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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

JUN 22 1979

WMUR:JER
40-8721

Rocky Mountain Energy Company
ATTN: Mr. A. D. Luck
Environmental Specialist
4704 Harlan Street
Denver, Colorado 80212

Gentlemen:

We have completed an exploratory review of the environmental information submitted with your February 12, 1979 application for a source material license to construct and operate the Nine Mile Lake Uranium Recovery Project in Natrona County, Wyoming.

Our staff has identified a need for additional and more specific information along with the clarification of certain items as indicated in the attached preliminary questions and comments. In order to permit us to continue our review as rapidly as possible, it is requested that your response to these comments be mailed in time to reach this office by July 17, 1979. Please mail a copy of your response and copies of all future submittals to Dr. M. J. Kelly, Oak Ridge National Laboratory, Building 4501, Mail Stop D016, P.O. Box X, Oak Ridge, Tennessee 37830.

If you have any questions concerning this matter, please call me at (301) 427-4103.

Sincerely,

A handwritten signature in cursive script that reads "Jack E. Rothfleisch".

Jack E. Rothfleisch
Uranium Recovery Licensing Branch
Division of Waste Management

Enclosure: As stated

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ENCLOSURE A
PRELIMINARY QUESTIONS, COMMENTS, AND REQUESTS FOR
ADDITIONAL INFORMATION RELATED TO THE ROCKY
MOUNTAIN ENERGY CO.--MONO POWER CO.--
HALLIBURTON CO. APPLICATION FOR A
SOURCE MATERIAL LICENSE FOR THE
NINE MILE LAKE URANIUM RECOVERY PROJECT
Docket No. 40-8721

General:

1. The Council on Environmental Quality (CEQ) regulations (Fed. Reg. 43:55978-56007, 29 November 1979) require that persons primarily responsible for environmental analysis and significant background papers used in the analysis be identified together with their qualifications (expertise, experience, professional disciplines). Please provide a brief resume for each author or contributor to the ER, since their data and some of their analyses will be used by our staff in preparing the PDEIS. Authors should be listed according to the sections of the ER they prepared.
2. Please provide topographic maps (1:24,000), if available, for the permit area. Please provide acetate overlays having the same scale which display the following:
 - a. Ore Body
 - b. Quaternary Geology
 - c. Bedrock Geology

Section 1.0 Introduction

1. p. 1-1: What is the current land ownership status of the SE 1/4 SE 1/4 Section 33 of T35N, R79W?
2. p. 1-3: How many well patterns are expected to be operated simultaneously?
3. p. 1-3: What is the potential for interference between the proposed operation and existing or future oil and gas pipelines?

Section 2.0 Description of the Environment

1. General:

- a. Please provide on one base vegetation map of the permit area (Plate 2.6-2 will be sufficient) the location of the features listed below. If all of the requested information cannot be clearly depicted on a single figure, then possibly one or more acetate overlays having the same scale as the base map could be provided.
 1. Ore body, proposed plant site and evaporation reservoir, and existing roads, transmission lines, etc. (Plate 3.2-4);

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2. Proposed roads (identify as to paved and unpaved), pipelines, transmission lines, well sites, storage tanks, borrow areas, or other sites to be disturbed (see Plate 3.7-1); and
 3. Ephemeral streams, Nine Mile Lake, rough break/ponderosa pine habitat within the permit area, black-tailed prairie dog colony active ferruginous hawk nest, and pronghorn wintering areas east of I-25 (see Plate 2-6.4).
- b. Provide a map of basic vegetation types (e.g., sage-brush-grassland, mixed-grass, etc.) also showing the proposed project site in relation to other uranium projects within a 50-mile radius (Appendix 2H, Table 1).
 - c. Plate 2.1-1 depicts Nine Mile Lake. Other figures, such as Plates 5.1-1 and 2.4-1, show Nine Mile Lake apparently covering less area than that depicted in Plate 2-1.1. Is there an error? If so, which correctly depicts Nine Mile Lake?
 - d. What is the history of Nine Mile Lake? Is it a natural reservoir? Has waterfowl hunting been allowed in the past? Are there other uses of this reservoir? (If yes, specify).
 - e. Are there any croplands or farmlands within the permit area? Identify if yes.
 - f. Are there any prime farmlands within the permit area as defined by the Secretary of Agriculture in 7 CFR 657 (Fed. Reg. Vol. 4 No. 21)? Identify if yes.
 - g. Appendix 2C Part 3, p. 2. Please indicate units of measurement in the table "Levels of Detection for Selected Parameters."
2. p. 2-3; Section 2.1.1.1: Please identify the major deposit located 30 miles east of the proposed project site.
 3. p. 2-9; Section 2.1.2: An Isopach Map of the Teapot Sandstone member is supposed to be contained in Appendix 2A. The Isopach Map was not included.
 4. p. 2-9: Are there no data from boreholes showing the thickness of the Pumpkin Butte Shale in the project area?
 5. p. 2-13; Section 2.3.1.2.3: Please indicate on a clearly legible scaled map the locations of the five closest wells to the project site listed in the third paragraph.
 6. p. 2-14,; Section 2.3.1.2.3: Provide rationale for statement that deeper aquifers are precluded from being affected by the proposed project.
 7. Plate 2C-1; Appendix 2C: Increase map scale to make plate legible and show location of Richardson Acres area, the homes west of I-25 and wells discussed in paragraph 3 on page 2C1-11.

