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STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

Mail Stop PV-11 • Olympia, Washington 98504-8711 • (206) 459-6000

August 25, 1992

Mr. Ron D. Izatt  
Office of Environmental Assurance,  
Permits and Policy  
Department of Energy  
P.O. Box 550 A5-15  
Richland, WA 99352-0550



Dear Mr. Izatt:

Re: Notice of Deficiency (NOD); 2101-M Pond System Closure/Postclosure Plan (M-20)

We have reviewed the 2101-M Pond Response Table dated August 9, 1990. Enclosed please find our comments to the Final NOD Response Table. The unaddressed issues which were presented by Megan Lerchen, appear at the end of the most current NODs.

The main issue presented, was the lack of information which was received with the data packages that were submitted by DOE after the second set of sampling at the pond was carried out. Since these issues are now undergoing the dispute resolution process, the NOD response table may not be the vehicle in which to address these matters.

Most NOD comments which are in the current table have been addressed, and will need written documentation that this has been done. The next Unit Managers meeting will be the appropriate place to determine which issues have been met thus far.

As far as the dispute resolution is concerned, Ecology has still not received a response to the letter which was sent by David Jansen on July 17, 1992, regarding this issue. We are at a stalemate concerning this problem until the matter is resolved.



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Please provide a response to the NOD comments within 90 days of receipt of this letter. If you have any questions regarding this matter, please call me at (206) 493-9426.

Sincerely,

  
Elizabeth Anne Wiley  
2101-M-Pond Unit Manager  
Nuclear and Mixed Waste Mgmt. Program

EAW:jr  
Enclosures

cc: L. Bracken, USDOE/RL  
D. Duncan, USEPA  
D. Jansen, Ecology  
R. Krekel, USDOE/RL  
R. McLeod, USDOE/RL  
D. Nylander, Ecology  
F. Ruck, WHC/RL  
T. Venezizno, WHC/RL  
S. Wisness, USDOE/RL

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SEP 8 1992  
INVENTORY

DEPARTMENT OF ECOLOGY  
NOTICE OF DEFICIENCY FOR  
2101-M-Pond  
August 25, 1992

# Page/line

1. A-2/13

Comment: EPA and Ecology have established action levels for concentration limits. These concentration limits can be found in the Federal Register, Part VIII Environmental Protection Agency/40 CFR Part 136.

Requirement: Please refer to this guidance when establishing action levels since these are EPA action limits which are used for specific parameters.

2. A-2/17

Comment: It cannot be determined at this time, if past practices at the BWIP laboratories have or have not contributed to contamination of the water beneath 2101-M Pond. Once missing analytical data is received, Ecology can come to a conclusion regarding this site.

Requirement: Provide necessary raw data for validation by Ecology.

3. A-2/50

Comment: The interpretation of the "remove and decontaminate" language is not in accordance with WAC 173-303-610.

Requirement: Provide the interpretation for "remove and decontaminate" as stated in WAC 173-303-610.

2. B-1/45

Comment: As stated in Webster's Dictionary, "invoke" means, "To call on for aid, support or inspiration; to call for earnestly; to call forth with incantations."

Requirement: Please replace "invoke" with a more appropriate word.

3. B-2/18

Comment: See comment number 2.

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4. B-4/27

Comment: If operations have been terminated, why haven't lab drains been removed from the building to the pond?

Requirement: Please explain why these drains have not been removed, and if not, what purpose do they serve?

6. B-14/52

Comment: Please cite the most current SW-846 document, the document mentioned is out of date.

Requirement: Change all citations regarding SW-846 to, "SW-846 1986 (as amended)", and follow the requirements as set forth in the revisions to that document.

7. B-15/25

Comment: If butanoic acid was not part of the BWIP laboratory and it is not a common laboratory contaminant, there must have been a discharge into the pond at one time.

Requirement: Please provide an explanation for this contamination.

9. B-19-11

Comment: Appendix IX has been taken from the 1988 CFR. Please use the most current edition (1991) at the time of writing the plan.

10. B-19/47

Comment: There have been 3 revisions to SW-846 since 1982. Therefore, the most current edition of this document shall be used. When referring to SW-846, "as amended" will be used for citing this document.

Requirement: Refer to #6.

11. B-20/17-26

Comment: Dropping a pencil on a random number table is not a scientific way of determining which sample points are to be used during a sampling event.

Requirement: During future sampling events, determine a scientific method to designate a sampling point.

12. B-20/48

Comment: It is stated that samples were collected in accordance with EPA Region X policy, but is not indicated which policy or document was used to determine this conclusion.

Requirement: State which policy and or document was used to determine that samples were collected in accordance with EPA Region X policy.

13. B-30/40

Comment: If sample holding times can not be documented, and/or if holding times have been exceeded, these samples will be rejected.

Requirement: If these are critical samples, a resampling effort must be established.

