

ARGONNE NATIONAL LABORATORY
OFFICE OF NUCLEAR MATERIAL SAFETY AND
SAFEGUARDS

Report for the month ending December 31, 1979.

A. STATUS OF ENVIRONMENTAL STATEMENTS

. Consultant Services (A2010) - R. A. Zussman, Project Leader

Williams-Robinette and Associates was authorized by letter to begin to provide assistance on two tasks: (1) proposed NRC staff regulatory position regarding site suitability analyses in support of evaluating groundwater impacts related to uranium recovery operations; and (2) review of comments and responses related to the generic uranium mill statement. Estimates of effort for each task were requested of the consultants.

. Western Nuclear (A2010) - N. J. Beskid, Project Leader

There was no substantive effort expended on this project this month. Thus, the only costs incurred are for division management and M & S charges to maintain the project. Early in the month, the NRC EPM and the project leader held phone conversations directed toward correcting the final draft for publication.

. Union Carbide Gas Hills (A2010) - M. Novick, Project Leader

Revision of the first three sections of the DES for the FES was completed. Work continued on the balance of the document.

. Natural Phenomena Project (A2150) - J. E. Carson, Project Leader

Relative concentration and deposition values for the Atomic International facility were calculated using onsite wind data and the "synthetic" stability class adopted; these x/Q values were compared with those calculated from Burbank Airport STAR data. Relative concentration values for straight-line wind damage for the Exxon and G.E.-Vallecitos plant were computed.

. Milling Operations Programmatic Statement (A2143) - G. L. Montet, Project Leader

The ANL project leader attended a meeting with NRC personnel on 3 December 1979 at which responsibility for the preparation of responses to categories of comments were assigned. The ANL team will respond in the areas of environmental effects, monetary costs of alternatives, and source terms for radiological effects. Some work has begun in all these areas, but emphasis has been placed on seepage effects so that the team member responding in this category might do so during his Christmas vacation.

A. STATUS OF ENVIRONMENTAL STATEMENTS (Cont'd.)

. Kerr-McGee (A2157) - J. L. Saguinsin, Project Leader

Members of the project team attended a town meeting on December 18, 1979 called by the City of West Chicago to hear the city's hired consultant (Eli Port) and to get a progress report from Kerr-McGee on its decommissioning activities. The City's Consultant is reviewing Kerr-McGee's submitted decommissioning plan and is taking radiological measurements in the area. Others attending the meeting include representatives from NRC, U.S. EPA, and various other state agencies. Work towards completing the preliminary draft EIS is progressing.

B. BUDGET

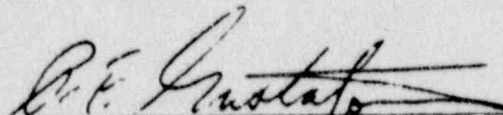
The cost report for December is attached.

C. OVERDUE ACTIONS BY FCMS REGARDING LABORATORY REQUEST

None

D. REMARKS

We have had some informal discussions (with the knowledge and support of Regulatory Research) with DOE and EPA in regard to augmenting the funding of the Mill Tailings Research Program.



P. F. Gustafson, Director
Division of Environmental Impact Studies

C. BUDGET - The Division of Fuel Cycle and Material Safety.
Total Cost to Date Through December 31, 1979, (Including Previous FY's)

