

JEFF ATWATER  
President of the Senate



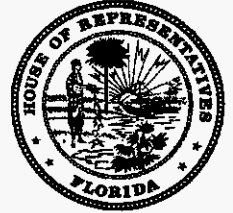
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RECEIVED-FPSC  
09 JUL 17 PM 12:27  
COMMISSION  
CLERK

July 17, 2009

Ms. Ann Cole, Commission Clerk  
Office of Commission Clerk  
Florida Public Service Commission  
2540 Shumard Oak Blvd.  
Tallahassee, FL 32399-0850

Re: Docket No. 090009-EI – Filing of Public Version of the Direct Testimony of  
Dr. William R. Jacobs relating to FPL

Dear Ms. Cole:

Enclosed are the original and 15 copies of the redacted version of the direct testimony of Dr. William R. Jacobs. A version of this testimony was filed on July 15, 2009 and erroneously contained confidential information. This error is being corrected by the substitution of this testimony for that originally filed relative to FPL. A separate filing of Dr. Jacobs testimony relating to Progress Energy Florida is not affected by this substitution.

Please accept this testimony as the Public Counsel's direct testimony relating to FPL in this docket. A copy of this version of the testimony was emailed to all parties on the accompanying service list yesterday (July 16th) and all copies of the confidential testimony inadvertently served have been retrieved, or arrangements have been made to do so, such that the confidentiality of the information is being maintained.

I am authorized to represent that FPL has no objection to the timing of the filing of Dr. Jacobs' testimony in this manner. In addition, the company has indicated that it will file the required documentation accompanied by the confidential information that has been redacted from this filing.

Please indicate the time and date of receipt on the enclosed duplicate of this letter and return it to our office.

COM 5

ECR Sincerely,

GCL 2

OPC

RCP

SSC

SGA

ADM

CLK

  
Charles J. Rehwinkel  
Associate Public Counsel  
cc: All parties of record

DOCUMENT NUMBER-DATE

07255 JUL 17 08

FPSC-COMMISSION CLERK

**BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION**

In Re: Nuclear Cost Power Plant )  
Recovery Clause )  
\_\_\_\_\_ )

Docket No. 090009-EI

FILED: July 17, 2009

**(REDACTED)  
DIRECT TESTIMONY**

**OF**

**WILLIAM R. JACOBS, JR., Ph.D.**

**ON BEHALF OF THE CITIZENS OF**

**THE STATE OF FLORIDA**

**REVIEW OF FLORIDA POWER AND LIGHT COMPANY'S**

**NUCLEAR COST RECOVERY RULE FILING**

J.R. Kelly  
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Attorney for the Citizens  
Of the State of Florida

DOCUMENT NUMBER - DATE

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FPSC-COMMISSION CLERK

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Attorney for the Citizens  
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## TABLE OF CONTENTS

I. INTRODUCTION.....	2
II. SUMMARY OF REQUESTS FOR AUTHORIZATION TO COLLECT COSTS.....	4
III. METHODOLOGY.....	5
IV. ISSUES AND CONCERNS.....	6
V. CONCLUSIONS AND RECOMMENDATIONS.....	11

## EXHIBITS

RESUME OF WILLIAM R. JACOBS, JR.....	WRJ(FPL)-1
REFERENCED DOCUMENTS.....	WRJ(FPL)-2



1 Evaluation Program, performed operating plant evaluations and assisted in  
2 development of the Outage Management Evaluation Program. Since joining GDS  
3 Associates, Inc. in 1986, I have participated in rate case and litigation support  
4 activities related to power plant construction, operation and decommissioning. I have  
5 evaluated nuclear power plant outages at numerous nuclear plants throughout the  
6 United States. I am currently on the management committee of Plum Point Unit 1, a  
7 650 MWe coal fired power plant under construction near Osceola, Arkansas. As a  
8 member of the management committee, I assist in providing oversight of the EPC  
9 contractor for this project. My resume is included as Exhibit WRJ-1.

10  
11 **Q. WERE YOU ASSISTED BY OTHER GDS PERSONNEL IN THIS EFFORT?**

12 **A.** Yes I was. The GDS team involved in the review and evaluation of the requests for  
13 authorization to recover costs consisted of me, Mr. James P. McGaughy, Jr., a former  
14 nuclear utility executive with over 37 years of experience and Mr. Cary Cook, a  
15 Certified Public Account with extensive experience in utility regulation. The resumes  
16 of Mr. McGaughy and Mr. Cook are attached to my testimony related to Progress  
17 Energy Florida filed in this docket.

18  
19 **Q. WHAT IS THE NATURE OF YOUR BUSINESS?**

20 **A.** GDS Associates, Inc. ("GDS") is an engineering and consulting firm with offices in  
21 Marietta, Georgia; Austin, Texas; Corpus Christi, Texas; Manchester, New  
22 Hampshire; Madison, Wisconsin, Manchester, Maine; and Auburn, Alabama. GDS  
23 provides a variety of services to the electric utility industry including power supply  
24 planning, generation support services, rates and regulatory consulting, financial  
25 analysis, load forecasting and statistical services. Generation support services

1 provided by GDS include fossil and nuclear plant monitoring, plant ownership  
2 feasibility studies, plant management audits, production cost modeling and expert  
3 testimony on matters relating to plant management, construction, licensing and  
4 performance issues in technical litigation and regulatory proceedings.

5

6 **Q. WHOM ARE YOU REPRESENTING IN THIS PROCEEDING?**

7 **A.** I am representing the Florida Office of Public Counsel.