8. p. 2-14; Section 2.3.3.1: Groundwater velocity is reported as being on the order of 0.1 ft/yr. On p. 2-16 the velocity is reported as 10 ft/yr and on p. 26 of the In-Situ Consulting report in Appendix 2C, the velocity is reported as approximately 19 ft/yr. Please clarify and provide correct value for groundwater velocity and direction of flow.

Section 2.4 Surface Water Hydrology

1. The potential adverse effects of spills, excursions, or TSS-laden runoff on Nine Mile Lake and its ecology cannot be fully assessed without a thorough description and quantification of the lake's water quality (by seasons or months), biota, morphology, and its importance to livestock, wildlife, and birds. The kinds and number of animals using the lake by season or month should be listed and enumerated. A review of the literature on water quality and ecology of lakes of this type should also be provided.
2. Improve legibility of Plate 2.4-1 and add features to show outline, location, and name (if available) of all ephemeral or permanent lakes, playas, ponds, or streams in the plant site drainage basin.
3. Provide a large-scale map of Nine Mile Lake showing depth contours and lake outline at maximum, mean annual max, mean annual, and mean annual low elevation. Describe approximately how often the lake fills up and the number of months each year that there is water in the lake.
4. Please provide a copy of the 1976 H. W. Lowham paper used in the peak flow calculations: "Techniques for estimating flow characteristics of Wyoming streams." U.S. Geological Survey Water Resources Investigations, 76-112.
5. Please provide aerial and landsat or other satellite photographs of the project area if available.
6. Page 2-22 of the ER is missing. Is this a misprint in pagination or is a page really missing?
7. p. 2-24; Table 2.4-2 Please provide the concentration of sodium in Nine Mile Lake.

Section 2.5: Meteorology and Air Quality

1. Any reduced visibility due to increased amounts of fugitive dust resulting from project activities may cause criticism from residents in Casper and adjacent areas. A fugitive dust control plan was not specified in the ER. Please state the applicant's intent with regard to implementing measures for controlling fugitive dust (e.g., watering dirt access roads).
2. Has the Wyoming Department of Environmental Quality been consulted concerning:
 - a. Sampling guidelines for monitoring background air quality within the permit area (If yes, specify.),
 - b. The possible need for monitoring of suspended particulates during construction and operation activities (If yes, specify.)

Section 2.6 and Appendix 2F Vegetation:

1. On page 2-30 of the ER the extent of the four major vegetation types totals 1,768 ha. On page 1-1 the project site is reported to consist of about 1,490 ha. Please explain this inconsistency.
2. It is stated on page 2-30 that: "There are no known endangered or threatened plant species on or near the study area." Provide further explanation for the basis of this statement by specifying references and personal communications. Also, (1) based on a review of site requirements, are there potentially suitable sites for any previously proposed endangered or threatened species?* List species if yes; (2) If yes, were potential sites searched during appropriate times of the year?(Explain)
3. Does the "study area" encompass just the project site or was a larger area involved? Please define extent of "study area". If the project site is currently used for grazing livestock please state the grazing capacity of the land.
4. Appendix 2F, page 2F2-1, last paragraph

It is stated that 20 acres of rough breaks are present in the permit area. Plate 2-6.2, does not show an area of rough breaks within the project boundary. Please explain or correct the error.

