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May 29, 1990

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Alan Krug
U.S. Department Of Energy
Richland Operations Office
P.O. Box 550
Richland, WA 99352

RE: 100-HR-3 SITES FOR INTERIM MEASURES ACTION

Dear Mr. Krug:

On May 2, 1990 Westinghouse Hanford Company first presented to Ecology a proposed methodology to prioritize waste management units within the 100-HR-3 aggregate unit for potential interim measures. A further developed and applied proposal was distributed at the May 17 unit managers' meeting, entitled "Identification of 100-HR-3 Aggregate Area Waste Sites For Consideration As Sites For Interim Measures Action." It was suggested that the proposal be implemented within a month.

General Comments:

The proposal for assessing and prioritizing sites for interim measures action has improved since its introduction on May 2. While some subjectivity is unavoidable in making these determinations, the method of identifying sites should not be arbitrary or biased. The subjective method should not be presented with unwarranted objectivity. The proposed methodology needs improvement in these respects.

Methods aside, the results are the real concern. The recommendations for several waste management units rated under the proposed scheme require further justification. Consider, for example, the following questions limited to units within the 100-DR-1 Operable Unit:



- o Why did the plutonium crib (116-D-2) not qualify? Although its radionuclide inventory is unknown, its radionuclide levels may be substantial because it received waters from direct contact with irradiated fuel elements? Furthermore, because its location is uncertain, the crib is subject to inadvertent disruption.
- o What information prompted one reviewer to select the outfall structures, 116-D-5 and 116-DR-5, and why did the others not concur?
- o What information prompted one voter to select the two process effluent trenches, and why did the others not concur?

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- o What information prompted one voter to select the 116-DR-1 and 116-DR-2 process effluent retention basins, and why did the others not concur?
- o How was the toxicity of the coal-ash in 126-D-1 determined? Without examining the toxicity studies themselves, an unsubstantiated statement of "nonhazardous," or even "non-EP Toxic," is presumptuous.
- o Why was the gas tank (130-D-1) rated even though it was removed in 1989 July?
- o What information prompted one voter to select the 1607-D2 septic tank, and why did the others not concur?
- o What is the source of information on which the 116-D-8 unit was rated?
- o Why did some raters not vote on some units?

Ranking Method:

There should be an explanation of the rationale for the overall scheme, followed by an explanation of each of the criteria, so that each site evaluator is working with the same general understanding. It is not clear why these 51 units were considered. The criteria of "implication of delay" is at the core of the whole exercise. Perhaps it should be taken out of the criteria and used a rationale for the rating method.

The proposed list of criteria for the rating scheme does not manifest a recognition of the regulatory scheme. Please note that the present effort is focused on defining criteria for interim actions as provided under CERCLA sections 104, 120, and 121, and under RCRA sections 3000(u) and 3008. Based on existing knowledge and the analysis provided in the NPL nomination package, it is reasonable to expect very limited, if any, actions to occur under CERCLA section 106 and RCRA section 7003.

The scheme should incorporate the CERCLA Removal regulations at 40 CFR 300.410, and the proposed RCRA regulations at 40 CFR 264. The Interim Final RCRA Corrective Action Interim Measures, OSWER Directive 9902.4, May 1988, would also provide guidance. Specifically, the proposed scheme resembles a "removal preliminary evaluation" under 40 CFR 300.410. A removal preliminary assessment should be included in a "removal site evaluation," which would indicate whether a removal action or a remedial action is required.

Likewise, the scheme seems to be directed at "Interim Measures" under proposed 40 CFR 264.540(d), or perhaps even "Conditional Remedies" under proposed 40 CFR 264.525(f). Interim measures are aimed at protecting

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human health and the environment from threats through permit requirements, while conditional remedies are aimed at permitting levels of contamination until "final" clean-up. The former appears to be more appropriate in the present circumstances. While the regulatory structure is not yet fully established in law, the framework and basic guidance is in place, and should be used at Hanford.

Any situation requiring action under the category of an Imminent and Substantial Endangerment will not require prioritizing, as it should be fairly obvious that action must occur in the very near term, irrespective of other operable unit activities. These situations would require immediate action to abate threats to the public health and environment with minimal public involvement. Therefore, the language proposed for the criteria in this letter's recommendations contemplates the interim time-frame. A better alternative may be to entirely discard the present criteria in favor of that which is enumerated in the above referenced regulations.

Voting:

The moving force of the scheme is six selected individual raters who vote for the units' ratings. Bias enters in selecting the voting individuals. Bias enters in selecting who selects the voting individuals, because each potential voter has an attitude, of which the voter selector is aware. If a voting system is to be used, the voting body must be selected so as to be representative of the many interests, perspectives, and technical disciplines.

The vote cut-off is arbitrary. Since not every rater voted for every unit, the actual ratios ranged from 4.00 to 0.67 (4/1 to 3/2 to 4/2 to 2/3 to 2/2 to 3/3). Was a percentile cut-off considered? Why is one vote for interim action not enough? What rational reason is there for making two votes the dividing line between interim and normal action? Since the proposed procedure is preliminary screening, the method should be conservative, and biased towards including doubtful areas.

Rating Sheet:

The listed criteria will help shape the reviewers considerations, and minimize preconceived notions. However, it is disorganized and repetitive in such a way as to unbalance the consideration. The proposed list of criteria for the rating sheet needs additional thought. Moreover, the above referenced regulation may require substantial revisions to the list.

The criteria "exposure levels" relates to the substance of a threat, rather than its imminence. It is also synonymous with "volume" and "concentration." I recommend deleting it.

A pathway criteria is key to imminence. The destination of that pathway (ecosystem, biota, human) is the subject of endangerment, however.

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Distance and time result from pathways. Related to pathway are mobility, leachability, bioactivity, physical state, etc.

The three criteria under "substantial" are interrelated, but each important enough to be considered separately as proposed.

That which is endangered is human health, the biota, the ecosystem, and natural resources (such as ground water). Mobility, etc. is not endangered.

General Recommendations:

- o Implement the regulatory framework.
- o Define the rating criteria.
- o Explain why these 51 units were selected to be evaluated in this rating scheme.
- o Reorganize criteria as suggested.
- o Re-select the voters, if necessary, to provide as much interdisciplinary perspective as possible.
- o Reformulate the vote count method.
- o Provide voters' comments (this will help explain why voters voted differently).
- o Tabulate voters' ratings.

Criteria Example:

Contaminant: (i.e., what is it?)

Characteristics - biological

Toxicity
Persistence
Bioactivity

Volume

Concentration

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Target: (i.e., potential receptors)

Human Health
Biota
Resource

Surface water
Ground water
Future land-uses

Avoidable Costs

reversible at a greater cost (a stitch in time)?
irreversible at any cost?

Imminence: (i.e., when is it going to get there?)

Time = Distance / Speed

Characteristics - physical

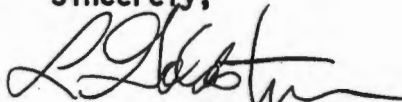
Mobility
Leachability
Physical state

Exposure Path (i.e., how is it getting there?)

Water, surface or ground
Soils
Sediments
Atmosphere
Food chain

The initiative represented in the preparation of the proposed scheme for identification of potential interim measure action waste sites is appreciated. Please consider this review and these recommendations for incorporation into the proposal. We look forward to discussing this issue during the conference call scheduled for the afternoon of May 29.

Sincerely,



Larry Goldstein
CERCLA Unit Supervisor
Nuclear and Mixed Waste Management

cc. Paul Day, EPA
Jack Waite, WHC

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