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BEFORE THE

FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO 891345-EI

TESTIMONY AND EXHIBITS
OF
C. R. LEE

Gulf Power

GULF POWER COMPANY

Before the Florida Public Service Commission
Direct Testimony of
Colen R. Lee
In Support of Rate Relief
Docket No. 891345-EI
Date of Filing December 15, 1989

Q. Please state your name, address and occupation.

A. My name is Colen R. Lee, and my business address is 500 Bayfront Parkway, Pensacola, Florida 32501. I am Director of Power Generation for Gulf Power Company.

Q. Please briefly describe your educational background and business experience.

A. I graduated from Mississippi State University, Starkville, Mississippi, in 1965 with a Bachelor of Science Degree in Mechanical Engineering. I joined Gulf Power Company in 1965 as a Staff Engineer. I have held various positions with Gulf including Field Engineer, Plant Engineer, Plant Superintendent and Plant Manager. In 1984, I assumed the position of Director of Power Generation and presently serve in that capacity.

Q. Have you prepared an exhibit that contains information to which you will refer in your testimony?

A. Yes.

Counsel: We ask that Mr. Lee's Exhibit, comprised of 4 Schedules, be marked for identification as Exhibit _______ (CRL-1).

Q. Are you the sponsor of certain Minimum Filing Requirements?

A. Yes, those which I am sponsoring are listed on Schedule 4 at the end of my exhibit. To the best of my knowledge, the information in these Minimum Filing Requirements (MFRs) is true and correct.

Q. What is your area of responsibility within Gulf Power?

A. I have the responsibility of ensuring that Crist, Scholz, Smith, Daniel and Scherer Electric Generating Plants are efficiently and effectively operated and maintained. I also have the responsibility of ensuring the effective and efficient use of Southern Company Services and support personnel in the Power Generation sections: Construction, Engineering, Performance, Planning, and Safety and Training personnel. The Power Generation Department is part of the Power Generation and Transmission Department for which Mr. Earl B. Parsons, Jr., has overall responsibility.

Q. Have you previously filed Direct testimony before this Commission?

A. Yes, I have.

Q. What is the purpose of your testimony in these proceedings?

A. The purpose of my testimony is to support the 1990 production Operation and Maintenance (O & M) Budget. Also, I will provide information on benchmark variances relative to the plants. Finally, I will demonstrate that Gulf's Power Generation Department is productively, economically and effectively managed and explain how we accomplish this task.

Q. Please summarize the 1990 Production Operation and Maintenance Budget.

A. The 1990 total Production O & M Budget, including Plants Daniel and Scherer, less fuel and purchased power, is $52.7 million. This amount is $26,098 less than the 1989 prior year O & M production expenses. This decrease is primarily due to expenses related to turbine and boiler inspections.

Q. How do the 1990 budgeted production operation and maintenance expenses compare to the 1990 benchmark amount?

A. These expenses are $4.3 million over the 1990 benchmark, which is based on the 1984 allowed dollars. Gulf believes that 1984 was not a realistic year. If the allowed amount from the more realistic base year of 1983 is used, then Gulf would be $2.5 million under the 1990 benchmark for production O & M, less fuel and purchased power.

Q. What items in the Power Generation area are over the benchmark based on 1984 allowed as a base year?

A. There are six major items which are over the 1990 benchmark. The justifications for the variances are located in MFR C-57; however, I would like to provide further explanation for some of these variances.

Gulf is over the 1990 benchmark for territorial turbine and boiler inspections by $202,000. In 1984, Gulf was allowed $4.1 million per year for turbine and boiler inspections. Two units which are on a five-year inspection cycle are scheduled for 1990. These inspections are being performed on their regular inspection cycle and the amount included for 1990 is the amount anticipated to be spent for these turbine and boiler inspections. I will address turbine and boiler inspections again later in my testimony.

The 1990 Plant Daniel O & M Budget, less fuel, is $646,000 over the 1990 benchmark. There are three major reasons for this difference. First, the amount budgeted for turbine and boiler inspections exceeds the benchmark by $477,000. In 1984, Plant Daniel had a minor component inspection scheduled on Unit 1. For 1990, Plant Daniel is scheduled to perform a major component inspection on Unit 1. Second, Plant Daniel was not able to meet environmental standards concerning particulate emissions. Unsuccessful efforts were made to modify equipment to achieve compliance. In 1987, Plant Daniel began adding sodium sulfate to coal in an attempt to improve precipitator performance to achieve compliance. The sodium addition has thus far proved successful and is expected to continue in the future. Lastly, additional ash pond capacity at Plant Daniel is required to maintain continued operation. The original plant design planned use of land west of the plant for ash pond storage. Because of environmental laws concerning wetlands and ash pond construction enacted since the construction of Plant Daniel, an ash pond expansion is not possible. Therefore, Plant Daniel is proceeding with the construction of an ash landfill.

