

Defendants.

9301110238 920708
PDR FOIA
MESTER92-71 PDR

1/11/2380

of "Military." The site is located in the north and west of its radioactive waste site.

4. The Sheffield facility is one of six commercial shallow land burial grounds licensed for the disposal of low-level waste in the United States. Because it is the only one not located in an Agreement State, it is regulated by the NRC.
5. The Sheffield low-level waste disposal site was first licensed for operation in 1967 when the Atomic Energy Commission (AEC) licensed the activities of California Nuclear, Inc. (NECO's predecessor) at the site. In 1963, California Nuclear, Inc. had presented a proposal to establish a waste disposal site in the State, and the Illinois geology and health departments assisted that company in locating the Sheffield site. A geohydrologic investigation was conducted and the site was then approved by the Illinois geology and health departments, and later, at the time of the 1967 licensing, by the AEC after consultation with the United States Geologic Survey.
6. The land on which the Sheffield site is located was deeded by California Nuclear to the State of Illinois in October of 1966, in accordance with the AEC regulation which requires radioactive waste disposal to be carried out on land owned by either the State or Federal government. 10 CFR 20.302(b). Illinois then leased the land to California Nuclear under which the State collects a yearly rent and a fee for each cubic foot of waste buried.

7. California Nuclear was authorized to bury waste at the Sheffield site by Amendment No. 7 to its existing license No. 11-304-1, which was originally approved on July 15, 1964, for other activities not related to the Sheffield site. The earlier amendments to this license concern other burial sites and the use of the Sheffield site for temporary storage. NECO then acquired control of California Nuclear, and with the AEC's approval the license was transferred to NECO in March 1968 by Amendment No. 10. The transferred license was valid through August 31, 1968. A copy of the license together with Amendment Nos. 9, 10 and 11 is attached hereto as Exhibit 1.
8. NECO filed an application for license renewal on August 16, 1968. It was deemed timely filed by the AEC on August 22, 1968. The Sheffield license has been continued in effect pending final Commission action.
9. The principal operations at a commercial land burial ground are the receipt, temporary storage, and burial in trenches of packaged low-level radioactive wastes. These wastes come from clean-up operations (gloves, clothing, etc.); floor drains; cooling or circulating water demineralizers; and from the research, medical, and industrial use of radioisotopes. The waste packages are normally buried as received. Furthermore, the State limits the Sheffield facility's acceptance of low-level waste material to packages having an activity of less than one curie per cubic foot. As a result, the overall activity of all materials received is only twenty millicuries per cubic foot (1/50 of the limit), giving the Sheffield site the lowest activity of the six, low-level waste facilities in the United States.

10. The Sheffield facility is fourth in total volume of wastes buried in the six United States low-level sites, and it handles the largest quantity of waste of any of them.
11. Most of the wastes buried at the Sheffield site are generated in the mid-western region of the United States. About 70 percent have originated from activities within the State of Illinois. The major source are hospitals, industry, government installations and nuclear power plants. A substantial portion of the waste arises from nuclear power plants located in the State of Illinois. About 23 percent of the State's power is produced in its seven nuclear power plants. In the Chicago area, 40 to 45 percent of the power is produced by reactors. Several more reactors are currently under construction in Illinois.
12. Wastes are buried at the Sheffield site in trenches which are about 30 feet deep, 50 to 60 feet wide and 200 to 500 feet long. Spacing between the trenches is at least 10 feet. Most wastes are buried in containers which are then covered with three or more feet of clay which is compacted in situ. This clay cap prevents the seepage of precipitation into the trench. Three feet of topsoil is then placed on top of the cap, contoured to promote runoff of precipitation and seeded for stabilization. The bottom of each trench contains a drain, graded to collect any seepage at one end. If moisture collects in the drain, it can be monitored through a riser pipe and pumped out if necessary. No completed trench has needed pumping to date. Twenty trenches have been filled, and the last licensed one on the site is expected to be filled on or about April 1,

1978. The current rate of waste disposal at the Sheffield site is approximately 40,000 cubic feet per month. At this rate it takes about ten months to fill a large trench.

13. Radioactive wastes are transported to the Sheffield site by private carrier, commercial contract carriers, common carriers, package delivery services and direct customer delivery. Federal and State regulations govern the packaging, labeling and shipping of radioactive wastes. Interstate shipments are regulated by the Department of Transportation (DOT), and intrastate shipments by Illinois. Various containers are utilized for the safe transport of radioactive waste depending on the activity level of the material. Containers must meet DOT requirements. All vehicles entering the site are surveyed to determine that they are properly placarded, that containers are properly sealed, and that radiation levels do not exceed DOT limits. The environmental effects of waste transportation have been considered in the Final Environmental Statement on the Transportation of Radioactive Material by Air and Other Modes, NUREG-0170 (1977).
14. On May 23, 1975, NECO filed an application for a license amendment which would permit use of the excess soil excavated from the trenches for the construction of compacted fill trenches in topographic depressions on the Sheffield site. On December 22, 1975, NECO was authorized to construct compacted fill trenches but not to bury any radioactive waste in them.

