

August 8, 2003

Ms. Kelli Sobel
Administrative Services Deputy
Michigan Department of Natural Resources
Office of Legal Services
P.O. Box 30028
Lansing, MI 48909

SUBJECT: MICHIGAN DEPARTMENT OF NATURAL RESOURCES' BAY COUNTY
TOBICO MARSH STATE GAME AREA SITE DECOMMISSIONING PLAN
ACCEPTANCE REVIEW

Dear Ms. Sobel:

On March 3, 2003, in accordance with License Condition 11A of the Nuclear Regulatory Commission license to the Michigan Department of Natural Resources (MDNR) dated September 20, 2002, we received the Decommissioning Plan (DP) for the MDNR Site Decommissioning Management Plan (SDMP) Tobico Marsh State Game Area site. We acknowledged the receipt of the DP in a letter dated March 20, 2003, and indicated the need for a license amendment request from the MDNR. Subsequently, we received a letter dated April 2, 2003, from you requesting an amendment to incorporate the DP in your NRC license.

The DP and the contents of the Final Status Survey Report dated April 15, 2003, were reviewed for acceptance, and found to be insufficient for a detailed staff review. Although the key elements of a DP were discussed in a meeting with the MDNR on February 13, 2001, the submitted DP did not address the elements identified in the Appendix A Acceptance Review Checklist in NUREG-1727. The checklist was jointly agreed to during the meeting on February 13, 2001, and was attached to the meeting report dated March 26, 2001. In addition, the DP did not address decommissioning related items in NUREG-1727 and NUREG-1575-MARSSIM. Although many Sections of the DP are well written, the information is incomplete and not responsive to the checklist and NUREG-1727 itself.

After the February 13, 2001, meeting, there were additional meetings and correspondence with the MDNR to address various topics such as land use, governmental regulations, zoning, dose modeling scenarios and pathways related to the preparation of the DP. In spite of these meetings and correspondence, the DP was submitted with incomplete information. These deficiencies are noted in the enclosure. We request that the MDNR update the DP so that we can reduce the number of requests for additional information. The updated DP should be provided within 45 days of the date of this letter, so that your amendment request can be forwarded for technical review. Please note that the technical review may identify additional

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omissions in the submitted information or technical issues not identified during the acceptance review. We are prepared to discuss the enclosed deficiencies in the DP in a telephone conference call or in a meeting at the NRC headquarters.

If you have any questions regarding this letter, please contact Sam Nalluswami of my staff at 301-415-6694.

Sincerely,

/RA/

Daniel M. Gillen, Chief
Decommissioning Branch
Division of Waste Management
Office of Nuclear Material Safety
and Safeguards

Enclosure: As stated

cc: MDNR Distribution List (w/o Enclosure)

Docket No.: 40-9015

License No.: SUC-1581

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| NAME | S. Nalluswami | C. Burkhalter | C.Craig | D.Gillen | | |
| DATE | 7/ 29 /03 | 7/ 29 /03 | 8/ 7 /03 | 8/ 08/03 | | |

OFFICIAL RECORD COPY

MDNR DECOMMISSIONING PLAN

ACCEPTANCE REVIEW COMMENTS

1. Although well written and packaged, the DP does not address the elements identified in the site-specific checklist (App. A to NUREG-1727, NUREG-1727 itself, and NUREG-1575 - MARSSIM) jointly agreed to during the meeting of Feb. 13, 2001, and documented in NRC correspondence of March 26, 2001, to the MDNR.
2. Section 2.1: A scale drawing or map of the building or site and environs showing current location of radionuclides used at the site is required.
3. Section 2.3: Please describe the activities that caused the areas to become contaminated.
4. Section 2.5: Please describe the types, forms, activities and concentrations of waste and radionuclides in the burial.
5. Sections 3 and 4: A review of Sect. 3 and 4 indicates that the information presented in those portions of the DP is incomplete or unresponsive to the checklist and associated sections of NUREG-1727 and NUREG-1575. For example:
 - a. The current characterization does not capture the possible range of Th-232/Th-230 contamination levels, given that the slag present at the site was generated by a licensee that was authorized to process Mg-Th alloys with Th as high as 4% by weight.
 - b. A review of the data presented in Table 4-1 of the Draft Characterization Report (Aug. 2001) indicates much higher (1,910 pCi/g) Th-232 concentrations than noted in the DP (800 pCi/g). Provide an explanation as to why such results were ignored in the DP. Provide written confirmation that the draft characterization report is final or re-issue it as a final document.
 - c. Confirm that the data presented in Appendices F-1 and F-2 of the Draft Characterization Report (August 2001) are complete in light of the historical site assessment.
 - d. The description of the current radiological status of the site does not acknowledge that there is a potential that contamination was brought up to the surface following recent characterization work. The work involved drilling/punching nearly 400 boreholes into the cell cap and wastes.
 - e. The description of the current status of the site does not discuss the integrity of the cell cap given that nearly 400 boreholes were drilled/punched into the cap and waste in support of recent characterization efforts. The discussion should address the types of repairs that were done to seal the holes and how such repairs have returned the cap to its original integrity.
 - f. A description of property surrounding the site, including a map that shows the detailed topography of the site using a contour interval is required (Section 3.1).
 - g. A description of potable, agricultural or industrial ground or surface waters is required (Section 3.8).

