BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 140009-EI
FLORIDA POWER & LIGHT COMPANY

MARCH 3, 2014

IN RE: NUCLEAR POWER PLANT COST RECOVERY FOR THE YEAR ENDING DECEMBER 2013

TESTIMONY & EXHIBITS OF:

TERRY O. JONES

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

FLORIDA POWER & LIGHT COMPANY

DIRECT TESTIMONY OF TERRY O. JONES

DOCKET NO. 140009-EI

March 3, 2014

Q. Please state your name.

A. My name is Terry O. Jones.

Q. By whom are you employed and what is your position?

A. In 2013, I was employed by Florida Power & Light Company (FPL) as Vice President, Nuclear Power Uprate. I am now retired from FPL.

Q. Please describe your duties and responsibilities in that position.

A. I was appointed Vice President, Nuclear Power Uprate on August 1, 2009. I was responsible for the management and execution of the Extended Power Uprate ("EPU" or "Uprate") Project through its completion in 2013. I provided executive leadership, governance, and oversight to ensure the safe and reliable implementation of the EPU Project for the four FPL nuclear units. In that role, I reported directly to the Chief Nuclear Officer.

Q. Please describe your educational background and professional experience.

A. I joined FPL in 1987 in the Nuclear Operations Department at Turkey Point. Since then, my positions at FPL have included Vice President, Operations, Midwest Region; Vice President, Nuclear Plant Support; Vice President, Special Projects; Vice President, Turkey Point Nuclear Power Plant; Plant General Manager; Maintenance Manager; Operations Manager and Operations Supervisor. Prior to my employment at FPL, I worked for the Tennessee Valley Authority at the

Browns Ferry Nuclear Plant and served in the US Nuclear Navy. I hold a Bachelors of Science degree and an MBA from the University of Miami.

Q. What is the purpose of your testimony?

A. My testimony presents and explains the EPU Project and key management decisions, project activities, and costs incurred in 2013. I also describe the procedures, processes, and controls that ensured FPL's EPU Project expenditures were reasonable and the result of prudent decision making, and the careful engineering based processes employed by FPL to ensure that it included in its Nuclear Cost Recovery (NCR) request only nuclear Uprate Project costs that were "separate and apart" from other costs, such as those for base rate nuclear operations and maintenance or capital projects that are unrelated to the nuclear Uprate Project.

Q. What is the current status of the EPU Project?

A. The EPU Project is complete. The project met its goal of providing about 400 megawatts (MWe) of fuel diverse generation for FPL's customers by 2012, and exceeded that goal by providing a total of 522 MWe in 2013. Exhibit TOJ-2 shows a high-level EPU Project timeline.

Q. Has the EPU Project been evaluated by others in the energy industry?

A. Yes. The EPU Project has been recognized by the Nuclear Energy Institute (NEI), Power Engineering magazine, and Platts Global Energy.

On March 21, 2013, the NEI notified NextEra Energy, Inc. that the Nuclear Fleet EPU Project Team received a 2013 Top Industry Practice (TIP) Award. This is a considerable honor for the thousands of people who have worked hard on the project here in Florida, because the TIP Awards Program recognizes the very best

and most innovative work in the nuclear industry. Project aspects evaluated for the TIP award include nuclear safety, cost saving impact, innovation, productivity, and transferability of these various processes to other projects.

Additionally, the FPL EPU Project received the 2013 Project of the Year - Best Nuclear Project award from Power Engineering magazine. In determining which project should receive this award, Power Engineering magazine considers how the project was technologically groundbreaking or innovative, how the project impacted the community in which it resides, and what the logistical hurdles were that project developers had to overcome when constructing the project. According to the award announcement, "FPL has demonstrated that these massive plant upgrades are not only major feats of engineering and construction but also economically practical."

Finally, the FPL EPU Project was named a finalist in the Platts Global Energy Award in the construction category, Premier Project Award for Construction. The judging criteria considered project challenges, financial results, innovation, operational excellence, safety, and project scope.

Exhibit TOJ-3 summarizes the NEI, Power Engineering magazine, and Platts awards.

Q. Please summarize your testimony.

A. FPL successfully completed the EPU Project that was approved in 2008 to meet customer needs for additional generation in the 2012-2013 timeframe. FPL was commissioned to deliver 399 MWe (net of co-owners' shares) by the end of the

project, and I can report that it has exceeded that goal. In fact, with the completion of the Turkey Point Unit 4 EPU outage in April of 2013, the project has added a total of 522 MWe for the benefit of FPL's customers, which is nearly 31% more than what was anticipated during the 2007 need filing. The uprate work completed at Turkey Point Unit 4 during 2013 is producing 21% more power than FPL initially projected the unit would deliver. This additional nuclear generation from the EPU Project is providing significant and quantifiable benefits for customers without expanding the footprint of FPL's existing nuclear power plant sites and without burning natural gas or foreign oil or emitting greenhouse gasses.

The EPU Project was an enormous effort requiring the employment of thousands of workers. During the final EPU outage in 2013 – the last of nine – there was an average of over 1,600 workers daily assigned to the EPU outage activities for the 108 outage days. The EPU workforce over the life of the project is shown on Exhibit TOJ-4. Because FPL was able to incorporate lessons learned from prior outages, the Turkey Point Unit 4 EPU outage was completed 15% faster and at a 19% lower cost than the Unit 3 outage. In addition to the successful completion of implementation work at Turkey Point, FPL completed thousands of project closeout activities at St. Lucie and Turkey Point, including completion of final adjustments to components and systems, finalization of engineering documents, and site restoration, to name a few. In total, the EPU Project required about 2.5 million man hours of work during 2013. FPL prudently incurred approximately $250 million of EPU construction costs during 2013, which is about $10 million less than the estimate of $260 million presented in my May 2013 testimony.

Q. How are customers benefiting from the EPU Project?

A. When the project was completed in 2013, the total increase of electrical output as a result of the EPU Project was 522 MWe for FPL's customers. Among other benefits, this increase in nuclear power output: (i) enhances system reliability and integrity by diversifying FPL's fuel mix; (ii) provides energy and baseload capacity to FPL's customers without greenhouse gas emissions; (iii) provides significant fuel cost and environmental compliance cost savings; and (iv) provides increased capacity to help maintain balance between generation and load in Southeastern Florida. Specifically, the EPU Project:

- Provides estimated fossil fuel cost savings for FPL's customers of more than $100 million in the first full year of operation;
- Provides estimated fossil fuel cost savings for FPL's customers of about $3.2 billion over the life of the plants;
- Increases FPL's nuclear generating capacity by about 18%;
- Reduces FPL's reliance on natural gas by about 3% beginning in the first full year of operation, providing an important hedge against volatile natural gas prices;
- Adds to Florida's energy security because the uprated units do not depend on fuel delivery through Florida's only two natural gas transmission pipelines;
- Provides a total amount of energy that is equivalent to the usage of approximately 332,000 residential customer households each year;
- Reduces annual fossil fuel usage by the equivalent of almost 7 million barrels of oil or 44 million mmBTU of natural gas annually;
- Reduces CO2 emissions generated in making electricity to serve FPL's customers by 34 million tons over the life of the plants; and

- Enhances grid stability and electric service reliability by producing more electricity closer to where more electricity is used – in Southeast Florida.

These benefits are also presented in Exhibit TOJ-5.

Q. Now that the EPU Project is complete, has FPL quantified the customer benefits resulting from the NCR process?

A. Yes. FPL's EPU investment in Florida's energy infrastructure and economy has been made possible by the legislature's policy to support investment in nuclear projects, set forth in the NCR statute, and the Commission's careful implementation of that policy through the NCR rule. The project would not have been performed without that clear Florida policy direction and support. Florida's NCR process permits recovery of carrying costs, not construction costs, through the clause. Exhibit TOJ-6 (page 1) shows FPL's recovery amount compared to its investment.

Now that the EPU Project is complete, and final costs are known, FPL has calculated the cost savings for customers due to the NCR process. Because carrying charges have been collected during project construction, FPL's customers will save more than $300 million dollars (nominal) compared to rates under the Allowance for Funds Used During Construction approach that otherwise would apply. These customer savings are presented in Exhibit TOJ-6 (page 2).

Q. Please describe how the remainder of yonr testimony is organized.

A. My testimony includes the following sections:

1. Project Summary
2. 2013 Project Activities
3. Project Management Internal Controls

4. Procurement Processes and Controls
5. Internal/External Audits and Reviews
6. "Separate and Apart" Considerations
7. 2013 Construction Costs

PROJECT SUMMARY

Q. Please describe the EPU Project.

A. The EPU Project increased FPL's nuclear generating capacity from its four existing nuclear units by fitting the units with higher capacity and more efficient turbines, generators, heat exchangers, transformers, and other necessary equipment to accommodate increased steam flow that results from increased reactor power. This involved the modification or outright replacement of a large number of components and support structures within FPL's operating nuclear power plants. Photographs of examples of the EPU work at Turkey Point Unit 4 in 2013 are attached as Exhibit TOJ-7, which also includes pictures of completed EPU systems operating in the uprated conditions. Each replacement/modification was considered a project in and of itself which was integrated into the EPU implementation work scope. For some major modifications, permanent plant equipment had to be removed in order to have the necessary access to perform modifications and was then reinstalled as part of the construction process.

Because the project modified FPL's operating nuclear plants, it was a much different and more challenging construction project than constructing a new combined cycle generating unit at a greenfield site or a modernization project in

which the existing generating unit is removed from the site before the new generating unit is installed. All of the work was successfully completed on existing nuclear plants while at all times maintaining strict nuclear operations safety. FPL performed almost all of the modifications during the units' planned refueling outages. Performing the uprate work during the planned refueling outages minimized the amount of time that these low fuel-cost generators were off line.

Q. Please expand on the final benefit you listed, the enhancement of grid stability and electric service reliability.

A. The EPU Project contributes to grid stability by producing power where it is consumed. Growth in electrical load in the Southeast area within FPL's service territory means that FPL must either add new generation to that area or rely on transmission lines to import the needed energy. Adding locally-sited generation contributes to grid stability and is more reliable than transmission lines that cover long distances and are susceptible to interferences from storms or other issues beyond FPL's control that could result in outages. When generation is sited closer to where it is consumed, fewer people will be affected if storms take out transmission lines. Additionally, the increased generation close to the load reduces system transmission line losses, meaning, more power is available for customers to use. The EPU Project's impact on the Southeast area is presented in Exhibit TOJ-8.

Q. When did customers begin receiving the additional output from FPL's nuclear units?

A. FPL customers began benefitting from an additional 31 MWe from St. Lucie Unit 2 in 2011, by virtue of the installation of a more efficient low pressure turbine

generator rotor. About 365 MWe additional output from the EPU Project was realized as each of three units returned to service in 2012, resulting in approximately 400 MWe being provided by the end of 2012. At the completion of the final EPU outage, the total EPU electrical output for FPL's customers was 522 MWe. (The total output for all Florida residents was 545 MWe.) Exhibit TOJ-9, EPU Project Electrical Output Status, demonstrates the timing of the additional output that has been realized.

Q. Did FPL include industry best practices into the work that was performed for the EPU Project?

A. Yes. For example, the FPL project team members participated in nuclear industry working groups organized by the Institute of Nuclear Power Operations and the Nuclear Energy Institute and benefited from lessons learned at other plants. This was supplemented with direct engagement with our industry peers through benchmarking trips to other nuclear sites to incorporate best practices. These sources helped ensure project decisions were supported by the best information currently available. The project benefited from the experience of previous unit outages where other project work was performed and lessons learned for future Uprate Project modification implementation activities. Additionally, other utility professionals visited FPL's sites to learn from FPL's best practices.

Q. Please describe the nuclear and industrial safety performance of the EPU Project.

A. Nuclear and industrial safety was central to everything FPL did on the EPU Project. Nuclear safety was successfully ensured at every step. FPL, its employees and its contractors did not take for granted FPL's safety record on the EPU Project. The project's 2013 Federal Occupational Safety and Health

Administration, Recordable Incident Rate was 0.16 which is significantly less than the industry-wide injury rates of 3.7 for Construction and 2.8 for utilities as reported by the US Bureau of Labor Statics, US Department of Labor, November 2013. Excellent project safety is one of the factors considered by utility and construction industry professionals to be a hallmark of strong project management.

2013 PROJECT ACTIVITIES

Q. What key activities occurred in 2013 in execution of the EPU Project?

A. Key activities that occurred in 2013 included:

- Continuous intensive management of vendors, suppliers, and contractors;
- Completion of Engineering Design Modifications;
- The successful completion of the ninth and final EPU outage in April of 2013, adding approximately 126 MWe; and
- The successful completion of demobilization, site restoration, project closeout, and turnover activities at the St. Lucie and Turkey Point plants.

Q. Please describe the engineering design modification activities in 2013.

A. The engineering design modification process was the process by which the detailed modification packages were prepared. Calculations were performed, construction drawings were issued, general installation instructions were provided, and high level testing requirements were identified. In 2013, design engineering modification activities were primarily to support implementation of the already approved modifications during the final EPU outage. Approximately 140,000 engineering man hours were expended during the 2013 portion of the Turkey Point Unit 4 EPU outage.

Q. Please discuss the EPU implementation work that was successfully completed in 2013.

A. The final EPU outage was successfully completed in April 2013, with an increased capacity of approximately 126 MWe of additional nuclear power for FPL's customers. The Turkey Point Unit 4 implementation work in 2013, including the engineering design work described above, required the following:

- An augmented staff of approximately 3,000 additional people at its peak in January;
- Thousands of individually planned, scheduled, and monitored activities supporting approximately 3,300 work packages; and
- About 2 million man hours of work.

It also involved 1,435 large bore pipe welds, 2,040 small bore pipe welds, 4,651 feet of electric wiring conduit, 38,443 feet of electrical cable, and 4,712 electrical terminations. An illustration of the component replacements and modifications for Turkey Point Unit 4 is attached as Exhibit TOJ-10. Exhibit TOJ-11, EPU Project Work Activities List, includes a listing of the EPU implementation work activities at Turkey Point.

Q. Were EPU systems placed into service in 2013?

A. Yes. Exhibit TOJ-12 lists the EPU Project systems and components that were placed into service and included in the 2013 base rate filing.

Q. Did FPL experience engineering design scope growth and construction complexities associated with the EPU work on Tnrkey Point Unit 4 in 2013?

A. Yes. Some challenges were experienced in the planning and execution of the many major modifications; however, not nearly to the extent experienced on the other units in 2012. FPL utilized the experience gained at St. Lucie and Turkey

Point Unit 3 to enhance the Turkey Point Unit 4 outage engineering designs, work packages, and planning and scheduling. This work was performed in advance of the Turkey Point Unit 4 outage. As a result, the Turkey Point Unit 4 EPU implementation outage was completed in less time and at a lower cost than the Turkey Point Unit 3 EPU implementation outage. The Turkey Point Unit 4 outage was completed 15% faster and at a 19% lower cost than the Turkey Point Unit 3 EPU outage.

Q. Did FPL perform EPU Project close out activities in 2013?

A. Yes. FPL performed thousands of EPU closeout activities in 2013. The activities included the following:

- Completion of final adjustments to components and systems, including adjustments to process instrumentation loops to optimize performance and enhancements to the spent fuel pool handling machines;
- Completion and testing of control room simulator modifications;
- Finalization of engineering documents to as built conditions, update of plant drawings, and work order closeout for engineering changes;
- Final Safety Analysis and design basis documentation updates;
- Evaluation of preventive maintenance requirements for new and modified components and development of preventive maintenance work orders;
- Post-EPU Project restoration of the plant areas used by EPU personnel to pre-EPU conditions which included storage areas, workshops, and labor assembly areas, and removal of temporary cranes, lighting, and machinery used to support the EPU Project;
- Project staffing reductions to meet project closeout needs;
- Demobilization of vendors in accordance with project closeout plans;

- Verification and validation of spare parts;
- Closeout of contracts;
- Completion of procedure and simulator updates; and
- Systematic turnover to each unit's staff.

The 2013 EPU Project closeout activities at St. Lucie and Turkey Point are included in Exhibit TOJ-11.

Q. Please describe FPL's efforts to manage vendor costs in 2013.

A. FPL diligently managed its vendors to ensure the costs expended for the assigned scopes of work were reasonable and appropriate. FPL continued to require that its vendors provide detailed schedules and detailed metrics for productivity and commodities, and diligently monitored compliance with those metrics. Feedback was provided through daily focus meetings with major contractors during outages to evaluate earned value and cost performance, daily work plans, and any impacts to schedule and cost. Additionally, FPL held project integration meetings with major contractors generally weekly to discuss schedule compliance of work activities, organization and management issues, and safety issues.

PROJECT MANAGEMENT INTERNAL CONTROLS

Q. How was the project planning, execution, contractor oversight, and closeout described above managed by FPL in 2013?

A. FPL had robust project planning, management, and execution processes in place. These efforts were spearheaded by personnel with significant experience in project management within the nuclear industry. Additionally, the EPU Project used guidelines and Project Instructions to assist project personnel in the performance of

their assigned duties. Exhibit TOJ-13, EPU Project Instructions (EPPI) Index as of December 31, 2013, is provided to illustrate the types of instructions that were used.

Q. Please describe the EPU Project Management organization during 2013.

A. FPL had a dedicated Nuclear Power Uprate team within the nuclear fleet that was responsible for monitoring and managing the Uprate Project, schedule, and costs. In addition to centralized project oversight, there was an EPU Site Implementation Owner, EPU Site Director, and an EPU organization at each site responsible for the efficient and effective engineering and implementation of the EPU Project modifications. This decentralized management structure was appropriate as the EPU Project completed the implementation phase and/or closeout activities at each of the sites to better integrate EPU activities with plant operating and outage activities. Each site organization's manpower size was adjusted as the execution, power ascension testing, and project close activities were completed.

There was also a separate Nuclear Business Operations (NBO) group that provided accounting and regulatory oversight for the EPU Project. This organization was independent of the EPU Project team and reported to the Vice President Nuclear Finance.

Q. Please describe the role of the NBO group in more detail.

A. NBO's primary responsibilities included:

- Review, approval, and recording of monthly accruals prepared by the Site Cost Engineers;

- Conducting monthly detail transaction reviews to ensure that labor costs recorded to the EPU Project were only for those FPL personnel authorized to charge time to the EPU Project;
- Conducting on-going analysis to evaluate project costs to ensure they were "separate and apart";
- Creating monthly variance reports that include cost figures used in the EPU Monthly Operating Performance Report;
- Performing analyses of the costs being incurred by the project to ensure that those costs were appropriately allocated to the correct Internal Order established for each nuclear unit's outages;
- Assisting in the classification of Property Retirement Units;
- Set up and maintenance of the EPU Project account coding structure;
- Providing accounting guidance and training to the EPU team;
- Working closely with FPL's various corporate accounting departments to determine which costs related to the EPU Project were capital and which were O&M;
- Managing internal and external financial audit requests and ensuring that any findings and recommendations were dispositioned, as appropriate; and
- Providing oversight and guidance to the EPU Project team in maintaining accounting-related project instructions current to ensure compliance with corporate policies and procedures, and Sarbanes-Oxley processes.

