

ENCLOSURE 2

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

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Attachment: Partial List of Persons Contacted
List of Inspection Procedures Used
List of Items Opened
List of Acronyms Used
List of Documents Reviewed

EXECUTIVE SUMMARY

Cooper Nuclear Station NRC Inspection Report 50-298/96-21

These routine, announced inspections focused on the licensee's programs for radiological waste effluent management, radiological environmental monitoring, and solid radioactive waste management and transportation of radioactive materials. Emphasis was placed on changes to the licensee's programs resulting from the revision of Department of Transportation and NRC transportation regulations.

Engineering

- A deviation was identified during a review of the Updated Safety Analysis Report commitments involving the availability of alternate electrical power to the meteorological monitoring system (Section E2.1).

Plant Support

- The liquid and gaseous radioactive waste effluent management programs were properly implemented (Section R1.1).
- Poor sample handling techniques were used while collecting and handling a floor drain tank sample and the iodine charcoal cartridges from the station's ventilation systems effluent radiation monitors (Section R1.1).
- The safety-related air cleaning ventilation systems were properly maintained and tested (Section R1.2).
- Overall, a good radiological environmental monitoring program was implemented (Section R1.3).
- Dedicated air sample media holders for each individual air sampler station were not used (Section R1.3).
- A good meteorological monitoring program was implemented (Section R1.4).
- The radiochemistry counting facility was equipped with state-of-the-art analytical instrumentation to perform the required analyses. The analytical instrumentation was properly maintained, tested, and calibrated (Section R2.1).
- Liquid and gaseous radioactive waste management systems were installed and operated properly (Section R2.1).

- All liquid and gaseous effluent radiation monitoring instrumentation were operable and properly maintained, tested, and calibrated (Section R2.2).
- Radiological environmental monitoring sampling equipment was properly maintained and calibrated (Section R2.3).
- Meteorological tower instrumentation maintenance was poor, which contributed to a low data recovery rate. An Inspection Followup Item was identified regarding the licensee's meteorological tower instrument maintenance program (Section R2.4).
- Procedures established to implement the liquid and gaseous radioactive waste effluent management programs provided proper guidance. Excellent Annual Operating Report Radioactive Effluents and Annual Radiological Environmental Operating Reports for 1994 and 1995, were submitted in a timely manner (Section R3.1).
- Good radiological environmental monitoring implementing procedures with sufficient detail were in use (Section R3.1).
- Programmatic controls and procedures for shipment of radioactive material/waste were adequate (Section R3.2).
- Chemistry personnel and station operators had an excellent understanding of the radioactive liquid and gaseous waste management procedures, Technical Specifications, and regulatory requirements (Section R4.1).
- The knowledge and performance of the environmental technician responsible for implementing the radiological environmental monitoring program activities were good (Section R4.2).
- Training and qualification programs for the chemistry staff and the radwaste station operators were properly implemented. A trained and qualified staff for conducting radioactive waste effluent processing and release operations was maintained (Section R5.1).
- A trained and qualified staff for conducting the radiological environmental monitoring program was maintained (Section R5.2).
- Personnel directly involved in the transportation of radioactive material/waste were adequately trained (Section R5.3).
- The chemistry technical staff had experienced little change and no reduction during the past 2 ½ years (Section R6.1).
- A lack of site ownership was observed for the radiological environmental monitoring and meteorological programs (Section R6.2).

- Oversight of the radioactive waste effluent management programs was good (Section R7.1).
- Quality assurance audits of contractors were comprehensive and provided good evaluation and oversight of the contractors' performance (Section R7.2).
- A good audit was performed which identified that self-assessments should be performed. A good self-assessment was performed (Section R7.3).
- No independent review was performed of the licensee's solid radwaste program and transportation of radioactive materials program following the implementation of the revised transportation regulations (Section R7.4).

Report Details

Summary of Plant Status

The plant operated at full power during the entire inspection period. There were no operational occurrences that impacted the three inspections.

III. Engineering

E2 Engineering Support of Facilities and Equipment

E2.1 Updated Safety Analysis Report Review (USAR)

a. Inspection Scope

The inspectors reviewed selected topics presented in the USAR to ensure agreement with any commitments contained therein that pertained to these inspections.

b. Observations and Findings

A recent discovery of a licensee that operated their facility in a manner contrary to the USAR description, highlighted the need for a special focused review that compares plant practices, procedures, and/or parameters to the USAR descriptions. While performing the inspections discussed in this report, the inspectors reviewed the applicable portions of the USAR that related to the areas inspected. The inspectors noted a discrepancy between the USAR wording and observed plant practices, procedures, and/or parameters. This discrepancy is discussed below.

Volume I, Section II.3, "Meteorology," states that the meteorological monitoring system is powered locally from the 12.5 kV ring bus and from MCC "L" in the event of a loss of off-site power condition. Upon review of maintenance work orders, the inspector discovered that the transfer switch supplying emergency power to the meteorological tower from the MCC "L" bus was out of service between September 18, 1995, and April 29, 1996, a period greater than 7 months. This was identified as a deviation from USAR commitments. (298/9621-01)

c. Conclusion

A deviation from the commitments in the USAR was identified.

IV. Plant Support

R1 Radiological Protection and Chemistry Controls

R1.1 Radiological Waste Effluent Management Programs

a. Inspection Scope (84750)

Implementation of the liquid and gaseous radioactive waste effluent management programs, as described in the Technical Specifications and the Offsite Dose Assessment Manual, including radioactive effluent waste processing, radioactive effluent waste sampling and analyses, analyses sensitivities, analytical results, offsite dose results, and performance of required surveillance tests, were reviewed.

b. Observations and Findings

The inspector reviewed approximately 20 batch radioactive liquid waste effluent release permits for the period January 1995 through August 1996. The inspector determined that the processing, sampling, and analyses of radioactive liquid waste effluents and the approval and performance of batch radioactive liquid waste discharges were conducted in accordance with Technical Specification requirements. Quantities of radionuclides released in the radioactive liquid waste effluents were within the limits specified in the Technical Specifications. Offsite doses were calculated according to Technical Specification requirements and Offsite Dose Assessment Manual methodologies and were within regulatory limits. Technical Specification required analyses on composite samples of batch radioactive liquid waste effluent releases for gross alpha, tritium, strontium-89, strontium-90, and iron-55 were properly performed.

The inspector observed a chemistry technician collect a radioactive liquid waste effluent sample from the floor drain tank on September 10, 1996. The inspector also observed a chemistry technician perform the chemistry analyses in the chemistry laboratory (pH, conductivity, and turbidity) and the radiochemistry analysis (principal gamma emitters) on the sample in the radiochemistry counting facility. The inspector noted that the chemistry technician used the following poor sample handling techniques when collecting and analyzing the floor drain tank sample.

- The Marinelli beaker, the counting geometry for the sample, was used to collect the sample directly from the sample point; therefore, the Marinelli beaker was subjected to potential unwanted external contamination which could give high erroneous analytical results.
- Bare hands were used when handling the floor drain tank sample while performing the chemistry analyses.

The inspector also observed a chemistry technician prepare the radioactive liquid waste effluent batch release permit. The inspector reviewed the liquid waste effluent batch release permit and verified that the correct discharge valve lineup was performed by a station operator and that the alarm setpoints were properly set for the liquid radwaste effluent radiation monitor as required by the release permit. All aspects of the floor drain tank discharge release were performed in accordance with approved procedures.