Fin No.	Project Title	Effort in Man Months			Effort Related Cost K\$			Other Direct Costs K\$ (Travel, Graphics and Supplies)			Supportive ^b Cost K\$			Total Cost K\$		
		Dec	FY	Total	Dec	FY	Total	Dec	FY	Total	Dec	FY	Total	Dec	FY	Total
		1979	1980	To Date	1979	1980	To Date	1979	1980	To Date	1979	1980	To Date	1979	1980	To Date
A2010 FUEL CYCLE - FRONT END																
	Consultant Services	-	-	-	-	-	-	0.1	2.3	2.3	-	-	-	0.1	2.3	2.3
	Pioneer Uranium	-	1.0	1.0	-	4.9	4.9	-	-	-	-	0.6	0.6	-	5.5	5.5
	Kerr-McGee W. Chg.*	(2.3)	-	51.9	(10.8)	-	188.7	(2.6)	(0.9)	30.6	(1.5)	-	33.6	(14.9)	(0.9)	252.9
	Western Nuclear	-	0.7	63.5	-	2.9	252.1	-	0.2	28.3	-	0.4	41.9	-	3.5	322.3
	Union Carbide	2.5	7.0	58.5	12.0	34.0	232.7	0.5	5.0	33.2	3.8	6.5	40.5	16.3	45.5	306.4
	General ^a	0.2	1.1	-	1.2	5.3	-	-	-	-	0.1	0.6	-	1.3	5.9	-
	<u>TOTAL</u>	0.4	9.8	-	2.4	47.1	-	(2.0)	6.6	-	2.4	8.1	-	2.8	61.8	-
	A2150 - Natural Phenomena	0.2	0.6	37.4	1.0	3.0	150.3	9.1	9.6	383.8	-	-	-	10.1	12.6	534.1
	A2143 - UMOGES	0.6	2.8	220.0	2.9	13.7	741.3	5.5	31.0	231.8	-	-	-	8.4	44.7	973.1
	A2157 - Kerr-McGee	3.2	3.2	3.2	14.5	14.5	14.5	2.8	2.8	2.8	-	-	-	17.3	17.3	17.3

^aGeneric effort and associated general costs.

^bRedistributed general costs not attributable to specific projects, i.e., general supplies, conferences, etc.

*Closed.

THIS REPORT IS A REFLECTION OF THE DATA BASE USED FOR BILLING BUT IS INTENDED FOR INFORMATION ONLY - NOT FOR BILLING PURPOSES.

Steve's Comments on
9/12/86 - POSEN

- 1-5: Basis for dismissal of LLW site needs to be stated, either in text or in an Appendix. Same applies to A-9. We should include analysis that demonstrates that a Compact Site would not be required to take the wastes from W.C. Then point out that collocation is the only possibility.
- A-9: We need to state why the alternative of an out-of-state surface uranium mine or mill was not considered further. Letter dtd 3/29/86 sent to N.M. as to possible disposal at KM's Ambrosia Lake Mill. Ask Merri whether any response was received. Should be dismissed on cost basis.
- Section A.3: We should not make reference to documents that are not publicly available.
- 1-2: Restructure - ASLB did not say Alt Site Analysis was inadequate.
- ~~2-2: Need to add a brief discussion of ASLB decision.~~
- ~~2-11 (Table): verify figures from Franco. Also can U-238 figures be provided? Also applies to p. 2-15.~~
- Start 2-17 thru 2-19 (including Table 2.4) is confusing and the B/4

standard is not legally applicable to the stabilization of the wastes. Inquire as to why it was used.

✓ p. 2-30: Verify applicability of each requirement. Same for 261.111 (p. 2-32).

✓ p. 2-32: Replace the 1984 cite with the 1986 FR notice on further conforming ems to App. A.

~~p. 2-32 to 33 restructure comments on 40.31(h)~~

✓ Rework description of App. A criteria as appropriate to the Suppl. FES.

Not necessary. ✓ Consider whether we should withhold information identifying the owners of the alternative sites identified. Note statement that we have not secured their approval.

||| ✓ Section 7.2.2 - State the number of years the site would be expected to remain under KM licence before Gov't becomes custodian.

51 F.R. 24697 July 8, 1986

- proposed amendments to Part 40,
Appendix A, to incorporate into App
A the groundwater protection
regulations published by EPA for
~~Wentworth & Hartman~~ mill tailings.

