

ORIGINAL

**UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION**

**Title:** DOE BRIEFING ON LLW PROGRAM, WEST VALLEY DEMONSTRATION  
PROJECT AND URANIUM MILL TAILINGS REMEDIAL ACTION PROJECT

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DOE BRIEFING ON LLW PROGRAM, WEST VALLEY DEMONSTRATION  
PROJECT AND URANIUM MILL TAILINGS REMEDIAL ACTION PROJECT

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PUBLIC MEETING

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Nuclear Regulatory Commission  
One White Flint North  
Rockville, Maryland

Friday, June 3, 1988

The Commission met in open session, pursuant to  
notice, at 10:02 o'clock, a.m., the Honorable LANDO W. ZECH,  
Chairman of the Commission, presiding.

COMMISSIONERS PRESENT:

LANDO W. ZECH, Chairman of the Commission  
THOMAS M. ROBERTS, Member of the Commission  
KENNETH CARR, Member of the Commission  
KENNETH ROGERS, Member of the Commission

1       STAFF AND PRESENTERS SEATED AT THE COMMISSION TABLE:

2

3               S. CHILK, SECY

4               V. STELLO, EDO

5               W. PARLER, OGC

6               J. COLEMAN, DOE

7               J. BAUBLITZ, DOE

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## P R O C E E D I N G S

[10:02 a.m.]

CHAIRMAN ZECH: Good morning, ladies and gentlemen.

Today the commission will be briefed by John Baublitz, the Acting Director of the Office of Remedial Action and Waste Technology of the Department of Energy. Welcome sir.

MR. BAUBLITZ: Thank you.

CHAIRMAN ZECH: It's my understanding that the briefing will cover, first of all, the Uranium Mill Tailings Remedial Action Project. Second, the West Valley Demonstration Project. And third, the Low-Level Waste Program. The Uranium Mill Tailing Control Act requires remediation of 24 mill tailing piles in the United States by the Department of Energy. It requires the Nuclear Regulatory Commission to consult, concur in remedial actions and license the long-term custody of these sites.

The West Valley Demonstration Project Act instructs the NRC to monitor the West Valley Demonstration Project to ensure that public health and safety are protected. It's my understanding that the Act does not require licensing of the disposal of low-level wastes, transuranic wastes, or the decommissioning process. However, all of these activities are to be carried out in accordance with applicable Nuclear Regulatory Commission licensing requirements. The Low-Level Radioactive Waste Policy Amendments Act of 1985 provides for

1 the establishment and operation of regional disposal facilities  
2 for commercial low-level radioactive waste. The NRC has a  
3 responsibility under this Act to provide technical assistance  
4 to the states to help them meet their responsibilities.  
5 Submitting various information and status reports to Congress  
6 and make decisions about emergency access to low-level waste  
7 facilities. All of these various responsibilities require good  
8 coordination and cooperation with the Department of Energy.  
9 The Commission's interest in the hearing today is to how the  
10 cooperation and coordination is going with the Department of  
11 Energy. And before we begin, to end my thought, if the  
12 Commissioners have any comments they'd like to make. If not,  
13 welcome sir, and you may proceed.

14 MR. BAUBLITZ: Thank you very much. I'm pleased to  
15 have the opportunity to be here with you this morning,  
16 presenting a briefing of information for you on the programs  
17 for which I'm responsible. That the Department carries out in  
18 coordination with the NRC. And for which, the NRC's role and  
19 contribution is quite important in our view to the ultimate  
20 success of these activities. I have prepared a briefing here  
21 that should take roughly 45 minutes. I believe that should  
22 allow ample time for whatever questions and discussion you may  
23 wish to have. And I'll certainly be happy to answer your  
24 questions at any time, as I go along.

25 Would you put on the second slide, please. I

1 represent the Assistant Secretary for Nuclear Energy, Mr. Ted  
2 Garrish. My office is the Office of Remedial Action of Waste  
3 Technology. We have three divisions. Two of which are  
4 responsible for the programs that we're going to be discussing  
5 today. The Division of Waste Treatment Projects is headed up  
6 by Joe Coleman, who's with me here on my left. Included in his  
7 responsibilities are the Low-Level Waste Program and the West  
8 Valley Project.

9           The Division of Uranium Mill Tailings Projects is  
10 responsible, naturally enough, for the Uranium Mill Tailings  
11 Remedial Action Project. The directorship of that division is  
12 currently vacant. But I do have with me today, Jacob Getrill,  
13 of that division, who's assisting with the audiovisual workup  
14 in the control room.

15           Next slide, please. The three programs I'm going to  
16 discuss today are described and the roles of the DOE and the  
17 Commission are defined by specific legislation, that puts these  
18 programs in a situation that is different, therefore, from a  
19 standard licensee-regulatory agency, relationship. Our roles  
20 are not specifically defined in these cases by the Atomic  
21 Energy Act, but by the specific pieces of legislation. The  
22 Uranium Mill Tailings Radiation Control Act was passed in 1978.  
23 The West Valley Demonstration Project Act in 1980. The  
24 original Low-Level Waste Policy Act was passed in 1980.

25           And then a very significant set of amendments were

1 passed in 1985. Those are the three acts that will define the  
2 programs we will be discussing. I'd like to point out my use  
3 of terminology here, just for clarification. I'm referring to  
4 our Low-Level Waste Program as the commercial Low-Level Waste  
5 Program. That terminology is specifically to distinguish it  
6 from the Department's low-level waste activities with regard to  
7 the low-level waste it generates, manages and disposes of at  
8 its own sites. This program is dealing with the commercial  
9 disposal of waste that is not generated by the Department.

10 Next slide, please.

11 The first project I'd like to discuss is the Uranium  
12 Mill Tailings Project. The authority, as mentioned, is the  
13 public law. The peculiarity of this particular authorization  
14 is that it's limited. The original law provided a 7-year  
15 period for the Department to carry out its responsibilities, as  
16 defined as beginning when the Environmental Protection Agency  
17 promulgated standards for the program. Those standards were  
18 promulgated in 1983, and as a result, our current authorization  
19 expires in 1990. That is a particular problem. We already  
20 have defined the need for an extension to that time period.  
21 And before Congress right now, is legislation to extend the  
22 project through 1994.

23 The objectives of the project are to stabilize 24  
24 designated uranium mill tailings sites, principally in the  
25 West. And in addition, some four to 6,000 individual

1 properties that are contaminated with material from those sites  
2 in the vicinity of those 24 locations. Next slide, please.

3 The law defines a number of parties who have a role  
4 in this program. There is a great deal of interaction required  
5 in carrying this project out. First of all, EPA, as I  
6 mentioned, was given the responsibility to establish standards,  
7 which they did in 1983. However, in September of 1985, upon  
8 appeal, the Tenth Circuit Court remanded the groundwater  
9 portion of those standards back to EPA for revision. That has  
10 caused us and the Commission in carrying out this activity a  
11 great deal of extra work and concern. And I'll touch again on  
12 that later.

13 The NRC has, of course, specific responsibilities,  
14 I'll get into those in more detail. Summarizing the key  
15 activities are the approval of the remedial action to be  
16 carried out and the ultimate licensing of the disposal sites.  
17 Department of Interior has their general responsibility for  
18 Indian Affairs and four of our sites are located on Indian  
19 lands. And in addition, four sites that are on public lands  
20 which we wish to use ultimately for disposal. The individual  
21 states have specific responsibilities with regard to land  
22 acquisition and they also approve the remedial action.

23 Indian tribes are also directly involved and get to  
24 approve actions planned on their sites. Next slide, please.

25 CHAIRMAN ZECH: Are you going to discuss the burden

1 on the clean-up of these sites that may be caused by this EPA  
2 proposed groundwater?

3 MR. BAUBLITZ: Yes sir, I will. It has complicated  
4 things significantly in terms of both the immediate design work  
5 for disposal cells and planning for restoration of contaminated  
6 groundwater. The revised standards, and they're promulgated  
7 now in draft form, cover both of those activities. And in both  
8 case, they are the cause of some concern. In our comments to  
9 EPA of last fall on the proposed standards, we pointed out that  
10 we believe the groundwater restoration requirements in the  
11 draft standards would create the need for clean-up over a  
12 period of many decades at a cost that could approach a billion  
13 dollars.

14 In the case of the impact of the standards on the  
15 disposal cell designs, we pointed out our belief that as the  
16 standards are currently written, we could not achieve  
17 compliance with the standard and would have to rely on many, if  
18 not most sites, on the provisions for altering the  
19 concentration limits to meet those requirements. So we have  
20 serious concerns. We have been actively involved with your  
21 staff over the last several months, trying to reach an  
22 agreement on approaches to take with current designs for sites  
23 that we're currently working on and trying to get started on,  
24 to accommodate those requirements. And it's been difficult.  
25 But we are making progress.

1           CHAIRMAN ZECH: Are you working with EPA also? And  
2 are they aware of your concerns?

3           MR. BAUBLITZ: They're very aware of our concerns.  
4 As I mentioned, we did submit extensive formal comments on the  
5 draft standards. We are continuing to develop data, as we get  
6 more information on the sites. And we plan to send additional  
7 information to them over the next several months. Our current  
8 understanding is their final standards will probably not be  
9 promulgated until at least next spring. Perhaps into the  
10 summer. So we feel there is additional time available to have  
11 further dialogue with them.

12           CHAIRMAN ZECH: All right. Thank you.

13           MR. BAUBLITZ: The implementation of the project is  
14 assigned by the DOE to its Albuquerque operations office. The  
15 provisions of the law provide for sharing of costs: 90% by the  
16 Department and 10% by the host state. Our schedule is for  
17 completion of remedial actions in 1993. As you can see, our  
18 current schedule already assumes that the extension now before  
19 Congress will be approved. And I mentioned specifically that  
20 the authorization extension is required.

21           Next slide, please.

22           COMMISSIONER ROBERTS: Do you foresee any difficulty  
23 in getting the extension?

24           MR. BAUBLITZ: Anything that requires Congressional  
25 action is certainly a problem, from my point of view. We have

1       been active with the staff of key Congressman and Senators and  
2       key committees and we have some verbal assurances from the  
3       staff that they believe that it will get taken care of. But I  
4       have concerns.

5               COMMISSIONER CARR: I understood you to say that you  
6       had requested an extension to 1994.

7               MR. BAUBLITZ: That's correct. We are planning our  
8       project to complete all of the remedial actions by 1993. That  
9       leaves a year for the final certification and licensing that  
10      needs to take place between the Department and NRC before the  
11      authorization expires.

12              The current slides shows a simple picture of the USA  
13      showing the location of these sites. As you can see, they're  
14      clearly concentrated in the mountainous areas of the West,  
15      where the uranium belts are. With one outlier in Canonsburg,  
16      Pennsylvania that was essentially a special case that was added  
17      to the Act for special reasons. Next slide, please.

18              I'm now going to show three photographs that are not  
19      in the hard copy package because of the poor reproduction of  
20      the photographs, to give you a little sense of the scale and  
21      the type of work that Uranium Mill Tailing Project involves.  
22      I'm going to show you some photographs of the site in Durango,  
23      Colorado, which is currently under remedial action. The first  
24      photo shows the site. It contains about one and a half million  
25      tons of tailings, located in two distinct piles. The smaller

1 one is there, the larger one is over here. I'm sort of drawing  
2 a circle around the larger pile to give you a feel for it.

3 The old mill site was down here. There's the old  
4 stack from the mill site operation. The Animas River runs by  
5 the site and the city of Durango is directly across the river,  
6 just on the other side, so we're quite close to that area. The  
7 proposed plan for the remedial action on this pile, or this  
8 pair of piles, is to remove both of these piles from this  
9 location and relocate them approximately a mile away, back this  
10 direction, to a canyon site that has been acquired by the state  
11 for this purpose, on the other side of the mountain. Next  
12 slide, please.