Selected gaseous waste effluent sample analyses for samples from the elevated release point off-gas vent, reactor building vent, augmented radwaste building vent, and turbine building vent continuous releases for the period January 1995 through August 1996 were reviewed. The inspector verified that the sampling, analyses, and monitoring of the continuous discharges of radioactive gaseous effluents were conducted in accordance with Technical Specification requirements and station procedures.

Quantities of gaseous and airborne particulate radionuclides released were within the limits specified in the Technical Specifications. Offsite doses were calculated according to Technical Specification requirements and Offsite Dose Assessment Manual methodologies and were within regulatory limits. Noble gas samples were collected and analyzed for principle gamma emitters and tritium in compliance with Technical Specification requirements. Particulate effluent composite sample analyses for gross alpha, strontium-89, and strontium-90 were performed for each vent pathway in accordance with Technical Specification requirements.

The inspector observed a chemistry technician collect air particulate filter samples and iodine charcoal cartridge samples from the elevated release point off-gas vent sampler, the reactor building vent sampler, the augmented radwaste building vent sampler, and the turbine building vent sampler associated with the respective effluent ventilation systems' radiation monitors on September 10, 1996, and observed the collection of a noble gas sample from the elevated release point off-gas vent radiation monitor RMP-RM-3B on September 11, 1996. The chemistry technician used forceps to handle the air particulate filter and used gloves while collecting the noble gas sample. The inspector also observed a chemistry technician collect four off-gas samples for analysis on September 11, 1996.

However, the inspector noted that the chemistry technician used the following poor sample handling techniques when removing the iodine charcoal cartridge samples from the sample holder devices and collecting the off-gas samples.

- Bare hands were used while handling the radioactive charcoal cartridge samples and the off-gas samples. Gloves were not available.
- The technician placed the air particulate filter samples and the charcoal cartridge samples into individual plastic bags for transfer to the radiochemistry counting facility for analysis. However, the plastic bags were

not sealed until they were taken to the chemistry laboratory where they were heat sealed prior to analysis. This poor sample handling technique was demonstrated when, following a sample collection, the inspector observed the technician pick up a plastic sample bag containing a charcoal cartridge sample, the charcoal cartridge slipped out of the bag into the sampling equipment carrying case, and was placed back into the plastic sample bag. Again, the charcoal cartridge sample was handled without gloves, and the potentially radioactive sample could have spread contamination in the sampling equipment carrying case.

The inspector reviewed radiation work permits and procedures but did not identify any specific requirement violations. The inspector's observations of poor sample handling techniques were discussed with the chemistry supervisor during the inspection and at the exit meeting on September 13, 1996. The licensee stated that they would evaluate the inspector's concerns and take appropriate actions.

The licensee reported no unplanned releases of radioactive liquid or gaseous waste during 1994 and 1995.

c. Conclusions

The liquid and gaseous radioactive waste effluent management programs were properly implemented. Poor sample handling techniques were used by the licensee while collecting and handling a floor drain tank sample and the iodine charcoal cartridge samples from the elevated release point vent sampler, reactor building vent sampler, augmented radwaste vent sampler, and turbine building vent sampler associated with the respective effluent radiation monitors.

R1.2 Safety-Related Air Cleaning Systems

a. Inspection Scope (84750)

Surveillance and test results for the safety-related air cleaning ventilation systems testing program were reviewed to determine agreement with the commitments in the Updated Safety Analysis Report and compliance with the requirements in the Technical Specifications.

b. Observations and Findings

The inspector verified that the surveillance tests provided for the required periodic functional checking of the safety-related air cleaning ventilation systems' components, evaluation of the high efficiency particulate air filters and activated charcoal adsorbers, and the in-place filter testing of the standby gas treatment system and the control room emergency filter system. Since some of the surveillance tests were only required to be performed at 18-month frequencies, the inspector reviewed the last surveillance test results for each of the safety-related air

cleaning ventilation systems named above and ensured that the previous two surveillances had been performed as required at the 18-month frequency. The in-place filter testing and activated charcoal laboratory surveillance tests were performed in accordance with approved procedures by a contract laboratory, and all test results were verified to be within Technical Specification limits. The inspector noted that the Technical Specification requirement for testing the various air cleaning ventilation systems' activated charcoal adsorber material after every 720 hours of operation was being tracked by the control room and the surveillance coordinator.

c. Conclusions

The safety-related air cleaning ventilation systems conformed to the commitments in the Updated Safety Analysis Report and met the Technical Specification requirements. The safety-related air cleaning systems were tested in accordance with Technical Specification requirements, and all test results were within Technical Specification limits.

R1.3 Radiological Environmental Monitoring Program

a. Inspection Scope (84750)

The radiological environmental monitoring program was reviewed to determine compliance with the requirements in the Technical Specifications and the Offsite Dose Assessment Manual.

b. Observations and Findings

During this inspection, the inspector visited selected sampling stations and observed sample collections. An environmental specialist collected samples at locations specified by the Technical Specifications and the Offsite Dose Assessment Manual. Sample collection and shipment logs were properly completed. Required quality assurance audits and vendor audits were performed. Personnel knowledge and performance was observed and training records were reviewed. A self-assessment was performed which identified several improvement items to the radiological environmental monitoring program.

The inspector observed that the licensee did not dedicate specific air sample media holders for each air sampler in use. Instead, the inspector observed that the technician removed the (used) air sample media holder from the air sampler station and replaced it with a prepared (new) air sample media holder. The technician then removed the sample collection media (e.g., the particulate filter and charcoal cartridge) from the (used) air sample media holder, which now became the (new) air sample media holder for the next air sampler station. Eventually, with subsequent air sample media holder change outs, the air sample holders would have made their way around to all the air sampler stations. To further illustrate, the air sample

media holder used at the air sampler station with the highest possible deposition, after continued use, could then be used at the control air sampler station, the one with the lowest deposition. This could possibly contribute to a higher analysis result than actual background. The use of dedicated air sample media holders would reduce the possibility for cross contamination between subsequent sampling periods. The inspector also noted that no calibration stickers were used on the air samplers to serve as a visual reminder of the next calibration due date. These items were discussed with licensee during the inspection and at the exit meeting held on September 13, 1996. The licensee indicated that they understood the inspectors observations. The inspector did not note any problems with the air sampler calibration records.

The inspector reviewed the Technical Specifications, Offsite Dose Assessment Manual, and environmental procedures. General Office management of the radiological environmental monitoring program was appropriate. The annual land use censuses were performed as required.

c. Conclusions

Overall, a good radiological environmental monitoring program was implemented in accordance with Technical Specifications. All required activities contained in the Technical Specifications and plant procedures were performed. Sampling locations were as described in the Offsite Dose Assessment Manual. Dedicated air sample media holders for each individual air sampler station were not used.

R1.4 Meteorological Monitoring Program

a. Inspection Scope (84750)

The meteorological monitoring program was reviewed to determine agreement with the recommendations in NRC Regulatory Guide 1.23 and compliance with the commitments in Updated Safety Analysis Report, Volume I, Section II.3, "Meteorology."

b. Observations and Findings

The licensee utilized two towers with meteorological instrumentation for obtaining environmental information. The instrumentation in use was as suggested in NRC Regulatory Guide 1.23 with all the required instrument channels. Semi-annual calibrations were performed on the meteorological instruments as required.

