TRIP REPORT

TO: North Anna & Surry
Power Stations
Virginia Electric Power Co. (VEPCO)

Date of Trip: 5/12/82 thru
5/14/82
PROJECT: 609-5506-01
(04101/04102)
(04113/04114)
Radiological Effluent Technical
Specification Implementation

Trip by: A. Cassell (AC)
S. Pandey (SP)

NRC Staff Present: (North Anna) (NAPS)

L. Engle (LE)	NRC/NRR/DL
W. Meinke (WM)	NRC/DSI/RAB
K. P. Barr (KB)	USNRC Region II

VEPCO Staff Present:

A. Stafford (AS)	NAPS Supv. Health Physics
W. Cameron (WC)	Director-Chemistry & HP
F. L. Thomasson (LT)	Staff-Health Physicist
E. R. Smith, Jr. (ES)	Director-Safety Evaluation & Control
J. Liberstien (JL)	Safety Evaluation & Control
J. E. East (JE)	NA Engineering

Surry Power Station (SPS):

NRC Staff Present:

D. Neighbors	NRC-Surry Project Manager
K. P. Barr	NRC-Region II
W. Meinke	NRC/DSI/RAB

VEPCO Staff Present:

W. Cameron	Director Chemistry & Health Physicist
A. H. Stafford (AS)	NAP, Supv. Health Physics
F. L. Thomasson (FT)	Staff Health Physics
E. R. Smith, Jr. (ES)	Director Safety Evaluation & Control
S. P. Sarver (SS)	Surry Supv. Health Physics
B. A. Garber (BG)	Surry Health Physics

The purpose of this trip was to discuss with the Licensee, VEPCO, FRC's initial review of the Licensee's Radiological Effluent Technical Specifications (RETS) submittal for both North Anna and Surry Power Stations. The intent was to resolve most of the technical difficulties, deficiencies, deviations, and specifications not addressed, with NUREG-0472, Rev. 2 serving as a model RETS. This also included review of the Offsite Dose Calculation Manual (ODCM) which was submitted by the Licensee for review.

At the onset of the site meeting, WM (NRC) gave to the reviewers a copy of the Rev. 3 (draft) RETS Model NUREG-0472. Rev. 3 was addressed as a package to be used by the reviewer but copies were made and passed out to the Licensee representatives. The first station for which review was made was North Anna Units 1 & 2 RETS. The Licensee was informed that Rev. 3 could be used as the model RETS to be followed for comparison purposes. The two ODCMs, North Anna and Surry, were reviewed as a single review and the outcome of that discussion was to apply to Surry, as both methodology and equations were very similar.

Due to the fact that the North Anna RETS submittal followed the model RETS NUREG-0472 and the Surry RETS submittal followed existing plant Technical Specifications and a style of their own procedural approach, each review will be discussed separately.

NORTH ANNA POWER STATION (NAPS)

The meeting to review the NAPS RETS & ODCM submittal was held May 12-13, 1982 at VEPCO Corporate Headquarters, Richmond, VA.

The following statements represent items which have been resolved and will appear in their resubmittal, or open items which must be resolved within VEPCO management.

Liquid Effluent Instrumentation:

- Limiting conditions and surveillance will be addressed per NUREG-0472, Rev. 3.
- Condenser circulating water discharge will be addressed in resubmittal.
- Licensee will delete turbine building sump monitors and give justification.
- Steam generator blowdown is not an effluent release line. Licensee will give justification.
- Table 2.2.2 of Licensee's existing Technical Specifications covers tank level indicating devices, and will be included in the Licensee RETS resubmittal.

- Term "circuit failure" in table notations is an open item. A backfit will be needed to meet model RETS requirements. Licensee will investigate.

- Licensee will add surveillance on flow rate recorders.

- Licensee will add surveillance on tank level devices.

Gaseous Effluent Instrumentation:

- Limiting Conditions - Surveillance will be addressed as per Rev. 3 in resubmittal.

- Licensee will include iodine samplers.

- Licensee will change notation in Table 3.3-13 to read "at all times."

- Licensee will justify deletion of iodine sampler in the condenser evacuation system.

