

40-8948

OAK RIDGE NATIONAL LABORATORY
MANAGED BY MARTIN MARIETTA ENERGY SYSTEMS, INC.
FOR THE U.S. DEPARTMENT OF ENERGY

POST OFFICE BOX 2008
OAK RIDGE, TENNESSEE 37831

November 16, 1994

U.S. Nuclear Regulatory Commission
Attn: Robert Nelson
MS: T-7F27
11555 Rockville Pike
Rockville, Maryland 20852

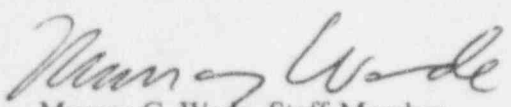
Second Information Request, Shieldalloy Metallurgical Corporation Facility (SMC), Cambridge, Ohio
(Task Order 2 under FIN number L2094)

Dear Robert,

Enclosed is a list of information that will be needed in order to complete the Description of Proposed Action and Alternatives (DOPAA) and the Environmental Impact Statement. We have reviewed the previous NRC Request for Information to SMC (June 21, 1994) and SMC's response (August 19, 1994). This list includes many items that were requested in June, but which we have not received.

If you have any questions feel free to call me at (615) 574-8632 or Lance McCold at (615) 574-5216. I look forward to working with on the project.

Sincerely,



Murray C. Wade, Staff Member
Oak Ridge National Laboratory

MCW:mh

- cc: T. J. Blasing
- D. DeMarco (NRC)
- J. A. Dickerman
- C. Easterly
- G. K. Eddlemon
- J. T. Ensminger
- L. N. McCold
- R. M. Reed
- C. Rizy
- S. Schexnayder
- B. Staub
- J. W. Terry

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SECOND INFORMATION REQUEST

GENERAL INFORMATION

1. ORNL needs a good site map which depicts the exact location of the slag piles, topography, etc.
2. A very important information gap concerns hazardous waste at the facility. State and Federal regulatory agencies have contended that hazardous waste exists at the site. Shieldalloy denies knowledge of any hazardous waste on the site. ORNL needs to know whether or not there is hazardous waste present at the site. This affects our assessment for each alternative.
3. Information is needed for the location and quantity of thorium 230, prothactinium 231, and actinium 227 on the Shieldalloy Cambridge site. It is necessary to know the location and amount of this contamination in order to assess the affects of each alternative.

4. The following documents are needed:

ENSR Document No. 5990-001-240 entitled "Results of the QA/QC Program for the Ferrovan Dust Treatment Program at the Shieldalloy Metallurgical Corporation, Cambridge, Ohio Facility", June 1990.

ENSR, February, 1991. "West pile decommissioning plan supporting design calculations and recommendations in reference to NRC comments," ENSR document No. 5990-009-100, submitted to NRC on September 16, 1991 by SMC.

SMC letter, September 16, 1991. ENSR (1991) document transmittal letter to Y. Faraz, US Nuclear Regulatory Commission.

Results of Ohio EPA aquatic ecology study of Chapman Run and Wills Creek conducted August 11-12, 1994.

NRC Docket 40-8948-89003050202 SN - "Existing topography Shieldalloy Metallurgical Corp Cambridge, Ohio"

NRC Docket 40-8948-8905040185 SN - "Cambridge Site Plan"

NRC Docket 40-8948-9002070323 SN - ENSR, "Decontamination and Decommissioning Plan," November 1987.

NRC Docket 40-8948-9003050226 SN - "Final Grading Plan Shieldalloy Metallurgical Corp Cambridge, Ohio"

HYDROLOGY

1. SMC Information Request Response #6 under Hydrology mentions the "subsequent reports" to the groundwater and surface water work plan. Please identify and provide these reports.
2. SMC Information Request Response #11 under Hydrology mentions the "next quarterly monitoring report". We would like to know when this will become available and would like a copy of it.