Q. What other schedule and cost monitoring controls were in place during 2013?

A. FPL utilized a variety of mutually reinforcing schedule and cost controls and drew upon the expertise provided by employees within the project team, employees within the separate NBO group, and senior nuclear management. Within the

organization of the Vice President, Nuclear Power Uprate existed a Controls Group. The Controls Director provided functional leadership, governance, and oversight. Each site had a dedicated EPU Project Controls group lead by a Project Controls Supervisor. The site Project Controls group provided cost and schedule analyses and associated performance indicators on a routine and forward-looking basis thus allowing Project Management to make informed decisions. Exhibit TOJ-14, EPU Project Reports 2013, lists many of the reports that were a direct result of the information the Controls group provided, analyzed and produced. The number and types of reports changed appropriately as the project progressed through the closeout activities to completion.

FPL's efforts to meet the desired completion date of each uprate was tracked through the use of Primavera P-6 scheduling software, enabling FPL to track the schedule daily and update the schedule weekly. This allowed Project Management to monitor and report schedule status on a periodic basis. Updates to the schedule and scope of the project were made as such changes were approved by management. FPL's use of this scheduling software system allowed management to examine the project status at any time as well as request the development and generation of specialized reports to facilitate informed decision making.

As part of the site Project Controls group, there were several highly experienced Cost Engineers assigned to monitor, analyze, and report project costs associated with the Uprate Project. Governed by well established procedures and work instructions, the Cost Engineer received contractor invoices and forwarded them to technical representatives to ensure the scope of work had been completed and the

deliverables had been accepted. For fixed-price contracts, the Cost Engineer matched the invoice amount to the contract amount and the deliverable work received from the subject matter expert, which was then sent to the appropriate personnel for approval and payment. The Cost Engineer also prepared accruals and reviewed variance reports monthly for each of the sites, to monitor and document expenditures and commitments to the approved budget. The Project Controls group operated in a transparent manner and its accountability was clear in providing sound analyses based on all available cost and schedule information at its disposal.

Q. What periodic reviews were conducted in 2013 to ensure that the project and key decisions were appropriately analyzed, reviewed and approved at the appropriate management levels?

A. Regularly scheduled meetings were held to help effectively manage the Uprate Project and communicate the performance of the project in terms of nuclear and industrial safety, quality, schedule, and costs. These included the following:

- Daily meetings to mutually share lessons learned and to coordinate project activities;
- Weekly project management, project controls, and risk meetings to review the status of the schedules and project costs, and to identify areas needing attention;
- Periodic meetings with the Chief Nuclear Officer; Vice President, Power Uprate; Implementation Owners; and other project leaders to review project progress and work through any identified risks to schedules or costs;
- When appropriate, FPL Executive Steering Committee presentations on the status of the project; and

- Routine Project Meetings involving FPL and individual major vendors to discuss project schedules and challenges.

As mentioned above, the EPU Project continued to produce several reports in 2013. Exhibit TOJ-14 presents the reports generated by the project during 2013 with a brief description, the periodicity, and the intended audience of each report. Generally, the project reports provided a status of the project, scope changes, schedule and cost adherence/variance, safety, quality, risks, risk mitigation, and a path forward as appropriate. The information provided by these reports assisted in the success of the overall management, closeout, and completion of the EPU Project. The number and types of reports changed appropriately as the project progressed through the closeout activities to completion.

Q. Please describe the risk management process used in 2013.

A. FPL's risk management process was governed by project instruction EPPI-340, EPU Project Risk Management Program. FPL's risk management process was used to identify and manage potential risks associated with the Uprate Project. A Project Risk Committee, consisting of site project directors and subject matter experts, reviewed and evaluated initial cost and schedule projections and any potential significant variances. This committee enabled senior managers to critically assess and discuss risks faced by the EPU Project from different departmental perspectives. The committee also ensured that actions were taken to mitigate or eliminate identified risks. When an identified risk was evaluated as high, a risk mitigation action plan was prepared, approved, and executed. The high risk item was monitored through this process until it was reduced or eliminated. Additionally, an EPU Project Risk Management report was presented at meetings with senior management, identifying potential risks by site, unit, priority,

probability, cost impact, and the unit or persons responsible for mitigating or eliminating the risk. These steps ensured continuous, vigilant identification of and response to potential project risks that could pose an adverse impact on the cost or schedule performance of the project.

Q. Please describe the risk management process as it applied to operational risk.

A. EPU Project work was performed during normal plant operations and during planned refueling outages that were adjusted and extended in duration to permit uprate work to be performed. The amount of work that could be safely performed during these plant conditions was dependent upon the minimum required systems or components needed to support the plant operating condition. Extreme care in the planning, scheduling, and execution of the work activities was required to ensure the plant was operated in accordance with applicable Nuclear Regulatory Commission (NRC) regulatory and plant technical specification requirements. This required proper sequencing of work activities that could be safely performed during normal plant operations or those that needed to be performed during planned refueling outages, including work activities that could be safely performed in parallel and those that needed to be performed in series. This operational risk management accomplished two major objectives: first was to ensure the equipment was in a state that makes it safe for workers to perform the work, and second was to ensure that the plant systems and components were properly maintained as required for public health and safety. This operational risk management through the careful planning, scheduling, and execution of work activities added to the complexity of the implementation phase of the EPU Project.

PROCUREMENT PROCESSES AND CONTROLS

Q. Please describe the contractor selection and contractor management procedures that applied to the EPU Project in 2013.

A. The contractor selection procedures that applied to the Uprate Project are found in NEE-PRO-1460, Purchasing Goods and Services-Policy and Definitions and its series of procurement procedures and Nuclear Fleet Guideline BO-AA-102-1008, Procurement Control. Additionally, the EPU Project had previously developed an EPPI, and as explained in the EPPI procedure, the standard approach for the EPU Project in the procurement of materials or services with a value in excess of $25,000 was to use competitive bidding. However, the use of single source, sole source, and Original Equipment Manufacturer providers was also necessary in certain situations. For example, many of the contracts that were competitively bid and awarded were given work scope additions through the single source procurement process. Typically, it was not in the best business interest of FPL to contract with another vendor when security screening, site specific training, and training in policies, programs, procedures, and work processes were already established for vendors with rates that had previously been determined to be competitive and reasonable. The benefits of this included cost savings in mobilization, security screening, site specific training, site familiarity, and the important aspects of FPL's expectations for a safety conscious work environment. FPL's policies required proper documentation of justifications and senior-level management approval of single or sole source procurements.

FPL maintained its focus on the process of documenting and approving single and sole source procurements, to ensure compliance with BO-AA-102-1008 and

relevant EPPIs, and to facilitate review by third parties who are not directly involved in the nuclear procurement process. The single source justification (SSJ) expectations were included in appropriate project instructions, and all new applicable personnel assigned to the EPU Project were required to review and understand the SSJ expectations.

With respect to vendor management, the EPU Project Directors at each site ensured vendor oversight was provided by the experienced Project Managers, the Site Technical Representative, and Contract Coordinators. Together, these representatives provided management direction and coordinated vendor activity reviews while the vendors were on site. The Contract Coordinators verified the vendor had met all obligations and determined whether any outstanding deliverable issues existed using a Contract Compliance Matrix. In addition to assisting with the development and administration of contracts, Nuclear Sourcing and Integrated Supply Chain groups completed updates as necessary to a Project Contract Log and reported the status of contracts to Project Management. EPU management also held routine meetings with vendors' senior management as previously discussed.

Q. What was FPL's approach to contracting for the EPU Project?

A. FPL structured its contracts and purchase orders to include specific scope, deliverables, completion dates, terms of payment, commercial terms and conditions, reports from the vendor, and work quality specifications. Project Management had several types of contracts available depending on how well the scope of work and the risk associated with the work scope could be defined. Fixed price or lump sum contracts were used where project work scope was well-defined

and risk was limited. Project Management used time and material contracts where project work scope was not well-defined and where there was greater risk to completing the work scope. In sum, FPL continued to contract in a careful and strategic manner.

INTERNAL/EXTERNAL AUDITS AND REVIEWS

Q. Were FPL's financial controls and management controls audited?

A. Yes. Several audits or reviews have been conducted to ensure compliance with applicable project controls.

Q. What external audits or reviews have been conducted to ensure the project controls were adequate and costs were reasonable?

A. FPSC Staff is conducting two audits related to 2013 EPU activities – a financial audit and an internal controls audit. The 2013 FPSC Staff financial and internal controls audits will be provided to the Commission when completed.

Additionally, FPL retained Concentric Energy Advisors, Inc. to conduct a review of the 2013 EPU Project Management controls. The results of this review are presented through the testimony of Mr. John Reed, the Chief Executive Officer of Concentric Energy Advisors. Burns and Roe Enterprises, Inc. (BREI) was also engaged to review the prudence of FPL's management of the EPU Project activities in 2013. The results of this review are presented through the testimony of Mr. Albert Ferrer, Vice President of BREI.

Q. Did Internal Audit conduct an annual review to ensure the project controls were adequate and costs were reasonable?

A. Yes. Experis performed an audit of 2013 expenses at FPL Internal Audit's direction. Specifically, the Experis audit focused on ensuring that costs charged to the EPU Project were for the EPU Project and were recorded in accordance with FPSC Rule 25-6.0423, and included independent testing of expenses charged to the EPU Project for the period January 1, 2013, to December 31, 2013. The Experis audit found that the controls over the EPU Project were good.

"SEPARATE AND APART" CONSIDERATIONS

Q. Would any of the EPU costs included in FPL's filing have been incurred if the FPL nuclear generating units were not being uprated?

A. No. The construction costs, associated carrying charges and recoverable O&M expenses for which FPL is requesting recovery through the Nuclear Cost Recovery Clause (NCRC) process were caused only by activities necessary for the Uprate Project, and would not have otherwise been incurred. I note that, as explained in FPL Witness Grant-Keene's testimony and schedules, only carrying costs, recoverable O&M expenses, and partial-year revenue requirements for items placed in service are requested for recovery for the EPU Project, consistent with the Commission's NCR rule.

Q. Please explain the processes utilized by FPL to ensure that only those costs necessary for the implementation of the Uprate Project were iucluded for NCRC purposes.

A. For the modifications performed, consistent with project instruction EPPI-180, EPU Nuclear Cost Recovery, FPL conducted engineering analyses to identify major components that must be modified or replaced in order to enable the units to

function safely and reliably in the uprated condition. FPL's 2013 EPU activities, and their associated costs, were "separate and apart" as required by the NCR process.

2013 CONSTRUCTION COSTS

Q. What type of costs did FPL incur for the Uprate Project in 2013?

A. As indicated in Exhibit TOJ-1, True-up (T) Schedule T-6 and T-4, and summarized on Exhibit TOJ-15, Summary of 2013 EPU Construction Costs, costs were incurred in the following categories: License Application; Engineering and Design; Permitting; Project Management; Power Block Engineering, Procurement, etc.; Non-Power Block Engineering, Procurement, etc.; and Recoverable O&M. These costs were the direct result of the prudent project management, decision making, and actions described previously. Each category reflects some variance against what was estimated earlier in 2013.

Q. Please describe the costs incurred in the License Application category and the variance, if any, from the 2013 actual/estimated costs in this category.

A. Licensing Costs in 2013 consisted primarily of NRC fees and engineering costs for the NRC review and approval of required revisions to the Alternative Source Term license amendment and plant technical specifications. FPL underestimated the cost of these reviews and incurred $61,271 in this category in 2013, which is $188,232 more than the actual/estimated amount of ($126,960).

Q. Please describe the costs incurred in the Engineering and Design category aud the variance, if any, from the 2013 actual/estimated costs in this category.

A. Engineering and Design Costs consisted primarily of costs for FPL personnel in the FPL engineering organizations at both sites and in the central organization. The majority was oriented towards management, oversight, and review of the detail design activities being performed by the EPC contractor and other contractors. FPL incurred $11.6 million in this category in 2013, which is about $1 million more than the actual/estimated amount. This was primarily attributable to FPL taking on more work internally to enable a more rapid demobilization of vendor personnel.

Q. Please describe the costs incurred in the Permitting category and the variance, if any, from the 2013 actual/estimated costs in this category.

A. All permits applicable to the EPU Project were approved in 2011. Accordingly, there were no costs incurred by the EPU Project in the Permitting category in 2013.

Q. Please describe the costs incurred in the Project Management category and the variance, if any, from the 2013 actual/estimated costs in this category.

A. Project Management costs were related to overall project oversight including project and construction management, project controls, and regulatory compliance. These oversight activities were performed by personnel located at both sites, by the EPU central organization, and by non-EPU organizations such as NBO and New Nuclear Accounting. FPL incurred $22.9 million in this category in 2013 which is $3.2 million more than the actual/estimated amount. This variance was attributable to an increase in FPL project management, construction management, and contract management to enable a more rapid demobilization of vendor personnel.

Q. Please describe the costs incurred in the Power Block Engineering, Procurement, etc. category and the variance, if any, from the 2013 actual/estimated costs in this category.

A. The majority of the costs in this category reflect payments to the EPC vendor and other vendors for engineering, procurement, and construction resources that supported the successful completion of the Turkey Point Unit 4 EPU outage and the continued application of lessons learned in engineering and implementation efforts in completing the EPU Project. FPL incurred $170.8 million in this category in 2013, which is $32.3 million less than the actual/estimated amount. The cost variance is the result of effective project management applying the lessons learned from earlier EPU outages and FPL taking on more work to enable more rapid vendor demobilization and an effective closeout of 2013.

Q. Please describe the costs incurred in the Non-Power Block Engineering, Procurement, etc. category and the variance, if any, from the 2013 actual/estimated costs in this category.

A. Non-Power Block Engineering, Procurement, etc. costs consist primarily of costs for staff and construction craft for facilities restoration and simulator upgrades required to reflect the uprated conditions. FPL incurred $822,166 in this category in 2013. This represents $471,520 more than the actual/estimated amount. The variance is primarily attributable to the work scope associated with site facility restorations to pre-EPU conditions at St. Lucie and Turkey Point Plants, required simulator upgrades, and project closeout activities.

Q. Please describe the costs incurred as EPU Recoverable O&M.

A. Recoverable O&M expenses in 2013 were $10.9 million. This represents a variance of $1.1 million more than the actual/estimated amount. Consistent with

FPL's capitalization policy, these expenditures include non-capitalizable commodities, incremental staff, and augmented contract staff. Additionally, modifications that did not meet the capitalization criteria were included in this category along with O&M EPU equipment inspections and related work, and obsolete inventory write-offs. The variance is primarily attributable to EPU equipment inspections and related work.

Q. Please describe the costs incurred in the Transmission category.

A. For the period ending December 31, 2013, there were no EPU Project Transmission costs. There was a net credit of $249,371 to the EPU Project primarily due to salvaging of transmission equipment.

Q. Were FPL's 2013 EPU expenditures prudently incurred?

A. Yes. FPL incurred costs of approximately $250 million in 2013. FPL's actual 2013 costs were $10 million less than its previous estimate for the reasons described above. Implementation of the final EPU outage and the extensive project closeout process at both sites were all successfully completed in 2013. Through well-qualified, experienced personnel's application of the robust internal schedule and cost controls, careful vendor oversight, and the ability to continuously adjust based on lessons learned and the project's evolving needs, FPL is confident that its 2013 EPU management decisions were well-founded and prudent. All costs incurred in 2013 were the product of such decisions, were prudently incurred, and should be approved by the Commission.

Q. Did FPL prepare a true-up of the total project costs?

A. Yes. Exhibit TOJ-1 includes the True-up to Original (TOR) Schedules that 1 sponsor or co-sponsor providing the total EPU Project cost.

