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Planning for Management of Radioactive

Byproduct Material

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1	UNITED STATES OF AMERICA
2	NUCLEAR REGULATORY COMMISSION
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4	PUBLIC SCOPING MEETING &
5	WEBINAR ON FINANCIAL PLANNING FOR
6	MANAGEMENT OF RADIOACTIVE BYPRODUCT MATERIAL
7	+ + + +
8	WEDNESDAY
9	OCTOBER 7, 2015
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11	ROCKVILLE, MARYLAND
12	+ + + +
13	The meeting convened at the Nuclear
14	Regulatory Commission, One White Flint North,
15	Commissioners' Hearing Room, 11555 Rockville Pike,
16	at 1:00 p.m., George Smith, Facilitator, presiding.
17	PRESENT:
18	GEORGE SMITH, Facilitator
19	DOUG MANDEVILLE, Acting Branch Chief, Low
20	Level Waste Branch
21	JAMES SHAFFNER, Project Manager
22	RYAN WHITED, Senior Project Manager
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1	T-A-B-L-E O-F C-O-N-T-E-N-T-S
2	Welcome, Introductions, Logistics
3	Ryan Whited
4	George Smith 4
5	Background and Overview of the NRC Staff's Financial
6	Scoping Study
7	Jim Shaffner
8	Ryan Whited
9	Receive Stakeholder Comments
10	Michael Klebe
11	Mike Welling
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1 P-R-O-C-E-E-D-I-N-G-S 2 1:02 p.m. We're going to get 3 MR. WHITED: Okay. 4 started with this afternoon's public meeting and 5 webinar. Good afternoon, everyone. My name is Ryan 6 7 I'm a senior project manager in the Low-Level Waste Branch of the Office of Nuclear Material Safety 8 9 and Safequards at NRC. I'm here at the table with Doug Mandeville, who's the acting branch chief for the 10 Low-Level Waste Branch, and Jim Shaffner, who's the 11 co-project manager for this effort. 12 Ι'd like to thank all 13 of 14 participating in today's public scoping meeting and 15 webinar on financial planning for management radioactive byproduct material. 16 This is an open Category 3 public meeting 17 convened by the NRC staff to solicit feedback on the 18 19 staff's ongoing scoping study to determine 20 financial planning requirements for decommissioning and end-of-life management for some radioactive 21 byproduct material are necessary. Obtaining feedback 22 23 from a diverse group of stakeholders is an important

In addition to today's meeting we've also

part of our scoping study.

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1 issued Federal Register notice requesting stakeholder comments, and Jim and I will discuss that 2 3 Federal Register notice, or FRN, further in a few 4 moments. 5 The purpose of today's meeting is for the NRC staff to receive your comments on the byproduct 6 7 material financial scoping study that's underway. staff has prepared an introductory presentation to 8 9 provide some background and context for the scoping 10 study, and we'll start with that presentation and then devote the remainder of the meeting to listening to 11 your comments. 12 So thanks again for participating in our 13 discussion this afternoon. I'd like to now turn the 14 15 meeting over to Mr. George Smith, who is going to 16 serve as our facilitator today. FACILITATOR SMITH: Okay. Good afternoon. 17 My name is again, like he said, George Smith. I'll be 18 19 facilitating the meeting today. First, what I'm going to do is go over 20 ground 21 some of the rules and some of the administrative-type issues before we get the meeting 22 started. 23 24 First, restrooms. We do have restrooms Women to your left and men to the 25 outside the door.

right. There is an officer outside, so if you don't know which way to go, the officer will tell you.

Now, if you're not an NRC employee, you don't have access, unescorted access to the building, you are allowed to access this area outside of the room, but if you go into any other of the NRC security-controlled areas, you're going to need to be escorted. The security guard should stop you before you get to those areas.

If there is an emergency evacuation, there's a door back here, exit. Just follow the NRC employees. They'll be going towards Citadel Avenue. You'll see everyone amassing in the back there on Citadel Avenue.

Now, if you're not going to stay with us if we evacuate, please let me know so I can take your name down so I can account for you. And if you're on escort, I can let security know, hey, you're accounted for, you're not in the building.

The meeting is transcribed. Josh is over here. He's transcribing the meeting. So there are a couple of things I like to go over as far as the transcription. We have both stakeholders here of course in the room, and we have some on the line who are partaking through webinar. We're going to have

those individuals to come on the line to provide feedback. So, we ask that because the meeting's being transcribed and we want to get feedback from all the stakeholders, we ask that you hold the -- some of the conversations down, the sidebar conversations down to a minimum.

Also, we ask that you, if you can at this time, put your phones on courtesy mode. That's either vibrate or silent. Now, we do understand that if you have to make a phone call, you can just go outside and take the phone call or make a phone call. It's okay. If you have to use the restroom or you have to leave the room, it's okay.

Also, we're asking that you limit your feedback that you provide the staff to no more than 10 minutes. And what we're trying to achieve is to make sure all of the stakeholders have an opportunity to provide feedback for the staff. And if we have more time at the end, we'll definitely open up the floor to make sure everyone has an opportunity to provide their feedback.

Again, this meeting is to solicit your feedback for byproduct financial scoping, so there may some obvious questions that you may have, and the staff will answer those questions. Or if I hear

something that probably should be answered at this point, I'll point to you guys and say, hey, do you have an answer for that question? But if it's a long answer to a question that can't be answered in a short period of time, then we may ask that you provide feedback at the end of the meeting or you can email the staff, and the staff will provide that information, the email information, or you can contact the staff at the end of the meeting today.

