

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

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BRIEFING ON IMPORTING AND EXPORTING  
RADIOACTIVE WASTE  
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PUBLIC MEETING

Nuclear Regulatory Commission  
1 White Flint North  
Rockville, Maryland

Thursday, March 2, 1989

The Commission met in open session, pursuant to notice, at 10:00 a.m., Lando W. Zech, Jr., Chairman, presiding.

COMMISSIONERS PRESENT:

LANDO W. ZECH, JR.  
THOMAS M. ROBERTS  
KENNETH C. ROGERS  
KENNETH M. CARR  
JAMES R. CURTISS

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STAFF AND PRESENTERS SEATED AT THE COMMISSION TABLE:

SAMUEL J. CHILK, Secretary

VICTOR STELLO, JR., Executive Director for Operations

MARTIN MALSCH, Deputy General Counsel

ROBERT BERNERO, NMSS

RICHARD CUNNINGHAM, NMSS

MIKE BELL, NMSS

JAMES SHEA, IP

RICHARD STRATFORD, Deputy Assistant Secretary for  
Nuclear Energy and Energy Technology Affairs

WILLIAM A. NITZE, Deputy Assistant Secretary for  
Environment, Health & Natural Resources

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

10:00 a.m.

COMMISSIONER ZECH: Good morning, ladies and gentlemen.

The subject of today's briefing is the import and export of radioactive waste. In July, 1988, the Commission requested the staff to provide a paper discussing the options for establishing a proposed Nuclear Regulatory Commission policy on import and export of low-level radioactive waste.

The staff recently submitted for Commission review and approval SECY Paper 89-068 which forms the basis for the discussion today and one which the Commission will vote on in the near future. Copies of this paper and the briefing slides are located as you enter the room.

The paper also contains additional information regarding a request from Canada to import low-level radioactive waste to the United States for disposal, the merits of which will also be considered by the Commission.

Since the import and export of radioactive waste is a major policy issue, the staff was asked to consult with the Department of State and other federal agencies in developing a proposed policy. I

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1 understand that both the Environmental Protection  
2 Agency and the Department of State are considering  
3 national and international policy initiatives that  
4 would strengthen existing regulation in this area.  
5 The Commission would like to hear more about this  
6 today.

7 In addition to our staff speakers, the  
8 Commission welcomes Mr. Stratford and Mr. Nitze from  
9 the State Department. We're pleased to have you with  
10 us here today to present the State Department views on  
11 the import and export of waste.

12 Do any of my fellow Commissioners have any  
13 opening comments before we begin?

14 If not, Mr. Stello, you may proceed.

15 MR. STELLO: Thank you, Mr. Chairman. I  
16 think you've stated correctly what the issues are  
17 before us. Let me jump quickly to the bottom line.

18 As a matter of policy options, we've  
19 provided to the Commission basically four options.  
20 Our view is that we would prefer Option 1 because of  
21 the amount of work that we expect in the area and the  
22 savings of resources that we think we could achieve by  
23 doing it that way rather than going to a formal  
24 rulemaking process which would be Option 3.

25 If the Commission, as a matter of policy,

1 decides in a more formal structure, then we would  
2 recommend that the policy option we have provided to  
3 the Commission in Option 3 would be the right way to  
4 go.

5 I will ask Mr. Bernero to quickly go through  
6 and summarize our views and give you the briefing.  
7 Then we will be ready for questions.

8 I would note that in the paper we had  
9 indicated that we had information that informally the  
10 Department of State would have also preferred the more  
11 formal option and they're here today and can address  
12 that question directly. So, they might be able to  
13 deal with that direct matter with the -- who is here  
14 today.

15 COMMISSIONER ZECH: All right. Thank you  
16 very much.

17 Mr. Bernero, you may proceed.

18 MR. BERNERO: Thank you, Mr. Chairman.

19 (Slide) I'd like to start with slide number  
20 2 of the set of prepared slides that are at the door,  
21 for any members of the audience and, of course, for  
22 you members of the Commission.

23 You summarized it correctly, Mr. Chairman.  
24 Earlier we submitted a paper about Eldorado Resources'  
25 proposal. That's a Canadian firm and they've proposed

1 to dispose of slightly radioactive waste at a U.S.  
2 hazardous waste disposal site. We concluded that the  
3 quantity was low enough, that is the radioactive  
4 content of it was low enough that it could be and  
5 would be exempt from NRC regulation and could be  
6 imported for disposal.

7 However, the staff took no position per se  
8 in that about the concept of importing low-level waste  
9 for disposal.