8

9 **Q. WHAT WAS YOUR ASSIGNMENT IN THIS PROCEEDING?**

10 **A.** I was asked to assist the Florida Office of Public Counsel to conduct a review and  
11 evaluation of requests by Florida Power and Light (FPL) for authority to collect  
12 historical and projected costs associated with extended power uprate ("EPU") projects  
13 being pursued at Turkey Point Units 3 and 4 and St. Lucie Units 1 and 2, and  
14 historical and projected costs associated with FPL's Turkey Point Units 6 and 7,  
15 through the capacity cost recovery clause.

16

17

**II. SUMMARY OF REQUESTS FOR AUTHORIZATION TO**

18

**COLLECT COSTS**

19 **Q. PLEASE SUMMARIZE FPL'S REQUEST FOR COST RECOVERY IN THIS**  
20 **DOCKET UNDER THE NUCLEAR COST RECOVERY CLAUSE.**

21 **A.** FPL is requesting to recover a net amount of \$62,792,990 in 2010. This consists of  
22 2010 projected costs of \$151,610,759 and 2008/2009 over recovery of \$88,817,769.

23

1           **III. METHODOLOGY**

2   **Q.   PLEASE DESCRIBE THE METHODOLOGY THAT YOU USED TO**  
3           **REVIEW AND EVALUATE THE REQUESTS FOR AUTHORIZATION TO**  
4           **COLLECT COSTS SUBMITTED BY FPL UNDER THE NUCLEAR COST**  
5           **RECOVERY CLAUSE.**

6   **A.**   I first reviewed the Company's filings in this docket and assisted in the issuance of  
7           numerous interrogatories and requests for production of documents. To evaluate the  
8           contracting process employed by the Company, I reviewed requests for proposals  
9           issued by the Company, the bid evaluations conducted on proposals received in  
10          response to the requests for proposals, and the contracts awarded to the winning  
11          bidders. For single or sole source contracts, I reviewed the single or sole source  
12          justifications to ensure that they met the requirements of the governing company  
13          procedures.

14          To evaluate the issues related to project schedule and risk management, I reviewed  
15          many internal documents, status reports and correspondence with regulatory  
16          authorities.

17  
18   **Q.   HOW DID YOU DETERMINE IF THE COSTS REQUESTED FOR**  
19           **RECOVERY BY THE COMPANIES WERE PRUDENT AND**  
20           **REASONABLE?**

21   **A.**   The Company must employ prudent contracting and project management and risk  
22          management procedures and practices to ensure that the costs are prudently incurred.  
23          The scope of work must be reasonable and the Company must ensure that the costs  
24          are reasonable by means of competitive bidding or other methods, such as  
25          comparisons with similar projects for which the cost is known. I also reviewed the



1 project management procedures and practices that will be used in an effort to manage  
2 the projects prudently as they move into the implementation stage.

3

4 In addition to the above reviews, Mr. Cary Cook reviewed the requests to ensure  
5 proper accounting treatment and accurate calculation of the various amounts  
6 requested for recovery by the Company.

7

8 **Q. PLEASE DESCRIBE YOUR REVIEW OF THE PROJECT MANAGEMENT  
9 PROCEDURES AND PRACTICES UTILIZED BY FPL.**

10 A. As the projects move into the implementation phase, prudent project management and  
11 risk mitigation will be important to ensure that projects are completed on schedule  
12 and within budget. Project management procedures and practices that we reviewed  
13 include establishment of project budgets, monitoring of budget variances, corrective  
14 actions for budget variances, establishment of project schedules, and monitoring of  
15 project schedule variances, and corrective action for schedule variances.

16 **IV. ISSUES AND CONCERNS**

17 **Q. HAVE YOU IDENTIFIED CONCERNS WITH FPL'S FILING?**

18 A. Yes. I have identified three concerns with FPL's filing. The first is with FPL's  
19 decision to retain BVZ as the preliminary engineer and FPL's plan for a separate  
20 construction contractor for the Turkey Point 6 and 7 projects. My second concern is  
21 with the FPL's analysis of the long term feasibility of the Turkey Point 6 and 7  
22 projects. My final concern is with FPL's refusal to conduct an analysis to identify  
23 equipment in the EPU projects that would meet the "separate and apart" criterion.

24

1 Q. PLEASE EXPLAIN YOUR CONCERN WITH FPL'S RETAINING BVZ AS  
2 THE PRELIMINARY ENGINEER AND FPL'S PLAN TO UTILIZE A  
3 SEPARATE CONSTRUCTION CONTRACTOR FOR TURKEY POINT 6  
4 AND 7.

5 A. FPL has separated the construction function from engineering and procurement in its  
6 organization of the Turkey Point 6 and 7 project. FPL has retained a consortium of  
7 Black and Veatch and Zachry Constructors (BVZ) to provide pre-construction  
8 engineering. I believe that the hiring of BVZ and FPL's plan for a separate  
9 construction contractor may ultimately result in higher costs for this project. This  
10 approach is referred to as an EP and C approach rather than the Engineer, Procure,  
11 Construct (EPC) approach used by other AP1000 projects, in which all functions are  
12 performed under one contract.

13

14 Q. WHY ARE YOU RAISING THIS CONCERN AT THIS TIME?

15 A. I raise this issue now so that it is clear that the potential for increased costs was  
16 identified without the benefit of hindsight in future prudence determinations.

17

18 Q. PLEASE EXPLAIN THE BASIS FOR YOUR CONCERNS WITH FPL'S  
19 APPROACH TO CONTRACTING FOR THE TURKEY POINT 6 AND 7  
20 UNITS.