Also, it is stated that this community was studied but not sampled. Define "studied" and provide your rationale for not sampling this locally rare habitat type.

5. The headings of Table 2F-4 (Appendix 2F) call out footnotes; yet, the footnotes do not appear in the Table. Please explain or correct the Table.
6. Please explain the rationale for selection of and sampling within the buffer or control areas as related to your reclamation and land use plan.
7. Is the vegetation immediately adjacent to Nine Mile Lake and ephemeral streams (riparian) different from the vegetational communities described in the ER? If yes, briefly describe (provide references) and/or point out the vegetational components as listed in the ER data.

Section 2.6.3 and Appendix 2F Part 3 Wildlife and Livestock:

1. A supplemental report describing wildlife data collected during the winter of 1978 was to be prepared after February 1979. Please provide a copy of this report.

*The U.S. Fish and Wildlife Service has withdrawn the proposed plant list (U.S. Dept. of the Interior, Endangered and Threatened Species: Plants. Fed. Regist. 41: 24524-24572, 1976). However, previously proposed species should still be considered, although they have no official status.

2. The ER has identified several unique habitat types (rough breaks/ponderosa pine, Nine Mile Lake) and potentially important impacts to wildlife (pronghorn antelope wintering area east of I-25, black-tailed prairie dog colony and its use by the rare burrowing owl, potentially suitable habitat for the black-footed ferret, an active ferruginous hawk nest) within the permit area. For each of the above factors, list the project activities that would affect the habitat or environmental resource and specify all corresponding measures, if any, that the applicant intends to implement to prevent, reduce, or mitigate potential impacts to these resources.
3. Describe the methods used to inventory and estimate the population size of the black-tailed prairie dog colony. What is the numerical estimate of the population size of this prairie dog colony that is described (Appendix 2F, p2F3-14) as being widely distributed over 90 acres? Were the Wyoming Game and Fish Department and/or local residents or workers interviewed concerning the history of this colony of prairie dogs?
4. Describe the location and most recent recorded sighting, if any, of a black-footed ferret within a 50-mile radius of the project site.
5. What inventory methods and criteria were used to determine the probable absence of the black-footed ferret as related to the active prairie dog colony within the project area?
6. In reference to Current Status and Inventory of Wildlife in Wyoming (Wyoming Game and Fish Department 1977) does the project area contain suitable habitat for the following species designated as rare by the Wyoming Game and Fish Department:
 - a. Meadow jumping mouse (Zapus hudsonius),
 - b. Western smooth green snake (Opheodrys vernalis blanchard),
 - c. Milk snake (Lampropeltis triangulum)?If yes to any of the above, please discuss known distribution records, possibility of occurrence on the project area, and inventory methods used as related to existing suitable habitat.
7. Since Nine Mile Lake and rough breaks/ponderosa pine habitats are identified in the ER as unique habitat types that occur on the study area (Appendix 2F, p.2F3-24), discuss the apparent lack of intensive inventory and search for possible "important", rare, or unique species (especially birds, amphibians, and reptiles) that may reside or use these habitat types.
8. On page 5-11, it is stated that experience in other areas of Wyoming has indicated that mining activities do not cause pronghorn to move out of mining areas. Please provide references for this statement.

9. Appendix 2F, Table 2F-9, page 2F3-3: The black-tailed prairie dog was not recorded as actually observed. Is this an error? If so, correct table entry.
10. Appendix 2F, page 2F3-22, first paragraph: It is stated that statistical comparisons could not be made between general vegetation characteristics of transects used by pronghorn because methodologies required for the vegetation study differed from those suggested by the Wyoming Game and Fish Department. Why were the sampling methodologies selected different from those suggested by the Wyoming Game and Fish Department?
11. Does RMEC intend to implement measures to discourage use of the evaporation pond by migrating waterfowl or other birds (e.g., installation of plastic, colored flags across and above the surface of the pond)? If yes, specify.
12. It is stated in the ER, page 5-11 that exploratory drilling conducted north of Ormsby Road appeared to stress adult ferruginous hawks. What were the apparent observations of stress? What activities were involved and how far from the nest did they occur?

p. 2-35; Section 2.7.4: What conclusions are drawn from the groundwater analyses?

p. 2-37, Section 2.8.1, host paragraph: Please identify the five other fuel cycle facilities located within 50 miles of the project site listing distance and direction to these facilities.

