

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Title: BRIEFING ON URANIUM RECOVERY PROGRAM
(PUBLIC MEETING)

Location: Rockville, Maryland

Date: Monday, July 29, 1996

Pages: 1 - 68

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1 UNITED STATES OF AMERICA
2 NUCLEAR REGULATORY COMMISSION

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4 BRIEFING ON URANIUM RECOVERY PROGRAM

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6 PUBLIC MEETING

7
8 Nuclear Regulatory Commission
9 One White Flint North
10 Rockville, Maryland

11
12 Monday, July 29, 1996

13
14 The Commission met in open session, pursuant to
15 notice, at 10:04 a.m., Shirley A. Jackson, Chairman,
16 presiding.

17
18 COMMISSIONERS PRESENT:

19 SHIRLEY A. JACKSON, Chairman of the Commission
20 KENNETH C. ROGERS, Member of the Commission
21 GRETA J. DICUS, Member of the Commission
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1 STAFF AND PRESENTERS SEATED AT THE COMMISSION TABLE:

2 JOHN C. HOYLE, Secretary of the Commision

3 KAREN D. CYR, General Counsel

4 HUGH THOMPSON, Deputy Executive Director

5 Office of Nuclear Material Safety and Safeguards

6 MARGARET FEDERLINE, Acting Director

7 Division of Waste Management

8 JOE HOLONICH, Chief

9 Uranium Recovery Branch

10 JOHN GREEVES, Acting Deputy Director

11 Office of Nuclear Material Safety and Safeguards

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P R O C E E D I N G S

[10:04 a.m.]

CHAIRMAN JACKSON: Good morning.

MR. THOMPSON: Good morning.

CHAIRMAN JACKSON: Well, good morning, ladies and gentlemen. This morning, the Commission will be briefed by the NRC staff on its uranium recovery program. I would like to announce at the outset that obviously Commissioner Rogers is not physically present with us, but this morning he is present by telephonic means and you may hear him from time to time participate that way. I hope he is hooked up.

As you know, the function of NRC's uranium recovery program is to license and regulate uranium mills' commercial in situ solution mining operations, uranium extraction research and development projects, and the disposal of uranium mill tailings and waste.

In carrying out these responsibilities, the NRC staff must perform detailed health safety and environmental reviews and inspect facilities to assure their safe operation.

It is a program that has undergone significant changes over the past few years. In 1994, the uranium recovery field office, or URFO, in Denver was closed down and all licensing activities were consolidated at headquarters and the inspection activities were transferred

1 to our Region IV office.

2 As a result, NRC staff and licensees had to adapt
3 to a different way of doing business, although it appears
4 that the closure of the URFO office in Denver was
5 accomplished in a manner that minimized the impact on
6 ongoing inspections, licensing and policy development
7 programs.

8 More recently, the price of uranium has increased
9 to a level where there is renewed interest in extracting
10 additional uranium ore. This has drawn increased attention
11 to the uranium recovery program from licensees, state
12 governments and the Congress.

13 Today, the Commission is looking forward to
14 hearing more about the status of NRC's uranium recovery
15 programs from the staff.

16 Commissioner Rogers, if you're on, if you have
17 anything to add?

18 Commissioner Dicus?

19 COMMISSIONER DICUS: No.

20 CHAIRMAN JACKSON: If not, you may proceed, Mr.
21 Thompson.

22 MR. THOMPSON: Thank you, Chairman Jackson and
23 Commissioners.

24 This morning, we are here to update the Commission
25 on the activities related to NRC's uranium recovery program.

1 NRC's uranium recovery program falls under the division of
2 waste management in NMSS and is one of the areas that
3 doesn't frequently get Commission attention. As you said,
4 there are many changing factors, and that's the reason we
5 are here today.

6 John Greeves is the director of the division of
7 waste management, although he's currently acting as the
8 deputy director of the Office of NMSS; and Margaret
9 Federline, who is the deputy director of the division, is
10 currently the acting director of the division; and Joe
11 Holonich here is the chief of the uranium recovery branch,
12 and he is the chief.

13 As you did identify, there are lots of changes
14 that have been ongoing. I think you identified all of those
15 that are really impacting the workload, and it has impacted
16 the workload and so we will identify some of those
17 activities we are going to recover from the backlog we have.

18 In addition to its regulatory role related to the
19 new and operating licensees, the Uranium Recovery Branch has
20 the responsibility for carrying in DOE's clean-up of the
21 inactive uranium recovery sites and for reviewing
22 reclamation activities at NRC's license sites.

23 Once the reclamation has been complete, NRC will
24 terminate those licenses and then turn those sites over to
25 DOE for long-term custodial care. And so one of the things

1 that I always had difficulty with for many years is knowing
2 who had Title I and Title II; so the exam at the end of this
3 was DOE is Title I and everybody else is Title II.

4 I'll turn it over to John, so he's clarify that
5 for me if I made a mistake.

6 MR. GREEVES: I just want to make a few opening
7 remarks. One way or another, I've been working on these
8 issues for about 15 years, and I note that it has been a
9 long time since the Commission has had any briefing on this
10 particular program area. As Hugh Thompson identified, DOE
11 has the Title I work; that's the abandoned mill tailing
12 sites and mostly out West. So they have that.

13 They did come in about five years ago and give the
14 Commission a briefing, a good briefing on the status of the
15 Title I work. I believe Commissioner Rogers may have been
16 on the Commission when they did give that briefing, but I
17 don't think the rest of you were at the time.

18 CHAIRMAN JACKSON: Not if it was five years ago.

19 MR. GREEVES: There have been no briefings on the
20 commercial side, so with that, we thought it was a good idea
21 to recommend a briefing for the Commission to bring you up
22 to date.

23 We've got about 18 FTE assigned to this program
24 area, considerable technical assistance funds.

25 It turns out that last year, we reorganized this

1 program area. Joe had responsibilities for both high level
2 waste and uranium recovery. It was really difficult,
3 actually, to keep up with both of them. So we decided to
4 focus our efforts on uranium recovery, gave Joe that sole
5 responsibility. I think it turned out to be a timely
6 decision.

7 It turns out that the price of uranium, as you
8 mentioned, Chairman, has gone up significantly. It has gone
9 from \$9 to better than \$16 a pound. Some people can't even
10 remember it being that high. So what we have is an industry
11 that was facing decommissioning liability. That was what
12 was in front of them. Now we have an industry that has a
13 number of asset opportunities associated with it. So you
14 can imagine what it does to the dynamics of the process.

15 We have received some high level input from the
16 governor of Utah, the governor of Wyoming, and most recently
17 Senator Simpson from Wyoming.

18 So we look at this as kind of an opportunity to
19 share how we're setting priorities in this program area and
20 get you up to date on a couple of the key issues that the
21 staff is wrestling with from day to day.

22 So with that, I would like to turn it over to Joe.

23 MR. HOLONICH: Okay. Thank you, John.

24 May I have the first slide, please?

25 [Slide.]

1 MR. HOLONICH: This morning's presentation is set
2 up to try to accomplish three objectives: give the
3 Commission some background on the uranium recovery
4 activities, including a little history of the program, and
5 help understand a little bit of the framework within which
6 the program is implemented; provide general information on
7 uranium recovery activities, not only what licensees and DOE
8 are doing, but also what the staff's involved with; and then
9 to discuss several major issues that are currently facing
10 the program.

11 May I have the next slide, please.

12 [Slide.]

13 MR. HOLONICH: Just to help set some context, we
14 have a map of the United States and those states which have
15 uranium recovery facilities in them. We also have
16 highlighted the four agreement states, which are Washington,
17 Colorado, Texas and Illinois. And this kind of helps lay
18 out where the facilities are and what states are involved in
19 these activities.

20 You notice in the legend we talk about the Title
21 I, Title II sites, and Title II in situs, and as we get into
22 the presentation, I'll expand on what John talked about and
23 what is involved in these different sites and why we've kind
24 of given them that shorthand name of Title I and Title II
25 sites.

1 May I have the next slide, please.

2 [Slide.]

3 MR. HOLONICH: Essentially, the milling of uranium
4 was regulated by the Atomic Energy Commission under the
5 authority given at the Atomic Energy Act; however, there was
6 no regulation of the disposal of uranium mill tailings.

7 In the early 1970s, the Atomic Energy Commission
8 found that it could exert some regulatory authority over the
9 tailings through its National Environmental Policy Act
10 responsibilities; however, even that didn't give the
11 Commission the kind of authority they wanted to get over the
12 mill tailings, and the reason was there were essentially two
13 problems. Number one was a dispersal and use problems of
14 tailings. This was mainly in the Grand Junction area where
15 people were actually using the tailings to backfill streets,
16 backfill utility lines, build houses, and there was no
17 long-term control of these sites. And so those were the
18 concerns that were there with the unregulated tailings.

19 May I have the next slide, please.

20 [Slide.]

21 MR. HOLONICH: To address this problem, Congress
22 passed the Uranium Mill Tailings Radiation Control Act of
23 1978. Essentially what UMTRCA had as its basic philosophy
24 were two things: Number one, stabilize the tailings and
25 ensure long-term control of the site; and number two, clean

1 up the groundwater that had been contaminated as a result of
2 the milling operations there at those sites.

3 It also laid out responsibilities for federal
4 agencies, the Department of Energy, the Environmental
5 Protection Agency, and the NRC, as well as outlining
6 responsibility for states in which the facilities were
7 located. And I'm going to give you a little more detail on
8 what UMTRCA did and I'm going to talk a little bit more
9 about what the responsibilities of those different
10 organizations were as we talk a little bit more about the
11 details.

12 Essentially, UMTRCA has two main titles: Title I
13 and Title II. Title I deals with abandoned uranium mills.
14 There were 22 sites specified in the Act that the Department
15 of Energy was assigned responsibility for reclaiming. In
16 addition, the Secretary was given the authority to add any
17 additional sites that they deemed were necessary. They did
18 add three sites, the Burrell site in Pennsylvania and the
19 Bellfield and Bowman sites in North Dakota, bringing the
20 total sites up to 25.

21 The Act directed DOE to reclaim these sites, both
22 surface reclamation work and groundwater. It also directed
23 EPA to promulgate standards that EPA thought were necessary
24 to protect public health and safety. It gave us the
25 responsibility under Title I to concur on the actions that

1 DOE was taking. And it gave the states responsibility for
2 paying 10 percent of the reclamation cost of the sites that
3 were within those states.

4 Title II dealt with -- yes, Commissioner?

5 COMMISSIONER DICUS: May I ask a question there?
6 Ten percent -- whether it's a state that's handling the
7 program or not?

8 MR. HOLONICH: Well, for Title I, the agreement
9 states aren't involved. There is no agreement state for
10 Title I. Title I is purely a federal responsibility.

11 COMMISSIONER DICUS: Okay.

12 MR. HOLONICH: It's the Department of Energy doing
13 the reclamation, and we concur on that reclamation. The
14 states are required to fund 10 percent of the DOE work, but
15 they're not involved as an agreement state in doing any
16 reviews.

17 COMMISSIONER DICUS: So that's all the states that
18 have these sites?

19 MR. HOLONICH: That's correct, all the states that
20 have the Title I sites.

21 Title II dealt with commercial facilities, and
22 what Title II did was amend the Atomic Energy Act by adding
23 a definition of 11(e)(2) byproduct material, which was
24 essentially the byproduct material generated from the
25 extraction of uranium and thorium from ores. It gave us the

1 authority to regulate that byproduct material, and it
2 applied that section to any facility that had an NRC license
3 at the time the Act was passed or any facility that was
4 licensed in the future after the Act.

