WLK WALE 230( 2891) CKT 1 RATING SET B  593.0 MVA
 < 80.0% in case1
  111.1% in case2 when: OPEN LINE FROM BUS 7890 [OSCEOLA 230.00] TO BUS 9150 [LKAGNES 230.00] CKT 1
   31.1% change from case1 to case2 (at least)

Branch LOUGHMAN 230( 2876) TO INTERCSN 230( 2883) CKT 1 RATING SET B  603.0 MVA
 < 80.0% in case1
  109.3% in case2 when: OPEN LINE FROM BUS 7890 [OSCEOLA 230.00] TO BUS 9150 [LKAGNES 230.00] CKT 1
   29.3% change from case1 to case2 (at least)

Branch ARIANA-N69.0( 9102) TO ARIANA   230( 9110) CKT 1 RATING SET B  176.0 MVA
   90.9% in case1 when: OPEN LINE FROM BUS 9120 [SELOSE  230.00] TO BUS 9124 [SELOSE-N69.000] CKT 1
  102.3% in case2 when: same contingency
   11.4% change from case1 to case2
```

2008 at 100% of peak, single contingencies

```
case1: base08
case2: calpine08 (with Osceola Reactor Upgrade and Recker-South Eloise 230kV Loop)

Branch LOUGHMAN 230( 2876) TO WLK WALE 230( 2891) CKT 1 RATING SET B  593.0 MVA
 < 80.0% in case1
  109.0% in case2 when: OPEN LINE FROM BUS 7890 [OSCEOLA 230.00] TO BUS 9150 [LKAGNES 230.00] CKT 1
   29.0% change from case1 to case2 (at least)

Branch OSCEOLA  230( 7890) TO LKAGNES  230( 9150) CKT 1 RATING SET B  553.0 MVA
 < 80.0% in case1
  108.6% in case2 when: OPEN LINE FROM BUS 2876 [LOUGHMAN230.00] TO BUS 2891 [WLK WALE230.00] CKT 1
   28.6% change from case1 to case2 (at least)

Branch LOUGHMAN 230( 2876) TO INTERCSN 230( 2883) CKT 1 RATING SET B  603.0 MVA
 < 80.0% in case1
  107.2% in case2 when: OPEN LINE FROM BUS 7890 [OSCEOLA 230.00] TO BUS 9150 [LKAGNES 230.00] CKT 1
   27.2% change from case1 to case2 (at least)

Branch ARIANA-N69.0( 9102) TO ARIANA   230( 9110) CKT 1 RATING SET B  176.0 MVA
   86.7% in case1 when: OPEN LINE FROM BUS 9120 [SELOSE  230.00] TO BUS 9124 [SELOSE-N69.000] CKT 1
  100.1% in case2 when: same contingency
   13.4% change from case1 to case2