13 I'm going to show you next, another aerial taken a  
14 little closer to the location, of work currently in progress.  
15 Now this, as I say, is a little closer. The river is just  
16 beyond the vision of the graph over here and here. This is the  
17 larger pile, and you can see, work has been started here by  
18 simple bulldozing of material off the edge of the pile down to  
19 a collection area here, where it's being loaded onto large  
20 double-trailer trucks for transport up to the disposal site.  
21 It's simply bulldozed down and then backhoed, loaded into these  
22 trucks. And they go up an access road in this direction. On  
23 the return cycle, they come back down here, and here's one  
24 coming around for the reload.

25 You can see here a water collection basin. All run-

1 off after remedial action started is collected, sampled, and if  
2 needed, treated before discharge. Next slide, please. The  
3 final photograph here will show the disposal site. This is a  
4 shot from directly overhead, looking down on this canyon, which  
5 is being prepared for a disposal site. The haul road from the  
6 main site is coming down this way. You can just sort of make  
7 out some trucks coming down there. The haul road comes up this  
8 way. This area is the tailings being deposited. Trucks dump  
9 the tailings there and proceed back down along the road here.  
10 There's a wash station there where the tailings that they've  
11 picked up and dumping, moving across the pile are cleaned off.

12 The rest of this activity here is stockpiles of  
13 material to be used for eventual cover and staging areas for  
14 the trucks and the work. Once the material is dumped, it's  
15 simply processed with earthmoving equipment for compaction and  
16 so forth. Until the total amount, we estimate a total of two  
17 million tons of material will be disposed of, covered with an  
18 engineered cover and then be finished, meeting the design  
19 requirements of approximately 1,000 year life. Next slide,  
20 please.

21 COMMISSIONER ROBERTS: It's hard to tell from these  
22 photographs. But isn't that a comparatively small pile?

23 MR. BAUBLITZ: It's about average for this program.  
24 The 24 sites that we are responsible for in this program are  
25 old sites. They're sites that all ceased operation prior to

1 1978. The total amount of material that we're going to be  
2 handling is about 25 million tons. By comparison, there is a  
3 single, commercial site, currently active licensed site in New  
4 Mexico that has about the same amount of material on it by  
5 itself.

6 COMMISSIONER ROBERTS: You know what an engineer at  
7 Los Alamos told me several years ago? He said there's no  
8 problem with mill tailings. You just incinerate the pile at  
9 1,800 degrees Fahrenheit. Can you imagine that? In situ. And  
10 this person meant it! (laughter)

11 MR. BAUBLITZ: There are proposals for doing that  
12 kind of thing with buried waste. These I think would be  
13 clearly, much too large. And I think that would be overkill.  
14 That kind of stabilization wouldn't make any sense.

15 COMMISSIONER CARR: Are you going to fill up that  
16 entire canyon?

17 MR. BAUBLITZ: We won't fill it.

18 COMMISSIONER CARR: How do you take care of the fact  
19 that it was created by a wash probably.

20 MR. BAUBLITZ: Well, I can't comment specifically.  
21 But that kind of question is very pertinent to the acceptance  
22 of the site and the acceptance of the design of the pile in the  
23 site. Each of these sites, for example, is analyzed from the  
24 point of view of a PMF event. And the cover and the design are  
25 designed to accommodate very severe rain and flood conditions.

1 The design, the standards, which are design standards, require  
2 us to design for a life of 1,000 years, if practicable, and for  
3 at least 200 years. And unfortunately, in the case of rainfall  
4 events, the technology I'm told doesn't provide much in between  
5 100 years for dams and PMF. So, we typically design for PMF  
6 and back off only if there is some specific justification that  
7 can be made. Next slide, please.

8 I'm going to now summarize the requirements in Public  
9 Law 95-604 that define the requirements, the role of the NRC.  
10 I've summarized the key ones in this short list. You can see,  
11 there are five specific items that require specific  
12 concurrence. Cooperative agreements, which we have with each  
13 state and Indian tribe. Site acquisition, which is the  
14 responsibility of the state for the processing sites themselves  
15 and any disposal sites that are required separately. The most  
16 important is certainly the one for concurrence on the remedial  
17 action, which is carried out. Site certification, at the  
18 completion of the action. And then the long-term maintenance  
19 and surveillance plans, which tie in then directly to the final  
20 licensing of the disposal site.

21 Those activities, being formal concurrences, of  
22 course, all then connect directly into our project time life.  
23 So it's a critical activity, both in the sense of the need to  
24 do it, but also the timeliness of it for the schedule. Next  
25 slide, please.

1                   CHAIRMAN ZECH: Has DOE entered into agreements with  
2 the affected Indian tribes?

3                   MR. BAUBLITZ: Yes, sir.

4                   CHAIRMAN ZECH: On the remedial actions, did long-  
5 term care of the uranium mill tailing sites that are on Indian  
6 land, have you?

7                   MR. BAUBLITZ: We do that on an individual site  
8 basis. We have an agreement with the Navajo Nation, for  
9 example. And we have completed the first site on Navajo lands  
10 at Shiprock, New Mexico. And the DOE will be responsible in  
11 perpetuity for the maintenance and surveillance of that site.  
12 However, it will not, it will remain Indian land, officially.  
13 Indian lands always remain Indian lands unless there is some  
14 other special arrangement. But that has been handled through  
15 the cooperative agreement.

16                   CHAIRMAN ZECH: Are you satisfied that that's a  
17 working arrangement?

18                   MR. BAUBLITZ: Yes.

19                   CHAIRMAN ZECH: Have you been able to complete the  
20 acquisition of all the Title 1 sites?

21                   MR. BAUBLITZ: We are doing those as the schedule  
22 requires. And they are proceeding as needed. I'm hedging a  
23 little bit because there are problems as we go down the line.  
24 The states have to deal with the current owners. The current  
25 owners in some cases feel they should be reimbursed more

1       liberally than the states believe and we agree with. And so  
2       there are litigations. In some cases, mostly it's a matter of  
3       settlement. Condemnation proceedings are required in some  
4       cases. So.

5               CHAIRMAN ZECH: So you're continuing to work on the  
6       acquisition.

7               MR. BAUBLITZ: Yes. It's an ongoing part of the  
8       activity, sir.

9               CHAIRMAN ZECH: All right. Thank you.

10              MR. BAUBLITZ: This slide describes the beginning at  
11       least, of a description of the memorandum of understanding  
12       which has been executed between DOE and NRC. Its purpose, of  
13       course, is to provide for the mutual responsibilities we have,  
14       under Title 1, recognizing that there are clear and specific  
15       responsibilities for each agency, attempt to make those clearly  
16       understood and avoid unnecessary duplication. And of course,  
17       recognizing the statutory deadlines associated with this  
18       program, to try to provide for expeditious review and  
19       concurrence on the milestones. Next slide, please.

20              The contents of the MOU include the things you'd  
21       expect, first in identification of responsible organizational  
22       units. In the case of NRC, the division of low-level waste  
23       management and decommissioning.

24              In the Office of Nuclear Material Safety and  
25       Safeguards, assisted for specific sites by the Uranium Recovery

1 Field Office, is a responsible group.

2 On our side, I mentioned the Albuquerque Operations  
3 Offices, the location of our UMTRA project office, and they  
4 have the day to day management responsibilities.

5 There is close interaction between those two groups,  
6 I would point out. There is a regular weekly phone call, for  
7 example, to review where things are, what is being done by  
8 whom, and what the expectations are, and frequent meetings to  
9 discuss specific things.

10 The MOU also lists specifically the NRC  
11 responsibilities in the public law and, by contrast with my  
12 short list of a few slides ago, there's about a page and a half  
13 of single-spaced typing that delineates all the various things  
14 that are specified in the law for NRC to do and be responsible  
15 for.

16 Then there's a 12 page appendix that contains review  
17 and concurrence procedures for all the activities that the  
18 Commission is responsible for carrying out.

19 And by way of illustration, there are some six  
20 specific documents that require review, comment, and/or  
21 concurrence by the Commission for each individual site.

22 Most of those come through in both a draft and a  
23 final form, so that's something on the order of ten documents  
24 per site.

25 In addition, there are another five or six documents

1       that are not site-specific, things like the memorandums of  
2       agreement with the individual states and tribes, other  
3       documents that are project-wide called the assurance documents,  
4       and that kind of thing.

5               So there are a large number of individual actions  
6       that go on and require review, comment, and in many cases,  
7       concurrence.

8               The procedures include target review times in great  
9       detail to try to blend this process into the overall project  
10      schedule.

11              And the procedures also cover both the processing  
12      sites and the vicinity properties. As I mentioned, there are  
13      some roughly 5,000 of these individual properties that have to  
14      be cleaned up.

15              We've succeeded in reaching agreement on a general  
16      approach that's defined in a separate document that was agreed  
17      to once and, as it's revised, it gets agreed to again, but that  
18      removes the necessity for NRC review and approval of individual  
19      actions on those 5,000 sites.

20              To summarize and further illustrate, the next two  
21      slides show sort of a snapshot of about a week ago, actions,  
22      documents that are currently before the Commission's, your  
23      staff, for review, comment, and/or concurrence.

24              Activities of one sort or another and in coordination  
25      or things that have been reviewed and commented on, activities

1 are in progress essentially for all sites.

2 But specifically, right now, there are preliminary  
3 designs for two sites here for review and comment. There are  
4 environmental documents for two sites here for review and  
5 comment.

6 There are remedial action plans or mods for five  
7 sites here for review, comment, and concurrence. Certification  
8 reports for two sites are here for concurrence and comment.

9 The next slide continues. There is a remedial action  
10 inspection plan for one site here for review, comment, and  
11 concurrence and there is a surveillance and maintenance plan  
12 for one site.

13 So, as I say, that's just intended to give you sort  
14 of a snapshot of the current pace and level of activities. I'd  
15 like to spend just a moment, returning briefly to the subject  
16 we mentioned before, the groundwater standards.

17 That is a cause of significant concern to us mutually  
18 because of the nature of the change in the ground rules that  
19 occurred at this point in time.

20 As I mentioned, it has implications for the long term  
21 groundwater restoration problem. We feel less concerned about  
22 that because we, and I believe your staff, have agreed that can  
23 be separated from the current remedial actions and we are  
24 proceeding along those lines.

25 The disposal cell design, however, there are specific

1        implications of the new standards as I mentioned which we feel,  
2        as they are written, may be possible to achieve without  
3        approval of specific alternate concentration limits for  
4        essentially every site.

5                And that is a difficult situation, is requiring a lot  
6        of time, additional time, extra time on the part of your staff  
7        and our own people, to move ahead in this situation.

8                The last slide on UMTRA, which won't show up on the  
9        screen very well but you can see in the hard copy, is our  
10       overall project schedule.

11               It is much too detailed. I have no intention to try  
12       to go over this in detail, but I wanted to point out a few  
13       specific things.

14               First of all, the scope of the project, the bottom  
15       line, you can see the annual budgets and the grand total of the  
16       DOE dollars for the program. It's about \$925 million.

17               In addition, the states' share is about another \$60  
18       million. The base project as it now exists is about a \$1  
19       billion project.

20               The current funding levels are about \$116 million and  
21       we're proceeding on the basis of \$100 million per year,  
22       roughly, for a period of about six years.

23               We're right in the middle of the peak of the  
24       activity. NRC's role tends to peak just before we begin  
25       remedial action.

1           The final approval of the remedial action plan and a  
2   lot of other documentation takes place during the roughly year  
3   or so leading up to starting remedial action.

4           And if you look at the shaded bars that designate  
5   remedial action you can see we have a lot of remedial action  
6   starts this year and in the next three years.

7           We are right at the beginning of what will be a  
8   several year period of peak activity in the moving ahead with  
9   this project.

10          So this is the time and the next several years will  
11   be the most demanding for your staff in support of this  
12   project.

13          CHAIRMAN ZECH: Looking at that chart, can you tell  
14   me, in your estimation, in what timeframe the first few sites  
15   will be ready for licensing for long term custody?

16          MR. BAUBLITZ: Sure. The very -- the first site  
17   listed as Canonsburg site, the remedial action there was  
18   completed in fiscal 1986. That site has now -- is one of those  
19   I refer to without doing it by name, for which we have the  
20   certification report here for final review and concurrence.