5 The EPA again had standard-setting responsibility,
6 and for both Title I and Title II, the EPA standards focused
7 on the emission of radon, the stabilization of the tailings
8 impoundment and groundwater cleanup limits. In the next
9 couple of slides, I'm going to talk about what goes on in
10 surface reclamation and what goes on in groundwater cleanup,
11 and talk about the standards there and the specific values
12 and how EPA came up with those standards.

13 CHAIRMAN JACKSON: Okay. So you are going to talk
14 about that.

15 MR. HOLONICH: Yes. Yes, ma'am.

16 CHAIRMAN JACKSON: That's good.

17 MR. HOLONICH: Finally, the Act required that
18 these sites be under the control of a long-term custodian.
19 For the Title I sites, the Department of Energy is the
20 long-term custodian. Those sites get licensed under the
21 general licensing provisions of 10 CFR 40.27. There are
22 currently five sites that are licensed under long-term care.
23 They are the Spook site, Cannonsburg and Burrell sites, the
24 Lowman site in Idaho and the Lake View site in Oregon. For
25 Title II, there is one site currently licensed for long-term

1 care, and that's the TVA Edgemont site.

2 Title II --

3 CHAIRMAN JACKSON: Who is the custodian?

4 MR. HOLONICH: DOE is the custodian for the Title
5 II site.

6 Title II differs a little bit from Title I in that
7 the Department of Energy becomes the long-term custodian for
8 Title II sites if the states decide that they don't want to
9 take long-term custody of the Title II sites. For Title I,
10 it's solely the responsibility of the Department of Energy.

11 In addition, when these sites are terminated, the
12 licensee in Title II is required to make a long-term payment
13 to the federal government for monitoring these sites and, if
14 necessary, maintaining these sites.

15 MR. GREEVES: I would like to point out that this
16 transfer of this Title II site is a significant event. Many
17 of the meetings that Joe and I have had with the industry
18 over the past few years, the industry is wondering, well,
19 can the NRC come to closure on these sites. So we've looked
20 at this particular issue, and I think Joe has done a good
21 job of being able to demonstrate that yes, there is a way
22 for licensees to, once they clean their site up, to get it
23 transferred, as the Act calls for, to the federal
24 government. So this was a recent demonstration on that
25 process and there's a number more in the pipeline.

1 MR. HOLONICH: May I have the next slide, please.

2 [Slide.]

3 MR. HOLONICH: I would now like to talk a little
4 about surface reclamation and what's involved with that.

5 What licensees do is they have to design the
6 tailings impoundment to ensure that they limit the radon
7 emission and the impoundment will be stable for 1,000 years.

8 The way this process is done is they design a radon barrier
9 based on the amount of radium that's in the tailings and
10 what kind of radon is being emitted by the tailings. They
11 then identify the kinds of threats that could be expected at
12 these facilities over the design lifetime, and these could
13 be things like earthquakes or floods. They then incorporate
14 design provisions to make sure that the facility is capable
15 of withstanding these threats.

16 Those documents get submitted to us and we do a
17 review and determine whether they're in compliance with
18 either the EPA standards if they're a Title I site or our
19 regulations if they're a Title II site.

20 CHAIRMAN JACKSON: You can slow down.

21 MR. HOLONICH: Okay. I'm sorry.

22 In addition, licensees are required to clean up
23 contaminated soil at the site. Usually, we deal with
24 hundreds of acres of contaminated soils; it could be as much
25 as three or four-hundred acres of contaminated soil. The

1 soil is contaminated from the tailings being dispersed
2 through wind-blowing activities. The cleanup standard is
3 promulgated by the EPA, and on the next slide I'll talk in a
4 little more detail about that standard.

5 Essentially, these activities are the same for
6 Title I and Title II sites. The Department of Energy does
7 the same kind of design work, does the same kind of
8 construction work as individual licensees do on their sites.

9 We do have, however, in Title I a Congressionally
10 mandated completion date of September 1998. Now, I have to
11 caveat that and say that the actual date is September of
12 this year, but there is currently legislation before
13 Congress to extend the date for two years; and based on
14 discussions with the Congressional staff here, there is
15 indications that that will pass by the end of the summer, so
16 that the final completion date will be September of 1998.

17 We work very hard to try to make sure that we do
18 what needs to be done, get that date complete, have a number
19 of management meetings two or three times a year with my DOE
20 counterpart. John Greeves meets with Jim Owendoff, who is
21 the deputy assistant secretary for environmental
22 restoration, at least every six months, and we go over where
23 we are and kind of what we need to do to make sure that the
24 process continues to move.

25 Parallel to that in Title II, we don't have

1 legislatively mandated dates, but we do have a memorandum of
2 understanding between us and the Environmental Protection
3 Agency. That MOU was negotiated as part of a settlement of
4 a lawsuit. What it does is lay out dates by which
5 individual licensees would complete their radon barriers for
6 Title II sites, and it set December of 1997 as the ultimate
7 date for completing those radon barriers.

8 Right now, we've got a couple of sites that have
9 gone beyond those dates. We have talked with EPA, we've
10 been working with EPA very closely. They are comfortable --
11 why we went beyond those sites, what happened at the
12 licensees' facilities that required that we go beyond those
13 sites.

14 This is one area where we've got a really good
15 working relationship with EPA. This is a real success
16 between us and EPA. And it seems like the process is
17 working very well here.

18 So we've got kind of those two milestones that
19 drive us and focus us on making sure we get the reviews done
20 in a timely manner.

21 CHAIRMAN JACKSON: Do we review the licensees'
22 plans?

23 MR. HOLONICH: Yes, we do.

24 CHAIRMAN JACKSON: And how long does that
25 typically take?

1 MR. HOLONICH: Past experience has shown it could
2 take as much as 18 months, depending on the number of rounds
3 of questions we have to go through, depending on the quality
4 of the design that they submit, the quality of the
5 information they submit.

6 The last one that we recently got through took us
7 about 18 months. We had to go through two rounds of
8 questions with the licensee.

9 CHAIRMAN JACKSON: I see. So it's a question of
10 how much back and forth there has to be?

11 MR. HOLONICH: Yes.

12 CHAIRMAN JACKSON: Now, do we give the licensees
13 some input as to what our expectations are from them up
14 front?

15 MR. HOLONICH: We try to. We've got some
16 regulatory guides that we provide to the licensees. We've
17 got a facility that is looking to change its reclamation
18 plan, is going to come in and meet with us in August, talk
19 about what they want to do, get feedback from us as to what
20 we think, what we would need to see to be able to make the
21 demonstration. We have, in fact, got one of our staffers
22 out in the field today talking with one of the licensees who
23 is revising their reclamation plan, a different facility.

24 So whenever they say they want to meet with us,
25 whenever they say they want to talk with us, we're willing

1 to do that. And we've also got regulatory guides and
2 standard review plan that they can certainly have access to,
3 that we happily provide them to give them the kind of
4 information we're looking for in the applications and what
5 they need to do.

6 CHAIRMAN JACKSON: So theoretically, the time can
7 be shortened?

8 MR. HOLONICH: Yes. As a matter of fact, we've
9 got a couple of rec plans that we're hoping we can do by the
10 end of the next fiscal year in about a six- to eight-month
11 time frame, and that assumes just one round of questions and
12 a high-quality application from the licensees.

13 CHAIRMAN JACKSON: Okay. Thank you.

14 MR. HOLONICH: May I have the next slide, please.

15 [Slide.]

16 MR. HOLONICH: The standards that are applicable
17 to surface reclamation, as I noted earlier, were developed
18 by EPA under its authority in UMTRCA, and they essentially
19 deal with three areas: limiting the radon emissions to 20
20 picocuries per meter squared second from the tailings
21 impoundment. And this is the equivalent of about a 175
22 millirem dose at the edge of the tailings impoundment, but
23 by the time you get about a quarter of a mile around, you're
24 at the background. The radon disperses so quickly, you
25 can't tell at about a quarter mile away from the tailings

1 impoundment. Ensuring the stability of the impoundment for
2 1,000 years, but no less than 200. And again, this is where
3 identifying the design threats and incorporating the design
4 features comes into play. And then cleaning up the
5 contaminated soil -- this is mainly radium -- to a standard
6 of five picocuries per gram in the top 15 centimeters and 15
7 picocuries per gram in every 15 centimeters after that. And
8 this equates roughly to a dose of about 61 millirem. And
9 this was based on an individual standing at the site 24
10 hours a day.

11 If I could now, I have a couple of pictures to
12 show you of what a before and after of reclamation is, and
13 if I could have the first picture --

14 CHAIRMAN JACKSON: Let me ask you a question about
15 that.

16 MR. HOLONICH: I'm sorry. Yes.

17 CHAIRMAN JACKSON: This is some kind of averaged
18 quantity?

19 MR. HOLONICH: The five picocuries per gram? Yes,
20 it is. It's averaged over a ten meter square grid.

21 CHAIRMAN JACKSON: Okay.

22 MR. HOLONICH: Could I have the first picture of
23 Tuba City, please.

24 What you're going to see here is the Tuba City
25 site, which is a Title I site in Tuba City, Arizona. The

1 total volumes of tailings, what was reclaimed was this
2 triangular area right there. You can see some of the mill
3 buildings here. That site was under reclamation by the
4 Department of Energy. In addition to the tailings, they had
5 about 250 acres of wind-blown contamination, radium
6 contaminated soil. Essentially what's here is three
7 tailings impoundments and three spill ponds for emergency
8 spills.

9 If I could have the second picture, please.

10 What you will see here is how the site looks after
11 it's been reclaimed, and what was done essentially was a
12 demolition of surface and sub-surface structures, demolition
13 of the mill buildings. All of that material was buried in
14 the pile. They then placed a radon barrier on top of the
15 pile. And then finally, the black that you see here is rock
16 that is put down for erosion protection, to make sure that
17 the radon barrier doesn't wash away.

18 CHAIRMAN JACKSON: What's typically used to create
19 a radon barrier?

20 MR. HOLONICH: Clay. Clay.

21 CHAIRMAN JACKSON: Okay.

22 MR. HOLONICH: Can we go on to the next slide,
23 please.

24 [Slide.]

25 MR. HOLONICH: The second aspect of site

1 reclamation deals with the cleanup of groundwater, and the
2 way this process works is that licensees are required to go
3 out, characterize their groundwater situation, get a feeling
4 as to what the extent of contamination is, what their plume
5 is in the groundwater, and then develop a program to clean
6 up that plume.

7 Of the mill sites that are under Title II today,
8 right now we have 16 that are undergoing groundwater
9 cleanup. There are a total of 19 licensed mills.

10 What's involved usually with these cleanup
11 programs is a pump and evaporate scheme where people pump
12 the groundwater, evaporate off the water, and then the
13 residual, what's left, will be disposed of in the tailings
14 impoundment. What they essentially do is pull the
15 contamination back, pull the plume back, try to remove the
16 plume from the groundwater system.

17 The programs that are in place today at Title II
18 were approved and reviewed by the uranium recovery field
19 office in the late '80s and early '90s. For the Title I
20 program, we are just beginning the groundwater activities.
21 They have just submitted some site-specific documents to us.
22 This year, we have completed the review of four
23 site-specific documents in the groundwater area; namely, the
24 approaches, the strategies that DOE is going to use at these
25 sites.

1 So where the Title II program is a very mature
2 program, the Title I program is just beginning the
3 groundwater activities.

4 Yes, Commissioner?

5 COMMISSIONER DICUS: What's the groundwater
6 standard that you are using?

7 MR. HOLONICH: On the next slide, I'm going to
8 talk about the types of standards, and I don't have a
9 specific number because it varies from constituent to
10 constituent.

11 [Slide.]