The meteorological data was available in the control room and emergency response facilities. Data was stored by computer and sent daily, by electronic means, to the General Office, in Columbus, Nebraska, where an environmental specialist reviewed the data and converted the data into the tables found in the Annual Operating Report Radioactive Effluents. Data recovery rates for 1994 and 1995 were 99.1

and 88.3 percent, respectively. Section R2.4 of this report discusses concerns regarding the low data recovery rate for 1995.

c. Conclusions

A good meteorological monitoring program was implemented. Instrumentation on the meteorological towers agreed with the guidance contained in NRC Regulatory Guide 1.23.

R2 Status of Radiological Protection and Chemistry Facilities and Equipment

R2.1 Radiochemistry Counting Facility and Radioactive Waste Effluent Processing Systems

a. Inspection Scope (84750)

The radiochemistry counting facility and associated analytical instrumentation were inspected to verify if adequate calibration and quality control programs were in place. The radioactive liquid and gaseous waste processing equipment were inspected to ensure agreement with the Updated Safety Analysis Report. Equipment inspected in the radwaste building included the floor drain tank, two waste monitor tanks, and their respective sample points.

b. Observations and Findings

The radiochemistry counting facility maintained sufficient state-of-the-art analytical instrumentation to perform the required radiochemistry analytical measurements of the radioactive waste effluents. The inspector reviewed the implementation of the calibration and quality control programs for the analytical instrumentation. The analytical instrumentation was properly maintained and calibrated.

The liquid radioactive waste processing and storage systems were installed, as described in the Updated Safety Analysis Report, and were operated in accordance with station procedures.

The standby gas treatment system was installed, as described in the Updated Safety Analysis Report, and was operated in accordance with station procedures.

No major equipment or design modifications were made to the liquid or gaseous radioactive waste management systems during 1994, 1995, and the first half of 1996.

c. Conclusions

The radiochemistry counting facility was equipped with state-of-the-art analytical instrumentation to perform the required analyses. The analytical instrumentation was properly maintained, tested, and calibrated. Liquid and gaseous radioactive waste management systems were installed and operated properly.

R2.2 Liquid and Gaseous Effluent Radiation Monitors

a. Inspection Scope (84750)

The liquid and gaseous effluent radiation monitors were inspected for operation, calibration, and reliability.

b. Observations and Findings

The inspector reviewed the liquid and gaseous radioactive waste effluent radiation monitor source check, channel check, channel functional test, and channel calibration records, for the time period January 1995 through August 1996, to determine agreement with the surveillance requirements specified in Technical Specification 3/4.21.A.1, Table 4.21.A.1 and Technical Specification 3/4.21.A.2, Table 4.21.A.2. All records reviewed indicated that the liquid and gaseous radioactive waste effluent monitoring instrumentation was properly maintained, tested, and calibrated in agreement with the surveillance requirements specified in the Technical Specifications.

c. Conclusion

All liquid and gaseous effluent radiation monitoring instrumentation was operable and properly maintained, tested, and calibrated in agreement with the surveillance requirements specified in the Technical Specifications.

R2.3 Environmental Monitoring Equipment

a. Inspection Scope (84750)

Selected environmental sampling stations and preparation and storage facilities used by the licensee were inspected.

b. Observations and Findings

The inspector observed the facilities used by the licensee, including the environmental media sample storage and preparation areas. The preparation/storage area was equipped with all the necessary chemicals, spare equipment, and supplies to perform the required radiological environmental monitoring program activities.

The inspector toured the following types of sampling sites with the environmental technician and the environmental specialists: air particulate, vegetation, thermoluminescent dosimeter, and milk. The inspector noted that the air samplers in service were calibrated and operational. A timing device was used at each air sampler to track its operation. Environmental samples were prepared for shipment to a vendor laboratory for analysis.

c. Conclusions

The licensee maintained sufficient supplies and spare environmental sampling equipment to perform the activities described in the Technical Specifications. Environmental monitoring stations were properly maintained, and the equipment was operable and properly calibrated.

R2.4 Meteorological Monitoring Equipment

a. Inspection Scope (84750)

The meteorological instrumentation at the meteorological towers was inspected, and the associated calibration records were reviewed.

b. Observations and Findings

The licensee maintained two meteorological towers with monitoring instrumentation. The 100-meter tower was equipped with wind speed, wind direction, and temperature sensing instrumentation at the 10, 60, and 100-meter levels. The 10-meter tower was equipped with the same instrumentation at the 10-meter level. Calibration records showed that the instrument channels were calibrated at the required frequencies.

The inspector noted that the instrumentation agreed with the recommendations in NRC Regulatory Guide 1.23 and the licensee's Updated Safety Analysis Report. However, a low data recovery rate, under the 90 percent recommendation suggested in NRC Regulatory Guide 1.23, was obtained for 1995.

The inspector reviewed maintenance work order listings for the meteorological tower instrumentation and noted that the average length of time for instrument inoperability was about 120 days. This corresponded to a priority level 3 work order. As reported in the Annual Operating Report Radioactive Effluents, meteorological data for several months was not available due to the length of time the meteorological tower instrumentation was out of service. This is of concern because industry averages for meteorological data recovery are 97-98 percent. An Inspection Followup Item was opened to review the licensee's efforts in maintaining the meteorological towers' instrumentation operable and increasing the meteorological data recovery rate. (298/9621-02)

c. Conclusions

Meteorological monitoring instrumentation channels were calibrated at the proper frequencies. Meteorological tower instrumentation maintenance was poor, which contributed to a low data recovery rate. An Inspection Followup Item was identified regarding the licensee's meteorological tower instrumentation maintenance program.

R3 Radiological Protection and Chemistry Procedures and Documentation

R3.1 Radioactive Waste Effluent Procedures, Offsite Dose Assessment Manual, Annual Operating Report Radioactive Effluents, Annual Radiological Environmental Operating Report, and Radiological Environmental Monitoring Implementing Procedures

a. Inspection Scope (84750)

Procedures for the sampling, analysis, and release of radioactive liquid and gaseous waste effluents, and procedures for the implementation of the radiological environmental monitoring program were reviewed. Revisions to the Offsite Dose Assessment Manual were reviewed. The annual reports concerning radioactive waste effluent releases and the radiological environmental monitoring program were reviewed for omissions, obvious mistakes, anomalous measurements, observed biases, trends in the data, and laboratory inter-comparisons.

b. Observations and Findings

The inspector verified that the procedures for batch release of liquid radioactive waste effluents provided proper guidance regarding sampling, recirculation, analyses, release limits, monitoring, and approvals.

The radiological environmental monitoring program implementing procedures described the responsibilities for collection, documentation, and shipment of environmental media samples collected around the station. The procedures were written with sufficient detail to effectively conduct the required radiological environmental monitoring program activities. The inspector reviewed the licensee's sample collection procedures and identified no concerns.

The Annual Operating Report Radioactive Effluents for 1994 and 1995 included meteorological data and changes to the Offsite Dose Assessment Manual, as required. The reports were written in the format described in NRC Regulatory Guide 1.21, Revision 1, June 1974, and contained the information required by the Technical Specifications.