Enclosure

h. There is a need to compare the recent characterization results with those of ORISE conducted in 1984 and 1985. Add a table to Sect. 4 presenting the ORISE results before and after the installation of the cap and address any differences.

i. Regarding characterization results relying on borehole gamma logging, clarify whether the results presenting the relationship between detector count-rates and Th-232 concentrations need be or need not be corrected for the attenuation of the steel casing of the GeoProbe.

j. The Th-230-to-Th-232 ratio needs to be based on the upper 95% confidence interval as opposed to using a simple arithmetic average.

6. Sections 6 and 7: Regarding the Alternative Analysis and ALARA Analysis (Sect. 6 and 7) , the discussions need to consider the alternative of upgrading the design of the cell cap and assess the current and future integrity of the cell cap and slurry walls as a containment system (see comment 5.e above addressing the integrity of the cap after extensive intrusive sampling).

7. Sections 8 to 14: The information presented in those portions of the DP is not responsive to the checklist and associated sections of NUREG-1727 and NUREG-1575 in implementing MARSSIM. For example:

a. For Sect. 8, the discussion needs to address the process and methods that will be used to confirm that the Leachate Collection and Treatment System (LCTS) is not contaminated, and, if so, how the material will be handled and disposed of. For soils, the discussion needs to address the process and methods that will be used to confirm that past intrusive drilling and sampling activities of the slag/waste have not brought radioactive contaminants to the surface, and, if so, how such materials will be handled and disposed of.

MDNR recommends removal of the LCTS building in the letter of April 15, 2003. The leachate collection system is used for collecting leachate generated by both radiological and non-radiological wastes in a landfill. Non-radiological wastes may include hazardous and non-hazardous chemicals including solid and liquid wastes. Please provide justification for this recommendation.

For Sect. 8.6, the following needs to be included: a statement acknowledging that the dates in the schedule are contingent on NRC approval of the DP; a statement acknowledging that circumstances can change during decommissioning, and, if the licensee determines that the decommissioning cannot be completed as outlined in the schedule, the licensee or responsible party will provide an updated schedule to NRC; if the decommissioning is not expected to be completed within the time frames outlined in NRC regulations, a request for alternative schedule for completing the decommissioning.

b. For Sect. 9, the discussion of project management presents inconsistent descriptions of position titles and functions, does not address the oversight and management role of MDNR, and appears to be based on boilerplate material that is not project specific.

For Sect. 9.1, Please provide a title to Figure 9-1. A description of the responsibilities of each of the decommissioning project units is required. Also, a description of the responsibility

and authority of each unit to ensure that decommissioning activities are conducted in a safe manner and in accordance with approved written procedures is required.

For Sect. 9.4, Training, please provide information as agreed in site specific checklist.

Please provide information on 'Contractor Support' indicated in the checklist.

c. For Sect. 10, the discussion fails to address several elements in NUREG-1727. For example, it does not identify investigational limits, does not provide a list of instrumentation and detection sensitivity, does not address the requirements of 10 CFR Part 20 in implementing a radiation safety program and limits of App. B to Part 20 for Th-232 and Th-230, does not address how Th-232 and Th-230 results will be considered and evaluated against App. B limits using methods presented in regulatory guides or by applying alternative methods.

d. For Sect. 11, the information is incomplete and unresponsive to that noted in the checklist and NUREG-1727 itself.

e. For Sect. 12, the discussion does not present estimates of waste volumes, waste classification according to 10 CFR Part 61, and where and how such wastes will be disposed of.

f. For Sect. 13, the discussions introduce functions that are not described in Sect. 9 (Project Management), identifies non-descriptive titles (such as Cognizant Managers), does not consider the interface with MDNR, does not present an organizational chart of the QA Program, and is unresponsive to NUREG-1727 and NUREG-1575 (MARSSIM) in describing the elements of the QA Program. Most of this section appears to be based on boilerplate material that is not project specific.

g. For Sect. 14, the information is incomplete and unresponsive to that noted in the checklist, NUREG-1727 itself, and NUREG-1575 (MARSSIM). Moreover, a review of the information presented in the MDNR letter of April 15, 2003 is not a substitute for the type of information indicated in NUREG-1727 and NUREG-1575. As with the DP, the letter presents methods and a conceptual approach that are contrary to NRC guidance.

8. We need electronic versions of the MDNR's RESRAD dose assessment computer runs so that an independent analysis can be performed.

9. We also need the following references from the DP to complete the detailed review:

a. ABB Environmental Services of Michigan, Inc., 1997. Evaluation of Analytical Results, Groundwater/Leachate Samples from the Tobico Marsh State Game Area Site, August 19, 1997.

b. ABB Environmental Services of Michigan, Inc., 1998. Preliminary Background Assessment Report, April 1998.

c. Harding Lawson Associates, 1998. *Historical Site Assessment, Tobico Marsh State Game Area*, July 1998.

d. MACTEC, Inc. 2002. *Groundwater and Leachate Sampling of the MDNR's Tobico Marsh SGA Site*, December 2002.

e. R. DeHaan, Michigan Department of Public Health, 1983. *Radioactivity Survey of DNR Land Near Bay City, Michigan*, Memorandum from R.DeHaan (Environmental Monitoring Unit) to J. Hennigan (NuclearFacilities and Environmental Monitoring Section), Michigan Department of Public Health, dated May 2, 1983.