12 MR. HOLONICH: Some licensees need to clean up
13 their -- need to complete their groundwater program because
14 part of what they do is use the top of their tailings
15 impoundment as their evaporation pond rather than construct
16 a separate evaporation pond, and you've got the water up
17 there and you can't put down your radon barrier. And so to
18 be able to meet your radon barrier date, they need to come
19 in and ask us, now we've done all we could, we think we're
20 there, we've done five, six, seven years of cleanup actions,
21 we would like to stop this program, dewater these tailings
22 and put down the final barrier.

23 So what happens in some instances is, in fact,
24 groundwater becomes a critical path item for the completion
25 of the radon barrier because the top of the tailings

1 impoundment serves as the evaporation pond.

2 If we can go to the next slide, please.

3 [Slide.]

4 MR. HOLONICH: The type of standards that are
5 applied to the cleanup of groundwater for Title II sites are
6 three types. You can get to background, which is the
7 condition that was there before the mill was placed there or
8 the condition in the aquifer up gradient of the mill. You
9 can go to maximum concentration limits, which are generic
10 standards set by the Environmental Protection Agency. It's
11 a health-based standard. Or you can go to ultimate
12 concentration limits, which are site-specific limits for
13 individual constituents based on a health risk standard of
14 10 to the minus 4.

15 Title I has the same kind of standards, but in
16 addition, it has a fourth standard called a supplemental
17 standard. What the supplemental standard allows is that
18 there is no need to conduct groundwater cleanup if DOE can
19 demonstrate that the actions are still protective of public
20 health and the environment, and certain conditions are met
21 for supplemental standards, and these, namely, are, number
22 one, to do the groundwater cleanup would do more harm than
23 good, or it's technically impracticable to do the cleanup,
24 or, three, the groundwater aquifer where the contamination
25 is is of limited use, and there are a couple of standards in

1 there for limited use, like 10,000 milligrams per liter of
2 total dissolved solid is an example of that.

3 So Title I and Title II have essentially the same
4 kind of standards in terms of background, maximum
5 concentration, and ultimate concentration limits, but Title
6 I also has the flexibility to use supplemental standards
7 which Title II doesn't have.

8 CHAIRMAN JACKSON: Do you think that there are
9 lessons learned in terms of these supplemental standards
10 that could be applicable to setting groundwater standards in
11 other parts of our program?

12 MR. HOLONICH: Well, I will tell you, Chairman,
13 that we have not yet done any supplemental standards review
14 of the DOE Title I sites. As I said earlier, they are just
15 starting the program, we're just getting into the reviews.

16 CHAIRMAN JACKSON: Okay.

17 MR. HOLONICH: I certainly think the concept could
18 be applicable to other types of facilities.

19 CHAIRMAN JACKSON: But you are going to be doing
20 this?

21 MR. HOLONICH: We're expecting to do some
22 supplemental standards reviews --

23 CHAIRMAN JACKSON: I think that would be very
24 interesting and would be very useful to the Commission.

25 MR. GREEVES: This whole area -- and you're going

1 through strategic assessment and the low risk issue. This
2 is one of those areas, so it's one --

3 CHAIRMAN JACKSON: I think we need to know what we
4 learn from it.

5 MR. GREEVES: Right. Certainly.

6 MR. THOMPSON: I do think we we do have some --
7 there's the alternative concentration limits. So we do have
8 some success in those areas.

9 COMMISSIONER DICUS: Is it the licensee's choice
10 on which one of these standards on Title II they will use or
11 is there --

12 MR. HOLONICH: The licensee can come in and
13 propose the standard and then we will review it and
14 determine whether we agree with that, and if we find it
15 acceptable, then that would be the appropriate standard.
16 The way it has worked is that we have either required
17 licensees to go to background or maximum concentration
18 limits, and then they have been under a groundwater cleanup
19 program for some time. They have come in and said, we can't
20 get to the limits, we would like to establish an alternate
21 concentration limit.

22 COMMISSIONER DICUS: Do we provide them some
23 guidance on making --

24 MR. HOLONICH: We have provided them guidance on
25 how to develop alternate concentration limits. We don't

1 have guidance on the maximum or background because those are
2 pretty much the standards that are promulgated there.

3 Just for information, we do have four sites that
4 are identified as Superfund sites because of their
5 groundwater contamination. These are two in the State of
6 Colorado, Canyon City and Uravan; and two in the State of
7 New Mexico, Homestake and Churchrock.

8 I want to add that Homestake and Churchrock are
9 our licensees, but at the time they were identified as
10 Superfund sites, they were licensees of the State of New
11 Mexico. New Mexico at that time was an agreement state.

12 CHAIRMAN JACKSON: Has the identification of these
13 sites, particularly ones that are our sites, had any impact
14 in terms of the rate at which, you know, there has been
15 progress in the clean up?

16 MR. HOLONICH: They continue to clean up the
17 groundwater. They're working on cleaning up the
18 groundwater. It does add some complications in terms of the
19 long-term custodian. The Department of Energy is very
20 concerned that even though these sites could be cleaned up
21 to appropriate standards, because they were Superfund sites,
22 there might be some liability for DOE. EPA may come back
23 and say, hey, yeah, we said five years ago this was cleaned
24 up enough, but we've looked at it now, we're not thinking
25 that this site is cleaned up enough. And DOE, as the

1 long-term custodian, would be the party responsible for it.

2 So there is that kind of complicating factor.

3 Yes, those kind of dynamics, that kind of complicating
4 factor as you get towards terminating these licensees. In
5 fact, on the Churchrock site, we have an MOU with EPA where
6 for activities within the boundary, we are the lead federal
7 agency and activities outside the boundary, EPA is the lead
8 federal agency. So we've tried to consolidate and work with
9 EPA, and we're also working on setting up a meeting between
10 us, DOE and EPA to open up the dialogue on these Superfund
11 sites so that DOE can understand and present its concerns to
12 EPA, EPA can understand them, and maybe they can work out an
13 MOU of some sort that would help govern what these sites do
14 in terms of long-term licensing.

15 MR. GREEVES: I think DOE is going to be looking
16 for a firm understanding that they're clean when they get
17 these sites, whether they be Title I or Title II.

18 MR. HOLONICH: Can I go to the next slide, please?

19 [Slide.]

20 MR. HOLONICH: The next slide lays out a little
21 bit about what the staff is doing in terms of reclamation
22 activities. Right now, we're looking to complete licensing
23 of 17 of the DOE sites by September of 1998. With five
24 licensed and 17, brings the total to 22. One site will
25 remain open for long-term management of tailings. For

1 instance, when Grand Junction does work and digs up tailings
2 under the street, the Grand Junction cell will remain open
3 and they will be able to dispose of those tailings there.

4 A couple of other sites have been removed. The
5 Bellfield, Bowman sites in North Dakota right now DOE
6 doesn't think needs to be remediated, so they won't be
7 licensed for long-term care.

8 We have got an equally large amount of work in the
9 Title II program. When these slides were provided to you a
10 couple of weeks ago, we had ten reclamation plans that we
11 had to complete. We now have eleven. We received one
12 recently in the region in response to a notice of violation.

13 The same kind of work, the same kind of activities
14 whether we're doing a DOE Title I review or whether we're
15 doing a Title II licensing review.

16 CHAIRMAN JACKSON: Now, these Title II sites, the
17 eleven identified reclamation designs, are these ones that
18 have the December --

19 MR. HOLONICH: Some of those are the December '97
20 date. Some of those do not have the December '97 date
21 because they were not undergoing reclamation at the time of
22 the MOU. Two of them are mills that want to resume
23 operation and they need to have their reclamation plan
24 reviewed to be able to resume operation.

25 So there is a hodge-podge of things in there.

1 CHAIRMAN JACKSON: Let me ask you this: Are we on
2 track in terms of getting these things done on the time
3 lines that were assigned to them?

4 MR. HOLONICH: We are. We have undertaken an
5 effort to contract the review of these activities in some
6 areas. Some of the plans stay with us and we'll review them
7 in-house. We're hoping that by the end of the next fiscal
8 year, we'll have a majority of these done. There will be a
9 couple that will go into Fiscal '98, but that's because they
10 won't be submitted until early next year, and so there will
11 be kind of a staggered time line in terms of completing the
12 reviews.

13 But our focus is trying to make sure we support
14 the reviews, get the dates done so that they can meet their
15 December '97 date or, if necessary, do what we need to to be
16 able to support the operation of the facility.

17 MS. FEDERLINE: I just wanted to add, this is one
18 of the complexities in managing this program, because it
19 requires multidisciplinary geotech engineers, health
20 physicists, surface and groundwater hydrologists.

21 When you receive some of these submittals a month
22 or two later than you expected to receive them, of course,
23 you know, you've been managing the staff, trying to keep
24 them all busy, you know, with one thing or another, and so
25 it adds to the complexity of scheduling. And this is how

1 sometimes when an applicant comes in they have to wait a
2 month or so and get into the sort of queue.

3 CHAIRMAN JACKSON: Given the mixture of technical
4 disciplines that you have to use, what resources do we draw
5 on? Are they strictly in-house? Do we use the, you know,
6 center in San Antonio? How do we work that?

7 MS. FEDERLINE: Yes. We have explored and we have
8 recently awarded a contract or are working toward a contract
9 at the center for supporting the uranium recovery work.
10 It's a good complement with the already existing expertise
11 at the center.

12 CHAIRMAN JACKSON: Does that help to expedite
13 things?

14 MS. FEDERLINE: Yes, it will.

15 MR. GREEVES: There is, I think, going to be a
16 natural tension. With the price of uranium going up,
17 everybody wants to be first. These ten or eleven people --
18 they're all beating on Joe's door and saying, you told me 18
19 months, Joe, I want it done in ten. So this is an area that
20 you're going to see and hear more about because of this
21 tension regarding the increased price of uranium, and
22 Margaret and Joe have periodic meetings to manage the
23 schedule and we briefed up through the EDO on this and told
24 him, this is our get-well plan. He gave us additional
25 resources to be able to --

1 CHAIRMAN JACKSON: Okay. You're going to be
2 talking about timeliness of review.

3 MR. GREEVES: Right.

4 CHAIRMAN JACKSON: So why don't we wait until we
5 get to that point.

6 MR. HOLONICH: The other activities that are
7 dealing with surface reclamation are the cleanup of
8 contaminated soil, and many of the facilities in Title II
9 have been completing these programs over the past couple of
10 years. Again, this was an area where URFO had done the
11 earlier reviews. The licensees have been out there scraping
12 up the soil, cleaning up the soil to the appropriate
13 standard, and now they're completed with those programs and
14 they're coming in to us and saying, we're done, we would
15 like your approval to say you've completed the program in an
16 acceptable manner.

17 Usually what they do with this soil is place it on
18 top of the tailings impoundment, and the two reasons are
19 convenience -- that's a nice place to store it; they're
20 going to be taking care of it anyway -- and number two, the
21 top ten feet of the tailings or the top ten feet of the
22 material is really what dictates the thickness of the radon
23 barrier. And so if you can put a soil up there that doesn't
24 have as high a concentration of radium in it, you can reduce
25 the thickness of the soil that you need for the radon

1 barrier.

2 Of course, we have the groundwater reviews, we've
3 got the corrective action programs, the cleanup programs in
4 Title II that are coming to an end, people are trying to
5 finish, and we've got the start of cleanup activities in the
6 Title I program.

7 In addition, once reclamation work is done, we've
8 got the long-term licensing of the sites. These involve us
9 looking at construction, making the conclusion that
10 construction has been completed in an acceptable manner, and
11 then reviewing a long-term surveillance plan submitted by
12 the Department of Energy and determining that that plan is
13 acceptable and the site should be licensed under long-term
14 care.