21 A. The Turkey Point 6 and 7 project is a very large and complex project. The nuclear  
22 steam supply system (NSSS) supplier and designer, the secondary plant supplier and  
23 designer and the constructor must interface with each other frequently. The  
24 extremely complex work activities and interfaces between contractors could result in

1 numerous disputes between contractors. The use of separate contractors results in  
2 higher risk to the FPL and the potential for numerous scope disputes. The modular  
3 construction planned for TP 6 & 7, with over 250 separate modules, requires  
4 extremely close cooperation between the designer and construction contractor from a  
5 very early stage in the project. An EPC-type contract utilizing a turn-key approach  
6 with a single entity clearly reduces the risk for FPL. This type of contract places the  
7 burden and risk on the consortium (Westinghouse and Shaw Stone & Webster) to  
8 manage the interface between the engineering, procurement and construction areas.  
9 The consortium would be fully accountable for any delays resulting from these  
10 interfaces. In addition, under the EPC approach each member of the consortium  
11 could, in most circumstances, be jointly and severally liable for the actions of the  
12 others, thus reducing the risk to FPL if one entity fails to perform. Finally, the  
13 Westinghouse / Shaw consortium will have gained significant experience from earlier  
14 AP 1000 projects and will incorporate the lessons learned into the TP 6&7 project.  
15 The use of a construction contractor without familiarity with the AP1000 design and  
16 without the benefit of the earlier AP1000 projects will likely result in a repeat of the  
17 lessons learned on the earlier AP1000 projects and additional costs to the project.

18

19 **Q. DOES BVZ FIT THIS DESCRIPTION?**

20 **A. Yes, they do. FPL's Single Source Justification for hiring BVZ contains a rather**  
21 **remarkable statement. Note: this is not a typo.**

22

23

24

25

26

27

28

29

1 (Emphasis added). (FPL Response to OPCPOD 16 at FPL006691,  
2 Exhibit WRJ(FPL)-2.)  
3

4 **Q. HAVE ANY OTHER UTILITIES CHOSEN TO USE THE EP AND C**  
5 **CONTRACTING APPROACH SELECTED BY FPL?**

6 A. No, they have not. All other U.S. utilities that have signed a contract for construction  
7 of a new nuclear power plant have chosen the EPC approach.  
8

9 **Q. PLEASE EXPLAIN THE CONCERN YOU HAVE WITH FPL'S**  
10 **FEASIBILITY ANALYSIS OF THE TURKEY POINT 6 AND 7 UNITS**  
11 **PROVIDED IN THIS FILING.**

12 A. The detailed analysis of the long term feasibility of the Turkey Point 6 and 7 project  
13 is provided in the testimony of Dr. Steven Sim. Dr. Sim calculated the breakeven  
14 overnight capital cost for the new nuclear units based on five forecasts of key  
15 assumptions: (1) forecasted Summer peak load, (2) forecasted natural gas costs, (3)  
16 forecasted oil costs, (4) forecasted uranium costs, and (5) forecasted environmental  
17 compliance costs for carbon dioxide. Dr. Sim then compared the calculated break  
18 even cost for 9 different scenarios to FPL's non-binding estimated range of capital  
19 costs for the new nuclear units in 2007\$ of \$3,108/kw to \$4,540/kw and concluded  
20 that the Turkey Point 6 and 7 project is still projected to be a solidly cost-effective  
21 addition for FPL's customers. My concern is that Dr. Sim only did half of the job.  
22 While he updated the break even cost based on updated assumptions and forecasts, he  
23 did not update the estimated cost of the nuclear units. Without an updated cost of the  
24 nuclear units, the comparison is of little value to this Commission in determining the  
25 long term feasibility of the units.

1 Q. PLEASE EXPLAIN THE CONCERNS THAT YOU HAVE WITH FPL'S  
2 FILING RELATED TO THE SEPARATE AND APART ISSUE.

3 A. A stipulation between OPC and FPL related to the separate and apart issue is shown  
4 on page 29 of the Final Order in Docket No. 080009-EI. This stipulation states:

5 OPC and FPL stipulate that as it applies to nuclear uprate  
6 projects, the NCRC should be limited to those costs that are  
7 separate and apart from nuclear costs that would have been  
8 necessary to provide safe and reliable service had there been no  
9 uprate project.

10

11 FPL has steadfastly refused to conduct the necessary analysis to confirm that the  
12 uprate costs for which it is requesting recovery are separate and apart from nuclear  
13 costs that would have been necessary to provide safe and reliable service had there  
14 been no uprate project. FPL addresses the separate and apart issue in the March 2,  
15 2009 testimony of Mr. Rajiv Kundalkar. In his testimony, Mr. Kundalkar rejects  
16 OPC's request that FPL conduct a study to identify each component that may need to  
17 be replaced during the 20 years of extended operation. Mr. Kundalkar states:

18

19 This approach however, is inherently inconsistent with the true  
20 manner in which nuclear plants are maintained – which requires  
21 constant and real-time monitoring, surveillance, and  
22 maintenance decisions – and it was determined that such a study  
23 would not yield meaningful or useful results.

24

25 I agree that nuclear plant maintenance involves real time monitoring and maintenance  
26 decisions. However, in addition to day-to-day maintenance, nuclear utilities conduct  
27 long term capital spending studies to identify large capital expenditures many years in  
28 advance. These studies identify equipment that may need to be replaced many years  
29 in the future for reasons of economics, obsolescence or other factors. I do not agree  
30 that this type of study would not yield meaningful results related to the separate and  
31 apart issue. In my opinion, FPL has been uncooperative in resolving this issue and  
has not acted in the spirit of the stipulation in Docket No. 080009-EI.

