

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

**DOCKET NO. 090009-EI
FLORIDA POWER & LIGHT COMPANY**

**IN RE: NUCLEAR POWER PLANT COST RECOVERY AMOUNT
TO BE RECOVERED DURING THE PERIOD
JANUARY – DECEMBER 2010**

REBUTTAL TESTIMONY OF:

R. KUNDALKAR

DOCUMENT NUMBER-DATE

08259 AUG 10 8

FPSC-COMMISSION CLERK

1 **BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION**

2 **FLORIDA POWER & LIGHT COMPANY**

3 **REBUTTAL TESTIMONY OF RAJIV S. KUNDALKAR**

4 **DOCKET NO. 090009-EI**

5 **August 10, 2009**

6
7 **Q. Please state your name and business address.**

8 A. My name is Rajiv S. Kundalkar and my business address is 700 Universe
9 Blvd., Juno Beach, FL 33408

10 **Q. Have you previously provided testimony in this docket?**

11 A. Yes.

12 **Q. Are you sponsoring any rebuttal exhibits in this case?**

13 A. Yes. I am sponsoring the following exhibits that are attached to my rebuttal
14 testimony:

15 Exhibit RSK-10, Nuclear Policy 703, Long Range Plan

16 Exhibit RSK-11, Nuclear Plant Overview

17 Exhibit RSK-12, Turkey Point Unit 3 Overview

18 **Q. What is the purpose of your rebuttal testimony?**

19 A. My rebuttal testimony addresses the direct testimony provided by William R.
20 Jacobs on behalf of the Office of Public Counsel (OPC).

21 **Q. Please summarize your testimony.**

22 A. As outlined in my direct testimony and detailed below, FPL employs a
23 rigorous, in-depth engineering-based process to ensure that only costs that are
24 “separate and apart” from those that would have been incurred absent the

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1 Extended Power Uprate (EPU) project have been included in determining the
2 amount of FPL's Nuclear Cost Recovery Clause (NCRC) request for the EPU
3 project.

4
5 Without discussing or criticizing any specific aspect of FPL's extensive,
6 careful management controls and processes that support FPL's "separate and
7 apart" determination, Witness Jacobs simply repeats the same claim he made
8 in last year's NCRC case -- that the only way to satisfy the "separate and
9 apart" standard is to conduct a time consuming and speculative study
10 forecasting the performance of each and every part of the nuclear plant that
11 would or would not have had to be changed or replaced in the future if,
12 hypothetically, the EPU project did not occur. As explained in my testimony,
13 this approach where FPL is to somehow determine the future component-by-
14 component performance of the Turkey Point and St. Lucie nuclear plants,
15 absent the uprates, is not reasonable and should be rejected.

16
17 In addition, even assuming that (i) such a speculative study as proposed by
18 Witness Jacobs was performed; and (ii) it were hypothetically to show that
19 one or another component would have needed to be replaced over the next 20
20 years absent the EPU project, the resulting accounting most likely would
21 result in increased, not decreased, costs for FPL's customers.

22

1 The Commission may be assured that by accepting FPL’s carefully designed
2 and executed “separate and apart” process that the carrying costs for only the
3 correct “separate and apart” work is included in FPL’s NCRC request.
4 Accordingly, FPL’s analysis and its results should be accepted by the
5 Commission for NCRC purposes, and Witness Jacobs’s claim should be
6 rejected.

7 **Q. Witness Jacobs asserts on page 10 of his testimony that FPL has**
8 **“steadfastly refused to conduct the necessary study to confirm that the**
9 **uprate costs for which it is requesting recovery are separate and apart**
10 **from nuclear costs that would have been necessary to provide safe and**
11 **reliable service had there been no uprate project.” Do you agree?**

12 A. No. Witness Jacobs’s claim that FPL has failed to conduct necessary analyses
13 to meet the requirements of the Commission’s Rule 25-6.0423 and
14 contemplated by the stipulation in last year’s NCRC case is incorrect.

