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4-208.11

**COMMENTS: OU4 DRAFT PRELIMINARY DCP**

**10/16/95**

**OEPA            DOE-FN**  
**5**  
**COMMENTS**



State of Ohio Environmental Protection Agency

Southwest District Office

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George V. Voinovich  
Governor

October 16, 1995

RE: DOE FEMP  
MSL 531-0297  
HAMILTON COUNTY  
COMMENTS:OU4 DRAFT  
PRELIMINARY DCP

Mr. Johnny Reising  
U.S. Department of Energy, Fernald Area Office  
P.O. Box 538705  
Cincinnati, OH 45253-8705

Dear Mr. Reising:

This letter provides as an attachment Ohio EPA's comments on the "Draft Preliminary Design Criteria Package, OU4 Fernald Residues Vitrification Plant, August 1995 received by the Ohio EPA on August 15, 1995. Please contact Tim Hull at (513) 285-6075 or Kelly Kaletsky at (513) 285- 6454 if you have any questions.

Sincerely,

Thomas A. Schneider  
Fernald Project Manager  
Office of Federal Facilities Oversight

cc: Jim Saric, U.S. EPA  
Terry Hagen, FERMCO  
Ruth Vandergrift, ODH  
Mike Proffitt, DD&GW  
Bob Geiger, PRC  
Manager, TPSS/DERR,CO  
Lisa August, GeoTrans

OU4DRDCP.CAP

**Ohio EPA Comments on the OU4 30% Design Criteria Package, Fernald Residues Vitrification Plant**

- 1) Commenting Organization: Ohio EPA                      Commentor: DERR  
Section #: General Comment              Pg #:    Line #:              Code: G  
Original Comment #:  
Comment: The design calls for a high degree of automation and remote control in the vitrification area with minimal worker exposure during operation. However, in the event of some emergency or equipment malfunction, what is a credible worker exposure scenario, in terms of both radiation and time at high temperature? What personal protection equipment will be provided for such emergencies?  
Response:  
Action:
- 2) Commenting Organization: Ohio EPA                      Commentor: OFFO  
Section #: 1.2              Pg #: 1-2              Line #: 18              Code: C  
Original Comment #:  
Comment: The text describes the vitrification process as running 275 days/year. Why won't the melter be run continuously? Please provide information regarding the reasons for the anticipated down time. Stack emissions will be at their greatest during the melter warm-up period, therefore, care should be taken not to cycle the melter unless absolutely necessary.  
Response:  
Action:
- 3) Commenting Organization: Ohio EPA                      Commentor: OFFO  
Section #: 1.4.1              Pg #: 1-6              Line #: 9              Code: C  
Original Comment #:  
Comment: Please explain in further detail how the access openings will be cut into the central portion of the silo 1 and 2 domes.  
Response:  
Action:
- 4) Commenting Organization: Ohio EPA                      Commentor: DERR  
Section #: 1.4.1              Pg #: 1-5 through 1-9              Line #:              Code: C  
Original Comment #:  
Comment: The final plan for the retrieval equipment ports at the top of the silos calls for extensive protection against releases of dust or gasses during operating and standby modes. What measures will be taken to protect against releases during the installation or the retrieval equipment when the silos may be open and heavy equipment could be passing in and out? Will there be some sort of temporary covering or containment to prevent releases during those operations? Also, have the personal protection measures for construction workers been evaluated?  
Response:  
VITPLANT.WPD

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Action:

- 5) Commenting Organization: Ohio EPA                      Commentor: OFFO  
 Section #: 1.4.1      Pg #: 1-8      Line #: 2      Code: C  
 Original Comment #:  
 Comment: Please provide additional information regarding the robot that will be used in the heel and object removal from the silos. Is more detailed information regarding this operation found elsewhere?  
 Response:  
 Action:
- 6) Commenting Organization: Ohio EPA                      Commentor: OFFO  
 Section #: 1.4.4.      Pg #: 1-12      Line #: 9      Code: C  
 Original Comment #:  
 Comment: Section 1.4.4 describes an emergency off-gas venting system to prevent pressurization of the melter. In the event of emergency venting, will the resultant off-gas be released to the atmosphere or to the controlled off-gas system? If the emergency depressurization would be routed to the off-gas system, would the system be able to handle this surge condition without an overload or blowout of the control equipment?  
 Response:  
 Action:
- 7) Commenting Organization: Ohio EPA                      Commentor: DERR  
 Section #: 1.4.5      Pg #: 1-12      Line #:      Code: C  
 Original Comment #:  
 Comment: What is the approximate size and weight of the glass gems to be produced? Will this glass mixture have sufficient strength and toughness to withstand the packing and shipping process without damage?  
 Response:  
 Action:
- 8) Commenting Organization: Ohio EPA                      Commentor: DERR  
 Section #: 1.4.6      Pg #: 1-13      Line #:      Code: C  
 Original Comment #:  
 Comment: Will the design of the Offgas Treatment System consider the potentially corrosive nature of the gas resulting from its SO<sub>2</sub> and NO<sub>x</sub> contents. Of particular concern are processes involving contact with condensed water, which include the cooling, scrubbing and dehumidification stages. Experience with stack gas scrubbers at coal-fired powered power plants shows that such processes can readily develop very acidic conditions, especially if process water is recirculated.  
 Response:  
 Action:  
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or recycled concrete? If the containers will be made of recycled concrete, please provide details regarding where the materials to be used are located and how they will be surveyed for radioactivity.

Response:

Action:

- 14) Commenting Organization: Ohio EPA                      Commentor: OFFO  
       Section #: 2.3.5      Pg #: 2-33      Line #: 28      Code: C  
       Original Comment #:  
       Comment: Will the vitrification area ventilation exhaust be vented through the same stack as the off-gas system? If not, will this stack undergo continuous isokinetic sampling similar to that of the off-gas stack?

Response:

Action:

- 15) Commenting Organization: Ohio EPA                      Commentor: DERR  
       Section #: 1.4.9      Pg #: 2-38      Line #:              Code: C  
       Original Comment #:  
       Comment: The electric power system will have a diesel-powered backup generator. Will this backup system be adequate to protect against environmental and equipment damage during a prolonged power outage? Specifically, will it be able to maintain pollution control systems and prevent a damaging freeze-up in the melter and gem producing machine (if freeze-up would be damaging)?

Response:

Action:

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