Branch HIGGINS  115( 2245) TO GRIFFIN  115( 2249) CKT 1 RATING SET B  176.0 MVA
   93.7% in case1 when: OPEN LINE FROM BUS 2271 [GRIFFIN 230.00] TO BUS 2884 [KATHLEEN230.00] CKT 1
  101.0% in case2 when: same contingency
    7.3% change from case1 to case2
```

Note that many of the impacted facilities listed above are owned by Florida Power Corporation. FPC's System Planning department was provided, via telephone conversation and e-mail on July 6, 2000, all of the pertinent details regarding this study. FPC replied, via e-mail on August 8, 2000, indicating that "Any facilities that are impacted on the FPC system are minimally impacted (less than 3% in early years and less than 5% in later years) or FPC has plans to upgrade the facilities in the same time frame as the impact." However, FPC also stated "This evaluation only pertains to the PTP Transmission Service Request under study and in no way implies approval of this as a Network Resource on the FPC transmission system." Therefore, Florida Power Corporation's impacted facilities were not considered as requiring further action for this Tampa Electric Facilities Study.

The City of Lakeland Electric Department's facilities were also monitored in all of the loadflow analysis of this study, but no adverse impacts were identified.

SUMMARY OF REQUIRED FACILITIES

Facilities Required for Interconnection

- Recker Substation Modifications, in-service by December 2001 - Capital costs $2.4M, non-escalated.

Description	Labor/Sub-Contract($)	Vehicle($)	Material($)	Other($)	Total($)
2-230kV circuits from Recker, terminating at three Calpine-owned dead-end towers at the Osprey site. Extend the 230kV bus west, install 3-230kV circuit breakers and five disconnect switches.	$976.7K	$89.5K	$1,101.1K	$226.7K	$2,394.0K

Network Upgrades Required for Firm Transmission

- Recker-South Eloise 230kV Loop, in-service by June 2002 - 11.1 miles of new 230kV transmission and 5 new 230kV circuit breakers. Capital costs $11.1M, non-escalated.
- Circuit 66831 Rebuild, in-service by June 2002 - Rebuild 4.4 miles of 4/0 CU from South Eloise to Jan Phyl. Project is in TEC's base expansion plan for 2003 and will be accelerated 1 year. Due to logistics of sharing the same pole-line, these costs are included in the Recker-South Eloise 230kV Loop estimate.

Description	Labor/Sub-Contract($)	Vehicle($)	Material($)	Other($)	Total($)
11.1 miles of new 230kV transmission, 1-230kV circuit breaker at Recker, new 230kV ring bus with 4-230kV circuit	$3,218.1K	$762.5K	$6,393.9K	$702.6K	$11,077.1K