Marginal farmland (Comments on 11/1/85 Version)

- 1) How quickly can the reviewer move to step 5 (p. 10)?
I would doubt that we could have a "continuing analysis". See p. 10 (footnote).
- 2) We would have make a prompt request to SCS for a determination of whether the proposed waste disposal area is protected (p. 10). Are the "areas" still in the nature of 25-100 sq. miles?
- 3) p. 12: How do we propose determining whether the proposed area conform to other federal, state, county and local regulations? We would have to make specific requests to the appropriate entities for their determination, with reasonable deadlines.
- 4) p. 18: discuss with Sundell how he identified Brown County as the most promising. Assuming his methodology appears adequate, consider focussing just on Brown County and narrowing in as quickly as possible to areas. These areas could be the "sites" for our suppl. analysis assuming they are sufficiently homogeneous. More detail should be provided on how Brown County was selected. Find out what would be involved in including Joe Davless & Pope Counties in the detailed analysis.

This info. was communicated to Bill
Crow, Gerry Laroche & Merri Horn.
1/14/86

Clay/Shale quarry - New Douglas

Underground coal mine - Donville site

Active surface coal mine } Jeff
Schubert

Abandoned surface coal mine } Is getting

add'l information from TSGS.

Going to visit week of 1/13/86 - to
look at well-log data.

By end of January ANL will send
NRC description of the specific
sites.

Conceptual design being done for
all five Illinois alternatives.
Rough draft completed in Nov. or
Dec.
Now being refined.

Table of Contents for Suppl.
EIS sent to Merry, copy
to me.

ANL also looking at Illinois
regs. (principally groundwater)
to determine compliance.

- 1) Map showing marginal farmland.
 - 2) Map (previously existing) showing potential for Contam of Shallow Aquifers. (Fig. 3).
-

ANL can check with SCS to see if they have a soils property map for Illinois.

Out-of-state sites: ANL will send to Bill Nixon a list of contact persons to determine availability of sites. Will be sent to us week of Dec. 16.

~~1/1~~

12/2/85 - Meeting on Alt. Site Analy.
& 10 CFR Part 40, Appendix A

- Tom Beasley (Director of ANL's Env. Research Division)
- Numerical weighting of alt. sites. Suggestion that it only be used for eliminating certain categories.
- An alternative to the Marginal Formula ~~st~~ analysis ~~already com~~ proposed would be to ask ISG to ~~st~~ do a map for us that would focus on areas within a certain distance from West Chicago (perhaps by Counties) and for certain soil types that have good disposal properties.

Schedule - Suppl.

- Vern has done some work on conceptual designs. But will not be submitted until 2nd week of January.
- ANL believes the PDSEIS I will not be issued until approx. one month after the 2/22/86 date presently shown.
- ANL will redefine the marginal farmland analysis.

Gerry LaRoche
will be assuming responsibility
of Project Manager for West
Chicago.

July 1986

- 1) Draft Supplement completed.
- 2) Analysis of compliance of the Rare Earth site & of alternative sites with 40 CFR Part 192 and ¹⁰CFR Part 40, App. A could then be completed & ready for hearing. (per the ASLB).
 - a) Verify that ANL understands ELD's advice as to Part 40 and has received the revised App. A;
 - b) determine what further work is being done on the Part 192 analysis for W. Chicago submitted to us in June 84;
 - c) Determine what work being done on conceptual disposal cell design for alternative sites.
 - d) Explore whether a separate point of responsibility in ANL is necessary for this review.

Save for mark-up.

10

DSFES - Response to Comments

Response 1-3

The comment period was extended 45 days to allow additional time for interested parties to prepare comments. The notice appeared in the Federal Register on August 10, 1988.

Response 1-5

The statement in the DSES referred to the offsite contamination at the Sewage Treatment Plant and in some residential areas that the City of West Chicago and Kerr-McGee were in the process of removing. This material was authorized to be stored on the site but removal had not been completed at the time of publication. The only material to be included are those which originated from the site. Radioactive waste from other facilities has never been considered and will be prohibited. The statement has been clarified in the text.

Response 1-6

The site should have little effect on the neighboring populace. After closure the expected dose to the nearest resident would be . The total expected health effects would be only compared to a expected from other sources. ADD NEW NUMBERS FROM TEXT.

