BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Nuclear Cost Recovery Clause	DOCKET NO. 090009 Submitted for filing: March 2, 2009

DIRECT TESTIMONY OF GARY R. DOUGHTY IN SUPPORT OF ACTUAL COSTS

ON BEHALF OF PROGRESS ENERGY FLORIDA

IN RE: NUCLEAR COST RECOVERY CLAUSE

FPSC DOCKET NO. 090009

DIRECT TESTIMONY OF GARY R. DOUGHTY

I. INTRODUCTION AND EXPERIENCE

Q. Please state your name, occupation, and address.

A. My name is Gary R. Doughty. I am President of Janus Management Associates, Inc. My business address is 412 White Columns Way, Wilmington, North Carolina 28411.

Q. What is the purpose of your testimony in this proceeding?

A. Janus Management Associates, Inc. (Janus) was retained by Progress Energy – Florida (PEF) to review the reasonableness and prudence of project management and project control systems in place to manage the Levy Nuclear Project (LNP). PEF is a subsidiary of Progress Energy, Inc. (PGN). PEF is in the process of seeking a combined operating license and siting approval for two AP1000 Advanced Passive nuclear power plants in Levy County, Florida and the necessary electrical baseload transmission facilities.

Q. Do you have any exhibits to your testimony?

A. Yes. I have prepared or assembled the following exhibits to my direct testimony:

- Exhibit No. ___ (GRD-1), Janus Management technical consulting firm services;
- Exhibit No. ___ (GRD-2), resume of Gary R. Doughty;
- Exhibit No. ___ (GRD-3), testimony experience in management prudence reviews;
- Exhibit No. ___ (GRD-4), outage and major capital project experience;
- Exhibit No. ___ (GRD-5), Key LNP documents reviewed and approved by the Senior Management Committee (SMC); and
- Exhibit No. ___ (GRD-6), Example contractor oversight reports to management.

These exhibits are true and correct.

Q. Please state your professional experience and education.

A. Janus is a management and technical consulting firm providing services to the electric utility industry. See Exhibit No. ___(GRD-1). As president of Janus, I have provided technical support to nuclear utilities through analyses of specific nuclear plant capital construction projects and nuclear plant outage schedule issues. See Exhibit No. ____ (GRD-2). I have led teams that provided support to nuclear utilities in decision analyses for

nuclear plant management, nuclear business strategy development, and economic analyses of nuclear plant continued operation versus License Renewal for an additional 20 years of operation or early retirement.

I have also served on independent review teams for utility boards of directors, including: (1) Ameren regarding Callaway Nuclear Power Plant performance issues; and (2) Northeast Utilities (NU) as a member of the Fundamental Cause Assessment Team to determine the reason for the decline of Millstone 1, 2, and 3 performance. I was also a member of the Mixed Oxide Fuel Fabrication Facility Independent Review Team for the Shaw / Areva Board of Governors to review project management, project controls and procurement activities of critical materials for the $4.8 billion facility at the Department of Energy's (DOE) Savannah River Site in South Carolina.

Since 1987, I have led comprehensive prudence reviews of nuclear power plant project management, electric transmission project management, corporate decision-making, capital program management, and nuclear plant outage management. I have also performed several focused strategic studies for utility senior management and the Electric Power Research Institute.

During late 1986 through 1987, I served as Manager of Industry Relations for the Institute of Nuclear Power Operations (INPO), a private organization dedicated to promoting excellence within the nuclear industry. In this position, I was responsible for administration of INPO's

communications, technical policy and informational programs to utility members, suppliers and international participants, related organizations and government agencies.

I have extensive experience in the field of nuclear power plant construction and project management. In 1975 to 1977, I was a startup engineer for the owner utility, Northeast Utilities (NU), of the Millstone 2 nuclear power plant in Waterford, CT. I was responsible for system testing and acceptance during the construction completion phase for several nuclear safety systems, fire protection systems, auxiliary equipment, and balance-of-plant components. During initial plant startup, I was a shift test engineer for the initial criticality, low-power testing and full-power operational certification.

From 1984 to 1986, I was project manager for NU of the Millstone 3 nuclear power plant prudence audit ordered by the Connecticut Department of Public Utility Control. The prudence audit reviewed all aspects of the management, engineering, procurement, construction, startup, project controls, regulatory performance and $4 billion costs of the 1150 megawatt (MW) unit.

While with NU, I was also Manager of Generation Projects for Millstone 2's program for major capital projects, major repairs and initiatives to respond to new regulatory requirements. During a major outage, I was responsible for management of more than $100 million of capital and maintenance projects, including removal of the nuclear thermal

shield from the reactor and tube sleeving of the steam generators, both first-time projects for the utility. I managed the overall efforts to prolong the life of the Millstone 2 steam generators. I was responsible for developing annual budgets and schedules for capital and major expense projects to meet operational and regulatory commitments, and I served on the Millstone 2 Nuclear Review Board to review safety-related issues.

I served as a U.S. Navy Officer in the nuclear submarine force. As an officer in the U.S. Navy nuclear submarine force, I was trained in nuclear reactor engineering concepts and qualified to operate and maintain two naval reactor plants.

I have a Bachelor of Engineering degree in Electrical Engineering from Vanderbilt University, and received a MBA from the University of New Haven.

Q. Do you have direct experience related to management prudence evaluations?

A. Yes. I have performed more than 14 independent reviews regarding the prudence of utility management with respect to nuclear power plant and electric transmission project management and project controls. I have submitted testimony related to some of these independent reviews to nine state public utility commissions. These are identified in Exhibit No. ___ (GRD-3) to my testimony.

I have also performed prudence evaluations of new nuclear power plants, major capital projects at nuclear power plants and fossil-fired plants, and construction of electric transmission facilities. The new nuclear power plants for which prudence evaluations were performed include: Comanche Peak in Texas for the Texas Public Service Commission and Millstone 3 in Connecticut for the Connecticut Department of Public Utility Control. The operating nuclear power plants for which Janus performed independent evaluations of major capital projects and long outages are presented in Exhibit No. ___ (GRD-4). These evaluations do not include the plants already listed in Exhibit No. ___ (GRD-3).

From 2005 to early 2009, Janus performed independent evaluations of Northeast Utilities $3 billion electric transmission infrastructure upgrade. Janus evaluated the siting, design, and construction of electric transmission facilities in Connecticut and Massachusetts. These projects include construction of new 345-kiloVolt (kV) transmission lines in southwest Connecticut, the construction of underground 115-kV and 345-kV lines in southwest Connecticut, the replacement of submarine cables under Long Island Sound, and the siting of transmission lines in Connecticut and Massachusetts.

II. PURPOSE AND SUMMARY OF TESTIMONY.

Q. Please describe the nature of your testimony in these proceedings.

A. This testimony presents my expert opinion with respect to the reasonableness and prudence of PEF's management decision processes and project management and controls as they relate to the LNP.

Q. How have you proceeded?

A. I started with the reasonableness or prudence standard which is accepted and utilized throughout the electric utility industry. Next, I reviewed PEF's decisions and processes as they relate to the LNP in terms of the processes used and the knowledge reasonably available to PEF managers. The areas that I reviewed were: (1) Project oversight by the PEF parent board of directors (BOD) and senior management; (2) Project concept and contract strategy; (3) Project management; (4) Project controls; (5) Risk management; (6) Policies and procedures; and (7) Project assessment. I then measured the decisions and processes against the appropriate standard of reasonableness and prudence and arrived at an opinion concerning the reasonableness and prudence of PEF's decisions and processes for the management and control of the LNP.

Q. What methods did you use to review PEF's decisions and processes?

A. I reviewed the LNP documents such as its policies, procedures, schedules, cost estimates, contracts, progress reports, BOD minutes, risk analyses, management oversight reports, regulatory information, audit reports, benchmarking reports, independent assessments, and quality assurance reports. I reviewed other appropriate PEF and industry information. Finally, I interviewed key personnel involved in the LNP work, including the baseload transmission project, internal audit, project controls, and management.

Q. What standard of reasonableness and prudence did you use in your assessment?

A. In my experience in the electric utility industry, the general standard of reasonableness or prudence is as follows: Prudence is that standard of care which a reasonable utility manager would be expected to exercise under the same circumstances encountered by utility management at the time decisions had to be made. Importantly, in determining whether a judgment was prudently made, only those facts available at the time the judgment was exercised can be considered. Hindsight review is impermissible. Further, one's own judgment should not be substituted for that of management; the prudence standard recognizes that reasonable persons can have honest differences of opinion and there may be more than one prudent decision under the circumstances.

Q. How did you apply this prudence standard to the management and project controls for the LNP?

A. I applied the prudence standard to an industry-recognized set of general evaluative criteria for a project of the size and complexity of the LNP. These general evaluative criteria for prudent decisions and project controls are: (1) PEF senior management and the BOD should maintain appropriate involvement, have in place information channels and maintain sufficient oversight to make ongoing critical project decisions; (2) the LNP project concept and contract strategy should provide the degree of control necessary to protect PEF's investment and be consistent with the magnitude of the project; (3) the implementation of the decision to build the LNP should be reasonably planned, organized and controlled by PEF to be able to meet project goals for scope, schedule, budget, regulatory, safety, and quality requirements; (4) the roles and responsibilities of the project team members and the interfaces among the Levy plant and the Levy transmission project team, other PEF functional organizations, the Owner's Engineers and other contractors, and the EPC should be documented and applied; (5) the LNP risk management process should identify risks, track identified risks, and provide management with a logical and coherent framework to evaluate, prioritize, and develop courses of action to mitigate or avoid the major project risks; (6) the LNP should have in place information systems to report costs, schedule progress, and contractor performance; and to detect threats to meeting project scope,

budget or schedule; (7) the LNP should have in place policies and procedures that define expectations and accountability for work products, identify responsibilities, and serve as training tools for new staff; and (8) the LNP should have appropriate assessment processes to ensure that regulations, procedures, quality standards, and contractual obligations are met.

Q. Please provide a summary of your testimony.

A. In my opinion PEF's LNP project management and project controls are reasonable and prudent. PEF has the requisite processes and organization to manage a project of this magnitude and complexity. PEF has reasonable and effective management practices for this project. Senior management oversight is extensive and the BOD is thoroughly informed and engaged in the project. The project governance policy provides a comprehensive guide for the project with coordinated independent oversight and management.

The LNP also has a reasonable project management organization and is appropriately transitioning to the new NPD organization with the execution of the Engineering, Procurement, and Construction Agreement (EPC) with Westinghouse Electric Corporation (WEC) and Shaw, Stone, & Webster (SSW). The EPC contract met the BOD criteria of firm design and clear visibility to costs and it is a reasonable contract that balances

risk and PEF control using a combination of fixed price, firm price, target price, and time and materials arrangements.

The LNP further has a sophisticated risk management process consistent with industry best practices. There are reasonable project controls in place to develop estimates, monitor schedules, and control contractors. There is reasonable reporting and performance monitoring and the planned expansion of performance indicators will enhance performance monitoring further. Additionally, there is an effective and comprehensive set of existing project management and execution policies and procedures that, following EPC execution, are being supplemented with specific LNP procedures. Finally, there are extensive project reviews, internal audits, benchmarking, self assessments, and quality assessment (QA). All of this demonstrates that the LNP project management and project controls are reasonable and prudent.

III. ASSESSMENT OF PEF'S MANAGEMENT PROCESSES AND PROJECT CONTROLS FOR THE LNP.

Q. Please describe the status of the LNP at the time of your assessment.

A. On August 12, 2008, the FL Public Service Commission (FPSC) issued a Determination of Need for the LNP. The LNP is in the permitting phase with the docketing of the Levy Combined Operating License Application

(COLA) with the Nuclear Regulatory Commission (NRC) and the Site Certification Application (SCA) with the Florida Department of Environmental Protection (FDEP). The LNP is being managed as two major projects. The nuclear portion of the LNP is being managed by the Nuclear Plant Development (NPD) department. The NPD department reports to the PEF chief executive officer. The Levy baseload transmission project is being managed by the PGN Generation and Transmission Construction Department (G&TC). The Levy Integrated Nuclear Committee (LINC), which is chaired by the PEF CEO, currently oversees the entire LNP and all support organizations.