Summaries of the quantities of radioactive liquid and gaseous effluents released to the environment, and their associated doses to members of the public for 1994 and 1995, were properly documented in the annual reports.

No unplanned releases of radioactive liquid or gaseous waste were reported during 1994, 1995, and the first half of 1996.

The inspector reviewed the radiological environmental sample location changes to the Offsite Dose Assessment Manual, which were reviewed and approved by the Station Operations Review Committee during 1994 and 1996. The changes were documented in the appropriate Annual Operating Report Radioactive Effluents as required by the Technical Specifications.

The Annual Radiological Environmental Operating Reports for 1994 and 1995 included the sampling results for those years and indicated that sampling was performed as required. Any discrepancies or missed samples were reported. The inspector noted that sampling, analyses, and reporting requirements were met. The annual land use censuses were conducted as required, and the results were included in the respective annual reports.

c. Conclusions

Procedures established to implement the liquid and gaseous radioactive waste effluent management programs provided proper guidance. The radioactive waste effluent management programs were properly implemented. Good radiological environmental monitoring implementing procedures with sufficient detail were in use. Changes to the Offsite Dose Assessment Manual were properly documented. Excellent Annual Operating Report Radioactive Effluents and Annual Radiological Environmental Operating Reports for 1994 and 1995 were submitted in a timely manner and contained the required information presented in the required format.

R3.2 Review of Shipping Documentation

a. Inspection Scope (86750)

Selected documentation associated with shipments were reviewed to determine that the licensee's procedures complied with the applicable regulations and that the shipping records indicated that shipments were made in accordance with the licensee's procedures. The inspector reviewed seven shipment packages.

b. Observations and Findings

Documentation retained by the licensee contained copies of the shipping documents and supporting information for the shipment. The calculations associated with characterizing the shipment were performed by hand. Data for the calculations was compared with the tabulated data found in the regulations. No discrepancies were noted.

The inspector performed independent calculations to verify the licensee's calculations for selected shipments. No discrepancies were noted for the shipments reviewed.

In Problem Identification Report 2-00564, the licensee identified an error in determining which isotopes should be reported on shipping documents and labels. This error was associated with the "95 percent rule" described in 49 CFR 173.443(c). This error affected the documentation for 6 individual shipments. The licensee initiated corrective actions upon discovery of the error and implemented sufficient controls to prevent recurrence.

During the review of the shipping documents, the inspector noted that there were many instances where required notations and supplemental calculations were entered onto the shipping documents by hand. The shipping documents were prepared from attachments to the shipping procedure. The additional notations and supplemental calculations were not included as part of the procedure. During discussions regarding this observation, the licensee stated that the attachments would be revised, as needed, to include the appropriate notations and provide for the supplemental calculations.

The licensee included a form similar to NRC Form 3 as part of the emergency response information provided to carriers. This form indicated that the NRC regional offices could be reached 24 hours a day by calling the NRC regional phone numbers. The inspector informed the licensee that the NRC regional office phones were not staffed outside of normal working hours. Furthermore, emergency response communications could be more readily handled at any time of the day through the NRC Operations Center. The licensee agreed to update the form to provide the emergency contact number for the NRC Operations Center.

The licensee included copies of the recipient's license as part of the supporting documentation for the shipment. The inspector discussed the process for reviewing recipients' licenses to ensure that recipients were properly licensed to receive radioactive materials. Two situations were identified where the licensee was potentially vulnerable:

- If a recipient was licensed to possess a stated quantity of material, no confirmation was made to ensure that the shipment of material would not result in the license limit being exceeded.
- If a recipient (state licensee) was issued a letter of extension due to delays in license processing, and the letter did not contain an expiration date, no further confirmation was made to ensure that the process was continuing and that the extension was valid.

The licensee stated that changes to the procedure would be made to include additional guidance for the above cases.

c. Conclusion

Programmatic controls and procedures for shipment of radioactive material/waste were adequate.

R3.3 Transportation of Low Specific Activity Materials and Surface Contaminated Objects

a. Inspection Scope (TI 2515/133)

The licensee's procedure for the processing and packaging of low specific activity material and surface contaminated objects were reviewed.

b. Observations and Findings

The inspector noted that the licensee made shipments of radioactive materials classified as surface contaminated objects. The licensee's procedures addressed how the assessment of contaminated surfaces for inaccessible areas was to be accomplished. The inspector informed the licensee that their assessment process would be presented to the NRC program office for further review.

The various types of shipping packages that were acceptable for shipping low specific activity materials and surface contaminated objects were compared with those listed in Department of Transportation regulations. The inspector verified the accuracy of the licensee's procedure. The inspector noted that the licensee permitted the use of strong-tight containers constructed and used prior to April 1, 1996. The licensee included a statement in the shipping documentation packages for shipments using these containers that qualified them for use based upon prior use.

The inspector reviewed documentation for selected shipments made since April 1, 1996. The documentation was reviewed to ensure that required information was present and that, when needed, the isotopes reported on the shipping papers satisfied the "95 percent rule." The licensee's calculation process was verified to be accurate.

c. Conclusion

The procedure for shipping low specific activity materials and surface contaminated objects was consistent with regulatory requirements.

R3.4 Use of International System of Units (SI) (TI 2515/133)

The licensee incorporated the use of SI units into the radioactive material shipping procedure. SI units were required for activities and radiation measurements. The inspector noted that the licensee's current practice was to use the standard units of curies and millirem. Since mandatory use of SI units for radiation units does not

become effective until April 1, 1997, the licensee indicated that the procedure would be modified to allow the current practice until April 1, 1997.

R3.5 Expansion of the Radionuclide List and Changes in Radionuclide Limits (TI 2515/133)

The inspector reviewed the licensee's use of the radionuclide table of A_1/A_2 values to assure that packages did not exceed the allowable radioactivity limits. The licensee used a manual calculation process that referenced the table in the Code of Federal Regulations. This information was incorporated into implementation of the "95 percent rule" for listing radionuclides on shipping papers in accordance with 49 CFR 173.433. No discrepancies were noted.

R3.6 Classification of Fissile Material (TI 2515/133)

The inspector reviewed the licensee's procedures associated with the use of the transport index and special controls for the prevention of criticality in transportation of fissile material. These were consistent with the new fissile material requirements.

R4 Staff Knowledge and Performance

R4.1 Chemistry Staff

a. Inspection Scope (84750)

The chemistry supervisor, chemist, chemistry crew leader, chemistry technicians, and station operators were interviewed with regard to regulatory and Technical Specification requirements for the implementation of the liquid and gaseous radioactive waste effluent management programs.

b. Observations and Findings

Chemistry personnel and station operators were knowledgeable of the programmatic procedures, Technical Specification requirements, and regulatory requirements and maintained a high level of performance. Batch radioactive liquid waste effluent releases and continuous radioactive gaseous waste effluent releases were properly performed during the January 1995 through August 1996 time period.

c. Conclusions

Chemistry personnel and station operators had an excellent understanding of the radioactive liquid and gaseous waste management procedures, Technical Specifications, and regulatory requirements.