15 CHAIRMAN JACKSON: How many such reviews do you
16 have underway?

17 MR. HOLONICH: Underway today?

18 CHAIRMAN JACKSON: Yes.

19 MR. HOLONICH: We have probably three or four
20 underway today. We have four or five in backlog that are
21 Title I sites. All together, we have 17 Title I, we have 13
22 Title II, which gives you 30, and then we have nine
23 agreement states, which gives you 39 roughly, the total
24 number.

25 What is going to happen here is DOE is going to be

1 the short-term focus. We are going to be looking at getting
2 the five backlog done next year as well as any others that
3 come in and working on those licensing activities through
4 the end of Fiscal '98. We have one other Title II site, the
5 Arco Bluewater Mill, which has completed construction, and
6 we're probably looking at maybe early next year at
7 potentially terminating that license and putting it under
8 long-term care.

9 We have one site, the Day Loma site, which is a
10 heap leach site in the gas hills of Wyoming. It's a unique
11 site. The Commission has discretion under the Atomic Energy
12 Act not to require long-term care of tailings disposal
13 sites, and the licensee has presented information and made
14 an argument to us that they think this site should be
15 excluded from long-term care.

16 We went back with some technical questions on this
17 site. They are going to come back with some answers and we
18 are going to have to come up to you with a paper and consult
19 as to whether you want to exercise that discretion or not.
20 But what you've got is you've got a small 20-acre site
21 that's almost the size of a postage stamp compared to
22 several large open-pit mines, and the background and the
23 mine spoils is much greater than the radon emissions you're
24 getting off of the tailings impoundment, and that's part of
25 the argument that the licensee is using.

1 So not only are there straightforward reviews, but
2 there are some complicated and interesting reviews here like
3 the Day Loma site.

4 Finally, we have the states and public who are
5 interested in what we are doing. The states, we're
6 consulting with them regularly, whether they be agreement
7 states or whether they be non-agreement states.

8 In addition, some sites have a lot of public
9 interest, the most controversial of which is the Atlas site
10 in Moab. We published a draft environmental impact
11 statement on the Atlas site. We got 1100 comments on that.

12 CHAIRMAN JACKSON: A lot of interest.

13 MR. HOLONICH: Yes. Granted now, you know, some,
14 like the State of Utah, sent us an inch and a half of
15 comments; but we got a lot of individual commentators saying
16 either move it or keep it in place. So we do have a lot of
17 public involvement on certain sites, and that helps us think
18 more critically, but it also helps us -- makes us think a
19 little bit more about different issues.

20 MR. THOMPSON: I think also the federal government
21 with the National Park Service is also involved in that one
22 since it's right next door.

23 MR. HOLONICH: May I have the next slide, please.

24 [Slide.]

25 CHAIRMAN JACKSON: How well are you able to

1 project what you think your future workload is going to be
2 with respect to the licensing reviews?

3 MR. HOLONICH: Well, we have asked the industry to
4 give us a presentation as to what they see new facilities
5 are. At the March workshop, they did give us a
6 presentation. They gave us some hard numbers of sites that
7 they expect to file applications. We are also getting calls
8 of interest from different companies.

9 COMMISSIONER ROGERS: Hello?

10 CHAIRMAN JACKSON: Hello, Commissioner Rogers?

11 [Pause.]

12 MR. HOLONICH: We are also getting calls of
13 interest from different companies, and at least one has come
14 to us and said they would like a pre-licensing consultation
15 meeting with the staff to understand what's involved in
16 licensing.

17 So we have taken the initiative to tell the
18 industry we'd like to hear what your plans are. We're also
19 getting, on their own initiative, people calling in. I'm
20 going to ask that at least twice a year, at one of the three
21 workshops -- two of the three workshops, we get some
22 information from the industry as to what they see the growth
23 is going to be in the industry and what kind of new
24 applications they're expecting.

25 Slide 12, please.

1 [Slide.]

2 MR. HOLONICH: I didn't want to leave you with the
3 impression that the only activities being undertaken in
4 uranium recovery were the decommissioning and reclamation of
5 the sites; and as John noted, there has really been a shift
6 over the past 18 months in terms of what's involved in the
7 program.

8 There are operating facilities, there are two
9 types of operating facilities, basically mills, and the
10 mills essentially are standard chemical extraction process.
11 And if I could just get the schematic up -- you can't see
12 the schematic very well on the television screen and I don't
13 want to go through details of the schematic, but essentially
14 we have three columns of boxes across the page there, and if
15 I were to characterize those three columns, the first one
16 would be the process of liberating the uranium from the ore,
17 second set of boxes, the second column is basically
18 concentrating the uranium, and then the third set of boxes
19 is drying the uranium and preparing it for shipment to the
20 customer.

21 If we can go back to Slide 12, please.

22 Right now, there are four mills capable of
23 operating. Of those four, one is processing mine water and
24 extracting uranium from the mine water; one has just
25 recently completed an operation processing both ore and

1 alternate feed material, and alternate feed material
2 essentially is something other than uranium ore but which
3 has uranium in it; two mills are in standby and looking to
4 restart, and we've got an application from one. That
5 application is not complete; we need to get the reclamation
6 information from that site before we can finish the review.
7 And one we have not received the application yet to restart.

8 Whenever you run a mill, you generate a large
9 volume of tailings, and the reason is you get about a pound
10 to three pounds of ore for every ton of -- I'm sorry -- a
11 pound to three pounds of uranium for every ton of ore that
12 you process.

13 And so I noted earlier the Tuba City site was a
14 smaller site; it had about a million cubic yards of tailings
15 there. Of the Title II sites, the biggest one is 33 million
16 cubic yards. We have others in the 20 to 24 million range,
17 some at 10 million and some in the 2, 3, 7 million range.

18 So you do get a lot of tailings generated whenever
19 you run these mills and that, of course, is the
20 environmental issue we're struggling with in the reclamation
21 portion of the program.

22 Complementing the mills, we have in situ leach
23 facilities, and these facilities essentially extract the
24 uranium from the ore in the ground. To be able to do that,
25 you have to have certain hydrological conditions; namely,

1 you have to have an impermeable barrier below the aquifer in
2 which you're doing the mining, the ore body has to be below
3 a groundwater table, and you have to know the direction and
4 speed of the groundwater in the ore body.

5 What happens essentially is you inject a mining
6 solution into the ore body, liberate the uranium, bring it
7 up, run it through an ion exchanger and go through a similar
8 process as you do with the mills. What's different here is
9 that you require a large amount of water to restore the
10 groundwater situation in the wellfields to the baseline
11 conditions that were there prior to when you started mining.

12 If we can go to slide 14.

13 [Slide.]

14 MR. HOLONICH: This is a schematic of a typical in
15 situ, and again you see it's kind of broken into three
16 pieces: the ion exchange circuit, which is essentially the
17 liberating the uranium from the ore; the aleutian circuit,
18 which is the main processing plant, and that's where you're
19 concentrating the uranium; and then finally the
20 precipitation drying circuit is where you're preparing the
21 uranium for shipment to the customer.

22 I've got a couple of pictures here of a site, if I
23 can have the first picture of the Irigaray site. What this
24 picture shows is the Irigaray site along with one of its
25 wellfields. Could you focus in a little better on the

1 wellfields, please?

2 Right here, these little white boxes, are the
3 wellfields where the mining of the uranium is done. The
4 building here is a satellite facility. This is where the
5 ion exchange takes place. These resin beads are then loaded
6 in the truck and taken down to the main processing plant.

7 This is a wellfield in Wyoming. This is the
8 Cogema site. And the white boxes are there to protect the
9 wellheads so that they don't freeze in the winter. They are
10 heated to ensure that the flow keeps there and the wellheads
11 don't freeze up.

12 May I have the next slide, please.

13 [Slide.]

14 MR. HOLONICH: The next slide is a close-up of the
15 main processing plant at the Cogema facility, and you can't
16 see much in terms of what happens there, but this is the
17 main building where the concentration of uranium is done as
18 well as the drying and packaging.

19 The pond you see over here is a radium settlement
20 pond. The way the process works is that they pull more
21 water out of the aquifer than they normally pump in to
22 ensure that they're pulling fluid towards the wellfield
23 rather than fluid going away. And they have a 1 to 3
24 percent bleed on the water, and that's where they put it, is
25 in that radium pond.

1 These ponds here are brine solution ponds, and
2 that's what's used to wash the uranium off of the resin
3 beads whenever they concentrate the uranium.

4 Can we go on to slide 15, please.

5 [Slide.]

6 MR. HOLONICH: As I showed you on the first slide,
7 we do have a number of agreement states in the uranium
8 recovery program and there are four: Colorado, Washington,
9 Texas and Illinois. Colorado and Washington are mainly
10 focused on reclamation activities. Texas has a number of
11 operating in situs as well as three sites that are
12 undergoing reclamation for Title II. Illinois has one site,
13 a thorium mill up in West Chicago, Illinois, that is
14 currently undergoing reclamation.

15 We have been working very well with the agreement
16 states. We have a good working relationship. We consult
17 them whenever we're doing major policy activities. We get
18 them involved. They have also attended our workshops that
19 we have three times a year with the industry. That helps
20 them to understand some of the concerns that are out there
21 in the industry, helps them understand what we're doing.
22 That also allows us to have dialogue with them and
23 understand some of the problems that they're facing, and
24 there may be things that we haven't thought of yet or
25 haven't realized are out there that they're actually getting

1 into in their program. So it's a good effort, it's a good
2 exchange between us and the agreement states.

3 I might note that the workshops that we have three
4 times a year, we rotate. We do it in Denver once because
5 the majority of the companies are headquartered there; we do
6 it in the region in July; and we do it here in headquarters
7 in October. So we go around the country with the workshop.

8 CHAIRMAN JACKSON: Is the degree of consultation
9 consistent from agreement state to agreement state?

10 MR. HOLONICH: Yes, it pretty much is. They are
11 active, they're involved, they will call us, we will call
12 them, we'll talk to them, they give us the information we
13 need. Yes, it's a fairly consistent level of interaction.

14 Next slide, please.

15 [Slide.]

16 MR. HOLONICH: Of course, we've got an inspection
17 part of the program, and the inspections are conducted at
18 both the operating sites and sites undergoing reclamation.
19 We have a manual chapter that covers mills.

20 For the in situ facilities, we are using the
21 general manual chapter on materials inspection, but we are
22 in the process of preparing a manual chapter specifically
23 for in situs.

24 We try to get to operating facilities twice a year
25 and sites undergoing reclamation at least once a year. The

1 inspections are usually done out of the region and they
2 coordinate very closely with us. They in the spring
3 generate a schedule of inspection activities that goes
4 through September.

5 What happens with these sites is, because you're
6 up in Wyoming, in northern states, often you can't get up
7 there and inspect in the winter, so the prime inspection is
8 usually between February, starting in New Mexico, and
9 working your way up to Wyoming by the end of September. But
10 they do coordinate very closely with us.

11 One of the reasons is that they don't have the
12 technical expertise in surface water hydrology and geotech
13 engineering to be able to conduct those portions of the
14 inspection. So usually the region will put together an
15 inspection team that involves somebody from the region as
16 well as maybe one or two technical experts from headquarters
17 to look at different aspects of the site.

18 We on occasion will lead an inspection team. We
19 recently led an inspection team at the Arco site in New
20 Mexico, looking at the completion of construction. Because
21 that inspection was focused mainly on reclamation, we in the
22 region both felt that it was good that we lead the team, but
23 the region did have a health physicist out there supporting
24 the inspection team and looking at groundwater clean up --
25 I'm sorry -- soil clean up as part of the inspection

1 activities the region was doing.