15
16 The facts are absolutely to the contrary of Witness Jacobs’s assertion. In fact,
17 FPL’s entire engineering, analytical and accounting approach to the uprate
18 project is aimed at ensuring that only appropriate uprate costs are incurred and
19 included for recovery in its NCRC request.

20 **Q. Please describe how FPL’s engineering, analytical and accounting**
21 **approach to the uprate project provides assurance that only appropriate**
22 **“separate and apart” costs are included in the determination of FPL’s**
23 **NCRC request.**

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A. FPL’s “separate and apart” analysis focuses on (i) determining the scope of modifications required for the uprate conditions through detailed engineering analyses; (ii) reviewing historical nuclear division plans for plant expenditures to validate that none of the modifications necessary for the EPU project were included in prior plans; (iii) reviewing Nuclear Regulatory Commission (NRC) license renewal commitments to validate that none of the modifications necessary for the uprate conditions were included in FPL’s existing license renewal commitments; (iv) establishing a cross-functional review team including engineering, accounting, business operations, and others to review uprate activities and confirm these activities are separate and apart from nuclear costs that would have been necessary to provide safe and reliable service had there been no uprate project; and (v) the careful process of recording costs and compiling its Nuclear Filing Requirements, and the many processes and procedures attendant thereto.

Q. Please elaborate on the engineering process FPL uses to ensure that only “separate and apart” expenditures are included.

FPL began with a detailed, engineering-based scoping study to outline the activities, replacements and modifications necessary for the uprates, including “benchmark” studies of other similar utilities that have performed power uprates.

1 After these studies, initial evaluations of the activities planned for the uprates
2 were performed to better define the scope of upgrades needed. This phase
3 was followed by the detailed engineering phase currently in progress.

4
5 The detailed engineering phase is the most intense evaluation phase to define
6 the optimum scope of upgrades needed and demonstrate the capability of the
7 plant to be licensed and operated safely and efficiently at the uprated
8 conditions. FPL continues to evaluate and optimize the scope of activities that
9 are needed to support the power uprate under this phase. In this phase, FPL
10 may identify new activities that are needed to support the power uprate
11 conditions, such as equipment modifications, removals, and installations not
12 previously identified. Other scope changes could include the elimination of
13 initially identified activities.

14
15 The fact that FPL continues at every stage to scrutinize the scope of necessary
16 activities exemplifies FPL's aggressive management of the project and desire
17 to correctly identify only those costs that are necessary for the uprate and are
18 separate and apart from nuclear costs that would have been necessary to
19 provide safe and reliable service had there been no uprate project.

- 20 **Q. Please describe the relevant document review conducted by FPL.**
- 21 A. Based on the scope of modifications identified, to conduct the separate and
22 apart analysis, FPL reviewed the Nuclear Division 2005 Business Plan to
23 validate that modifications necessary for the uprate conditions were not

1 included in prior plans. The Nuclear Division 2005 Business Plan includes
2 planned Operations & Maintenance (O&M) expenditures for 2005 – 2009 and
3 the seven (7) year plan of capital expenditures for 2004 – 2010, which has
4 been produced in discovery. FPL’s Nuclear Policy 703, Long Range Plan, is
5 attached as Exhibit RSK-10 and requires each site to maintain such properly
6 approved 7 year plans for major outage and non-outage projects.

7
8 This review confirmed that the EPU Project will only modify, remove and/or
9 replace equipment that is necessary to support the units in the power uprate
10 conditions of increased temperatures, pressures, flow rates, and electrical
11 output and there was no duplication of modifications between the EPU Project
12 and the planned expenditures outlined in the Business Plan.

13
14 Similarly, to ensure the uprate activities are separate and apart from license
15 renewal requirements, FPL completed a thorough examination of FPL’s
16 license renewal commitments. The license renewal process specifically
17 included passive components that perform functions important to safety and
18 specifically excludes active components. Active components are those with
19 moving parts such as pumps, valves, generators, and turbines. The NRC relies
20 on plants predictive maintenance and surveillance activities to determine
21 required replacements of these active components. When the need for
22 replacements is identified, they are included in the Business Plan described
23 above. The license renewal process resulted in FPL’s commitment to perform

1 numerous aging management programs on an ongoing basis. These license
2 renewal aging management programs are just some of FPL's comprehensive
3 equipment inspection, surveillance, and monitoring activities that ensure the
4 plant is operated safely and reliably. FPL's review of the license renewal
5 commitments confirmed that the EPU modifications are separate and apart
6 from the license renewal commitments.