The LNP submitted the COLA with the NRC on June 30, 2008, and it was docketed October 6, 2008. The SCA was submitted to the FDEP on June 2, 2008. The FDEP Agency Report was completed on January 12, 2009, and site certification hearings are currently being held.

The LNP is now starting the transition to the site preparation and licensing phase. PEF signed the EPC on December 31, 2008. Owner engineer firms have been engaged for both the Levy nuclear project and the baseload transmission project. The Levy baseload transmission project has begun engineering and design work and is in the process of engaging an acquisition program manager to handle the real estate and right of way activities. The baseload transmission scope is comprised of some 67 sub-projects including lines and substations.

Q. How is Senior Management involved in oversight and direction of LNP?

A. I determined that senior management involvement is extensive. The levels of senior management have had extensive involvement in planning and managing the LNP. The BOD receives regular updates of key LNP milestones and issues. The BOD will continue to be involved through the formation of an *ad hoc* committee to function as the primary point of contact for BOD oversight. The BOD is therefore informed and provides oversight and direction with respect to LNP matters.

Senior management has LNP oversight through several methods including the regular corporate processes of setting the corporate strategy, establishing budgets, and reviewing performance. The SMC reviews and approves the annual project plan, reviews weekly status reports, and conducts the Monthly Business Review process. Senior management also directed the participation in the NuStart Energy Development utility group and formed the Baseload Steering Committee to provide overall project coordination and oversight of new baseload generation projects. Finally, senior management provided oversight of the EPC negotiations and established the Levy Integrated Nuclear Committee (LINC).

With the signing of the EPC agreement, an ad hoc committee of the BOD was announced to focus on new nuclear construction projects. This committee functions as the primary point of contact for BOD oversight of the projects and includes at least three independent members of the BOD.

Among the duties of the committee are to review construction status, schedule adherence and regulatory compliance and reports, recommend BOD approval of major milestones and commitments when necessary, review changing business conditions and emerging issues of potential significant impact, review project leadership, governance, execution and controls for adequacy and effectiveness, conduct or authorize investigations or studies if necessary, and establish a Nuclear Project Advisory Committee comprised of industry experts to advise the Committee on the execution of its functions.

The Baseload Steering Committee was established as an appropriate vehicle to coordinate the development of options and necessary steps to consider before construction of baseload generation. The Baseload Steering Committee was led by five members of senior management, including the PEF President, with a supporting team representing key areas of investigation. The Baseload Steering Committee role was to pursue initial project design and implementation, transmission, legal and regulatory approvals, legislative initiatives, financing and communications. The Baseload Steering Committee work culminated in a recommendation to the Board to preserve the option to build nuclear generation and identified Levy County as the preferred site for Florida.

The SMC also includes the PEF President and is also involved in LNP management review. The SMC holds Monthly Business Reviews to

review project progress and address issues if necessary. It includes multi-functional Company representation to ensure appropriate senior management involvement in the LNP. The SMC reviewed and approved the key LNP documents identified in Exhibit No. ___ (GRD-5).

The LINC was established in early 2008 to enable full coordination of planning and pre-construction execution of the LNP. LINC is chaired by the PEF President and CEO and is comprised of cross functional senior leaders in PEF. LINC was established as a single point for management coordination and oversight that supplements direct line organization accountability. LINC's responsibilities include (1) review and approval of all initiatives to implement the LNP; (2) monitoring and assessing ongoing initiatives; (3) assessing risks; (4) allocating resources; (5) documenting key decisions in accordance with project assurance policies and procedures; and (6) reporting to the SMC and Boards as required. LINC is expected to adjust its role as the LNP enters the more complex execution and construction phase when the need is identified.

Q. Is the senior management and BOD involvement in the LNP prudent?

A. Yes. In my opinion senior management and the BOD maintain a high level of involvement regarding the LNP that is consistent with the magnitude, complexity and importance of the LNP. Senior management has kept the BOD informed of the project status, risk factors, costs, project management, and regulatory processes. The BOD is appropriately

involved in approving key decisions. Indeed, a specific subcommittee was established by the BOD to focus on nuclear plant construction. The SMC and the LINC also provide comprehensive oversight of the LNP and ensure management coordination and oversight that supplements direct line organization accountability. Senior management further has reasonably implemented an organizational change to establish the NPD department, which reports directly to the PEF President and provides even more direct senior management oversight of the LNP and realigns the Nuclear Generation Group so that it can focus on the operating nuclear units.

IV. ASSESSMENT OF PROJECT CONCEPT AND CONTRACT STRATEGY.

Q. Does the LNP project concept and contract strategy provide a prudent degree of control consistent with the magnitude of the LNP?

A. Yes. The LNP project concept establishes a formal organization with the responsibility to carry out a major corporate mission through the use of available resources and outside firms. This approach has been in place since the project was conceived in 2005 and is the model for the Nuclear Plant Development department and the Levy Baseload Transmission Project.

Q. Please explain the project concept and contract strategy for the Levy Nuclear Plant.

A. The initial planning and permitting phase project concept involved the formation of a new department, Nuclear Plant Development and License Renewal (NPD&LR), within the Nuclear Generation Group to develop and obtain federal and state regulatory approval for selected sites. The team included Progress personnel supported by an outside engineering team and specialized consultants. The NPD&LR team managed the regulatory interfaces with state and federal agencies, monitored the performance of supporting engineering firms, reviewed the technical and engineering products, and set the plant selection criteria. The NPD&LR department was led by an experienced nuclear manager with new plant startup experience. It included engineering, licensing and project controls personnel to manage the supporting engineering firms and interface with the NRC, FDEP, and other agencies.

The NPD&LR project team developed the Project Plan for New Nuclear Baseload Generation – COL Phase to govern the project. The team assisted in the preparation of the Business Analysis Packages (BAP) and Integrated Project Plan (IPP). The NPD&LR project team managed contractors for the preparation of the COLA, SCA and other federal and state permits through work authorizations and reviewed technical and cost parameters to approve contractor estimates. The NPD&LR department

controlled work through contractor reporting requirements, technical reviews, cost reviews and audits.

The project concept for the LNP site preparation phase is set by the formation of the NPD and by the EPC agreement. The EPC has elements of fixed price scope, firm price scope, some target price arrangements and some time and materials work. The NPD adds management resources devoted to plant construction oversight, contract administration, and project controls. The primary contract management function is management of the Levy EPC contract. The LNP team selected an owner engineer to provide the engineering function and to assist in technical reviews. The owner engineer is the team of Sargent & Lundy (S&L) and WorleyParsons, which are members of the joint venture that supported the LNP COLA.

The primary contract for the LNP is the EPC contract. PEF senior management and the BOD established criteria to select a firm design with clear visibility to costs. The selection of WEC / SSW was designed to achieve the lowest reasonable price with maximum amount of risk sharing and mitigation under prevailing circumstances. Additionally, PEF wanted to provide adequate owner control with visibility into construction and risk management and align WEC / SSW incentives and penalties with the Company's interests.

The EPC contract includes various performance incentives, penalties, warranties, liquidated damage provisions and parent

guarantees, designed to incent the contractor to perform efficiently. Over half of the contract price is fixed price or firm price with agreed-upon escalation factors. Contract costs are subject to adjustment for change orders.

The contract strategies with the Owner's Engineers for the Levy nuclear plant and the Levy Baseload Transmission Project are similar. Both contracts were competitively bid. The contract management approach engages Owners' Engineers and uses a task order approach wherein work is authorized based on a specific scope that is estimated by the owner engineer and reviewed by the respective PEF project team for technical adequacy and cost. Once released for implementation, the work is monitored by PEF technical personnel and administered by the PEF designated contract representative. The owner engineer is required to provide detailed reports of its performance of the work monthly.

Q. What is the project concept and contracting strategy for the Levy Baseload Transmission Project?

A. The project concept for the Levy Baseload Transmission Project is similar to the NPD focused approach. The initial transmission planning for the LNP generation addition to the PEF transmission system was performed by the TOPD as part of the normal system planning function. PEF recognized the magnitude of the Levy Baseload Transmission Project and formed the project team under the Vice President - G&TC to manage the

baseload transmission requirements. The team engaged consultants to assist with the scope definition, identification of the transmission line corridors, the location of substations, project procurement strategy, and major materials market assessment.

The Levy baseload transmission team was enlarged to incorporate the additional functions that are necessary for design reviews, project controls, and real estate acquisition. An owner engineer firm was selected to perform engineering and technical reviews. The plan is to engage an acquisition program manager for the substation and transmission line real estate functions including surveying, purchasing the land / rights of way, and legal work. The contracting strategy is under review at this early stage of the project to maximize PEF's control of PEF and balance the risk of an EPC approach, a design-bid-build approach, or a program management approach.

Q. What is your opinion with respect to the LNP project concept and contract strategy?

A. In my opinion PEF has established a reasonable and prudent project concept and contract strategy. The LNP project concept is a prudent approach to managing a project of this nature. It utilizes a full-time project team that manages contracts. In my opinion this project concept provides reasonable control necessary to protect the Company's investment and is

consistent with the magnitude of the LNP complexity, cost, duration, and regulatory significance.

V. ASSESSMENT OF PROJECT MANAGEMENT.

Q. In your opinion, is the LNP project management prudent?

A. Yes. In my opinion PEF Project Management is appropriately organized and has reasonably fulfilled its project management responsibilities in both the Levy plant project and the Levy baseload transmission project. The LNP Project Management has documented roles and responsibilities for LNP team members and there are appropriate interfaces between LNP and G&TC project teams and other functional organizations, owners' engineers, and contractors. The LNP Project Management is consistent with electric utility best practices and standards for nuclear and other major construction projects of this size and scope.

Q. Please explain the project management for the Levy Nuclear Plants.

A. The project organization for the NPD&LR was established in the "Project Plan for New Nuclear Baseload Generation" in December 2006. The organization included Managers of Engineering and Licensing and a Supervisor of Project Controls under the direction of a General Manager. The full team included discipline engineers for the nuclear steam supply design, the balance of plant, electrical design, instrumentation and control

design, digital systems, civil / geological engineering construction planning, and procurement. The licensing support included supervisors for license renewal of the existing nuclear plants as well as licensing staff for operations, environmental and quality assurance.

The NPD&LR department was a reasonable mix of personnel supplemented by contractor personnel on some functions. This organization has been sufficient to direct the contractors through the COLA and SCA process and the planning, permitting, and disposition of questions arising from the NRC's review of AP1000 design. During this period the NPD&LR organization's emphasis has properly been to complete the COLA and SCA. The organization met their target goals with the SCA filing with the FDEP in June, 2008, and the Levy COLA and Limited Work Authorization (LWA) request filing with the NRC in July 2008.

As I previously described, with the recent signing of the EPC, the LNP entered a new phase of site preparation, detailed design, and construction planning leading to construction. The Nuclear Plant Development department was formed reporting directly to the PEF President and CEO. This move reflects senior management's appropriate recognition of the need to align the organization to focus support on Levy.

With the signing of the EPC contract, the project organizations for both the plant and baseload transmission are also appropriately transitioning into the detailed engineering, site preparation, and

construction phases. The new organization will be headed by a senior executive with overall accountability for both the plant and the associated baseload transmission, supported by a dedicated staff with strong project management experience.

Q. Can you please explain the Company's Baseload Transmission Project Management?

A. Yes. The engineering, design, and construction of the transmission system associated with the addition of the Levy Nuclear Plant is being managed by a dedicated Baseload Transmission Projects group in the G&TC Department. The GT&C Department and the Baseload Transmission Projects group were separated from the existing Transmission Operations and Planning Department in late 2007. A new Vice President was named to head the G&TC Department, and the baseload transmission program was headed by managers in land acquisition, engineering, transmission lines and substations.