We do have a sign-in sheet at the front of the door. Please sign in. It's voluntary. You don't have to, but we'd like to know who's attending the meetings so we can provide you feedback if there's any other information with the byproduct financial scoping. So it's a great vehicle for us to contact you.

like to Also, would continuously we improve our efforts to reach out to stakeholders and to get feedback, so we ask that you provide -- we have feedback forms also up front, so if you could provide feedback at the end of the meeting of our public forum soliciting feedback and how we're from the Also, those who are not here in the stakeholders. room, you could email the staff and the staff will provide that information where you can provide the

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feedback.

any document that you would like to provide to the staff, just to let you know, like this meeting is being transcribed and recorded, so it will be publicly available. Your notes or document that you provide to the staff will also be placed in ADAMS along with the transcription of this meeting to be publicly available also. Just want to provide that information for you.

You guys were talking. Was there something else you wanted to add or --

MR. WHITED: I would just add, George, I did upload for the folks on the webinar -- yesterday I uploaded the *Federal Register* notice that we're going to be talking about, the feedback forms and the agenda.

FACILITATOR SMITH: Okay.

MR. WHITED: So there should be a way for those folks to get that uploaded material through the webinar.

FACILITATOR SMITH: Okay. Great. Great. So, that's all I have at this time. And just to let you know, again, if you've given your feedback of if your feedback is going long or there's a back and forth, I'll probably stop in, because when I stop the

back and forth, because my job is to make sure that you can meet your objective, which is to provide feedback for the staff. So, just to give you a little heads up on that. So, I'm going to try my best to make sure you meet your objective.

So, that's all I have. I'll turn the meeting over to Jim, and you could provide your presentation.

MR. SHAFFNER: Okay. Hi, my name is Jim Shaffner. As Ryan pointed out earlier, I am the coproject manager on this project and I'll be doing the first part of our kind of summary presentation and then turning it over to Ryan.

Next slide, please. The purpose of this meeting again is to provide you all a brief background on NRC's byproduct material financial scoping study, it discuss our *Federal Register* notice in brief and to discuss the schedule for next steps, but of primary importance, and the bulk in the meeting, is for us to listen to you and gather your comments on this topic, because it is a scoping study and the important thing is to get as broad of a stakeholder perspective as we possibly can.

Next slide, please. The threshold for unsealed byproduct material in Part 30 is seven orders

of magnitude lower than for radioactive sealed Obviously this is something that has been It's not something that known for a long time. perhaps we paid a whole of attention to until recent circumstances dealing with concerns with possible uses of sealed sources malevolently. Licensees have a responsibility regardless of the financial planning requirements. They have the responsibility to provide for end-of-life management, however, responsibility is not really identified. I guess what I'm trying to say, it could be quite a challenge to the burdens licensees given for storage, some transportation and disposal that are involved.

Next slide, please. The issue I guess, really it's been around for decades, but it was identified by GAO and others back in the 1980s, however, I'd like to pick up the thread about a decade ago with the Radiation Source Protection and Security Task Force. I think most of you are familiar, but for those of you who aren't, the task force was created by the Energy Policy Act in 2005, and the task force is to report to the President and Congress every four years regarding the status of 10 crucial aspects of source security, one of which is end-of-life management.

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The task force itself is comprised of 14 federal agencies and chaired by the NRC. Some of the agencies include the Department of Energy, Environmental Protection Agency, FBI, Department of Transportation, and there are several others. To get the state perspective, the Organization of Agreement States also participates.

Financial planning was identified as an important aspect of end-of-life management in their first report back in August of 2006. It resulted in a interagency working group that I'll get to in a minute and that resulted in some articulation on the the 2010 report, which was prematurely dispositive of the issue. Ιt was recognized in that report that it's an extremely difficult task to associate a dollar cost with major aspects of ends-of-life management of byproduct material, particularly sources.

Circumstances changed somewhat between 2010 and 2014. Some things occurred like the opening of a new disposal site and some changes in transportation cask availability that would make cost estimates somewhat more tenable. So the issue was revisited in the 2010 task force report. So the impetus for this scoping study is in large part

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informed by the task force report and related documents.

Next slide, please. Early NRC follow up with regard to this issue was an effort in, or recognition in 2007 in a low-level waste strategic assessment that had identified byproduct financial scoping as a high priority. Unfortunately, resource limitations precluded us getting it into -- for the low-level waste group specifically to get into the issue at that time. However, there was a 2010 interagency -- actually it was an interagency working group that convened in December of 2008 that was tasked to report on the topic, but it was broadened somewhat to include Category 1, 2 and 3 radioactive sealed sources.

The group met for a period of about a year-and-a-half and came up with a summary report in March of 2010 which contains a lot of good information and it's just recently been made public, however, some of the high-level recommendations of that working group effort were included in the 2010 task force report.

Next slide, please. Which brings us to last year. The current effort of this byproduct financial scoping study arose from a Commission, NRC,

Nuclear Regulatory Commission briefing on radioactive waste issues in September of last year, just a little over a year ago. The presentation cited again that 2014 task force report which had just come out a month before, and also a report by the Low-Level Waste Forum Working Group on management of disused sources, which had been finalized in March of 2014. We discuss that report in some detail in the FRN. And bottom line, it was somewhat critical of NRC's program for regulating aspects of categories of sealed sources, including financial planning.