Q. Please list the exhibits you are submitting with this testimony.

A. I am sponsoring or co-sponsoring the following exhibits:

- Exhibit TOJ-1, 2013 EPU T-Schedules and TOR-Schedules, containing schedules T-1 through T-7B, TOR-6, TOR-6A, and TOR-7, and TOR-2 to be filed in May. Exhibit TOJ-1 contains a table of contents listing the schedules that are sponsored and co-sponsored by FPL Witness Grant-Keene and myself.
- Exhibit TOJ-2, EPU Project Timeline
- Exhibit TOJ-3, EPU Industry Recognition Awards
- Exhibit TOJ-4, EPU Project Work Force
- Exhibit TOJ-5, EPU Project Benefits at a Glance for FPL Customers
- Exhibit TOJ-6, EPU Investment, Recovery, and Customer Savings from NCR Process
- Exhibit TOJ-7, EPU Project Construction and Completion Photos
- Exhibit TOJ-8, Southeast Florida Reliability Impact
- Exhibit TOJ-9, EPU Project Electrical Output Status
- Exhibit TOJ-10, Illustration of Modifications for Turkey Point Unit 4
- Exhibit TOJ-11, EPU Project Work Activities List
- Exhibit TOJ-12, EPU Equipment Placed In Service in 2013
- Exhibit TOJ-13, EPU Project Instructions Index as of December 31, 2013
- Exhibit TOJ-14, 2013 EPU Project Reports
- Exhibit TOJ-15, Summary of 2013 EPU Construction Costs

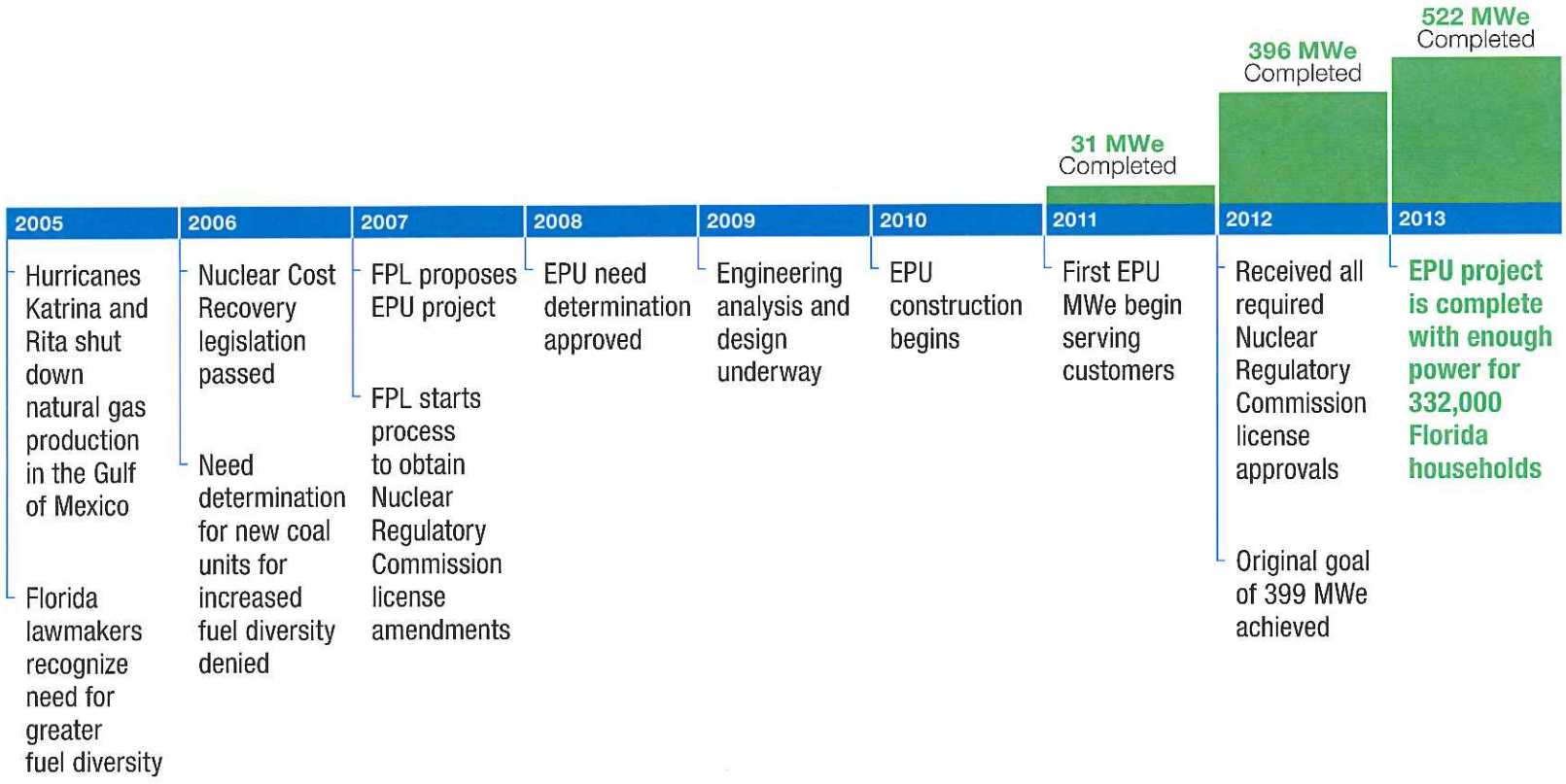
Q. Does this conclude your direct testimony?

A. Yes.

TOJ – 1 is in the Nuclear Filing Requirements Book

New Nuclear Energy – Delivered on Time

Since legislation was passed in 2006, FPL has delivered on its commitment to increase fuel diverse nuclear generation in the state



Docket No. 140009-EI
EPU Project Timeline
Exhibit TOJ-2, Page 1 of 1

An Award-Winning Project

The EPU project team received international recognition for an industry-best project

2013 Nuclear Energy Institute Top Industry Practice Award

FPL won the Nuclear Energy Institute Top Industry Practice Award for the very best and most innovative work in the nuclear industry. Project aspects such as nuclear safety, cost saving impact, innovation and productivity were thoroughly evaluated.

2013 Power Engineering Magazine Project of the Year – Best Nuclear Project Award

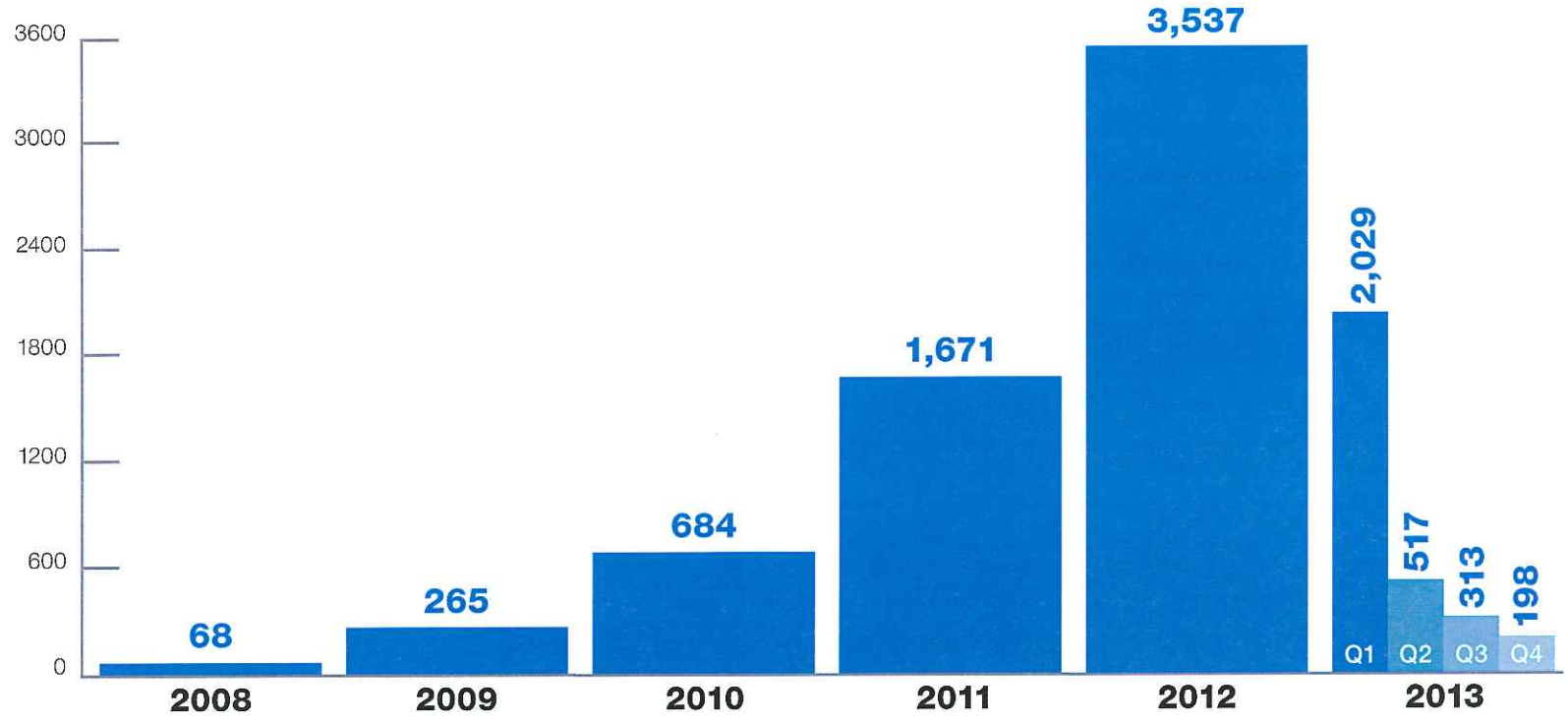
FPL won the 2013 Power Engineering magazine Project of the Year – Best Nuclear Project award. "FPL has demonstrated that these massive plant upgrades are not only major feats of engineering and construction but also economically practical," according to the magazine.

2013 Platts Global Energy Award – Finalist

FPL was a finalist for the prestigious Premier Project Award for Construction, which recognizes excellence in project execution and management.

EPU Investment Employed Thousands of People in Florida

After the final unit was completed, the Extended Power Uprate Project workforce was rapidly demobilized



Figures above represent average number of workers

Docket No. 140009-EI
EPU Project Work Force
Exhibit TOJ-4, Page 1 of 1

EPU Project Benefits at a Glance

Projected 2014 fossil fuel savings for customers

$101 million

Projected lifetime fossil fuel savings for customers

$3.2 billion

Enough energy to power

332,000 customer homes

without burning coal, natural gas or foreign oil

Fewer greenhouse gas emissions

CO_2 reduction of

34 million tons

U.S. EPA annual **equivalent of removing more than**

7 million cars

from the road

Improved fuel diversity and decreased reliance on fossil fuels

Annual fossil fuel reduction of the equivalent of almost

7 million barrels of oil

or

44 million mmBTU of natural gas

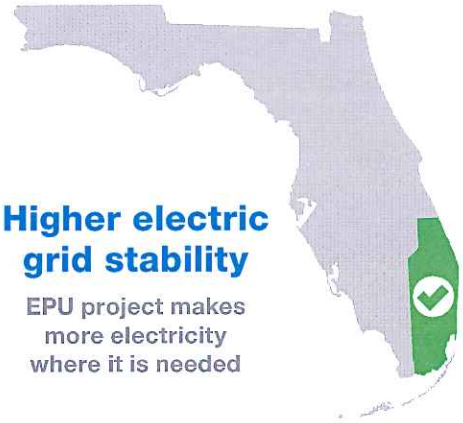
FPL's reliance on natural gas reduced by about

3%

in 2014

Higher electric grid stability

EPU project makes more electricity where it is needed



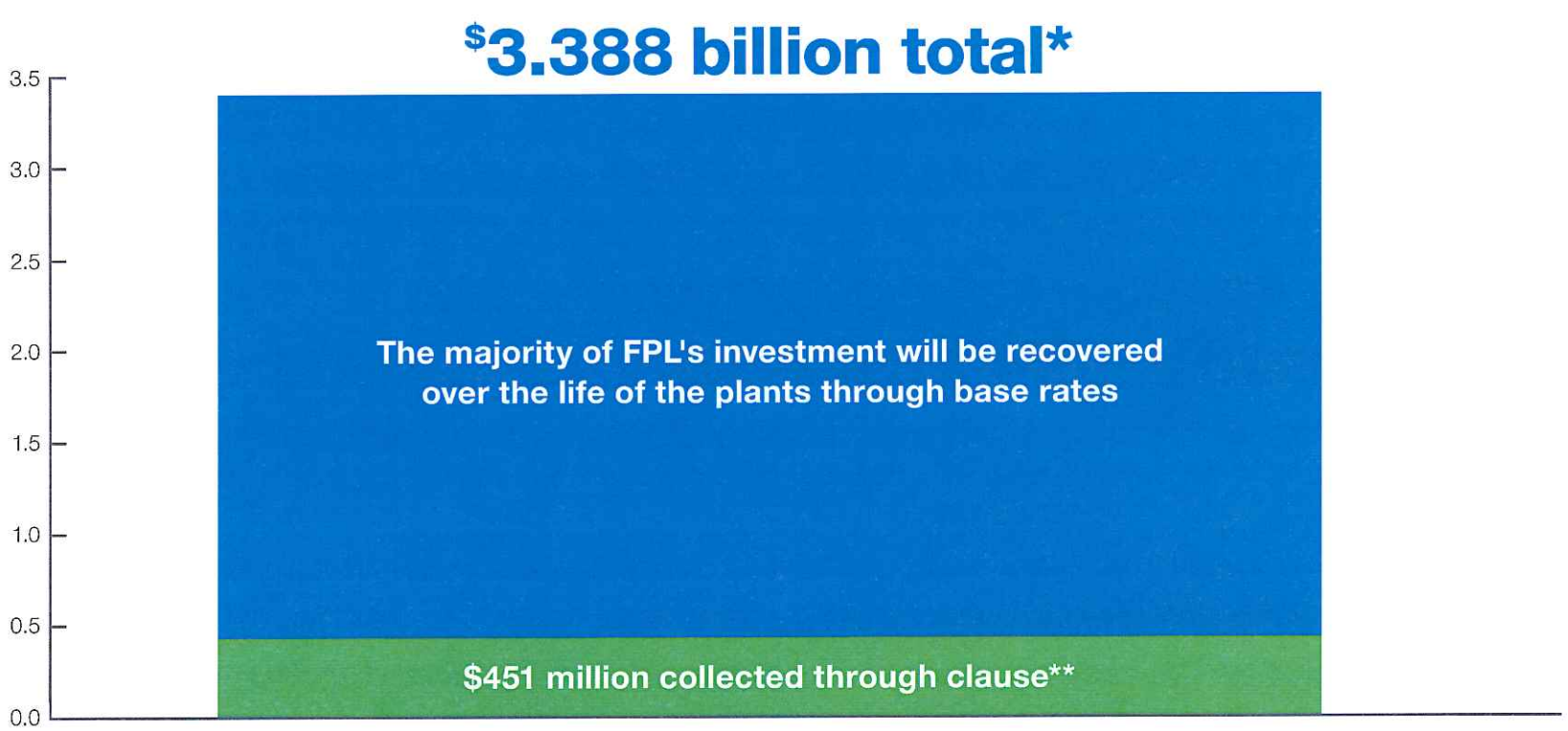
The projected benefits are based on adjustments made to FPL's last (2012) feasibility analyses conducted for the EPU Project.

The adjustments included the change in fuel costs forecast and the EPU MWe. The values here do not reflect the benefits already received prior to 2014 from the EPU Project.

Docket No. 140009-EI
EPU Project Benefits at a Glance for FPL Customers
Exhibit TOJ-5, Page 1 of 1

FPL Investment Versus Clause Recovery

FPL's investment in the Extended Power Uprate Project far exceeds cost recovery through the NCRC



Figures above represent total amounts since the beginning of the project through 2013
** Represents FPL's total EPU project cost, including carrying charges*
*** Represents FPL's total recovery through the NCRC*

Docket No. 140009-EI
EPU Investment, Recovery, and Customer Savings from NCR Process
Exhibit TOJ-6, Page 1 of 2

Florida's Nuclear Cost Recovery Law is Saving FPL Customers More Than $300 Million

Recovery of carrying costs during construction through the Nuclear Cost Recovery Clause reduces rates for customers over the life of the project

FPL customers save more than

$300 million*

over the life of the plants

** Net present value in 2014 dollars is more than $80 million*

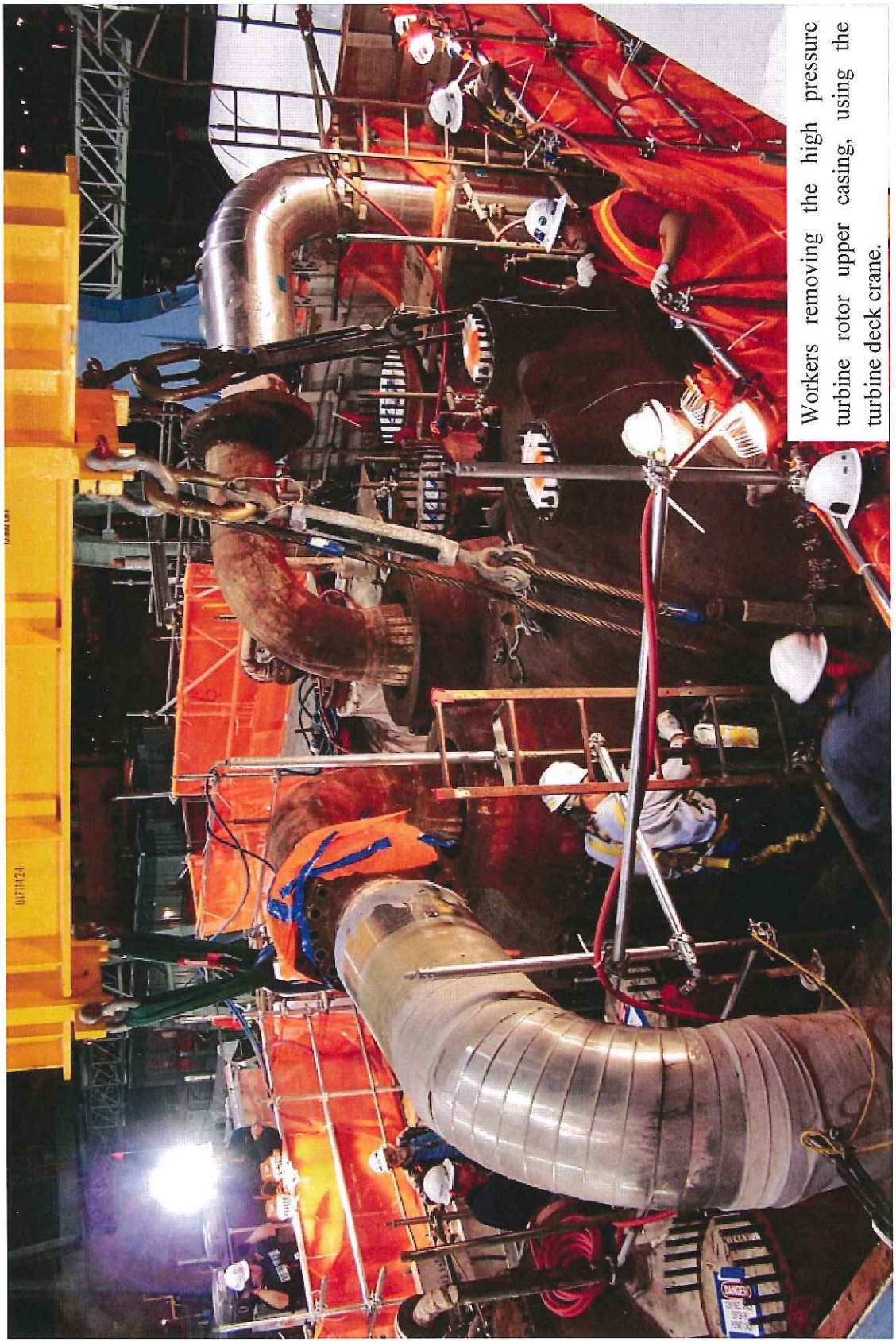
Turkey Point Unit 3 2012 outage site layout with thousands of workers on site. Note the close proximity of the fossil units 1 and 2 on the left to the nuclear units 3 and 4 and the close proximity of the water result in very little space for new plant components and pre-fabrication areas.

Aerial photograph of Turkey Point, Units 3 and 4. The photograph illustrates the extremely limited space in which to conduct these massive construction modifications.

Ground storage and staging area being established for turbine deck work.

The ground area supports the storage of equipment removed from the turbine deck and the staging area to move equipment back onto the turbine deck. Temporary cranes and heavy haulers were used to move equipment. Extensive planning and scheduling for crane use was necessary for efficient use of the turbine deck crane and temporary cranes needed for equipment and tool movements.

Near the top of the photo the blue colored specialty crane and staging area for condenser removal and replacement. The white and blue tarps are used to protect the equipment on the main turbine deck. The orange colored material on the elevated scaffolding protects workers.



