

REPORT DETAILS

1. Persons Contacted

Licensee Employees

- *C. T. Yongue, Station Health Physicist
- *J. E. Smith, Station Manager
- *T. S. Barr, Superintendent of Technical Services
- *C. L. Harlin, Health Physics Coordinator
- *T. C. Matthews, Compliance Technical Specialist
- *R. T. Bond, Compliance Engineer
- S. A. Coy, Assistant Health Physicist
- D. Taylor, I&E Engineer
- B. Greene, Chemistry Engineer
- S. L. Morgan, Radwaste Supervisor

Other licensee employees contacted included three technicians, two operators and two office personnel.

NRC Resident Inspectors

- J. Bryant
- *D. Falconer

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on December 22, 1983, with those persons indicated in paragraph 1 above.

3. Licensee Action on Previous Enforcement Matters

Not inspected.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Licensee Action of Inspector Followup Items

a. (Closed) IFI 80-31-21, Implementation Date of System ALARA Manual

The inspector examined the Duke Power Company ALARA Manual, dated May 1983. The ALARA manual provisions are consistent with Regulatory Guides 8.8 and 8.10 and was judged to be adequate.

- b. (Closed) IFI 80-31-22, Review of Station Procedures by Health Physics

The station ALARA manual requires that procedures which involve health physics concerns be reviewed by the station Health Physics staff. Through observation of selected recently approved procedures and interviews with the Station Health Physicist, the inspector determined that the reviews are being performed.

- c. (Closed) IFI 83-09-02 Condensate Monitor Tank Liquid Release Prior to Obtaining a Release Permit

Station procedure OP/O/A/1104/47 Processed Liquid Waste Disposal, was revised to require a quote and verification signoff between the Control Room Operator and Building Operator prior to placing the system in the flush or discharge mode. This procedure should be adequate to preclude a recurrence of a similar problem.

6. Posting and Labeling

The inspector selectively inspected the posting of high radiation areas, radiation areas, contamination areas and radioactive material storage areas at the licensee's facility. The inspector performed independent measurements of radiation levels of selected radiation control areas and concluded that the posting and labeling appeared to be adequate. No violations or deviations were noted.

7. Plant Tour

The inspector toured areas of the licensee's facility that relate to the management of radioactive waste and effluents. The Units 1, 2 and 3 auxiliary buildings, turbine building, control rooms, radioactive waste building and chemical treatment pond No. 3 were toured to observe in place ventilation filtration systems, effluent control instrumentation, operation in compliance with regulatory and procedural controls and requirements and posting and labeling. The station anti-contamination clothing laundry, radioactive waste compactor, hot machine shop, auxiliary boiler (radioactive waste oil incinerator) and chemistry counting room were also toured. The inspector noted that the general housekeeping in the areas toured appeared very good, making a positive contribution to waste management. The laundry facility and waste compactor were in operation during the tour and the inspector observed that operations were being conducted in accordance with applicable procedures, that radiological work permits (RWP's) were posted and were being adhered to and that station health physics technicians were providing close follow of the work in progress. No violations or deviations were noted.

8. Procedures

The inspector reviewed the following procedures which related to radioactive effluent control:

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| CP/O/A/5002/06A | Incineration of Radioactively Contaminated Waste Oil Using the Auxiliary Boiler |
| OP/O/A/1104/47 | Processed Liquid Waste Disposal |
| PT/O/A/110/053 | Reactor Building Purge Filter Test |
| IP/O/A/360/4D | Process Radiation Monitoring System, RIA-38 Waste Gas Monitor (High) |
| IP/O/A/360/4C | Process Radiation Monitoring System, RIA-37 Waste Gas Disposal Monitor (Normal) |
| HP/O/B/1000/60/C | Procedure for Sampling and Release Requirements for CTT, CMT, LHST's, CST and HWPS |
| OP/3/A/1104/1B | Gaseous Waste Disposal |
| IP/O/A/360/4A | Process Radiation Monitoring System, RIA-33 and 34 Liquid Waste Disposal Radiation Monitor Calibration |
| CP/O/B/5002/01 | Radwaste Sampling System |
| PT/O/A/0110/05C | Reactor Building Purge Filter Test |
| HP/O/B/1000/60/F | Procedure for Correlation of Effluent RIA Monitors and Area Gaseous RIA Monitors |
| IP/O/A/360/1C | Process Radiation Monitoring System, RIA-45 Vent Gas Monitor Oconee Nuclear Station Chemistry Manual |

The inspector determined that the procedures reviewed were consistent with Technical Specification and 10 CFR 20 requirements, that they were written with sufficient detail and clarity to serve their intended purpose and that they had been reviewed and approved in accordance with station directives.