3. The critical documents listed in SMC's responses to NRC information request Nos. 7-10 and 12 under hydrology are needed.
4. SMC's NPDES storm water permit, application submitted to Ohio EPA in October, 1992. Has this permit been approved?
5. Results of samples collected for water quality chemical analysis as part of the Ohio EPA aquatic ecology study of Chapman Run and Wills Creek conducted August 11-12, 1994.
6. What is the location, water quality data, use of, and depth of municipal and private wells in the vicinity of SMC. Also provide a description of the Cambridge municipal water supply source.
7. Byesville Water Supply wells - Where are the wells, what is the use of the water from the wells, and how deep are they?
8. Identify any zones of high permeability that may act as migration routes for contaminants.
9. Provide map(s) showing all active and abandoned mines within a 3-mile radius of the site. Include geologic units which host the mines (ORNL has not received this information or the map that SMC said would be completed by September 15).
10. Provide flood-frequency distributions and flood plain descriptions for Chapman Run and Wills Creek, including their relationship to the site.
11. For consolidated and unconsolidated stratigraphic units describe: hydraulic conductivity, effective porosity, and hydraulic gradient. In addition, identify the regional aquifer(s) and direction of groundwater flow.
12. Identify and characterize regional recharge and discharge areas, with amount of recharge and discharge. Describe recharge and discharge areas within the site boundaries.
13. Describe temporal fluctuations in groundwater levels onsite and their effects on groundwater flow.
14. Describe regional geomorphology, including locations of surface water bodies and floodways. This description should include an analysis of any topographic features that may influence the groundwater system.
15. There is no groundwater quality data for off-site private or municipal wells. SMC should use the existing logs in Appendix A of the 1992 RMT document (Groundwater and surface water monitoring program for the Shieldalloy Metallurgical Corp., Cambridge, Ohio) to compile a map of nearby off-site wells, including municipal wells. Water quality data for municipal wells should be available from Ohio health department, Guernsey County or the city of Cambridge. ORNL will need to have this information to characterize the existing environment and evaluate impacts to potable water supplies.
16. Complete chemical characterization (including nutrients, dissolved oxygen, BOD, COD, and TOC) is needed to describe the existing environment in the EIS and to analyze impacts to surface water from the SMC facility and all alternatives.
17. Three plates are missing from our copy of the TRC Environmental Corporation report entitled "Groundwater and Surface Water Monitoring Program for the Shieldalloy Metallurgical Corporation,

Cambridge, Ohio", May 1994, TRC Project No. 14117-04. These plates are (1) groundwater location of GW monitor wells, (2) water table map, and (3) surface water sample locations.

SOCIOECONOMIC

1. Peak number of workers required for the proposed action and alternatives; or, a breakdown of the cost evaluations provided in *Technical Basis for Decommissioning* Appendix E. The breakdown minimally should include on-site labor costs; on-site materials/capital costs; and offsite costs (e.g., off-site disposal, if applicable) of each decommissioning alternative.
2. What is the projected duration of decommissioning activity (excluding the monitoring period)?
3. Following decommissioning, will there be a change in the size of SMC's permanent workforce?
4. For alternatives requiring onsite stabilization, what volume of materials will be required for capping (i.e., transported by truck to the site)?
5. The *Technical Basis for Decommissioning* document indicates that rail transportation will be used for off-site disposal alternatives; SMC's response to ORNL says that use of rail transportation is "unlikely". Clarification is needed.
6. What is SMC's current usage of offsite utilities, i.e., water, waste-water processing, and solid waste disposal? To what degree would each of the alternatives change SMC's use of these utilities?
7. Please characterize the land use adjacent to the SMC site. SMC requested assistance of local government agencies and said the information was forthcoming. This information has not been received by ORNL.
8. In the August 19, 1994 SMC response, SMC said that they would provide the results of a library search of any available information about archaeological surveys in the Cambridge area by September 15. ORNL has not received this information.

ECOLOGICAL RISK

1. What is the total chromium and vanadium concentrations in surface waters (dissolved and particulate phases), sediments, soils, and, if at all possible, biota (e.g., fish, invertebrates, small terrestrial invertebrates, plants) in both suspect areas and control areas. Where total chromium concentrations in water equal or exceed 0.01 ppm, the concentration of the much more toxic hexavalent chromium also should be determined.
2. Total chromium and vanadium concentrations are needed for the various media (water, sediments, biota) in the wetlands adjacent to the slag piles. Where total chromium concentrations in water equal or exceed 0.01 ppm, the concentration of hexavalent chromium also should be determined.
3. Please provide surface water hardness (substantially influences toxicity of chromium), pH, and total dissolved solids and/or specific conductivity.
4. The past and proposed sampling stations appear adequate with the exception of the location of proposed station "I" and the lack of stations in the wetlands adjacent the piles. It is understood that station I is to serve as an upstream or control sampling station instead of station 7 which is about 500 m further upstream. I am not certain that station 7 is completely above the influence (i.e., via

groundwater or overland flow) of the Shieldalloy facilities and slag piles, much less station I. In any event, the monitoring effort should include at least one sampling station that is clearly upstream of any possible pathways of contamination by the Shieldalloy facilities and piles.