In my opinion, the G&TC baseload transmission group was effective in managing the necessary planning, study and siting work associated with developing the Levy baseload transmission project required to adequately interconnect the Levy Nuclear Plant into the transmission system and deliver the incremental power to the grid consistent with pertinent criteria. Their work in 2007 and 2008 included

conducting studies to evaluate route and design options, feasibility and solutions, supporting the SCA and COLA, and developing the IPP.

The baseload transmission group developed the criteria for selecting favored technically feasible alternates. These criteria reasonably included, consistent with industry standards, the (1) total estimated cost, including that associated with the underlying grid as a result of adding the Levy generation; (2) reliability bases on performance for a comprehensive set of contingency scenarios measured against existing NERC Reliability Standards; (3) flexibility to have maximum achievable longevity for undefined demands and new generation additions, when tested against the NERC Reliability Standards; and (4) likelihood of success in overcoming difficulties in licensing, permitting, land acquisition and constructability.

The team initiated an extensive and appropriate set of studies to support the recommended baseload transmission solution. To perform the studies the baseload transmission engaged several firms with the expertise to conduct the work. These firms and the studies focused on the high level transmission options, the conceptual feasibility study for converting portions of transmission system to operate at higher voltages, fine tuning the 500-kV option, evaluating and comparing potential transmission line corridors based on factors such as land use, environmental, long range planning, and construction and maintenance costs, and evaluating underlying grid impacts.

In early 2009, the Levy Baseload Transmission Project group added a General Manager supported by an existing organization with active recruitment for additional members of the baseload transmission teams. The Levy Baseload Transmission group has identified some 67 transmission sub-projects that will comprise the baseload transmission program for Levy. Baseload Transmission management has reasonably anticipated that each of the sub-projects will benefit from assigning a project manager to provide overall direction.

VI. ASSESSMENT OF PROJECT CONTROLS

Q. Does the LNP have in place prudent project controls?

A. Yes. PEF has established and implemented reasonable and prudent project control processes to report costs, work progress, and schedule performance consistent with the current status of the project and industry standards. Further, PEF has established a reasonable and prudent process to identify, develop, and implement enhancements and improvements in the project controls process as the project transitions into the site preparation and construction phases of EPC implementation for the Levy plant and continues engineering and land acquisition activities for the Levy Baseload Transmission Project.

PEF management has made project controls a key and visible element of its management and project implementation process. PEF has

utilized a structured process for project scope development and for senior management review, capital authorization and project phase initiation through the BAP process and the IPP. PEF developed and validated project estimates consistent with available information and with appropriate input from contractors, vendors, consultants, other PEF business units, industry and other professional sources.

As the LNP transitions into the site preparation and construction phases, PEF is developing the LNP Integrated Master Plan and the Levy Baseload Transmission Schedule to meet management goals and project milestones. These schedules are being developed consistent with appropriate input from contractors, vendors, consultants, and other business units.

With the signing of the EPC, PEF is developing appropriate project based policies, procedures, and processes to supplement the existing corporate, group, and departmental policies, procedures and processes. PEF is further enhancing the contract management process with a focus on cost, schedule, contract administration, performance monitoring, and reporting.

PEF management has made cost, schedule, and performance monitoring a key element in both its project implementation and oversight process via regular status and assessment meetings and reporting. PEF is appropriately incorporating "lessons learned," industry and professional "best practices," and other industry guidelines into its project control

process. Further, PEF has in place appropriate contract management processes and procedures to administer the obligations of contractors providing services to LNP.

Q. How is budget performance monitored?

A. The budget for LNP work provides a detailed breakdown of responsibility and of accountability. Widely distributed monthly reports tie scope to identified responsible managers and track budgets, actuals and variances. The costs for contractor performed work is reviewed and controlled through the contract administration process.

At the PEF Vice President level there is also a monthly budget variance report prepared with input and analysis from the project team. Overall budgets are reviewed by senior management through the Monthly Business Review process. LINC currently monitors the overall LNP budget.

Q. How has management made cost and project controls a key and visible element of the project management and implementation process?

A. PEF has emphasized quality, cost, schedule, and project management as the continuing theme of its management processes. This emphasis directly communicates and reinforces the importance of the project

controls function. Management attention is observed throughout the management and project documents from the executive level down to the contract management and weekly project team meeting level. Management expectations are clearly stated and communicated.

PEF management has reasonably and prudently integrated the project controls function into the top levels of the LNP organization in both the Levy Plant and the Levy Baseload Transmission projects. For NPD the Supervisor of Project Controls reports directly to the General Manager (GM) of the NPD&LR department. Similarly, the project controls function on the Levy Baseload Transmission Project reports directly to the VP-G&TC via the Business and Management and Compliance Unit. Through this direct reporting, the project controls function provides organizational visibility and participation, thereby emphasizing the importance attached by management to that role.

Q. What are the Levy Nuclear Plant Project controls?

A. The Project Controls include: (1) Project Plans; (2) Financial controls (including contract earned value evaluations); (3) BAPs (and later the IPP) and coordinated budget planning; (4) Project financial cash flow analysis; (5) Schedules (engineering, contractor, and licensing); (6) Nuclear records management and document control; (7) Nuclear training coordination; (8) Risk Management Plans; (9) Nuclear quality assessments; (10) Project performance Indicators; and (11) Vendor

performance monitoring (cost, schedule, and performance). These Project Controls are consistent with industry best practices and standards.

The Project Controls group assures the project team performs Project Controls effectively. During 2008, project control and contract administration needs increased in anticipation of the transition to site preparation and implementation of the EPC.

Project Controls performs contract management. Contractors are required by the contract to meet specific performance, staffing and reporting requirements consistent with industry standards. Contractor project status reports address, when necessary, issues requiring management attention, quality issues, health and safety issues, teamwork and accountability issues, project budget and invoicing information, scope revisions, budget and schedule performance, monthly cash flow, requests for information, the project schedule, documentation submittals, and work accomplished during the month. These are the types of issues I expect to see in contractor status reports on projects of this size and scope consistent with industry practice and standards.

As a monthly summary of the project, the Supervisor of Project Controls prepares a monthly Nuclear Plant Development Performance Report. This report typically covers such topics as (1) safety, cost, schedule issues and activities, including identifying any key issues and providing a look-ahead overview; (2) performance data, including key performance indicators (KPI), integrated cost performance, contract

status, contractor cost and schedule performance, scope changes, high risk or critical issues, organization, and staffing; (3) significant project decisions; (4) self-evaluation results; (5) engineering updates; (6) licensing updates; (7) COLA and AP1000 status; and (8) public and media interaction information. Again, these topics are consistent with industry-accepted practices for project reports on projects of this size and scope.

Q. What are the Levy Baseload Transmission Project controls?

A. The Project Controls function for the Levy Baseload Transmission Project is provided by the G&TC Business Management and Compliance (BM&C) unit. The BM&C director reports directly to the Vice President – G&TC as does the Levy Baseload Transmission Project GM. This direct link to the responsible executive emphasizes the importance and visibility of the project controls function. This approach also allows dedicated and matrixed project controls personnel to be assigned to the Levy Baseload Transmission team with managerial direction and supplemental support as needed. Managers for project controls and for financial and business services, as well as a supervisor, all report to the director of BM&C.

The key responsibilities for the Baseload Transmission Project Controls group include (1) real-time schedule and critical path analysis; (2) cashflow development / assessment with contractor provided data; (3) key performance indicator development; (4) change order management; (5) estimate development and estimate reviews; (6) contractor auditing and

claims review; (7) contract administration; (8) contractor schedule and cost interface; (9) cost issue assessment; (10) management of on-site project cost contractors; and (11) lead routine contactor review sessions. This group is supported by a financial and business service group with primary responsibilities for cost management and reporting, interface with project controls, financial analysis, budget development and analysis, and project set-up and analysis. Cost estimating and other support functions have been provided by BM&C as needed. These Project Control responsibilities and supportive financial and business services are consistent with our industry experience and industry standards.

To date, contract administration on the Levy Baseload Transmission Project has been a coordinated process. The overall approach to contract administration on the project is currently and appropriately being assessed with the execution of the EPC, the recent addition of the Owner's Engineer, the possible use of a real estate acquisition manager, and the ultimate need to manage some 67 construction projects.

The BM&C unit prepares monthly reports summarizing the schedule and financial status of the transmission project for senior G&TC management. Typical reports address, when necessary, (1) actual, budget and projected expenditures; (2) actual and projected total costs by year - line, substation, and AFUDC; (3) milestone cost history; (4) schedule dates and key events; (5) required third party approvals; (6)

issues their impacts, and responses; and (7) the project risk matrix with the likelihood and consequences of identified risk items. Also, detailed month-by month graphs and tables showing individual project actual, budget, variance, and projected costs are produced.

At the project level, the Levy Baseload Transmission project conducts two monthly reviews: (1) the Monthly Executive Program Review, which provides G&TC management (including the VP- G&TC) with program status, cost and schedule updates, near-term activities, program risks and challenges; and (2) the Stakeholders Monthly Program Review, which provides information, integration, and coordination meetings between the Project Team and involved PEF Departments. The Levy Baseload Transmission team also developed a more detailed monthly report to provide more information on performance, cost, schedule, compliance, risks and other project elements. Weekly status reports are also developed by the Levy Baseload Transmission team showing overall trends, financial information, risks, 90-day look-ahead schedules, percent complete, staffing levels and actions/ issues. These levels of reviews and reports are consistent with best practices in the electric utility industry for projects of similar size and scope.

Q. Is the LNP cost estimation process prudent?

A. Yes. The cost estimating process for the LNP is reasonable and prudent. The estimate is the result of substantial effort by the Levy Plant Project

and the Levy Baseload Transmission Project. PEF has identified the full scope of the project, including all activities to secure permits, authorizations, and approvals; the cost of land and rights of way; the owner-managed project costs; the initial fuel loads; the staffing for startup and commissioning; fees and insurance; escalation and contingencies; and the financing cost. The cost estimates were developed with the input of engineering firms that had similar project knowledge. The estimates were independently reviewed to validate the documentation supporting the costs and to provide an independent assessment of the cost estimate. This process includes the elements of a sound estimating process that is consistent with industry standards.

Q. Did PEF validate the project estimates?

A. Yes. PEF conducted an internal audit of the documentation supporting the prices presented by WEC / SSW for the EPC agreement, engaged and independent firm to review the WEC / SSW estimate and schedule information to construct the AP1000 units and the Levy site specific work, and commissioned its transmission owner engineer to provide an independent source of cost information of the transmission project.

PEF contracted Burns and Roe to perform an independent evaluation review and validation of the AP1000 cost and schedule "package." Burns and Roe is a worldwide engineering and construction firm with expertise in nuclear power plant costs. The firm is currently the

owner's engineer for Entergy's next generation nuclear plant and is the architect / engineer partner for several combined COLAs. Burns and Roe is in the process of preparing its final report.

PEF also audited the LNP EPC Contractor Price Book to verify proper documentation of the WEC / SSW Price Books. A PGN Senior Auditor was assigned to verify that there is sufficient detail in the cost estimate from the EPC WEC / SSW team to fully support the total price. As part of the review, the auditor advised the EPC team of areas where there was insufficient detail and then monitored improvements until full necessary detail was present in the Price Book.