1 **V. CONCLUSIONS AND RECOMMENDATIONS**

2 **Q. WHAT ARE YOUR CONCLUSIONS CONCERNING FPL'S FILING IN THIS**  
3 **DOCKET?**

4 A. 1. FPL's decision to use a contracting method that separates  
5 engineering and procurement from construction may result in  
6 significant additional costs.

7 2. FPL's feasibility analysis of the Turkey Point 6 and 7 project did  
8 not include a necessary update of the estimate cost of the project.

9 2. FPL did not conduct the "separate and apart" analysis  
10 envisioned by the settlement in Docket No. 080009-EI.

11

12 **Q. WHAT ARE YOUR RECOMMENDATIONS CONCERNING FPL'S FILING**  
13 **IN THIS DOCKET?**

14 A. I recommend the following concerning FPL's filing in this docket:

15 1. The Commission should take notice that additional costs may  
16 result from FPL's decision to retain BVZ and organize the  
17 project with a construction contract that is separate from the  
18 engineering and procurement contract, and inform FPL that FPL  
19 will be required to demonstrate that the project contracting and  
20 BVZ decision do not result in additional costs to the project.

21 2. The Commission should order FPL to prepare a revised estimate  
22 of the cost of the Turkey Point 6 and 7 project and incorporate  
23 the updated cost in a renewed analysis of the long term  
24 feasibility of the project.

1                   3.    The Commission should order FPL to conduct the “separate and  
2                                    apart” analysis that was requested by OPC and envisioned in the  
3                                    stipulation in Docket No. 080009-EL.

4    **Q.    DOES THAT CONCLUDE YOUR TESTIMONY?**

5    **A.    Yes, it does.**

6

**DOCKET NO. 090009-EI**  
**CERTIFICATE OF SERVICE**

I HEREBY CERTIFY that a true and correct copy of the REDACTED Direct Testimony of William R. Jacobs, Jr., Ph.D. have been furnished by U.S. Mail, and \* hand delivery to the following parties on this 17<sup>th</sup> day of July, 2009.

John T. Burnett /Alexander Glenn  
Progress Energy Service Company, LLC  
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Florida Power & Light Company  
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Tallahassee, FL 32301-1859

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New Port Richey, FL 34653

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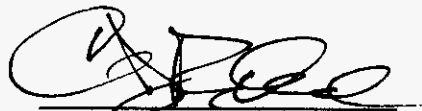
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215 South Monroe Street, Suite 810  
Tallahassee, FL 32301



Charles J. Rehwinkel  
Associate Public Counsel



William R. Jacobs, Jr.  
Vice President - Generation Support Services

---

**EDUCATION:** Ph.D., Nuclear Engineering, Georgia Tech 1971  
MS, Nuclear Engineering, Georgia Tech 1969  
BS, Mechanical Engineering, Georgia Tech 1968

**ENGINEERING REGISTRATION:** Registered Professional Engineer

**PROFESSIONAL MEMBERSHIP:** American Nuclear Society

**EXPERIENCE:**

Dr. Jacobs has over thirty-five years of experience in a wide range of activities in the electric power generation industry. He has extensive experience in the construction, startup and operation of nuclear power plants. While at the Institute of Nuclear Power Operation (INPO), Dr. Jacobs assisted in development of INPO's outage management evaluation group. He has provided expert testimony related to nuclear plant operation and outages in Texas, Louisiana, South Carolina, Florida, Wisconsin, Indiana, Georgia and Arizona. He currently provides nuclear plant operational monitoring services for GDS clients. He is assisting the Florida Office of Public Counsel in monitoring the development of four new nuclear units in the State of Florida. He will provide testimony concerning the prudence of expenditures for these nuclear units. He has assisted the Georgia Public Service Commission staff in development of energy policy issues related to supply-side resources and in evaluation of applications for certification of power generation projects and assists the staff in monitoring the construction of these projects. He has also assisted in providing regulatory oversight related to an electric utility's evaluation of responses to an RFP for a supply-side resource and subsequent negotiations with short-listed bidders. He has provided technical litigation support and expert testimony support in several complex law suits involving power generation facilities. He monitors power plant operations for GDS clients and has provided testimony on power plant operations and decommissioning in several jurisdictions. Dr. Jacobs represents a GDS client on the management committee of a large coal-fired power plant currently under construction. Dr. Jacobs has provided testimony before the Georgia Public Service Commission, the Public Utility Commission of Texas, the North Carolina Utilities Commission, the South Carolina Public Service Commission, the Iowa State Utilities Board, the Louisiana Public Service Commission, the Florida Public Service Commission, the Indiana Regulatory Commission, the Wisconsin Public Service Commission, the Arizona Corporation Commission and the FERC.

A list of Dr. Jacobs' testimony is available upon request.

1986-Present GDS Associates, Inc.

As Vice-President, Dr. Jacobs directs GDS' nuclear plant monitoring activities and has assisted clients in evaluation of management and technical issues related to power plant construction, operation and design. He has evaluated and testified on combustion turbine projects in certification hearings and has assisted the Georgia

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Bill.Jacobs@gdsassociates.com

William R. Jacobs, Jr.  
Vice President - Generation Support Services

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PSC in monitoring the construction of the combustion turbine projects. Dr. Jacobs has evaluated nuclear plant operations and provided testimony in the areas of nuclear plant operation, construction prudence and decommissioning in nine states. He has provided litigation support in complex law suits concerning the construction of nuclear power facilities.