2 CHAIRMAN JACKSON: So you do it on an as-needed
3 basis and depending upon what the particular activity is?

4 MR. HOLONICH: I'm not following the question,
5 Chairman Jackson.

6 CHAIRMAN JACKSON: Well, you were saying, for
7 instance, well, when you have headquarters --

8 MR. HOLONICH: Right. It's as needed based on the
9 activity.

10 CHAIRMAN JACKSON: It's as needed.

11 MR. HOLONICH: Right.

12 CHAIRMAN JACKSON: Okay.

13 MR. HOLONICH: Over the past two years, we have
14 had some violation, but we have not had any major problems
15 in terms of inspection findings.

16 COMMISSIONER DICUS: Have you noticed any common
17 violations across the sites or does it vary?

18 MR. HOLONICH: It varies, Commissioner Dicus. The
19 kind of violations that we've gotten that have resulted in
20 severity level 4 is workers failed to shower, improper use
21 of dosimeters, unauthorized changes to the mill circuit. So
22 there was not a common problem there.

23 We do, when we believe something is serious, put
24 out an information notice. For example, least year, the one
25 mill that had operated and produced uranium had done some

1 drying of wet uranium in an open environment, and they
2 didn't do it consistent with procedures, they didn't do it
3 consistent with safety practices. We sent out an
4 information notice to all the mills and in situs saying this
5 is not the kind of practice you should take, this is not
6 what you should be doing.

7 So if we see something that we think is
8 significant, we will put out an information notice to all
9 the licensees so that they're aware of what else is
10 happening at other sites.

11 CHAIRMAN JACKSON: All the mills and all the
12 mining are in Region IV?

13 MR. HOLONICH: Correct.

14 COMMISSIONER DICUS: Those states that have
15 programs and do inspections, are they finding pretty well
16 the same violations or is there --

17 MR. HOLONICH: I don't know, Commissioner Dicus.
18 I would have to look into that and get back to you.

19 The final part of the presentation is to talk
20 about four significant issues that are currently there in
21 the program, and these essentially deal with the timeliness
22 of the reviews, a question of concurrent jurisdiction that
23 we share with the states, fees, and the long-term care
24 funding that needs to be paid as part of the termination
25 process for Title II sites.

1 Timeliness of reviews, as we noted earlier, we
2 have a large amount of work facing us. A lot of that work
3 involves the same kind of technical disciplines. We have a
4 number of factors that are influencing us -- the statutorily
5 Congressionally mandated dates for the Title I sites. We
6 have licensees who have been doing reclamation work at their
7 sites for a number of years who now want to terminate their
8 licenses. And we have new facilities who want to operate or
9 old facilities that have been in standby for ten or twelve
10 years and want to come up and begin operation.

11 With all of that facing us, we have had quite a
12 workload, and we still have a workload. We have taken some
13 actions to try to make the program more efficient. As John
14 noted earlier, we have the single branch, uranium recovery.
15 That has been, I think, a big help, allowing me to focus
16 just on the uranium recovery area and making sure that work
17 continues there.

18 We are going over to a performance-based license,
19 and what this performance-based license does is give
20 licensees flexibility to operate and make changes to their
21 facility without always having to come back to the NRC.

22 To give you an example, in the past, whenever an
23 in situ wanted to open a new wellfield, we would condition
24 each individual wellfield in the license. So that every
25 time a new wellfield was opened, the licensee would have to

1 come to us and request an amendment to its license.

2 What we're doing in performance-based licensing is
3 reviewing their operating plan for developing wellfields,
4 making sure we agree with the methods and the approach that
5 are laid out in that plan, and then telling licensees in the
6 license, you shall open your wellfields consistent with this
7 plan.

8 The down side to this for licensees is that we
9 will go out and inspect to see how well they're doing
10 against that plan, and if we find out they haven't complied
11 with that plan, they're subject to enforcement action.

12 But the process here requires that they have a
13 safety evaluation review panel that looks at all these
14 actions and agrees that they are not necessary in terms of
15 going to the NRC, that these are things that they can
16 accomplish under their current license. So we have a review
17 panel there at the site, plus we follow up and do inspection
18 to make sure that as they implement these performance-based
19 licenses, they're doing it in an acceptable manner.

20 CHAIRMAN JACKSON: Who comprises the safety
21 evaluation --

22 MR. HOLONICH: There are three people: somebody
23 from corporate management, somebody from plant operation,
24 and the radiation safety officer. They can add other
25 people. Three is the minimum. They can add other people as

1 they need, like hydrologists or geotechnical engineers or
2 whatever, but those three are the minimum that we specify in
3 the license.

4 COMMISSIONER DICUS: And looking at this, is this
5 a component of each inspection or is it done periodically?

6 MR. HOLONICH: Well, we've just got our first
7 performance-based license issued last August, and we did our
8 first inspection of the site, and it definitely was a
9 component of that site.

10 [Laughter.]

11 MR. HOLONICH: So we're batting 100 percent right
12 now, Commissioner Dicus.

13 CHAIRMAN JACKSON: But this is something you
14 intend to fold into it, to be a regular part of your --

15 MR. HOLONICH: That's correct.

16 MR. THOMPSON: Absolutely.

17 MR. HOLONICH: We've got five renewal applications
18 in front of us today, and as we go through those renewals,
19 we would put them into performance-based licensing.

20 CHAIRMAN JACKSON: Well, I guess I'm asking two
21 things. One you've just answered, that you will incorporate
22 that --

23 MR. HOLONICH: Right.

24 CHAIRMAN JACKSON: -- into the licenses as you go
25 along. The other piece is that you will also

1 correspondingly incorporate the review of --

2 MR. HOLONICH: The inspection.

3 CHAIRMAN JACKSON: -- performance relative to the
4 plan --

5 MR. HOLONICH: Yes.

6 CHAIRMAN JACKSON: -- as part of what you do on a
7 regular basis?

8 MR. HOLONICH: Definitely. Yes, Chairman Jackson.

9 CHAIRMAN JACKSON: Okay.

10 MR. HOLONICH: Some other things we've done are
11 listed there. We've gone over to ten-year licenses. We're
12 going -- we have been working with DOE to streamline the
13 review process. So we have done a lot of thinking on ways
14 to improve the program. We have gotten out of the box in
15 about the past nine months and have done some real strategic
16 thinking, and I have identified ways to make the program
17 more efficient.

18 Even with all of that, we had a backlog. I could
19 not get an FTE of efficiency out of doing the reviews that
20 we did. So we briefed the EDO. The EDO has given us
21 additional resources in terms of contract dollars and in
22 terms of FTE staff. Our goal is to eliminate the backlog by
23 the end of the fiscal year.

24 CHAIRMAN JACKSON: And once you have eliminated it
25 based on the projections you have of emergent work, with

1 your new approach, with the dedicated branch and with your
2 performance-based licensing and an inspection program that's
3 geared to that, will you be able to keep the backlog down?

4 MR. HOLONICH: I believe we will be able to.

5 CHAIRMAN JACKSON: Have you identified what is the
6 most time-intensive part of the review?

7 MR. HOLONICH: I have not looked at that piece of
8 it. I think probably, in terms of reclamation, is doing the
9 design review and doing the construction verification.

10 CHAIRMAN JACKSON: It would seem that, in terms of
11 kind of a work process, reengineering.

12 MS. FEDERLINE: We will get to that.

13 CHAIRMAN JACKSON: And it's something that you
14 might want to specifically focus on, because if you can
15 identify that, then that tells you how you need to structure
16 your resources once you've worked your backlog down.

17 MS. FEDERLINE: We'll get to that in a later
18 slide. We're talking about a cost control system that we
19 have put in place, and that allows us to scope the
20 activities of each of the staff members and should give us
21 the data that you're talking about to do that.

22 CHAIRMAN JACKSON: Okay.

23 [Slide.]

24 MR. HOLONICH: The next slide, slide 19, kind of
25 shows how the program is broken up this year -- I'm sorry --

1 broken up for Fiscal '97. I would note that we've got about
2 18 FTE and about \$1.4 million in contractor support. Of
3 that \$1.4 million, roughly \$1 million is going to the center
4 to not only get the work done that we need, but help keep
5 the center viable.

6 You notice I said we got five FTE and what
7 happened was that in Fiscal '97, the program was scheduled
8 to drop by two FTE. So we've picked up those two, plus an
9 additional three FTE, and that's what gives us the five FTE
10 in staff support.

11 This is direct staff; this is not overhead. It
12 doesn't include branch chiefs or secretaries. This is the
13 direct staff that will be working toward doing the technical
14 reviews.

15 CHAIRMAN JACKSON: How has that worked out with
16 the center's support of your program?

17 MR. HOLONICH: We have just started. We've got
18 the statement of work in place for one aspect of the center
19 work; we've got the other statement of work being sent to
20 the center we hope within the next month or so. So we
21 haven't used the center yet, but we've got the process in
22 place and it looks like, hopefully by the first of
23 September, we'll be able to start using the center in
24 groundwater reviews.

25 CHAIRMAN JACKSON: I think it's important to

1 capture as you go along any lessons learned from this --

2 MS. FEDERLINE: Yes.

3 CHAIRMAN JACKSON: -- in terms of the utilization
4 of the center, both in terms of where it can effectively be
5 used and how it might be used otherwise. You have to worry
6 about the alligators in your swamp; they have to worry about
7 the other swamps.

8 MR. HOLONICH: Correct.

9 May I go to the next slide, slide 20, please.

10 [Slide.]

11 MR. HOLONICH: The second issue is concurrent
12 jurisdiction with states. This is an interesting issue.
13 Essentially the agency view since 1980 has been that UMTRCA
14 does not preempt the regulation of non-radiological hazards
15 solely to the NRC. Because of that, the states share
16 concurrent jurisdiction with us for non-radiological hazard.

17 This has mainly been an issue in the groundwater
18 program where we look at limits for groundwater protection
19 and states look at limits for similar constituents.

20 The concern with concurrent jurisdiction is that
21 we may be in a position of having to delay a license
22 termination. The reason would be, we might find that a
23 licensee has done what needs to be done to meet our
24 requirements, but a state may step forward and say, hey, we
25 think that an alternate concentration limit of 2 milligrams

1 per liter is too high, we think it should be a half a
2 milligram per liter. And although the licensee has met our
3 ACL and legally we could terminate the license, one of the
4 things we need to step back and think about is that then the
5 Department of Energy would take over that site, and thinking
6 in a full federal government view, would we be subjecting a
7 federal agency then to state regulation to clean up the
8 groundwater when in fact the licensee who was responsible
9 for the site should have been doing that groundwater
10 cleanup.

11 So it's a complicated issue. It's a concern to
12 DOE.

13 CHAIRMAN JACKSON: What are you doing to address
14 it head-on?

15 MR. HOLONICH: We are working with the states. We
16 recently completed an ACL alternate concentration limit
17 review in New Mexico. We have worked very closely with the
18 State of New Mexico on determining those limits. The state
19 was satisfied with our review. The state didn't have any
20 problems with the limits we put together. That was a really
21 good success story.

22 In Utah, we have been working with Utah on mainly
23 the Atlas site. We haven't had as much success there. The
24 state would like us to take over regulation of all the
25 groundwater, including implementation of its groundwater

1 standards, the state groundwater standards and state surface
2 water standards. We couldn't do that.

3 The state didn't feel comfortable, then, with
4 having a double regulator there. We have been continuing to
5 work with the state, continuing a dialogue with the state.
6 We have not had as much success.

7 What we're trying to do is get the states and DOE
8 licensees together and try to come up with an acceptable
9 approach. We have had some success. I don't want to say
10 we've had no success with Utah, we've had some success, but
11 we're continuing to work with them.