7 **Q. Does Witness Jacobs criticize FPL's process of ensuring only separate
8 and apart costs are included in its request?**

9 A. No. Witness Jacobs has not identified any flaws with FPL's analyses or
10 processes. His entire position is premised on the idea that his suggested 20
11 year study -- and only the suggested 20 year study -- would constitute an
12 appropriate "separate and apart" analysis.

13
14 I disagree with his claims that such a study is either a viable solution or the
15 only solution to determining what is "separate and apart." Moreover, such a
16 study would be impractical and meaningless because it would rely on
17 conjecture and speculation as opposed to FPL's actual engineering plans and
18 information. FPL's approach is the more appropriate method for ensuring that
19 only separate and apart costs are included in its request.

20 **Q. Please explain why you think Witness Jacobs's study would be
21 meaningless.**

1 A. In order to understand why Witness Jacobs's claimed study is so speculative
2 as to be meaningless for decision-making purposes, it is helpful to consider
3 exactly what it is that Witness Jacobs is saying should be studied.

4
5 Witness Jacobs's study would require FPL to conduct a predictive study on a
6 component by component basis to determine the future requirements for its
7 four Florida nuclear units for the next 20 years – based on FPL's units as they
8 would *hypothetically* exist if the EPU project did not take place. Witness
9 Jacobs would then have FPL include in the NCRC process only those EPU
10 project components whose counterparts in that hypothetical world did not
11 require potential replacement. Thus it is clear that Witness Jacobs's process is
12 speculative in nature, while FPL's processes are firmly rooted in actual
13 engineering evaluations which take into account a reasonable time horizon
14 that is consistent with FPL's actual operations and planning horizons for its
15 units.

16
17 The operation of a nuclear power plant is a very complicated and dynamic
18 process. In the typical nuclear plant there are approximately 135 systems
19 made up of thousands of components that must function or have a high
20 reliability that they will function when needed. Exhibit RSK-11 attached to
21 my testimony represents an overview of a nuclear plant. Exhibit RSK-12, also
22 attached to my testimony represents a detailed overview of Turkey Point Unit
23 3. There are rigorous monitoring, surveillance and overhaul programs that

1 have been implemented and are periodically updated, many through the
2 combined experience of the industry, usually identified as “best industry
3 practices” which help FPL maintain its facilities to provide safe, reliable
4 electricity for our customers. This is also consistent with the NRC’s regulatory
5 framework.

6
7 To support these constantly improving processes, FPL maintains a 7 year
8 forward looking plan of capital expenditures that is periodically updated to
9 reflect current conditions and improving industry practices. It is not practical
10 to expand this to the 20 year interval suggested by Witness Jacobs, or to a
11 hypothetical case where the EPU project was not conducted, for the reasons
12 described above.

13
14 FPL’s long range planning practices are consistent with industry standards and
15 “best practices” and regulatory requirements. It should also be noted that no
16 predictive study of the type suggested by Witness Jacobs is required by the
17 NRC for the license renewal of a nuclear plant for active components such as
18 pumps, motors and valves. In contrast, the NRC relies on FPL’s continued
19 vigilance in performance monitoring, inspection and maintenance programs
20 for early identification with appropriate actions to ensure each facility will
21 operate as designed.

22

1 Moreover, FPL cannot predict with any certainty future actions which may be
2 required by the NRC or future industry-wide events which may require
3 improvements to equipment. For example, let's say someone needs to replace
4 the water pump in his car with a larger pump because he is installing a bigger
5 engine with greater horsepower. Can that person say that the original pump
6 would have failed in the next 20 years? Can he say that the manufacturer of
7 the original pump never would have recalled that piece of equipment and
8 required installation of the new pump anyway? Of course not. However,
9 what the car owner does know, is that this piece of equipment is needed now
10 for the new larger engine to function properly.