Beginning in 1990, ash from the existing pond will be excavated and hauled to the new ash landfill for permanent storage.

The production area is also over the 1990 benchmark by $853,000 because of additional personnel and salary increases. Since the 1984 Rate Case, Gulf has added maintenance personnel, which were supported by the Commission's 1983 management audit of Gulf. In 1985, Gulf began an extensive organizational review to determine the most cost effective and productive organizational structure. During this review, each position in the organization was evaluated and justified. In 1987, as a result of the organizational review, the entire Electric Operations Department under Mr. Parsons was reorganized from the study's findings. The Commission's findings and recommendations of the 1983 audit were an integral part of the Department's organizational review.

Plant Smith is $635,000 over the 1990 benchmark because of ash hauling expenses. Like Plant Daniel, Plant Smith's ash pond was nearing capacity, a situation aggravated by new water retention requirements imposed by environmental regulations. Efforts to expand the ash pond failed because of environmental constraints. Therefore, in 1986, Gulf completed construction of an ash landfill site. Since 1986, ash has been excavated from the ash pond and hauled to the landfill for permanent storage. This disposal method will continue for the life of the plant.

Plant Crist is $289,000 over the 1990 benchmark due to expenses related to condenser and cooling tower chemical treatment. Plant personnel add chemicals to the circulating water on Crist Units 6 and 7 to prevent the corrosion of the copper condenser tubes and also to prevent condenser tube failures. By adding these chemicals, we can extend the life of the condenser tubes and also help prevent outages because of condenser tube failure. These chemicals also prevent the condenser from fouling which, if not done, would result in deteriorated unit heat rates.

Finally, the production area is $684,000 over the 1990 benchmark because of duct and fan repair. These costs are for maintaining the primary air, secondary air, and flue gas ducts. Also included in these costs are induced draft, forced draft and primary air fans along with the associated fan drivers and dampers. All of this equipment operates in an extremely harsh environment. Due to this harsh environment, this equipment requires frequent maintenance. If this equipment were to be replaced with new equipment, the cost and extended outage time would be high and the high maintenance costs would return within a few years.

Q. How does Power Generation ensure that its Operation and Maintenance Expense Budget is effectively controlled?

A. Each month the O & M Budget Comparison Report is reviewed for each location. Each location within the department prepares a detailed explanation of each account which has a budget deviation above or below a set variance. Where possible, the responsible location takes corrective action.

Q. How is goal setting used to ensure that Gulf's territorial generating plants are efficiently operated and maintained?

A. Plants Crist, Smith and Scholz establish yearly goals in critical performance areas. Departmental goals for heat rate, capability, automatic generation control availability and equivalent availability are then established from the individual plant goals. The importance of meeting or exceeding all goals is stressed to all personnel within the department. Individual employee evaluations are based in part on meeting these goals. The plants' progress in meeting these goals is reported on a monthly and quarterly basis. Year-end results of the goal setting process for the plants and for departmental support personnel are reported in the Power Generation Annual Progress Report. This report also highlights departmental endeavors and achievements for the year and identifies major tasks and goals to be accomplished in the following year.

Since 1984, the Power Generation Department's overall progress toward attaining established goals has been excellent. In every year, the majority of the goals have been met and, in most cases, exceeded. In areas where the goals were not met, departmental personnel determined the reasons for the deficiencies and placed increased emphasis where necessary to correct the deficiencies.

Q. Please discuss the goals for the Power Generation Department in 1989 and 1990.

A. Schedule 2 of my exhibit summarizes the 1989 and 1990 department goals for heat rate, equivalent availability, capability, and automatic generation control availability. Also included in this schedule are goals and actual results for 1980, 1984 and 1988. We try to set goals that are realistic and challenging.