12 CHAIRMAN JACKSON: You don't work off of an MOU
13 kind of approach?

14 MR. HOLONICH: No, we don't. No, we don't.

15 CHAIRMAN JACKSON: Is that possible?

16 MR. HOLONICH: It could be possible.

17 John, do you have --

18 MR. GREEVES: It could be state by state. This
19 whole dynamic varies state by state.

20 Correct me if I'm wrong, Joe, but up in Wyoming,
21 the state looks at us to work off these groundwater issues.
22 They're so overburdened on their other sites, as much as the
23 licensees in some cases would like ot get them involved,
24 they've pretty much said no, that's NRC's ball, you run with
25 that one.

1 So it varies, and in other program areas, we have
2 developed MOUs on a state-specific basis. We did this in
3 Pennsylvania, where we have a lot of SDMP sites. So it's
4 maybe something that we will think about and get back to you
5 if we see some room in the State of Utah -- Utah, I think,
6 Joe --

7 CHAIRMAN JACKSON: Well, I'm going to ask you to
8 get back with me.

9 MR. GREEVES: Okay. Utah is the one that we've
10 had the most difficulty; is that right, Joe?

11 MR. HOLONICH: That's correct, John.

12 CHAIRMAN JACKSON: Have there been any license
13 terminations that have, in fact, been delayed as a
14 consequence?

15 MR. HOLONICH: Well, no. We've only terminated
16 the Edgemont site, and there was not a groundwater problem
17 with the Edgemont site.

18 CHAIRMAN JACKSON: Okay.

19 MR. HOLONICH: The third issue to talk about is
20 fees. Fees are a concern to the industry for two reasons.
21 Number one, the industry believes that the Commission's fee
22 rate is too high; and, number two, they are concerned about
23 the amount of time it takes NRC to conduct its reviews.

24 There is not much I can do with the fee rate;
25 that's set by appropriations and developed by the

1 comptroller's office. But as Margaret noted earlier, we
2 have some --

3 CHAIRMAN JACKSON: There's something we can do
4 about it.

5 MR. HOLONICH: We have put a cost control system
6 in place to help us better manage our resources. What this
7 system does, the way it works, is that when an application
8 for an amendment or a reclamation plan or new license comes
9 in, the project manager and the technical staff who are
10 assigned to that activity will develop estimates for what it
11 would take to complete that review. Those estimates are
12 then loaded into the cost control system. That system then
13 monitors and tracks resource expenditures based on the time
14 that is charged or put toward the charge number associated
15 with that activity. Every month, the project manager will
16 get a printout. The printout will show who has charged time
17 to the activity that month as well as -- it will also have a
18 cumulative data record of who has charged time, how much
19 time has been charged and how that compares to the original
20 estimates that were projected whenever the application
21 arrived.

22 CHAIRMAN JACKSON: And what does that show? What
23 is that showing you?

24 MR. HOLONICH: What is that going to show me?
25 That's going to show me --

1 CHAIRMAN JACKSON: No, I'm saying has it shown you
2 anything to this point?

3 MR. HOLONICH: We have just started the system.
4 We got our first printout the end of this month. We've
5 shown that we're over-budget on a lot of activities we knew
6 we would be, like the Atlas site.

7 CHAIRMAN JACKSON: Okay. So what you're really
8 saying is that you really would like to come back and talk
9 to the Commission at a later time?

10 [Laughter.]

11 MR. HOLONICH: I think I would.

12 MR. THOMPSON: This is an important area that
13 really has implications on the small areas where we have
14 fees. We have licensees who are very sensitive to fees.
15 And sometimes workload expectations -- if they give us a
16 poor application, we can spend a lot of time on interfacing
17 and reviewing poor applications when they would think, well,
18 we gave you the answer, but it was a very poor application.a

19 CHAIRMAN JACKSON: Yes, I agree with you. But
20 there are two aspects to poor applications. One has to do
21 with what we have set out as what the minimum criteria are.

22 MR. THOMPSON: Correct.

23 CHAIRMAN JACKSON: And any other standardization
24 we can build in up front. The other, then, obviously, is
25 what in fact licensees submit to us, whatever the criteria

1 are.

2 MR. THOMPSON: Right.

3 CHAIRMAN JACKSON: But we have to be sure that, on
4 our side, that we're laying out -- I mean, we're learning as
5 we go along, but we have to be sure that we're giving the
6 up-front box within which we would like to operate as much
7 as possible so that there is no confusion in that regard.

8 Okay.

9 MR. HOLONICH: The final issue I would like to
10 talk about starts on slide 22, and that is the long-term
11 care funding.

12 [Slide.]

13 MR. HOLONICH: Just to reemphasize what I said
14 earlier, when a Title II site is terminated, the licensee is
15 required to make a payment to the federal government for the
16 long-term care of that site. The amount of the payment is
17 specified in our regulations as a minimum of \$250,000 in
18 1978 dollars. As escalated for inflation, the value today
19 is roughly around \$580,000. In addition, any amount that
20 the NRC determines is necessary for long-term care of that
21 site.

22 GAO did a study recently of the cost of uranium
23 mill tailings and came up with two recommendations. One was
24 that we work with DOE to determine an agreed-upon estimate
25 for long-term care funding and that we also revisit our

1 basis for the minimum long-term care amount.

2 What happened here is that, from our perspective,
3 from the minimum amount specified in the regulation, you
4 would look to spend about \$5,800 per site, per year doing
5 monitoring. DOE, based on its Title I experience, was
6 spending around \$21,000 per site per year. It's a factor of
7 four difference. And that \$21,000 was made up of about
8 \$5,000 to do the monitoring, about \$6,000 to do maintenance
9 at the site, and \$10,000 for a DOE contractor to prepare the
10 report documenting the findings from the inspection.

11 GAO was concerned that our long-term care fund was
12 going to be underfunded by a factor of four, and so they
13 asked us to start working with DOE.

14 This, of course, is an interesting issue. There
15 are differing views. The industry thinks it's too high.
16 The industry thinks that 3 percent is a better real interest
17 rate for calculating the perpetual care fund rather than 1
18 percent. DOE, of course, based on its long-term care
19 experience in Title I sites, thinks that that amount may be
20 too low.

21 We have done a number of things to look at the
22 issue. Even before the GAO report came out, we had went to
23 the region and asked the region to look at what it would
24 take to implement a long-term surveillance plan for a Title
25 II site, give us an estimate. They came back with that.

1 They estimated about 40 hours is what it would take. Using
2 the NRC labor rate of \$116 an hour, we came up with about
3 \$4,600 per site per year. That's close to the \$5,800 that
4 we've had in the past, and so we're getting indications that
5 probably the minimum number appears to be pretty solid.

6 In addition, we're going to talk a little bit in a
7 couple of minutes about our working with DOE, but since the
8 GAO report has come out, DOE has gone back and looked at its
9 cost. It's come down to about the \$8,000 per site per year
10 range.

11 CHAIRMAN JACKSON: From 21.

12 MR. HOLONICH: From 21.

13 So the numbers are getting closer, and we continue
14 to work with DOE --

15 CHAIRMAN JACKSON: This is the same order of
16 magnitude.

17 MR. HOLONICH: Yes.

18 [Laughter.]

19 MR. HOLONICH: We are also developing guidance
20 that people can use that will help them identify when the
21 minimum care fund should be escalated, when more money is
22 needed for maintenance at those sites; and we're working
23 with DOE to identify what they do on inspections because
24 what they do on inspections drives the cost. And we
25 continue to work with them.

1 So I think we're working to address the issue.
2 Right now, we're scheduled to close the recommendations by
3 the end of this calendar year, and I think we're on track to
4 do that.

5 CHAIRMAN JACKSON: The only question I have is
6 since you did indicate that industry thinks it's too high
7 and DOE too low, are you doing anything specifically to
8 interact with licensees as you are working this intensively
9 with DOE?

10 MR. HOLONICH: Yes. As a matter of fact, at the
11 March workshop, we had a half a day session on license
12 termination in general, and part of that session focused on
13 long-term care funding, what we were doing on long-term care
14 funding, when we would look for the long-term care funding
15 to be escalated. So the industry has been kept well aware
16 of what we're doing in this area.

17 In addition, this procedure, once we finalize it,
18 I plan to make it available to the industry, the states, to
19 DOE, to everybody. So it's not like we're going to have
20 this internal procedure and not have it out there. I'm
21 certainly going to be willing to send it out to states and
22 the industry.

23 CHAIRMAN JACKSON: Okay.

24 MR. THOMPSON: One other aspect about this funds
25 is right now, as I understand it, these funds just go into

1 the general treasury as opposed to being into a trust fund
2 or a specific fund.

3 CHAIRMAN JACKSON: Dedicated, yes.

4 MR. HOLONICH: In summary, basically where we are
5 today is that the workload has doubled based on projections
6 that I put together back in March of '94. At that time, I
7 had about 150 activities I expected; I've got somewhere
8 around 290 right now.

9 What is happening? A couple of things are
10 happening. Number one, DOE is accelerating its Title I
11 program. Title II licensees are getting towards the end of
12 their dates for radon barrier and they want to get that
13 complete. We've got new applications for in situs and we've
14 got people who want to resume operation. And all of that is
15 coming together at the same time, and any one of these
16 aren't necessarily as problematic as all four of them
17 happening at the same time.

18 We have a lot of external influences that continue
19 to affect us. We have concerns with states, not only in
20 terms of what we're doing in the reviews, but, Chairman
21 Jackson, I know you've got a couple of letters from
22 governors who want to see facilities brought on line because
23 of the economic benefit that those states are going to get.

24 We have a highly organized and involved licensee
25 community. They are not bashful about telling us what they

1 would like to see, they are not bashful about telling us
2 what they think we're doing wrong. But we have a very good
3 interaction with them. I think, since the closure of URFO,
4 that we've worked very hard at workshops. As a matter of
5 fact, things went so well at the March workshop that we
6 didn't need to have our July meeting with the industry
7 because we had no open items left from the March workshop.
8 So we're working very well, I think, with the industry.

9 We have a concern on organized public. As I
10 noted, we got 1100 comments on the Atlas DEIS. I've got a
11 DEIS for an in situ mill in New Mexico. We have 950
12 comments on that, plus seven petitions to intervene. So the
13 public is not bashful about stepping up and saying when they
14 don't like something that's being done in the uranium
15 recovery area.

16 We continue to work with EPA and implement the
17 MOU. Again, I want to emphasize it's a good working
18 relationship with EPA. I think it's a real success area and
19 I really enjoy working with the staff down there that I'm
20 interacting with.

21 I want to say the same thing about the region. We
22 have a good working relationship with the region. Chuck
23 Cain, Ross Scarano -- managers down there who are
24 implementing the inspection program are doing a very good
25 job. They have done reactive inspections when we need them,

1 they've coordinated with us, they kept us involved. So it's
2 been a really good effort with Region IV.

3 As I noted, the EDOs added resources. They have
4 given us five FTE, another million dollars or so in
5 contractor support to help address the backlog and get it
6 reduced by the end of this fiscal year.

7 Even with that, though, many aspects of the
8 program are going to continue. We have new facilities,
9 continued operational supports at facilities. That includes
10 things like amending licenses as well as doing inspection of
11 those facilities. We've got the long-term licensing of the
12 40 or so sites that I had mentioned, and then we have the
13 groundwater cleanup of the facilities. Title II is ending,
14 but the Title I is starting. So those activities are going
15 to carry us through I think for the next four or five years.

16 That completes the presentation this morning. I
17 hope we have given you some background and some context on
18 what's happening in the uranium recovery program and some of
19 the exciting things that we have on our plate.

20 CHAIRMAN JACKSON: Sounds quite exciting.

21 [Laughter.]

22 CHAIRMAN JACKSON: Do you have any additional
23 questions?

24 COMMISSIONER DICUS: A couple of things I would
25 like to ask about.

1 Regarding Title II reclamation, are any of these
2 sites the licensee no longer exists, and do you think any of
3 these where we have -- the licensees may be in financial
4 difficulty to do the reclamation?