11 **Q. What would be the economic impact of Witness Jacobs's proposal on**
12 **FPL's customers?**

13 A. Witness Jacobs's approach would increase costs to customers. First, the cost
14 of Witness Jacobs's study itself would increase project costs for customers.
15 Second, any capital expenditures moved out of the clause would simply be
16 moved into a Construction Work in Progress account, where they would
17 accrue Allowance for Funds Used During Construction (AFUDC) until the
18 uprated units enter commercial operation, resulting in higher total costs for
19 recovery in rates. Accordingly, even assuming Witness Jacobs's approach
20 could be used and applied, and even if certain costs were identified as
21 candidates for removal from clause recovery, the shift in accounting for those
22 costs would increase, not decrease, costs for FPL's customers.

1 **Q. Please summarize your points concerning why Witness Jacobs’s claim**
2 **that only a 20 year predictive study of FPL’s plants absent the EPU**
3 **project would satisfy the “separate and apart” requirement.**

4 A. A 20 year forecast of hypothetical plant operations and capital expenditure
5 absent the uprates is not feasible or useful for the NCRC process, would be
6 unduly speculative, and would clearly result in increased costs for the uprate
7 project and for FPL’s customers. Therefore, Witness Jacobs’s claim that FPL
8 perform his claimed 20 year predictive study should be rejected.

9 **Q. Please comment on Witness Jacobs’s assertion on page 10 that FPL has**
10 **been uncooperative in resolving this issue and has not acted in the spirit**
11 **of the stipulation in Docket No. 080009-EI.**

12 A. FPL has been cooperative and transparent with respect to this issue, and has
13 fully complied with Rule 25-6.0423 and the separate and apart stipulation
14 approved by the FPSC. For example, FPL participated in a highly cooperative
15 manner in the Commission Staff “lessons learned” workshops focused on
16 making improvements to the filing process and information to be provided in
17 the NCRC process, all of which FPL has met.

18
19 In addition, specifically with respect to the “separate and apart” issue, Staff
20 during its “lessons learned” workshops requested that FPL provide specific
21 information and examples of “separate and apart” components, in order to
22 foster the parties’ understanding of one another’s positions, which FPL
23 prepared and sent to all parties including OPC. Most significantly, as

1 described in this rebuttal and my direct testimony, FPL has structured its
2 business processes to provide complete assurance to the Commission, OPC,
3 and others that only those costs necessary for the uprate are accounted for
4 with respect to the NCRC.

5
6 My March 2009 testimony includes Exhibit RSK-5, which is a listing of
7 uprate activities required for the uprate project and explanations of the need
8 for each activity. My March and May 2009 testimonies also present a detailed
9 explanation of the cross-functional review team and the suite of controls and
10 processes utilized by the project team to ensure only appropriate costs are
11 incurred and reflected in the NCRC.

12
13 Thus, FPL has also provided information to OPC through its testimony and
14 discovery to explain its separate and apart approach and show why this
15 approach is analytically rigorous, comprehensive, and reliable for a
16 determination on whether costs are in fact “separate and apart” from other
17 nuclear costs.

18 **Q. Does this conclude your testimony?**


19 **A. Yes.**

	NUCLEAR DIVISION NUCLEAR POLICY LONG RANGE PLAN	No.	NP-703
		Rev.	7
		Date	04/05/08

REVISED THROUGHOUT


Objective:

Each plant site shall maintain a Long Range Plan.