Q. Did PEF validate the Baseload Transmission Project cost estimate?

A. Yes. PEF tasked Patrick Energy Services Inc. (Patrick Engineers), as the Owner Engineer, to provide an independent estimate of four elements of the proposed baseload transmission project including: (1) Kathleen to Lake Tarpon - 230-kV Transmission Line (50 miles); (2) Central Florida South - 500-kV Transmission Line (60 miles); (3) Kathleen Substation – 230-kV; and the (4) Central Florida South Substation – 500-kV/230-kV. Patrick Engineers also provided PEF with a detailed estimate for each of the two substations and a higher level estimate for each of the two lines. PEF's estimating staff compared the PEF estimate based on the prior Power Engineering estimate with the Patrick Engineers estimate after accounting for items Patrick Engineers did not include, such as real

estate, wetlands mitigation, PEF pre-construction cost, and the difference in escalation and contingency philosophy, and, after incorporating these adjustments, PEF determined the PEF and the Patrick Engineers estimated costs for substations were essentially the same. Transmission and Project Controls management made the reasonable decision to defer any additional cost comparisons pending the completion of additional engineering and the planned development of a new project estimate within the next few months.

Q. What is PEF's approach to scheduling the LNP?

A. The overall approach to scheduling the LNP is to utilize an Integrated Master Plan (IMP) process to ensure that project activities support the key project goals and milestones established by management. The IMP is summarized as a one page barchart schedule showing major projects or other activities and the supporting milestones. The summary IMP is reviewed and approved by the Project General Manager.

The IMP scheduling database includes all activities required from COLA development and NRC review, engineering, procurement, fabrication, construction, staffing, training, and startup activities leading to commercial operation. It is being developed directly from the detailed project schedules required for individual Levy Project contractors including WEC / SSW. It also contains schedule information from various other

sources including the various PEF business units. Currently, the IMP scheduling database contains nearly 90,000 individual activities.

This schedule database is also used to generate reports to allow management to monitor and plan the overall project and to analyze individual contractor schedule performance. Such reports include (1) monthly contractor status against baseline, (2) strategic planning schedule to ensure milestone coordination, (3) critical path analysis by work break down structure (WBS), (4) float variance reports, (5) look-ahead reports, (6) weekly milestone reports, (7) project end-game reports for achievement of milestones, and (8) as-built schedule for completed projects.

For the Levy Baseload Transmission, PEF is developing an overall project schedule to serve as a baseline to assess schedule performance against project milestones and to manage and monitor the work of the Owner's Engineer, the real estate acquisition contractor, and, ultimately the construction program. It will also be used to monitor and coordinate the work of the various participating PE business units and other project participants.

This approach is consistent with my experience and industry standards for project schedules for projects of similar size and scope. Also, PEF is using industry accepted scheduling tools and processes for the incorporation of appropriate data into the schedules.

Q. How is PEF implementing this approach for The Levy Nuclear Plants?

A. In order to implement the development of the IMP for the Levy Plant, PEF added an experienced project nuclear project controls and scheduling specialist to the Project Controls Staff. This individual brought over thirty years experience at nuclear plants in startup, operations and outage management. Initial efforts to develop an IMP focused on corporate milestones and, in collaboration with S&L, the Owner's Engineer, the development of an appropriate WBS and interface with SSW and WEC's detailed schedules. By March 2008, this was accomplished with Rev. 2 of the IMP which was approved by the Project GM and issued.

The IMP development continued using Primavera scheduling software, a generally recognized and accepted electric utility scheduling tool. The IMP schedule linked to data from the WEC and SSW that contains approximately ten individual schedules with over 88,000 schedule items. In addition, schedule information from other contractors such as S&L was also imported. Finally, templates for the AP1000, Toshiba schedule, four procurement schedules, and three construction schedules were established. One source of template information is the New Plant Deployment Program Model. This Model provided a combined licensing and deployment model schedule for prospective and actual new licensing plant licensing applicants and is detailed in a 2008 Electric Power Research Institute report.

With the execution of the EPC at the end of 2008, NPD anticipates that Rev. 3 of the IMP schedule will be issued shortly and that a baseline IMP schedule will also be developed. Information from the Levy Baseload Transmission Program Schedule prepared by G&TC will also be incorporated.

Q. How is PEF implementing the project schedule approach for the Levy Baseload Transmission?

A. When the Levy Baseload Transmission project was authorized preliminary schedules with focus on the near-term objectives were developed based upon assumed scope of work. Following submittal of the SCA and the selection of a routing option, a more detailed (Level 3) project schedule was developed with a dedicated scheduler with extensive experience on large projects worldwide. The Level 3 schedule was also developed using the industry standard Primavera scheduling software with input from Levy Baseload Transmission team members, the Levy Plant team, supporting consultants, and others, such as the PEF transmission and Crystal River power station operators. The draft schedule provided a logical sequence for completing the 67 sub-projects that comprised the Levy Baseload Transmission project.

This draft schedule was peer reviewed and it was determined that the draft schedule provided a logical sequence to achieve the objectives of ensuring all key substations would have a continuous supply of power as

construction progressed. It also provided the necessary critical path sequence to be able to supply backfeed power to support the system startup and commissioning of Levy Unit 1 and to complete the Levy Baseload Transmission to support Levy 1 and Levy 2 operation. Further, it appropriately provided schedule windows for work performed by others, such as the Owner's Engineer, the land acquisition team, and by the individual construction contractors. The project cost estimate was also loaded into the schedule to obtain an updated project cash flow.

Patrick Engineers is using the schedule to plan the remaining transmission design work. Rev. 0 of this schedule will be issued during the first quarter of 2009 to serve as the baseline for future schedule updates and to monitor schedule progress against established milestones.

Q. How will PEF manage LNP contractor performance?

A. Oversight of contractors is accomplished by direct engagement of LNP technical, management, and project controls staff. This engagement includes face-to-face, e-mail, telephone, and formal and informal meetings. In addition, the quality program and internal audits provide independent reviews of contractor performance. PEF also requires contractors to provide monthly reports on their accomplishments and their performance under the contract relative to safety, quality, scope, budget, invoicing, schedule, and future work. Management reviews are conducted monthly.

Typically, work is assigned under a task order process where an assignment is made and an estimate is developed by the contractor to complete the work scope. The Company reviews the technical scope for responsiveness and the cost for reasonableness. Once approved, the contractor may proceed and report progress against the scope, cost and schedule requirements. Changes in work require similar review and analysis. Changes are evaluated by technical personnel providing oversight of the work and management. An impact evaluation is prepared to document the change and management approval.

This contract management process to monitor contractor performance is consistent with best practices and industry standards.

Q. How has PEF provided oversight so far of contractors working on the LNP?

A. PEF management was kept appropriately informed of progress through face-to-face meetings and reports, from both internal organizations and from contractors. The monthly contractor reports were an effective mechanism and therefore prudent way to monitor progress at this stage of the LNP to identify any areas requiring management action on major contract work activities. These external reports covered progress in the areas identified in Exhibit No. ___ (GRD-6) to my testimony.

VII. RISK MANAGEMENT

Q. Does PEF have a reasonable and prudent LNP risk management process?

A. Yes. The LNP risk management process incorporates the PEF corporate risk management policy and implements the risk management program for both the Levy nuclear project and the Levy baseload transmission project. This risk management process actively identifies and tracks risk and provides PEF management with a logical and coherent framework to evaluate, prioritize, and develop courses of action to mitigate or avoid major project risks. The LNP risk management process is consistent with best practices for risk management in the industry and consistent with what I have observed on well-managed projects, including nuclear construction projects, of a similar scope and size to the LNP.

The LNP risk management policy was consistent with Project Management Body of Knowledge (PMBOK) issued by the Project Management Institute (PMI), and standard risk management practices utilized by the United States Department of Defense and the DOE. The 2004 edition of the PMBOK guide identifies six processes as the main elements in a risk management process: (1) Risk Management Planning, (2) Risk Identification, (3) Qualitative Risk Analysis, (4) Quantitative Risk Analysis, (5) Risk Response Planning, and (6) Risk Monitoring and Control. These criteria were embodied in the Levy nuclear project and Levy baseload transmission risk management processes and documented

in two current process documents and the new Project Management Center of Excellence (PMCoE) standard. These documents are the "Nuclear Plant Development Process Document for Risk Management" NPD-PD-05 and the G&TC "Project Risk Planning Guideline" CON-GTCX-00008.

The PMCoE was established in 2008 to provide guidance across the entire organization regarding the standards endorsed by management which exhibit excellence in project management. In March 2009, the PMCoE will issue a new risk management standard, "Project Risk Management" PJM-SUBS-00008, which will be the new corporate standard and will be applicable to all projects. This standard builds upon best practices consistent with the industry standards that I have identified and that have been incorporated in the LNP risk management process.

Q. How did PEF implement risk management for the LNP?

A. Beginning with the COLA phase, PEF has employed risk management techniques to manage risks and opportunities on an ongoing basis. The project team identified risks and prepared a Risk Register to track them. Each risk was evaluated by the originator and then submitted for management review and risk response determination. Action plans or contingency plans were developed to mitigate the high priority risks. LNP management incorporated discussions of new, high priority, or changing risks in monthly execution review meetings as a permanent subject.

As the transmission project was formulated, the G&TC risk management policy was applied to the baseload transmission project. Joint risk identification sessions were conducted between the NPD&LR and the Levy Baseload Transmission teams.

As presented in the LNP IPP, thirteen common and specific risks to the generation and transmission projects were identified and the potential impacts and responses were delineated.

Q. Can you provide us with examples of the application of PEF's risk management strategy to the LNP?

A. Yes. PEF incorporated risk management in each LNP major decision. PEF management established an overall philosophy to preserve the option for deploying new nuclear power plants to meet the growing need for baseload generation and limit the financial risk while maximizing the Company's control. This philosophy was demonstrated in several risk mitigation strategies.

- Project scope control – The selected nuclear reactor technology is an NRC certified design which reduces the potential for scope changes. The construction methods will use modularization techniques which have resulted in shorter construction times.
- Collaboration with other utilities – PEF joined with other utilities that selected the AP1000 to use a reference COLA. The

Company also helped form a joint owners group of utilities constructing AP1000 plants.

- Independent validation of estimates – The WEC / SSW cost information for the AP1000 was independently reviewed before entering into the EPC agreement. The Internal Audit Department reviewed the cost documentation. Burns and Roe, an architect engineering firm with expertise in nuclear plant costs, was hired to perform an independent validation of the AP1000 cost and schedule estimates. Also, the baseload transmission cost model was independently reviewed by Internal Audit, and comparative estimates developed by the owner engineer were used to validate the reasonableness of the initial estimate.

- EPC contract terms and conditions review – PEF engaged Price Waterhouse Coopers to perform an independent review of the contract terms and conditions of the EPC contract and advise PEF management of their observations and make recommendations.

- EPC contract strategy – To achieve a level of price certainty, PEF negotiated performance incentives, penalties, warranties, liquidated damage provisions and parent guarantees, designed to incent the contractor to perform efficiently. Over half of the

contract price is fixed price or firm price with agreed-upon escalation factors.

- Benchmarking and Lessons Learned – PEF benchmarked the LNP construction schedule with international projects completed in late 1990s and early 2000s. Lessons learned will be used from the Haiyang, China Nuclear Power Station where six AP1000 units are being constructed. NPD&LR participated with INPO in a benchmarking visit to Japan to gain an understanding of the experience of Japanese utilities. The Levy Baseload Transmission Project benchmarked other utilities constructing major transmission projects. These utilities included American Electric Power, Allegheny Power, and Northeast Utilities.
- Research on materials pricing and supply – The Baseload Transmission Project team engaged an industry supply chain expert firm to research the availability of transmission commodities, suppliers and materials pricing.
- Additional Risk Management Techniques - As the project transitions to the Site Preparation and Construction phase, a consulting firm has been engaged to evaluate and provide recommendations to make the NPD risk management process more robust.

Q. What is your opinion with respect to PEF's LNP risk management strategy?

A. In my opinion PEF has established a sophisticated risk management process. The LNP risk management process is a prudent approach to managing a project of this nature and one that is consistent with best practices in the industry for projects of this scope and size. Risks have been identified and assessed and responses have been developed. There is awareness of the risk management strategy apparent at the PEF senior management level, and the project and support organizations.