Q. What automated systems are being used in the electric generating plant maintenance planning and scheduling process?

A. The Power Generation Department is utilizing four automated systems in the plant maintenance planning and scheduling process. The following computerized systems are in use at Plants Crist, Smith and Scholz:

The Production Plant Management Information System (PPMIS) is an on-line work order system which provides plant management and supervision accurate and timely information to assist in organizing, planning and executing maintenance tasks. PPMIS records also provide a data base that is used to evaluate plant equipment for overhauls or replacements.

The Communication Oriented Production Information and Control System (COPICS) is an on-line inventory control system. This system, combined with an on-line purchasing system, provides the department an improved method of managing the use, size and, ultimately, the cost of the plant material inventory.

The Plant Identification System of Accounts (PISA) provides operation and maintenance costs on a monthly basis for each electric generating plant unit as well as for designated equipment. This information is used for cost studies and budgeting purposes.

MAINPLAN is a computer program used by Southern Company Services to perform economic scheduling of maintenance outages for the Southern electric system. The Power Generation Department coordinates the establishment of each plant's unit outage schedules through Southern Company Services. The MAINPLAN outage schedule evaluations are used in the Southern electric system's energy budgeting program, as well as, in the maintenance scheduling program.

Implementing these automated systems took time and significant effort. As a result of this effort, Gulf's plants are now realizing the benefits of these systems in areas such as improved work order selection for forced outages, work order planning for scheduled outages, and more accurate retrieval of maintenance history for equipment evaluation.

Q. What steps have been taken to improve productivity in the maintenance process?

A. The PPMIS system presently measures the work performance of approximately 330 operations and maintenance employees at Gulf's three territorial plants by generating Work Measurement Reports. These reports are generated monthly, quarterly, and also upon special request of plant management. The reports are utilized to identify backlogged work and efficiently plan the accomplishment of the backlogged work. These reports also track maintenance personnel productivity.

To become more productive, Gulf also established the position of "Scheduler" at Plants Crist and Smith. Designated personnel in this position are assigned the tasks of writing maintenance procedures and identifying material for high cost and repetitious jobs. In a successful effort to improve the planning process, these personnel developed a modification to PPMIS which would permit the procedures to be put into the system utilizing the Statistical Analysis System. When a planned work order is dispatched, the associated procedure is automatically printed at the same time. These scheduling personnel also reviewed the COPICS System to see if the system could aid in identifying and issuing material for planned work orders. The scheduling personnel determined that, with modification, COPICS could perform the task. Special planning screens were then developed and COPICS was implemented at Gulf's three plants.

COPICS was linked with PPMIS by the use of a PPMIS "router" feature. While the two programs do not interchange information, scheduling personnel can use the PPMIS terminal and switch easily from the PPMIS work order screens to the COPICS inventory control screens. When planning a PPMIS work order, scheduling personnel can call up a COPICS bill of material for the equipment needing repair. The repair parts can be specified on the COPICS material listing screen created for a specific work order. Scheduling personnel then notify warehousing personnel to print a pick ticket for the work order material. The pick ticket enables the warehousing personnel to locate the material in the most efficient order. After all the material is located, the warehousing personnel enter the issued quantities on the applicable COPICS inventory screen. The COPICS system performs an automatic inventory balance update. The warehousing personnel then deliver the work order material to a designated location in the maintenance shop for maintenance personnel to pick up and use on the job.

Q. What other productivity improvement programs has Gulf implemented?

A. Gulf is committed to performing the work necessary to accomplish the Commission's intent of reducing customers' electrical energy costs by instituting the Generating Performance Incentive Factor (GPIF) program.

The GPIF program has resulted in approximately $67 million of estimated fuel savings to our customers since its inception in 1980. During 15 reporting periods, Gulf has received approximately $1.6 million in rewards as a result of its efforts.

Gulf has routinely done performance testing on all of its units. However, due to the recent availability and lower cost of computers, Gulf has begun testing the entire turbine cycle on each coal-fired unit utilizing a "limited" American Society of Mechanical Engineers performance test code for steam turbines. Before the computers were readily available, this type of testing would require 40 people to regularly take data during a test. However, with the computer, all data is taken and stored at a set time interval and displayed during the test. The computer-aided testing can be done by three people with much greater accuracy and at much less cost.

Gulf performs testing, at least yearly, on the high pressure and intermediate pressure sections of our turbines on each coal-fired unit to monitor the degradation in the turbines between inspections. This testing allows Gulf's personnel to assess the present condition of our units.