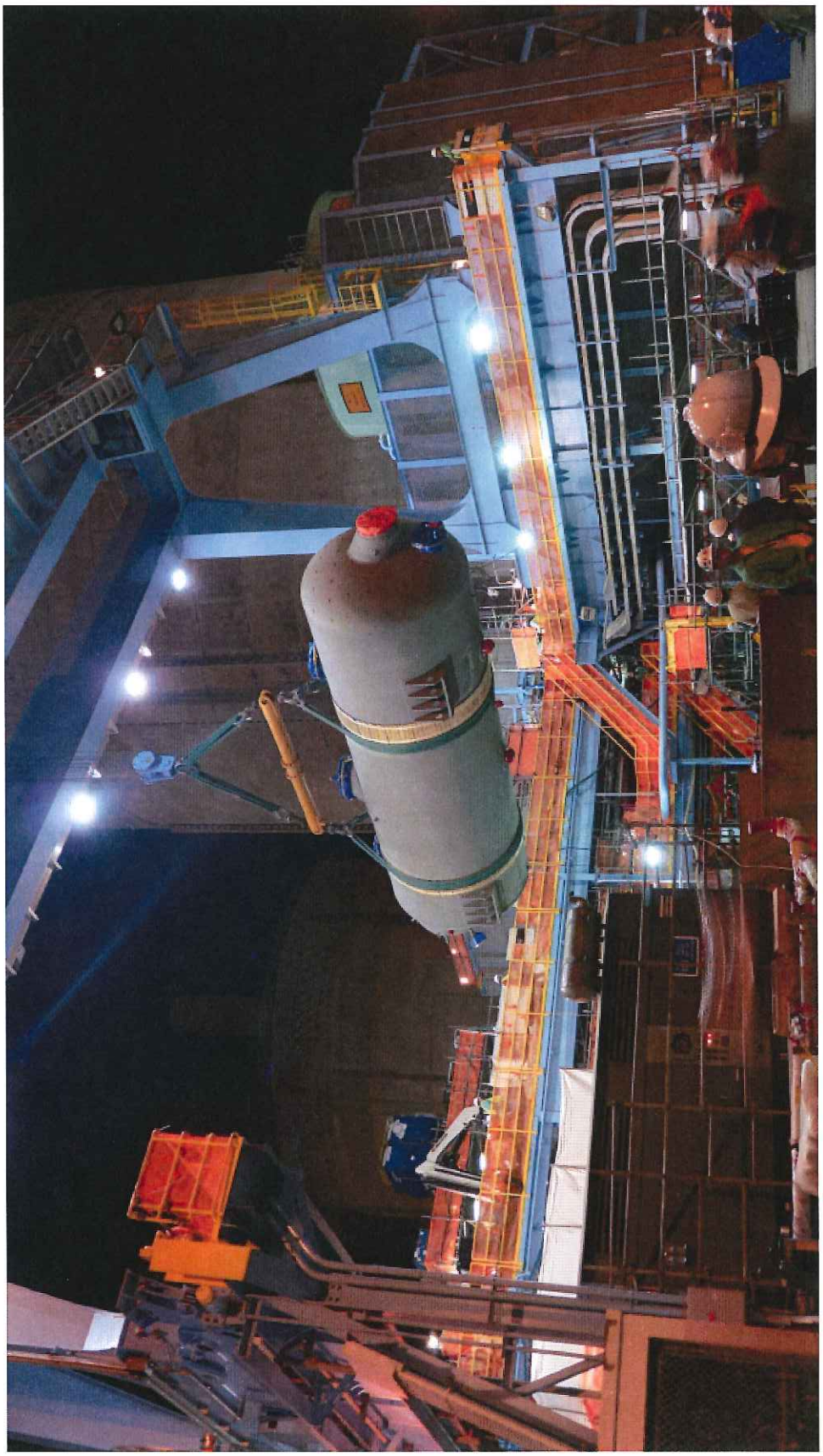
Workers removing the high pressure turbine rotor upper casing, using the turbine deck crane.

The high pressure turbine rotor in its storage stand on the ground below the turbine deck.

A fisheye view of the turbine deck ground storage and staging area. The blue turbine deck crane accesses the staging area lowering a turbine bearing to the ground. The two low pressure turbine rotors are staged in their respective storage stands. Temporary cranes are used to move equipment into and out of the turbine deck crane ground access area.

The turbine deck ground storage and staging area with a temporary crane unloading materials from a tractor trailer, behind the temporary crane, the brown main turbine high and low pressure casings being stored, behind the tractor trailer, several white containers and trailers with tools and equipment, and in the access area, the two low pressure turbine rotors in their respective storage stands.

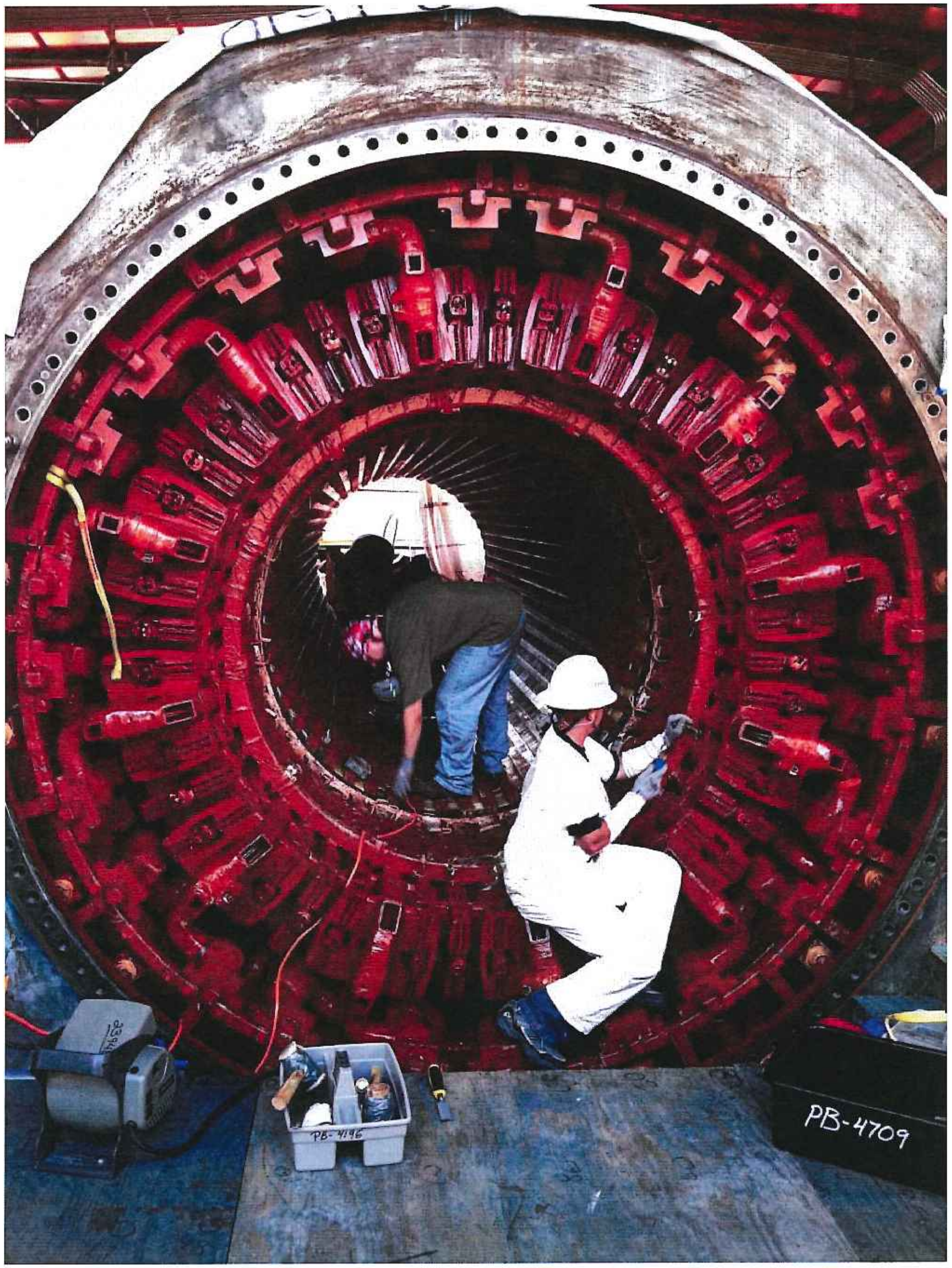
The turbine deck crane in the equipment access area lowering a feedwater heater to the blue transporter. Temporary cranes are used to move equipment into and out of the turbine deck crane access area. The white trailers in the staging area protect equipment and tools until they are installed or needed for use.



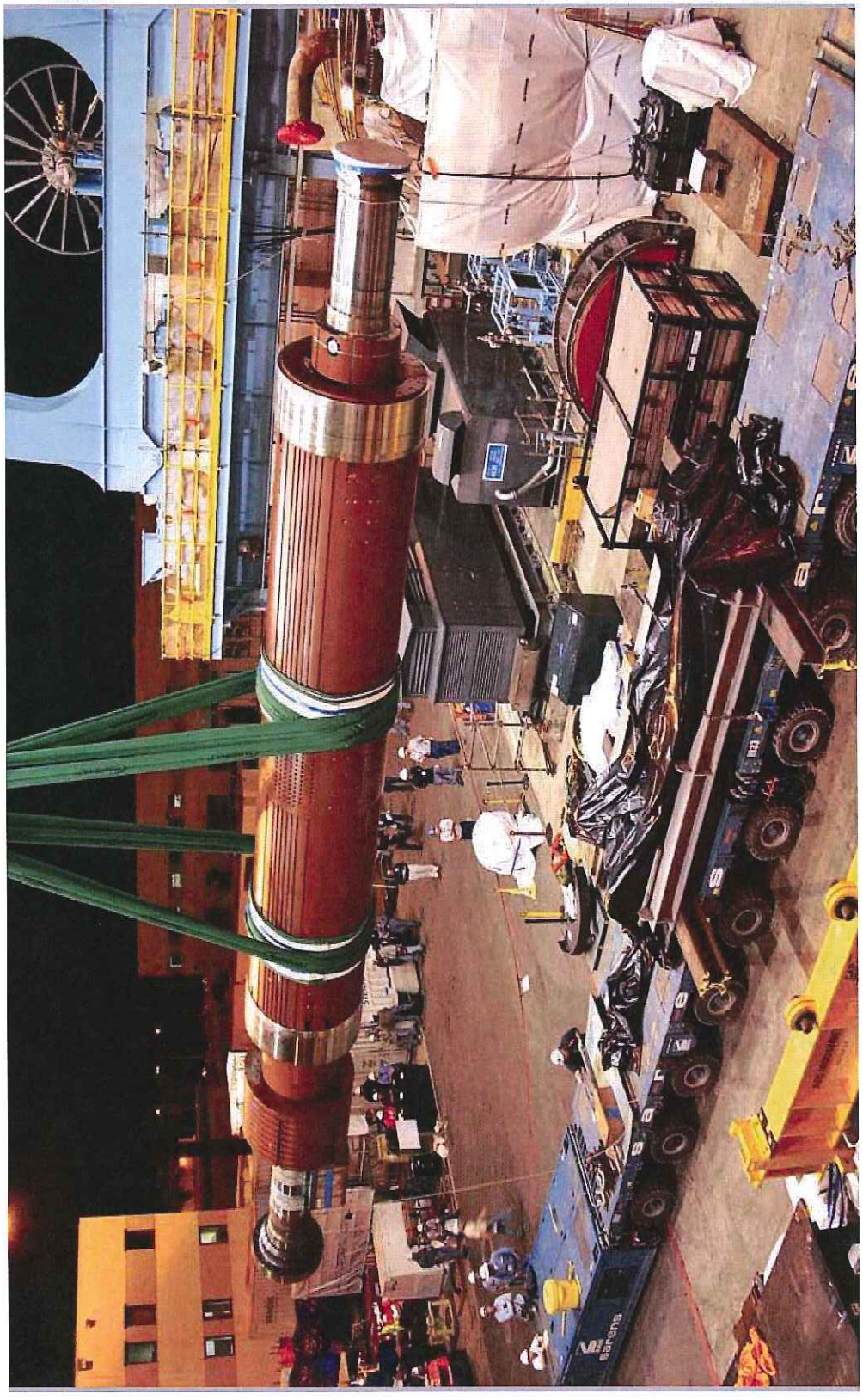
One of four per unit new larger moisture separator reheaters being lifted from the turbine deck crane ground access area onto the turbine deck for installation.

One of the four per unit new larger moisture separator reheaters being lifted by the turbine deck crane onto the turbine deck for installation. The large blue structure (upper left) is the special crane built for condenser replacement.

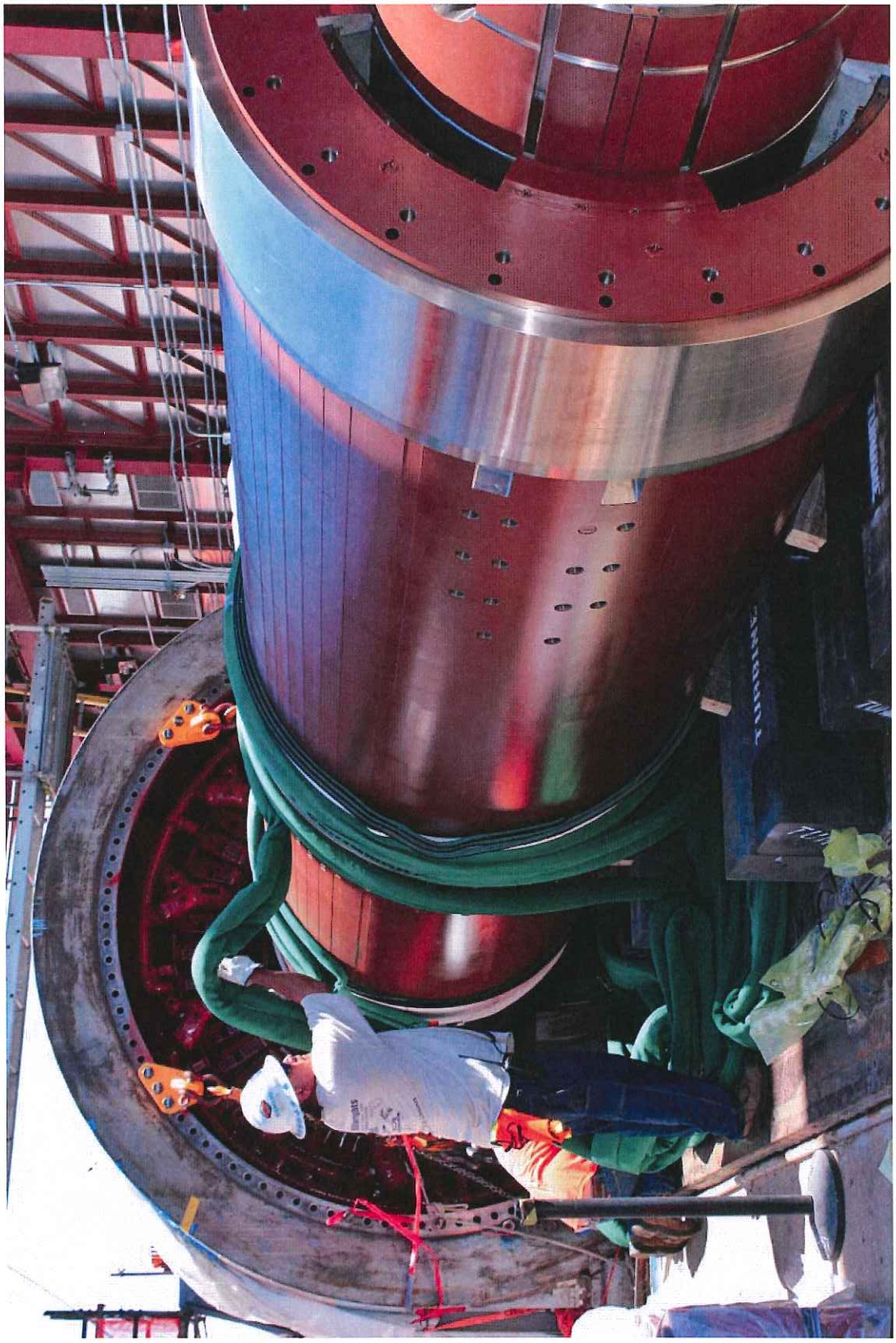
One of the four per unit new larger moisture separator reheaters in place on the turbine deck with scaffolding installed to support installation of the unit which includes installing and welding large diameter piping, relief, safety, and control valves, piping and valve supports, and instrumentation.



The main generator was rewound in place for greater electrical output and is being prepared for installation of the new larger capacity generator rotor.



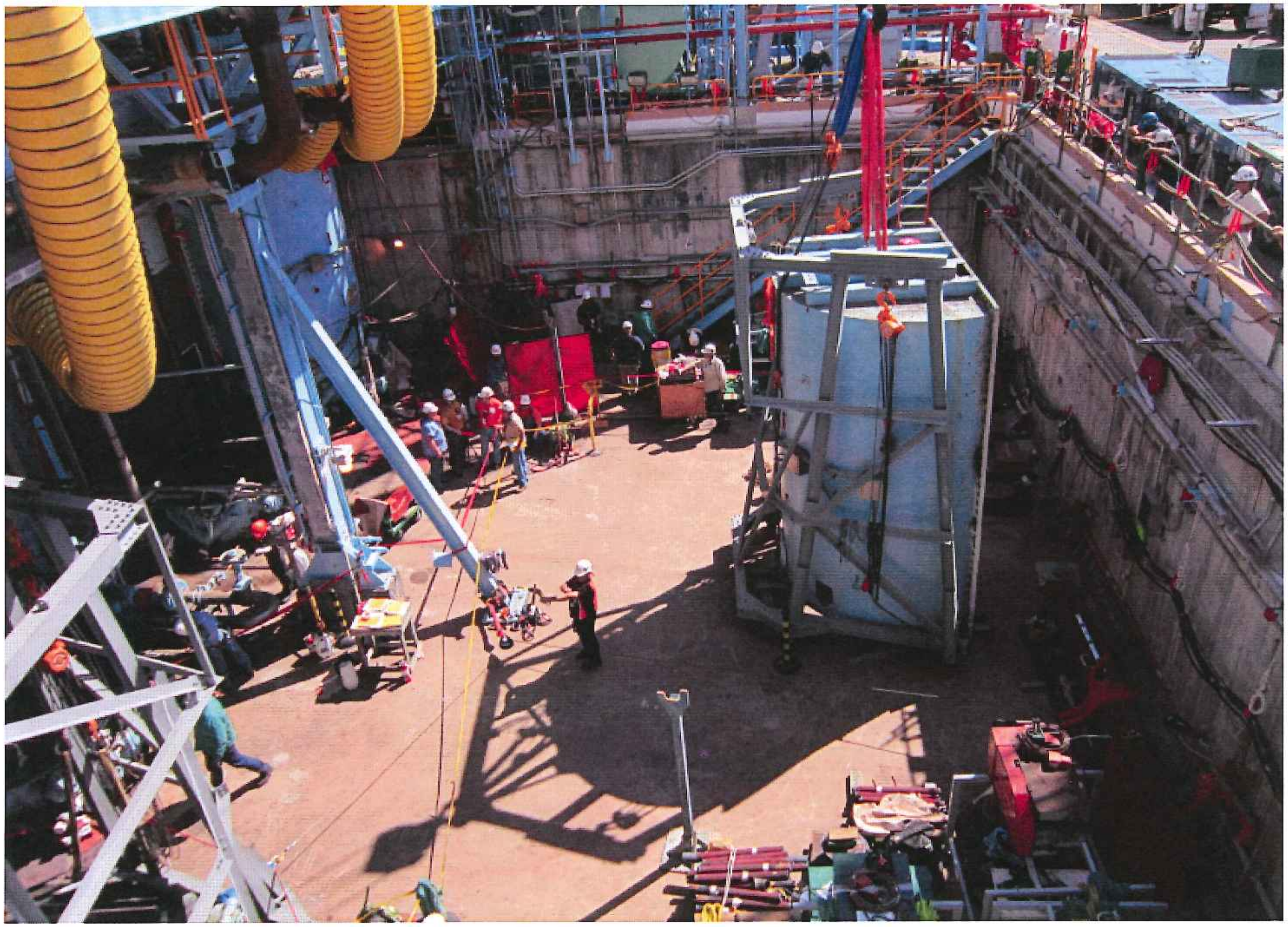
The main generator rotor being lifted from its multi-wheeled heavy hauler transporter for installation into the main generator stator.