21          That's the first one that came up, of course, for  
22   certification approval and our experience, not surprisingly,  
23   has been throughout the project that the first of a kind of  
24   review, approval, and concurrence tends to take longer.

25          We've been cutting our teeth on Canonsburg throughout

1 the life of the project. We certainly hope that in subsequent  
2 sites the final certification process will not take so long.

3 And as I mentioned in response to an earlier  
4 question, we've deliberately allowed about a year at the tail  
5 end of the schedule to cover final certification and licensing  
6 activities.

7 The next slide, please. Moving ahead now to the West  
8 Valley demonstration project, this project, as the Chairman  
9 pointed out initially, results from a commercial fuel  
10 reprocessing plant located in New York State, shut down in  
11 1972, with about 600,000 gallons of high-level waste in  
12 underground storage.

13 The company, I think, decided it did not want to  
14 remain in the business and the site reverted to the State of  
15 New York.

16 In 1980, the West Valley demonstration project doc  
17 was passed, assigning the Department of Energy the  
18 responsibility for setting up a demonstration project to  
19 solidify that high-level waste.

20 The next slide lists the objectives for the project  
21 as specified in the act. First, to solidify the high-level  
22 waste in a form suitable for transportation and disposal.

23 In parallel, to develop containers suitable for that  
24 disposal. Then to transport the waste to a Federal repository  
25 for permanent disposal.

1           To dispose of low-level and transuranic waste that's  
2 produced in the solidification process and also, finally, to  
3 decontaminate and decommissioning the facilities that are used  
4 in the solidification projects.

5           The next slide will show our schedule. The project  
6 has been divided broadly into two phases. The first phase is  
7 the solidification phase. The second phase is the  
8 decontamination and decommissioning phase.

9           Phase I is to be completed by the middle of 1994.  
10 Phase II is roughly estimated to be completed in 2010. That  
11 part of the project has not been well scoped and precisely  
12 defined and the ultimate end is somewhat tied, at the present  
13 at least, to the availability of the repository.

14           It seems likely that the D&D can be completed faster  
15 than that and, if in fact the Department can discover some way  
16 to store the high-level waste somewhere other than West Valley,  
17 we may be able to terminate the project earlier than that, but  
18 that's uncertain at this time.

19           The implementation, again, the Department has a  
20 project office assigned locally in West Valley and, again, we  
21 have a cost-sharing situation with the state where we pay 90  
22 percent and the state pays 10 percent of the cost.

23           The next slide is a pictorial representation of the  
24 site, very simplified to provide an easy way to define the  
25 various pieces that are at the site.

1           It's an over 3,000 acre site. Specific parts of this  
2 site have been turned over by the State of New York to the  
3 Department for carrying out this project.

4           The project focuses on the processing plant and the  
5 high-level waste tanks. The one tank that's shaded is where  
6 the 600,000 gallons of high-level waste are currently stored.

7           We are going to use the processing plant for the  
8 solidification process. In addition to those two pieces which  
9 are clearly part of our project, there are also two disposal  
10 areas that are at the site that are not part of the  
11 demonstration project.

12           There is a low-level waste site that was a  
13 commercially operated low-level waste site that is the  
14 responsibility of New York State that is on the reservation,  
15 and there is a disposal area that was licensed by the  
16 Commission for disposal of waste from the plant when it was  
17 operating for fuel reprocessing, and that is still there.

18           Neither of those two disposal areas are part of the  
19 demonstration project. The waste that was disposed of in the  
20 commercial license site during fuel processing is not part of  
21 the project.

22           The next slide is a photograph, again, not that we  
23 produced on your package, but I'll just use it quickly to  
24 describe the various parts of the site.

25           The main process buildings are located centrally

1 right here. The tank farm where the very tanks are located  
2 with the waste are down in this region.

3 The New York State low-level waste site is the green  
4 area up here, and the licensed, formerly licensed, the license  
5 has been -- what's the term -- suspended for the life of the  
6 project, is located right here.

7 The administration area building is over here. The  
8 low-level waste that has been generated by the decontamination  
9 of facilities in the processing plant that will be used are  
10 being stored in some temporary buildings here and here.

11 And then up here is a facility that is called a drum  
12 cell where drums of the low-level waste that are being produced  
13 by the processing of the supernatant from the high-level waste  
14 tanks, the solidified waste is being placed in this area for  
15 storage until permanent disposal is provided.

16 Next slide. Here I'm going to take a second and,  
17 again, I think it will show up better on the hard copy than on  
18 the video, a simplified schematic of the processes that will be  
19 used to handle the waste at West Valley.

20 Above the line, so to speak, is the low-level waste  
21 processing cycle. It starts with the supernatant from the  
22 high-level waste tanks being processed through zeolite ion  
23 exchangers to remove cesium.

24 The liquid that passes through the exchangers then  
25 goes through a waste treatment process that includes

1 evaporation and then solidification in a cement form in a 70-  
2 odd gallon square drum, and then they go for storage in the  
3 drum cell I pointed out in the photograph, and ultimately to a  
4 low-level waste disposal which may or may not be on site,  
5 depending on the outcome of the environmental review.

6 The remainder of the high-level waste in the sludge  
7 form. That will be combined with the zeolite from the  
8 supernatant treatment process. Combined, as a matter of fact,  
9 back in the original tank.

10 The sludge and zeolite then will be mobilized from  
11 that tank and pumped into the vitrification process. The  
12 slurry ceramic melter is used, or will be used, for the  
13 vitrification into silica glass logs.

14 Those will then be stored on-site or somewhere else,  
15 if possible, until they can be transported for final disposal  
16 at the repository.

17 Next slide.

18 CHAIRMAN ZECH: You worked with our staff on this  
19 process, I presume?

20 MR. BAUBLITZ: Yes, sir.

21 CHAIRMAN ZECH: And have they indicated that they  
22 concurred in this approach?

23 MR. BAUBLITZ: Yes, although I hesitate to use concur  
24 because the provisions are not for formal concurrence. In  
25 fact, I'll go into a little more detail later on, but we have

1 worked, I think, very closely with your staff and I think our  
2 approach is that all NRC comments will be resolved.

3 If we want to call that concurrence or not  
4 concurrence, I don't think it matters. We definitely want and  
5 need approval from your staff for the technical approaches to  
6 be taken.

7 CHAIRMAN ZECH: All right.

8 MR. BAUBLITZ: This, again, is a photograph that's  
9 not reproduced in the handout. It simply shows the heart of  
10 the process, the vitrification process.

11 This is the slurry ceramic melter. This box, in  
12 fact, the melter itself. Underneath, there is a turntable that  
13 has three locations for canisters and the pour from the melt,  
14 the melted glass pour, is discharged into a canister and then  
15 the turntable is rotated and, as you can see, with a non-  
16 radioactive test canister here.

17 That is then removed, of course, remotely in a  
18 radioactive case while others are being poured and cooled, and  
19 that's the simple way the process works.

20 Next slide. Again, I've summarized the NRC role per  
21 the public law, in this case 96-368. The NRC to provide a  
22 review and consultation on the Department's plans for the high-  
23 level waste removal, solidification and preparation for  
24 disposal.

25 Our plans for the decontamination of facilities used

1 for the solidification. Also on the high-level waste form  
2 itself and the containers to be used for the disposal.

3 And then, in addition, safety analysis reports and  
4 any other information developed related to potential hazards to  
5 public health and safety.

6 COMMISSIONER CARR: Have you settled on the high-  
7 level waste form yet?

8 MR. BAUBLITZ: Yes. There are still discussions  
9 about specifics regarding the form, but it is a borasilicated  
10 glass form.

11 COMMISSIONER CARR: You think stability is all right  
12 then?

13 MR. BAUBLITZ: Yes. The next slide continues. The  
14 NRC is to have access to the site to monitor the DOE's  
15 activities.

16 And finally, the Commission prescribes requirements  
17 for decontamination and decommissioning of the site in Phase  
18 II. The next slide.

19 We also have a memorandum of understanding between  
20 the Department and the Commission for the West Valley project  
21 to provide the procedures for this review and consultation  
22 role.

23 The next slide lists the contents of the MOU. Again,  
24 the responsibilities are defined. Again, it's, in the NRC  
25 case, the Office of Nuclear Materials Safety and Safeguards.

1                   However, three different divisions are involved. The  
2                   NRC project manager and the lead is given to the Division of  
3                   Medical and Industrial Safety.

4                   The high-level waste management division, of course,  
5                   has the key role in reviewing the waste form and the low-level  
6                   waste management and decommissioning division, naturally  
7                   enough, has the lead on activities regarding low-level waste  
8                   management and decommissioning.

9                   Region I has a role in the routine surveillance of  
10                  operations and they visit frequently. Our responsibility, as I  
11                  mentioned, are vested with the project office in West Valley.

12                  The MOU lays out the responsibilities of the parties  
13                  and also provides guidelines for NRC in the consultation  
14                  comment.

15                  The next slide gives a summary of current and near-  
16                  term activities that are taking place between DOE and NRC with  
17                  regard to the project.

18                  The integrated radwaste treatment system, that's the  
19                  low-level waste stream that was above the line in the pictorial  
20                  I showed a few minutes ago.

21                  There, the Commission's staff is provided periodic  
22                  quality reviews and has been undergoing reviews of long-term  
23                  cement performance.

24                  That system began operation about a week ago and we  
25                  are now in production on that line. In the low-level waste

1 disposal area, the staff is evaluating our approach for the  
2 disposal of TRU and, of course, is developing -- well, will be  
3 approving the criteria for closure of the project.

4 The next slide continues. There will be a safety  
5 report prepared by the Department and then the NRC is planning  
6 a safety evaluation report on the sludge mobilization system  
7 prior to hot operations.

8 Similarly, a safety evaluation report will be  
9 prepared prior to hot operations for the vitrification system  
10 and there will be consultations, as we mentioned, on the final  
11 waste form.

12 In general, the routine safety security and quality  
13 assurance reviews and operating reviews, as I mentioned, are  
14 being carried out by the Region I staff.

15 The next slide, again, is a rather busy detail of the  
16 overall summary schedule and, again, I don't plan to go over  
17 this in detail, but want to use it to illustrate the key points  
18 in time where the NRC staff's role will be maximized.

19 The final milestones on this chart are the  
20 vitrification hot operations to be completed in 1994. Just  
21 prior to that during the cold operations period, will be the  
22 time when the final reviews and approvals occur for that high-  
23 level waste form, so that is a key time.

24 About midway down, there is the schedule for the  
25 waste qualification report for the high-level waste form and

1       there is the DOE-NRC review and approval shown there.

2               And then in the sludge processing, which is the  
3       bottom series of bars, the waste preparation phase preceding  
4       the sludge wash initiation, it's during that period of time  
5       that the Commission will be approving the sludge processing.

6               So those activities will be occurring in the 1991 and  
7       '92 time period and, as you will remember, that period is also  
8       a time when some of the peaking will still be occurring on the  
9       UMTRA project. So those are very busy times.

10              COMMISSIONER CARR: How about explaining your legend  
11       there to me. What do you mean when you say schedule  
12       constrained?

13              MR. BAUBLITZ: The difference is the schedule  
14       constrained is essentially a depiction of the critical path  
15       where that activity is connected directly to some other  
16       activity.

17              So that slippage in a constrained area causes  
18       problems. Slippage in an unconstrained area is less of a  
19       concern.

20              COMMISSIONER CARR: And what about the critical  
21       activity, what does that mean?

22              MR. BAUBLITZ: That just means -- those are the  
23       activities that, from a technical and programmatic point of  
24       view, are the most significant. Vitrification, hot ops, is  
25       probably the best illustration.

1                   COMMISSIONER CARR: And the arrows, what are -- you  
2                   said you had already started the processing of the supernatant.  
3                   Does that just mean it continues on, where that arrow is?

4                   MR. BAUBLITZ: Yes. The next slide will begin the  
5                   discussion of the low-level waste program. As I said, we're  
6                   calling it commercial to distinguish it from DOE's programs for  
7                   management and disposal of its own low-level waste.