Gulf has worked to improve our system heat rate. The overall heat rate for Gulf in 1980 was 10,909 btu/kwh. Since 1980, Gulf's overall heat rate has improved by 273 btu/kwh to 10,636 btu/kwh by the end of October 1989. When equipment such as turbine blades, air heater baskets, and feedwater heaters were being replaced, Gulf's personnel evaluated the replacements so that the new equipment would optimize performance. With the PPMIS system, work orders on items such as steam leaks in valves and improperly sealing valves were ready to be done as soon as the unit came off line.

Gulf has also been placing more emphasis on unit operation and training of our employees in order to improve the heat rate. Gulf's personnel have attended comprehensive training courses on heat rate improvement. Gulf has placed increased emphasis on maintenance of pulverizers, duct insulation, and burners and on lowering carbon in ash so that optimum heat rate can be maintained. Gulf's commitment to improved heat rate has proved successful and has lowered costs to Gulf's customers.

Gulf, as an affiliate of the North American Electric Reliability Council (NERC), participates in the Generation Availability Data System (GADS). GADS is a well-maintained, accurate, dependable and comprehensive data base capable of providing reliability and availability information. Companies owning over 91 percent of the installed generating capacity in North America participate in GADS. All of Gulf's generating units are included in the GADS program.

For each event affecting a unit's availability, the information recorded includes the type of event, the time and duration of the event, the capacity loss as a result of the event and the cause of the event. With this detailed information, availability performance indices such as Equivalent Availability Factor, Forced Outage Rate, etc., can be calculated. Gulf uses the GADS data to monitor and compare the availability performance of our units and major pieces of equipment, such as pulverizers, boiler tubes, etc. The GADS data helps us evaluate the need for maintenance or replacement of these major components. Generation planning studies also use the GADS data to accurately predict the expected generation.

Q. **What has Gulf done to improve generating unit equivalent availability?**

A. Gulf has worked extremely hard to improve the availability of our units. Unit inspections and equipment replacements have increased the equivalent availability from a low in 1985 of 83.7 percent to the present level of 88.7 percent for year-to-date ending October 1989. Gulf performed turbine and boiler inspections on Crist Unit 5, Smith Unit 2 and Scholz Unit 2 in 1984; Crist Units 1, 2 and 6 in 1985, with Crist Units 1 and 2 overlapping into January 1986; Crist Unit 7 in 1986; Scholz Unit 1 in 1987; Crist Unit 4 and Smith Unit 2 in 1988, with Crist Unit 4 overlapping into January 1989; and Crist Units 3 and 5 and Smith Unit 1 in 1989. Equipment replacements such as feedwater heaters, condenser tubes, air heater baskets, steam coils, and combustion controls, which were done at the same time as unit inspections, have also improved the availability of Gulf's units. The old equipment was at the end of its service life and had a high failure rate. By replacing this equipment during scheduled unit inspections, outage time on each unit is reduced.

Q. What is the basis for planning unit outages?

A. Gulf is committed to performing unit inspections which include scheduled spring and fall boiler outages as well as major turbine and boiler inspections performed in accordance with the equipment manufacturer's recommended inspection cycles. However, there are situations where outages may be rescheduled. Some examples of circumstances that may cause an outage to be rescheduled would be: (1) late delivery of necessary parts, (2) forced outage of another generating unit which necessitates that the scheduled outage be postponed, or (3) the condition of the unit allows the scheduled outage to be deferred.

Q. Has Gulf followed its schedule of planned turbine and boiler outages since 1984?

A. Yes, with one exception. Since 1984, the only postponed turbine inspection has been on Smith Unit 1 because of late delivery of necessary parts. Since Smith Unit 2 was scheduled for inspection in the spring of 1989 and all replacement parts were available, Gulf felt that it was prudent to move the inspection of Smith Unit 2 up by six months to the fall of 1988 and reschedule the Smith Unit 1 inspection for the spring of 1989. This type of planning and scheduling is beneficial to Gulf's customers.

Q. Could you discuss the company's recent history concerning planned turbine and boiler outages?

A. From 1984 to the end of 1989, Gulf will have completed turbine-generator inspections on all of our 11 territorial steam generating units. Schedule 3 of my exhibit shows the scheduled and actual turbine generator inspections. All of our turbine outages have essentially been performed on the scheduled outage cycles and all necessary work was done. Our boiler inspections and repairs have been performed as scheduled unless deferred due to the boiler being in better condition than expected.