Also, the presentation to the Commission cited the task force report recommendation, which again suggested the need for NRC to consider advising its licensees with regard to financial planning for Cat 1 and Cat 2 sources. The Commission was I guess compelled by what the staff had to say, and so they; I'm paraphrasing a little bit, in their staff requirements memo said complete the scoping study, report the results to us and let us know what we should be doing going forward.

Next slide, please. Initially the staff had proposed to do this in relatively short order. We're going to put together a SECY paper with the results of the scoping study based on the information

that we had readily available and put in a paper to the Commission by April of this year. And we are going to accomplish that through an internal working group that consisted of headquarters staff, regional staff and an OAS representative. And that process got started toward the end of 2014.

But we were also in the process of doing the senior management alignment process for the SECY paper. And that time it became clear that we really didn't have all the information to do a fully informed SECY paper on the topic, that we really needed to reach out to a broader spectrum of stakeholders and get their opinions on the topic. And so we requested and were granted an extra year to do that, and obviously this meeting is part of that.

Next slide, please. So throughout the spring and summer of this year we've been trying to spread the word by attending stakeholder meetings, making topical presentations at groups such as OAS, CRCPD, Health Physics Society and others. And we're trying to remain agnostic on the issue as to both whether there is a problem that is rightly addressed by financial planning and also whether the best solution or a good solution is through additional financial planning. And that's where you all come in.

We've read the reports that we'll allude to here today, know what stakeholders such as the Low-Level Waste Forum and the task force have to say, but we want to hear from you folks.

So we're hoping that in the process of formulating any comments or opinions you might have had a chance to look at the 2010 interagency working group report that I alluded to. The Low-Level Waste, Disuse Source Working Group report and any one of the three Radiation Source Protection and Security Task Force reports.

see the need to consider relevant activities in the United States, since as I alluded to the opening of the waste control specialist site, which gives a little more latitude as far as disposal. Initiatives by the Global Threat Reduction Initiative Program, their Off-Site Source Recovery Program and how some of what they're doing might be transitioned transaction rather private than Also, work that CRCPD is doing government involved. in this regard, some transportation challenges, and some of the work that NRC is doing that impacts this, most notably the recently completed branch technical position on concentration averaging, which may allow a greater number of -- higher activity sources to be

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1 disposed of as Class B or C low-level waste. Also, 2 the Department of Energy efforts with regard to Class 3 C because many of the sources are considered greater 4 than Class C waste. And also, NRC's work that's 5 continuing on Part 61. And then finally, before I turn it over to 6 7 Ryan, we recognize that there are some international 8 activities that related to this. There are some 9 reports by international agencies on this topic that 10 are relevant and we expect that some of you may have greater insight into some of those activities than we 11 And we're hoping that you'll help inform the 12 do. process by bringing those into play. 13 14 Now, I'd like to turn it over to Ryan to 15 further frame the issue. 16 MR. WHITED: Next slide, please. Thank 17 you, Jim. So in addition to the reports and the 18 19 other domestic and international developments that Jim discussed, the staff identified some specific topical 20 areas in its Federal Register notice that we'd like 21 stakeholders to consider in preparing their comments. 22 I don't have time to go into each of these 23 24 areas in depth today, and so I'd refer you to the FRN

for additional details, but I would like to provide

just a quick overview of what the staff requested in each of these eight areas.

The first area refers to pathways such as reuse and recycling which may be available for some sources. Financial planning for these pathways may be different from those associated with disposal. And so, in the FRN the staff asked how these alternate pathways should be considered in establishing any potential new financial planning requirements.

The second area recognizes that establishing appropriate equitable and funding requirements for the disposition of certain sources may be challenging. For example, it may be difficult to estimate costs associated with interim storage, conditioning, packaging, transportation and disposal, both now and in the future. And consequently, a financial surety requirement established today may or may not be adequate several years from now when a source reaches the end of its service life. FRN the staff asked for feedback on the primary considerations in establishing and imposing appropriate and equitable financial planning requirements.

The third area notes that NRC does not currently require licensees to declare licensed

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sources as disused, although they are encouraged to do so. In the FRN the staff asked whether licensees should be required to specifically declare disused sources. And if so, how long after a source is disused must a licensee declare it as such?

The fourth area addresses source characteristics such as type of radioactive material, half-life, physical form and remaining useful life. In the FRN the staff asked for feedback regarding how these characteristics should be factored in to establishing equitable financial planning requirements for end-of-life management.

The fifth area acknowledges that any NRC rulemaking must involve the Agreement States, and the question posed by the NRC staff was if NRC rulemaking is initiated as a result of this scoping study, how should NRC engage with and consider the impact on the Agreement States and what would be the primary considerations in establishing compatibility levels for rule requirements?

The sixth area addresses the applicability of financial planning requirements to licensees possessing generally licensed sealed sources. In the FRN the staff asked for feedback regarding the mechanism that should be used when necessary to

administer financial planning requirements on general licensees.

The seventh area addresses characteristics and quantifications of the custodian for any funds earmarked for long-term management of disused sources. For instance, what characteristics should be considered regarding the custodian's relationship to the licensee and what should be the fate of any residual funds following payment of disposition costs?