R4.2 Environmental Staff

a. Inspection Scope (84750)

The inspector observed and held discussions with personnel involved with the implementation of the radiological environmental monitoring program.

b. Observations and Findings

The inspector noted that good sample handling techniques were used by the environmental specialist to maintain sample integrity during collection and packaging of samples for shipment. Activities observed were conducted in an orderly fashion. Good knowledge of environmental sampling and implementing procedures was maintained by the environmental staff.

c. Conclusion

The knowledge and performance of the environmental technician responsible for implementing the radiological environmental monitoring program activities were good.

R5 Staff Training and Qualification

R5.1 Training and Qualification of Chemistry Personnel and Radwaste Station Operators

a. Inspection Scope (84750)

Training and qualification programs for chemistry technicians and radwaste station operators involved with conducting the radioactive waste effluent management programs were reviewed. Training and qualifications of the chemistry technicians and radwaste station operators were verified.

b. Observations and Findings

The inspector verified that all but one recently hired chemistry technician had completed all of the training required to perform radioactive waste management program activities.

The inspector verified that 17 radwaste station operators were trained and qualified to conduct radioactive waste effluent batch releases and operate radioactive waste processing equipment.

c. Conclusions

Training and qualification programs for the chemistry technicians and the radwaste station operators were properly implemented. The chemistry department and the

radwaste operations department had well trained and qualified staffs for conducting radioactive waste effluent processing and release operations.

R5.2 Training and Qualification of Environmental Personnel

a. Inspection Scope (84750)

Training and qualification programs for the technical staff responsible for implementing the radiological environmental monitoring program were reviewed.

b. Observations and Findings

No formal training and qualification program or procedure were currently developed for the environmental technicians and environmental specialist. This was identified during the licensee's self-assessment (see R7.3). However, the licensee had documented any classroom training and on-the-job training received. Training Program Description (TPD-0703) was developed and approved to track the training and on-the-job tasks completed by the environmental staff. The inspector did not find any concerns with the training records reviewed.

c. Conclusions

The radiological environmental monitoring program was implemented by qualified personnel. The inspector determined that the experience, training, and working knowledge of the environmental staff were adequate to implement the radiological environmental monitoring program.

R5.3 Training and Qualification of Radiation Protection Radwaste Personnel

a. Inspection Scope (TI 2515/133)

The training, knowledge, and performance of radwaste workers and supervisors responsible for the transportation activities were reviewed to determine that the changes and updates to the regulations were included in the training and qualification program.

b. Observations and Findings

Personnel within the radwaste organization had attended training regarding the revised regulations. This training was provided by a vendor. This training satisfied the 49 CFR Part 172, Subpart H, requirement that each hazmat employer provide initial and periodic training to its hazmat employees.

The licensee had designated shippers as part of individual position descriptions. The inspector reviewed training records associated with personnel directly involved with the preparation of shipments. The inspector noted that there was not a

specific task qualification process for these individuals that reflected expiration of recurring training. The inspector discussed retraining activities with responsible training personnel. As a followup action, the licensee initiated changes to ensure that training cycles were properly tracked. The inspector verified that there were no individuals who had participated in the transfer, packaging, and transport of radioactive materials that were not currently trained as needed.

c. Conclusion

Personnel directly involved in the transportation of radioactive material/waste were adequately trained.

R6 Radiological Protection and Chemistry Organization and Administration

R6.1 Chemistry Organization and Staffing

a. Inspection Scope (84750)

The organization, staffing, and assignment of the radioactive waste effluent management program responsibilities were reviewed. Administrative and departmental procedures were reviewed for the assignment of responsibilities for the management and implementation of the radioactive waste effluent management programs.

b. Observations and Findings

The inspector verified that the chemistry and radwaste operations organizations and staff were responsible for the implementation of the radioactive waste effluent management program. The inspector determined that the duties and responsibilities for implementing the radioactive waste effluent management program, as specified in the procedures, were implemented.

The inspector reviewed the staffing of the chemistry and radwaste operations organizations and determined that they were adequately staffed. There had been very little change and no reduction in technical staff within the chemistry technical staff during the past 2 ½ years.

c. Conclusions

The chemistry and radwaste operations organizations and staffing met Technical Specification requirements. The chemistry technical staff had experienced little change and no reduction during the past 2 ½ years.

R6.2 Environmental Monitoring Organization and Staffing

a. Inspection Scope (84750)

The organization, staffing, and assignment of the radiological environmental monitoring program responsibilities were reviewed.

b. Observations and Findings

The General Office in Columbus, Nebraska, was responsible for implementing the radiological environmental monitoring program. The radiological environmental monitoring program was implemented in accordance with Technical Specification 3.21, the Offsite Dose Assessment Manual, and Environmental Procedure 1.0, "CNS Radiological Environmental Monitoring Program," Rev. 12, August 9, 1996. Organizational charts clearly outlined the number of licensee staff and positions.

The General Office performed well in implementing its duties in the environmental and meteorological programs. However, a lack of plant site ownership existed for these programs. The General Office personnel did not have a site contact to help expedite and work problem and maintenance issues related to these programs. Site ownership is desirable to help ensure that station regulatory commitments are met. The lack of site ownership may have been a contributor to the meteorological tower maintenance problems as discussed in Section R2.4. This issue was discussed with the licensee at the exit meeting on September 13, 1995. The licensee indicated that they understood the inspectors concerns.

c. Conclusions

The General Office performed well in implementing the radiological environmental monitoring program. A lack of site ownership was observed for the radiological environmental monitoring and meteorological programs.

R7 Quality Assurance in Radiological Protection and Chemistry Activities

R7.1 Radioactive Waste Effluent Quality Assurance Program

a. Inspection Scope (84750)

The quality assurance audit and surveillance programs regarding the radioactive waste effluent management program activities were reviewed. The review included the audit and surveillances performed between 1994-1996.

b. Observations and Findings

The review of the quality assurance audit schedules indicated that the audits of the radiological controls, which was a combined audit of the radiation protection

program, radioactive waste effluent program, radiological environmental monitoring program, and radwaste program, were scheduled on a 24-month frequency during 1994, 1995, and 1996, in accordance with Technical Specifications 6.2.7.b, and 6.2.7.h. The audit was scheduled in compliance with Technical Specification audit frequency requirements.

Reports of the quality assurance audit and surveillances, performed during the period January 1994 through August 1996, of the areas related to the performance of the radioactive waste effluent management programs were performed in accordance with the quality assurance procedures by qualified auditors and assisted by technical specialists. The audit and surveillances of the radioactive waste effluent program were of good quality and provided satisfactory oversight and evaluation of the licensee's performance in implementing the radioactive waste effluent management program and met the Technical Specification requirements.

c. Conclusions

Oversight of the radioactive waste effluent management programs was good. The quality assurance audit and surveillances of the radioactive waste effluent management program activities were technically comprehensive and provided good program evaluation and oversight.