14. B-30/48

Comment: Duplicates and splits are different types of sample.

Requirement: Delete the word "duplicate" which is placed after "Sample Split."

15. B-31/1

Comment: U.S. Testing holding times are not recognized by EPA or Ecology. Only USEPA holding times are to used for chemical analyses. If UST holding times were used for samples and these holding times exceeded USEPA holding times, these samples will be rejected.

Requirement: If critical samples were lost due to UST holding times which have exceeded USEPA requirements, establish a resampling schedule.

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17. B-32/6

Comment: Were inorganic water samples taken, and if so, what type of preservative was used in these samples?

Requirement: Please indicate which type of preservative was used in water samples.

18. B-32/41

Comment: This section addresses the decontamination of sampling equipment, but no mention was made as to how equipment will be decontaminated after samples are taken.

Requirement: Please indicate what decontamination procedures will be implemented to clean equipment after sampling takes place.

19. B-36/44

Comment: This section indicates that all cyanide samples exceeded holding times, and states that no levels were found. If a sample goes beyond holding times, there is a good chance that levels will not be found. All cyanide samples which have exceeded holding times are rejected.

Requirement: Since holding times were exceeded for cyanide samples, a resampling schedule needs to be established for cyanide analysis.

20. B-36/50

Comment: This section states that laboratory blanks were within established QC limits. Were these EPA or UST QC limits?

Requirement: Please specify if these QC limits are EPA or UST. If they are UST, explain how they compare with the EPA limits.

21. B-37/18

Comment: Refer to comment 15.

Requirement: If the holding times do not meet EPA criteria, these samples will be rejected and a resampling schedule must be established.

22. B-99/6

Comment: High levels of chromium were found in unfiltered samples. It was expressed that this finding was due to the natural environment. How high above background levels were the concentrations in these samples?

Requirement: Provide information on elevated chromium levels found at 2101-M Pond. Please indicate where information was obtained on background levels at the site.

23. B-99/38

Comment: What "tolerance intervals" were used? Was this the actual concentration levels as compared to background, or was this the detection limit? If this is the detection limit, were EPA or UST detection limits used?

Requirement: Explain tolerance levels, and if these are detection limits, specify whether EPA or UST limits are being used.

24. B-104/52

Comment: Refer to Comment Number 6.

26. B-105/23

Requirement: Provide a list of the UST detection limits and compare these with the EPA detection limits. Also provide the Contract Required Detection Limits (CRDLs) and the Instrument Detection Limits (IDLs) that were used.

27. B-105/50

Comment: It is stated that EPA methods were used for analysis, but U.S. Testing detection limits and holding times were implemented at this time. Most UST holding times exceeded USEPA standards. Since most standards exceeded USEPA holding times, all samples which were out of conformance will be rejected.

Requirement: Refer to Comment Number 15.

28. 106/8

Comment: When it is stated that pesticides, herbicides, and phenols were collected as required by 40 CFR 265, what exactly does this mean? The regulations state what type of samples are necessary, that a sampling plan must be submitted to EPA and this plan must be implemented. This section does not state how sampling is to be performed.

Requirement: Give details on what is meant by samples being collected as required by 40 CFR 265.

30. B-106/21

Comment: The statement is made that holding times were met. Which holding times, EPA or US testing? Most UST holding times have exceeded EPA requirements. Samples which have exceeded EPA requirements are rejected.

Requirement: If critical samples are rejected because of holding time exceedences, resampling may need to be performed.

31. B-106/27

Comment: All detection limits for ground and drinking water must be in compliance with Washington State drinking water standards or MTCA dependent upon the site. These standards are much more stringent than EPA requirements.

Requirement: All Washington State requirements must be followed regarding ground and drinking water detection limits.

32. B-107/4

Comment: Refer to Comment Number 26.

33. B-107/23

Comment: The information to determine surrogate recoveries is missing.

Requirement: Provide information on surrogates and the percentages found. Attachment 1, table 6 illustrates EPA requirements.

34. B-107/29

Comment: Why weren't EPA matrix spike recoveries used? What are the UST matrix spike recovery limits?

Requirement: Discuss in detail the spike recoveries used and the recovery limits. Explain why EPA matrix spike recoveries were not used.

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35. B-107/37

Comment: According to a previous statement, not all EPA methods were used for analyses. Spike recoveries cannot as yet be determined to have been in compliance with EPA QC limits. Samples which exceeded EPA holding times are rejected. Samples which exceeded percent recoveries by 10% or more or have not met percent recoveries by 10% or more are also rejected. Where can the information be found which indicates that control samples were used for accuracy checks?

Requirement: Provide all missing QA information as listed in above statements.

36. B-108/11

Comment: It is stated that data received from the 2101-M Pond System groundwater samples indicate that this site should be clean closed. What types of contamination are present from radioactive constituents? Radioactive contamination must be addressed for clean closures.