And the final area notes that for licensees possessing Category 1 or sources, regulators can access the National Source Tracking System, or NSTS, to determine the number and type of licensees that would be impacted by any new financial planning requirements. For new sources, manufacturers or suppliers could be contacted to determine impacts. However, it may be more difficult to implement requirements and ensure accountability for sources that are not currently tracked in the NSTS; for example, Category 3 or lower sources. In the FRN the staff asked what are the characteristics of a tracking system for byproduct materials subject to financial planning requirements and which of these characteristics are not available as part of the NSTS?

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Next slide, please. Okay. So the issues and questions that the NRC staff identified in the FRN are by no means exhaustive. As Jim said, we're seeking perspectives from а broad range of stakeholders and we fully expect that some of you will identify additional issues that should be considered in the staff's scoping study. The staff will assess the information gathered from today's meeting, written comments provided in response to the FRN, and other resources such as the reports that Jim discussed to prepare a staff report on byproduct material financial which will include planning for the Commission, recommendations for next steps. This report is due to the Commission in spring of 2016. Staff recommendations could include options such as rulemaking, development of guidance, issuance of a generic communication or no action. The Commission will review the staff's report and will make a decision regarding the path forward.

Next slide. In addition to the comments received today, we'll be accepting comments on the FRN through October the 19th. There are a variety of ways in which you can provide your comments as shown on this slide. Also, even if you provide comments today, you're welcome to submit any additional input you feel

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1 the NRC staff should consider through the end of the comment period. All of the material covered by Jim 2 3 and myself in this presentation is summarized in our 4 Federal Register notice, and so you may wish to review 5 the FRN in formulating your comments. Should have any questions, 6 Next slide. please feel free to contact myself or Jim Shaffner. 7 Our contact information is shown on this slide. 8 9 also provided a link to the FRN on the slide. 10 Ι want to thank you aqain for participating in today's meeting and we look forward 11 12 to hearing your comments. FACILITATOR SMITH: 13 Okay. Great. 14 could leave the contact information up, that would be 15 great. So now is the time we're going to solicit 16 17 feedback from stakeholders, both here in the headquarters and those that are attending via webinar. 18 19 What we ask is those that are attending webinar, if you can call in to provide your feedback. And we'll 20 go between this room and those that are on webinar on 21 the phone lines to get that feedback. 22 I understand we were having some problems 23 24 with the webinar. Is that cleared up, or we're still

working it?

1	(No audible response)
2	FACILITATOR SMITH: Okay. You think it's
3	working all right right now?
4	(No audible response)
5	FACILITATOR SMITH: Okay. Great. So
6	we're not having problems on the webinar. We were
7	having some difficulties earlier.
8	So again, we ask that we limit our
9	feedback to 10 minutes. If we have time a little
10	later, we'll open the floor up again for more
11	feedback.
12	So, is there anyone here in the room that
13	would like to provide feedback? We do have a mic that
14	we'd like for you to speak in because again, this
15	meeting is being recorded. Anyone in the room here at
16	headquarters? Sure. You want to go?
17	MR. KLEBE: Good afternoon. My name is
18	Michael Klebe. Last name is spelled K-L-E, B as in
19	boy, E. I have my own small consulting company,
20	Michael Klebe & Associates.
21	I'm a retired State of Illinois employee
22	where I worked for 28 years in the originally
23	started out with the Illinois Department of Nuclear
24	Safety and then got merged in with the Illinois
25	Emergency Management Agency in 2003. Most of my

entire tenure there was dealing with radioactive materials management issues, radioactive materials licensing and financial assurance. In fact, I had the duty of seizing someone's financial assurance and cleaning up the mess that they let behind, so I have a little bit of experience.

I'd like to talk -- well, first of all,
I'll try to stick within your 10 minutes. I'd like to
hit some key points and then will also then follow up
with written.

First of all, I'd like to again thank you for the opportunity to come in and address you this afternoon.

The first issue I'd like to address is basically the thresholds for financial assurance for radioactive sealed sources. They're just set way too high. If you take a look at the multipliers that you have, the 10 to the 12 and the 10 to the 10, there are no Cat 1 sealed sources that meet the 10 to the 12th multiplier to produce a cost-based financial assurance estimate. Fourteen of the twenty Category 1 sources at the -- and this is again at the threshold levels for the category sources -- only fourteen of those twenty meet the requirements for the fixed fee of \$113,000. And there are six Cat 1 sources at the

threshold that have no financial assurance requirements at all. None of the Category 2 sealed sources at their threshold levels have any financial assurance required. Obviously, yes, for any of these there's a range of those sources, but again speaking at the threshold level.

To me it seems that if a source is risksignificant enough that it requires tracking through
the National Source Tracking System database it out to
be risk-significant enough that it would warrant
financial assurance, because let's face it, financial
assurance really does nothing for the generator.
Financial assurance is an administrative mechanism to
protect the regulator for when a licensee fails to
live up to their obligations of the radioactive
materials license.

We had to do it in the State of Illinois while I was there. We had a radioactive waste broker that failed to live up to the commitments in their license. They were unable to take care of their situation and we ended up having to seize their financial assurance and take care of the mess for them. So it does a licensee no good. It's basically to protect you, the NRC, and also to protect the Agreement State programs.