VIII. POLICIES AND PROCEDURES.

Q. Does PEF have in place prudent LNP policies and procedures?

A. Yes. PEF has comprehensive policies and procedures for each function to be accomplished either directly or in support of the LNP. Policies and procedures are in place for resource planning and budgeting, cost management, establishing a capital project, business analysis, funding authorization, project management and procurement, and contract administration. In addition, the NPD&LR and the new NPD are governed by applicable PGN Nuclear Generation Group procedures and quality requirements. The Levy Baseload Transmission Project is also governed by G&TC Department procedures.

PEF policies are summary level documents that communicate broad management principles or philosophy and provide direction for corporate decision making. Policies often require other documentation (such as implementing procedures and forms) to support goals and directives established by the policies.

PEF procedures include specific statements, directives, instructions, processes, and supporting documentation used by PEF personnel to perform specific work processes, conduct programs, or implement policies. Procedures also include training documents, catalogs, or instructional guides or manuals. The procedures identify the purpose of the procedure, the applicable references including other procedures that are integral to the procedure, the responsibility of various participants for carrying out the procedure, and the specific steps to carry out the procedure.

PEF's policies and procedures define expectations and accountability for work product, identify responsibilities, serve as training tools for staff, and provide a program for review and updates as the LNP matures. PEF's policies and procedures are, accordingly, consistent with best practices and industry standards.

Q. Do the NPD and GT&C organizations have in place the procedures necessary to support effective project management of the Levy Nuclear Project and the associated Baseload Transmission system?

A. Yes. The underlying basis for managing the Levy Plant and Baseload Transmission projects is the extensive existing procedural hierarchy by which both organizations have traditionally managed plant and line projects. In addition, PEF has established an overall governance policy to guide the construction of the projects. Further, a set of Levy-specific procedures is currently under development to address specific conditions encountered in executing this project.

The LNP governance policy is a comprehensive guide for project execution. It establishes roles and responsibilities based on using internal departmental practices and procedures. This governance approach provides coordinated LNP oversight and management and ensures independent oversight of line organization activities with accountability remaining with the line organizations. Specific governance policy goals include independent oversight, appropriate management reviews reconciliation with internal practices and procedures, creation of a framework for project controls, the provision for effective cost management, and timely management reporting.

The governance policy recognizes the significance of early detection of cost and schedule variances and commits to the continued use of performance criteria such as Cost Performance Indicators (CPIs), Schedule Performance Indicators (SPIs), and COLA performance monitoring. Other Key Performance Indicators (KPIs) will be developed as detailed design begins and construction activity is planned. The policy

addresses integrated change control as an essential management function to encourage sound decision making and alternative consideration. A specific change control process, using Passport or similar software, will be developed to control changes based on a project Work Breakdown Structure.

The basis for the development of Levy project-specific procedures is the existing NGG Project Management Program Manual (the Manual). This document provides an appropriate set of guidelines, processes and methods for project planning, execution and control to achieve effective project management for the Levy COLA development and planning phase. This Manual and the specific implementing procedures of the executing organizations also provide a reasonable set of underlying procedures to guide the project going forward.

The Levy project team expects these procedures will be evaluated and revised or supplemented as needed to ensure adequate guidance as the project proceeds through the more complex detailed engineering and construction phase. NPD specifically anticipates that more advanced and defined processes for cost engineering, schedule integration and quality for large scale nuclear construction will be developed during the construction process. The Manual includes direction for these project management tasks and for project management control of the execution of the work. The Manual also addresses project completion activities,

including functional testing, startup and integration, lessons learned development and paperwork closeout.

NPD has also created the "Levy EPC Implementing Procedure Development Plan," which identifies 33 specific new policies and procedures for development, specifies timelines for completion, and notes any triggering condition or need for specific listed policies or procedures.

For transmission activities, the G&TC guideline, Execution of Large Construction Projects and Programs (the Guideline), provides an appropriate set of directives for the baseload transmission program team assigned to the construction group. This procedure includes project management, engineering, environmental support, right-of-way acquisition, project controls and business management support. The Guideline describes the overall process flow, responsibilities, organization and interfaces for planning, executing, monitoring, controlling and closing G&TC projects, and specifically the Levy baseload transmission projects. The Guideline project management sections address project management action. The G&TC department plans future or revised policies, procedures and controls to address specific Levy Transmission Project areas.

Q. Are PEF's policies and procedures prudent?

A. In my opinion PEF has reasonable and prudent policies and procedures that are comprehensive, integrated, and enforced. The policies and

procedures are what I would expect to see for projects of this size and scope and are consistent with industry best practices.

VIII. PROJECT ASSESSMENT

Q. Does PEF have in place prudent project assessment mechanisms and processes?

A. Yes. PEF has in place a reasonable and prudent system of audits, independent reviews, benchmarking initiatives, and self assessments to ensure that procedures, standards, objectives, and contractual obligations are met. Several organizations provide assurance that PEF line organizations and contractors meet the standards required by regulatory agencies and good business practices. These organizations include: Internal Audit, Nuclear Quality Assurance (QA), Project Assurance, and Self Assessments. As part of the QA program, the NPD&LR was reviewed by a Performance Evaluation Support (PES) team. In addition, PEF sought input from industry organizations and vendors through benchmarking its performance in comparison to other projects. These LNP project assessment mechanisms and processes ensure that LNP performance is reviewed, LNP procedures are followed, quality is maintained and contractual obligations are met.

Q. Please describe the Internal Audit Project Assessment process.

A. The Internal Audit Services Department reports directly to the PGN BOD via the Audit and Corporate Performance Committee. The Audit Services Department develops an annual audit strategy for major construction projects like LNP by assessing the project's current and/or near-term lifecycle phase and then identifying the categories of high risk exposure confronting each project. These may include Business and Regulatory Environment, Schedule, Procurement and Contracts, and Cost Management. The high-risk categories are then emphasized in the annual Audit Plan, which is reviewed by the Audit and Corporate Performance Committee. The Audit Services Department also administers the Company's Ethics Program.

Guided by this audit planning process, the Audit Services Department has conducted the following internal audits on the LNP: (1) Levy Nuclear Financial and Regulatory Team Review; (2) Plant and Transmission Cost Models; (3) Compliance with the Florida Nuclear Plant Cost Recovery Rule; (4) COLA Licensing for New Nuclear Plants; and (5) Documentation supporting the EPC "Price Books." Audit reports were provided to the appropriate Vice Presidents and Directors of the audited departments, with an overall opinion and specific observations and recommendations. In consultation with the audited department's management team, each observation and recommendation issue was assigned an action plan. Each action plan identified an owner and a completion date. The audits performed on LNP were appropriately

responded to and recommendations were acted upon or are scheduled to be completed in 2009.

Q. Can you please explain the Nuclear Quality Assurance Assessment?

A. The NPD&LR assigned Quality Assurance (QA) analyst from the Nuclear QA organization ensures the nuclear project satisfies the requirements of the QA program. Audits were regularly performed of internal NPD&LR functions, such as following project plan commitments as well as evaluating the QA performance of contractors. For example, decisive action was taken by QA on two contractor firms with the issuance of "Stop Work" orders for deficiencies that did not meet QA requirements. Follow up audits were performed to verify that all deficiencies were corrected. These examples demonstrate that the Quality Assessment project assessment process works as intended.The NPD will also come under Nuclear QA oversight to ensure adherence to the PGN Nuclear QA Program.

The PES assessment concluded that the NPD&LR department was effectively meeting its performance objectives for each of the four elements of the NGG Self Evaluation Program: (1) self-assessment use, (2) corrective action effectiveness, (3) operating experience utilization, and (4) benchmarking activity. Specifically, NPD&LR's active participation in nuclear industry organizations such as NuStart, the AP1000 Builder's Group, the Design Centered Working Group, and the New Plants Working

Group ensures that the organization remains aware of new or critical industry issues. The PES assessment also commended the NPD&LR department for their efforts in utilizing lessons learned from other utilities in the industry. Specifics included COLA submittal, ESP submittal, Limited Work Authorization applications, and plans for further benchmarking of major equipment fabrication planning and other long lead time activities.

Q. Please explain the project assurance for the LNP.

A. In 2007, PGN created the Project Assurance organization to optimize institutional and project-specific understanding and awareness that decisions for which cost recovery will be sought be just, reasonable, and prudent based on the information reasonably available at the time the decision was made. The Project Assurance organization supports the LNP to ensure that documentation of key project decisions is adequate to explain the basis for, and reasonableness and prudence of, the decision. An electronic library has been established to collect significant documents, reports, and files that may have relevance to cost recovery for the LNP.

Q. What is the Self Assessment Project Assurance process?

A. The LNP management has performed self-assessments of its activities over the course of the COLA preparation effort. LNP staff performed self-assessments of (1) financial charging practices, (2) the COLA preparation

and review process, (3) the effectiveness of NPD contract administration and its interfaces with multiple vendors, and (4) the effectiveness of NPD&LR project implementation and quality controls. Planned 2009 LNP self assessments include (1) document control and records management to determine overall performance improvement from a 2008 QA focused assessment, (2) design and license basis control, (3) oversight of design finalization to ensure regulatory compliance, and (4) contractor security requirements.

Q. What benchmarking for the LNP has been performed?

A. PEF has worked closely within the industry to improve its effectiveness by participating in shared activities to support nuclear generation. This peer collaboration effort includes active membership in NuStart, which resulted in cost savings for engineering and licensing associated with COLA development and design finalization of the AP1000 design. Also, in August 2007, PEF entered into an operating agreement with other utilities planning to utilize the AP1000 reactor technology and established the AP1000 Owners Group (APOG). This peer effort is allows for collaborative sharing of common technical, engineering and support service costs associated with construction of an AP1000 reactor.

NPD&LR participated with INPO in a benchmarking visit to Japan to gain an understanding of the experience of Japanese utilities and reactor manufacturers in constructing nuclear power plants during the late 1990s

and early 2000s. NPD&LR also made a site visit to the Haiyang, China Nuclear Power Station where six AP1000 units are being constructed.

The Levy Transmission Baseload Project used benchmarking with several other utilities engaged in major transmission projects including American Electric Power, Allegheny Power, and Northeast Utilities. The project also engaged Power Advocate Inc. to perform an independent review of contract strategy and assess the transmission materials market.

IX. CONCLUSION: LNP PROJECT MANAGEMENT AND PROJECT CONTROLS ARE REASONABLE AND PRUDENT.

Q. Are the LNP project management and project controls reasonable and prudent?

A. Yes. In my opinion PEF has in place the requisite processes and organization to manage a project that has the magnitude and complexity of the LNP. PEF has undertaken the LNP using reasonable and effective management practices that demonstrate the LNP has been reasonably planned, organized, and controlled by PEF to meet LNP goals for scope, schedule, budget, regulatory, safety, and quality requirements.

Senior management oversight is extensive. Effective coordination of the supporting departments exists. The project governance policy further provides a comprehensive guide for the LNP with coordinated independent oversight and management. The LNP had a reasonable

project management organization and is appropriately transitioning to the new NPD organization with EPC execution. The EPC contract is a reasonable contract that balances risk and PEF control using a combination of fixed price, firm price, target price, and time and materials arrangements. Further, the LNP has a sophisticated risk management process consistent with industry best practices. There are reasonable project controls in place to develop estimates, monitor schedules and control contractors, there is reasonable reporting and performance monitoring, and the planned expansion of performance indicators will enhance performance monitoring further. There is an effective and comprehensive set of existing project management and execution policies and procedures that are being supplemented with specific LNP procedures. There is extensive use of project reviews, internal audits, benchmarking, self assessments, and QA. As a result, the LNP project management and project controls are reasonable and prudent.

Q. Does this complete your testimony?

A. Yes.

JANUS PERSONNEL

Janus team members have performed 14 prudence evaluations of the construction of new nuclear power plants, the costs associated with nuclear stations that underwent long outages, and the expenditures from trust funds for decommissioning shutdown units.