1985-1986 Institute of Nuclear Power Operations (INPO)

Dr. Jacobs performed evaluations of operating nuclear power plants and nuclear power plant construction projects. He developed INPO Performance Objectives and Criteria for the INPO Outage Management Department. Dr. Jacobs performed Outage Management Evaluations at the following nuclear power plants:

- Connecticut Yankee - Connecticut Yankee Atomic Power Co.
- Callaway Unit I - Union Electric Co.
- Surry Unit I - Virginia Power Co.
- Ft. Calhoun - Omaha Public Power District
- Beaver Valley Unit 1 - Duquesne Light Co.

During these outage evaluations, he provided recommendations to senior utility management on techniques to improve outage performance and outage management effectiveness.

1979-1985 Westinghouse Electric Corporation

As site manager at Philippine Nuclear Power Plant Unit No. 1, a 655 MWe PWR located in Bataan, Philippines, Dr. Jacobs was responsible for all site activities during completion phase of the project. He had overall management responsibility for startup, site engineering, and plant completion departments. He managed workforce of approximately 50 expatriates and 1700 subcontractor personnel. Dr. Jacobs provided day-to-day direction of all site activities to ensure establishment of correct work priorities, prompt resolution of technical problems and on schedule plant completion.

Prior to being site manager, Dr. Jacobs was startup manager responsible for all startup activities including test procedure preparation, test performance and review and acceptance of test results. He established the system turnover program, resulting in a timely turnover of systems for startup testing.

As startup manager at the KRSKO Nuclear Power Plant, a 632 MWE PWR near Krsko, Yugoslavia, Dr. Jacobs' duties included development and review of startup test procedures, planning and coordination of all startup test activities, evaluation of test results and customer assistance with regulatory questions. He had overall

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Vice President - Generation Support Services

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responsibility for all startup testing from Hot Functional Testing through full power operation.

1973 - 1979 NUS Corporation

As Startup and Operations and Maintenance Advisor to Korea Electric Company during startup and commercial operation of Ko-Ri Unit 1, a 595 MWE PWR near Pusan, South Korea, Dr. Jacobs advised KECO on all phases of startup testing and plant operations and maintenance through the first year of commercial operation. He assisted in establishment of administrative procedures for plant operation.

As Shift Test Director at Crystal River Unit 3, an 825 MWE PWR, Dr. Jacobs directed and performed many systems and integrated plant tests during startup of Crystal River Unit 3. He acted as data analysis engineer and shift test director during core loading, low power physics testing and power escalation program.

As Startup engineer at Kewaunee Nuclear Power Plant and Beaver Valley, Unit 1, Dr. Jacobs developed and performed preoperational tests and surveillance test procedures.

1971 - 1973 Southern Nuclear Engineering, Inc.

Dr. Jacobs performed engineering studies including analysis of the emergency core cooling system for an early PWR, analysis of pressure drop through a redesigned reactor core support structure and developed a computer model to determine tritium build up throughout the operating life of a large PWR.

#### **SIGNIFICANT CONSULTING ASSIGNMENTS:**

Georgia Public Service Commission – Assisted the Georgia Public Service Commission Staff and provided testimony related to the evaluation of Georgia Power Company's request for certification to construct two AP1000 nuclear power plants at the Plant Vogtle site.

South Carolina Office of Regulatory Staff – Assisted the South Carolina Office of Regulatory Staff in evaluation of South Carolina Electric and Gas' request for certification of two AP1000 nuclear power plants at the V.C. Summer site.

Florida Office of Public Counsel – Assists the Florida Office of Public Counsel in monitoring the development of four new nuclear power plants in Florida including providing testimony on the prudence of expenditures.

East Texas Electric Cooperative – Represents ETEC on the management committee of the Plum Point Unit 1 a 650 Mw coal-fired plant under construction in Osceola, Arkansas and represents ETEC on the management committee of the Harrison County Power Project, a 525 Mw combined cycle power plant located near Marshall, Texas.

---

GDS Associates, Inc., 1850 Parkway Place, Suite 800, Marietta, GA 30067

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William R. Jacobs, Jr.  
Vice President - Generation Support Services

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Arizona Corporation Commission – Evaluated operation of the Palo Verde Nuclear Generating Station during the year 2005. Included evaluation of 11 outages and providing written and oral testimony before the Arizona Corporation Commission.

Citizens Utility Board of Wisconsin – Evaluated Spring 2005 outage at the Kewaunee Nuclear Power Plant and provided direct and surrebuttal testimony before the Wisconsin Public Service Commission.

Georgia Public Service Commission - Assisted the Georgia PSC staff in evaluation of Integrated Resource Plans presented by two investor owned utilities. Review included analysis of purchase power agreements, analysis of supply-side resource mix and review of a proposed green power program.

State of Hawaii, Department of Business, Economic Development and Tourism – Assisted the State of Hawaii in development and analysis of a Renewable Portfolio Standard to increase the amount of renewable energy resources developed to meet growing electricity demand. Presented the results of this work in testimony before the State of Hawaii, House of Representatives.

Georgia Public Service Commission - Assisted the Georgia PSC staff in providing oversight to the bid evaluation process concerning an electric utility's evaluation of responses to a Request for Proposals for supply-side resources. Projects evaluated include simple cycle combustion turbine projects, combined cycle combustion turbine projects and co-generation projects.

Millstone 3 Nuclear Plant Non-operating Owners – Evaluated the lengthy outage at Millstone 3 and provided analysis of outage schedule and cost on behalf of the non-operating owners of Millstone 3. Direct testimony provided an analysis of additional post-outage O&M costs that would result due to the outage. Rebuttal testimony dealt with analysis of the outage schedule.

H.C. Price Company – Evaluated project management of the Healy Clean Coal Project on behalf of the General Contractor, H.C. Price Company. The Healy Clean Coal Project is a 50 megawatt coal burning power plant funded in part by the DOE to demonstrate advanced clean coal technologies. This project involved analysis of the project schedule and evaluation of the impact of the owner's project management performance on costs incurred by our client.

