



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W.
ATLANTA, GEORGIA 30323

Report Nos.: 50-280/92-15 and 50-281/92-15

Licensee: Virginia Electric and Power Company
5000 Dominion Boulevard
Glen Allen, VA 23060

Docket Nos.: 50-280 and 50-281

License Nos.: DPR-32 and DPR-37

Facility Name: Surry 1 and 2

Inspection Conducted: June 23 through July 10, 1992

Inspectors:	<u>M. W. Branch</u>	<u>8-4-92</u>
	M. W. Branch, Senior Resident Inspector	Date Signed
	<u>J. W. York</u>	<u>8-4-92</u>
	J. W. York, Resident Inspector	Date Signed
	<u>S. G. Tingem</u>	<u>8-4-92</u>
	S. G. Tingem, Resident Inspector	Date Signed
Approved by:	<u>P. E. Fredrickson</u>	<u>8/4/92</u>
	P. E. Fredrickson, Section Chief	Date Signed
	Division of Reactor Projects	

SUMMARY

Scope:

This special resident inspection was conducted on site and in the corporate offices of the licensee to review the licensee's evaluations of changes to the environs around the Surry station (TI 2515/112) for the following purposes:

- 1) Determine if the licensee's programs are adequate in evaluating public health and safety issues resulting from changes in population distribution or in industry, military, or transportation that could arise on or near the Surry site.
- 2) Determine if the licensee routinely documents changes in population distribution or in industrial, military or transportation hazards that could occur on or near the reactor sites in updates to the updated final safety analysis report (UFSAR).

Results:

The licensee has no formal program to routinely review changing population distribution or new hazards created by demographic changes around the facility. The licensee also does not routinely update site information contained in Chapter 2 of the UFSAR. However, through other licensing actions, such as Operating License (OL) amendment No. 111, which modified the lifetime of the licensee to 40 years from OL issuance, and amendment No. 124, which allowed the removal of the control room chlorine monitoring system, the licensee has reassessed certain areas discussed in Chapter 2 of the UFSAR and informed the NRC. Since the intent of 10 CFR 50.71 is to periodically update the UFSAR to capture changes on and around the facility that may pose unforeseen hazards, the lack of a formal program to update chapter 2 of the UFSAR may not meet 10 CFR 50.71. The licensee is currently reassessing their UFSAR update process and, as part of phase 2 of the UFSAR quality review, has indicated that chapter 2 information will be evaluated and program adjustment made as necessary. Pending review by the licensee and further assessment by the NRC, this lack of a formal program is identified as Unresolved Item (URI) 50-280,281/92-15-01, Lack Of Formal UFSAR Update Process For Non-Plant Type Modifications or Changes That Occur On Or Around The Facility.

The inspection also identified two potential hazards associated with military helicopter flight paths and on-site gas turbine construction, that are not clearly reflected in the UFSAR, and thus, are a part of URI 50-280,281/92-15-01.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

- *W. Benthall, Supervisor, Licensing
- R. Bilyeu, Licensing Engineer
- H. Blake, Superintendent of Site Services
- *R. Blount, Superintendent of Engineering
- *B. Bryant, Licensing Engineer
- D. Christian, Assistant Station Manager
- J. Downs, Superintendent of Outage and Planning
- *R. Gwaltney, Superintendent of Maintenance
- M. Holdsworth, Supervisor, Security
- *M. Kansler, Station Manager
- A. Keagy, Superintendent of Materials
- *J. McCarthy, Superintendent of Operations
- A. Meekings, supervisor, Administrative Services
- *A. Price, Assistant Station Manager
- *E. Smith, Site Quality Assurance Manager
- *R. Saunders, Assistant Vice President, Nuclear Operations

NRC Personnel

- *M. Branch, Senior Resident Inspector
- *S. Tingen, Resident Inspector
- *J. York, Resident Inspector

*Attended Exit Interview

Other licensee employees contacted included control room operators, CT operators, EP and other plant personnel.

Acronyms and initialisms used throughout this report are listed in the last paragraph.

2. Background Requirements Associated with Evaluation of New Hazards and UFSAR Update

The UFSAR, the SERs based on the UFSAR, and related technical information submitted to the NRC in support of the license application comprise licensee commitments for licensing a nuclear power plant. Consistent with the Statement of Consideration accompanying the rulemaking of Section 50.71(e) of the Title 10 of the Code of Federal Regulations (10 CFR 50.71(e)), appropriate chapters of the FSAR, such as Chapters 2, 3, and 13, should be updated when significant changes to the areas around a reactor site have occurred. Recent events such as the discovery of new natural gas wells at one facility or the proposed construction of an airport near another raise concerns that licensees may not be fulfilling existing requirements of 10 CFR 50.71(e) for

evaluation of new hazards and updating the FSAR to accurately reflect the current site conditions.

3. Items Reviewed

The inspector reviewed Chapter 2 of the licensee's UFSAR, held discussions with responsible licensing personnel, and made tours and inspections at the facility and in the surrounding areas to accomplish the following objectives:

- a. Determine if the licensee has implemented a program to periodically review, identify, and evaluate changes in site proximity hazards and demography to determine their effect on the safety of the plant.
- b. Determine if the licensee has updated the FSAR to reflect the changes to the licensing basis since the plant was licensed. Those areas where significant changes may have occurred since the plant was licensed include:
 1. Population increases or shifts that exceed those predicted in the licensee's FSAR or the staff's SER.
 2. Changes in the use of the exclusion area.
 3. Expansion of transient populations such as nearby recreational camping facilities.
 4. Major changes to transportation routes, including highways, waterways, railways, military or civilian airways, or changes in the frequency of the movement or amount of hazardous cargo on new or existing roadways.
 5. Addition of new facilities or significant changes in use of existing major industrial, medical, institutional, or military facilities near the site.
 6. Routing of gas and oil transmission lines or the drilling or operation of new natural gas or oil wells near the site.
 7. Addition of hazardous or explosive material processing or manufacturing facilities, terminals, or storage areas near the site.
 8. Erection of dams, dikes, or other structures that affect the supply of cooling water.
 9. Naturally occurring changes in geological, seismological, or meteorological features in the area of the site.