Requirement: Provide information on radiochemistry to determine the amount of contamination from radioactive constituents.

37. Section II-1

Comment: In the summary, the second paragraph is contradicted by the rest of the plan as to lift thickness and permeability.

Requirement: Permeability shall be verified on test pads through use of a sealed double ring infiltrometer.

38. Section II-2

Comment: Preliminary Cover Design-Energy has proposed McGee Ranch soil before, but has used bentonite modified local soil. Which will be used?

Requirement: Since bentonite has been used in the past, study the bentonite alternative along with McGee Ranch, and provide Ecology with information as to what will be used as a cover.

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Section II-2a

Comment: Cover materials description: Once again the description of soil placement is contradicted by the remainder of the report. In addition, adequate compaction cannot be achieved with 12 inch lifts by any means now available to the industry.

Requirement: Provide detail on how adequate compaction will be achieved.

Comment: Sheepsfoot rollers are obsolete. Does the writer mean "padfoot roller"?

Requirement: An adequate roller will be required. Give details on what type of roller will be used.

Comment: Rubber tired construction equipment may give adequate compaction, and then again it may not. 21 yard scrapers would do it, a front end loader will not.

Requirement: Provide detail on how adequate compaction will be achieved.

Comment/Requirement: If nuclear density gauges are used, they must be calibrated by comparison with a sand cone daily.

40. Table II-3

Comment: The term "Proctor" is imprecise.

Requirement: Please quote American Society for Testing and Materials (ASTM), American Association of State Highway and Transportation Officers (AASHTO), or Washington State Department of Transportation (WSDOT).

41. Section II-3a, Fifth paragraph last sentence

Comment: The removal of deep rooted plants is imperative, not optional.

Requirement: Deep rooted plants must be removed.

42. Appendix C

Ecology is rejecting all data submitted which was included in Revision 1 of the 2101-M Closure plan due to samples exceeding holding times, no documentation of extraction times and recoveries being outside of QC limits.

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Appendices C-4 through D-2

Comment: Is the information contained in these appendices the same data which was submitted earlier in the UST and Martin Marietta data packages?

Requirement: Please indicate if this is the same data which was submitted in the data packages received by Ecology.

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The comments below are those which have been submitted in the latest NOD response table, and still require resolution.

16. USDOE/WHC Proposal: Groundwater data was interpreted to the extent available at the time the closure plan was written. Additional data was presented in the plan for completeness. All the data and statistical analyses will be submitted in the 2101-M Pond RCRA Site Characterization Report.

Ecology Response: This closure plan should provide enough information specific to the 2101-M Pond on which to base decisions. This means that both the available data and its interpretation should be presented within the closure plan; submittal in another report is not sufficient. It is also appropriate for similar types of information to be presented in one section, i.e., all of the data may be presented in tabular form in an appendix.

USDOE/WHC Proposal: All available groundwater data will be presented in an appendix.

Ecology Response: There must be enough information available in order to validate the data. Information is missing as in the other data reports submitted by USDOE, the missing data must be provided. We cannot make a determination on the groundwater analysis until all missing information is made available. Refer to the letter submitted to DOE on May 29, 1992 regarding this issue.

24. USDOE/WHC Proposal: Modify the closure plan to demonstrate compliance with WAC 173-303-645 and give additional clarifications about the impact the 2101-M Pond has had on groundwater.

Ecology Response: This will be conditionally accepted provided that the following contradictory statements are reconciled and the results approved by Ecology. First it is stated, "while it is difficult to absolutely prove ... well E18-1 is upgradient and representative of background ...." Then it is stated, "well E18-1 provides background water quality per the definition of Appendix A in the ... [FFACO]." Ecology will determine if this revision is acceptable depending on the results of number 25.

USDOE/WHC Proposal: The text will be modified to reflect the information presented at the July 11, 1990, Unit Manager Meeting.

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Ecology Response: There are some questions which remain regarding the analytical results taken from the groundwater samples. There is a statement made that constituents were found to be below standards or detection limits. What standards or detection limits are being referred to in this section? The statement that the issue of background is moot because groundwater beneath 2101-M Pond has not been degraded by operations in the 2101-M facility needs to be established in the closure plan. State in the plan that groundwater monitoring is in compliance with WAC 173-303-645.

58. USDOE/WHC Proposal: "The integrity of background sample data collected within 1000 ft of the 2101-M Pond site will be assessed and documented in the 2101-M Closure Plan."

Ecology Response: The issue of past practice effects and RCRA/CERCLA overlap at sites chosen for background sampling is being decided at the Project Manager's level. The acceptability of the background sampling sites will be decided after this issue is resolved.

Ecology Response 2: The latest background report is being reviewed. Ecology will have a better idea after this review, if the sites chosen for background are acceptable.

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