R7.2 Quality Assurance Program for Contractors

a. Inspection Scope (84750)

The quality assurance audit program regarding contractors performing surveillance activities involving the radioactive waste effluent program, safety-related air cleaning ventilation systems, and radiological environmental monitoring program were reviewed.

b. Observations and Findings

The licensee used a contractor laboratory to perform required radiochemistry analyses of radioactive waste effluent composite samples, another contractor to perform in-place filter testing and laboratory charcoal adsorber analyses on the station's safety-related air cleaning ventilation systems, and a third contractor laboratory to perform radiochemistry analyses on environmental media samples. An audit of the radiochemistry laboratory, used to perform radiochemistry analyses of radioactive waste effluent samples, was performed by a Nuclear Procurement Issues Committee (NUPIC) audit team, led by Baltimore Gas and Electric Company on October 31 through November 2, 1994. An audit of the safety-related air cleaning ventilation systems' filter testing contractor was performed by a NUPIC audit team, led by Washington Public Power Supply System on November 15-17, 1994. An audit of the radiochemistry laboratory, used to perform radiochemistry analyses of environmental media samples, was performed by a NUPIC audit team, led by Wolf

Creek Operating Corporation on August 1-5, 1994. The licensee used these three audits to evaluate the performance of the three contractors in performing their respective analytical functions and to retain their current status on the licensee's qualified suppliers list. The inspectors reviewed the audits performed on the three contractors and determined that the audits were satisfactory to evaluate the contractors' abilities to perform their respective Technical Specification required analyses and surveillance activities.

c. Conclusions

Quality assurance audits of contractors were comprehensive and provided good evaluation and oversight of the contractors' performance.

R7.3 Radiological Environmental Monitoring Quality Assurance Program

a. Inspection Scope (84750)

A quality assurance audit report concerning the radiological environmental monitoring program was reviewed for scope, thoroughness of program evaluation, and timely followup of identified deficiencies.

b. Observations and Findings

The inspector reviewed the results of the audit performed in November 1994 by the licensee, including the audit plans and schedules. The audit was thorough and covered all aspects of the radiological environmental monitoring program. An improvement item was identified during this audit, which suggested that the environmental group perform self-assessments.

The inspector determined that the quality assurance personnel assigned to perform this audit had appropriate knowledge and experience, which enabled them to properly assess performance and to identify problems. The audit team consisted of licensee personnel and technical specialists.

A self-assessment of the radiological environmental program was performed April 15 through May 21, 1996. This self-assessment identified several improvement items in the implementation of the radiological environmental monitoring program.

c. Conclusions

A good audit was performed which identified that self-assessments should be performed. The audit was performed by qualified auditors, which included assistance by technical specialists. The audit was performed at the required frequency. A good self-assessment was performed.

R7.4 Radwaste Program Assessments

a. Inspection Scope (86750)

Audits, surveillances, and assessments of the solid radwaste program were reviewed.

b. Observations and Findings

The inspector reviewed the licensee's quality assurance audit of the radiation protection program which was performed in November 1994. This audit included a review of radioactive waste processing and radioactive waste and material shipping activities. The audit was very broad in scope and the sheer volume of the report tended to deemphasize the report findings. Even so, the findings were well based and reflected the expertise of the personnel performing the audit.

Since the previous inspection in this area, the licensee reduced the quality assurance oversight of radwaste/radioactive materials shipments from 100 percent to a less frequent sample. This reduction in quality assurance oversight was based upon the lack of substantial findings from quality assurance surveillances of the solid radwaste program and the transportation of radioactive materials program.

The inspector noted that the last quality assurance surveillance related to the transportation of radioactive materials was in March 1996. The inspector discussed the changes to the regulations, programs, procedures, equipment, etc., as well as the importance of industry events that may have affected the licensee's assumptions to reduce the quality assurance surveillance frequency. The licensee had not performed a formal review of this decision; therefore, no change to the current quality assurance surveillance frequency was made.

The inspector pointed out that since the major changes in the transportation regulations, effective April 1, 1996, the licensee had not performed quality assurance surveillances associated with the performance of the solid radwaste program and the transportation of radioactive materials program. The licensee stated that priorities were in other program areas. Since no major transportation issues had been identified, no immediate changes were planned.

The inspector interviewed the individual that the licensee identified as the in-house expert for radiation protection and solid radwaste programs in the quality assurance department. This individual did not have applied experience in the transportation of radioactive materials, nor had he received any training associated with the new transportation regulations.

The licensee performed a self-assessment of the radiation protection program during the week of March 25, 1996. As part of this self-assessment, the licensee used expertise from another nuclear power facility to review the solid radwaste program.

The self-assessment contained numerous comments and recommendations associated with the licensee's solid radwaste program. The licensee was tracking the implementation of these comments and recommendations.

While the self-assessment was very good, the inspector noted that the self-assessment was performed prior to the implementation of the revised transportation regulations.

c. Conclusions

There was no independent review of the licensee's radwaste program following the implementation of the revised transportation regulations. Additional assessments by the licensee would benefit the solid radwaste and transportation of radioactive materials programs.

V. Management Meetings

X1 Exit Meeting Summary

The inspectors presented the results of the three inspections to members of licensee management at the conclusion of the inspection on September 13, 1996. The licensee acknowledged the findings presented.

The inspectors asked the licensee whether any materials examined during the inspections should be considered proprietary. No proprietary information was identified.

ATTACHMENT

PARTIAL LIST OF PERSONS CONTACTED

Licensee

B. Bauer, Environmental Specialist, General Office
R. Beilke, Radiological Support Supervisor, Radiation Protection
M. Bennett, Supervisor, Nuclear Licensing
D. Billesbach, Manager, Work Control
S. Bray, Assessment Supervisor, Quality Assurance
T. Chard, Assistant Manager, Radiation Protection
T. Chinn, Temporary Environmental Technician
K. Fike, Chemist
M. Hale, Manager, Radiation Protection
H. Hasenkamp-Gibbs, Acting Environmental Supervisor, General Office
J. Humphrey, Lead licensed Instructor, Nuclear Training
J. Kuttler, Radwaste Specialist, Radiation Protection
D. Madsen, Licensing Engineer, Licensing
R. McDonald, Supervisor, Chemistry
R. Nyffeler, Acting Environmental Manager, General Office
J. Peaselee, Surveillance Coordinator
M. Peckham, Plant Manager
R. Sessoms, Senior Manager, Quality Assurance
G. Smith, Operations Manager, Quality Assurance
D. Snyder, Chemistry Instructor, Nuclear Training
E. Stukenholtz, Instrument and Controls Technician
C. Taylor, Licensing Specialist, Licensing
J. Teton, Crew Leader, Chemistry
B. Toline, Audit Supervisor, Quality Assurance
K. Walden, Manager, Environmental Policy, General Office

NRC

M. Miller, Senior Resident Inspector

LIST OF INSPECTION PROCEDURES USED

IP 84750	Radioactive Waste Systems; Water Chemistry; Confirmatory Measurements and Radiological Environmental Monitoring
IP 86750	Solid Radioactive Waste Management and Transportation of Radioactive Materials
TI 2515/133	Implementation of Revised 49 CFR Parts 100-179 and 10 CFR Part 71

LIST OF ITEMS OPENED AND CLOSED

Opened

50-298/9621-01	NOD	USAR Commitment
50-298/9621-02	IFI	Meteorological tower Maintenance

LIST OF ACRONYMS USED

SI	International System of Units
NUPIC	Nuclear Procurement Issues Committee

LIST OF DOCUMENTS REVIEWED

Documents Reviewed During the Radioactive Waste Effluents Management Inspection

Organization Charts

Radiological Department - June 1996

Operations Department - June 1996

Nuclear Training Department - June 1996

Quality Assurance Division - June 1996

Quality Assurance Documents

Internal Audit Schedule - 1994

Internal Audit Schedule - 1995

Internal Audit Schedule - 1996

Quality Assurance Audits

Quality Assurance Audit 94-23, ASP-402, "Radiological Controls," Part 2,
October 11 through December 27, 1994