COST/BENEFIT

1. There is a discrepancy between what SMC says the disposal costs are and what Envirocare says they are. ORNL would like permission to discuss the assumptions with Envirocare.
2. More specific cost info on the EDFs for options: in-situ; relocation & on-site; and relocation, segregation and on-site is needed. Is SMC assuming the same size EDF for each of these three options even though the amount of waste is not the same for each? What proportion of total waste is the amount of segregated waste?
3. Please provide the perimeters of the locations to be fenced in relevant options - this is part of "access control" costs. This will enable an assessment of the reasonableness of the stated total cost for fences.
4. How many water samples are assumed each year? A unit cost is given, but not the number to be performed. These are part of the monitoring costs.
5. What are the costs of temporary structures for the two off-site disposal options (on with and one without waste segregation).

HUMAN HEALTH

1. What is the porosity of the slag material?
2. What is the leachability of the slag material? What does the slag break down to over time? What portion of the slag material could end up offsite?
3. What is the potential for long-term leaching when taking into consideration the mechanical effects of freezing, rain etc.?
4. What are the potential impacts over time (1000 years) to the proposed cap?

AIR QUALITY

1. What is the exact size of the area and the size of the areas to be disturbed for each of the alternatives?
2. Who is the state of Ohio contact person that NRC would like ORNL to work with?
3. ORNL would like copies of all air permits, air permit applications, and licenses.
4. What are the concentrations of Hazardous and extremely hazardous emissions as per the Clean Air Act Amendments of 1990 contained in the slag piles?
5. What are annual and maximum emissions of SO₂, NO₂, particulate matter, CO, and Pb? What are the measured atmospheric concentrations of particulate matter?

6. What are the gross alpha, gross beta, and (if possible) breakdown by isotope?
7. What are the sensitive noise receptors in the area (e.g., hospitals, schools) and where are they located?
8. What is the SMC contribution to the regional visibility impairment?
9. What is the specific activity of thorium-232, uranium-238, and other isotopes that could conceivably be important at the SMC facility?
10. What would the emissions from additional vehicles during construction period (workers, facility vehicles, operational equipment) be?
11. Information for the area in the vicinity of the Shieldalloy Cambridge facility is needed on temperature, precipitation, winds, air stagnation characteristics, possibilities of disruptive meteorological events, air quality regulations, attainment status and measures of current air quality, visibility, and sensitive (Class I) areas.

DOPAA INFORMATION NEEDED

General

1. We will need revised costs estimates for each alternative identified in the draft DOPAA.
2. More detail needed on the amount, location, and type of hazardous waste contained in the slag piles.

Alternatives

Onsite Stabilization and Disposal (Licensee's Proposed Action)

1. Does this single pile include the West and East slag pile or will there be two different piles?
2. A detailed design of the proposed action for both piles is needed, including the location of each pile or the single pile.
3. More detail is needed concerning how the site would be graded and what materials would be imported to the site. A schematic showing finished grades is also needed depicting the details of the cap as well as the final footprint of the piles.
4. Will the proposed cap have the capability to contain all the waste adequately (radiological, non-radiological, and hazardous)? If not, a new design will be necessary.

Offsite Disposal of Radiological and Hazardous Waste

5. This alternative would result in ___ truck loads or ___ train car loads of radiological and hazardous waste being transported off site.
6. How many truck loads or train car loads were assumed in the Technical Basis for Decommissioning document?

Onsite Separation Processing with Offsite Disposal

7. Will the low concentration slag be returned to the existing piles or will the slag be relocated farther away from the wetlands?

Onsite Dilution Processing and Disposal

8. More detail on the process is needed including the following. How would this process work? Would the slag be ground into dust for mixing? How much fill would be required? Where would the fill be placed?

Segregation and Disposal of Hazardous Waste

9. An agreed upon criteria is needed to determine what levels of contamination would necessitate offsite disposal and what levels would be acceptable to leave onsite (e.g., clean up to background levels).

Regulatory Compliance

10. Are there any other laws, statutes, or regulations that would apply to this action?