Section 2.8.3 and Appendix 2H Archaeological Sites:

1. The ER (pages 2-38, 5-16) states that cultural resource clearance has been recommended for the entire area. However, the following points require clarification.
 - a. Appendix 2H, letter from Jan L. Wilson, Director and State Historic Preservation Officer to A. D. Luck, Environmental Specialist, Rocky Mountain Energy Company:

The letter states that the very best section of the Salt Creek-Casper freight road is located at the extreme SW edge and end of the site. Furthermore, if that historic road is protected from encroachment by proposed mining activities, the State Historic Preservation Officer recommends clearance. Will proposed mining activities affect this historic site? If so, how?
 - b. When was the archeologic survey conducted?

- c. Does the State Historic Preservation Officer concur in the conclusion that nine of the four prehistoric sites discovered merits further work?
- d. An opinion is needed from the Wyoming State Archaeologist before archeological clearance can be recommended. Has this official been consulted as requested.
- e. Has the SHPO recommended an archeological clearance? Please provide copies of the opinion and clearance if these documents have been received.

Section 3.0 - Project Description

1. Provide a breakdown of the acreage to be distributed by each of the following types of project activities.
 - a. Well pads/drilling sites,
 - b. road construction,
 - c. laying of pipeline,
 - d. transmission line corridors.

What is a reasonable estimate of the average area to be disturbed by the construction of a drilling site/well pad? What is the total number of drilling sites/well sites to be constructed during the life of the project?

2. Please provide the chemical composition of the initial lixiviant, barren, and pregnant solutions. Indicate whether the data are estimated or are actual analyses obtained during pilot scale operations.
3. P. 3-7; Fourth ¶: Typo; 15 gl/m should read 159 l/m
4. p. 3-11; Section 3.2.2.2; Last ¶: Please clarify meaning of last three sentences.
5. p. 3-19; Section 3.2.3.2: Please describe proposed procedure to determine baseline conditions?
6. p. 3-19; Section 3.2.3.2: How soon after apparent restoration of groundwater to baseline conditions is it planned to set the cement plugs in the depleted wells?
7. p. 3-27; Section 3.4.1.2: How much effluent (l/min) will be discharged from the sewage treatment plant? Where will the effluent be discharged? What impacts can be expected from this discharge?

8. p. 3-27; Section 3.4.1.4: What is the expected composition of the chemical laboratory wastes? How will this material be transported to the evaporation pond?
9. pp. 3-27, 3-28; Section 3.4.1.1; 3.5.3: What is the expected chemical composition of the brine and precipitates from the water treatment plant? Please provide the results of actual analyses if available from previous operations.
10. p. 3-28; Section 3.4.1.5: What is the proposed procedure for monitoring and disposing of contaminated solid wastes such as trash, rags etc.?
11. p. 3-28; Section 3.5.1: Text and plate 3.5-1 indicate reservoir area of 120 acres. Plate 3.2-4 shows reservoir to occupy 2000 ft x 2000 ft or about 92 acres. Please clarify apparent discrepancy.
12. p. 3-34; Section 3.5.6: Please specify proposed sampling frequency and analyses to be performed for monitoring reservoir perimeter for possible leakage.
13. p. 3-41; Section 3.7.5: Please provide details of calculations showing total annual energy produced from yellow cake production.

Section 4.0 - Project Abandonment and Reclamation

1. p. 4-1; Section 4.1.2: Provide detailed results pertaining to clean up operations of Injection Wells No. 3 and No. 5.
2. p. 4-6; Section 4.1.2: Please provide the results of the restoration tests on Pattern No. 2 which were started during November, 1978.
3. Have the applicant's project reclamation plans been evaluated by the Land Quality Division, Wyoming Department of Environmental Quality? If yes, please provide us with a copy of their comments and recommendations.
4. On page 2-24 of the ER it is stated that most precipitation falls during the period April to September. But on page 4-2 (second paragraph) it is noted that seeding will be done in the fall when the probability of receiving beneficial precipitation following the seeding operation is highest. Are these statements contradictory? What is correct?
5. Has the applicant considered the use of irrigation for establishment of vegetation on disturbed sites? In this question we emphasize that irrigation would be used only to aid in the successful establishment of native species and should be continued no longer than is necessary to achieve establishment. By using irrigation would it be possible to include a larger number of native plant species in the seeding mixture? Is sufficient water available for use in any irrigation plan?
6. Page 4-12, third paragraph: revegetated areas will be safeguarded against disturbance. List the ways in which these areas will be safeguarded.