Q. What are Gulf's needs for future turbine and boiler inspections?

A. As previously mentioned, Gulf is committed to performing turbine and boiler inspections as scheduled to prevent major damage to our generating units and maintain high levels of availability and capability. As our generating units age, the amount of necessary maintenance will increase. The allowed expense should be increased from the 1990 benchmark of $5.1 million to $5.3 million, which is the amount currently projected for turbine and boiler inspections for 1990.

Q. How have Gulf's expenditures at the plants affected how well you operate?

A. As previously mentioned, our heat rate and availability have improved. We know that, as a turbine runs, steam seals degrade and leak greater amounts of steam. Deposits collect on the turbine blades which cause more friction and increase velocity through the turbine stages, causing increased turbine wear. We can see a reduction in the capacity of the unit's output from inspection to inspection. By monitoring the capability of the unit, we can look for pieces of equipment that are causing deterioration and make necessary repairs during unit outages.

Gulf has also made capital expenditures to improve unit operation. In the past, Crist Unit 7 was load-limited due to high turbine exhaust pressure. Gulf evaluated and performed many different changes such as condenser tube replacement, vacuum pump modification, condenser crossover piping modifications and hot-leg blow down from the cooling tower to lower the exhaust pressure. These changes allow the unit to operate at a higher capacity. Since 1980, Crist Unit 7 has increased its net system peak hour capability by 35.0 megawatts (mw). Since 1980, Gulf's three territorial plants' overall net system peak hour capability has increased by 74.9 mw, with 47.3 mw of this 74.9 mw increase having occurred since 1984.

These capital expenditures are necessary for various reasons, which include, but are not limited to: (1) the replacement of equipment in the plant which has reached the end of its service life; (2) additions, modifications or replacement of equipment due to environmental regulations; (3) replacement of equipment to optimize the heat rate and availability of generating units; and (4) additions of equipment which would improve unit operation.

Q. Please summarize the Production Construction Budget.

A. Included in the Production Capital Budget is the replacement of feedwater heaters, turbine blades, and air preheaters for various units, and coal pulverizers on Crist Units 6 and 7. Many of these projects are necessary because the equipment has reached the end of its service life. All of these budgeted projects are needed to operate more efficiently to serve Gulf's customers.

Q. What is Gulf doing to minimize new construction expenditures?

A. All capital projects are evaluated to ascertain the necessity of performing the work. The process begins at the plant level by plant personnel evaluating existing plant equipment performance and maintenance costs. Where performance has degraded to an unacceptable level and maintenance costs are substantially increasing, replacement of the equipment becomes necessary. New technology, as well as like-kind replacement, is considered and evaluated and then proposed for potential inclusion in the capital budget. Also, additional items not initially in the plant design, new technology, and environmental requirements are evaluated for inclusion.

Each plant prepares their proposed Capital Budget for approval by department management. The approval process includes prioritizing the projects to ensure the most important projects are included in the final budget submitted for Capital Budget Committee approval. Final approval is given by Executive Management.

Q. Why is total plant investment increasing without adding new generation?

During the last five years, equipment replacements have consumed approximately 36 percent of the Production Capital Budget. These necessary equipment replacements include items such as feedwater heaters, pumps, air heater baskets, etc. In 1965, at the Smith Electric Generating Plant, the circulating water pumps were purchased, installed and added to the continuing property record at an adjusted cost of $152,670. In 1984, due to wear, erosion and corrosion, the pumps were replaced at a cost of $889,000. Substantial cost increases exist throughout all equipment replacements: air heater baskets booked in 1967 at $184,236 cost $279,000 to replace in 1984; coal conduit booked in 1973 at $736,966 required replacing in 1986 for $1,447,000; an air compressor that cost $17,031 in 1965 to purchase and install cost $95,537 in 1986.

The cost of materials and labor to perform any type of work is significantly more this year and in each future year over what the same labor and material cost 5, 10 or 20 years ago. This means any equipment replacement accomplished after a plant is made commercial will increase the original plant investment by the accumulated inflation and cost increases that have occurred over time since the original equipment was booked.

Q. Are the equipment replacements made with identical components?

A. Yes, in some cases. In others, technological improvements and advances in material development, along with material or equipment obsolescence have necessitated changes from the original design and equipment specifications. This has, in general, resulted in improvements in the equipment performance, extention of the equipment's service life and improvements to overall unit performance.