REVISED 

Definitions:

- Long Range Plan - A 7 year plan for outage and non-outage major modifications, major overhaul work including testing and inspections, major plant improvement projects, major projects required for high equipment reliability, key Life Cycle Management actions, major regulatory driven projects, and major plant license amendments.
- Plant Modification - A change to the existing plant configuration which is NOT similar in form, fit, or function.
- Major Modification - A modification with a total estimated value greater than \$250,000/unit
- Minor Modification - A modification with a total estimated cost less than \$250,000/unit.
- Major Overhaul Work - Equipment inspection, testing, and refurbishment work incrementally exceeding a cost of \$250,000 (such as ISI, IST, steam generators, reactor, FAC, MOV, AOV, and External Corrosion Program inspections/repairs).
- Project - A unique, time limited, goal-directed endeavor requiring the commitment of resources, typically involving two or more departments.
- Major Improvement Projects - Projects which improve plant safety, equipment reliability, organizational or unit productivity incrementally exceeding a cost of \$250,000 (including major component replacements)
- Life Cycle Management - Key actions resulting from analyses of critical performance, and reliability which minimizes the risk of failure
- Project Review Board - Management body at each site, responsible for review and approval of funding, scope and schedule for modifications and projects as described within Nuclear Division guidance (reference NP-706)
- Plant Health Committee - Management body at each site responsible at each site for the review, ranking, and approval of modifications and projects for inclusion in the Long Range Plan.

 FPL	NUCLEAR DIVISION NUCLEAR POLICY LONG RANGE PLAN	No.	NP-703
		Rev.	7
		Date	04/05/08

REVISED ►

Required Actions:

Each site shall maintain a Long Range Plan for major outage and non-outage projects and modifications approved by the Project Review Board (PRB) and Site Vice President. This plan shall provide the schedules and projected annual expenditures including the refueling outage budget targets and implementation windows. Additionally, it shall also provide the annual budget targets for minor modifications, as a line item.

The Director of Nuclear Projects Engineering, with support of the Manager of Nuclear Finance or Business Systems Manager, will facilitate the long range planning process working with the Plant Health Committee (PHC), the PRB, station management, and the Site Vice President. The Director of Projects Engineering or designee shall maintain an electronic file for the current Long Range Plan.

The site management team shall evaluate all proposed modifications and projects using the standardized priority ranking system to determine relative priority and target installation schedule in accordance with NP-706, "Project Review Board (PRB)" and NAP-423, "Active Design Modifications". Minor modifications may be approved for implementation if within budgeted resources; however, major modifications and projects shall be presented to the PRB for approval. Minor modification lists shall be presented "in total" semi-annually to the PRB. Major projects shall be included in the Long Range Plan, budgeted accordingly, or commenced if previously budgeted. However, the total estimated project costs included in the Long Range Plan shall not exceed the appropriate annual budget targets without prior authorization. Projects requiring funding beyond the budget targets are noted as contingent upon obtaining funding authorization and are not authorized to work .

REVISED ►

Major modifications and projects shall be identified a minimum of 24 months prior to the start of the planned implementation window. The associated designs shall be approved and issued a minimum of 9 months prior to the start of the planned implementation window or as required to meet the station's outage planning milestones. Plant license amendments shall be submitted to the Nuclear Regulatory Commission at least 12 months prior to the desired approval date and at least 15 months prior to the outage implementation date, if applicable. These requirements apply to new modifications and projects identified after the effective date of this revision.

REVISED ►

Current authorized projects and modifications will be exempted from this time requirement through July 1, 2008. Emergent minor modifications to accommodate maintenance type activities are excluded from this requirement. The Long Range Plan shall be updated at least semi-annually to support the budget process for each site and shall be approved by the PRB. The Long Range Plan shall be used as direct input for budget development and in establishing annual budget targets.