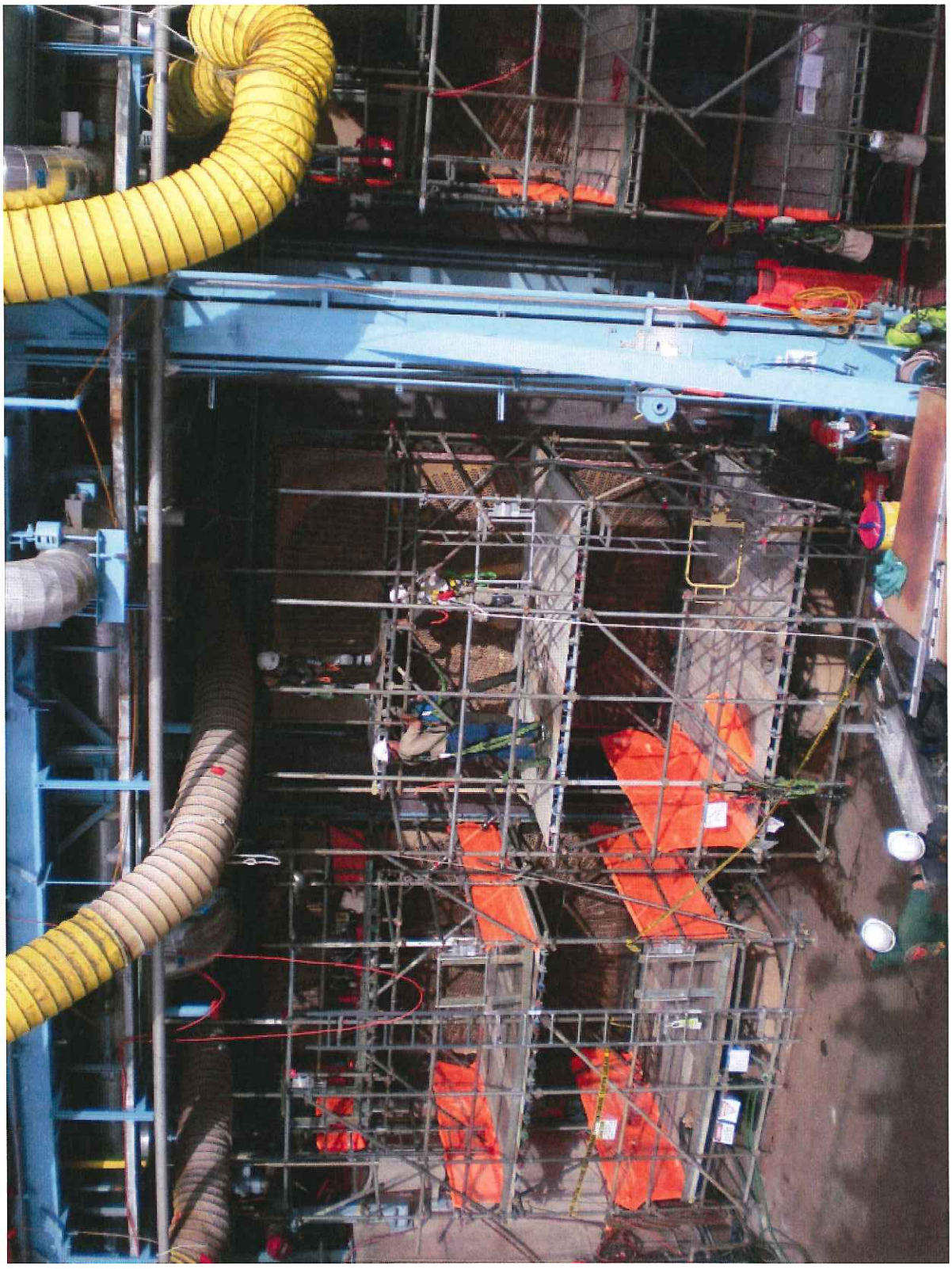
The main generator rotor staged on the turbine deck and being readied for installation into the main generator stator.

The main turbine deck crane rail and narrow walkway next to equipment and scaffolding installed to support work on the many components located on the turbine deck.

Workers on scaffolding which was erected on the turbine deck to support the installation and removal of equipment.



This is the condenser removal and installation staging area which is below grade level and commonly referred to as the "condenser pit." The condenser sits below the turbine deck below the two low pressure turbine steam exhausts. The exhausted steam is condensed by the condenser and the water is returned to the steam generators for reuse. The blue water box that has been removed is the cover for the condenser tubes outlet and directs canal cooling water into very large diameter pipes that discharge into the canal where the cooling water is recycled to the opposite side of the condenser.



Scaffolding being erected to support the removal of the condenser tube sheets and tubes.

Condenser tube sheets and tubes being removed. Rails were erected to provide equipment access to the over 40 feet of tubes and tube sheets for removal and installation of the new larger condensers.

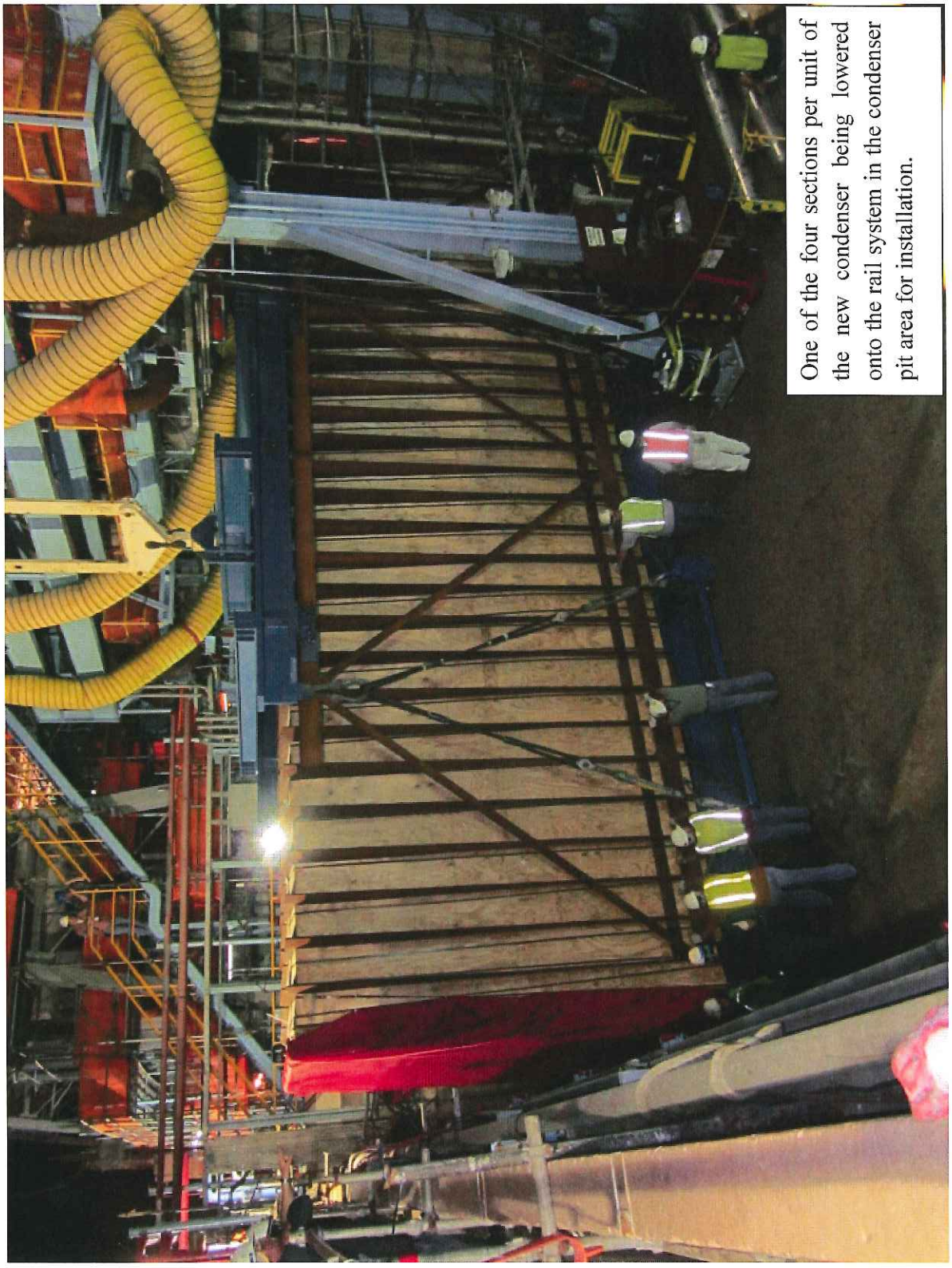
A fisheye view of the condenser pit area with equipment staged and being used to remove condenser tube sheets and tubes.

A specialty crane (blue SARENS) was installed to support the removal of the old condenser and tube sheets and the installation of the new larger condensers. One of the four new larger moisture separator reheaters (gray) is installed on the main turbine deck.

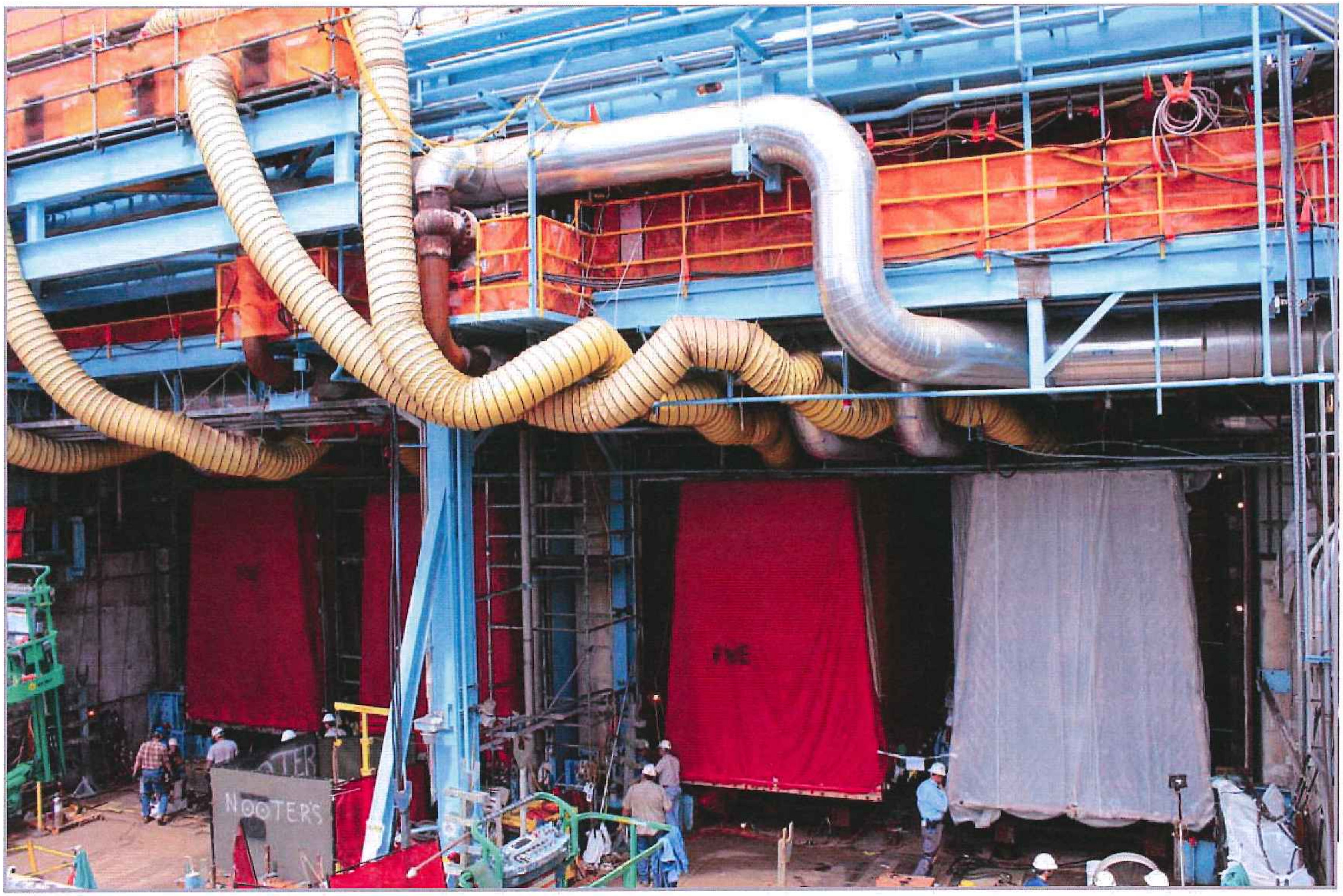
One of four sections per unit of the new main condenser on its heavy hauler being transported to the condenser pit staging area, where the specialty crane will lift it into the condenser pit for installation.

One of the four sections of the main condenser tubes and tube sheets moved into location by the multi-wheeled Goldhofer heavy hauler transporter for lifting by the condenser specialty crane and placement in the condenser pit for installation.

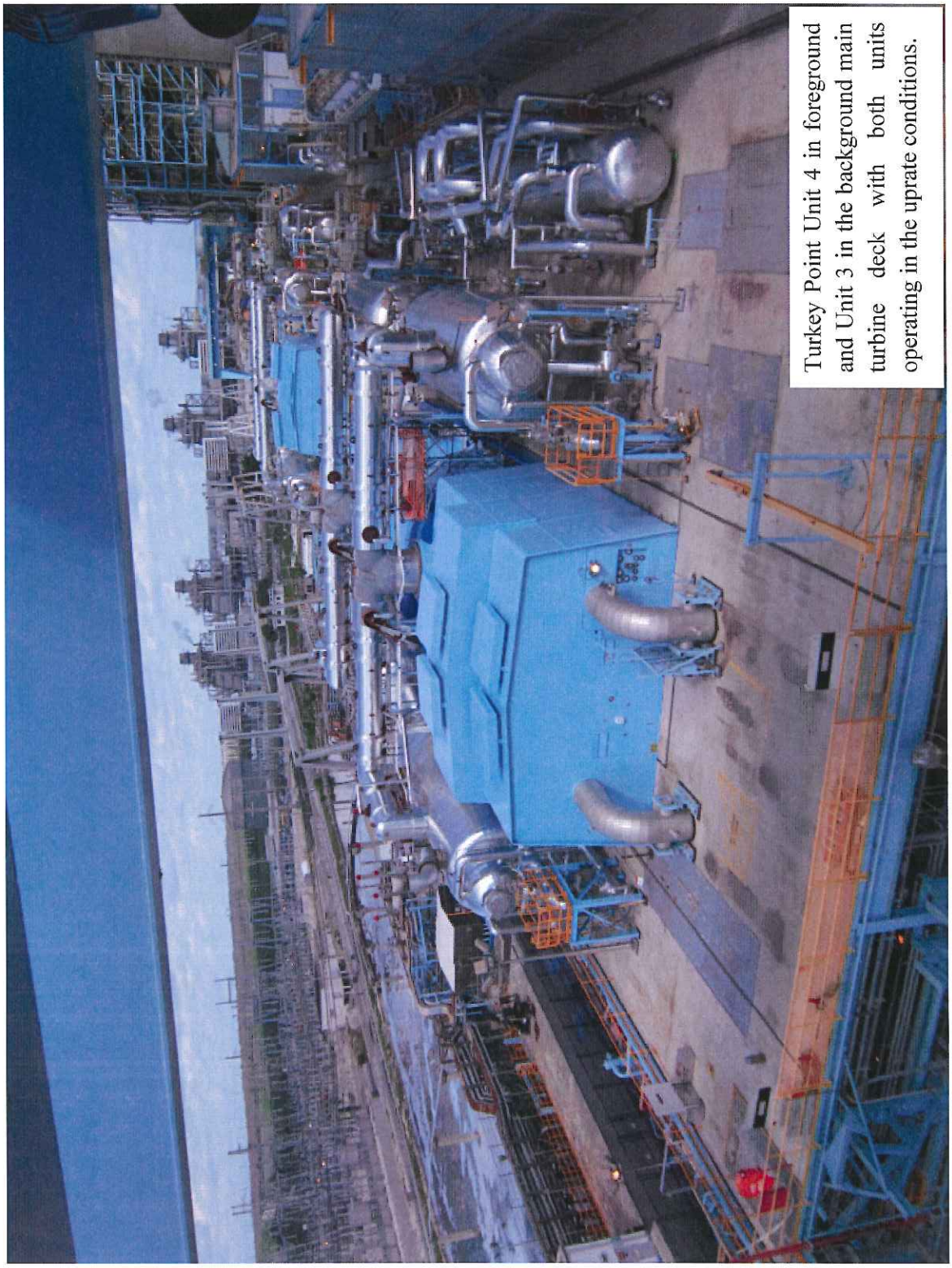
One of the four sections per unit of the main condenser being lowered by the specialty crane into the condenser pit area for installation into the condenser shell. Note the many dark brown steel tube sheets which are used to support the thousands of condenser tubes.