8                   Our role in this program is to facilitate the  
9                   establishment of an effective national system with the states,  
10                  as you know, having the lead for establishing low-level waste  
11                  capacity.

12                  The two pieces of legislation we mentioned before  
13                  that establish the DOE's role as well as the NRC's. The next  
14                  slide lists the objectives of this program for the Department.

15                  We are to provide principally technical assistance to  
16                  the states and regions in developing new capacity. We have  
17                  very specifically assigned administrative and reporting  
18                  responsibilities, especially under the Amendments Act.

19                  And also provided by the Amendments Act, the  
20                  Department is responsible for disposal of non-DOE greater than  
21                  Class C low-level waste.

22                  And again, the non-DOE is simply in there to  
23                  distinguish the responsibility to this program from the other  
24                  parts of DOE which are responsible for DOE's own waste.

25                  The next slide is a pictorial representation of the

1 status of the regional compacting process. There are eight  
2 approved compacts currently.

3 One compact is proposed, and shown in cross-hatched,  
4 there are nine states plus the District of Columbia and Puerto  
5 Rico, which are currently unaffiliated, some of which are  
6 moving actively toward providing disposal capacity for  
7 themselves.

8 Others are sort of waiting and seeing and perhaps  
9 will align themselves through contracts with other regions at  
10 some future time.

11 The next slide summarizes the DOE and NRC  
12 interactions on the low-level waste programs. In the greater  
13 than Class C area, the Department is responsible for disposing  
14 of greater than Class C waste and the act specifies that it  
15 should be disposed, or shall be disposed, in an NRC licensed  
16 facility.

17 The act provides for milestones for progress in the  
18 low-level waste area and one specific milestone, the next one  
19 as a matter of fact, in 1990, requires the states to submit  
20 applications for licensing to the Commission.

21 DOE's role for all the milestones is to make a  
22 decision and disburse rebates to the states and compacts,  
23 depending on their success in meeting the milestones.

24 In the case of the 1990 milestone, the decision is  
25 really based on NRC's judgment as to the suitability and

1 acceptability of the license application, so that we have a key  
2 interface there.

3 Separate from low-level waste policy act, but  
4 contained in the high-level waste act, the NWPA, so-called,  
5 there is a provision that has to do with low-level waste and  
6 the transfer of low-level waste sites to DOE for long term  
7 custody and care.

8 And NRC is responsible, in the cases of those  
9 proposed transfers, to determine if the conditions are proper  
10 for site closure and permanent custody by the DOE. So any  
11 process there would be done in close coordination.

12 CHAIRMAN ZECH: Just a comment here, if I may, kind  
13 of a related field. We've recently published a revision to 10  
14 CFR Part 61, for greater than Class C disposal, and we'll be  
15 interested in having your comments on that proposed rule.

16 I don't know if you've had a chance to look at that  
17 yet or not but --

18 MR. BAUBLITZ: Well, we have. I think in terms of  
19 the specifics for greater than Class C, the rule states a, I  
20 guess you could term it as a preference for disposal in a high-  
21 level waste repository, unless an alternate is demonstrated to  
22 be suitable.

23 And my own judgment at least on that, at this point,  
24 is that that doesn't change things dramatically from our point  
25 of view.

1           I see that's still our responsibility to decide what  
2 we think is best. If we conclude that the repository disposal  
3 is best, and by best I mean from all kinds of considerations  
4 including economic, then that's what we should propose.

5           If we conclude that some alternate could better  
6 achieve satisfactory disposal more economically or more easily  
7 somehow, then we should develop something to propose for the  
8 Commission's approval.

9           CHAIRMAN ZECH: We'd appreciate your comments when  
10 you can finalize them.

11          MR. BAUBLITZ: Yes, sir.

12          CHAIRMAN ZECH: All right. Thank you.

13          MR. BAUBLITZ: Other areas of interaction on the low-  
14 level waste program include some specifics. We have in  
15 progress the preparation of prototype license applications for  
16 two technologies that are being considered by the states.

17          We hope to have those prototype applications finished  
18 early next year and submit those to the Commission for review  
19 and comment.

20          This process, we hope, will be directly helpful to  
21 the states and the regions in the preparation of their  
22 milestone for their license application to meet the next  
23 milestone.

24          In addition, there is an informal but important  
25 series of coordinations that go on continually. There is a

1 low-level waste form and separately a technical coordinating  
2 committee that bring together states, regions, and the Federal  
3 Government which are sponsored by DOE but which the Commission  
4 staff have a strong role and participation in.

5 And then finally, I have, again, a schedule chart to  
6 show the timescales at which things are happening. This is a  
7 generic plan that the Department has developed to show how the  
8 states might proceed to meet the milestones.

9 And the 1990 milestone, as we mentioned, is for  
10 submission of a license application and that will be the  
11 decision that we will be relying heavily on the Commission for.

12

13 And in addition, a prototype license application and  
14 review of those proceeding over the next year, roughly, we hope  
15 will be in time to be of helpful use to the states in meeting  
16 that milestone.

17 COMMISSIONER CARR: Do you expect all those license  
18 applications to come in at one time?

19 MR. BAUBLITZ: No. We expect, based on what we know  
20 now, that probably more states will miss that deadline in terms  
21 of an actual license application than will meet it.

22 The provisions of the law will allow the states to  
23 delay license application submission for several years if there  
24 is a certification by the Governor of the state that he accepts  
25 full responsibility for the provision of waste handling and

1 storage as required.

2 Based on the progress of things so far, it looks like  
3 many of the states will be following that route, but we hope at  
4 least several of the ones that are further along will meet the  
5 '90 deadline.

6 That concludes my presentation.

7 CHAIRMAN ZECH: Thank you very much. Are there any  
8 questions from my fellow Commissioners? Mr. Roberts?

9 COMMISSIONER ROBERTS: On the West Valley endeavor,  
10 where you've got a lot of high-level waste, do you coordinate  
11 with OCRA? You know what I mean by the acronym?

12 MR. BAUBLITZ: Yes, sir, I do.

13 COMMISSIONER ROBERTS: The Office of Civilian  
14 Whatever.

15 MR. BAUBLITZ: Reactive Waste Management. The high-  
16 level waste.

17 COMMISSIONER ROBERTS: All right.

18 MR. BAUBLITZ: We do extensively, particularly on the  
19 issue of high-level waste. There is sort of a three-way  
20 operation there, in a sense, with us and RW, as we call them,  
21 the high-level waste office, and the Commission staff.

22 Ultimately, the DOE, through that office, will be  
23 submitting an application for licensing of the repository,  
24 based on some source terms.

25 The West Valley waste will be a contributor to that

1 source term, so it's of interest to all parties that there is a  
2 good understanding of what the West Valley waste form is going  
3 to be like, and that there's a high probability that it will  
4 fit an ultimate scenario for licensing.

5 CHAIRMAN ZECH: Commissioner Carr?

6 COMMISSIONER CARR: Yes. You can probably answer a  
7 question for me. I went out and looked at the Quiviras site  
8 and then I went across the road and looked at your Ambrosia  
9 Lake.

10 MR. BAUBLITZ: Almost missed it, didn't you?

11 COMMISSIONER CARR: It's small, all right. I can't  
12 figure out. Don't you have enough leeway to save money by not  
13 doing all the things you're doing, as compared to what we're  
14 doing across the road?

15 MR. BAUBLITZ: It's a very good question. I conclude  
16 that we do not have that leeway.

17 The Department made what I would term vigorous  
18 comments on the EPA standards when they were first promulgated,  
19 from the point of view that they were probably more  
20 conservative than was necessary. Some of those comments were  
21 accommodated and some were not.

22 I think the standards probably are more conservative  
23 than they really need to be. I think, though, that it's a  
24 subject that is worthy of continued effort.

25 And I say this in the context of both from our point

1 of view as the implementors and from the Commission's point of  
2 view as the concuree, if that's the right term, given the fact  
3 that the cost of the program is exceeding everybody's original  
4 expectation by several factors, and given the fact that there  
5 are severe limits in terms of time and resources to get all  
6 this work done.

7 It seems to be in our best mutual interests to try to  
8 identify ways that we can, in fact, do less and still meet the  
9 general mandate of reasonable assurance of public health and  
10 safety.

11 COMMISSIONER CARR: And given the fact that the  
12 threat isn't all that strong.

13 MR. BAUBLITZ: If you look at the consequences of  
14 failure, which, you know, for a reactor system is a very  
15 serious thing, if you look at the consequences of failure of  
16 one of these designs several hundred years in the future, it's  
17 a non-event.

18 COMMISSIONER CARR: I've got to admit, I was  
19 surprised when I went out there and saw a guy pushing a pile of  
20 dirt with a bulldozer and not even wearing any kind of mask to  
21 keep from breathing it. I'm not sure just what we had in mind  
22 there.

23 MR. BAUBLITZ: The real problem, what really got this  
24 program started, in my opinion at least, is the fact that the  
25 tailings for many years were completely uncontrolled and were

1       misused.

2               As you well know, the 5 to 6,000 vicinity properties  
3 result principally from people carting the stuff off and using  
4 it around their houses and public buildings, et cetera, et  
5 cetera. In that setting, the radon levels inside structures  
6 can build up to levels that can clearly be hazardous to people  
7 over long periods of time.

8               What the standards set out to do, I believe, was to  
9 correct that problem and to put the tailings in a controlled  
10 situation to prevent further misuse, and I certainly believe  
11 that could be done much more simply and less expensively than  
12 we are doing it.

13              On the other hand, the standards exist, the law  
14 exists, and I think everybody's been doing the best they can  
15 with that circumstance. But, as I said, perhaps, facing some  
16 of the specific problems we currently have, it is a fair time  
17 to reevaluate and see if we can't change.

18              COMMISSIONER CARR: I guess I'd help if you want to  
19 support a change in the law.

20              MR. BAUBLITZ: We might entertain that, sir.

21              COMMISSIONER CARR: Okay. That's all I had.

22              CHAIRMAN ZECH: Commissioner Rogers?

23              COMMISSIONER ROGERS: Well, just coming back to that  
24 question of cost. How did the Canonsburg and Salt Lake City  
25 projects, as they stand now, come in with respect to cost and

1 budget?

2 MR. BAUBLITZ: Our experience on the over-all project  
3 and those projects, the first examples have been that our  
4 initial estimates were low by a factor of maybe two to three.  
5 What we discovered as we proceeded were a couple of things.

6 First of all, it takes much longer than we originally  
7 anticipated and much more effort in terms of design,  
8 alternatives, options, to reach agreement with the state and,  
9 to some extent, with the Commission, but more with the states.

10 We do an awful lot of preconceptual/conceptual design  
11 and studying of options and so forth. In addition, until you  
12 get a really good characterization of a site, we discovered  
13 that our estimating was very poor.

14 We found about two and a half years ago that our  
15 over-all project costs went up by \$300 million, roughly, as a  
16 result of our just for the first time really having good data  
17 on each of the sites and a good conceptual design that met the  
18 standards and the requirements that had by that time evolved in  
19 our interactions with the NRC staff, in terms of what the  
20 expectations and needs were.

21 COMMISSIONER ROGERS: What's the relevance of your  
22 decision on the final form of borasilicate glass to future  
23 thoughts? Is this a kind of ad hoc decision for this  
24 particular West Valley site or do you see it as having --

25 MR. BAUBLITZ: Well, the Department has, in the

1 defense waste area, high-level waste vitrification projects.  
2 There are actually a total of two others, one in Savannah River  
3 that's well along and one in Hanford that's starting, and in  
4 both of those cases, the same form has been selected.

5 Isn't that right, Joe?

6 MR. COLEMAN: Savannah River and West Valley are the  
7 same form.

8 COMMISSIONER ROGERS: Have you been considering  
9 synrock? Have you looked at that as an alternative? The  
10 Japanese seem to be putting a fair amount of effort into  
11 looking at that as a possibility, that it seems to have some  
12 superior points.