Section 5.0 Environmental Impacts:

1. p. 5-6; Section 5.2.2: What measures will be taken to minimize suspended sediment input to Nine Mile Lake?
2. Will Nine Mile Lake be available to livestock and wildlife after construction and operation of the NMLP begin?
3. p. 5-7; Section 5.5: What is the rationale for the statement that there will be no significant impacts on aquatic life in the lake? If a spill should enter Nine Mile Lake, what effects on livestock, wildlife, and birds using the lake could be expected?
4. Page 5-9, third paragraph: Noted that it will take at least 25 years for revegetated areas to assume their former character. Document this statement by providing a reference(s).
 - a. Is sufficient data available from research to reasonably predict the length of time needed to restore native species to their former species diversity/productivity after disturbance,
 - b. Would not 40-50 years also be a reasonable estimate of time that may be needed to restore revegetated areas in this region to their former character?
5. p. 5-15, 16; Section 5.6.2: See comment above regarding p. 2-38 Section 2.8.3.
6. p. 5-17; Section 5.7.2: Please provide the assumptions and calculations substantiating the estimated seepage rate of 0.25 ac-ft/ac-yr.
7. p. 5-17; Section 5.7.2.1: Where are the wells located that are listed in Appendix 2G Tables 2G1-6, 2G1-7 and 2G1-8.
8. p. 5-18 Section 5.7.3 and Appendix 2G3. Please reassess your estimate of the operational release of radon from the evaporation pond sludge based on an assumed average specific flux of 1 pCi/m² sec of radon-222 per picocurie per gram of radium-226. (Per page 2G1-18, your estimated radium-226 concentration in the sludge is 240 pCi/g). In addition please re-evaluate your estimate of particulate releases from the evaporation pond after drying.
9. p. 5-18 Table 5.7-1 and Appendix 2G3. Please re-evaluate the annual radon release from the uranium recovery operations taking into consideration the radon dissolved in (and liberated from) the liquids being circulated during the restoration process.
10. Page 5-20, first paragraph: "Most of the revegetation in the area around the site is not expected to concentrate radionuclides." Are there plant species that are expected to concentrate radionuclides? If yes, discuss.

Section 6.0 Environmental Impact of Accidents

1. Section 6.0 General. References to (U.S. NRC, 1977) and (U.S. NRC, 1978) in this section cannot be located in Section 14.0.
2. p. 6-1; Section 6.1: Has the use of catchment or sedimentation basins been considered to contain spills upstream of Nine Mile Lake? Based on the annual pipeline failure probability of 0.2 estimated for the Exxon in situ leaching operation near Douglas, Wyoming, it appears reasonable to expect a failure at the NMLP at some time during the life of the operation. A system for containing major pipeline spills upstream of Nine Mile Lake seems essential.
3. p. 6-1; Section 6.1: There is little factual discussion of the mitigative measures to be taken to contain or clean up spills except to say that, in the event a spill should reach Nine Mile Lake, its waters would be processed through the project water treatment plant, or the upper crust of salts and sediments might be removed after lake evaporation to the evaporation reservoir. Please provide details of how these measures would be achieved. How long might the lake remain contaminated prior to completion of clean-up? Discuss the effects of spills on lake biota, livestock, and wildlife prior to completion of clean-up.
4. p. 6-3; Section 6.1.1.3: Provide kinds and quantities of chemicals subject to spills outside storage berms.
5. p. 6-3; Table 6.1-1: Please provide estimated concentration (or analyses from pilot scale operations) of anions and trace elements, including arsenic and selenium, in the pregnant solution.
6. Page 6-4, last paragraph: "Soil contaminated by rupture of an outside tank would be removed and/or reclaimed to the extent necessary for environmental acceptability." What constitutes environmental acceptability? Discuss the removal and reclamation procedures that would be implemented following such an accident. Be specific.
7. p. 6-7, 6-8; Section 6.1.4.1.1. Please provide the conclusions to be drawn from this accident analysis.
8. p. 6-9; Section 6.1.4.1.2. Please provide the rationale for the assumption that complete mixing will occur in the event of a yellowcake spill into a lake.
9. p. 6-12; Section 6.1.4.2. The text refers to Table 6.1.1-2 which is not included in the ER. Please correct.