Quality Assurance Audit 95-13, ASP-406, "Chemistry," July 24 through August 15, 1995

Quality Assurance Surveillances

Quality Assurance Surveillance, QAC-95153, "ERP Kaman Monitor Functional Test," May 17, 1995

Quality Assurance Surveillance, SC-406-02, "Radiochemistry Analysis," May 17, 1995

Quality Assurance Surveillance, QE-9505, "Service Water Operation," January 20, 1995

Vendor Audits

NUPIC Joint Quality Assurance Audit of TMA/Richmond, October 31 through November 2, 1994

NUPIC Joint Quality Assurance Audit of NCS Corporation, November 15-17, 1994

Procedures

Administrative Procedures

- 0.2 "Station Organization and Responsibility," Revision 12
- 0.17 "Selection and Training of Station Personnel," Revision 21.1C1

Operations Procedure

- 2.5.2.3 "Radwaste High Conductivity Liquid Waste Floor Drain Sample Tank Fluid Transfer," Revision 38.1

Chemistry Procedures

- 8.2.1 "Chemistry Analysis and Instrument Calibration Schedule," Revision 19.1
- 8.4 "Routine Sampling and Sample Valve Control," Revision 9.1
- 8.8.4 "Off-Gas Grab Samples Isotopic Analysis," Revision 11.1
- 8.8.8 "Particulate, Iodine, and Noble Gas Sample Collection for Effluent Monitors, Control Building Intake," Revision 15.1
- 8.8.11 "Liquid Radioactive Waste Discharge Authorization," Revision 15
- 8.11.1 "Effects Program," Revision 6

Training Documentation

Training Program Description TPD-0412, "ANSI Chemistry Technician," Revision 5.01, dated May 1, 1996

Training Program Description TPD-9208, "Radioactive Liquid Discharge Analysis," Revision 0, dated August 1, 1995

Training Program Description TPD-9211, "Perform Analysis of Liquid Radwaste Composite," Revision 0, dated August 1, 1995

Training Program Description TPD-9213, "Operate Counting Room Instruments," Revision 0, dated July 31, 1995

Training Program Description TPD-9306, "Obtain Sample from Sample Rack," Revision 0, dated August 1, 1995

Training Program Description TPD-9317, "Steam Jet Air Ejector Off-Gas Analysis," Revision 0, dated August 1, 1995

Training Program Description TPD-9401, "Radioactive Particulate and Iodine Sample," Revision 0, dated July 31, 1995

Training Program Description TPD-9402, "Noble Gas Samples," Revision 0, dated July 31, 1995

Training Program Description TPD-9409, "Steam Jet Air Ejector Monitor Source Check," Revision 0, dated July 31, 1995

Training Program Description TPD-9411, "Perform Functional Test of Kaman Monitor," Revision 0, dated July 31, 1995

Training Program Description TPD-9803, "Calibrate Steam Jet Air Ejector Radiation Monitor," Revision 0, dated July 31, 1995

Training Program Description TPD-9804, "Calibrate Kaman Vent Monitor," Revision 0, dated July 31, 1995

Training Program Description TPD-9805, "Calibrate REC and SW Process Radiation Monitor," Revision 0, dated July 31, 1995

Training Program Description TPD-9806, "Calibrate Liquid Radwaste Monitor," Revision 0, dated July 31, 1995

Training Program Description TPD-9814, "Tritium Analysis," Revision 0, dated July 31, 1995

Training Program Description TPD-0201, "Station Operator," Revision 11, dated March 4, 1996

Lesson Plan, INT014-11-01, "Tritium Samples," Revision 3.01

Lesson Plan, OTH0009-01-01, "Chemistry Surveillance Methods," Revision 1.01

Lesson Plan, INT013-02-01, "Kaman Monitor Samples," Revision 2.02

Lesson Plan, COR012-04-01, "Gaseous Effluent Sampling," Revision 2.01

Lesson Plan, COR001-19-01, "Radwaste System," Revision 8

Lesson Plan, SKL009-01-01, "Radwaste Building OJT/TPE Qualification Card," Revision 6.03

Surveillance Tests

6.HV.101	"Control Room Ventilation," Revision 0.1
6.HV.103	"Control Room Emergency Fan Filter Train Differential Pressure Test," Revision 0
6.HV.104	"Control Room Emergency Fan Charcoal and HEPA Filter Leak Test, Fan Capacity Test, and Charcoal," Revision 0
6.HV.105	"Control Room Envelop Pressurization Test," Revision 4
6.HV.301	"Turbine Building Ventilation Flow Monitors Calibration and Functional Test," Revision 0
6.HV.302	"Reactor Building Ventilation Flow Monitor Calibration and Functional Test," Revision 0C1
6.HV.304	"Radwaste Building Ventilation Flow Monitor Calibration and Functional Test," Revision 0
6.OG.301	"Off-Gas System Auto Isolation Functional Test," Revision 1
6.OG.303	"Off-Gas Flow Monitor Calibration," Revision 0
6.PRM.301	"Off-Gas Radiation Monitor Source Check Test," Revision 0.2
6.PRM.302	"Off-Gas Radiation Monitor Linearity Test and Efficiency Determination," Revision 0
6.PRM.303	"SW Radiation Monitor Source Check," Revision 0
6.PRM.304	"SW Radiation Monitor Source Check and Function Test," Revision 1.1
6.PRM.305	"SW Radiation Monitor Calibration Check and Instrument Channel Test," Revision 0
6.PRM.306	"Liquid Radwaste Effluent Flow Monitor Calibration and Functional Test," Revision 0
6.PRM.307	"Liquid Radwaste Effluent System Functional and Logic Test," Revision 0
6.PRM.308	"Liquid Radwaste Effluent System Calibration Test," Revision 0