13 MR. BAUBLITZ: I'll ask Joe to respond to that, if he  
14 could.

15 MR. COLEMAN: The early work was done on the synrock  
16 approach, I believe, by Livermore Laboratories, when the  
17 defense program was considering different waste forms for  
18 Savannah River, solidification of the Savannah River high-level  
19 waste. Once that selection was made, then that work was  
20 abandoned.

21 The West Valley then selected the borasilicate glass,  
22 following on with Savannah River. The high-level waste is not  
23 exactly the same, but it is similar.

24 The Australians, of course, have been doing continued  
25 extensive work with synrock and, I believe, in coordination now

1 with the Japanese.

2 I'm not aware of exactly what will happen with the  
3 Hanford waste vitrification project, and what waste form they  
4 will select. That's in process, and I think the only  
5 opportunity that has been discussed, albeit in a very cursory  
6 fashion, is perhaps synrock might be considered some years down  
7 the road for the final waste form for the high-level waste at  
8 Idaho.

9 COMMISSIONER ROGERS: Thank you.

10 CHAIRMAN ZECH: Well, my questions have been answered  
11 during the briefing. On behalf of the Commission let me thank  
12 you, Mr. Baublitz, for an excellent presentation. You and your  
13 colleagues that are here, too.

14 I think, if I recall, this is the first briefing the  
15 Commission's had by DOE on this subject. And, because of our  
16 statutory requirements in the low-level waste program as well  
17 as the West Valley demonstration project and the uranium mill  
18 tailings program, this presentation was, in my view,  
19 particularly useful and very timely.

20 We need to be kept abreast on these activities. As  
21 you probably know, the Commission is considering amendments to  
22 10 CFR Part 40 for licensing and long-term care of the uranium  
23 mill tailings of sites, and today's briefing certainly should  
24 provide additional insights for us on this important subject.

25 It's occurred to me that perhaps it would useful for

1 the Commission to receive from the staff an information paper  
2 that would refer to our activities related to the West Valley  
3 demonstration project just to bring us up to date on that. I  
4 think that would be important that the staff do that for the  
5 Commission, specifically.

6 It's my understanding that our staff has and will  
7 continue to work closely with DOE and the states and compacts  
8 in implementing the low-level waste policy act, consistent with  
9 the Nuclear Regulatory Commission's responsibilities to protect  
10 the public health and safety and the environment.

11 The Commission certainly intends, with our staff, to  
12 continue to work closely with DOE and with other activities on  
13 these important areas. So, again, we thank you for an  
14 excellent presentation.

15 Do my colleagues have any final comments to make?  
16 Commissioner Carr?

17 COMMISSIONER CARR: I might comment on the things  
18 you've got sitting over here for us to work on. In case we  
19 can't get all our work done at the same time, do you prioritize  
20 that for us or do you tell our people which ones you want back  
21 first?

22 MR. BAUBLITZ: Well, I think we do in both specifics  
23 within a project and over-all. The activities on a day-to-day  
24 basis do vary, but I think the coordination is focused on  
25 trying to provide that kind of feedback so that there is an

1 understanding.

2 The nearest-term peaks, I think, clearly occur in  
3 UMTRA. There is an awful lot of important activity, though,  
4 also going on right now at West Valley. So, we do have to keep  
5 closely in touch on those things.

6 CHAIRMAN ZECH: Are there any other final comments?  
7 Commissioner Rogers?

8 COMMISSIONER ROGERS: Just, with respect to this cost  
9 situation, I would hope that our people would be alerted to any  
10 cost considerations that go beyond the original thinking with  
11 respect to NRC participation, so that we know where we stand  
12 with respect to our budgets for this kind of activity, where  
13 some rethinking has to take place on a budgetary basis, whether  
14 these original cost estimates that were very low will have more  
15 reality in the future, as you seem to have indicated that, as  
16 you learn how to go about this, that maybe the cost will come  
17 down.

18 I suppose what you're saying is that it will come  
19 closer to your original over-all cost estimates that are in  
20 this projected budget.

21 But, just so that we're alerted to where there has  
22 been maybe an underestimation of cost of NRC's participation,  
23 it would be very helpful.

24 CHAIRMAN ZECH: Let me just affirm that comment. We  
25 know we're working in many areas here in new fields and unique

1 fields in an area that we don't have tremendous experience in  
2 necessarily, and we appreciate the fact that estimates are  
3 simply that, just estimates.

4 But, it's important, as we look ahead, especially in  
5 such a long-range program, that we do make as realistic  
6 estimates as we can of our budget needs. So, I agree with  
7 Commissioner Rogers to ask you to please be mindful of that, as  
8 well as the programmatic issues, also.

9 MR. BAUBLITZ: We'll try to be as specific as we can  
10 in projecting time scales and needs in terms of NRC's  
11 participation. I can appreciate that.

12 CHAIRMAN ZECH: It will be also particularly helpful  
13 in that regard if you give us as much factual information and  
14 as much detail as you can so we can defend our budget in this  
15 rather unique, but very important, area.

16 MR. BAUBLITZ: Yes, sir. We'll be glad to do that.

17 CHAIRMAN ZECH: All right. Any other comments?

18 If not, thank you again for an excellent  
19 presentation. We stand adjourned.

20 [Whereupon, the briefing was adjourned at 11:10 a.m.]

21

22

23

24

25

CERTIFICATE OF TRANSCRIBER

This is to certify that the attached events  
of a meeting of the U.S. Nuclear Regulatory Commission  
entitled:

TITLE OF MEETING: DOE BRIEFING ON LLW PROGRAM, WEST VALLEY  
DEMONSTRATION PROJECT AND URANIUM MILL TAILINGS  
REMEDIAL ACTION PROGRAM  
PLACE OF MEETING: Washington, D.C.  
DATE OF MEETING: FRIDAY, JUNE 3, 1988

were transcribed by me. I further certify that said  
transcription is accurate and complete, to the best  
of my ability, and that the transcript is a true and  
accurate record of the foregoing events.

Ann Riley

Ann Riley & Associates, Ltd.

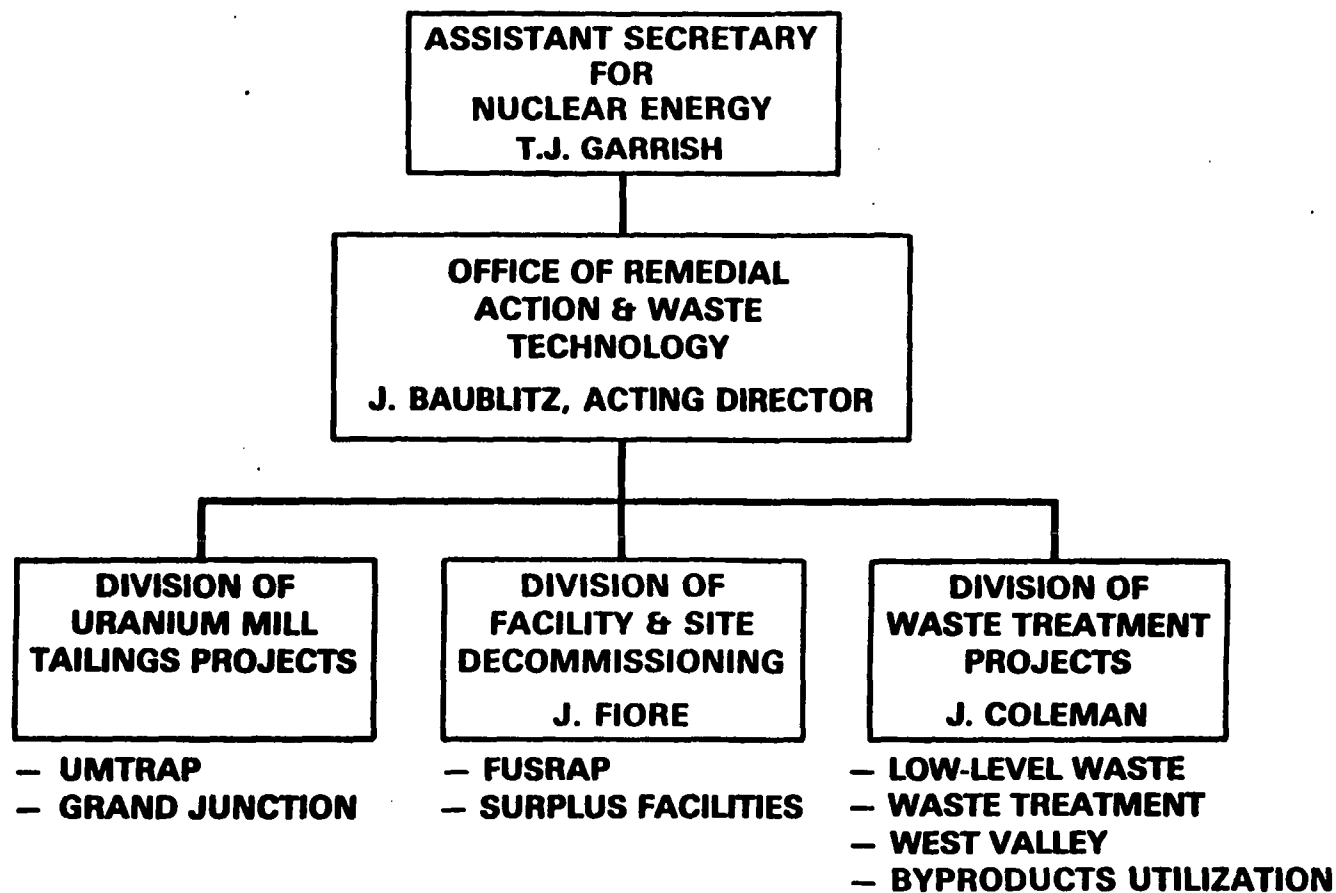
**DEPARTMENT OF ENERGY**

**REMEDIAL ACTION AND  
WASTE TECHNOLOGY PROGRAMS**

**BRIEFING FOR THE  
NUCLEAR REGULATORY COMMISSION**

**JUNE 3, 1988**

**JOHN E. BAUBLITZ**



**OFFICE OF REMEDIAL ACTION AND WASTE  
TECHNOLOGY  
STATUTORY AUTHORITY**

<b><u>PROGRAM ELEMENT</u></b>	<b><u>AUTHORITY</u></b>
<b>URANIUM MILL TAILINGS REMEDIAL ACTION PROGRAM</b>	<b>URANIUM MILL TAILINGS RADIATION CONTROL ACT, P.L. 95-604</b>
<b>WEST VALLEY DEMONSTRATION PROJECT</b>	<b>WEST VALLEY DEMONSTRATION PROJECT ACT, P.L. 96-368</b>
<b>COMMERCIAL LOW-LEVEL WASTE PROGRAM</b>	<b>LOW-LEVEL RADIOACTIVE WASTE POLICY ACT, P.L. 96-573, LLRWP AMENDMENTS ACT, P.L. 99-240</b>

**URANIUM MILL TAILINGS**  
**REMEDIAL ACTION (UMTRA) PROGRAM**

**AUTHORITY**

- o PUBLIC LAW 95-604; 7-YEAR AUTHORIZATION**

**OBJECTIVES**

- o STABILIZE 24 DESIGNATED URANIUM MILL TAILINGS SITES IN 9 WESTERN STATES AND ONE AT CANONSBURG, PENNSYLVANIA.**
- o CLEAN UP ESTIMATED 4,000-6,000 CONTAMINATED PROPERTIES IN VICINITY OF PROCESSING SITES.**

**URANIUM MILL TAILINGS**  
**REMEDIAL ACTION (UMTRA) PROGRAM**

**COORDINATION**

- o EPA - CRITERIA FOR CLEANUP AND DISPOSAL**
- o NRC - REMEDIAL ACTION, LICENSING**
- o DOI - INDIAN AFFAIRS, DISPOSAL ON PUBLIC LANDS**
- o STATES - LAND ACQUISITION, REMEDIAL ACTION**
- o INDIAN TRIBES - REMEDIAL ACTION**