In my opinion all Category 1, 2 and 3 sealed sources should have financial assurance. this financial assurance should be based upon a cost estimate. Having to go through the exercise and identify what source you have, where it is in its life term, what its potential reusability or disposition path -- some of these sources can be reused. Some of them can be recycled. Some of them need to be disposed. Obviously a new fresh source, there's more options available for you for reuse and recycling, but a source that's sort of outlived its useful life, it requires disposal. And all those have specific costs associated with it, whether it be disposal cost, licensee transfer cost, packaging, shipping, all those type of administrative costs. And those are too vaque and too numerous to put any fixed dollar amount in a regulation.

So the fixed amounts, the fixed \$113,000 that you have in 30.35, it doesn't reflect actual cost. It was something that was made up in 2003. And again, that's another one of the problems. Any time you put a fixed cost in a regulation, it's frozen in time. And this \$113,000 has been frozen in time since 2003.

And then in order to fix the problem of

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having a fixed dollar amount specified in any regulation requires a rulemaking. Rulemakings are -- as you folks are probably well aware more than anybody else, the labor-intensive nature and process that those things have and how much of a pain in the back side that they can be for you folks.

So, all financial assurance should be based upon an actual cost estimate, and then these cost estimates should include a contingency to allow for the potential errors. And the cost estimates also need to be periodically reevaluated. Some states -- I believe the State of Colorado has an annual requirement for a formal submittal. State of Illinois has an annual requirement for the licensee to do that informally. Most states seem to have a three-year period. Three years to me seems to be the minimum frequency at which you would want to reevaluate. That so three years at most is what I wanted to say.

Again, taking a look at Category 1, 2 and 3 sources, they should probably all be specifically licensed. I know there's been a lot of papers in the past that have talked about licensing of sealed sources. I understand that the whole idea of having a general license -- as long as someone uses that source or that radioactive material within the

confines of which the NRC has defined that this material can be covered under a general license, that's fine, but requiring specific licensing for everything, for Category 1, 2 and 3 sources makes sense.

So, in my mind you should either have exempt material or you should have licensed material. And licensed, your choice should be specific and basically get rid of the general. Because if you take a look at the Category 1, 2 sources, they're risk-significant in and of themselves. Category 3 sources are easy enough to accumulate to get yourself a risk-significant quantity.

Requiring a specific license for Category 3 does a couple of things for you: First of all, it creates a revenue stream. And I mean everybody has budgets and they have to live within their budgets. So, by creating a revenue stream, that provides money for either the NRC or for the Agreement State program to put in place more regulatory oversight.

When I was with the State of Illinois, I wanted to make some changes to some things that were generally licensed. The basic response was, well, you know, that's all fine and dandy, but there's no money stream associated with putting those requirements in

place. So general licensees don't pay a fee. The regulatory bodies have limited resources. And as you well know, actions have to be prioritized, and it's easier to prioritize an action when there's funding behind it.

Financial assurance instruments. I'm not big fan of self-quarantees and parent company quarantees. Having gone through the experience in Illinois, I'm a big fan of something that has a cash value so that when you as the regulator decide that you need to seize that financial assurance, you get a check in the mail, because that's the best way to do Because if you have to sit down and argue with somebody that's posted a self-guarantee or a parent company quarantee -- because let's face it, if they posted a self-quarantee and they're not in a position to live up to the regulatory requirements of their radioactive materials license, they're sure as heck not going to be in a position to pay for it and all you're going to end up doing is getting into a big legal battle with them.

So self-guarantees, parent company guarantees ought to be done away with. Everything should be done either through like a cash set-aside, a prepayment, a surety bond, irrevocable standby

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letter of credit, something that is pledged to the regulatory agency such that if it's seized, you get a check in the mail. I mean, that's the one thing that really saved I think the State of Illinois in their process is that that licensee had an irrevocable standby letter of credit. It had specific language for calling that and it made that process very simple and straightforward. The bank didn't really appreciate it, but that was between the bank and the licensee to deal with.

And then the last subject I'd like to talk about; and hopefully I'm still within my time here, is long-term storage. Right now there decommission rule, or sort of а so to speak decommission rule, with regards to unused facilities, unused things in your license for more than two years if you have a facility that is contaminated and you're not doing anything with that, you've got basically two years to either figure it out or start to decommission it.

There is no similar requirement for sealed sources. And the point I'd like to make is the longer that something goes unused, the greater likelihood it will be forgotten or something bad will happen. And I'd like to provide you with a case in point.

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Riverside Hospital in Kankakee, Illinois

-- and this is all recorded in NRC Incident -- the
number should be 46098. They stopped their
brachytherapy program in October 2003. That was the
last time they used the cesium-137 sources. They were
always included in their routine inventories, leak
tests, and then they were last inventoried by the
licensee in July of 2009.

Well, in July of 2010 when they went to go looking for them, they were identified as missing. Turns out the building where the safe that stored those brachytherapy sources -- the building that those sources were stored in was remodeled in December of 2009. The safe and other contents of the room were moved about. The basis consensus was they believed it was disposed of with other scrap material. read the internal correspondence of the Illinois Emergency Management Agency, that's sort of where they think it is, but they don't rule out the possibility that it went someplace else. But anyway, based on their findings, they believe it's buried in a landfill in the State of Indiana, which I quess it's better in Indiana than in Illinois.

But I'd like to talk about those sources.

There were 14 cesium-137 sources.