Steel Dynamics, Inc. – Evaluated a lengthy outage at the D.C. Cook nuclear plant and presented testimony to the Indiana Utility Regulatory Commission in a fuel factor adjustment case Docket No. 38702-FAC40-S1.

Florida Office of Public Counsel - Evaluated lengthy outage at Crystal River Unit 3 Nuclear Plant. Submitted expert testimony to the Florida Public Service Commission in Docket No. 970261-EL.

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William R. Jacobs, Jr.  
Vice President - Generation Support Services

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United States Trade and Development Agency - Assisted the government of the Republic of Mauritius in development of a Request for Proposal for a 30 MW power plant to be built on a Build, Own, Operate (BOO) basis and assisted in evaluation of Bids.

Louisiana Public Service Commission Staff - Evaluated management and operation of the River Bend Nuclear Plant. Submitted expert testimony before the LPSC in Docket No. U-19904.

U.S. Department of Justice - Provided expert testimony concerning the in-service date of the Harris Nuclear Plant on behalf of the Department of Justice U.S. District Court.

City of Houston - Conducted evaluation of a lengthy NRC required shutdown of the South Texas Project Nuclear Generating Station.

Georgia Public Service Commission Staff - Evaluated and provided testimony on Georgia Power Company's application for certification of the Intercession City Combustion Turbine Project - Docket No. 4895-U.

Seminole Electric Cooperative, Inc. - Evaluated and provided testimony on nuclear decommissioning and fossil plant dismantlement costs - FERC Docket Nos. ER93-465-000, et al.

Georgia Public Service Commission Staff - Evaluated and prepared testimony on application for certification of the Robins Combustion Turbine Project by Georgia Power Company - Docket No. 4311-U.

North Carolina Electric Membership Corporation - Conducted a detailed evaluation of Duke Power Company's plans and cost estimate for replacement of the Catawba Unit 1 Steam Generators.

Georgia Public Service Commission Staff - Evaluated and prepared testimony on application for certification of the McIntosh Combustion Turbine Project by Georgia Power Company and Savannah Electric Power Company - Docket No. 4133-U and 4136-U.

New Jersey Rate Counsel - Review of Public Service Electric & Gas Company nuclear and fossil capital additions in PSE&G general rate case.

Corn Belt Electric Cooperative/Central Iowa Power Electric Cooperative - Directs an operational monitoring program of the Duane Arnold Energy Center (565 Mwe BWR) on behalf of the non-operating owners.

Cities of Calvert and Kosse - Evaluated and submitted testimony of outages of the River Bend Nuclear Station - PUCT Docket No. 10894.

Iowa Office of Consumer Advocate - Evaluated and submitted testimony on the estimated decommissioning costs for the Cooper Nuclear Station - IUB Docket No. RPU-92-2.

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Georgia Public Service Commission/Hicks, Maloof & Campbell - Prepared testimony related to Vogtle and Hatch plant decommissioning costs in 1991 Georgia Power rate case - Docket No. 4007-U.

City of El Paso - Testified before the Public Utility Commission of Texas regarding Palo Verde Unit 3 construction prudence - Docket No. 9945.

City of Houston - Testified before Texas Public Utility Commission regarding South Texas Project nuclear plant outages - Docket No. 9850.

NUCOR Steel Company - Evaluated and submitted testimony on outages of Carolina Power and Light nuclear power facilities - SCPSC Docket No. 90-4-E.

Georgia Public Service Commission/Hicks, Maloof & Campbell - Assisted Georgia Public Service Commission staff and attorneys in many aspects of Georgia Power Company's 1989 rate case including nuclear operation and maintenance costs, nuclear performance incentive plan for Georgia and provided expert testimony on construction prudence of Vogtle Unit 2 and decommissioning costs of Vogtle and Hatch nuclear units - Docket No. 3840-U.

Swidler & Berlin/Niagara Mohawk - Provided technical litigation support to Swidler & Berlin in law suit concerning construction mismanagement of the Nine Mile 2 Nuclear Plant.

Long Island Lighting Company/Shea & Gould - Assisted in preparation of expert testimony on nuclear plant construction.

North Carolina Electric Membership Corporation - Prepared testimony concerning prudence of construction of Carolina Power & Light Company's Shearon Harris Station - NCUC Docket No. E-2, Sub537.

City of Austin, Texas - Prepared estimates of the final cost and schedule of the South Texas Project in support of litigation.

Tex-La Electric Cooperative/Brazos Electric Cooperative - Participated in performance of a construction and operational monitoring program for minority owners of Comanche Peak Nuclear Station.

Tex-La Electric Cooperative/Brazos Electric Cooperative/Texas Municipal Power Authority (Attorneys - Burchette & Associates, Spiegel & McDiarmid, and Fulbright & Jaworski) - Assisted GDS personnel as consulting experts and litigation managers in all aspects of the lawsuit brought by Texas Utilities against the minority owners of Comanche Peak Nuclear Station.