**URANIUM MILL TAILINGS**  
**REMEDIAL ACTION (UMTRA) PROGRAM**

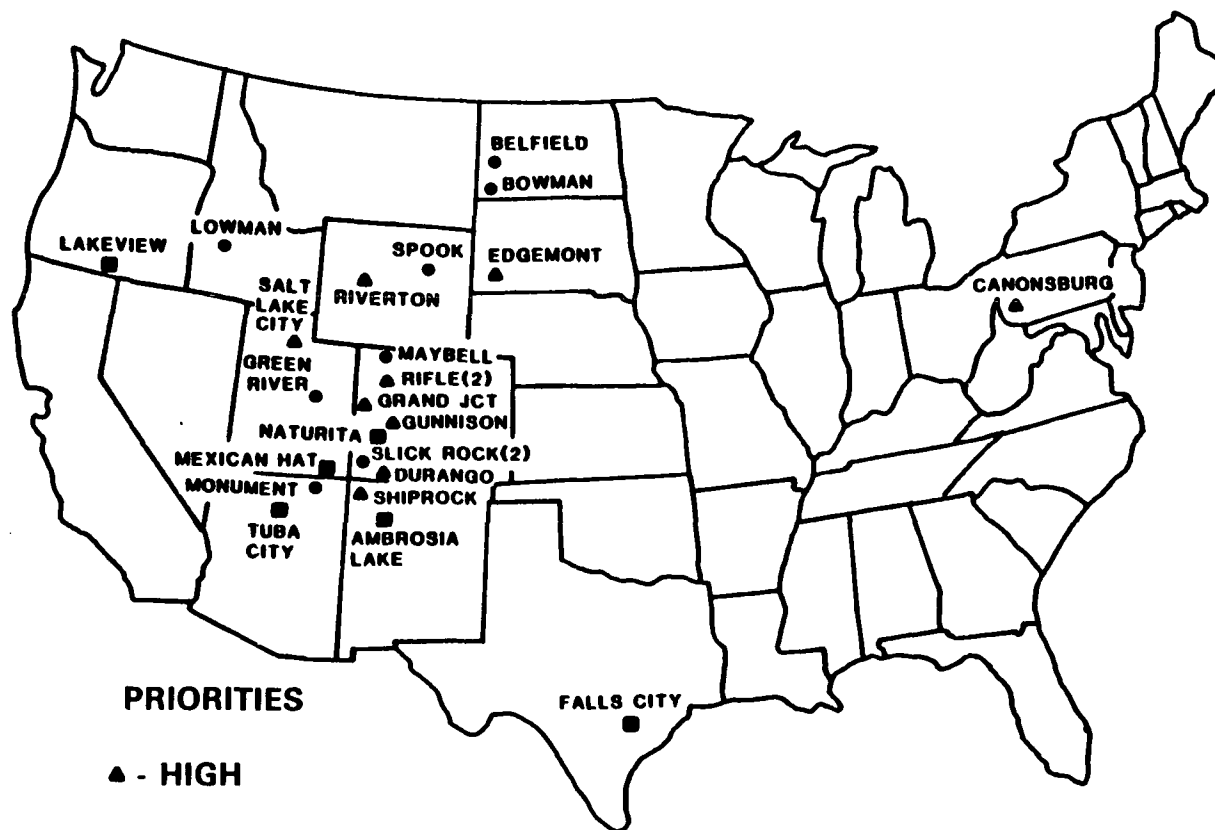
**IMPLEMENTATION**

- o ASSIGNED TO UMTRA PROJECT OFFICE AT  
ALBUQUERQUE OPERATIONS OFFICE, ALBUQUERQUE,  
NEW MEXICO**
- o COST SHARING: 90% DOE/10% STATE**

**SCHEDULE**

- o COMPLETE REMEDIAL ACTIONS IN 1993**
- o AUTHORIZATION EXTENSION REQUIRED**

# URANIUM MILL TAILINGS REMEDIAL ACTION PROJECT SITE LOCATIONS



## PRIORITIES

- ▲ - HIGH
- - MEDIUM
- - LOW

Note:  
EDGEMONT, SOUTH DAKOTA  
VICINITY PROPERTIES ONLY

## **NRC ROLE PER PUBLIC LAW 95-604**

- o CONCUR ON COOPERATIVE AGREEMENTS**
- o CONCUR ON SITE ACQUISITION**
- o CONCUR ON REMEDIAL ACTION**
- o CONCUR ON SITE CERTIFICATION**
- o CONCUR ON LONG-TERM SURVEILLANCE  
AND MAINTENANCE**
- o ISSUE LICENSE**

**DOE/NRC UMTRA**  
**MEMORANDUM OF UNDERSTANDING**

**PURPOSE**

- o EXECUTION OF STATUTORY RESPONSIBILITY UNDER  
TITLE I OF UMTRCA**
- o ELIMINATE DUPLICATION OF AGENCY EFFORTS**
- o EXPEDITE REVIEW AND CONCURRENCE ON UMTRA  
MILESTONES**

**DOE/NRC UMTRA**  
**MEMORANDUM OF UNDERSTANDING**

**CONTENTS**

- o NRC PROGRAM RESPONSIBILITY**
  - DIVISION OF LLW AND DECOMMISSIONING, NMSS**
  - URANIUM RECOVERY FIELD OFFICE, DENVER**
- o DOE PROGRAM RESPONSIBILITY**
  - UMTRA PROJECT OFFICE, ALBUQUERQUE**
- o NRC RESPONSIBILITIES PER P.L. 95-604**
- o REVIEW AND CONCURRENCE PROCEDURES**
  - SPECIFIC DOCUMENTS FOR  
REVIEW/COMMENT/CONCURRENCE**
  - TARGET REVIEW TIMES**
  - PROCESSING SITES**
  - VICINITY PROPERTIES**

### **DOE/NRC INTERACTIONS ON UMTRA**

- o REVIEW/COMMENT ON PRELIMINARY DESIGN - 2 SITES**
- o REVIEW/COMMENT ON NEPA DOCUMENTS - 2 SITES**
- o REVIEW/COMMENT AND CONCUR ON REMEDIAL ACTION PLANS OR MODIFICATIONS - 5 SITES**
- o REVIEW/COMMENT AND CONCUR ON CERTIFICATION REPORTS - 2 SITES**

**DOE/NRC INTERACTIONS ON UMTRA - CONTINUED**

- o REVIEW/COMMENT AND CONCUR ON REMEDIAL ACTION INSPECTION PLAN - 1 SITE**
- o REVIEW/COMMENT ON SURVEILLANCE AND MAINTENANCE PLAN - 1 SITE**
- o REVISED GROUND WATER STANDARDS**

# UMTRA PROJECT SCHEDULE

## (\$ IN MILLIONS)

PRIORITY	PROCESSING SITES		FY 1984				FY 1985				FY 1986				FY 1987				FY 1988				FY 1989				FY 1990				FY 1991				FY 1992				FY 1993				FY 1994				TEC
			10	20	30	40	10	20	30	40	10	20	30	40	10	20	30	40	10	20	30	40	10	20	30	40	10	20	30	40	10	20	30	40	10	20	30	40	10	20	30	40					
HIGH	CANONSBURG	PA																																										47.3			
	SALT LAKE CITY	UT																																										83.4			
	SHIPROCK	NM																																										23.5			
	DURANGO	CO																																										47.2			
	GUNNISON	CO																																										39.4			
	GRAND JUNCTION - PS	CO																																										105.1			
	GRAND JUNCTION - VP	CO																																										151.8			
	RIFLE - 2	CO																																										64.3			
	RIVERTON	WY																																										44.3			
MEDIUM	TUBA CITY	AZ																																										25.9			
	MEXICAN HAT	UT																																										33.6			
	LAKEVIEW	OR																																										25.6			
	AMBROSIA LAKE	NM																																										37.4			
	NATURITA	CO																																										26.0			
	FALLS CITY	TX																																										41.4			
LOW	GREEN RIVER	UT																																										16.7			
	SLICK ROCK - 2	CO																																										21.5			
	BELFIELD	ND																																										9.0			
	BOWMAN	ND																																										8.9			
	MAYBELL	CO																																										18.9			
	LOWMAN	ID																																										14.5			
	SPOOK	WY																																										10.0			
	MONUMENT VALLEY	AZ																																										22.7			
V.P. ONLY	EDGEMONT	SD																																										6.5			
ANNUAL BUDGET (FY79-83: 62.2)			27.7				60.9				91.4				116.0				111.3				116.0				116.0				116.0				93.5				12.2			1.7		924.9			

 PLANNING & DESIGN, NEPA  
 REMEDIAL ACTION  
 ENGINEERING

PS - PROCESSING SITE  
 VP - VICINITY PROPERTIES

(VP WORK INCLUDED IN PROCESSING SITES  
 EXCEPT FOR GRAND JUNCTION)

**WEST VALLEY**  
**DEMONSTRATION PROJECT**

**GOAL**

**DEMONSTRATE SOLIDIFICATION AND PREPARATION OF  
HIGH-LEVEL WASTE FOR PERMANENT DISPOSAL**

**AUTHORITY**

**PUBLIC LAW 96-368, WEST VALLEY DEMONSTRATION  
PROJECT ACT**

**WEST VALLEY**  
**DEMONSTRATION PROJECT**

**OBJECTIVES**

- o SOLIDIFY LIQUID HIGH-LEVEL WASTE IN A FORM  
SUITABLE FOR TRANSPORTATION AND DISPOSAL**
- o DEVELOP CONTAINERS SUITABLE FOR PERMANENT  
DISPOSAL**
- o TRANSPORT SOLIDIFIED WASTE TO FEDERAL  
REPOSITORY FOR PERMANENT DISPOSAL**
- o DISPOSE OF LOW-LEVEL AND TRANSURANIC WASTE  
PRODUCED**
- o DECONTAMINATE AND DECOMMISSION TANKS,  
FACILITIES, MATERIAL, AND HARDWARE USED**

