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MEMORANDUM FOR: R. Dale Smith, Chief
Low-Level Waste Licensing Branch

FROM: Edward F. Hawkins
Low-Level Waste Licensing Branch

SUBJECT: MINUTES OF SEPTEMBER 25, 1980 MEETING WITH NECO
REPRESENTATIVES ON SHEFFIELD CLOSURE CONDITIONS

On September 25, 1980 an informal meeting was held in the law offices of Connor, Moore & Corber in Washington, D. C. to discuss the details of the staff's Site Closure Conditions for Sheffield Low-Level Disposal Facility.

Attendees: K. Dragonette, NRC T. Baer, NECO
E. Hawkins, NRC T. Connor, Attorney for NECC
R. Lessy, NRC C. Eason, NECO
D. Siefken, NRC R. Rader, Attorney for NECO
J. Shaffner, NRC
G. Turi, NRC

Summary of Agreements: No formal agreements or commitments were made. NECO and NRC are looking into some of the questions that were raised during the meeting and may provide informally additional details or clarifying information.

Detailed Minutes of Meeting

Each of the following conditions as filed with the ASLB on July 17, 1980 was discussed to clarify the intent and possible methods of compliance.

- (1) That all waste is buried in accordance with requirements of the Commission and the license.

Issues discussed included the role of NRC's I&E efforts, the umbrella nature of the conditions and the availability and magnitude of relevant NECO records.

- (2) That all structures, equipment and materials not to be transferred to the custodial agency have been dismantled, decontaminated, if necessary, and disposed of.

Issues discussed included the need for coordination with the State on which buildings, equipment and materials should be transferred for use during long-term care.

NOV 12 1980

- (3) That institutional arrangements have been made for long-term custodial care by the State of Illinois; that there will be an orderly transition to Illinois; and that organizational and funding mechanisms are in place.

Issues discussed include the need for assurance that institutional arrangements are currently in order, the need for assurance that final planning has taken place, and the historical commitments by the State.

- (4) That gamma radiation from buried wastes does not increase background radiation on the site.

The absolutism of the words was discussed.

- (5) That the rate of release of radionuclides through ground and surface water pathways are at or below the levels set forth in 10 CFR Part 20, Appendix B at the site boundary, at or below EPA drinking water limits at the nearest water supply, and a small fraction of the levels set forth in 10 CFR Part 20, Appendix B through air pathways; and that studies have been conducted and techniques have been employed to ensure maintenance of these rates for the period of custodial care by the State of Illinois.

Issues discussed include the exact value of "a small fraction of the levels" the difficulty of ensuring versus providing reasonable assurance, the need to evaluate the range of potential values for model parameters which could be expected to vary, and the need to include up-to-date data in migration models.

- (6) That trench bottom elevations are above water table levels, taking into account the complete history of seasonal water table fluctuations, and that conditions will be created to prevent contact between ground water and the buried waste.

Issues discussed include the elevation of the ground-water table above the bottom of Trench 18, the special waste containers in the bottom of Trench 18, the need to assure that the final site closure design (e.g., contours, drainage channels) did not produce a rise in the ground-water table, and the meaning of "will be created" as to future NECO responsibilities, and the absoluteness of "prevent".

- (7) That all conditions that caused positive environmental samples in the past, including any evidence of unusual or unexpected rates or levels of radionuclide migration in or with ground water, are analyzed and corrected.

Issues discussed include a quantitative definition of "unusual or unexpected", the need to compare observed and predicted migration estimates, the possibility that corrective measures may not be needed in all cases, and the action limits specified in the Sheffield license.

- (8) That the trenches are stabilized such that settlement of the trenches is reduced to minimal rates. That arrangements are made with the State of Illinois to ensure proper stabilization when anticipated future settlement occurs.

Issues discussed include the elusiveness of the work "minimal" and the difficulty that NECO would have in ensuring that the State of Illinois would stabilize the site. NECO will consider some of the methods that could be used to minimize settlement and ensure stabilization and may provide information informally.

- (9) That conditions for erosion, water infiltration into trenches, loss of site or trench integrity due to such factors as ground water, surface water, and wind, are eliminated. This would require (1) the establishment of a proper surface drainage system to remove rain water and snowmelt; (2) grading of site to prevent slope failure and minimize infiltration; and (3) stabilization of surface by short-rooted vegetation, ground cover or riprap to prevent erosion; (4) or other similar and acceptable methods.

The awkward wording of this condition was discussed.

- (10) That the integrity of the radioactive waste disposal site is not degraded by the chemical wastes and, if necessary, positive controls are instituted to assure this.

Issues discussed include the earthen barrier wall between the chemical site and the low-level radioactive waste site and the absoluteness of the words. NECO will review existing documents and may provide available documents that summarize the design bases and details of the earthen barrier wall. As-built drawings may be provided when they have been completely compiled.

- (11) That trench markers identifying the size and exact location of each trench, and the materials buried therein, are in place, stable, and clearly and permanently marked.

Issues discussed include the use of the word "exact", the legibility of the trench marker plates, and the fact that although trench locations are known within plus or minus 10 feet, the "exact" location of some of the trenches is not known.

- (12) That complete records of site maintenance and stabilization activities, trench elevations and location, trench inventories and monitoring data for use during custodial care are compiled and transferred to the agency assuming custodial care.

No discussion.

NOV 12 1980

- (13) That a buffer zone surrounding the site to provide sufficient space to stabilize slopes, incorporate surface water management features, and provide working space for unexpected mitigating measures in the future, is established and transferred to the custodial agency. The buffer zone shall be sufficient to ensure that use of adjoining areas, including disposal of chemical waste will not compromise trench or site integrity.

Issues discussed include the ownership of the buffer zone, the location of the road to the chemical site in the buffer zone, the fact that the basis for the adequacy of the buffer zone has not been established, and the nonspecificity of "unexpected mitigating measures".

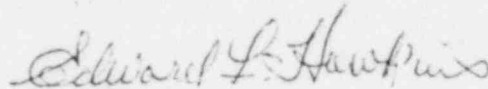
- (14) That provision is made for a secure passive site security system.

Issues discussed included the need for a fence in good repair that would discourage intruders and the need for other security measures.

- (15) That a surveillance program, to assure the objective of the decommissioning plan have been met, is established. This shall include a ground water, surface water and air quality monitoring system.

Issues discussed include whether or not NECO will be required to conduct the surveillance program, what would be required in addition to what NECO has already done with regard to a surveillance program, and the need for coordination with the State on this planned surveillance program.

NRC will review the site conditions and determine if clarification of the wording of any is warranted. Any clarification would be discussed with NECO and others.



Edward F. Hawkins
Low-Level Waste Licensing Branch