Response 3-1

No wastes from other facilities will be excepted. See response to 1-5.

B/6

Response 3-2

The Rare Earths Facility has been located at the same site since the 1930's. The facility has been fenced and radiation warning signs have been present for a number of years. Large piles of uncovered material, rubble, and dilapidated buildings were present on the site. The appearance of the stabilized site will be a vast improvement over current and former conditions on the site. See section 5. for a discussion on expected health impacts.

Response 3-4

The proposed action would have no effect on the SSC project. The facility wastes are currently located at the WC site and this has not been a factor on the SSC proposal.

Response 5-56

The SFES does take a "hard look" at the environmental consequences. The proposed action meets all applicable regulations. See Section 2.

Response 5-57

The proposed action meets all applicable regulations. See Section 2.

Response 5-71

Transfer could occur sooner than 25 years, if monitoring results showed no problems. Kerr-McGee will not continue to monitor the site after their license is terminated. The text has been changed to remove the 25 year reference.

Response 5-74

If the materials in question are byproduct material it will have no effect on the SFES because these materials were included in the analysis.

x Response 6-12

At the time of transfer, the State of Illinois will be given the option of acquiring title to and custody of the disposal site and wastes per the regulations under Section 83 of the Atomic Energy Act of 1954, as amended (42 U.S.C. 2113). Discussions with the State would be held after the NRC determined that the site was ready for transfer.

} finer legally

x Response 6-13

If any of the offsite materials are found to be source material, it is correct that they could be sent to the compact site for disposal. However, this would have the effect of reducing the final volume, and would require no changes in the SFES. In fact, impacts could be minimally reduced.

x Response 6-14 The Commission has not made a final determination as to the proper classification of the offsite wastes. Substantial analysis of the type of material is not necessary. All material included in the cell will be co-located. See also Topical Response 1. Staff has done an analysis of the proper classification of the offsite wastes.

x Response 6-15

of the offsite wastes as 11(e)(2) byproduct material.

Kerr-McGee did provide alternative locations, contained in the FES, and in fact held several meetings with the State. The NRC chose to undertake an expanded independent analysis of alternative sites. The fact that one of the alternatives was not chosen does not mean that they were not viable. The "viability" of a site is not the standard for determining whether to reject the Applicant's proposed site disposal proposal. "Obvious superiority" of an alternative site is the standard and not the "viability" of a site.

Response 6-16

See Topical Response 1.

Response 6-17

Disposal of this material will be accomplished according to the regulations.

A Response 6-18 Read cover cited. Comment on level of detail required.

The alternatives are described in sufficient detail to make a decision.

Response 6-19 - Comment is conclusory. In which specific...
Sufficient data is provided on the alternatives to make an evaluation in a reasonable and complete manner.

Response 6-24

The Branch Technical Position does not apply in this case. This position paper was developed because other standards for disposal were not available. In this case it is superseded by the criteria in 40 CFR Part 192 and 10 CFR Part 40, Appendix A.

Response 6-25 Follow the DES. While staff was directed to consider permanent disposal, there may still be some differences between the DES/FES/DFES. Staff was ordered by the ASLB to evaluate permanent disposal against the regulations.

X Response 6-26

The NRC does not view the site as a new site. The facility has infact existed at that location since the 1930's. See section 2.

The quoted language supports, in part, staff response these are clearly "existing tailings" as to which a decision need to be made on... stabilization.

Response 6-27

The proposed action meets all applicable regulations. See section 2.

Response 6-28

The regulations applicable to the site are discussed in Section 2.
The regulations in 10 CFR 61 do not apply to section 11e(2) byproduct material.

Response 6-30-6-34

COMMENTS NOTED AND STATEMENT THAT 10 CFR 61 CRITERIA DO NOT APPLY TO BYPRODUCT WASTE AT THE FACILITY.

Response 6-35

The supplement specifically considered permanent disposal at the site and alternative offsite areas.