- Licensee will not include iodine and particulate sampler under containment purge system - justification will be included in resubmittal.

- Waste gas explosive system is an open item. Licensee will determine if system can withstand hydrogen explosion and provide appropriate specification.

- Column for source check will be addressed.

Effluent Dose:

- Licensee interprets the Appendix I calendar year dose design objectives as a guideline only, and therefore stated that it need not be included in their Technical Specifications (open item).

- Licensee will use Rev. 3 for liquid waste treatment specification.

- Temporary tanks as well as four permanent tanks will be addressed.

- Gaseous effluent dose will be addressed using Rev. 3.

- Licensee will review and give justification for not including dose limits per calendar year.

- Licensee will use model RETS values of dose limits for operating the gaseous radwaste treatment system or will otherwise justify using a cost benefit analysis.

- Licensee will review limits on gaseous explosive mixtures and determine limitations.

- Surveillance of gas storage tanks will be done weekly. Licensee will propose alternative to justify requirement of at least once per 24 hrs (NRC-accepted frequency).

- Licensee will address total dose in accordance with Rev. 3.

Solid Radwaste System:

- Licensee will include statements of Rev. 3 but will clarify.

- Surveillance statements have not been committed to (open item).

Environmental Montoring Program:

- LCO will be restated in terms of Rev. 3.

- Licensee will address all phases of Table 3.12-1, NUREG-0472, Rev. 3.

- Maximum LLD values will be addressed per Rev. 3.

- Licensee will use wording of Rev. 3 (NUREG-0472) for corrections to land use census.

- Licensee will substitute title of "interlaboratory comparison program" for QA Program.

Bases:

- Licensee will include missing bases in their resubmittal.

- Figures of better quality will be submitted by Licensee to comply with Sec. 5 of RETS-Site Boundary for Liquid and Gaseous Effluents.

Administrative Controls:

- Licensee will refer to Standard Technical Specifications on Unit Review Group.

- Quality Assurance Program is an open item. Licensee will evaluate and provide alternative proposal in the resubmittal.

- Licensee will include statements of Rev. 3 and address PCP and ODCM requirements in RETS.

SURRY POWER STATION UNITS 1 & 2

The meeting to review RETS & ODCM submittal from Surry Units 1 and 2 took place on May 13-14, 1982 at VEPCO cooporate headquarters, Richmond, VA.

The following statements represent either items which have been resolved and will appear in the Licensee's resubmittal, or open items which must be resolved within VEPCO management. There are four or five items which remain as open issues pending clarification by NRC.

Liquid Effluent Instrumentation:

- Licensee will delete monitor on Steam Generator Blowdown line. Licensee stated that this is a closed-loop system.
- Licensee will add circulating water discharge monitor - already in place but has not been covered by specifications.
- Licensee will add composite sampler in turbine building sumps.
- Licensee will include specifications on flow monitors for liquid radwaste effluent line, discharge canal, and service water.
- Licensee will include surveillance requirements for all monitoring instrumentation.
- Surveillance table notation is an open item for circuit failure or down scale failure indication. Licensee will evaluate the need for a backfit.

Gaseous Effluent Instrumentation:

- Waste gas holdup system flow rate devices will be included.
- Licensee will give justification on capability of WGHS to withstand hydrogen explosion.
- Licensee will provide methodology in ODCM of estimating steam generators blowdown flash tank releases.
- Licensee will include flow rate devices.
- Surveillance requirements will be included per NUREG-0472, Rev. 3.

Liquid Effluent Concentration:

- Licensee will address as per Rev. 3, NUREG-0472.
- Licensee will address surveillance of effluent concentration in accordance with Rev. 3, NUREG-0472.

- Liquid waste sampling (Table 4.9.2) will include a footnote stating that composite sampler does not collect proportional to flow rate.