5 MR. HOLONICH: There is one site where the
6 licensee is insolvent, American Nuclear Corporation, the Gas
7 Hill site up in Wyoming. ANC went bankrupt in the spring of
8 1994. The State of Wyoming reclaimed the bonds, reclaimed
9 the surety for the ANC site, and they are currently
10 completing the reclamation.

11 ANC is still in existence because it is entitled
12 to some payments from DOE for reclamation work done on the
13 tailings. It's the percent of uranium bought from the mill
14 by the federal government. The federal government
15 reimburses them that percent for the work for reclaiming the
16 tailings, and it has got to be the licensee. The law and
17 the DOE regulations state the licensee. And so ANC is still
18 around, but as a corporate entity, it's not very viable and
19 the State of Wyoming is taking care of that.

20 The other licensee really that was in some
21 financial straits was Energy Fuels Nuclear, which was a mill
22 down in Blanding, Utah, the White Mason mill. This was the
23 one that recently finished production run early this year.
24 That site's surety is backed by UMETCO Minerals Corporation.
25 UMETCO is a subsidiary of Union Carbide. They voluntarily

1 increased their surety from \$6 million to \$11 million. We
2 asked them to do that before they began operation. They
3 voluntarily increased the surety. So we feel like we may
4 not be exactly at \$11 million, but we're a lot closer to
5 what the surety should be than we were when they were at \$6
6 million.

7 So those were the only two where we really had
8 some financial problem.

9 COMMISSIONER DICUS: Okay. You have identified, I
10 think, a couple of the problems with being able to meet the
11 schedules that are in front of us. It's a complex
12 operation, quality of what you get in from the licensee.

13 Have you identified anything else that might keep
14 you from meeting the schedule?

15 MR. HOLONICH: No. I just think it's been
16 basically the volume of work, --

17 COMMISSIONER DICUS: You feel comfortable you have
18 a handle on it?

19 MR. HOLONICH: -- the complexity and the quality
20 of the submittals. And we have taken care of the volume of
21 work by adding more resources, so it's just the complexity
22 of the reviews and the quality of the submittals, I think.

23 COMMISSIONER DICUS: Okay. And one more quick
24 one.

25 Anyone have any idea of why uranium prices have

1 gone up? Because I think about a year or so ago, I thought
2 the market was flooded almost. Just curious.

3 MR. GREEVES: It's a worldwide market. I'm not
4 certain, but I thought I had heard that a lot of these
5 contracts the utilities had have a fairly low dollar value,
6 now are rolling over. So there is apparently, on the spot
7 market, some competition. It's basically the spot market
8 that dictates what this price is.

9 MR. HOLONICH: Yes. Essentially, we asked,
10 Commissioner Dicus, for the industry to give us a little
11 talk on that at the March workshop. What happened was there
12 were a lot of reactor orders in the late '70s, early '80s.
13 People were producing a lot of uranium to support those
14 reactors. Those plants got canceled. There was a large
15 stockpile of uranium. That stockpile has been eaten away.
16 In addition, there has not been as much uranium from the
17 Soviet bloc that people originally anticipated.

18 So what the industry has found is that there is
19 probably a 30 to 35 million pound per year shortfall between
20 now and 2000 in the availability of uranium. It's been
21 mainly there's been a large stockpile that got eaten away
22 and the availability of eastern uranium has not been as
23 great as people originally expected.

24 CHAIRMAN JACKSON: My understanding is that
25 Commissioner Rogers is on the line.

1 COMMISSIONER ROGERS: Yes, I'm here, but I don't
2 have any additional questions.

3 CHAIRMAN JACKSON: Okay. I just wanted to be sure
4 you had the opportunity.

5 COMMISSIONER ROGERS: Thank you very much.

6 CHAIRMAN JACKSON: Well, thank you.

7 The Commission would like to thank you for a very
8 comprehensive and very informative briefing on the NRC's
9 uranium recovery program. It appears that progress is being
10 made on all fronts -- licensing and inspection, site
11 remediation and regulatory guidance, which I always liked to
12 see. So the Commission is pleased to hear that the staff is
13 effectively utilizing the technical resources of the Center
14 for Nuclear Waste Regulatory Analysis and working off the
15 current backlog of work, and it would be interesting, as you
16 go along, to get some feedback from you in terms of how
17 that, in fact, works out.

18 The Commission is also pleased to hear that
19 headquarters' personnel and the regional staffs are working
20 together effectively in the absence of the URFO office in
21 Denver, and that coordination, again, is another thing that
22 is very important.

23 The Commission would like to encourage the staff
24 to continue to work with the affected local communities,
25 local governments, and the states as you continue to work

1 with federal agencies and the licensees in the various areas
2 you identified. I think you have gotten a good idea of the
3 concerns. It will all be memorialized in an SRM.

4 So Commissioner Rogers, Commissioner Dicus, unless
5 there is anything else you would like to add?

6 COMMISSIONER DICUS: No.

7 COMMISSIONER ROGERS: Nothing, thank you.

8 CHAIRMAN JACKSON: We stand adjourned.

9 MR. HOLONICH: Thank you.

10 [Whereupon, at 11:20 a.m., the meeting was
11 concluded.]
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CERTIFICATE

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

TITLE OF MEETING: BRIEFING ON URANIUM RECOVERY
PROGRAM (PUBLIC MEETING)

PLACE OF MEETING: Rockville, Maryland

DATE OF MEETING: Monday, July 29, 1996

was held as herein appears, is a true and accurate record of the meeting, and that this is the original transcript thereof taken stenographically by me, thereafter reduced to typewriting by me or under the direction of the court reporting company.

Transcriber: _____

Mark Mahoney

Reporter: _____ MARK MAHONEY



BRIEFING ON THE URANIUM RECOVERY PROGRAM

Presented by:

**Joseph J. Holonich, Chief
Uranium Recovery Branch
Division of Waste Management
Office of Nuclear Material Safety and Safeguards**

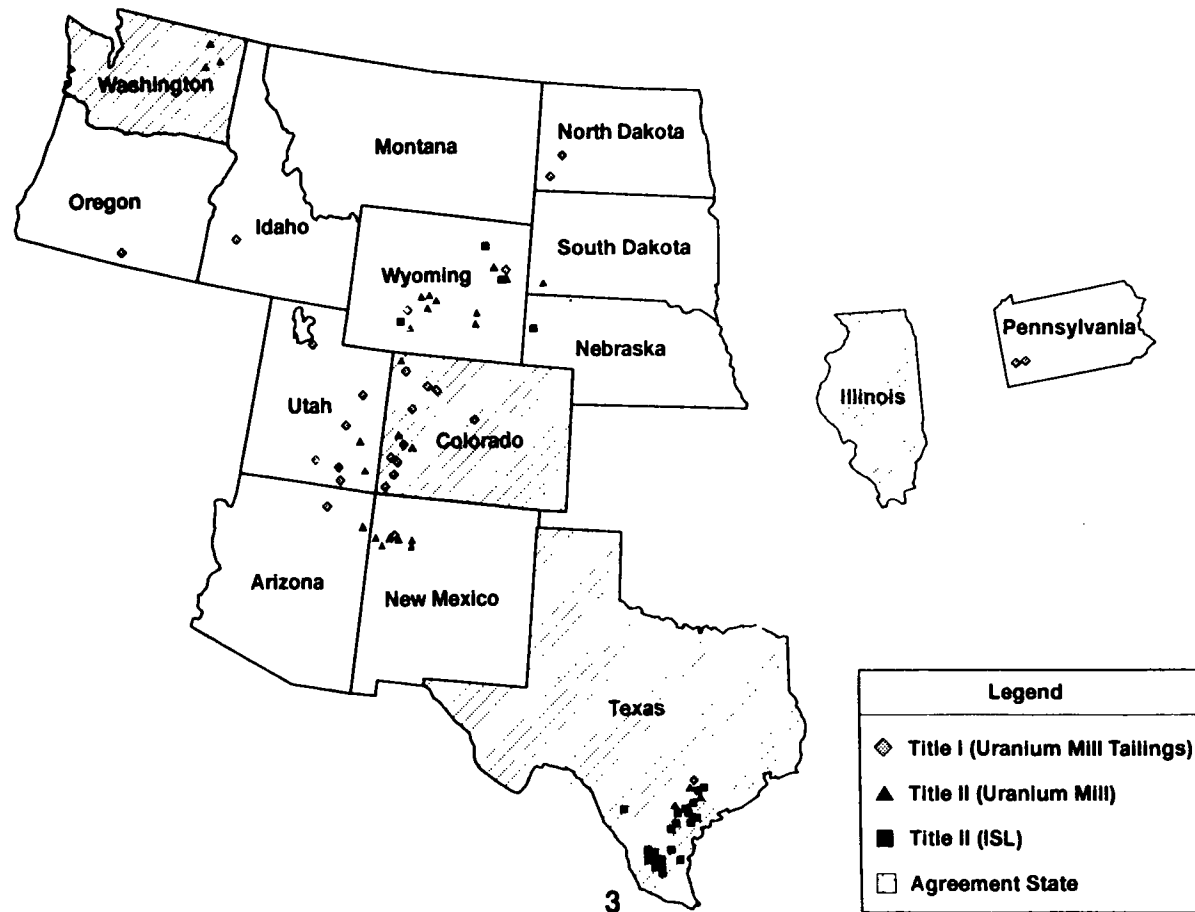
July 29, 1996

OUTLINE OF PRESENTATION

- **Background on Uranium Recovery (UR) Program**
- **General Information on UR Activities**
- **Major Issues in the Program**

URANIUM RECOVERY PROGRAM

TITLE I AND TITLE II SITES



HISTORY

- **Milling regulated under Atomic Energy Act**
 - **No basis to regulate tailings**
 - **Addressed tailings disposal through National Environmental Policy Act**
- **Concern with unregulated tailings**
 - **Dispersal and use - Grand Junction**
 - **No long-term control**

URANIUM MILL TAILINGS RADIATION CONTROL ACT (UMTRCA)

- **Basic philosophy in UMTRCA**
 - Long-term stabilization and control of sites
 - Clean up of groundwater
- **Established responsibilities**
 - Department of Energy (DOE)
 - Environmental Protection Agency (EPA)
 - NRC
 - States

DETAILS OF UMTRCA

- **Identified sites to be remediated by DOE (Title I)**
- **Provided NRC authority to regulate tailings at commercial sites (Title II)**
- **EPA standards**
 - **Emission of radon**
 - **Stabilization of the tailings impoundment**
 - **Groundwater limits**
- **Required long-term custodian for sites**

BACKGROUND ON SITE RECLAMATION

- **Surface reclamation of mill sites**
 - **Licensees determine the final design of the impoundment to ensure stabilization**
 - **Contaminated soil is cleaned up and usually placed on top of tailings**
 - **Same type of activities for Title I and Title II sites**
- **Statutorily mandated completion date for Title I activities of September 1998**
- **MOU between NRC and EPA sets December 1997 as the completion of the radon barrier for Title II**

SURFACE RECLAMATION STANDARDS

- **Standards were developed by EPA**
- **Specific standards cover**
 - **Limit radon emissions to 20 pci/m²-sec**
 - **Ensure stability of the impoundment for 1,000 years, but no less than 200 years**
 - **Clean contaminated soil to 5 pci/gm of radium in top 15 cm and 15 pci/gm for every other 15 cms**

BACKGROUND ON GROUNDWATER CLEANUP AT URANIUM MILL SITES

- **Groundwater restoration**
 - **Licensees must determine the extent of groundwater contamination**
 - **Cleanup program is developed to bring groundwater into compliance with applicable standards**
- **All current groundwater cleanup programs were approved by Uranium Recovery Field Office in the late 1980s or early 1990s**
- **Some licensees want to end cleanup program so final radon barrier can be placed**