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1	FACILITATOR SMITH: So, Mike, and I hate
2	to interrupt you, but
3	MR. KLEBE: I got two minutes.
4	FACILITATOR SMITH: Okay. If you can wrap
5	it up, okay.
6	MR. KLEBE: Two minutes. Thank you very
7	much. I appreciate it.
8	FACILITATOR SMITH: Great information, but
9	we'd like to get some other
10	(Simultaneous speaking)
11	MR. KLEBE: I know. I know. You
12	must have gone to the Chip Cameron School of Meeting
13	Facilitation.
14	
15	These 14 sealed sources, decay corrected
16	to 2010, represented 372 millicuries. So 14 sealed
17	sources. They're a couple millimeters in diameter,
18	about 20 millimeters long. Based on the
19	manufacturer's safety sheets, 3.6 milliR per hour per
20	millicurie. So, that basically puts if you put
21	those 14 sealed sources in a film can, at one foot
22	you're getting 1.3 R per hour exposure off those
23	sources.
24	So I think that's a timely point to be
25	
	made, because when I woke up this morning listening to

1 CNN, it appears the FBI and Interpol have foiled a cesium-137 smuggling ring in Europe or in the old 2 3 Soviet Empire. 4 So anyway, those are my comments. I again 5 appreciate the opportunity to give these to you in person, and I will be following up with written 6 7 comments that will expand and also touch on other 8 subjects. Thank you very much. 9 FACILITATOR SMITH: Great. Really appreciate your feedback. 10 Carolyn, you can open up the line. Do we 11 have anyone in the queue on the line? 12 OPERATOR: Thank you. We do have a 13 14 question or comment coming from Mike Welling. 15 Your line is open. Mike, thanks 16 FACILITATOR SMITH: Okay. 17 for calling in. We'd just like to remind you if you can hold your comment to around 10 minutes, and if we 18 19 have more time at the end, we'll open the floor again. 20 MR. WELLING: All right. It'll be short. Just one, just so you know, the external webinar 21 didn't work, so if you could send out the slides to 22 either the board and we'll forward it to all the 23 24 Agreement States, if anybody else down there didn't 25 get a chance to see those.

1	FACILITATOR SMITH: I think the slides
2	were posted on the web site, right, you said on the
3	MR. WHITED: I did not post the slides,
4	but I can send the slides to all the webinar
5	participants after
6	(Simultaneous speaking)
7	MR. WELLING: Yes, because I'll just
8	forward them to all the Agreement States and the
9	boards.
10	And two, yes, you do have the STC letter
11	out there and stuff. And your question is regarding
12	how you should reach out to the Agreement States. You
13	have done that, but we're hoping that you listen and
14	take our comments seriously, and including any changes
15	in the regulations go through the Standing
16	Compatibility Committee and listen to their
17	recommendations and comments that they make.
18	FACILITATOR SMITH: Okay. Thank you,
19	Mike. Is that it?
20	MR. WELLING: Thank you.
21	FACILITATOR SMITH: Okay. Great. Thanks.
22	Carolyn, we'll take another individual on
23	the line if you have someone.
24	OPERATOR: I'm currently showing no
25	further questions from the phones at this time.

1 FACILITATOR SMITH: Okay. Thanks. We'll open up the floor again here at headquarters. 2 Is 3 there anyone else here that would like to provide 4 comments? 5 (No audible response) FACILITATOR SMITH: I was going to ask if 6 7 you want to come back up. MR. SHAFFNER: If you don't mind, I'd like 8 9 to maybe have a chance to ask Mike a question or two. 10 FACILITATOR SMITH: Okay. The only thing I'll say -- yes, Carolyn, if you have someone that 11 comes in the queue, if you can let us know. 12 I will, certainly. 13 OPERATOR: 14 FACILITATOR SMITH: Okay. Also, here in 15 here the room, if you would like to make a comment, 16 just raise your hand and I'll acknowledge you. 17 MR. SHAFFNER: First of all, Mike, I really appreciate your comments. Obviously you've got 18 19 a lot of experience in this area and it's very, very helpful to hear from you. 20 During the course of your presentation it 21 seemed to be that what you had to say about 30.35 22 could extend beyond sealed sources to loose byproduct 23 24 material in that you seemed to be not a fan of a fixed

dollar amount, but more in favor of a decommissioning

planning approach.

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Yes, sir. The State of KLEBE: Illinois, if you take a look at their financial assurance regulations, they're in 32 Illinois Administrative Code, Part 326. They run there's a little bit different. Instead of keying off of the NRC's -- I mean, it sort of meets the general umbrella, but for radioactive sealed sources they have a threshold of one curie. If you have a one curie source, up to what they classify as a major possessor, you have to post a \$25,000 financial assurance instrument. Again, I'm not a big fan of that, because \$25,000 in some cases for some of those sources is overkill, and in some cases it's not enough.

And, yes, you are correct that that is directly relatable to whether you do it in -- the other sections escapes me, but even within 30.35 for loose form material and then where financial assurance is talked about for source milling, that type of stuff. Yes, fixed dollar amounts don't work because each situation is unique. What is the general framework that you're using to create that fixed dollar estimate and how do you know that it's universally applicable for all situations?