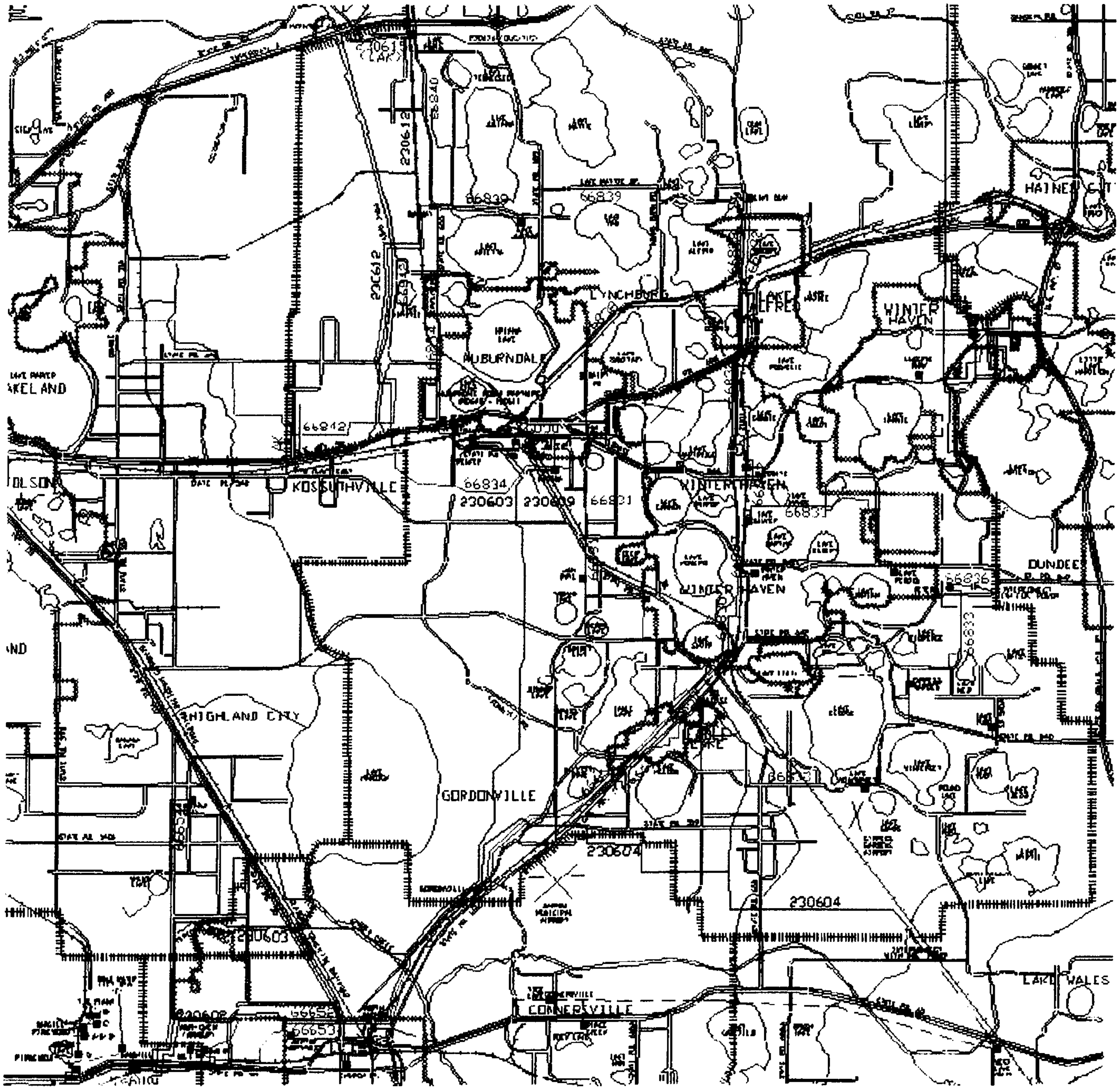
- Osceola 10 Ohm Reactor, in-service by summer 2002 - Upgrade 4 ohm reactors on circuit 66701 (Osceola-Studio 69kV cable) to 10 ohms. Project (8 ohm reactors) is in TEC's base expansion plan for 2007 and will be accelerated 5 years. Capital costs $236.9K, non-escalated. Calpine's capital cost responsibilty for accelerating project 5 years is $81K.

Description	Labor/Sub-Contract($)	Vehicle($)	Material($)	Other($)	Total($)
Remove (3) 4 Ohm series reactors, install (3) 10 Ohm series reactors at Osceola.	$25.6K	$2.5K	$204.6K	$4.2K	$236.9K

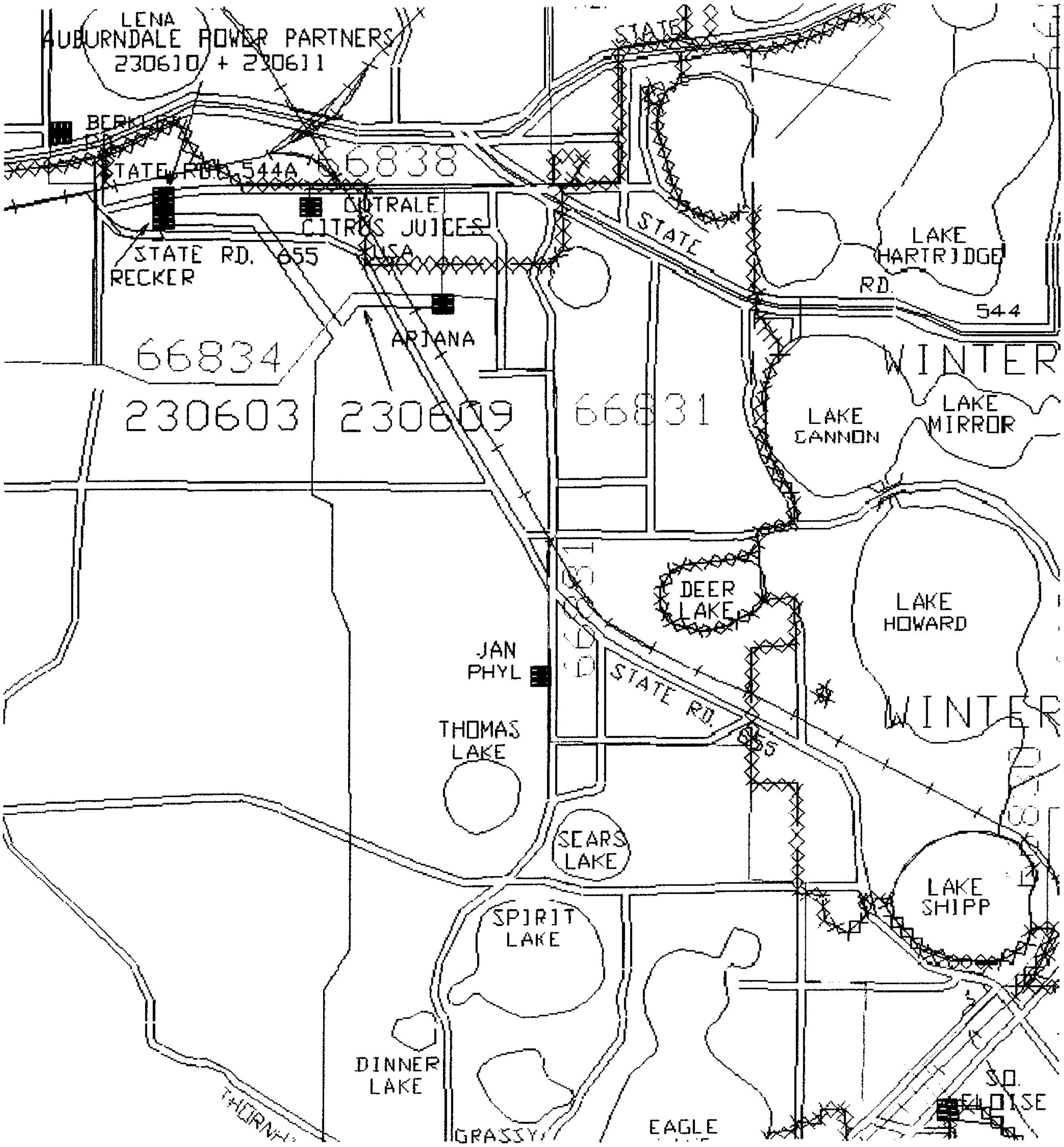
- Gapway 230/69kV transformer, in-service by summer 2004 - $3.7M, non-escalated. Project is in TEC's base expansion plan for 2005 and will be accelerated 1 year. Calpine's capital cost responsibilty for accelerating project 1 year is $328K.

Description	Labor/Sub-Contract($)	Vehicle($)	Material($)	Other($)	Total($)
New 230/69kV autotransformer, 1-69kV breaker, 3-230kV switches, 0.2 mile new 230kV	$928.3K	$126.6K	$2,664.0K	$8.9K	$3,727.8K

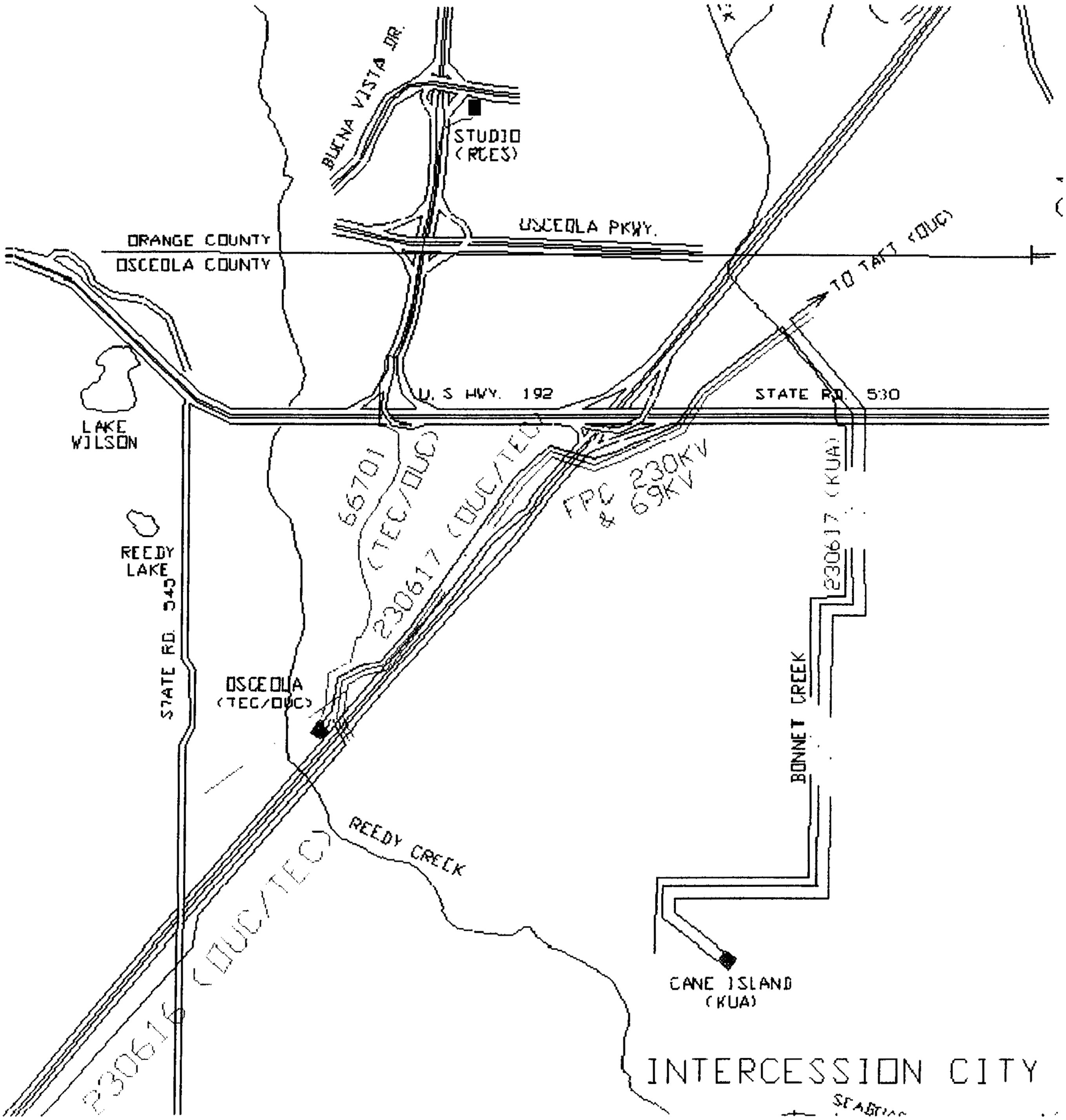
Appendix A



Geographic transmission map of greater Winter Haven area.



Geographic transmission map of Recker- South Eloise area.



Geographic transmission map of Osceola-Studio area.