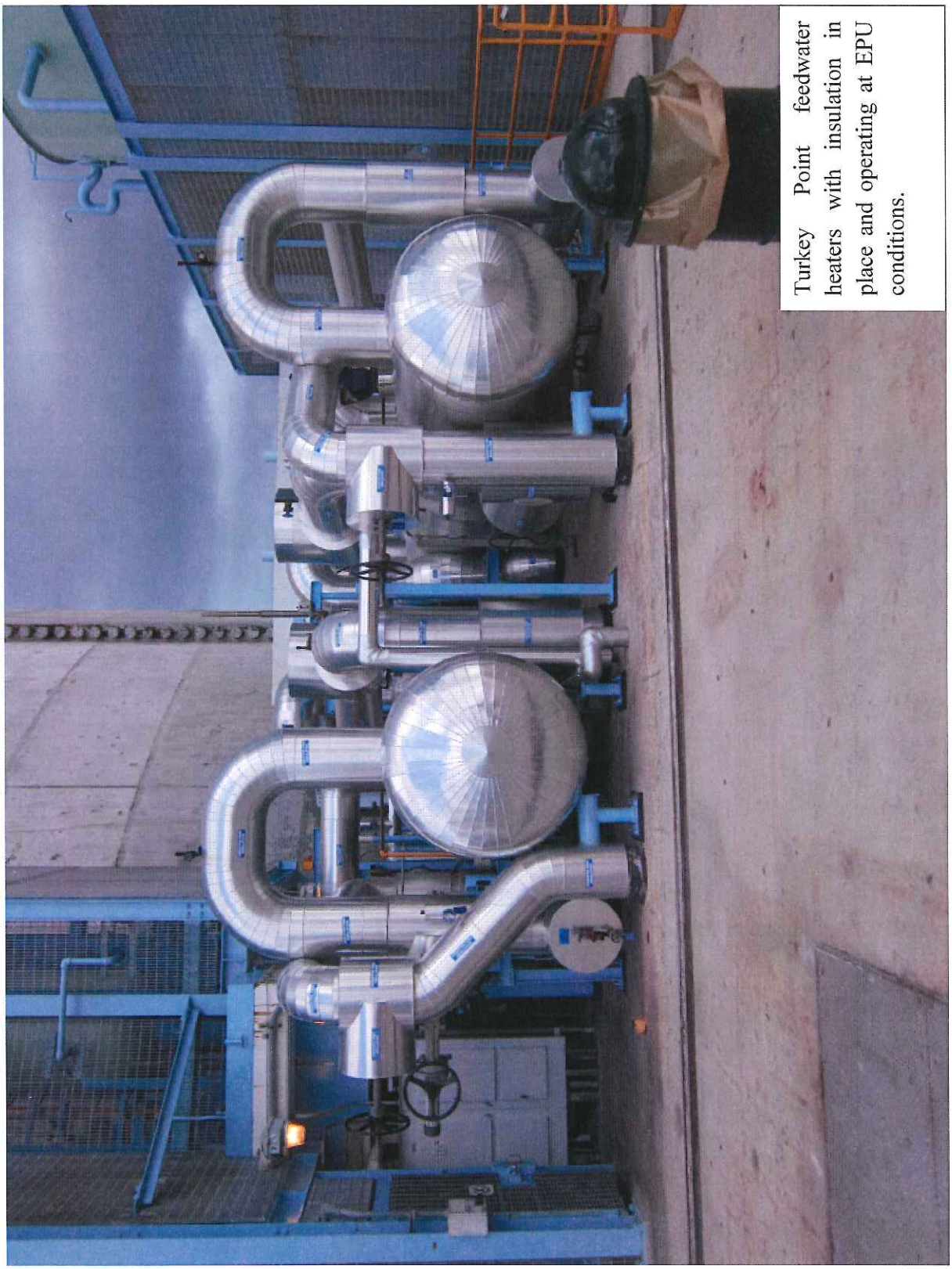
One of the four sections per unit of the new condenser being lowered onto the rail system in the condenser pit area for installation.



The four sections of the main condenser installed and the condenser pit area rail system removed. Workers making preparations for the reinstallation of the condenser outlet water boxes.



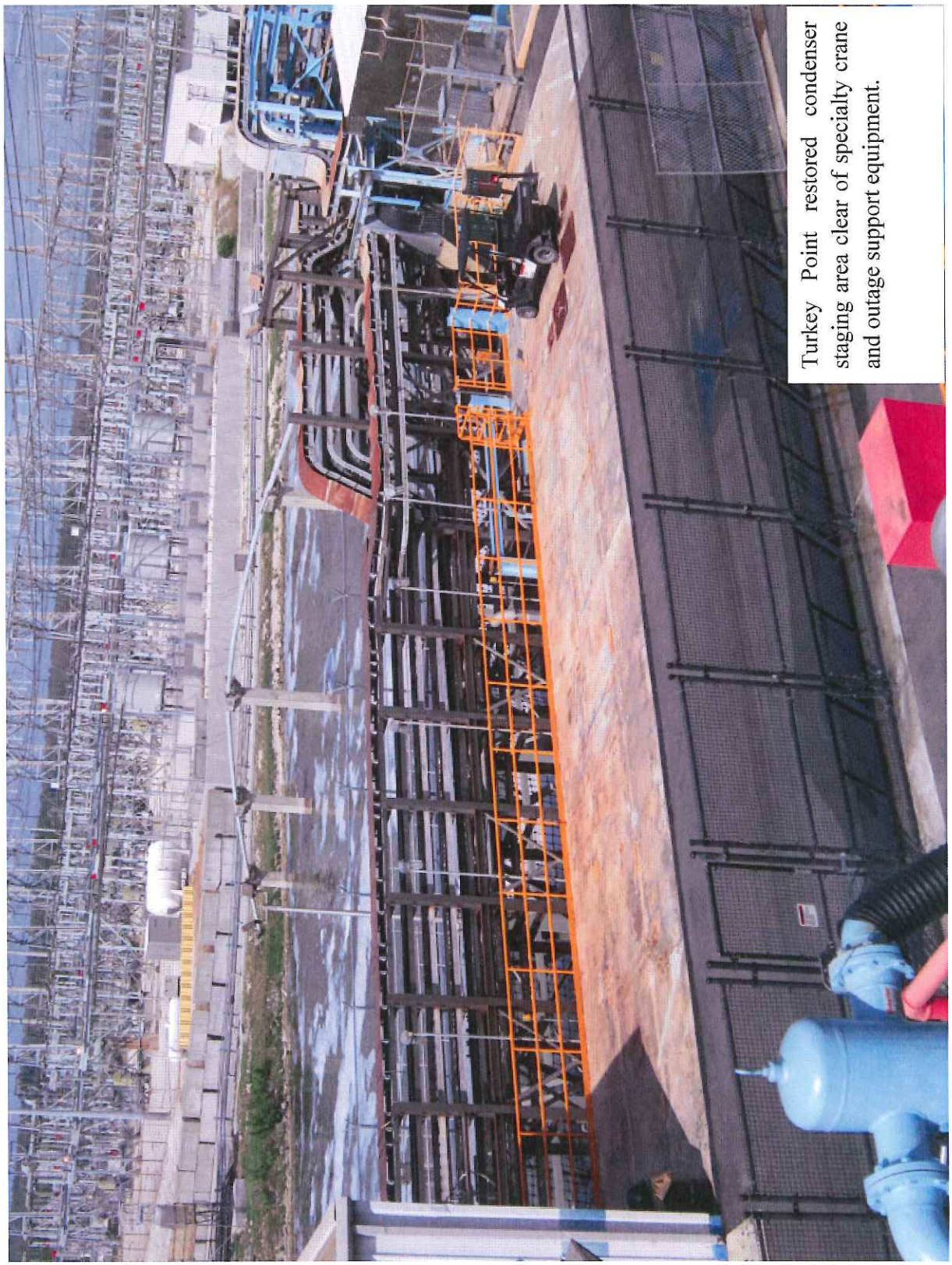
Turkey Point Unit 4 in foreground and Unit 3 in the background main turbine deck with both units operating in the uprate conditions.



Turkey Point feedwater heaters with insulation in place and operating at EPU conditions.

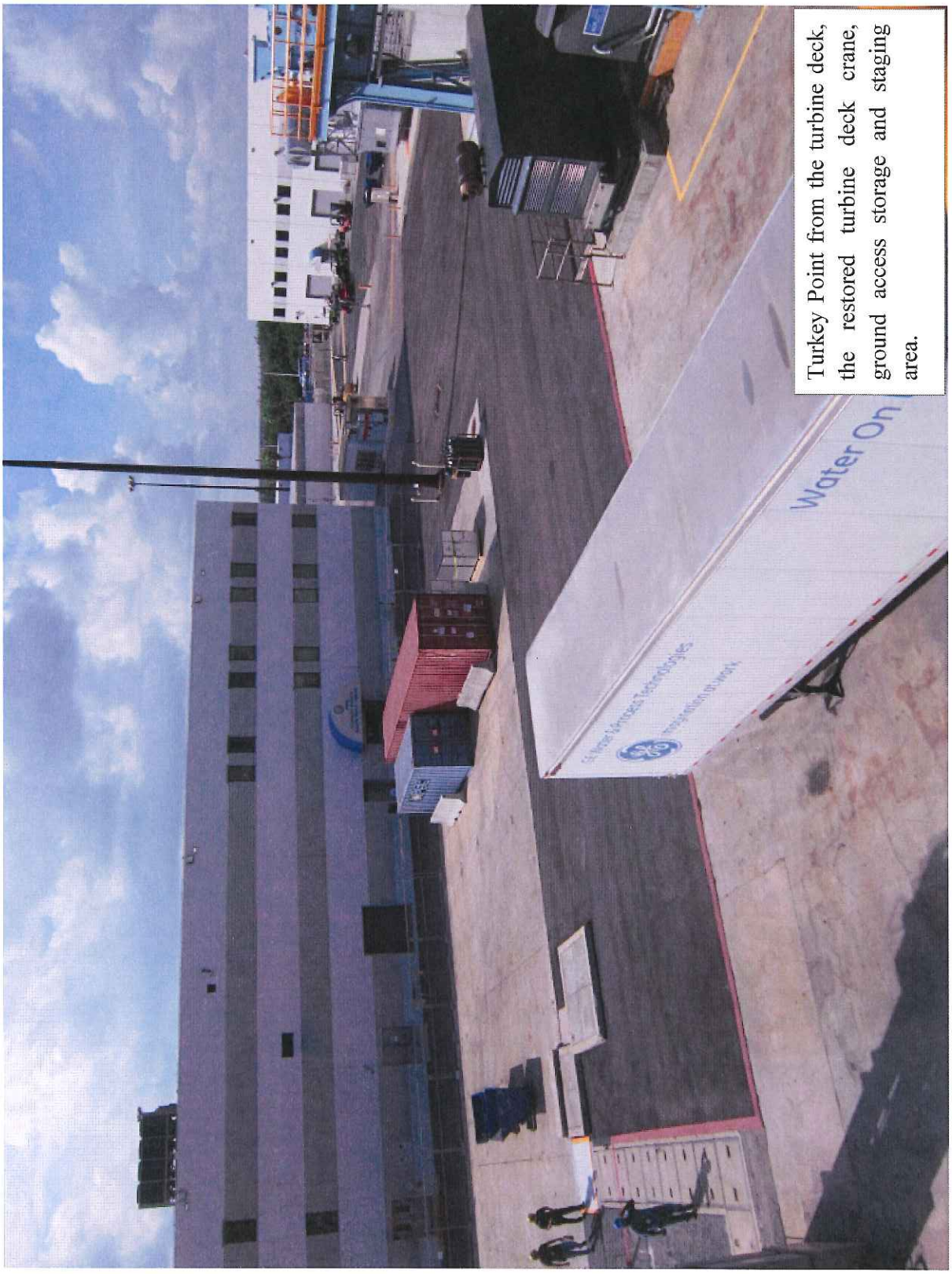
Turkey Point moisture separator reheater with insulation and blue turbine generator operating at uprate conditions.

Turkey Point condenser pit restored. Blue cooling water outlet water box covers in place with yellow handrail operating platforms and dark blue condenser tube cleaning system equipment.



Turkey Point restored condenser staging area clear of specialty crane and outage support equipment.

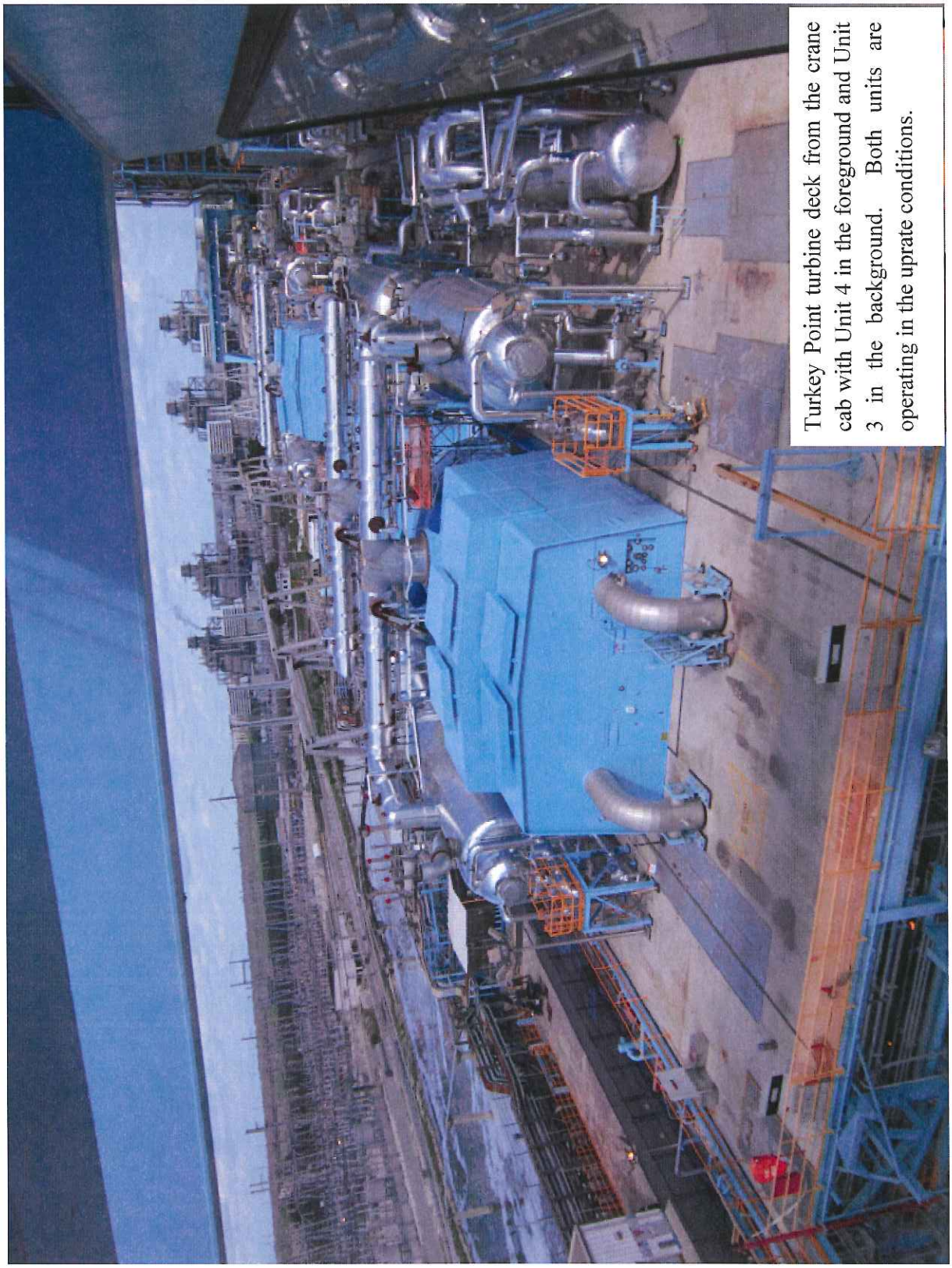
Turkey Point left of center, restored condenser area clear of specialty crane and outage support equipment. Lower left, a restored portion of the turbine deck crane ground storage and staging access area.



Turkey Point from the turbine deck, the restored turbine deck crane, ground access storage and staging area.

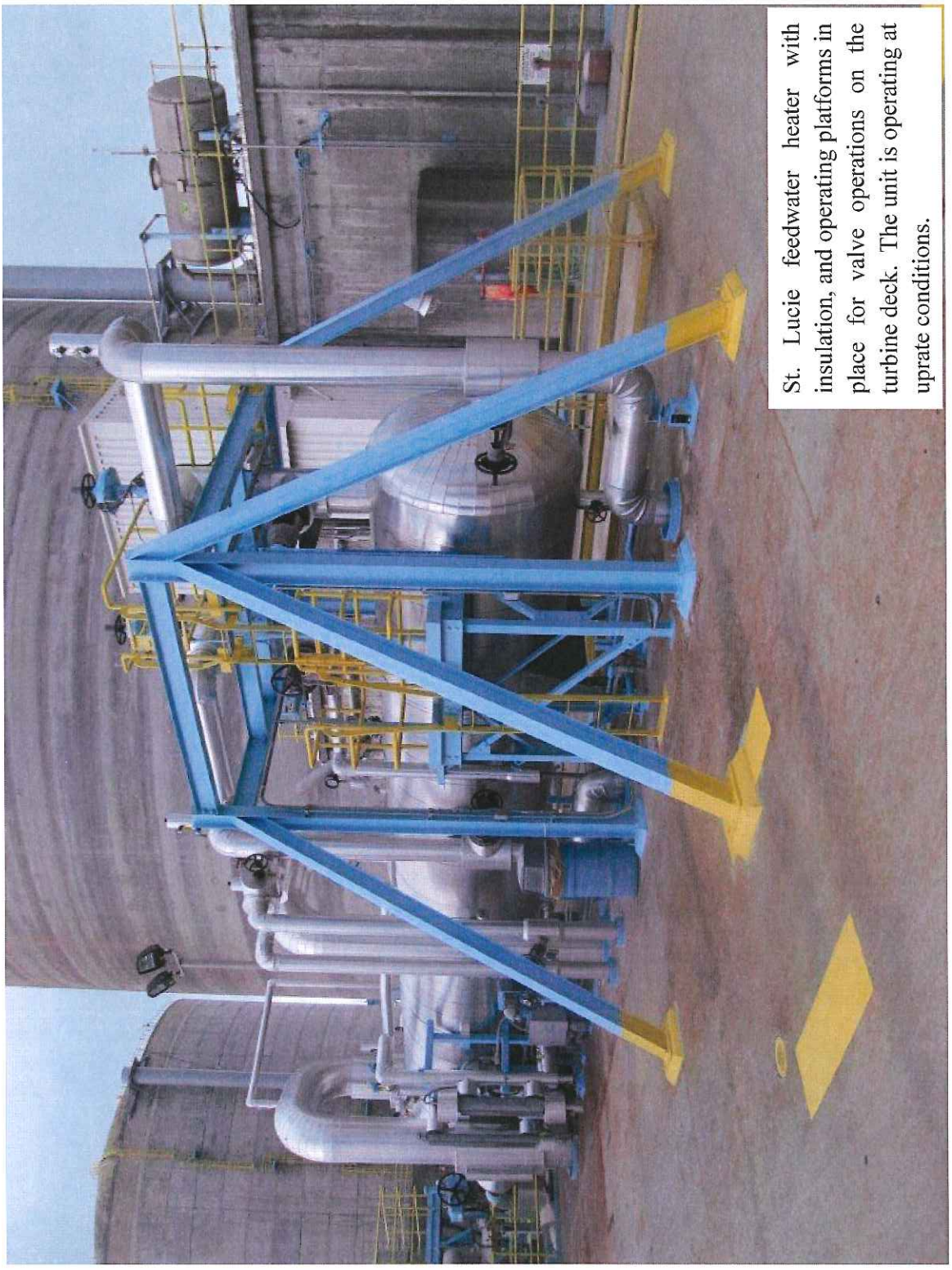
Turkey Point turbine deck restored with the crane rail and walkway. At top the blue turbine deck crane, then two large insulated moisture separator reheaters with feedwater heaters to the left and to the right the blue main turbine and generator operating at uprate conditions.