Janus personnel have submitted expert testimony regarding utility management prudence before the following public utilities commissions:

- Arkansas re: Arkansas Nuclear One Unit 2 Steam Generator Replacement
- California re: San Onofre 2 & 3 Steam Generator Replacement Project
- Connecticut re: Millstone 3 new construction 1986; Millstone 1 decommissioning 2000
- Florida re: Crystal River 3 1996-1997 outage
- Georgia re: Vogtle 1 & 2 new construction
- Indiana re: D. C. Cook 1 & 2 1997 – 1999 outage
- Louisiana re: Waterford 3 Steam Generator Replacement Project
- Maryland re: Calvert Cliffs 1 & 2 1989-1991 outage; 2002 – 2003 Steam Generator Replacement Projects
- Massachusetts: Pilgrim 1986 – 1990 outage
- Michigan: D. C. Cook 1 & 2 1997 – 1999 outage
- New Hampshire re: Seabrook 1 new construction
- Ohio: Perry new construction
- Texas: South Texas Project and Comanche Peak new construction

In addition, Janus has submitted expert reports for U.S. District Court cases (re: the Peach Bottom 2 & 3 NRC-ordered shutdown and the Cooper power contract dispute) and testified before the Miami, Florida arbitration board re: Turkey Point 3 & 4 1990 – 1991 Dual Unit Outage.

Gary R. Doughty, President, has 35 years of experience in the nuclear industry with specific focus on the prudence of nuclear power plant capital project management and technical safety issues management. Mr. Doughty has led assessment teams performing management prudence assessments, economic analyses, and litigation support. He has also been a member of independent review teams for utility boards of directors: Ameren (Callaway Nuclear Power Plant performance issues); and Northeast Utilities (NU) as a member of the

Fundamental Cause Assessment Team (Millstone 1, 2, and 3 performance issues and recovery).

Mr. Doughty has performed comprehensive management prudence assessments of new nuclear plant construction, nuclear plant recovery programs from long duration outages and Nuclear Regulatory Commission "watch list" situations.

- Project manager for NU of the Connecticut Department of Public Utility Control's prudence audit of the $4 billion Millstone 3 nuclear power plant
- Project manager of the independent prudence review team of the 32-month outage of Pilgrim to address NRC concerns, upgrade management, and make plant safety modifications
- Team director of an independent assessment team examining the costs and recovery schedule of Peach Bottom 2 & 3 from the NRC-ordered shutdown in 1987-1989 for the plant joint owners in U. S. District Court litigation.
- Project manager of independent management prudence review team of the Calvert Cliffs 1 & 2 outage to upgrade nuclear programs and repair the pressurizer in 1988-1990 while on the NRC "watch list."
- Project manager of the independent management prudence review team of the Crystal River 3 1996-1997 outage.

Mr. Doughty has also managed strategic economic studies of the continued operation of nuclear plants for MidAmerican Energy (Cooper Nuclear Plant), IES Utilities (Duane Arnold Energy Center), and Baltimore Gas & Electric Company (Calvert Cliffs 1 & 2). He directed assessments of the Steam Generator Replacement Projects for Entergy Operations, Inc. (ANO Unit 2) and for Florida Power & Light Company (St. Lucie 1). Mr. Doughty authored three strategic nuclear asset management reports for the Electric Power Research Institute on key economic issues facing nuclear utilities under competitive market conditions.

Mr. Doughty has provided testimony as an expert witness before the Arkansas, Connecticut, Florida, Indiana, Massachusetts, Maryland and Michigan state utility commissions and a Miami Arbitration Association panel concerning Arkansas Nuclear One Unit 2, Millstone 1, 2 & 3, Crystal River 3, D. C. Cook 1 & 2, Pilgrim, Calvert Cliffs 1 & 2, and Turkey Point 3 & 4 nuclear stations, respectively.

Stephen J. Marmaroff, Vice President, has thirty seven years experience in the electric utility industry with management expertise in the areas of nuclear plant construction management, nuclear regulatory issues, capital program planning, and project management. Mr. Marmaroff has performed prudence assessments of utility management decision-making and has analyzed the economics of

continued nuclear plant operation. He has testified as an expert witness on nuclear plant project management and outage management before the state regulatory commissions in Connecticut, Ohio, Massachusetts, Maryland, and Texas.

Mr. Marmaroff managed plant litigation support activities for Northeast Utilities concerning the Millstone 1, 2, and 3 recovery outages. He testified before the Massachusetts and Maryland public service commissions with regard to independent management prudence assessments of long nuclear plant outages for Boston Edison Company (Pilgrim Station) and Baltimore Gas & Electric Company (Calvert Cliffs 1 & 2). He has been involved in nuclear plant strategic asset management studies for MidAmerican Energy (Cooper Nuclear Plant) and IES Utilities (Duane Arnold Energy Center) and assisted Baltimore Gas & Electric Company (Calvert Cliffs 1& 2) and the Electric Power Research Institute develop strategic plans for license renewal.

Mr. Marmaroff was a senior consultant in prudence assessments of the construction of the Comanche Peak 1 & 2, Millstone 3, Perry, Seabrook, and Vogtle 1 & 2 nuclear plants. His utility experience includes nineteen years with American Electric Power, where he was Assistant Vice President and Projects Division head. In this position he was responsible for project management and control functions on the design and construction of fourteen generating units (including D. C. Cook Nuclear Plant) and various air pollution control retrofit projects and transmission system additions.

Bradford E. Butt, P.E., Vice President, Brad has over 30 years of broad-based construction industry experience. Mr. Butt served as assistant project manager for the Clinton and Beaver Valley construction projects where he managed the cost and schedule units and responded to utility commission prudence audits. Brad has extensive experience in performing major project risk evaluations. He also has assisted companies with construction contract claims analysis and litigation.

Mr. Butt played a key role in Janus' litigation support work for Northeast Utilities throughout the 1996-2000 Millstone Units' regulatory shutdowns as well as in Janus' litigation support for the Federal Energy Regulatory Commission (FERC) proceedings related to the reasonableness of management to decommission Connecticut Yankee early. He performs and supervises management and technical evaluations of complex engineering, construction and contract claims issues.

Mr. Butt's experience also includes overall project management for a wide variety of clients in both the public and private sectors. He has managed large

development projects where he had responsibility for all feasibility analysis, planning, project cost, schedule control, procurement, design and construction.

Brad's relevant experience includes:

- Northeast Utilities (NU) - Project Quality Assurance and Risk Management services for NU's $2 Billion Transmission System Infrastructure Upgrade Capital Program and NU's Yankee Gas Services Company $100 Million Liquefied Natural Gas Facility Construction Project.
- Baltimore Gas & Electric (BG&E) - analyzed technical and management issues and developed expert testimony in two Maryland Public Service Commission hearings regarding the Calvert Cliffs 1 & 2 outage to upgrade nuclear programs and repair the pressurizer in 1988-1990.
- PSE&G, Atlantic City Electric, and DELMARVA - provided analysis in the development of a Cost and Schedule Damages Expert Report regarding the recovery of Peach Bottom 2 & 3 from the NRC-ordered shutdown in 1987-1989.
- Central Artery Tunnel project (Big Dig), Boston - performed management reviews of negotiated settlements by the project with contractors on contract modifications to determine adherence to project policies and procedures, sufficiency of documentation and reasonableness of the settlement. Also represented the Massachusetts Bay Transportation Authority (MBTA) in mediation proceedings concerning construction of an underground subway station constructed in conjunction with the main underground highway tunnel.
- Lloyds of London insurance syndicates - performed risk assessments on large, complex projects to establish insurability. Analyzed the risks associated with completing construction of the state-of-the-art Land Level Transfer ship building facility at Bath Iron Works, in Bath, Maine as condition of providing professional liability coverage to the design and construction team. Analyzed the risks associated with construction program to expand Route 3, the major north-south traffic carrier connecting Boston and New Hampshire, as a condition of providing insurance as part of the program's contingency fund.
- New York City Law Department - managed several major cases providing issue analysis, litigation support, expert testimony, and settlement negotiations. Representative projects include defense of a $12 million claim by a contractor reconstructing water shafts in the Manhattan underground water system and affirmative litigation by the City against the lessee of the Bronx Terminal Market concerning repair, upkeep and financial viability of the facility.

Dennis Meilhede, P.E., Senior Associate, possesses a broad background in construction project cost and schedule management. He has extensive

experience in the analysis of nuclear plant technical issues and nuclear regulatory issues for management prudence evaluations of nuclear plant outages and new construction projects. Mr. Meilhede was a lead consultant in five nuclear plant prudence audits and evaluated management decisions with respect to project controls for new construction plants, outage scope control, schedule delays/extensions, and cost control. He has prepared testimony for rate cases before state regulatory commissions in Connecticut, Florida, Massachusetts, Maryland, and Illinois. Mr. Meilhede developed analyses for litigation before the federal courts and the Miami, Florida Arbitration Association.

Mr. Meilhede participated in the Cooper Power Contract Extension Study and prudence reviews of long outages at Calvert Cliffs 1 & 2, and Pilgrim; and new construction of Millstone 3, Vogtle 1 & 2, and Clinton. He was lead consultant for outage delay schedule reviews in the Turkey Point 3 & 4 Dual Unit Outage arbitration and the Peach Bottom 2 & 3 NRC-ordered shutdown litigation.

Mr. Meilhede has been involved in litigation support for technical issues on nuclear outages at Millstone 1, 2, & 3 and Connecticut Yankee. He performed detailed analysis of the Crystal River 3 shutdown and assisted in testimony development. Mr. Meilhede assisted Baltimore Gas & Electric Company and the Electric Power Research Institute develop the Calvert Cliffs Nuclear Power Plant asset management strategy.

Frank C. Rothen, Executive Construction Consultant, has more than 30 years of construction experience including managing construction of new power plants and major maintenance and modifications of operating plants. He recently served as an independent monitor to Yankee Gas Services Company supporting the construction of a $100 million liquefied natural gas facility. He has provided independent project monitoring services for PSEG Power of its Bethlehem Energy Center (793 MW), Lawrenceburg Generating Station (1096 MW) and Linden Generating Station (1220MW).

Mr. Rothen has also provided Dominion Power with independent consulting regarding project management, construction implementation and labor relations. He was a member of the Janus independent assessment team that performed an in-depth evaluation of the PSEG project management organization to evaluate its capability to manage an $800 million capital project program.

Mr. Rothen is retired Vice President Work Services of the Northeast Utilities System in charge of the construction support organization for five power plants. Mr. Rothen began his career in 1961 as a licensed electrician. He was a general foreman/field supervisor on major Connecticut projects including the Pfizer Research Laboratory, the Land Level Submarine Launch Facility (Trident

Program) and the renovation of Trumbull Airport. In 1975, Rothen became the general superintendent of the Baldwin Stewart Electric Company, a division of Fischbach and Moore. In 1980, Mr. Rothen became a project manager in the Fischbach Power Division, managing refuel outages at Maine Yankee, Pilgrim Station and Millstone Units 1 and 2.

Mr. Rothen was chairman of the Labor Relations Subcommittee of Edison Electric Institute (EEI) and an Executive Board member of EEI's Construction Committee.

Matthew D. Doughty, Associate, has 6 years experience in project scheduling, project risk management and consulting assignments. He is a certified Project Management Professional. He has performed research and analyses for independent evaluations and legal disputes of utility plant projects. He performed project risk evaluations and project scheduling for an $800 million Department of Defense project.

Mr. Doughty is currently working with Public Service of New Hampshire (PSNH) in a review of the schedule performance of the most complex outage ever undergone at PSNH's Merrimack Unit 2 coal-fired power plant. He has assisted in the preparation of testimony related to cost and schedule performance for hearings before the California, Connecticut, and Louisiana public utility commissions. He also assisted in preparing the expert report for a case before the U.S. District Court in Nebraska involving a power plant joint-owner lawsuit concerning the costs associated with capital projects.