**WEST VALLEY**  
**DEMONSTRATION PROJECT**

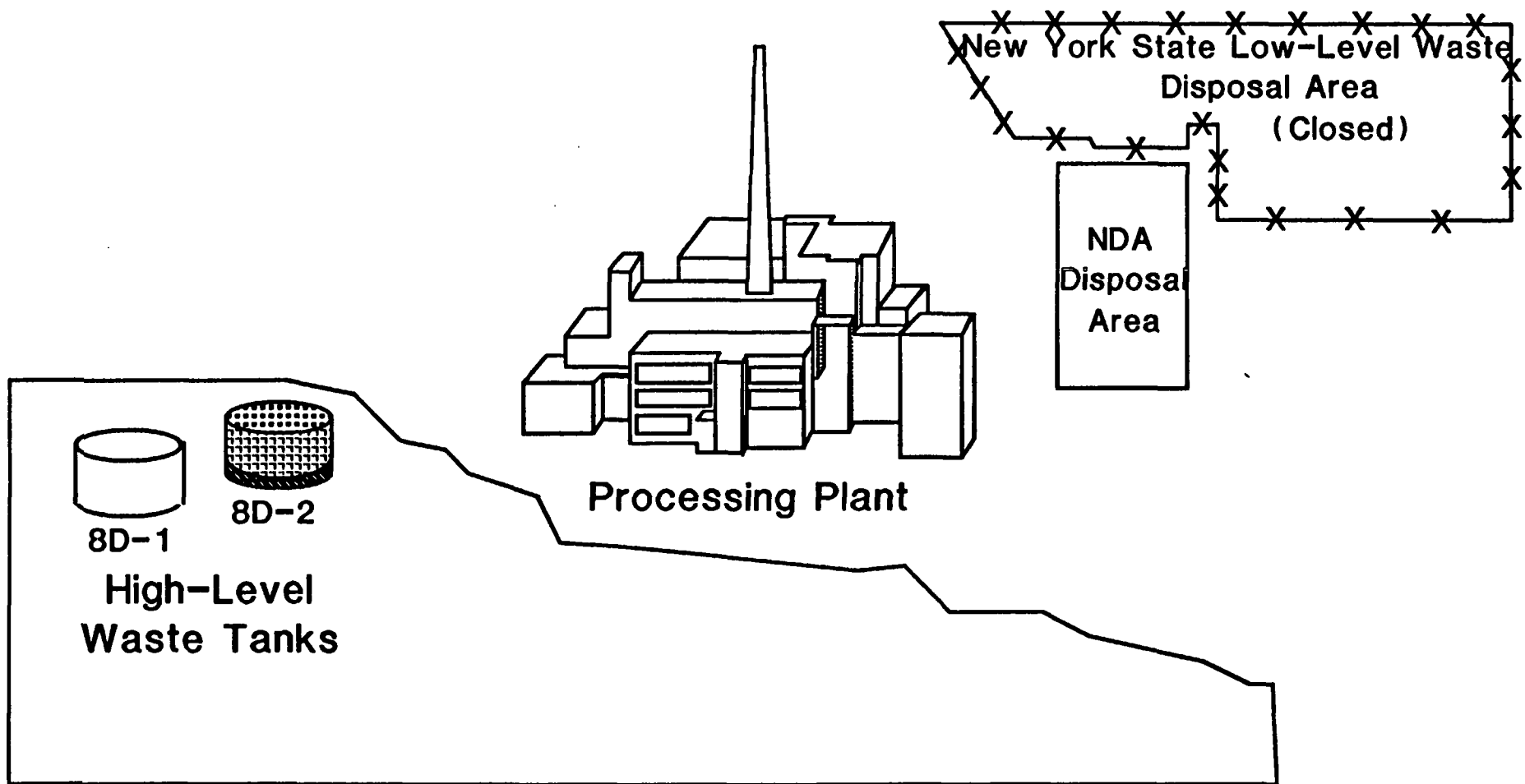
**SCHEDULE**

- o HIGH-LEVEL WASTE SOLIDIFICATION (PHASE I) TO  
BE COMPLETE BY MID FY 1994**
- o DECONTAMINATION AND DECOMMISSIONING (PHASE II)  
TO BE COMPLETE APPROXIMATELY FY 2010**

**IMPLEMENTATION**

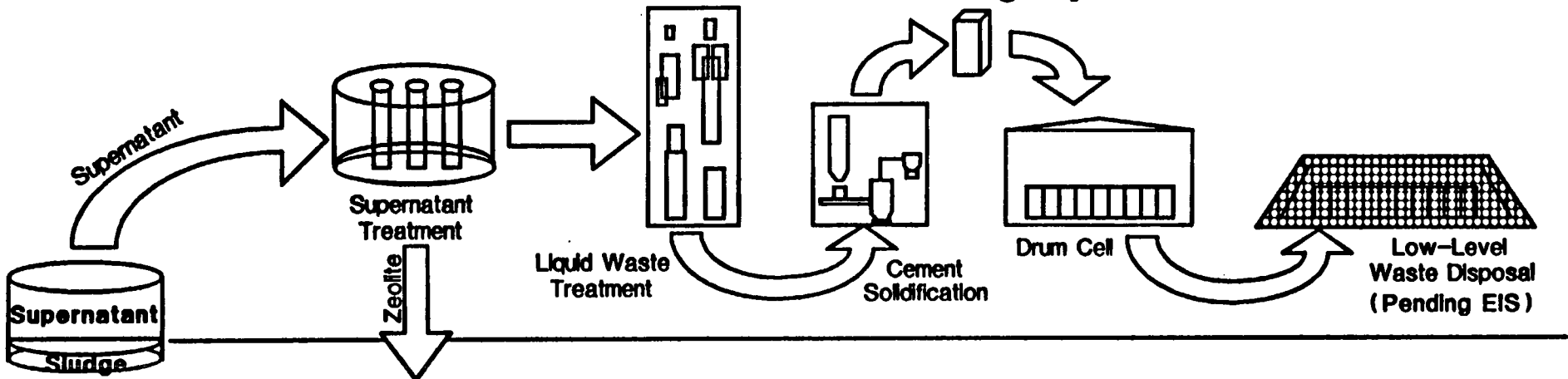
- o ASSIGNED TO WEST VALLEY PROJECT OFFICE AT WEST  
VALLEY, NEW YORK**
- o COST SHARING: 90% DOE/10% STATE**

# WEST VALLEY NUCLEAR SERVICES CENTER - 1981

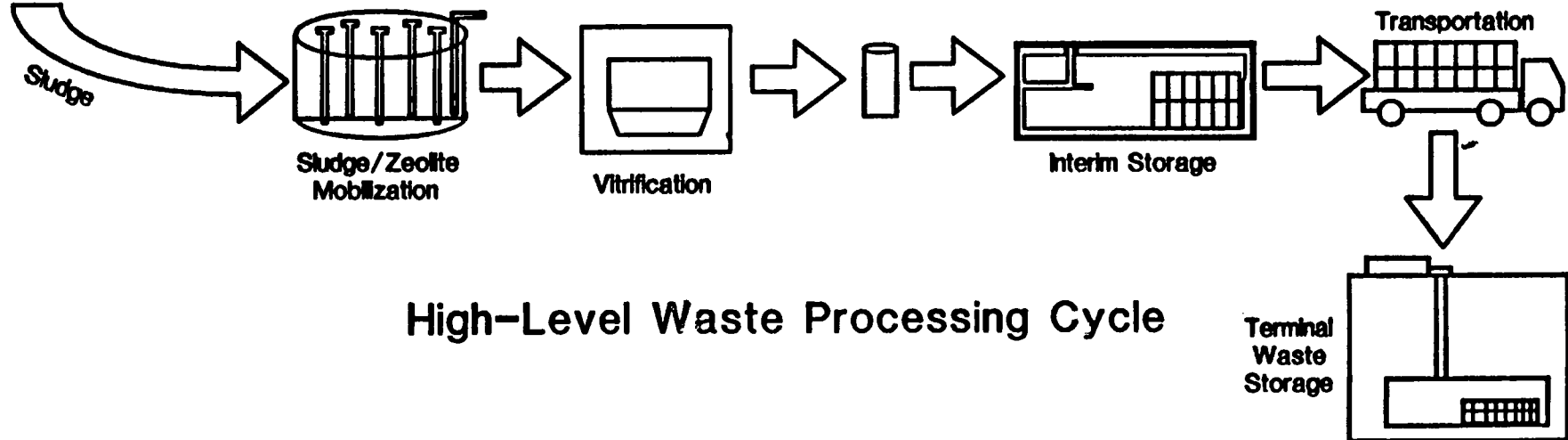


# PROCESS OVERVIEW

## Low-Level Waste Processing Cycle



## High-Level Waste Processing Cycle



## **NRC ROLE PER PUBLIC LAW 96-368**

- o REVIEW AND CONSULTATION ON**
  - DOE PLANS FOR HLW REMOVAL, SOLIDIFICATION, AND PREPARATION FOR DISPOSAL**
  - DOE PLANS FOR THE DECONTAMINATION OF FACILITIES USED FOR HLW SOLIDIFICATION**
  - HLW FORM AND CONTAINERS TO BE USED FOR HLW DISPOSAL**
  - SAFETY ANALYSIS REPORTS AND OTHER INFORMATION RELATED TO POTENTIAL HAZARD TO PUBLIC HEALTH AND SAFETY**

**NRC ROLE PER PUBLIC LAW 96-368 (CONTINUED)**

- o HAVE ACCESS TO WEST VALLEY SITE TO MONITOR DOE ACTIVITIES**
- o PRESCRIBE REQUIREMENTS FOR DECONTAMINATION AND DECOMMISSIONING**

**DOE/NRC WEST VALLEY**  
**MEMORANDUM OF UNDERSTANDING**

**PURPOSE**

**PROVIDE PROCEDURES FOR REVIEW AND CONSULTATION BY  
NRC.**

**DOE/NRC WEST VALLEY**  
**MEMORANDUM OF UNDERSTANDING**

**CONTENTS**

- o NRC PROGRAM RESPONSIBILITY**
  - OFFICE OF NUCLEAR MATERIAL SAFETY AND SAFEGUARDS**
  - REGION I, PHILADELPHIA**
- o DOE PROGRAM RESPONSIBILITY**
  - WEST VALLEY PROJECT OFFICE, WEST VALLEY**
- o RESPONSIBILITIES OF PARTIES**
- o GUIDELINES FOR NRC CONSULTATION, COMMENT, AND ADVICE**

## **DOE-NRC INTERACTIONS ON WEST VALLEY**

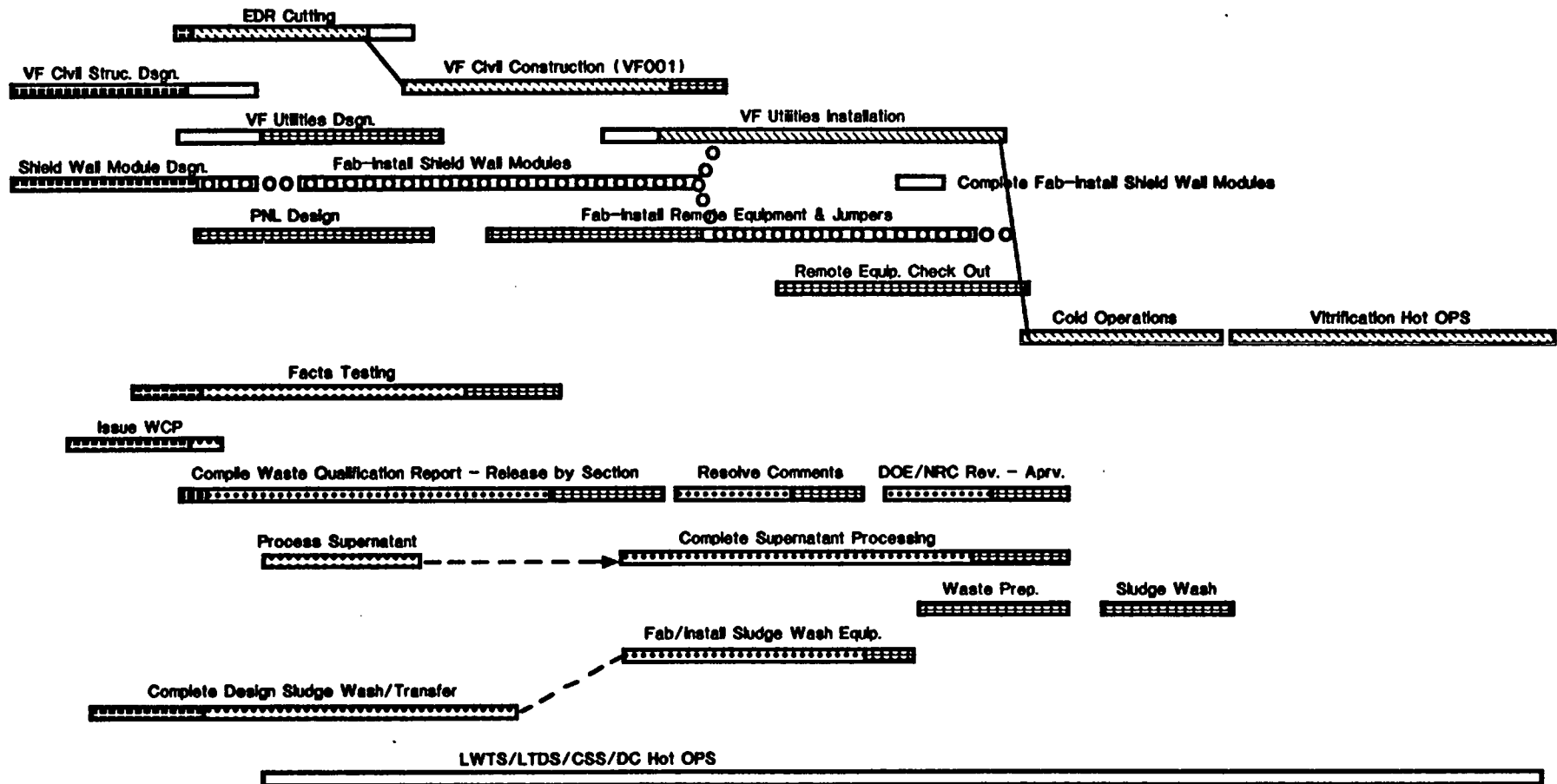
- o INTEGRATED RADWASTE TREATMENT SYSTEM**
  - PERIODIC PRODUCT QUALITY REVIEWS**
  - LONG-TERM CEMENT PERFORMANCE REVIEWS**
- o LOW-LEVEL WASTE DISPOSAL**
  - EVALUATION OF WEST VALLEY APPROACH FOR TRU DISPOSITION**
  - CRITERIA FOR CLOSURE OF WEST VALLEY PROJECT (I.E., D&D CRITERIA)**

