

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 999-90003/96001(DNMS)
License No. Non-Licensee
Organization: Northeast Ohio Regional Sewer District (NEORSO)
Cleveland, Ohio
Inspection At: NEORSO Southerly Wastewater Treatment Plant
6000 Canal Road
Cuyahoga Heights, Ohio 44125
Dates: October 11, 1996
Inspector: D. W. Nelson, Radiation Specialist
Approved By: B. L. Jorgensen, Chief
Decommissioning Branch

EXECUTIVE SUMMARY

Northeast Ohio Regional Sewer District

NRC Inspection Report No. 999-90003/96001(DNMS)

This was a routine inspection of South Fill Area of the Northeast Ohio Regional Sewer District (NEORS) Southerly Wastewater Treatment Plant (SWTP). Areas inspected included site security, radiological postings and compliance with the Radiological Control Plan.

The NRC inspector did not identify any weaknesses in the NEORS security program or any deficiencies in the radiological postings within and around the South Fill Area. NEORS personnel appeared to have complied with the requirements of the Radiological Control Plan.

DETAILS

1. Persons Contacted

- * Thomas Lenhart, Assistant General Counsel, NEORS
- * Rich Connelly, Manager, Water Quality and Industrial Surveillance, NEORS
- * Theodore Adams, Radiation Safety Officer, B. Koh & Associates, Inc.
- * Denotes those present during the October 11, 1996, exit meeting conducted at the Southerly Wastewater Treatment Plant.

2. Background

During April 1991, an aerial monitoring survey conducted in the Cleveland, Ohio area, detected increased radiation levels at the Northwest Ohio Regional Sewer District (NEORS) Southerly Wastewater Treatment Plant (SWTP) located in Cuyahoga Heights, Ohio. The material causing the increased radiation levels was subsequently determined to be cobalt-60. The SWTP services a large section of the Cleveland/Northeast Ohio area. The SWTP treatment includes incineration of sludge, transport of ash in slurry form to settlement/evaporation ponds, and eventual removal of the dried product for use as fill on the SWTP property.

The 1991 aerial survey detected measurable levels of gamma radioactivity at the SWTP. Areas identified included the north edge of the plant (North Fill Area), the Sanitary Pond Area (Ash Lagoons A, B, C) and the previously used sludge lagoon (Old Sludge Lagoon). Subsequent surveys detected Co-60 in the incinerator ash, in the ash lagoons and in several areas onsite where ash from the lagoons had been deposited. Surveys also found elevated radiation readings in the North Fill area and the South Fill Area (SFA) but no evidence of contamination in the berm located in the north area of the Steam Plant or in or around the Imhoff Tanks.

During the period May through December, 1993, approximately 174,000 cubic yards of contaminated ash was removed from Lagoons A, B, and C and placed in the Old Sludge Lagoon. Lagoons A, B, and C were subsequently released for unrestricted use. Following the removal of the ash from the lagoons six inches of clean clay cover was placed over the majority of the SFA site (northeast and central portion).

Future plans call for covering an additional portion of the southeast section of the SFA and the North Fill Area with six inches of clay.

3. Personnel Radiation Protection

The Radiological Control Plan (RCP) for the NEORS Southerly site includes procedures for dosimetry, effluent and environmental monitoring, site security and occupational health and safety. A review

of the records indicated that NEORSD personnel had complied with the requirements of the RCP. The review also indicated that the requirements of the plan were very conservatively written, considering the current radiological conditions at the plant. Requirements for annual retraining, dosimetry for workers and visitors and the use of Radiation Work Permits may not be necessary any longer, either for the contractor or the NEORSD personnel. This issue was discussed at the exit meeting and the contractor indicated that they would review the RCP's requirements to determine if they needed to modify or delete those parts that are beyond the scope necessary to provide an adequate level of safety that is consistent with the work being performed.

4. Radiological Postings

The inspector observed that the perimeters of the SFA and the Old Sludge Lagoon were posted with caution radioactive material signs. The postings were appropriately placed and well maintained.

5. Site Security

Security at the SFA was excellent. One security fence surrounds the South Fill Area and within that fence another fence surrounds the Old Sludge Lagoon (OSL). Guards at the Main Process Plant control the keys to the gate leading into the SFA and only authorized individuals are allowed to enter the area. The Manager, Water Quality and Industrial Surveillance, NEORSD, controls the one set of keys to the OSL and only he can unlock the gate leading into the Old Sludge Lagoon. Access to the OSL is limited to B. Koh & Associates, Inc. personnel and individuals personally authorized by the Manager.

5. Exit Meeting

At the conclusion of the on-site inspection on October 11, 1996, the inspector met with those individuals identified in Section 1 of this report. A summary of the preliminary results was discussed. The NEORSD management and employees did not identify any information provided during the inspection as proprietary.