

START

UNC NUCLEAR INDUSTRIES

0019130



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Memorandum

To: M. A. Mihalic

Date: May 19, 1986

From: E. M. Greager *E. M. Greager*

Subject: WASTE CLASSIFICATION, 183-H SOLAR EVAPORATION BASINS

Reference: Letter, M. A. Mihalic to E. M. Greager, "183-H Solar Evaporation Basins," dated April 23, 1986.

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Per your request of April 23, Environmental Protection personnel have reviewed the analyses data from the 183-H basins. A summary of the waste classification, based upon the information available, is given in Attachment 1. As you can see, complete waste designation is not possible since all the required tests and analyses were not done. Whether or not further data collection is warranted in order to complete the classification effort depends upon RHO acceptance criteria. Since this is a mixed waste (i.e., radioactive and hazardous), it is possible that RHO will disposition the material without a complete WAC 173-303 characterization.

If you have any questions or comments on the information presented, please contact B. L. Vedder of my staff.

BLV:dmp

- cc: ~~BJ Carlson~~
- GR Cox
- JJ Dorian
- BW Mathis
- EW Powers
- BL Vedder - 2
- EMG - File/LB

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Attachment 1

183-H BASINS 2, 3, and 4

I WAC 173-303 Designation

Using the 11st designation procedure described in WAC 173-303-081 through -090, the following classifications are obtained:

A. WAC 173-303-081: Discarded chemical products.

The liquid waste contained in the 183-H basins is viewed as a manufacturing product waste and, as such, would not be a discarded chemical product. A review of the "Chemical Waste Disposal Permits," which show miscellaneous materials discharged to the basins, did not indicate that any chemicals listed in WAC 173-303-9903 ("Discarded Chemical Products List") were released into any of the basins.

B. WAC 173-303-082: Dangerous waste sources.

The 183-H basin wastes are not designated by this regulatory section.

C. WAC 173-303-084: Dangerous waste mixtures.

1). Toxicity: Based upon the data presented, and making some presumptions regarding the form of the ions (e.g., NO<sub>2</sub><sup>-</sup> as NaNO<sub>2</sub>; F<sup>-</sup> as NaF; etc.), the solid and liquid materials in all three basins would be designated due to toxicity. The large variability in the data for the particular constituents, however, makes it impossible to determine whether or not the materials are designated Dangerous Waste (DW) or Extremely Hazardous Waste (EHW) using the simplified statistical analysis techniques specified in EPA document SW-846. Data transformation, and possible additional sample analyses, would be required before such a distinction could be made. Using average concentration values, the materials would be in the DW category. Presuming that this designation remains valid following more extensive statistical analysis, the wastes would be assigned a designation number of WT02 due to toxicity.

2). Persistence: The tests necessary to determine if the wastes would be designated due to persistence (particularly due to possible halogenated hydrocarbon content) were apparently not performed. It is possible that the waste would be designated per this category if the appropriate tests were pursued.

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3). Carcinogenicity: Based on the data presented, and using average concentration values for specific presumed forms, the carcinogenic concentration in the waste would not exceed 1%. As a consequence, the wastes would not be designated due to carcinogenicity.

D. WAC 173-303-090: Dangerous waste characteristics.

- 1). Ignitability: The 183-H basin wastes contain substantial quantities of nitrates in both the solid and liquid phases. Per DOT definition nitrate bearing materials are oxidizers; therefore, the 183-H wastes would be designated per the WAC 173-303 ignitability criteria. A waste no. of D002 would be assigned as a result of this characterization.
- 2). Corrosivity:
  - a) Liquid phase samples: Based upon the pH data presented for the samples, the wastes would not be designated due to corrosivity. The second test for determining corrosivity (i.e., corrosion rate when applied to carbon steel coupons) was apparently not performed.
  - b) Solid phase samples: The tests required to determine corrosivity designation were apparently not performed.
- 3). Reactivity: It does not appear that the waste materials would be designated due to reactivity.
- 4). EP Toxicity:
  - a) Liquid phase samples: Assuming that the liquid phase contains less than 0.5% filterable solids, the waste would not be designated due to EP toxicity for silver, mercury, or barium. Chromium levels in all three basins are above the DW limit, resulting in designation with an assigned number of D007. The analyses for ten additional EP toxic materials were either not performed or did not have detection levels adequate to determine whether or not designation was required per this category.

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- b) Solid samples: The EP toxicity testing was not performed on any of the solid samples; therefore, determination of designation is not possible. Positive indications were evidenced for some of the constituents of concern.

II Radioactive Data

The analyses verified that both the liquid and solid samples contained radioactive constituents (uranium and technetium-99) in excess of allowable release limits.

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