- c. Determine if the licensee has evaluated any noted changes for the effect on license requirements and has documented the results of their evaluation.

4. Results

Chapter 2 of the licensee's UFSAR addresses the areas described above and provides information on siting environmental hazards associated with Surry. The majority of the information contained in Chapter 2 is Revision 1 dated June 1983. Several of the discussions related to population distribution are based on 1960 and 1970 census data. The licensee's controlling procedure is Nuclear Standard LINS-2802, Revision 1, dated April 17, 1992, Preparation and Control of UFSAR Updates.

Based on the above review, the inspectors determined that the licensee has no formal program to routinely review changing population distribution or new hazards created by demographic changes around the facility. Nuclear Standard LINS-2802 does not require periodic evaluations and revisions to sections of the UFSAR that are not affected by plant modifications. The licensee also does not routinely update siting information contained in Chapter 2 of the UFSAR. However, through other licensing actions, such as OL amendment No. 111, which modified the lifetime of the license to 40 years from OL issuance, and amendment No. 124, which allowed the removal of the control room chlorine monitoring system, the licensee has reassessed certain areas discussed in Chapter 2 of the UFSAR and provided this information to the NRC. Additionally, as part of emergency planning, the licensee contracted a reassessment of evacuation routes and this study reviewed and included population data based on the 1990 census. Since the intent of 10 CFR 50.71 is to periodically update the UFSAR to capture changes on and around the facility that may pose unforeseen hazards, the lack of a formal program to update Chapter 2 of the UFSAR may not meet the intent of 10 CFR 50.71. The licensee is currently reassessing their UFSAR update process and as part of phase 2 of the UFSAR quality review the licensee has indicated that chapter 2 information will be evaluated and program adjustment made as necessary. Pending review by the licensee and further assessment by the NRC, this lack of a formal program identified as the first part of URI 50-280,289/92-15-01, Lack Of Formal UFSAR Update Process For Non-Plant Type Modifications or Changes That Occur On Or Around The Facility.

The inspectors also identified that there were two hazards that were not adequately addressed in the UFSAR, the installation of new CTs and helicopter flight paths over the facility. The new CT installations involved the 1989 construction of four 80 MegWatt combustion turbine generators inside the owner controlled area per DCP 88-35-3. This modification is not discussed in the UFSAR; but, the licensee did perform a safety evaluation prior to implementation of the change. The safety evaluation did not provide a detailed evaluation of hazards such as missiles, although it did contain a statement that a CT missile

analysis was not required because the turbine casing was designed to contain the fragments of the rotor and blading should they fail.

In addition to the possible CT missile hazard the CT installation required the construction of two 3,000,000 gallon oil storage tanks and piping to supply natural gas since the CTs can burn either fuel. The UFSAR does not address these new hazards either, although the safety evaluation for the DC did evaluate the fire hazard and impact of sharing of some of Surry's fire equipment and canal water.

The licensee indicated that changes to the UFSAR to reflect the new CT facility were proposed by the DCP. However, the UFSAR update did not occur due to an oversight during the DC closure process. The licensee documented the failure to update the UFSAR on DR S-92-1153. Not properly updating the UFSAR is identified as the second part of URI 50-280,281/92-15-01 pending review of the licensee's corrective actions to improve UFSAR quality.

The concern with the helicopter flight path involved a discussion in section 2.1.4.2.4 of the UFSAR that stated that there are no federal airways within 5 miles of the plant. The inspectors questioned the licensee's meaning of airways because helicopters from Fort Eustis which is located approximately 5 miles east-southeast of Surry, typically fly closer than 5 miles to the site. On occasion, the inspectors have seen both military and commercial helicopters fly directly over the containment building. The licensee provided the inspectors with aeronautical charts that indicate that there are no electronic homing paths that are within 5 miles of the facility. However, aircraft that fly visually are not restricted from flying directly over the nuclear station. The licensee plans to clarify information in this area when UFSAR Chapter 2 is updated as part of the UFSAR quality review.

No violations were identified in the areas reviewed.

5. Exit

The inspection scope and results were summarized on July 8, with those individuals identified by an asterisk in paragraph 1. The following summary of inspection activity was discussed by the inspectors during this exit:

<u>Item Number</u>	<u>Status</u>	<u>Description</u>
URI 280,281/92-15-01	Open	Lack of Formal UFSAR Update Process for Non-Plant Type Modifications or Changes That Occur On or Around The Facility.

The licensee acknowledged the inspection findings with no dissenting comments. The licensee did not identify as proprietary any material provided to or reviewed by the inspectors during this inspection.

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6. List of Acronyms and Initialisms

CT	-	COMBUSTION TURBINE
DC	-	DESIGN CHANGE
DCP	-	DESIGN CHANGE PACKAGE
EP	-	EMERGENCY PLANNING
FSAR	-	FINAL SAFETY ANALYSIS REPORT
LINS	-	LICENSING NUCLEAR STANDARD
OL	-	OPERATING LICENSE
SER	-	SAFETY EVALUATION REPORT
TS	-	TECHNICAL SPECIFICATIONS
UFSAR	-	UPDATED FINAL SAFETY ANALYSIS REPORT