Section 7.0 - Monitoring Program

1. p. 7-1; Section 7.2.1: Please provide a listing of the "important" constituents which will be subjected to analyses.
2. p. 17-4; Section 7.2.3.3: If an acid lixiviant is used, pH will require a Lower Control Limit rather than an Upper Control Limit.

On what basis will the Upper and Lower Control Limits be selected?

Section 11.0 Alternatives to the Proposed Action

1. General

This section should be expanded to include consideration of additional alternatives for disposal of the radioactive solids produced in the water treatment process. These alternatives should include, as a minimum; (1) excavation of all the precipitated solid sludge and transportation to an existing conventional uranium mill tailings disposal site and (2) excavation of the dry or semi-dry precipitated solids and disposal by below grade burial in an excavated lined pit occupying a minimum area at an environmentally acceptable site.

ADDENDUM

1. Section 3.2 Well Field

- a. No mention is made of the installation method for the lixiviant distribution lines between the plant and the well fields. Will above-ground or buried systems be used? Specifically, address the effects of the lixiviant distribution system on the control and monitoring of the leaching process, and on the potential for and effects of accidental leaks or ruptures of the piping system.
- b. What monitoring activities will be performed at the control room and pump house buildings?
- c. Page 3-17 states, "A pressure gauge, flow meter, and control valve may be installed at each well." What criteria will determine the necessary instrumentation for each well? How dependent is excursion control or monitoring on the monitoring of active wells? How will weather conditions affect the reliability and safety of well field instruments and valves?

2. Section 3.5.6 Evaporation Reservoir Construction (p. 3-34)

The reservoir bottom is described as lying 2.7m (9 ft.) below grade. Section 3.5.5 (p. 3-33) indicates that "groundwater was observed 2.4m to 3.4m (8 ft. to 11 ft.) below ground level at the reservoir site." Section 5.7.2.1 (p. 5-17) assumes that "ground water is ...encountered approximately 2.4m - 3.4m (8-11 ft.) below the evaporation pond in a perched water table." This discrepancy is significant since the possible occurrence of ground water at the level of the pond bottom would impair successful placement of the liner, result in a saturated flow regime under the pond and would generally compromise EPA guidelines on the storage of wastes. Please clarify the affected sections on evaporation reservoir design.

3. Section 3.6 Atmospheric Emissions (Appendices 2.E, 2.G)

- a. Page 3-34. Kerosene losses were assessed as being "small". The use of heated organic ~~and~~ aqueous streams in the Eluex process should lead to significant hydrocarbon releases. Also, the practice of discharging spent solvents to an evaporation pond (p. 3-28) will contribute to hydrocarbon emissions. Please supply estimates of emissions from these sources.
- b. What is the composition of the particulate from the yellowcake dryer stack? Based on the yellowcake release estimates in Appendix 2G, the yellow cake itself accounts for only 0.16 tons. Repeated comparisons are made between the existing dryer at the Bear Creek Mill and unit proposed for Nine Mile Lake. Will the units be identical in size and operating conditions? If the units are identical, please revise statements on the Bear Creek dryer to reflect operating conditions such as dust loading to the scrubbers, pressure drops, and removal efficiency. If the Nine Mile dryer differs substantially, please supply estimates of operating conditions and performance.

4. Section 4.1 Aquifer Restoration

The ER does not address trace metals and toxic constituents in the section on restoration. What has been the concentration behavior of trace metal, toxic elements, and radionuclides in the test plot during leaching and restoration?

5. Section 5.7 Radiological Exposure

The values of annual activity releases in Table 5.7-1 are at variance with the calculated values in Appendix 2G3. Please clarify this situation and provide data on dryer operating conditions that may be used to verify the estimates.

6. Appendix 3, Section 3.3.2 Elution

What contaminants and resin poisons (i.e., Mo, silica, thionates, etc.) are expected to affect the absorption process? What chemical reagents and procedures will be used in regeneration of affected resins?