Careful evaluation and investigation by all those involved in equipment replacement projects ensures valid selections. A good example is a high pressure feedwater heater replacement. A new replacement heater will be slightly larger and better designed to eliminate erosion and stress failures that have occurred with the old style heaters. In all cases, the old equipment's design conditions and present operating conditions are evaluated to ascertain what requirements must be specified for the replacement to ensure the new equipment is stronger, more suitable and will exhibit a longer service life.

Q. Can you give examples of capital projects which have improved the performance of Gulf's generating units?

A. Gulf has made numerous changes on our boilers. We have installed new boiler combustion controls on Crist

Unit 4 and Smith Unit 2. The complete new control systems were replaced due to unavailability of replacement parts for the old systems. We replaced air preheater baskets when they were deteriorated. Gulf replaced water wall and superheater tubes on Crist Unit 6 due to numerous tube failures which affected this unit's availability. The Crist Unit 6 economizer section was also replaced with increased surface area, which improved the boiler efficiency.

The Unit 7 reheater tubes were replaced with additional surface area to maintain higher reheat temperatures at lower loads and also reduce the flue gas temperature into the precipitator at higher loads to improve the precipitator collection efficiency. Gulf replaced precipitator wires on Crist Unit 6 and Smith Units 1 and 2. These wires were failing, causing forced outages. New computerized control and monitoring systems were installed on the Crist Units 6 and 7 precipitators to improve precipitator collection efficiency.

Deteriorated duct insulation was replaced on Scholz Units 1 and 2 and Crist Units 4 and 5 to reduce heat losses. Turning vanes were added on Smith Unit 2 at a duct location which had excessive turbulence. These turning vanes reduced draft losses, which in turn, reduced station service requirements. Other boiler improvements were the replacement of air heater steam coils and coal burners, which improved boiler operation.

Gulf has also made improvements in our turbines. During turbine inspections, deteriorated blades have been replaced with blades having an improved design. Feedwater heaters have been replaced when tube failure rates began causing an availability problem making replacement necessary.

Gulf has made modifications to the condensers on our units. Crist Unit 7 was converted from a multi-pressure condenser to a single pressure condenser which reduced back pressure restrictions. The Crist Units 6 and 7 and Smith Unit 1 condenser tubes were replaced due to an excessive number of tube leaks. The Crist Unit 7 vacuum pumps were modified to increase the vacuum pump capacity. Gulf replaced the circulating water pumps on Smith Units 1 and 2 due to the deteriorated condition of these pumps. Also, a continuous chlorination system was installed on the Smith units to prevent condenser fouling.

Gulf has also made modifications to our cooling towers which improve unit performance. Drift eliminators were replaced with an improved design. As mentioned earlier, a hot-leg blow down was installed on Crist Unit 7 which allowed for cooler circulating water to the condenser. Other modifications were made to the cooling towers to improve the distribution of circulating water and allow on-line maintenance.

Gulf has also installed, on all of our coal-fired units, piping and valving necessary to perform testing of the entire turbine cycle, as well as high pressure turbine section and intermediate pressure turbine section to monitor the condition of these generating units.

Q. How is your Capital Construction Budget managed?

A. Once projects are approved in our budget, those requiring design are assigned to the Power Generation Engineering section. Those involving identical equipment replacement are handled by the appropriate plant. The plants prepare equipment and installation specifications that are submitted to qualified bidders by our procurement department. Upon receipt, the bids are evaluated and, if accepted, a purchase order is issued to the low evaluated bidder. Plant personnel oversee the installation by the contractor to insure the project stays on budget and is completed on schedule.

The capital budget is based on design, procurement and construction costs and schedules developed by the plant personnel for plant assigned projects and by Power Generation Engineering personnel for projects requiring design. A monthly budget comparison report from plant accounting is reviewed by the responsible group's management and staff. A quarterly deviation report is prepared by the responsible group explaining deviations, and corrective actions are taken to meet the budget.

Q. How do you manage Power Generation expenditures related to Southern Company Services?

A. Each year, Southern Company Services (SCS) submits a proposed budget to Gulf for approval. Included in this budget are expenditures related to the Power Generation area. At the beginning of the budget process, the appropriate SCS personnel will review future needs with the appropriate personnel in the Power Generation Department. Prior to SCS submitting their proposed budget, SCS personnel review, with the appropriate personnel in the Power Generation Department, all Engineering Work Orders (EWO) which affect the production function. During this review, any areas of concern are discussed and resolved with SCS. The SCS budget is then presented to Gulf's Management for review and approval.