GROUNDWATER CLEANUP STANDARDS

- **Title II cleanup of groundwater can be to one of three standards**
 - **Background**
 - **Maximum Concentration Limits**
 - **Alternate Concentration Limits**
- **Title I includes above standards plus supplemental standards**
- **Four mill sites are identified as superfund sites because of groundwater contamination**

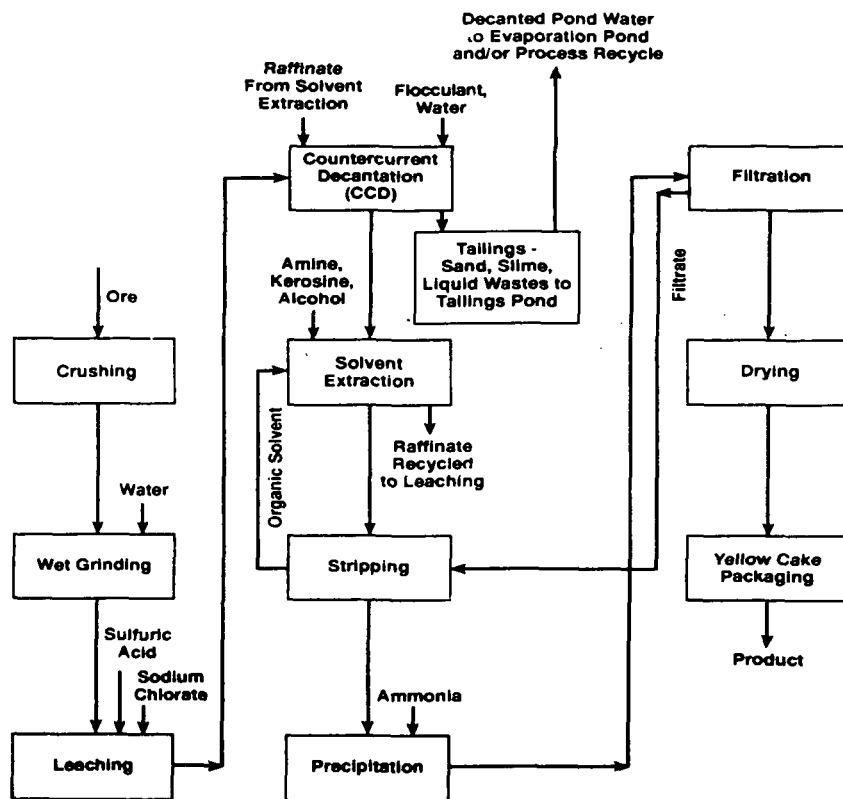
ONGOING STAFF ACTIVITIES ON RECLAMATION

- **Current reclamation reviews are numerous**
 - Looking to license remaining 17 DOE sites by September 1998
 - Title II work equally large: need to review 10 reclamation designs
 - Reviews of soil cleanup are just beginning at Title II sites
 - Groundwater reviews for both programs
- **Long-term licensing reviews for all sites**
- **Involvement of States and public**

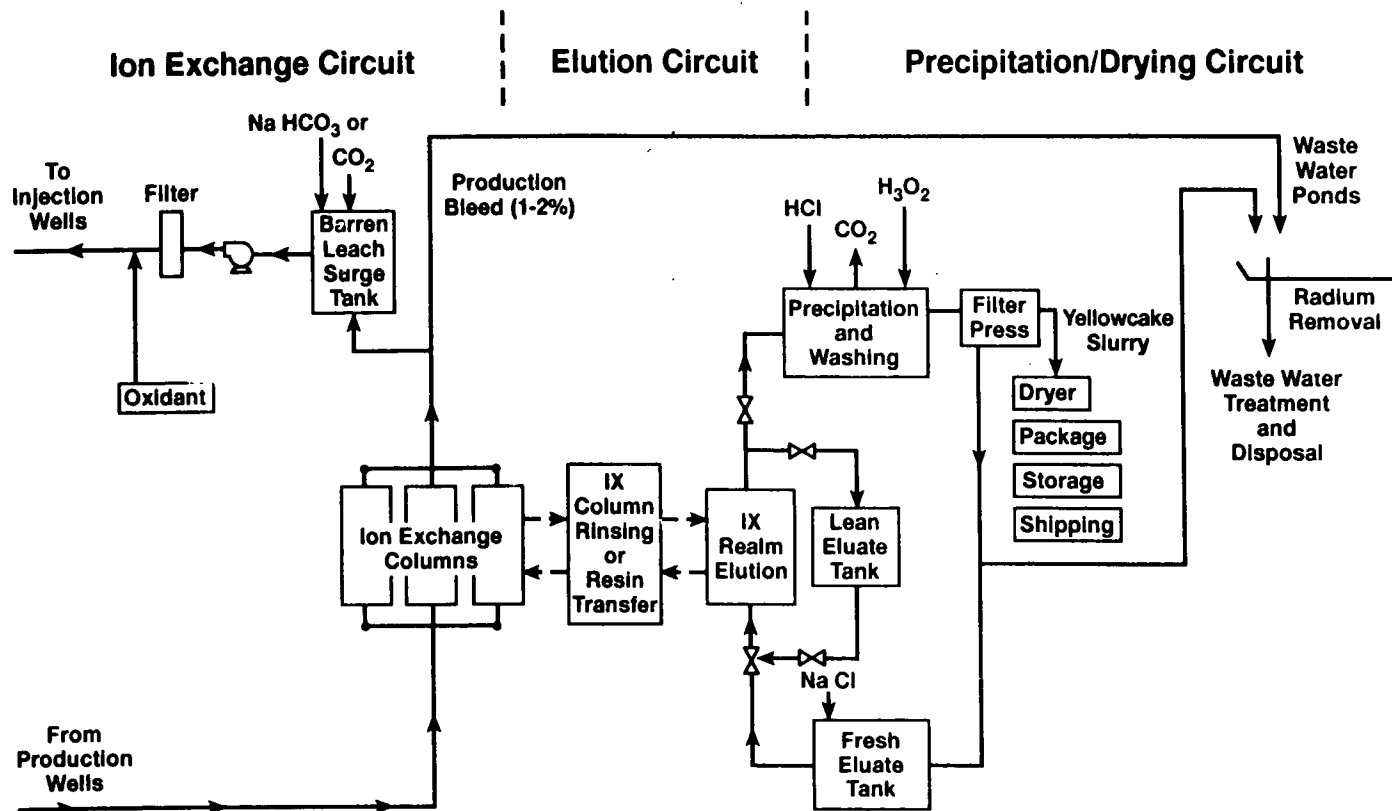
ONGOING OPERATIONAL ACTIVITIES IN THE UR PROGRAM

- **Operating mills**
 - **Standard chemical extraction process**
 - **Four mills capable of operating**
 - **Large volume of tailings generated**
- **Operation of in situ**
 - **Requires certain hydrogeologic conditions**
 - **Injection of mining solution into ore body to liberate uranium**
 - **Groundwater restoration requires large volume of water**

SCHEMATIC FLOW DIAGRAM OF A CONVENTIONAL URANIUM PROCESSING MILL



SCHEMATIC FLOW DIAGRAM OF AN IN SITU LEACH URANIUM RECOVERY PROCESS



AGREEMENT STATE PROGRAMS

- **Four agreement states in uranium recovery program**
 - **Colorado**
 - **Washington**
 - **Texas**
 - **Illinois**
- **Efforts have helped establish good working conditions**
 - **Agreement States consulted in some major policy decisions**
 - **Agreement States routinely attend workshops with industry**

INSPECTION ACTIVITIES IN THE URANIUM RECOVERY PROGRAM

- **Inspections are conducted at both operating sites and sites undergoing reclamation**
- **Routine inspection frequency is twice a year for operating sites, once a year for others**
- **Inspection teams**
 - **Close coordination with region**
 - **Most headed by Region IV staff with headquarters support**
 - **Some headquarters lead inspections**
- **Some violations identified, but no major problems**

SIGNIFICANT ISSUES CURRENTLY IN PROGRAM

- **Timeliness of reviews**
- **Concurrent jurisdiction with States**
- **Fees**
- **Long-term care funding**

TIMELINESS OF REVIEWS

- **Factors influencing staff workload**
 - **Mandatory dates for Title I sites**
 - **Licensees desire to terminate licenses or operate facilities**
- **Staff actions to enhance efficiency**
 - **Creation of a single Uranium Recovery Branch**
 - **Performance-based licensing**
- **Current backlog exists, but plan to eliminate by end of fiscal year 1997**

FY-97 RESOURCE UTILIZATION IN URANIUM RECOVERY PROGRAM

| | <u>FTE</u> | <u>Funding</u> |
|-----------------------------------|------------|----------------|
| Licensing of Operating Facilities | 1.9 | \$ 450K |
| Amendment/Inspection Support | 4.1 | \$ 115K |
| Reclamation Reviews | 7.9 | \$ 444K |
| Groundwater Reviews | 3.0 | \$ 200K |
| Policy/Guidance/Other | 1.0 | \$ 220K |
| Program Total | 17.9 | \$ 1,429K |
| FY 96 Program Total | 15.3 | \$ 318K |

CONCURRENT JURISDICTION WITH STATES

- **Agency view since 1980**
 - **UMTRCA does not preempt non-radiological hazards**
 - **States have concurrent jurisdiction on mainly groundwater cleanup**
- **Due to concurrent jurisdiction, license termination may be delayed**
 - **Staff may find licensee's actions sufficient to terminate license**
 - **State may want further corrective actions in groundwater**
- **Staff working with states, but issue is of concern to DOE as long-term custodian**

FEES

- **Industry concern over amount of fees**
 - **Industry believes fee rate is too high**
 - **Amount of time NRC takes is of concern**
- **Staff has developed computer based cost control system**
 - **Staff provides realistic estimates of review activities**
 - **The system monitors and tracks resource expenditures on a bi-weekly basis**
 - **Allows Project Managers to review time charged to identify large discrepancies early on**

LONG-TERM CARE FUNDING

- **Issue in General Accounting Office (GAO) Report**
 - **GAO recommended that we work with DOE to determine an agreed upon estimate for long-term care funding**
 - **Also recommended revisit basis of minimum long-term care amount**
- **Differing views**
 - **Industry perspective: minimum charge too high**
 - **DOE perspective: minimum charge too low**

STAFF ACTIONS IN LONG-TERM CARE FUNDING

- **Staff has initiated work to address concerns**
 - **Reanalyzed inspection cost with support from Region IV**
 - **Developing NRC guidance which will address circumstances for increasing long-term care payment**
- **Working with DOE per GAO recommendation**
 - **Looking to reach agreement on DOE costs and minimum charge**
 - **Discussing details of DOE inspection activities to help reduce amount of DOE work**
 - **NRC recognizes and agrees with DOE for need to increase funding if maintenance anticipated**

SUMMARY

- **Staff workload doubling this fiscal year**
 - DOE has accelerated its program and Title II sites approaching deadlines for radon barrier placement
 - New applications for in situs and resumption of operation for others
- **External influences continue to affect NRC's uranium recovery program**
 - Concerns of States with uranium recovery facilities
 - Highly organized and involved licensee community
 - Concerned and organized public scrutiny on licensing actions
 - Working well with EPA

SUMMARY (CONT'D)

- **There is good cooperation among headquarters and regional staffs**
- **Added more resources to eliminate backlog of work**
- **Many aspects of the program will continue through early part of the next century**
 - **Licensing new facilities and continued operational support**
 - **Long-term licensing of NRC sites and Agreement State sites**
 - **Groundwater cleanup of facilities**