10 (Slide) If we turn to slide 3, it just  
11 states quickly what the Commission disapproval and  
12 request was in the staff requirements memo that we had  
13 to confront that policy issue of whether or not to  
14 import or export low-level waste as such and consult  
15 with other agencies, particularly the State  
16 Department, and that's what we have done.

17 (Slide) I would like to turn now to slide  
18 4.

19 Basically, we have no government-wide policy  
20 about the import or export of waste. The general  
21 import and export of radioactive material is handled  
22 in our regulations without acknowledging that some of  
23 it might be waste. The regulations are written and I  
24 think it's fair to say in the earlier days the people  
25 thought in terms of radioactive materials, useful



1 materials rather than waste. As a result, it's  
2 possible that transfers might not be adequately  
3 controlled since it wasn't really envisioned that  
4 things would come in or go out, that is waste  
5 quantities rather than useful materials.

6 But this isn't to say that there is a  
7 problem. We think that there is, in fact, no problem.  
8 I'll be talking about that later. We just don't know  
9 enough because the transfers are done under general  
10 license. However, there are some means, as we've  
11 indicated in the paper, that we can check on that.  
12 For instance, we consulted with the three licensed  
13 low-level burial grounds, with the operators, and they  
14 knew of no foreign waste that had been imported or was  
15 proposed. So, we haven't been able to discover any  
16 traffic in what we genuinely call low-level waste.

17 Now, we acknowledge in the paper and in  
18 previous discussion that the Department of State and  
19 EPA have been involved in recent years with the export  
20 of hazardous waste to Third World or less developed  
21 countries with the implication that it was dumping in  
22 another area. They have placed restrictions on such  
23 exports of hazardous waste. We'll talk about that a  
24 little later.

25 (Slide) May I have slide 5, please?

1           The proposed policy options -- I'd like to  
2 point out the scope of what we're talking about here.  
3 We're talking about low-level radioactive waste,  
4 basically Class A, B, and C as we define them in 10  
5 CRF 61, and uranium and thorium tailings, source  
6 material tailings.

7           We're not trying to talk about spent nuclear  
8 fuel, which has its own regimen for control,  
9 principally driven by safeguards, of course. And  
10 we're not talking about radioactive material returned  
11 to its point of origin, if a contract is made with a  
12 supplier of a high activity source to go to some user  
13 and then at the end of its useful life to be returned  
14 to the supplier. Although it goes out and comes back  
15 in, we're not dealing with that as a matter of  
16 export/import.

17           I would also point out to you that there  
18 could be the occasional high-level waste  
19 consideration. For instance, research samples. If  
20 DOE has vitrified glass logs of high-level waste that  
21 are tested in a foreign country, imbedded in some  
22 foreign country's test repository, or vice versa, that  
23 wouldn't be addressed in this concept either.

24           (Slide) May I have slide 6, please?

25           We identified four policy options and they

1 range from taking no action, that is riding with the  
2 status quo of existing regulations which rely on the  
3 general license, up through different degrees of  
4 formality, of NRC requirement, up to Option 4 which is  
5 to have only bilateral international agreements, the  
6 most formal of arrangements, before one would  
7 entertain the idea of transfer.

8 So, what we're talking about is a range of  
9 options ranging from the general license, which we  
10 already have in place, up through degrees of  
11 reporting, licensing and ultimately bilateral  
12 agreement. We'll talk about each one of those options  
13 with their pros and cons now.

14 (Slide) May I have page 7, please?

15 Option 1, which is the reliance on the  
16 existing general license framework, is in place. It  
17 provides the mechanism to handle this. I point out  
18 again here that radioactive waste is not distinguished  
19 as a separate category and in all likelihood wasn't  
20 even envisioned as a separate category at the time  
21 those regulations were written. But nevertheless,  
22 low-level waste, under these regulations, could be  
23 transferred.

24 (Slide) Go to page 8, please.

25 The advantage of Option 1, of course, is

1 we've got the regulations in place. If we look at the  
2 harm or threat, we don't have any documented harm. We  
3 don't have any evidence of traffic or expressions of  
4 interest. The Eldorado case is a relatively rare one.  
5 As I said earlier, we talked to the only licensed  
6 burial grounds in the United States and those are  
7 operations that have been in place for some years.  
8 There's no evidence of traffic either occurring there,  
9 of import traffic, or of intent to have such traffic.

10 COMMISSIONER ZECH: Well, where would the  
11 Eldorado waste end up?

12 MR. BERNERO: Well, the Eldorado waste was  
13 proposed to go to a hazardous materials site as being  
14 more akin to a heavy metal, metallic sort of hazardous  
15 waste rather than radioactive waste. A crucial point  
16 with that, it's so low in radioactive content that it  
17 is an insignificant quantity, as we will point out  
18 later, and you don't have to go to a low-level burial  
19 ground to dispose of it. However, it's material with  
20 metallic elements in it and therefore is a hazardous  
21 waste in the EPA sense.