As a senior consultant for Booz Allen Hamilton, Mr. Doughty implemented and managed the risk management process for the U.S. Army's implementation of the Defense Integrated Military Human Resource System (DIMHRS) in the Program Operations Branch of the Army DIMHRS Program Office. Mr. Doughty supported the Program Operations efforts on the Army Integrated Master Schedule, including coordinating updates and analyzing the information captured within the schedule.

Robert V. Fairbank, Jr., Executive Engineering Consultant, has more than 35 years of electric power industry experience, including 16 years as a senior manager in design and engineering. Mr. Fairbank's areas of expertise include engineering, regulatory strategy and compliance, quality assurance, project management, and business management. He has served as a senior consultant for seven years; providing technical support, event investigation, performance assessment and improvement, independent reviews for executive management and governance boards.

Mr. Fairbank served as Engineering Manager at Boston Edison Company responsible for over 100 engineers of all disciplines. He provided home office engineering and field technical support to power stations and for many major plant modifications, overseeing design, procurement, construction, testing and turnover. Mr. Fairbank has managed numerous engineering programs to enhance reliability and safety of production facility operation.

As a project manager, Mr. Fairbank reduced operating costs and improved plant production by completing complex capital and regulatory improvement projects on time and on budget. He applied strong project management fundamentals in managing projects through all phases of the life cycle.

Mr. Fairbank was part of the Janus independent review team for PSEG that conducted a review of the project management organization and processes to perform $800 million of capital improvements. The team reviewed technical issues, the quality of engineering documents to meet design basis and configuration management requirements, the performance by field construction forces and their work practices.

Mr. Fairbank also served as a member of an independent review team of senior utility managers for the construction of the U.S. Department of Energy's $4.8 billion Mixed Oxide Fuel Fabrication Facility at Savannah River. He has provided independent assessments of plant performance for Commonwealth Edison and Boston Edison, where he assessed key functional areas as part of a team of senior-level industry experts. The team used a standardized methodology to achieve consistent levels of excellence.

RESUME OF GARY R. DOUGHTY

KNOWLEDGE, BACKGROUND AND EXPERIENCE IN NUCLEAR POWER FACILITIES

I. POSITIONS AND EMPLOYMENT HELD IN THE FIELD OF NUCLEAR POWER FACILITIES

1992 – Current President of Janus Management Associates, Inc.
Janus Management Associates, Inc. is a nuclear power plant consulting firm that provides evaluation of safety, management and technical issues associated with nuclear power plants. As president, Gary Doughty has performed individually or with teams several independent management and operational assessments of operating and decommissioned nuclear power plants. Key areas of experience include:

Independent Reviews of Nuclear Safety, Management and Technical Issues

- Process, Organization, and Management Prudence Reviews
- Nuclear Engineering, Licensing and Project Management Evaluations
- Analysis of Technical Issues and Resolution of Employee Safety Concerns

Nuclear Power Plant Strategic Decision Analysis

- Nuclear Plant Strategic Asset Management and Capital Reinvestment Analyses (e.g., Steam Generator Replacements, Power Uprates)
- Nuclear Plant Asset Valuations, Economic Assessments, and Due Diligence Reviews to Provide Basis for Continued Operation, License Renewal, or Acquisition

1987 – 1992 Senior Vice President of the Nielsen-Wurster Group, Inc
The Nielsen-Wurster Group, Inc. was a construction management and project management consulting firm that provides services associated with nuclear power plants to public service commissions, utilities, and engineering / construction firms. As Senior Vice President at the Nielsen-Wurster Group, Inc., Gary Doughty performed independent management reviews of many nuclear power plants including a newly constructed plant and several operating plants that had experienced long duration outages.

1986 – 1987 Manager of Industry Relations for the Institute of Nuclear Power Operations
The Institute of Nuclear Power Operations is the nuclear power industry's safety organization. This position was responsible for publishing and distributing safety event analyses and industry good practices to industry members.

1975 – 1986 Nuclear Management and Plant Staff Positions with Northeast Utilities Service Company and Northeast Nuclear Energy Company

- Manager of Millstone 2 Capital and Large Expense Projects - responsible to evaluate, plan, estimate, schedule and install capital and maintenance projects.
- Member of the Millstone 2 Nuclear Safety Review Board
- Project Manager of the Millstone 3 Nuclear Plant Construction Prudence Audit by the Connecticut Department of Public Utility Control
- Manager of Nuclear Information and liaison to the Governor of Connecticut for Nuclear Issues
- Start-up Engineer for Millstone 2 nuclear safety systems and Shift Test Engineer for Initial Start-up and Power Ascension Testing

1970 – 1975 Officer, United States Navy Nuclear Submarine Program

- Served in U.S.S. Sturgeon (SSN637), a nuclear fast attack submarine, as division officer for the Auxiliary Division and Sonar Division. Also served as Damage Control assistant, Ship Diving Officer, Nuclear Weapons Security Officer, and Communications Security Officer. Qualified for ship watch positions as Engineering Officer of the Watch, Officer of the Deck, Diving Officer and In-port Duty Officer.

II. TECHNICAL EXPERIENCE IN THE FIELD OF NUCLEAR POWER FACILITIES

NUCLEAR POWER ASSIGNMENTS PERFORMED AS PRESIDENT OF JANUS MANAGEMENT ASSOCIATES, INC.

- 2007 – 2008 - Member of the Independent Review Team (IRT) for the U.S. Department of Energy Mixed Oxide Fuel Fabrication Facility for the MOX Facility Board of Governors. The IRT was selected to review project methods and activities for key actions in the design and construction of the $4.8 billion facility at the DOE's Savannah River Site in South Carolina.

- 2005 – 2009 – Janus is currently providing assistance to Northeast Utilities management and its legal department to implement more than $3 billion worth of capital projects including major underground 345,000 Volt transmission lines, replacement of underwater cables across Long Island Sound, construction of a 1.2 billion cubic foot liquefied natural gas storage tank, and the conversion of a coal-fired plant to wood-fired. The assistance includes documentation of major project decisions; preparation of project history workbooks; and training in prudent management principles.

- 2004 - 2006 – Member of the Callaway Nuclear Plant Independent Review Team established by the Ameren Board of Directors. The team performed an independent review of the causes of Callaway's performance decline and developed recommendations for improvement regarding management organization, leadership, planning, training, standards, engineering effectiveness, and safety culture.

- 2004 – 2005 - Provided expert testimony to support Southern California Edison Company (SCE) before the California Public Utility Commission (CPUC) rebutting assertions made by The Utility Reform Network that the Pacific Gas & Electric Company should pursue legal remedies against the steam generator manufacturer, Westinghouse Electric Corporation, to pay for replacement steam generators. The CPUC ruled in favor of SCE.

- 2004 – Performed an independent review of several million dollars worth of contractor claims for Xcel Energy / Northern States Power Company associated with the steam generator replacement project installation contract for the Prairie Island Nuclear Station in Minnesota.

- 2004 – For PSEG Nuclear performed an independent review of the Salem 1 and 2 / Hope Creek Nuclear Station of the work management system for the plant maintenance program. Also performed independent reviews of employee concerns reported to the U.S. Nuclear Regulatory Commission related to mechanical maintenance, the safety tagging program, spare parts, and problem identification process.

- 2003 - 2004 – Connecticut Yankee Decommissioning Project review of major management decisions, planning, scheduling, cost, and decommissioning activities for the safe decontamination and dismantlement of the plant.

- 2003 - Salem 1 and 2 and Hope Creek review of project management organization and processes to perform $800 million of capital improvements to replace Salem 1 steam generators, increase rated power of Hope Creek, build an ISFSI, and replace Salem 1 and 2 main turbines. Member of a team that reviewed licensing and technical issues, quality of engineering documents to meet design basis and configuration management requirements, the performance by field construction forces and work practices with safety-related equipment.

- 2003 – Yankee Rowe Decommissioning Project review of major management decisions for the safe handling and transfer of spent fuel from the spent fuel pool to the independent spent fuel storage installation.

- 2002 – 2003 - Cooper Nuclear Power Plant analysis of major capital and maintenance projects to assess their justification for continued plant

operation, contribution to nuclear safety and requirement to meet nuclear regulatory regulations.

- 2001 – Independent cost management review of the decommissioning activities of Unit 1 at the San Onofre Nuclear Generating Station for Southern California Edison Company.

- 2000 - Independent steam generator operating experience review of the Calvert Cliffs 1 & 2 steam generators, plant operating and maintenance practices for steam generators and water chemistry control improvements to enhance the integrity of the steam generators for Baltimore Gas and Electric Company. Submitted testimony to the Maryland Public Service Commission regarding the industry's experience with steam generator tube corrosion, the various industry actions taken to arrest or limit corrosion and the justification and reasonableness of replacing the Calvert Cliffs 1 & 2 steam generators.

- 1996 – 2002 – Member of the Millstone Fundamental Cause Assessment Team to investigate the causes of the decline in performance of the Northeast Utilities nuclear program. Monitored the Millstone Recovery including the design basis reverification effort, the improvements made to the safety analysis and 10CFR50.59 processes, the response to Nuclear Regulatory Commission violations and restart commitments, and the efforts to establish a Safety Conscious Work Environment.

- 1997 – 2002 - Millstone 1 Decommissioning review of major management decisions for the safe shutdown activities and initial decommissioning projects to establish a spent fuel island and to separate the plant from the operating units, Millstone 2 and 3. The electrical separation project involved complex electrical issues and unreviewed safety questions concerning safe shutdown requirements per Appendix R and installation of electrical cables near safety-related equipment while plant was at full power.

- 1996 - 1999 – Analysis of several operational safety issues at Connecticut Yankee that occurred during 1996. Performed an independent review of the management decision to prematurely shut down Connecticut Yankee, participated in a review to validate the decommissioning cost estimate, and performed an analysis of nuclear fuel failure events in the plant's operating history.

- 1998 – 1999 - Led a team to conduct an independent analysis of the technical and safety issues associated with the 1997 – 1999 D. C. Cook 1 & 2 outages. The outages were related to design basis information and nuclear accident performance of the safety-related ice condensers and containment sump design.

- 1998 – 1999 – Independent steam generator operating experience review of the Arkansas Nuclear One – Unit 2 (ANO-2) steam generators, plant operating and maintenance practices for steam generators and water chemistry control improvements to enhance the integrity of the steam generators for Entergy Nuclear – Operations. Submitted testimony to the Arkansas Public Service Commission regarding the industry's experience with steam generator tube corrosion, the various industry actions taken to arrest or limit corrosion, and the justification and reasonableness of replacing the ANO-2 steam generators.

- 1996 – 1997 - Led a team to conduct an independent analysis of the technical and safety issues associated with the 1996 – 1997 Crystal River 3 outage. Several "unreviewed safety questions" were investigated associated with Technical Specification limits for safety equipment electrical loading of the Emergency Diesel Generators and potential net positive suction head problems of the Emergency Feedwater Pumps during postulated nuclear accident conditions.

- 1995 – Independent review of the performance of the Millstone 2 engineering staff with respect to a modification of the Engineered Safeguards Actuation System (ESAS). The ESAS review included examination of project planning, equipment procurement, system installation and testing, regulatory and design requirements, and configuration management.

- 1994 – 1996 – Assisted the Calvert Cliffs 1 & 2 Nuclear Power Plant License Renewal and Steam Generator Replacement Decision Analysis efforts. Participated in Baltimore Gas and Electric Company's evaluation of the risks and benefits, and the requirements necessary to become the first plant approved by the Nuclear Regulatory Commission for license renewal. Assisted the Calvert Cliffs Steam Generator Integrity Team analyze repair and replacement options and requirements of the steam generators. Prepared two reports documenting these efforts for the Electric Power Research Institute.