Turkey Point turbine deck restoration and closeout activities being performed, scaffolding in place for valve positioning and system tuning.



Turkey Point turbine deck from the crane cab with Unit 4 in the foreground and Unit 3 in the background. Both units are operating in the uprate conditions.

St. Lucie feedwater heater with insulation, and operating platforms in place for valve operations on the turbine deck. The unit is operating at uprate conditions. The primary containment structures are in the background.



St. Lucie feedwater heater with insulation, and operating platforms in place for valve operations on the turbine deck. The unit is operating at uprate conditions.

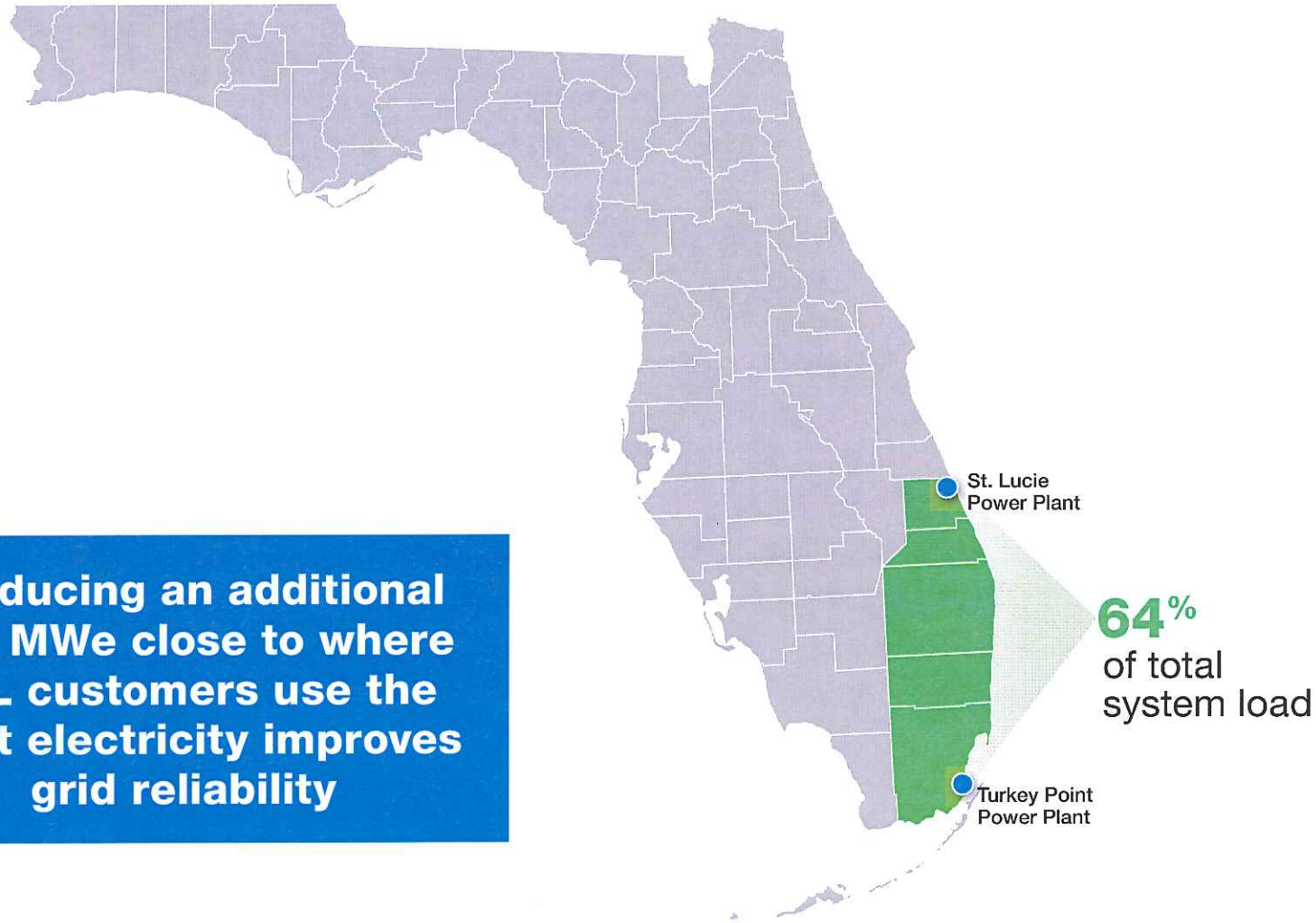
St. Lucie feedwater heater with insulation, and gray level instrumentation with associated piping and valves in place on the turbine deck. The unit is operating at uprate conditions.

St. Lucie moisture separator reheater with insulation, yellow, gray and blue piping restraint, and gray vertical instrumentation on the turbine deck. The unit is operating at uprate conditions.

St. Lucie feedwater heater with insulation, and operating platforms, in place for valve operations, on the turbine deck. The unit is operating at uprate conditions.

The EPU Investment Improves Grid Reliability

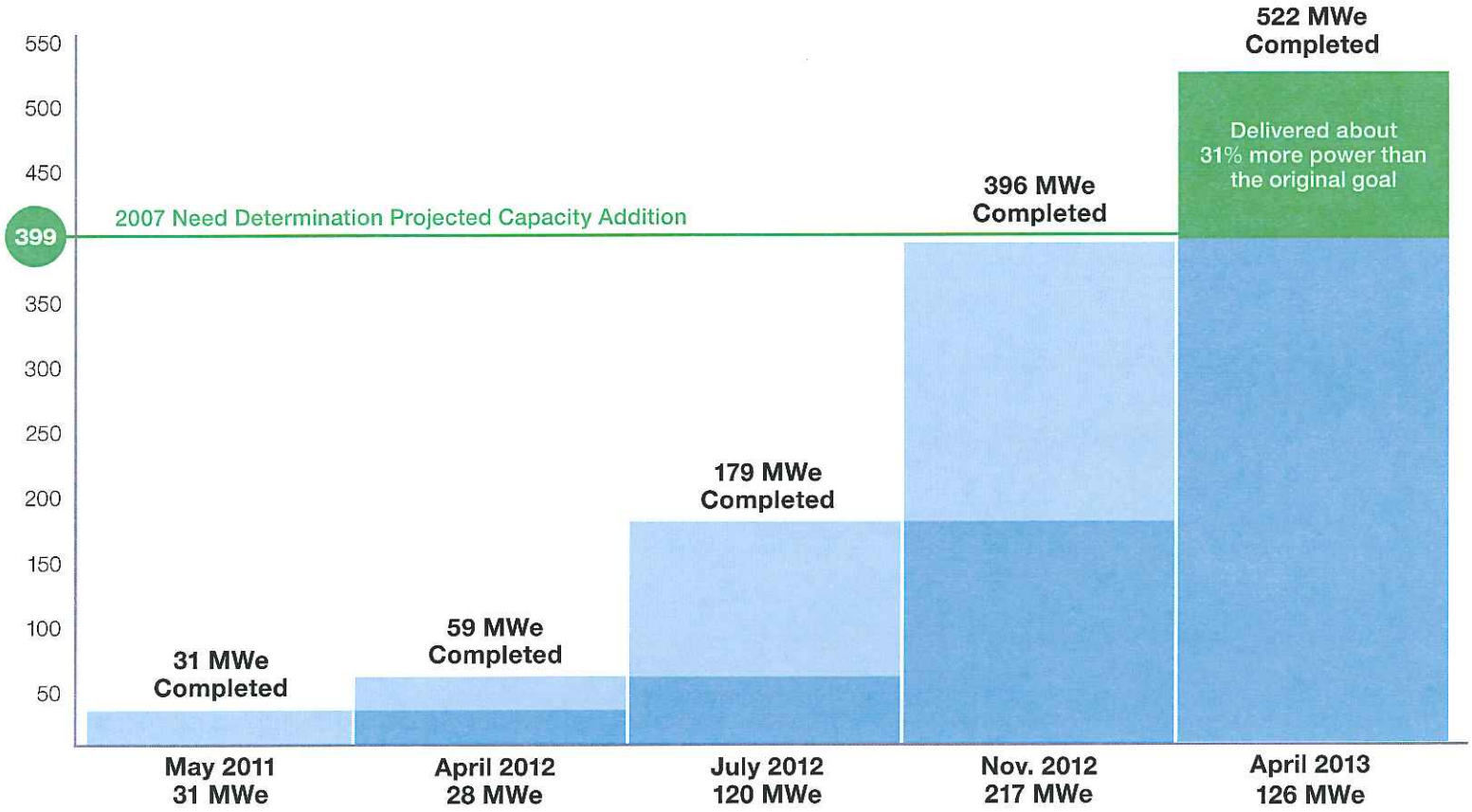
Miami-Dade, Broward, Palm Beach, Martin and St. Lucie counties account for about 64% of total FPL system load



Producing an additional 522 MWe close to where FPL customers use the most electricity improves grid reliability

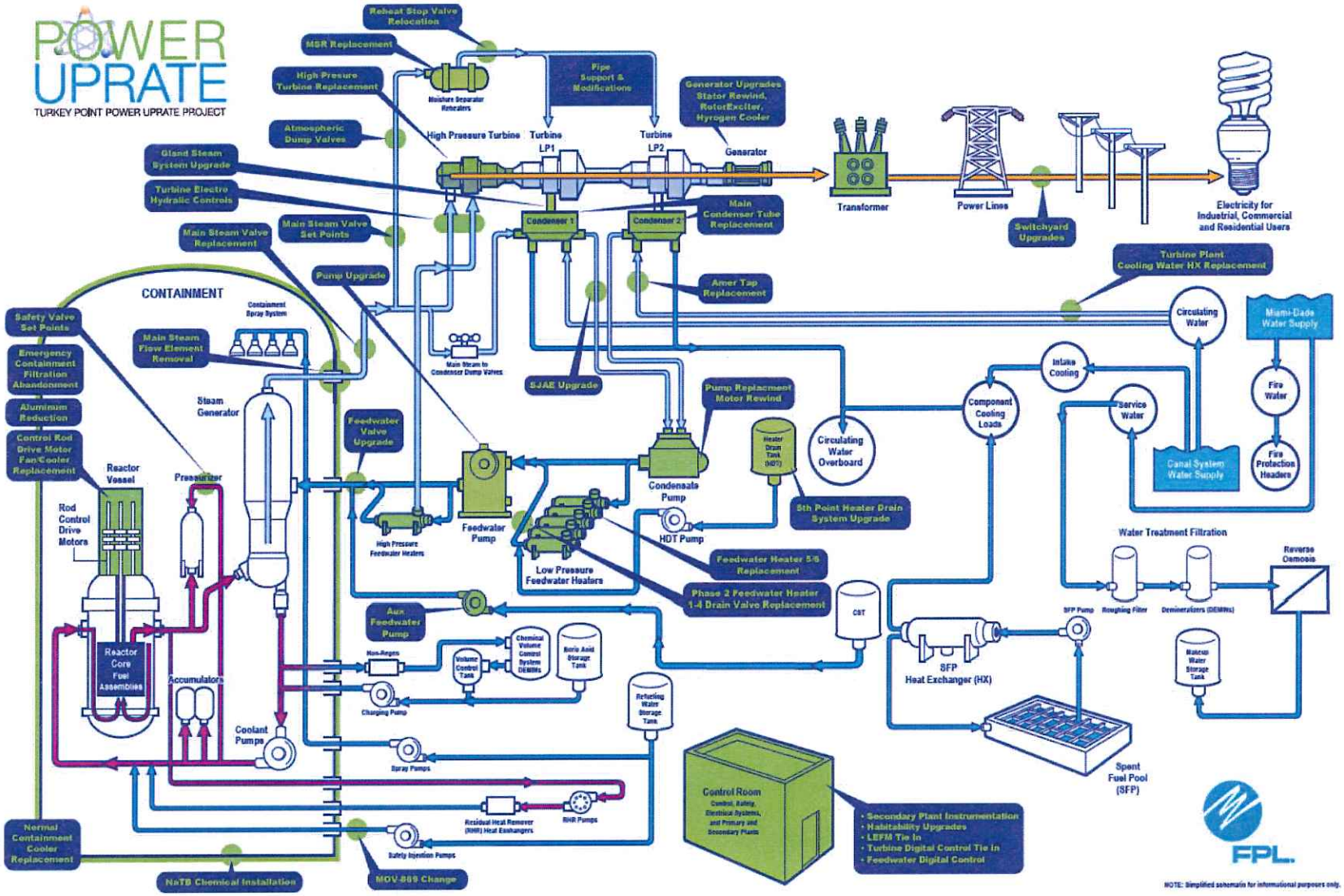
Docket No. 140009-EI
Southeast Florida Reliability Impact
Exhibit TOJ-8, Page 1 of 1

Extended Power Uprate Project is Delivering 31% More Capacity Than Originally Projected for FPL's Customers



Docket No. 140009-EI
EPU Project Electrical Output Status
Exhibit TOJ-9, Page 1 of 1

TURKEY POINT UNIT 4
EPU Component Work Scope Completed Early 2013



Docket No. 140009-EI
Illustration of Modifications for Turkey Point Unit 4
Exhibit TOJ-10, Page 1 of 1

EPU PROJECT WORK ACTIVITIES

Turkey Point Unit 4 Outage Completed 4/17/2013	Description	Final Contract	Scoping Document
Sump pH Control, Install Sodium Tetraborate (NaTB) Baskets	Alternative Source Term (AST) method requires pH greater than 7.0. The current pH control system is not sufficient at uprate conditions	S&L PO-79551	AST LAR Engineering
Switchyard Modifications	Increased electrical output requires modification to switchyard equipment to support the uprate conditions	T & S	Generation Interconnection Service and Network Resource Interconnection Service System Impact Study. 11/25/08
Feedwater Heater Drains Digital Modifications	Instrumentation to provide control of the feedwater heater control and dump valves in the uprate conditions	Bechtel PO-117809	FPL PTN Feasibility Study 2007, Turkey Point Nuclear Plant BOP EPU Scoping Study, March 2008
Turbine Digital Controls Modification	Enhanced controls for the new turbines. Current design is not sufficient for the new turbine configuration in the uprate conditions	Bechtel PO-117809	FPL PTN Feasibility Study 2007, Turkey Point Nuclear Plant BOP EPU Scoping Study, March 2008
Leading Edge Flow Meter (LEFM) Digital (Instrumentation) Upgrade Tie-In	Precision flow measurement instrument and instrumentation provides for increased certainty of operating parameters supporting uprate conditions	Bechtel PO-117809	FPL PTN Feasibility Study 2007, Turkey Point Nuclear Plant BOP EPU Scoping Study, March 2008
BOP Instrumentation Modifications	Increased pressures and flows require modifications and adjustments to process instrumentation in the uprate conditions	Ames PO-2302164	FPL PTN Feasibility Study 2007, Turkey Point Nuclear Plant BOP EPU Scoping Study, March 2008 and EPU LAR Engineering
Fast Acting Feedwater Isolation Valves Addition	Increased feedwater flow and pressure requires modifications to support uprate conditions	Bechtel PO-117809	FPL PTN Feasibility Study 2007,Turkey Point Nuclear Plant BOP EPU Scoping Study, March 2008

EPU PROJECT WORK ACTIVITIES

Turkey Point Unit 4 Outage Completed 4/17/2013	Description	Final Contract	Scoping Document
Feedwater Regulating Valves Trim Upgrade Modification	Larger actuators and valve internals are required to operate the feedwater regulating valves in the increased uprate conditions	Bechtel PO-117809	FPL PTN Feasibility Study 2007, Turkey Point Nuclear Plant BOP EPU Scoping Study, March 2008
Heater Drain Valves Replacement (Remaining)	Larger valves are needed to control the condensate flow in the uprate conditions	Bechtel PO-117809	FPL PTN Feasibility Study 2007, Turkey Point Nuclear Plant BOP EPU Scoping Study, March 2008
Feedwater Heater #5 Drain Piping Modification	Higher drain water flows require larger piping in the uprate conditions	Bechtel PO-117809	FPL PTN Feasibility Study 2007,Turkey Point Nuclear Plant BOP EPU Scoping Study, March 2008
Main Steam Isolation Valve and Main Steam Control Valve Assemblies (MSIV/MSCV) Replacement	Satisfies new steam system pressures requirements at the HP turbine	Bechtel PO-117809	EPU LAR Engineering
Main Steam Safety Valve Setpoint Modifications	Increased temperature and pressure require set point changes in the uprate conditions	Ames PO-2302164	FPL PTN Feasibility Study 2007, Turkey Point Nuclear Plant BOP EPU Scoping Study, March 2008
High Pressure Turbine Modification	Larger inlet throttle valves and Turbine redesign are required for increased steam flows in the uprate conditions	Siemens PO-116090	FPL PTN Feasibility Study 2007, Turkey Point Nuclear Plant BOP EPU Scoping Study, March 2008
Main Generator Rotor Replacement	Larger generator and stator are needed to increase electrical output in the uprate conditions	Siemens PO-116090	FPL PTN Feasibility Study 2007,Turkey Point Nuclear Plant BOP EPU Scoping Study, March 2008
Main Generator Hydrogen Coolers	Increased main generator cooling is required in the uprate conditions	Siemens PO-116090	FPL PTN Feasibility Study 2007,Turkey Point Nuclear Plant BOP EPU Scoping Study, March 2008