Effluent Dose:

- Licensee has not agreed to include calendar year dose values in its specifications. (open item).
- Licensee will use NUREG-0472, Rev. 3 for addressing liquid waste treatment.
- Licensee will address temporary tanks.
- Licensee will use NUREG-0472, Rev. 3 for addressing gaseous effluent dose rate.
- Licensee has agreed to use NUREG-0472, Rev. 3 for dose value specifications related to radioiodine, particulates, etc.
- Licensee has agreed to use NUREG-0472, Rev. 3 for addressing gaseous radwaste treatment.
- Licensee will address explosive gas mixture and give justification on system addressed.
- Licensee will address an alternate surveillance for gas storage tanks inventory limit and give justification.
- Licensee will address solid radioactive waste program.
- Licensee will review total dose and address per NUREG-0472, Rev. 3.

Environmental Monitoring Program:

- Licensee will address LCO per NUREG-0472, Rev. 3.
- Operational monitoring program will be expanded and any changes or exceptions to table will be footnoted.
- Licensee will include a table on reporting levels. Licensee has no drinking water to sample.
- Licensee will address the table on LLDs, and include a notation for LLD derivative.
- Licensee will address land use census per NUREG-0472, Rev. 3.
- Interlaboratory comparison will be included per NUREG-0472, Rev. 3.

- Licensee will review all bases sections on bases and include missing items per NUREG-0472, Rev. 3.

Design Feature:

- Licensee will address requirements of figure and use NUREG-0472, Rev. 3 as basis for resubmittal.

Administrative Control:

- Licensee has not decided which QA Program they will adopt, and will discuss with management (open item).
- Licensee will address annual, semi-annual, and monthly reports. For prompt notification, Licensee will refer to their existing Tech Specs.
- Licensee will address Process Control Program and will commit to a submission date in their resubmittal cover letter.
- Licensee will supply definition of "major changes" and will address major changes to radwaste system.

OFFSITE DOSE CALCULATION MANUAL (ODCM) REVIEW

As stated previously, North Anna ODCM was reviewed and comments and decision reached will be included in the Surry ODCM. The following topics required in ODCM will be addressed in the resubmittal.

Liquid Effluent Setpoint:

- Licensee will include identification of monitors for which setpoint calculation is applicable.
- One sample calculation shall be included to demonstrate the methodology.
- Conservatism for simultaneous releases is not low enough. Licensee will justify.

Liquid Effluent Concentration:

- Licensee will review existing plant procedures for determining "concentration" and will summarize the methodology used in the ODCM.
- Equations shall include minimum dilution flow.

Liquid Effluent Dose:

- Licensee will include additional calculations to show method of determining D_w - dilution factor from near field.

Projected Dose:

- Licensee will change projected dose frequency from quarterly to monthly and provide methodology of projection.

Gaseous Effluent Set Point:

- Licensee will justify selection of Xe-133 as the limiting nuclide.
- Licensee will demonstrate methodology for determining R_1 = release rate limits.

Gaseous Radioiodine and Particulates:

- Licensee should explain how Q_i (gaseous effluent release rate from all release points) is divided between process and vent-vent systems.
- The Licensee will verify if M_i (air dose factor) is calculated for short term or long term release.

Gaseous Effluent Dose: (Noble Gases):

- For the X/Q values used in the vent-vent system, Licensee will identify location.
- Licensee will address finite plume model.

Gaseous Effluent Dose (Radioiodine and Particulates):

- Inhalation pathway is based on adults as the critical age group.

Gaseous Effluent Dose (Projected Dose):

- Licensee will change projection frequency to once per 31 days in order to comply with RETS requirements.

Operability of Equipment:

- Licensee will provide necessary flow diagrams defining treatment paths for the liquid, gaseous, and solid radwaste treatment.

Sample Locations:

- Licensee will supply the necessary figures showing location of environmental monitoring stations.

Proposed Resubmittal Dates:

The RETS Review Team has received a verbal agreement from North Anna to resubmit the RETS and ODCM for review by the following dates:

RETS -	Final Draft	15 Aug 1982
	Final to NRC	15 Sept 1982
ODCM	(same as above)	

The RETS Review Team has received a verbal commitment from Surry Power Station to resubmit the RETS and ODCM for review by the following dates:

RETS and ODCM	(Final Draft)	01-Oct-1982
	Final to NRC	01-Nov-1982