15. On January 16, 1976, NECCO was requested to inform the NRC of its status regarding the proposed license renewal application and Environmental Report as previously requested in July, 1975. These documents were submitted on December 29, 1976. Prior to submitting this information, on August 30, 1976, NECCO applied for a license amendment to permit use of two compacted fill trenches -- Trenches 14 and 14A. An amended application was filed on November 4, 1976, and was supported with a Radiological Control and Safety Manual, a Site Operations Manual, a Radiological Assessment Evaluation for Trenches 14 and 14A, and a report on the Geology and Geotechnical Engineering for Trenches 14 and 14A. In addition, NECCO applied for the withholding of the proprietary information in its application pursuant to 10 CFR 2.790(b). The amendment application was extensively reviewed by NRC's technical staff and NECCO responded in detail to several sets of technical questions. Amendment No. 11 authorizing burial in Trenches 14 and 14A was issued on January 6, 1977.

16. The issuance of Amendment No. 11 is the only licensing action taken by the NRC on NECCO's Sheffield license since 1970. This license amendment superseded all previous license conditions pertaining to Sheffield and authorized the burial of low-level radioactive wastes only in Trenches 14 and 14A. It also completely updated the radiological health and safety program and procedures for the Sheffield site, and strictly limited the concentrations of buried transuranic materials. Amendment No. 11 also authorized NECCO to temporarily store limited quantities of radioactive waste above ground.

13. On August 5, 1977, NECO applied for a license amendment to permit use of compacted fill trenches which would be built on its present site by the same method used for Trenches 14 and 14A. The NRC has limited its consideration of this application to only one trench -- Trench 15. Notice of this application and of an opportunity for comment was published on January 6, 1978 (43 Fed. Reg. 1160). Exhibit 5. The State of Illinois and other interested persons submitted petitions to the NRC. As

As a result, an Atomic Safety and Licensing Board has been established to rule on petitions and requests for leave to amend the license. Exhibit 6. In addition, the NRC has prepared and forwarded a Notice of Opportunity for Public Hearing for publication in the Federal Register. Exhibit 7.

19. NECO's Trench 15 application is now undergoing an extensive safety review by NRC technical staff. NECO is still providing additional information in response to specific technical questions. To provide the requested information NECO is conducting field studies that are scheduled to be completed on April 6, 1978. As a result, the earliest that the NRC staff can complete its safety evaluation of NECO's application is the middle of May, 1978.
20. By letter dated March 15, 1978, NRC informed NECO that no radioactive materials should be placed in Trench 15 until the staff completes its evaluation of the field work supporting NECO's license amendment application and is satisfied that no potential health and safety problems will develop. Exhibit 8.
21. By letter dated March 30, 1978, NECO has informed the NRC that it intends only limited use of the Sheffield site as a collection point for low-level waste collected in general from hospitals and other small generators and packaged in Department of Transportation-approved containers which will be shipped off-site to another burial facility. Exhibit 9.
22. On March 3, 1978, the NRC entered into contract No. NRC-02-77-082 with WUS Corporation of Rockville, Maryland, to assist with the preparation of an environmental impact

Statement (EIS) for NRC's license renewal and site operation application. Under this contract, the NRC defines the scope, content and technical methodology in the EIS; monitors the contractor's technical progress and recommends changes in requirements as needed; interprets the scope of the work; performs technical evaluations as required; performs the technical inspections and acceptances required; and assists the contractor in resolving any technical problems encountered. After each preliminary draft chapter is completed by the contractor, it is reviewed by the NRC and returned for revision in accordance with contract requirements. A second round of review and revision is then performed on the entire preliminary draft EIS. A target date of early September, 1978, has been set for NUS to deliver a copy of the draft EIS. The time of publication of a final EIS will depend in part on the extent of comments received on the draft. I expect the final EIS to be issued sometime during the first quarter of 1979.

23. Recent Federal inspections at the Sheffield site have been made periodically at 6 to 12-month intervals. No significant items of non-compliance have been found. In addition, staff from the Illinois Department of Public Health have frequently inspected the site, and the NRC inspection staff has maintained a close working relationship with the State inspectors.
24. Low concentrations of tritium have been detected in on-site monitoring wells very close to one burial trench in late 1976; and in late 1977, in an on-site monitoring well

approximately 75 feet from the nearest burial trench.
On-site tritium concentrations are small fractions
of the NRC limit on tritium concentration for release
to unrestricted areas; therefore, the NRC considers that
off-site radiological impacts have been and continue to
be negligible. Based on present information, the NRC is
unable to conclude whether or not subsurface migration of
tritium has occurred, and further analyses are being con-
ducted to determine the significance of the findings.

Michael J. Bell

MICHAEL J. BELL, Chief
Low-Level Waste Branch
Division of Fuel Cycle and
Material Safety
U.S. Nuclear Regulatory Commission

COUNTY OF MONTGOMERY)
) SS
STATE OF MARYLAND)

Subscribed and Sworn to before me
this the 31st day of March, 1978.

Carol J. Baker

NOTARY PUBLIC

My Commission expires July 1, 1978.