- 1993 - 1994 – Assisted the owner utility, IES Utilities, prepare the Duane Arnold Life Expectancy Study which analyzed the economics of continued operation of the plant and estimated the future regulatory requirements and safety enhancements necessary to achieve full license life and license renewal.

- 1992, 1995 and 1997 – Performed periodic independent assessments of the St. Lucie 1 Steam Generator Replacement Project over the life of the project. The assessments included a review of the engineering – construction contract bid submittals; a comprehensive review of the planning, licensing, and engineering for the project; and a readiness assessment just prior to the steam generator replacement outage.

- 1992 – 1994 – Led a team to perform an independent review of the 1989-1991 Calvert Cliffs 1 & 2 outage. The review focused on the prudence of management decisions and the plant activities required to repair a breach of the nuclear steam supply pressure boundary from leakage discovered in the pressurizer heater inserts.

III. NUCLEAR POWER ASSIGNMENTS PERFORMED BY GARY R. DOUGHTY AT THE NIELSEN-WURSTER GROUP, INC.

- 1992 – Independent assessment of several refueling outages for the Turkey Point Power Plant Units 3 & 4 regarding the technical issues and nuclear safety-related equipment modifications to meet regulatory requirements and to upgrade plant systems. Provided expert testimony before a Miami, Florida Arbitration Panel on behalf of Florida Power & Light Company (FPL) regarding the Dual Unit Outage and FPL's engineering, construction, testing, and outage management performance.

- 1991 – Led a team to perform an independent assessment of the 1990 – 1991 Turkey Point 3 & 4 Dual Unit Outage. Both units underwent a year-long outage to install major nuclear safety-related electrical system upgrades and make security system modifications. The assessment evaluated the plant's safety culture; the plant organization's efforts to preplan the safety modifications, and the engineering organization's design activities, regulatory communications, and equipment testing program.

- 1991 – 1992 – Led an independent team to evaluate the Peach Bottom 2 & 3 recovery from the Nuclear Regulatory Commission's (NRC's) Shutdown Order. The team performed a detailed investigation of the NRC's evaluations, reviews and inspections, the Peach Bottom "Commitment to Excellence Program," the plant Restart Plan and the Restart Testing Programs. The evaluation was conducted on behalf of the plant's joint owners.

- 1990 – 1991 – Led a team of three consulting firms to evaluate the risks and benefits of extending the Cooper Nuclear Station power contract from 2004 to 2014. The Cooper Contract Extension Study team prepared projections of future cooper O&M costs, capital additions, and fuel costs; assessments of the plant's material condition; evaluations of the regulatory compliance record and standing; and the implications of decommissioning expenses and nuclear waste disposal issues and costs. Other study areas addressed alternative generation supply options, the anticipated impact of the Clean Air Act Amendments of 1990 and financial issues.

- 1989 – 1992 - Led a team to perform an independent review of the 1989-1991 Calvert Cliffs 1 & 2 outage. The review focused on the prudence of

management decisions and the plant activities required to repair a breach of the nuclear steam supply pressure boundary from leakage discovered in the pressurizer heater inserts. The review also included detailed analyses of engineering and design controls and maintenance of several safety-related components and systems (motor-operated valves, service water, instrument air, and emergency diesel generators).

- 1987 – 1992 – Participated in multidiscipline teams that examined the construction completion costs and utility management prudence associated with nuclear power plants under construction for public utility commissions, joint owners and engineer / constructors. These facilities included Comanche Peak, South Texas Project 1 & 2, and Nine Mile 2.

- 1987 – 1991 – Led an independent team to perform several evaluations related to the 1986 – 1990 Pilgrim outage. The team evaluated company decisions and actions to recover from the outage. The team also performed a detailed analysis of the processes, procedures, and management control systems in place to engineer and implement major maintenance and capital projects. Specific projects reviewed included the Hydrogen-Water Chemistry system, the Plant Simulator, replacement of Safety Injection System motor-operated valves and installation the Station "blackout" diesel generator.

IV. NUCLEAR POWER ASSIGNMENTS PERFORMED AT THE INSTITUTE OF NUCLEAR POWER OPERATIONS (INPO)

- 1986 - 1987 – Participated in plant evaluations of Oconee 1, 2, & 3 and D. C. Cook 1 and 2. Responsible as Manager of Industry Relations to communicate INPO information and positions to industry members and governmental and technical organizations. Responsible for the publication and distribution of industry "good practices" and nuclear plant significant operating events, and safety performance indicators.

V. NUCLEAR POWER ASSIGNMENTS PERFORMED AT THE NORTHEAST UTILITIES SERVICE COMPANY AND NORTHEAST NUCLEAR ENERGY COMPANY

- 1982 –1986 – Manager of Generation Projects for Millstone 2 Nuclear Generating Unit. Responsible for the overall project evaluation, planning, estimating, scheduling and installing capital and maintenance projects with an overall budget of more than $100 million. Plant projects included responding to NRC regulatory requirements such as Appendix "R" Fire Protection, Generic Letters associated with the Three Mile Island Accident, and upgrades to safety-related systems. Major projects included removal of the reactor thermal shield and a steam generator

integrity program that comprised several tube sleeving campaigns, channel head chemical decontamination and corrosion product removal efforts.

- 1984 – 1985 – Temporary assignment as manager of schedule integration for Millstone 3 construction completion and plant start-up activities and as Northeast Utilities' Project Manager of the Millstone 3 Nuclear Plant Construction Prudence Audit by the Connecticut Department of Public Utility Control.

- 1977 – 1982 - Manager of Nuclear Information - responsible for informing the Governor of Connecticut's office, the media and the public about nuclear plant operations for Millstone 1, 2, and 3 and Connecticut Yankee Atomic Power Plant. Developed the emergency and nuclear incident communications program in response to the Three Mile Island Accident in 1979.

- 1975 – 1976 - Start-up Engineer for Millstone 2 nuclear safety systems and Shift Test Engineer for Initial Start-up and Power Ascension Testing. Wrote, conducted and certified the acceptability of plant systems from the engineering-construction firm.

VI. NUCLEAR POWER ASSIGNMENTS PERFORMED IN THE UNITED STATES NAVY

- Training in Navy Nuclear Power School located in California, and Nuclear Prototype in Idaho. Division Officer (Ensign to Lieutenant) aboard nuclear attack submarine, U. S. S. Sturgeon (SSN 637). Also served as SUBSAFE Officer and Nuclear Weapons Security Officer aboard Sturgeon. Qualified to operate and maintain navy nuclear reactors as Engineering Officer of the Watch for the S1W Prototype and the S5W U. S. S. Sturgeon nuclear reactors.

VII. EDUCATION

- Bachelor of Engineering in Electrical Engineering, Vanderbilt University
- Master of Business Administration, University of New Haven
- Senior Professional Certificate – Finance, University of New Haven

State Commission	Management Prudence Subject
Arkansas	Reasonableness of replacing Arkansas Nuclear One Unit 2 steam generators
California	San Onofre 2 & 3 Steam Generator Replacement Project reasonableness of pursuing legal remedies against the steam generator manufacturer
Connecticut	Millstone 2 and 3 reasonableness of capital expenditures prior to the sale to Dominion Power and Millstone 1 decommissioning work
Florida	Crystal River 3 1996-1997 outage cause and duration reasonableness
Indiana and Michigan	D. C. Cook 1 & 2 1997 – 1999 reasonableness of outage cause and management of maintenance activities
Louisiana	Reasonableness of project management and controls for the replacement of Waterford 3 steam generators, reactor vessel closure head and control element drive mechanisms
Maryland	1.) Calvert Cliffs 1 & 2 1989-1991 outage prudence review 2.) Replacement of Calvert Cliffs 1 & 2 Steam Generators
Massachusetts	Pilgrim 1986 – 1990 reasonableness of outage management and project management

Nuclear Power Plant	Assignment
Connecticut Yankee - Connecticut	Evaluate reasonableness of management of decommissioning activities and costs
Cooper – Nebraska	Evaluate reasonableness of outage management, capital projects and costs
Millstone 1, 2, & 3 - Connecticut	Evaluate reasonableness of management decisions related to shutdown of all units due to steam leak.
Millstone 2 - Connecticut	Evaluate reasonableness of outage management of 1995 outage extension to deal with emergency safeguards actuation system and service water piping replacement.
Peachbottom 2 & 3 – Pennsylvania	Evaluate reasonableness of outage management, capital projects and costs
St. Lucie 1 – Florida	Periodic independent assessments of the steam generator replacement project. 1.) 1992 - independent review of the selection process for the engineering – construction contractor. 2.) 1995 - comprehensive review of the planning, licensing, engineering, and construction planning. 3.) 1997 – project readiness assessment of the engineer-constructor installation team and the St. Lucie 1 outage management team.
Salem 1 & 2 and Hope Creek – New Jersey	Evaluate Salem and Hope Creek project management organization and processes to perform $800 million of capital improvements to replace Salem 2 steam generators, increase rated power of Hope Creek, build an independent spent fuel storage installation, and replace Salem 1 & 2 main turbines.
San Onofre Unit 1 - California	Independent cost management and documentation review of the decommissioning activities
Rowe - Massachusetts	Evaluate reasonableness of management of decommissioning activities and costs
Turkey Point 3 & 4 - Florida	Independent assessment of the 1990 – 1991 Turkey Point 3 & 4 Dual Unit Outage to install major nuclear safety-related electrical system upgrades and make security system modifications.

Key LNP Management Documents Reviewed and Approved by the SMC.

(1) New Nuclear Plant Business Analysis Package (BAP) Rev. 0, March 2006, for the study phase for two new nuclear plants, including development of the Combined Operating License Application (COLA), a meteorological tower and land acquisition

(2) BAP Rev. 1, August 2007, for continued COLA development, increased land acquisition costs, FEMA fees and Site Certification Application (SCA) development for two nuclear plants

(3) Levy Baseload Transmission BAP, January 2007, and the "Bridge" IPP, June 2008

(4) BAP Rev. 2, April 2008, for added COLA scope, detailed design of permanent structures on site, and the Letter of Intent with WEC / SSW and associated payments for long lead purchases

(5) Levy Nuclear Project Integrated Project Plan, September 2008, for both the Plant and Baseload Transmission

External Contractor Oversight Reports for Management.

(1) COLA work by the Sargent & Lundy-CH2M Hill-WorleyParsons joint venture documented progress, costs and schedule on the 15 tasks approved for work. The COLA Phase II work included responses to NRC Requests for Additional Information, monitoring ACRS meetings, resolving DSER and DEIS open items, and support for hearings.

(2) SSW work in support of the SCA and Limited Work Authorization submittals. The monthly report documented progress, costs and schedules on all approved work activities.

(3) The Owner's Engineer report from S&L – WorleyParsons covering progress on the SCA, approval of the "Little ERP" by FDEP in support of February 2009 construction start for the barge slip, heavy haul road and the Roller Compacted Concrete test pad.

(4) The WEC report on placement of vendor purchase orders for Reactor Vessel, Steam Generator, Reactor Coolant Pumps, Pressurizer, Passive RHR Heat Exchanger, Accumulator Tanks piping, Reactor Internals, and Containment Vessel. This report also included both schedule and cost information.

(5) Progress by NuStart Energy Development, LLC on standard design COLAs and NRC issues for both AP1000 and ESBWR nuclear plant designs at active and planned locations. The NuStart AP1000 design standardization technical areas are each "owned" for review by an engineer from a member utility, e.g., the digital instrumentation and control, control room, and human factors areas are currently

"owned" by PEF engineering. PEF engineers were also leads on primary and secondary side systems, on civil, structural and seismic issues, on the review of WEC design products, and on the interface with the licensing team.

(6) In November 2008, Patrick Engineers was engaged to provide Owner's Engineer services for the Levy County Baseload Transmission Program. Their contract requires periodic reports as requested by PEF. Present plans include a task-ordered summary of progress and an executive summary with each monthly report.