Part of A to I & II for FE. The 1954 decision did not rigidly require the proposed alternative. It was based on the situation at time of proposal.

Response 6-36

The supplement addressed all the questions in the Board's order.

City entitled to its opinion but falls to provide support. - alternative sites, permanent disposal.

Response 6-37

The supplement shows that onsite disposal can be approved since all applicable regulations are met.

The comment states "without elaboration DSFE falls in every way..."

Response 6-38

The proposed action will meet all applicable regulations. See Section 2.

no need to address the charge of an "untested computer designed model".

*What is there "absolutely no basis" for...
question of the model or...
positive area?*

Response 6-48

The proposed plan allows for expansion on to the intermediate zone, not for an increase in height.

Response 6-49

The SFES has allowed for a 15% increase in volume in doing the analysis (Kerr-McGee allowed for a 10% increase). A larger volume than anticipated will not require the preparation of a new environmental statement. A increase in volume will have small additional impacts, with the exception of the cell size and would be similar for all alternatives, excluding transport cost.

Response 6-50

Staff ~~feels~~ ^{believed} that ⁱⁿ the SFES provides a complete analysis.

it has taken the requisite "hard look" (cites) at the environmental consequences of disposal of the wastes in WIC.

Response 6-52

this constitutes a complete analysis.

~~In this case a sample in the staff~~

The State would have the option of acquiring title to and custody of the disposal site and wastes per the regulations. If the State declines, the Federal Government (currently the Department of Energy) would assume the title and custody of the material and land.

Response 6-53

See Section 2.2 and 2.3 for the regulations that apply. See also Response 6-52.

Response 6-54

By-product material currently does not come under the Illinois/NRC Agreement. See also response 6-52 and Topical Response 1.

Response 7-67

Active Maintenance will not occur over the long term. However, 10 CFR 40, App. A, Crit. 12 requires at a minimum an annual site inspection. If major problems were observed, they would be corrected.

Response 7-68

The proposed design relies on passive remedial measures (e.g., cover thickness and composition) that will not require active maintenance e.g. additional cover in a few years). Nevertheless, after completion of the remedial action, monitoring surveillance, and maintenance would be required. These activities would be undertaken to ensure that the disposal site had not been disturbed. If problems were observed, they would be corrected.

Response 7-69

Noted, no comment needed.

Response 7-71

DID WE RELY ON OVERVIEW? IF NOT SO STATE.

Response 8-4

The footnote has been changed. Staff acknowledges the uncertainty over the classification of certain materials as either source material or by-product material. See page 1-2 for discussion.

Response 9-1

X Alternatives in the SFES were not submitted by Kerr-McGee, but were determined by independent analysis. An application may be denied if it does not comply with the requirements of the Act or any applicable regulations. However as discussed in Section 2. the proposed plan meets the applicable regulations.

Response 9-27

The summary has been expanded.

Response 9-26

Environmental impacts are presented so that they can be compared, in fact are discussed and compared in section 8. All alternatives meet the applicable regulations. See section 2.

Response 10-1, 12-1

The majority of impacts occur in WC and arise from the movement of the contaminated materials. These impacts will occur under all alternatives. Based upon the cost-benefit analysis, onsite disposal at WC has the smallest overall impact to the public and the environment.

Response 10-3

See 10-1

✓ Response 11-24

Several sites (4) were evaluated. It is unnecessary to determine a sites availability. The selection of an alternative merely provides a basis for denial of the proposed action. If the proposed action were denied, it would be up to the licensee to propose a new alternative for study.

Response 11-26

A time frame for disposal does exist if approval is given. The statement that there is no fixed termination date for on-site disposal refers to the termination of the license issued after all on-site disposal activities are complete.

Response 12-3

See 10-1

Response 13-1

See City of West Chicago responses 6- 55 - 6- 66

Response 13-2

The alternatives are discussed throughout the document. The alternatives were seriously considered.

Response 13-3

The most important factors are protection of the public health and safety. This includes the public at the alternative sites and along the transportation corridor, not just the public at WC.