The inspector questioned the licensee concerning the technical basis for determining effluent radiation monitor setpoints as detailed in station procedure HP/O/B/1000/60/F, Procedure for Correlation of Effluent RIA Monitors and Area Gaseous RIA Monitors. The procedure describes a graphical method for determining monitor set points whereby radioactive concentrations of six tracer radionuclides in previous releases are plotted against actual monitor readings for those releases. From the graph a range of expected

monitor readings is estimated and the highest number is always selected as the alarm set point. The inspector questioned the licensee concerning the technical or statistical basis for this method and how this method would insure selection of an alarm setting that was sensitive enough to stop a release if instantaneous radioactive concentrations of the non-tracer radionuclides were above Technical Specification limits. The licensee was unable to explain the technical basis for the alarm set point method and stated that the technique was devised by a task force in 1977 that overhauled a number of effluent procedures and that apparently no records were retained of their supporting documentation. The inspector reviewed records of previous releases and, based on licensee analysis of the constituent radionuclide concentrations, determined that no instantaneous release limits had been exceeded. The inspector also reviewed a record of a previous liquid release where effluent radiation monitor RIA 33 trip served to terminate the release and observed that the licensee's subsequent backup batch sample showed radionuclide concentrations comparable to the initial sample. The inspector also performed independent calculations for hypothetical radionuclide concentrations and judged that the licensee's monitor set point technique would result in a sensitive enough setting to terminate a release if instantaneous concentrations exceeded limits in the cases considered. No violations or deviations were noted.

9. Liquid, Solid and Gaseous Radioactive Effluents Reports

The inspector reviewed selected liquid and gaseous radioactive effluent release permits and determined that releases are being controlled in accordance with station directives and within Technical Specification limits. For calendar year 1983, station records indicate that as of December 18, 1983, 40,007 cubic feet of solid radioactive waste has been shipped for burial and that gaseous radioactive releases totaled $2.22\text{E}4$ Curies of noble gases, $7.55\text{E}-2$ Curies of Iodine, $1.61\text{E}-2$ Curies of Particulates and $1.26\text{E}1$ Curies of Tritium. Liquid radioactive releases have totaled 1.42 Curies of corrosion and fission products, $1.25\text{E}3$ Curies of Tritium and 7.33 Curies of noble gases. No violations or deviations were noted.

10. Testing of Effluent Control Instrumentation and Air Cleaning Systems

The inspector reviewed the procedures for the calibration of effluent control radiation monitors and records of the performance of these calibrations and found that all of the monitors are being calibrated in accordance with station directives and within the time cycle required by Technical Specifications. The inspector reviewed the procedure for performance testing of HEPA and charcoal filtered ventilation systems and documentation of each system's most current test. No problems were discovered with testing being performed in accordance with station directives and within the time cycle required by Technical Specifications. No violations or deviations were noted.

11. 10 CFR 61 Radioactive Waste Disposal

The inspector evaluated the licensee's preparations for implementation of 10 CFR 61 which is effective December 27, 1983. The licensee has a draft procedure which implements the applicable provisions of 10 CFR 61. The document is in the station approval circuit and licensee management stated that no radioactive waste shipments to a land disposal facility would be made after the effective date of the regulation until the procedure is approved. The inspector commented to the licensee that the procedure appeared adequate; however, he asked that the licensee evaluate the method described in the procedure for estimating the radionuclide concentrations associated with non-fuel reactor components. The draft procedure states that the assumption should be made that all of the components radioactivity is due to neutron activation of the components. Since the radioactive waste shipment manifest must list all of the significant radionuclides (those present in concentration greater than 1% of classification values for nuclides listed in 10 CFR 61.55 or greater than 7 microcuries per gram for unlisted nuclides) present in the waste shipment, consideration should also be given to the contribution that contamination from activated corrosion and fission products present in the reactor coolant make toward the total activity of the radioactive waste shipments. The licensee acknowledged the concern and stated that the procedure would be clarified so that all radionuclides in significant concentrations would be accounted for on the waste shipment manifest.

The licensee has had twenty-two samples of their various radioactive waste streams analyzed by a contractor laboratory in order to establish waste classification scaling factors. The scaling factors will be used to determine concentrations of radionuclides in the waste shipment that station radiochemistry equipment cannot detect based on concentrations that can be detected. The scaling factors will be reverified by contractor laboratory analysis of waste stream samples every two years for dry active waste and once a year for the other waste streams. The inspector had no further questions or comments.

12. Container Maintenance

The inspector determined that the licensee does not own any radioactive material shipping containers that require licensee periodic maintenance as specified in an NRC issued Certificate of Compliance. There are two containers on site. One container, the NAC-1 Spent Fuel Cask, is owned by the licensee but is no longer used for off site radioactive material shipments since it does not meet current Type "B" package standards. The other container, Model NLI-1/2 Fuel Shipment Cask, NRC Certificate of Compliance Number 9010, Revision 12, dated September 6, 1983, is rented from an outside contractor who is responsible for performing the periodic maintenance. No violations or deviations were noted.