6.PRM.309	"ERP Kaman Monitor Functional Test," Revision 0.1C1
6.PRM.310	"ERP Kaman Monitor Calibration," Revision 0
6.PRM.312	"Reactor Building Kaman Monitor Functional Test," Revision 0C1
6.PRM.313	"Reactor Building Kaman Monitor Calibration," Revision 0
6.PRM.314	"Turbine Building Kaman Monitor Functional Test," Revision 0C1
6.PRM.315	"Turbine Building Kaman Monitor Calibration," Revision 0
6.PRM.318	"Control Room Air Sampling System Functional and Logic Test," Revision 0.1
6.PRM.319	"RW/ARW Kaman Monitor Functional Test," Revision 0C1
6.PRM.320	"Radwaste Building Kaman Monitor Calibration," Revision 0
6.1OG.301	"Augmented Off-Gas Hydrogen Monitor Calibration and Functional," Revision 0
6.1PRM.304	"Reactor Building Ventilation Radiation Monitor Calibration and Functional Test/Source Check," Revision 0.1
6.1PRM.305	"Off-Gas Radiation Monitor Calibration and Functional Test," Revision 1C1
6.1PRM.306	"Off-Gas Radiation Monitor Functional Test," Revision 2
6.1PRM.311	"Reactor Building Ventilation Radiation Monitor Source Check," Revision 0.1
6.1SGT.101	"A SGT Filter Differential Pressure, Heater Output, and Fan Motor Running Current Test," Revision 0
6.1SGT.301	"SGT Operability Test/Off-Gas Flow Monitor Functional Test," Revision 0.1
6.1SGT.401	"SGT A Charcoal Filter Leak Test, Fan Capacity Test, SGT B Cooling Flow Test and Check Valve IST," Revision 0
6.1SGT.501	"SGT A HEPA Filter and Component Leak Test," Revision 0.1
6.1SGT.601	"SGT A Charcoal Filter Carbon Analysis - Methyl Iodide," Revision 0
6.1SJAE.301	"Steam Jet Air Ejector Flow Monitor Calibration and Functional Test," Revision 0
6.2OG.301	"Augmented Off-Gas Hydrogen Monitor Calibration and Functional," Revision 0
6.2PRM.304	"Reactor Building Ventilation Radiation Monitor Calibration and Functional Test/Source Check," Revision 0.1
6.2PRM.305	"Off-Gas Radiation Monitor Calibration and Functional Test," Revision 1C1
6.2PRM.306	"Off-Gas Radiation Monitor Functional Test," Revision 3
6.2PRM.311	"Reactor Building Ventilation Radiation Monitor Source Check," Revision 0.1
6.2SGT.101	"B SGT Filter Differential Pressure, Heater Output, and Fan Motor Running Current," Revision 0
6.2SGT.301	"SGT Operability Test/Off-Gas Glow Monitor Functional Test," Revision A
6.2SGT.401	"SGT B Charcoal Filter Leak Test, Fan Capacity Test, SGT A Cooling Flow Test and Check Valve IST," Revision 0

6.2SGT.501	"SGT B HEPA Filter and Component Leak Test," Revision 0.1
6.2SGT.601	"SGT B Charcoal Filter Carbon Analysis - Methyl Iodine," Revision 0.1
6.2SJA.E.301	"Steam Jet Air Ejector Flow Monitor Calibration and Functional Test," Revision 0

Miscellaneous Documents

Selected Liquid Radioactive Waste Batch Release Permits

Annual Operating Report Radioactive Effluents - 1994

Annual Operating Report Radioactive Effluents - 1995

Documents Reviewed During the Radiological Environmental Monitoring Inspection

Organization Chart

General Office - Production Environment & Advanced Technology Division - January 1996

Procedures

Environmental Policy Department Procedures Manual

- 1.0 "CNS Radiological Environmental Monitoring Program," Revision 12, dated August, 1996
- 1.1 "CNS Environmental Air Pump Calibration and Maintenance," Revision 1, dated March, 1996
- 1.2 "Annual Review of Broadleaf Vegetation Sample Stations," Revision 2, dated August, 1996
- 1.3 "Annual CNS Land Use Census," Revision 1, dated August, 1996
- 5.0 "Cooper Nuclear Station - Action Levels for Environmental Samples," Revision 1, dated August, 1995
- 7.2 "Transferring CNSMET Data," Revision 1, dated August, 1995
- 7.3 "Logging in Strip Chart Data," Revision 1, dated August, 1995
- 7.4 "Validating CNSMET Data," Revision 4, dated August, 1995
- 7.5 "Executing All CNSMET Programs," Revision 1, dated August, 1995
- 7.6 "Producing & Quality Assuring the Semi-Annual Report," Revision 2, dated January, 1996
- 7.7 "Producing & Quality Assuring the Annual Meteorological Report," Revision 2, dated January, 1996
- 7.8 "Archiving CNSMET Data," Revision 0, dated August, 1995
- 8.0 "Environmental Review Program," Revision 0, dated February, 1996

Cooper Nuclear Station Operations Manual

Emergency Procedure 5.2.5, "Loss of Normal AC Power - USE OF EMERGENCY AC POWER," Revision 28.1, dated February 23, 1995

System Operating Procedure 2.2.90, "12.5 kV System," Revision 15, dated March 8, 1996

Instrument and Control Procedure 14.3.3, "Meteorological Maintenance Procedure," Revision 4, dated April 4, 1994

Quality Assurance Audit

Quality Assurance Audit 94-23, ASP-402, "Radiological Controls," Part 2, October 11 through December 27, 1994

Self-assessments

1996 CNS Environmental Review

Vendor Audits

NUPIC Joint Quality Assurance Audit of Teledyne Brown Engineering Environmental Services, August 1-5, 1994

Reports

Annual Operating Report Radioactive Effluents - 1994 and 1995

Annual Radiological Environmental Operating Report - 1994 and 1995

Miscellaneous Documents

"Offsite Dose Assessment Manual," Revision 6, dated March 15, 1995

1996 Sample Collection Schedule

Air sampler calibration log book

USAR Volume I, Section II.3, "Meteorology"

USAR Volume I, Section II.6, "Environmental Meteorology"

Technical Specification 3.21

Training Program Description - 0703

Maintenance Work Order list for 1994, 1995, 1996

Documents Reviewed During the Solid Radioactive Waste and Transportation Inspection

Organization Charts

Chemistry and Radwaste - June 1996

Health Physics - June 1996

Quality Assurance Audits

Quality Assurance Audit 94-23, ASP-402, "Radiological Controls," Part 2,
October 11 through December 27, 1994

AQD950085, "Quality Assurance Evaluation QE9534; Evaluation of the CNS Low Level
Radioactive Waste (LLRW) Storage Facility and Its Operations," April 11, 1995

Quality Assurance Checklist

QA/QC Checklist, "Mixed Waste Shipment 95-1P," April 10, 1995

Quality Assurance Surveillances

QAC95068, "QA Surveillance of Mixed Waste Shipment #95-1K," February 16, 1995

SC-402-03, Revision 1, "Quality Assurance Surveillance, Surveying Materials for Release
Offsite: Trash," July 13, 1995

SC-402-24, Revision 0, "Quality Assurance Surveillance, Radwaste Processing and
Shipping (Using Dewatering Process)," March 11, 1996

SC-402-29, Revision 0, "Transfer of Radioactive Waste to the LLRW Storage Pad,"
June 7, 1995

Procedure

Procedure 9.5.3.1, Revision 11.1 C1, "Radioactive Shipments," July 31, 1996

Shipping Documentation

Shipment 96-3A Shipping Documents, 1 box (inspection equipment) to GE, Wilmington, NC, March 28, 1996

Shipment 96-4 Shipping Documents, Dewatered Resins, May 9, 1996

Shipment 96-6A Shipping Documents, 19 Boxes of protective clothing to INS, May 29, 1996

Shipment 96-6D Shipping Documents, Refuel tools to Clinton Power Station, June 11, 1996

Shipment 96-8B Shipping Documents, Sand/paint chip samples to Barringer Lab, June 28, 1996

Shipment 96-11B Shipping Documents, MiS and HEPA unit to Oyster Creek, August 13, 1996

Shipment 96-11E Shipping Documents, Transnuclear Equipment to Quad Cities, August 27, 1996

Miscellaneous Documents

"Self Assessment 1996 - Radiation Protection Program," dated August 26, 1996

USAR Section IX.3, "Solid Radwaste Systems"

Problem Identification Report 2-00564, dated August 8, 1996