During the budget year, the actual SCS charges by project and EWO are reviewed by the responsible Power Generation Department personnel. Any questions which may arise are discussed by the Gulf and SCS personnel and resolved. After all questions are resolved, the SCS charges are approved by me.

Q. Mr. Lee, will you summarize your testimony?

A. My testimony demonstrates that the Power Generation Department efficiently and effectively manages their O & M expenditures.

I have given additional justifications on O & M benchmark variances for areas within my responsibility. I have presented how we utilize goals and automated systems and other programs to improve the efficiency of the Power Generation Department. We have performed and will continue to perform our planned outages as scheduled completing all necessary work during each outage.

Finally, I have presented how we effectively utilize the production construction budget to minimize production costs and optimize plant efficiency and operation.

Q. Mr. Lee, does this complete your testimony?
A. Yes.

AFFIDAVIT

STATE OF FLORIDA)

COUNTY OF ESCAMBIA)

Before me the undersigned authority personally appeared Colen R. Lee, who first being duly sworn, says that he is the witness named in the testimony to which the Affidavit is attached; that he prepared said testimony and any exhibits included therein on behalf of Gulf Power Company in support of its petition for an increase in rates and charges in Florida Public Service Commission Docket No. 891345-EI; and that the matters and things set forth herein are true to the best of his knowledge and belief.

Dated at Pensacola, Florida this 10 day of December, 1989.

Colen R. Lee

Colen R. Lee

Sworn to and subscribed before me this 10th day of December, 1989.

Notary Public

My commission expires April 22, 1992.

NOTARY PUBLIC STATE OF FLORIDA AT LARGE

Florida Public Service Commission
Docket No. 891345-EI
GULF POWER COMPANY
Witness: C. R. Lee
Exhibit No. _____ (CRL-1)
Schedule 1

Index

Florida Public Service Commission
Docket No. 891345-EI
GULF POWER COMPANY
Witness: C. R. Lee
Exhibit No. _____ (CRL-1)
Schedule 2

Power Generation Goals

Performance Area	1980 Actual	1984 Goal	1984 Actual	1988 Goal	1988 Actual	1989 Goal	1990 Goal
1. Heat Rate (BTU/KWH-Net)							
Department	10,909	10,762	10,756	10,664	10,656	10,621	10,701
Crist	11,049	10,800	10,831	10,700	10,671	10,650	10,756
Smith	10,462	10,400	10,320	10,250	10,285	10,230	10,288
Scholz	12,150	11,700	11,972	11,850	11,715	11,750	11,814
2. Equivalent Availability* (Percent-Steam Units, Straight Avg.)							
Department	87.1	86.0	86.1	88.4	86.6	89.1	85.7
Crist	83.1	86	86.8	90	86.6	88	86.0
Smith	92.3	82	80.6	81	78.8	90	85.0
Scholz	95.9	90	89.2	90	94.3	92	85.1
3. Capability (MW-Net System Peak Hour)							
Department	1489.3	1515	1533.2	1539.2	1554.3	1544.5	1545.5
Crist	1048.7	1070	1083.2	1095.0	1106.6	1095.0	1096.0
Smith	347.0	352	356.4	351.0	353.3	355.0	355.0
Scholz	93.6	93	93.6	93.2	94.4	94.5	94.5
4. Automatic Generation Control Availability (Percent-Coal Units Capability Weighted)							
Department	**	81.5	76.5	83.1	85.3	86.5	88.9
Crist	**	80	74.7	80	83.6	85	88.0
Smith	**	85	81.3	90	88.0	90	90.0
Scholz	**	85	79.3	90	93.1	90	95.0

* Equivalent Availability shown for 1984-1990 is calculated from the GADS system. The 1980 Equivalent Availability is calculated from the EEI system.