## **DOE-NRC INTERACTIONS ON WEST VALLEY**

- o SLUDGE MOBILIZATION SYSTEM**
  - PREPARATION OF SAFETY EVALUATION REPORT  
PRIOR TO HOT OPERATION**
- o VITRIFICATION**
  - CONSULTATION ON FINAL WASTE FORM**
  - PREPARATION OF SAFETY EVALUATION REPORTS  
PRIOR TO HOT OPERATIONS**
- o GENERAL**
  - ROUTINE REGION I SAFETY, SECURITY, QUALITY  
ASSURANCE AND OPERATING REVIEWS**

# SUMMARY LEVEL SCHEDULE

1987	1988	1989	1990	1991	1992	1993	1994
------	------	------	------	------	------	------	------



## LEGEND

Schedule Unconstrained  
 Percent Complete (AS. AF)

Critical Activities  
 Schedule Constrained

**COMMERCIAL**  
**LOW-LEVEL WASTE PROGRAM**

**GOAL**

**FACILITATE ESTABLISHMENT OF AN EFFECTIVE NATIONAL  
LOW-LEVEL WASTE (LLW) MANAGEMENT SYSTEM.**

**AUTHORITY**

- o LOW-LEVEL RADIOACTIVE WASTE POLICY ACT,  
P.L. 96-573**
- o LOW-LEVEL RADIOACTIVE WASTE POLICY AMENDMENTS  
ACT, P.L. 99-240**

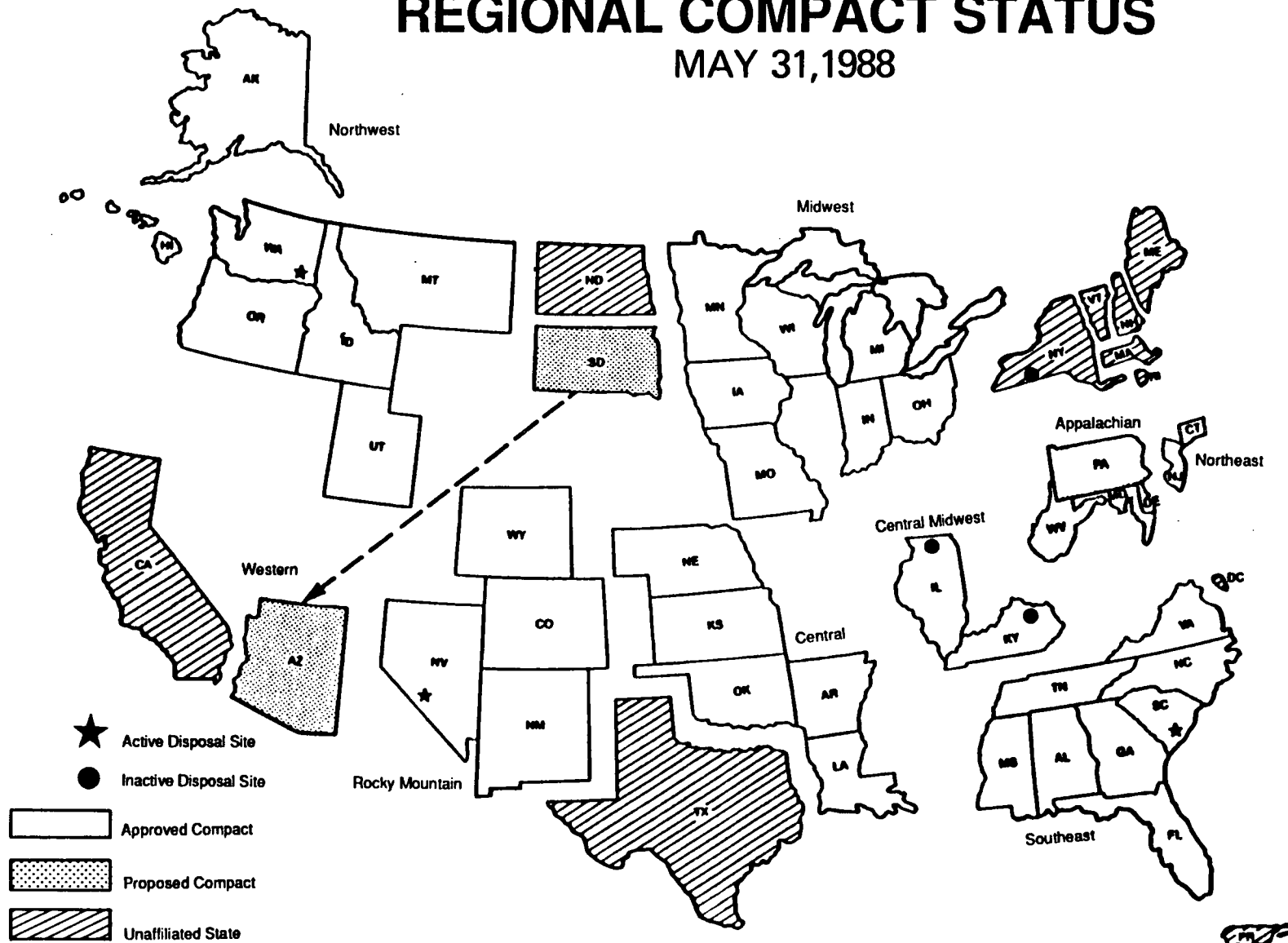
**COMMERCIAL**  
**LOW-LEVEL WASTE PROGRAM**

**OBJECTIVES**

- o ASSIST STATES AND REGIONS IN DEVELOPING NEW  
LLW DISPOSAL CAPACITY**
- o CONDUCT ADMINISTRATIVE AND REPORTING  
RESPONSIBILITIES ASSIGNED TO DOE UNDER  
P.L. 99-240**
- o PROVIDE FOR DISPOSAL OF NON-DOE  
GREATER-THAN-CLASS C LLW**

# REGIONAL COMPACT STATUS

MAY 31, 1988



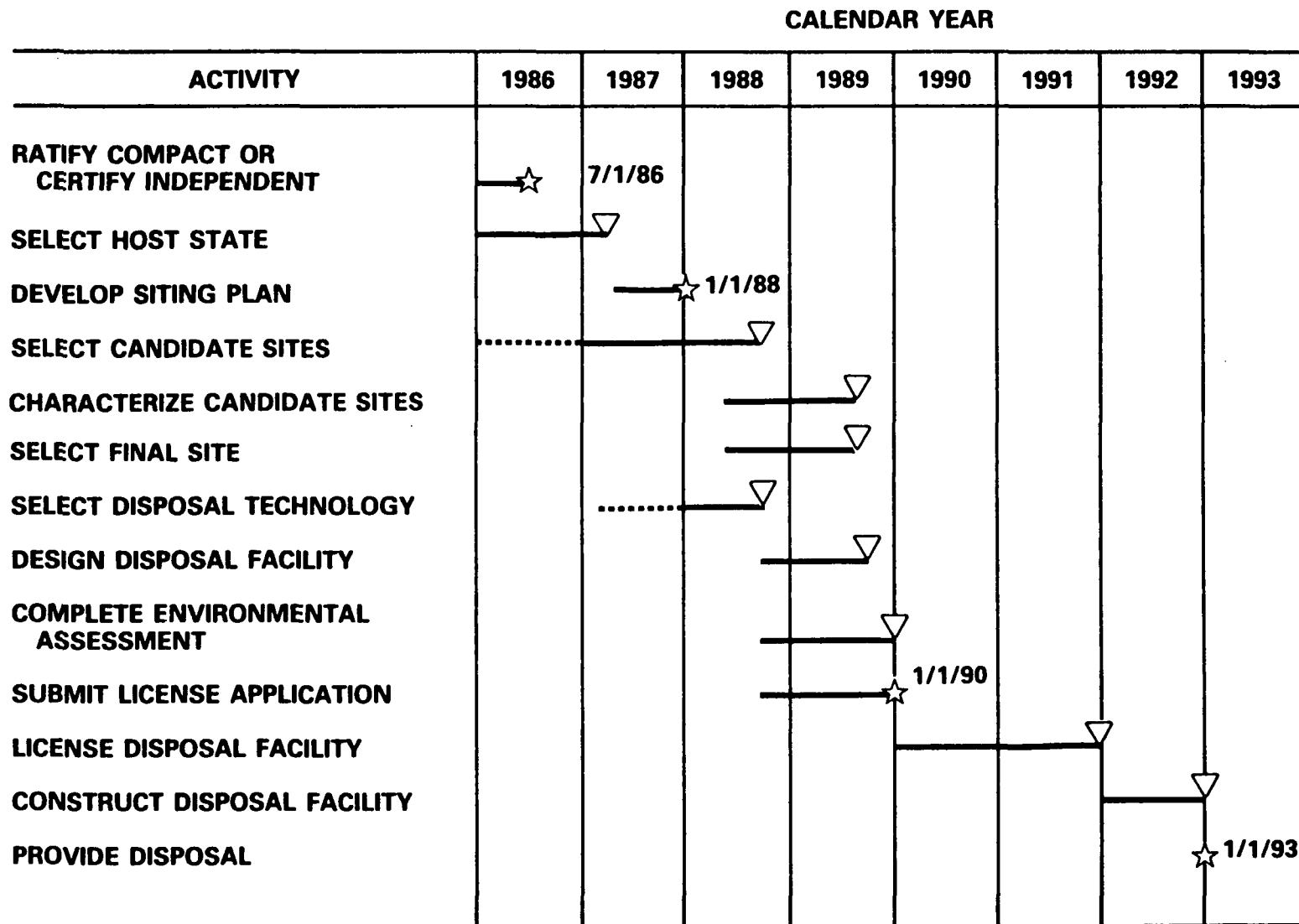
**LLRWPA AND NWPA PROVISIONS  
REQUIRING DOE-NRC INTERACTION**

<b><u>PROVISION</u></b>	<b><u>DOE RESPONSIBILITY</u></b>	<b><u>NRC RESPONSIBILITY</u></b>
<b>GTCC LLW (LLRWPA)</b>	<b>DISPOSAL IN NRC- LICENSED FACILITY</b>	<b>LICENSE DISPOSAL FACILITY</b>
<b>1990 MILESTONE (LLRWPA)</b>	<b>DISBURSE SURCHARGE REBATES TO STATES/ COMPACTS</b>	<b>(A) RECEIVE MILESTONE DOCUMENTATION FROM STATES AND COMPACTS  (B) DETERMINE IF LICENSE APPLICATION IS COMPLETE</b>
<b>DISPOSAL SITE TRANSFER (NWPA, SEC. 151)</b>	<b>ASSUME TITLE AND CUSTODY OF CLOSED DISPOSAL SITES</b>	<b>DETERMINE IF CONDITIONS FOR SITE CLOSURE ARE MET</b>

## **OTHER DOE/NRC LLW INTERACTIONS**

- o PROTOTYPE LICENSE APPLICATION PROJECT**
  - TWO TECHNOLOGIES**
    - EARTH MOUNDED CONCRETE BUNKER**
    - BELOW GROUND VAULT**
  - TO SUPPORT 1990 MILESTONE FOR LICENSE APPLICATION BY STATES/REGIONS**
- o LLW FORUM AND TECHNICAL COORDINATING COMMITTEE**
  - DOE SPONSORED**
  - NRC PARTICIPATION**

# GENERIC PLAN FOR DEVELOPMENT OF A NEW LOW-LEVEL RADIOACTIVE WASTE DISPOSAL FACILITY



☆ DENOTES CONGRESSIONAL MILESTONE