I'm a firm believer of decommissioning

estimates or decommissioning funding plans, whatever you want to call it, a specific evaluation of, okay, what is it that I have? In the case of sealed sources what sealed source do I have? it going to cost me to either recycle it, send it back to the manufacturer, or dispose of it? Or if I'm a radioactive materials licensee and I have a facility where I'm using loose form, okay, well, what Where was it used? radioactive material do I have? How it used? What's the likelihood of contaminating my facility, the grounds?

We had a situation of a thorium-magnesium casting plant located in one of the south suburbs of Chicago. They actually did on-site disposal. And it was at that point in time they complied with all the regulations of probably AEC at that point in time. I don't know if it overlapped when NRC took over. But things changed. They ended up having to go through a major decommissioning effort to remove contaminated soil on the property, to remove contaminated soil underneath their buildings.

So, I don't really see how in that case where they're just using thorium in terms of the casting material how any regulatory agency could have identified a framework to say, okay, well, it's going

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to cost you X amount of dollars, because that was strictly a unique situation. And it's a unique situation for anyone regardless of whatever radioactive material they use. And that's why I think it is important to have a cost estimate.

Now, on the regulator side, you have to have somebody that's smart enough to understand what's going on and have they considered all the applicable costs? There might be a situation where the NRC could create some guidance documents, because one of the big especially when you're talking things, about facility that has used loose form radioactive material is, okay, I've used it in this room. I don't know what the size of this room is. It's probably what, about 1,700 square feet, give or take. Okay. I don't know what -- me as a licensee, I don't know what it's going to cost for some third party to come in and do It might be helpful to have a survey of this. standards.

Okay. Well, this is generally accepted practice. If you're going to be doing a gamma survey in a building, you can do so many square foot an hour and you can then divide your square footage by that amount and you come up with an hour estimate and then you can assume some labor charge. So there are some

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But again, I think it's going to be a your matter of you're going to train license reviewers, or whoever it is that's reviewing these decommissioning cost estimates, whether it be at the NRC or at the Agreement State so that they can have understanding, okay, well, this is what it costs. If you're doing any sort of This is what it takes. on-site disposal or you had radioactive material to sort outside, and now you have the potential that it's migrated into the environment, well, what does that And so, it's a matter of a lot of education. mean?

But to get back to your original question;

I know it was a 10-minute answer for a 2-minute question, no, I'm not a fan of fixed costs.

FACILITATOR SMITH: So you're clear.
You're clear.

 $$\operatorname{MR.}$ SHAFFNER: Now, I'm not going to pose this as a question to you --

MR. KLEBE: I'll be more than happy to answer anything you'd like, sir.

MR. SHAFFNER: No, but obviously one of the points of this is to get the perspective of the people who are impacted by these -- you alluded to, in your opinion, the need for financial assurance.

1	Obviously licensees are going to have to pay for that,
2	and there are a broad range of licensees that would
3	have to be considered in this process and the impact
4	thereon. And so, like I said, I'm just raising that
5	now as something we would like to hear some
6	perspective on.
7	FACILITATOR SMITH: Well, why don't we
8	give them the opportunity. If there any licensees
9	that are either here in the room or on the line, if
10	you have any feedback on that, Jim would really like
11	to get some feedback from any licensees that are
12	actually called in on the line.
13	Do we have anyone on the line that would
14	like to provide Jim some feedback on that?
15	OPERATOR: And again, if you do have
16	feedback, it's star, one and record your name. And we
17	do have one party in queue holding for a question or
18	comment.
19	FACILITATOR SMITH: Great. Can we have
20	that individual?
21	OPERATOR: Certainly. We have Mary
22	Shepherd on the line.
23	Your line is open. Please go ahead.
24	MS. SHEPHERD: Hi. Can you hear me?
25	FACILITATOR SMITH: We can, Mary. Thanks
ļ	I and the second

1	for calling in. Really appreciate it.
2	MS. SHEPHERD: Okay. I have hours of
3	things to talk about, but on this particular question
4	we do we're JL Shepherd & Associates. We do Cat 1,
5	2, 3 sources. Some of the same Cat 3 sources that are
6	used for Part 30 licensees are also used in the GLs,
7	and it's never made any sense to us that if we're
8	putting it in a specifically the same source in the
9	specifically licensed device why that same source in
10	a GL isn't subject to the same requirements that our
11	licensees have to comply with. Same source model,
12	same activity. So I agree that everything should be
13	probably on an important to safety risk basis.
14	FACILITATOR SMITH: Okay. Thanks a lot,
15	Mary. Really appreciate your feedback.
16	MS. SHEPHERD: And I have more questions
17	for later, but I'll leave it open for
18	FACILITATOR SMITH: Well, if you have
19	another question, you can provide it right now.
20	MS. SHEPHERD: Okay.
21	FACILITATOR SMITH: Go ahead, Mary.
22	MS. SHEPHERD: One of the things; I have
23	to study this more, is end-of-life seems to mean
24	different things to different people in the different
25	groups, and I'm talking about the Cat 1 and 2 sources

that have long histories of use. There are many Cat 1 and 2 sources licensees that are private and federal, NRC licensees. And there's also quite a few at the DOE which are also part of 10 CFR, but not under discussion here. Many of these sources are not continuous use like a GL-type device would be, but they're in periodic use.