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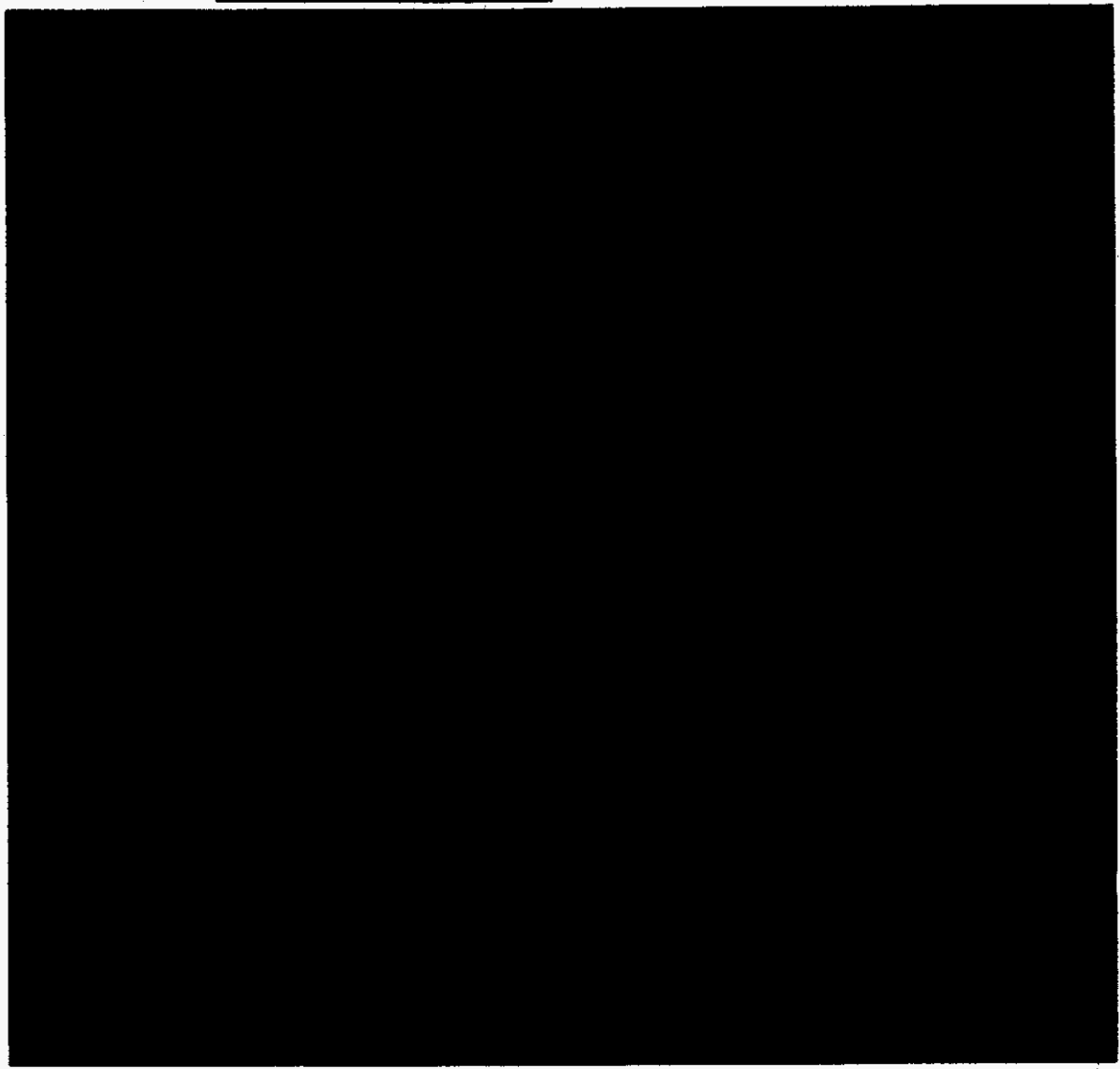
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Inter-Office Correspondence



Subject: Single Source Justification – Turkey Point Units 6 & 7  
BVZ Pre-Construction Engineering



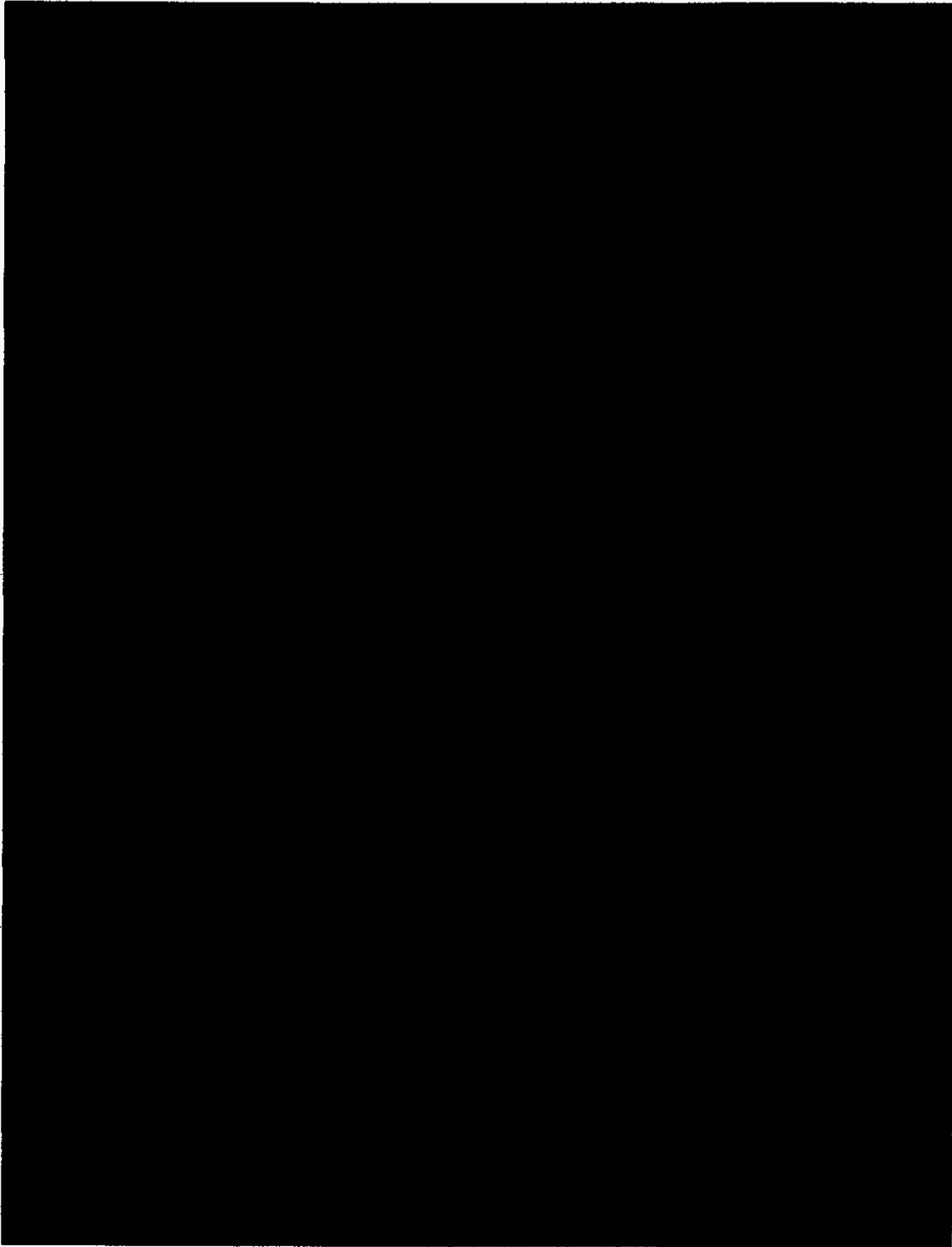
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Page 2 of 3