EPU PROJECT WORK ACTIVITIES

Turkey Point Unit 4 Outage Completed 4/17/2013	Description	Final Contract	Scoping Document
Turbine Electro-Hydraulic Controls	Enhanced controls for the new turbines. Current design is not sufficient for the new turbine configuration in the uprate conditions	Siemens PO-130272	FPL PTN Feasibility Study 2007, Turkey Point Nuclear Plant BOP EPU Scoping Study, March 2008
Moisture Separator Reheater (MSR) Replacement	Larger capacity MSRs are required to heat and dry the steam flow in the uprate conditions	Bechtel PO-117809	FPL PTN Feasibility Study 2007, Turkey Point Nuclear Plant BOP EPU Scoping Study, March 2008
Main Condenser replacement	Increased turbine exhaust steam to the main condenser requires replacement of the main condenser to support uprate conditions	Bechtel PO-117809	FPL PTN Feasibility Study 2007, Turkey Point Nuclear Plant BOP EPU Scoping Study, March 2008
Condenser Tube Cleaning System Replacement (Amertap)	Replacement of the main condenser requires replacement of the condenser tube cleaning system to support the uprate conditions	Bechtel PO-117809	FPL PTN Feasibility Study 2007, Turkey Point Nuclear Plant BOP EPU Scoping Study, March 2008
Normal Containment Cooling(NCC) Modifications	Increased power production from the primary system requires additional cooling of the containment in the uprate conditions	Shaw PO-2293489	FPL PTN Feasibility Study 2007, Turkey Point Nuclear Plant BOP EPU Scoping Study, March 2008
Spent Fuel Pool Cooling Heat Exchanger Replacement	Increased power from the fuel requires additional cooling of the fuel when it is placed into the spent fuel pool	PCI PO-2309693	FPL PTN Feasibility Study 2007, Turkey Point Nuclear Plant BOP EPU Scoping Study, March 2008
Pressurizer Safety Valve Setpoint Change	A Pressurizer Safety Valve Setpoint change is required to meet the peak Reactor Coolant System pressure in the LOL/TT event	Ames PO-2302164	FPL PTN Feasibility Study 2007, Turkey Point Nuclear Plant BOP EPU Scoping Study, March 2008
Emergency Containment Filter Removal	Remove containment filters from the containment to support the safety margin in the uprate conditions	Shaw PO-2293489 R7	FPL PTN Feasibility Study 2007

EPU PROJECT WORK ACTIVITIES

Turkey Point Unit 4 Outage Completed 4/17/2013	Description	Final Contract	Scoping Document
Condensate Pump and Motor Replacement	Larger condensate pumps are needed to pump the increased condensate flows in the uprate conditions	Bechtel PO-117809	FPL PTN Feasibility Study 2007, Turkey Point Nuclear Plant BOP EPU Scoping Study, March 2008
Main Feed Pump Rotating Element Replacement	Rotating assemblies need redesign to pump the increased feedwater flow required in the uprate conditions	Bechtel PO-117809	FPL PTN Feasibility Study 2007, Turkey Point Nuclear Plant BOP EPU Scoping Study, March 2008
Turbine Plant Cooling Water(TPCW) Heat Exchanger Replacement	Increased temperatures of components require additional cooling in the uprate conditions	Bechtel PO-117809	FPL PTN Feasibility Study 2007,Turkey Point Nuclear Plant BOP EPU Scoping Study, March 2008
Feedwater Heaters(5A/B, 6A/B) Replacement	Larger feedwater heaters are needed to process the steam and feedwater flows in the uprate conditions	Bechtel PO-117809	FPL PTN Feasibility Study 2007, Turkey Point Nuclear Plant BOP EPU Scoping Study, March 2008
Main Steam Pressure L/L Module Install and Eagle 21Changes	Modifications for licensing, design basis, plant program changes, I&C scaling and setpoint changes identified to support EPU conditions	Ames PO-2302164	EPU LAR Engineering
Pressurizer Setpoint / Control / Indication Changes	Changes to NSSS and BOP instrumentation are required to meet EPU conditions	Ames PO-2302164	EPU LAR Engineering
High Pressure Turbine Supply Spill Over Piping Replacement	Modifications needed for increased HP Turbine exhaust pressures and spillover	WeldTech PO-2304432	EPU LAR Engineering
Add Valve Operator Extension Hand wheel to Safety Injection Valve 3-867 and 4-867	Modification makes motor operated valve accessible to allow manual isolation to accommodate EPU conditions	Shaw P.O. 2293489 R7	EPU LAR Engineering

EPU PROJECT WORK ACTIVITIES

Turkey Point Unit 4 Outage Completed 4/17/2013	Description	Final Contract	Scoping Document
Containment Aluminum Reduction	EPU increases containment sump temperature which accelerates aluminum degradation	Shaw PO-2293489 R7	EPU LAR Engineering
Hot Leg Injection Alternate Flow Path	Evaluate/modify current design for alternate Hot Leg flow path which contains a single-failure deficiency for post-LOCA Hot Leg Recirculation	Shaw PO-2293489 R7	EPU LAR Engineering
Plant Doc Changes resulting from Westinghouse Setpoint and Scaling Changes	Documentation update and identification of setpoint / scaling changes to plant computer systems software for NSSS systems as a result of EPU	Ames PO-2302164	EPU LAR Engineering
Main Steam Flow Element Modifications	Satisfies new steam system pressures requirements at the HP turbine	Shaw PO-2293489 R7	EPU LAR Engineering
Steam Generator Blowdown Flow Instrumentation	Modifications needed to improve measurement accuracy of Steam Generator blowdown	Bechtel PO-117809	EPU LAR Engineering
Closed Cooling Water (CCW) Pipe Support Modifications	CCW Pipe Supports need to be evaluated/modified to ensure design basis is met under EPU conditions	Shaw PO-2293489 R7	EPU LAR Engineering
Steam Jet Air Ejector (SJAE) Condenser Tube Bundle Replacement	Modification needed to SJAE condenser due to increased condensate system pressure resulting from uprate	WeldTech PO-2304432	EPU LAR Engineering
Heater Drain System Pressure Re-rate	Piping modifications required to meet EPU conditions	Bechtel PO-117809	EPU LAR Engineering

EPU PROJECT WORK ACTIVITIES

Turkey Point Unit 4 Outage Completed 4/17/2013	Description	Final Contract	Scoping Document
Control Rod Drive Mechanism Fan Motor and Cooling Coil Replacement	Fan motor modification needed because of increased containment temperatures caused by EPU conditions. Cooling coil material being changed to copper to reduce the amount of aluminum in containment to meet AST requirements	Shaw PO-2293489 R7	AST LAR Engineering
Emergency Containment Coolers (ECC) Restore Automatic Actuation of Third ECC to Reduce Containment Pressure	Auto actuation of the three Emergency Containment Cooling fans is required in the uprate conditions	Shaw PO-2293489 R7	EPU LAR Engineering
EPU Piping Vibration Modification Includes Pipe Snubber and Supports Installations	Piping will be monitored for increased vibrations which may require additional modifications to piping constraints in the uprate condition	Shaw PO-2293489 R7	Operating Experience from uprates
Unit 4 Turbine Building & Feedwater Platform Structure	Provide additional structural support for heavier components	Bechtel PO-117809	Engineering Evaluation

EPU PROJECT WORK ACTIVITIES

Turkey Point 2013 On-Line Aetivities	Description	Final Contract	Scoping Document
Unit 4 Umbrella Modification LAR Document PCM # 1	Non-hardware modifications implementing configuration management of licensing, design basis and plant program changes as a result of EPU	Enercon PO-2285720	EPU LAR Engineering
Unit 4 Condensate Polishing	Condensate Polishing building modification to clean secondary water after major component replacements	Shaw P.O. 2293489 Release 007	Engineering evaluation and operating experience
Site Demobilization and Site Restoration	Restoration of temporary facilities, structures, parking, construction, return office areas to pre-EPU Project conditions	Various	Engineering Modifications and FPSC Nuclear Cost Recovery
Post -EPU Asset Disposal	Demolition and disposal of all construction debris, replaced vessels and components	Various	Engineering Modifications and FPSC Nuclear Cost Recovery
Post EPU Outage System Testing and Tuning	To align systems to optimal performance and re-establishes performance baselines for systems that were modified	Various	FPL PTN Feasibility Study 2007,Turkey Point Nuclear Plant BOP EPU Scoping Study, March 2008 and Engineering Modifications
Final Project Documentation and Close-out	Project document close-out activities which include calculation updates, Configuration Control Programs, Document Package Close-out and commercial close-out	Various	FPL Feasibility Study 2007,Turkey Point Nuclear Plant, BOP, EPU, Scoping Study, February 2008 and Engineering modifications
Cost Recovery Close-out	Provide support and documentation for final close-out of Cost Recovery process	Various	FPSC Nuclear Cost Recovery

EPU PROJECT WORK ACTIVITIES

St. Lucie Plant 2013 On-Line Activities	Description	Final Contract	Scoping Document
Site Demobilization and Site Restoration	Restoration of temporary facilities, structures, parking, construction, return office areas to pre-EPU Project conditions	Various	Engineering Modifications and FPSC Nuclear Cost Recovery
Post EPU Asset Disposal	Demolition and disposal of all construction debris, replaced vessels and components	Various	Engineering Modifications and FPSC Nuclear Cost Recovery
Post EPU Outage System Testing and Tuning	To align systems to optimal performance and re-establishes performance baselines for systems that were modified	Various	FPL PSL Feasibility Study 2007,St. Lucie Nuclear Plant BOP EPU Scoping Study, March 2008 and Engineering Modifications
Final Project Documentation Close-out	Project document close-out activities which include calculation updates, Configuration Control Programs, Document Package Close-out and commercial close-out	Various	FPL Feasibility Study 2007,St. Lucie Nuclear Plant, BOP, EPU, Scoping Study, February 2008 and Engineering modifications
Cost Recovery Close-out	Provide support and documentation for final close-out of Cost Recovery process	Various	FPSC Nuclear Cost Recovery
Spent Fuel Handling Machine Auxiliary Hoist, Units 1 and 2	Add an auxiliary hoist to facilitate the movement and installation of Metamic inserts with EPU Fuel	Westinghouse PO-2301976	Engineering Modifications and FPSC Nuclear Cost Recovery

EPU EQUIPMENT PLACED IN SERVICE IN 2013

Item No.	Equipment Description	In Service Date
1	Transmission - Turkey Point Digital Fault Recorder Monitoring	January 2013
2	Transmission - Turkey Point Lightning Protection	January 2013
3	Transmission - Turkey Point String Bus Spacers	January 2013
4	Nuclear - St. Lucie Simulator Mod Phase 3	March 2013
5	Nuclear - Turkey Point Extended Power Uprate Unit 4 Cycle 27 • High Pressure Turbine Rotor Replacement • Generator Upgrade - Rotor Replacement & Stator Rewind • Generator Current Transformers and Bushings Replacement • Generator Hydrogen Coolers Upgrade • Generator Exciter Cooler Upgrade • Heater Drain Valve Replacement • Spent Fuel Cooling Heat Exchanger Replacement • Main Steam Isolation Valve Modification • Moisture Separator Reheater Replacement • Turbine Plant Cooling Water Heat Exchanger Replacement • Main Condenser Replacement • Normal Containment Cooling Modification • Condensate Pump and Motor Replacement • Feedwater Heater # 5 & 6 Replacement	April 2013
6	Nuclear - Turkey Point Unit 4 Cycle 27 Turbine Valve	April 2013
7	Nuclear - St. Lucie Fabric Building B Restoration	June 2013
8	Nuclear - St. Lucie Fabric Building F Restoration	June 2013
9	Nuclear - St. Lucie Unit 1 Spent Fuel Handling Machine	June 2013
10	Nuclear - St. Lucie Unit 2 Spent Fuel Handling Machine	June 2013
11	Nuclear - Turkey Point Spare Turbine Valve Removed from Unit 4-27	December 2013

EPU PROJECT INSTRUCTIONS INDEX AS OF DECEMBER 31, 2013

Title	PI #	Revs	Issued
Project Administration	**100**		
Project Instruction Preparation, Revision, Cancellation	100	R7	4/8/2013
EPU Project Expectations & Conduct of Business	110	R26	10/8/2012
Roles & Responsibilities	140	R12	2/25/2013
EPU Project-Nuclear Business Ops Interface	150	R3	5/16/2012
EPU Project Formal Correspondence	160	R3	12/22/2011
Time and Expense Reporting to FPLE Support	170	Cancelled	5/7/2012
EPU Nuclear Cost Recovery	180	R2	10/22/2012
Human Performance	190	Cancelled	12/2/2013
Procurement	**200**		
PR and PO Funding Request and Single/Sole Source Justification	220	R8	8/12/2013
Project Invoice Process Instructions	230	R9	7/29/2013
Work Hours Validation Sampling Program	235	R0	8/20/2012
EPU Contract Compliance Program	240	R4	2/29/2012
Project Target Price Control Process	250	Cancelled	10/22/2012
Project Controls	**300**		
EPU Project Change Control	300	R11	11/26/2012
Forecast Variance and Trends	301	R1	11/28/2011
Nonbinding Cost Estimate Range	302	Cancelled	10/14/2013
Development, Maintenance, and Update of Schedules	310	Cancelled	11/18/2013
Cost Estimating	320	Cancelled	10/14/2013
EPU Project Risk Management Program	340	Cancelled	10/14/2013
EPU LAR Engineering Risk Management	345	Cancelled	5/18/2011
FPL Accrual Process	370	R5	1/30/2012
Project Self Assessment	380	Cancelled	8/19/2013
EPU Obsolete and Spare Parts Process Guideline	391	Cancelled	12/2/2013
Project Training	**500**		
EPU Project Personnel Training Requirements	520	Cancelled	8/19/2013
EPU Project Qualification Guidelines	560	Cancelled	8/19/2013
Quality, Engineering & Licensing	**600**		
EPU Uprate License Amendment Request	610	Cancelled	7/28/2011
Request for Information - St. Lucie and Turkey Point	640	Cancelled	8/19/2013
Point Beach Specific	**700**		
Fire, Weather, Medical, and Other Emergencies	710	Cancelled	1/15/2012
Point Beach EPU Project Craft Productivity Observation	720	Cancelled	10/26/2011
Saint Lucie Specific	**800**		
St. Lucie EPU Project Severe Weather Preparation	810	Cancelled	1/2/2013
EPU Project Environmental Control Program PSL	820	Cancelled	11/12/2012
Turkey Point Specific	**900**		
Turkey Point EPU Project Severe Weather Preparations	910	Cancelled	12/2/2013
EPU Project Environmental Control Program PTN	920	Cancelled	4/26/2012

2013 EPU PROJECT REPORTS

Report	Report Description	Typical Periodicity	Audience
PTN Daily Report	Activities scheduled within the next six weeks	Daily	All project staff personnel, project management and project controls
Juno Beach, Executive VP & Chief Nuclear Officer Summary	LAR status, engineering status, planning and implementation, and project risks	Biweekly	Executive Vice president & Chief Nuclear Officer and other invited guests
PSL, PTN, Accrual Report	Documents accruals for each site, vendor, amount, purchase order, remarks and references	Monthly	Nuclear Business Operations, Corporate accounting, EPU Project Management
PSL, PTN Variance Report	Cost actuals, budgets and forecasts for Operations & Maintenance (O&M) and Capital expenditures	Monthly	Nuclear Business Operations, Corporate accounting, EPU Project Management
PSL, PTN, Monthly Operating Performance Report (MOPR)	Dashboard of EPU project, scope definition, execution plan, resources, cost, schedule, quality, safety, environmental, licensing, and regulatory	Monthly, Last report March 2013	Executive Management, EPU Project Management
PSL, PTN Risk Matrix	Quantified risks, potential cost impact, weighted cost impact, probability of occurrence, and risks identified but not quantified	PTN Weekly Last report 3-7-2013 PSL As Needed Last report 1-3-2013	Project Management, Input to Presentations
PSL, PTN Monthly Cash Flow Charts	Dashboard, progress indicators, resources, schedule, and costs	Monthly	Project Management
Juno Beach, Executive Steering Committee Meeting Presentations	Project status, indicators, forecast issues, next steps	Quarterly Last report 1-15-2013	Executive Management

2013 EPU PROJECT REPORTS

Report	Report Description	Typical Periodicity	Audience
Bechtel Status Report	Dashboard, progress indicators, resources, schedule, costs	As needed	Project Management
Cost Reviews PSL PTN	Monthly project summary costs: total to date; monthly totals; and to go amounts	Monthly	Executive and Project Management
Bechtel, PTN	Daily Earned Value Report and Daily Cost Report for PTN 4R27 outage	Daily Last report 2-27-2013	Project Management, Input to Presentations
Shaw, PTN	Daily Earned Value Report and Daily Cost Report for PTN 4R27 outage	Daily	Project Management, Input to Presentations
Bechtel PTN	Trend Register	Weekly Last report 3-12-2013	Project Management, Input to Presentations
Power Plant Integration Meeting Reports PTN	EPU project closeout status	Monthly	Executive and Project Management
Closeout Dashboards PSL PTN	Status of closeout activities by grouped areas	Weekly PSL, Last report 7-14-2013 PTN, Start reports 3-20-2013	Executive and Project Management
Closeout Metrics PSL PTN	Status of project closeout activities by grouped areas	Weekly PSL, Last report 6-26-2013 PTN, Start reports 3-3-2013	Executive and Project Management
EPU Vital Statistics	Weekly report of safety, Change Request Notices, Cost Forecast, Daily Labor Cost Burn Rate, Staffing Levels	Weekly	Project Management

Docket No. 140009-EI
Summary of 2013 EPU Construction Costs
Exhibit TOJ-15, Page 1 of 1

Line No.	Category	2013 Actual Costs
1	Licensing	$61,271
2	Engineering & Design	$11,564,053
3	Permitting	$0
4	Project Management	$22,856,727
5	Power Block Engineering, Procurement, etc.	$170,837,837
6	Non-Power Block Engineering, Procurement, etc.	$822,166
7	**Total EPU Generation Capital Costs**	**$206,142,054**
8	Transmission Capital	($249,371)
9	**Total Generation & Transmission Capital Costs**	**$205,892,683**
10	EPU Recoverable O&M	10,873,922
11	**Total O&M and Capital Construction Costs**	**$216,766,605**