 FPL	NUCLEAR DIVISION NUCLEAR POLICY LONG RANGE PLAN	No.	NP-703
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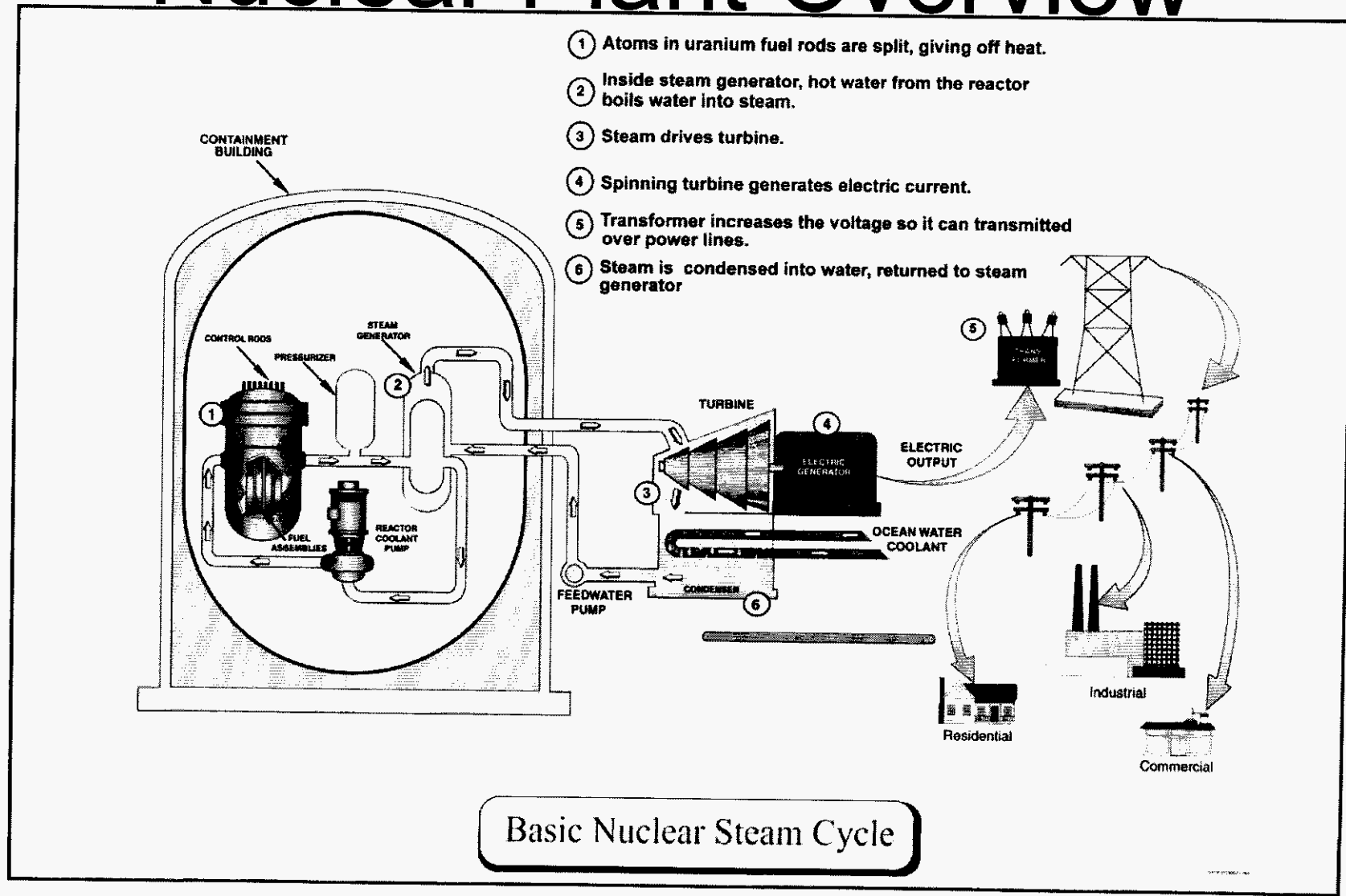
The Director of Nuclear Projects, Engineering or designee shall perform an annual review of the effectiveness of the Long Range Plan success rate in implementation.

Any exceptions to these requirements shall be approved by the respective Site Vice President, the Vice President, Nuclear Fleet Projects, and the Vice President, Nuclear Technical Services. A written report of any exceptions approved by appropriate vice presidents shall be signed and forwarded to the Nuclear Chief Operating Officer (NCOO).

Note: This NP-703 is not applicable to nuclear fuel reloads, which are handled separately under NP-917 (Reactor Core Design and Operation Considerations).

Approved: Signature on File
Nuclear Chief Operating Officer

Nuclear Plant Overview



Basic Nuclear Steam Cycle

Turkey Point Unit 3 Overview