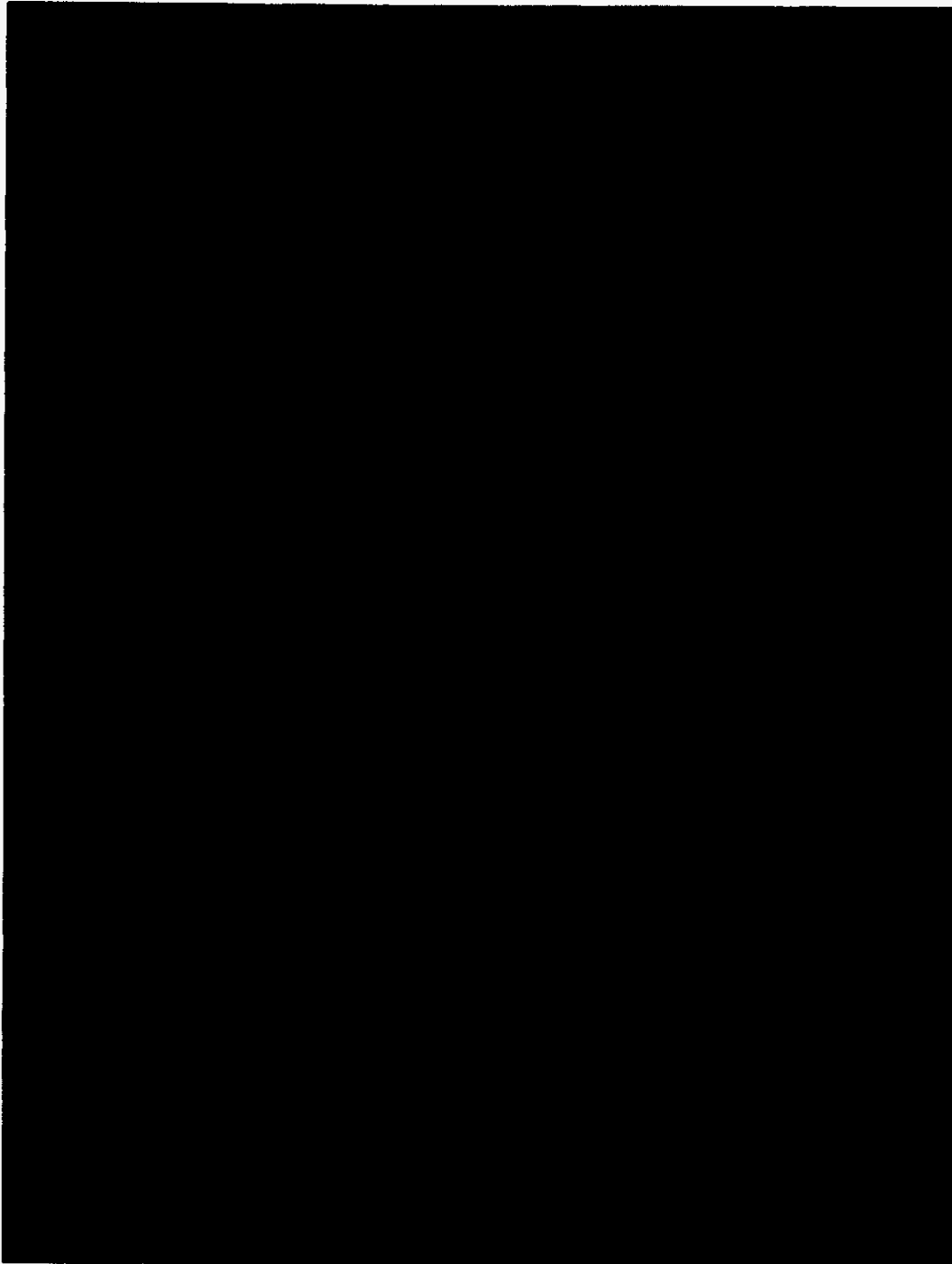


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