And at one of meetings Jet Propulsion Laboratory brought up the fact that they were very concerned, because like with space missions, which are years in the making, you could have a source that's an integral part of the space mission, but it's not used consistently. It might not be used for 5, 10 years. Or after the mission is launched, if they have to do some retesting, it could be another five years space mission where they've got to retest some parts to see if -- oh, you could manipulate something on the Mars Rover to work better.

And we have multiple licensees, like DOT and Agriculture for the Sterile Release Program for insects. Those programs can be cyclical and say if you have great success and you don't have an agricultural problem anymore, just because you don't have a problem that year doesn't mean the insect problem could emerge two years later. If they have to

get rid of their irradiator, then there's a huge economic loss because they don't have the kind of 2 response if they'd kept the irradiator in storage for some reasonable amount of time to make sure that that insect problem is really gone. We've had that with measles, the measles outbreak. With climate change we don't know what's 8 going to happen. Or not even climate change. 9 the changes in climate, the cyclical or real climate change the agriculture industry is not 100 percent sure what's all going to happen with their pest control issues. 12 And I'll explain more in some of 13 14 written comments, but I really think that 15 definitions need to be made concerning the end-of-life cycle, because there's so many different kinds of uses 16 with different kinds of issues on when a source is not being used versus when it's real life cycle ends for 18 19 the project. FACILITATOR SMITH: Okay. Thanks a lot, Really appreciate your feedback. 21 22 MS. SHEPHERD: Okay. FACILITATOR SMITH: Is there anyone here 23 in the room who'd like to make feedback at all? 24 (No audible response)

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1	FACILITATOR SMITH: Okay. Carolyn, we'll
2	go back to the line.
3	I'm sorry?
4	MR. KLEBE: You want a response?
5	FACILITATOR SMITH: No, I think we're
6	okay.
7	Carolyn, is there anyone else on the line
8	that would like to that's in the queue?
9	OPERATOR: And I'm currently showing no
10	questions from the phone. Again, it's star, one and
11	record your name. And I'll let you know if we have
12	anyone that comes into queue.
13	FACILITATOR SMITH: Okay. Again, we would
14	really like to hear from some of the licensees. It
15	would be great feedback if we can get some of that
16	information from you guys.
17	(No audible response)
18	FACILITATOR SMITH: Okay. We'll come back
19	to the room. We're going to look at you. Are you all
20	right?
21	MR. KLEBE: I just didn't know if Jim
22	wanted a response in terms of the impact on the
23	licensee.
24	FACILITATOR SMITH: I mean, if you want to
25	provide feedback, it's okay. We have time, so
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MR. KLEBE: Yes, hate to have your party end within an hour. That seems like it's a waste of effort.

You had talked about -- well, first of all, I'd like to at least give some credit to the folks at JL Shepherd. When I was with the State of Illinois, we had a lot of people that used JL Shepherd devices, and they were very good in terms of providing actual real life cost estimates. This is what it's going to cost to get rid of your source, to return it to the manufacturer. So they always did a very nice job with that.

But you talk about impact to the licensee. In the State of Illinois there are five means that financial assurance can be posted: certificate of deposit, surety bond, irrevocable standby letter of credit, self-guarantee, parent company guarantee. There's about 62 persons in the State of Illinois that need to post financial assurance. One person uses the parent company guarantee, but they're a medical firm of a very large international corporation that uses initials. There is nobody that uses a self-guarantee. There were like two or three that used certificate of deposits. They're usually small sealed source people like well loggers that post a \$25,000 certificate of

1 deposit. The rest were pretty much evenly split with a surety bond or an irrevocable standby letter of 2 3 credit. 4 My understanding in terms of talking with 5 those licensees and talking with people that issue surety bonds, depending upon the caliber of 6 7 individual you are a surety bond is an annual premium that will cost you roughly about 10 percent of the 8 9 face value. So that's an annual -- so if you post a 10 \$50,000 surety bond, your cost on an annual basis is going to be about five grand, give or take. And it 11 depends upon who you are. 12 If you're having an irrevocable standby 13 14 letter of credit, well, that's between you and the bank in terms of what you have secured against it. 15 the case of Illinois where we seized that irrevocable 16 standby letter of credit, that licensee had used 17 physical property, the building as part of 18 collateral to secure that letter of credit. So that's 19 sort of the level of impact to the licensees that I'm 20 aware of. 21 FACILITATOR SMITH: 22 Great. Thank you. Thank you very much. 23 24 Again, anyone else in the room who would like to provide feedback? 25

1	(No audible response)
2	FACILITATOR SMITH: We'll go to the line
3	one more time. Carolyn, is there anyone else that
4	would like to provide feedback?
5	OPERATOR: I'm currently showing no
6	questions or comments at this time from the phones.
7	FACILITATOR SMITH: Okay. I'm going to
8	turn it back over to you, Ryan, and you close out the
9	meeting.
10	MR. WHITED: Okay. Thank you, George.
11	Once again we do apologize for any technical issues
12	that happened on the webinar. I will get the slides
13	out, the slides that were used this afternoon. I'll
14	get those out this afternoon to the folks that were
15	registered for the webinar so you'll have those.
16	I'd like to thank all of you, both folks
17	in the room and those participating by webinar, for
18	contributing today to the discussion. Again, if you
19	have thoughts between now and October 19th, please get
20	them into us on our in responding to our Federal
21	Register notice. And thanks again and good afternoon.
22	(Whereupon, the above-entitled matter went
23	off the record at 2:00 p.m.)
24	