** Not Available.

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Exhibit No. ______ (CRL-1)
Schedule 3

Gulf Power Company

Power Generation Department

Schedule of Turbine – Generator Inspections

Unit	Current Retirement Year	Date of Commercial Operation	Date of Last Inspection	Present Inspection Cycle
Crist 1	2004	1945	1/86	10
Crist 2	2004	1949	1/86	10
Crist 3	2004	1952	10/89	10
Crist 4	2014	1959	1/89	5
Crist 5	2016	1961	12/89	5
Crist 6	2015	1970	10/85	5
Crist 7	2018	1973	6/88	5
Smith 1	2015	1965	4/89	5
Smith 2	2017	1967	11/88	5
Scholz 1	2008	1953	4/87	5
Scholz 2	2008	1953	5/84	5
Daniel 1	2012	1977	11/87	-
Daniel 2	2016	1981	11/89	-
Scherer 3	2027	1987	-	5

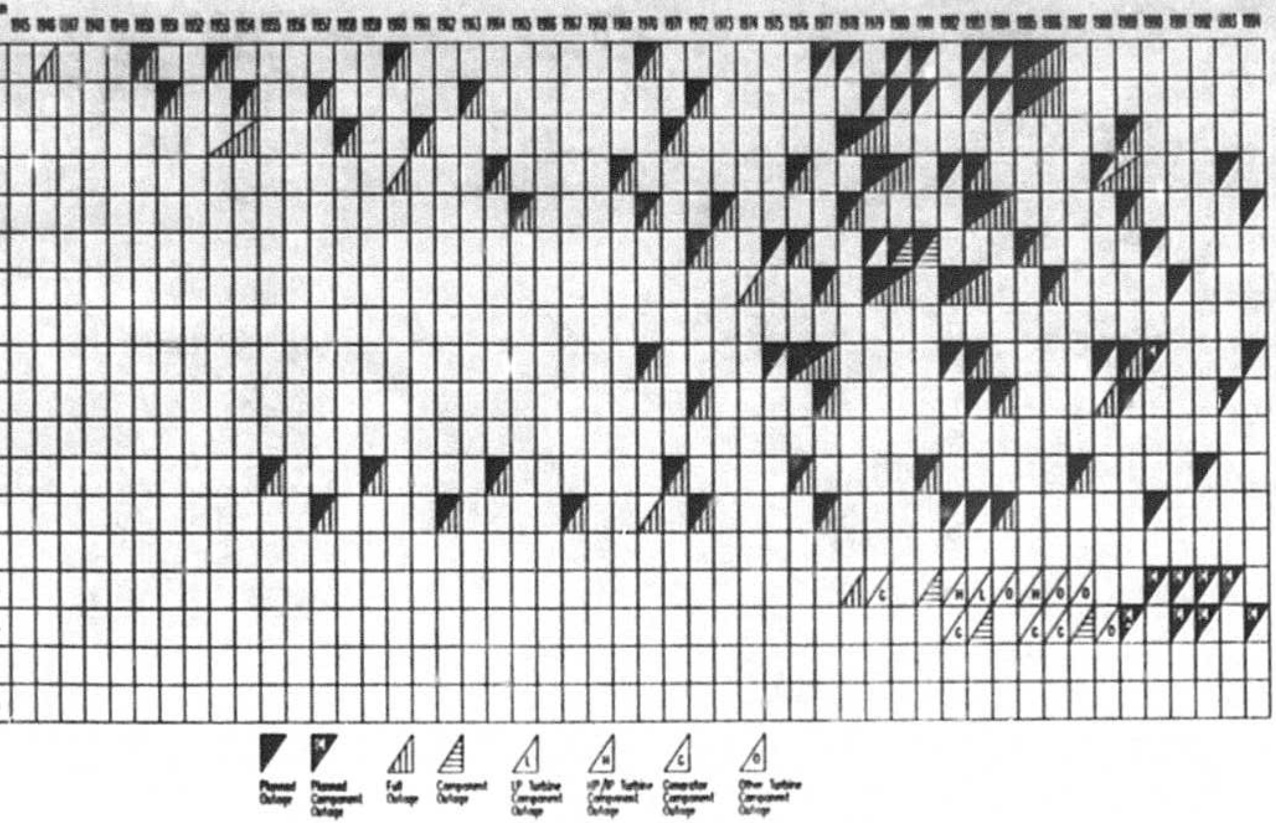

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Exhibit No. _____ (CRL-1)
Schedule 4

Responsibility for Minimum Filing Requirements

Schedule	Title
A-8	Five Year Analysis - Change in Cost
B-12a	Property Held for Future Use - 13 Month Average
B-12b	Property Held for Future Use - Monthly Balances
B-12c	Property Held for Future Use - Details
B-18	Capacity Factors
B-30	Net Production Plant Additions
C-12	Budgeted Versus Actual Operating Revenues and Expenses
C-19	Operation and Maintenance Expenses - Test Year
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