22 COMMISSIONER ZECH: So it would go to a  
23 hazardous waste site?

24 MR. BERNERO: Yes. Yes. Because of its  
25 metal content.

1                   COMMISSIONER ZECH:       And that's the  
2 appropriate place and the appropriate manner to handle  
3 it, is that correct?

4                   MR. BERNERO:   Yes.   As we point out in the  
5 paper, we did get further information in that --

6                   COMMISSIONER ZECH:   All right.   Let's  
7 proceed.   Thank you.

8                   MR. BERNERO:   That's the right --

9                   COMMISSIONER CARR:   When you're no  
10 documented harm, do we know what we export from the  
11 U.S. under general license?

12                   MR. BERNERO:   Not really.   Not really.

13                   COMMISSIONER CARR:   How do we know we didn't  
14 export the cobalt 60 source to Brazil?

15                   MR. BERNERO:   No, we don't really, unless a  
16 U.S. licensee -- there are certain circumstances where  
17 a U.S. licensee in disposing of waste would have to,  
18 under Part 20.302, come to us -- it's not really  
19 licensing, but it's akin to that -- would have to come  
20 to us to justify a waste disposal pathway.

21                   COMMISSIONER CARR:   Even under a general  
22 license?

23                   MR. BERNERO:   Yes, even though that licensee  
24 would be acting under a general license.   It's under  
25 his particular license that he would have to do that.

1 It's one of the asymmetries. A foreign licensee  
2 wouldn't have to do that. The U.S. licensee is  
3 subject to that. But we don't know --

4 COMMISSIONER CARR: Well, I guess my point  
5 is, no documented harm doesn't mean there hasn't been  
6 any, it means we just don't know about any.

7 MR. BERNERO: Yes, that's exactly the point.

8 COMMISSIONER CARR: Okay.

9 MR. BERNERO: We don't know, we can't say  
10 with confidence that we know everything that's going  
11 on, import or export. All we can say is we have only  
12 occasionally run into the discussion or the intent to  
13 have such traffic and, by checking with all of the  
14 well established, long operating U.S. burial grounds,  
15 there's no evidence of import traffic.

16 COMMISSIONER CURTISS: How good of a paper  
17 is that? If you talked to the three operating sites,  
18 does a general licensee in this country, when he or  
19 she brings in the waste, know that it would have to go  
20 to the low-level waste site, know the characteristic  
21 of the waste?

22 MR. BERNERO: Well, under the general  
23 license, the radioactive material has to come to  
24 someone who is licensed to possess it.

25 COMMISSIONER ZECH: Yes? Speak up.

1 MR. BELL: Commissioner Curtiss, I think  
2 under the Low-Level Waste Amendments Act, the site  
3 operators and the compacts would be well aware now  
4 because they keep a state by state inventory of where  
5 all the low-level waste that comes to the site is  
6 generated.

7 COMMISSIONER CURTISS: My question goes to  
8 the general licensee though. If the general licensee  
9 brings the waste in and it's radioactive and it's  
10 disposed of in a RCRA site, would we know that?

11 MR. BELL: Oh, at a RCRA site.

12 COMMISSIONER CURTISS: Would we know that?

13 MR. BERNERO: Well, by law we should. Dick  
14 can speak to it.

15 MR. CUNNINGHAM: Yes. The general license  
16 applies to anybody who holds a specific license to  
17 possess radioactive material. It's a general license  
18 to import or export if you have a specific license for  
19 possession. So, to the extent that you have control  
20 over waste generated by that licensee, you have  
21 similar control over any material that comes into its  
22 possession in terms of that license.

23 COMMISSIONER ZECH: All right. Let's  
24 proceed.

25 MR. BERNERO: Now, one other point I would

1 make about Option 1. The status quo is consistent  
2 with previous discussions of Commission position, vis-  
3 a-vis safety evaluation of events or actions taken in  
4 other countries. Going back to the Philippine reactor  
5 case, and this is discussed in the paper, where the  
6 Commission took a position that it was the  
7 jurisdiction and intent of the Commission to evaluate  
8 safety in the U.S. or in export/import only in the  
9 global commons and not to reach beyond under some  
10 other national authority and evaluate safety of  
11 activity there.

12 Of course, the disadvantages of this option  
13 are you don't really know, you don't really know. We  
14 are not aware of all the transfers and we are not in a  
15 position then to control or to at least feel that we  
16 are authoritatively controlling any such traffic that  
17 might occur since we don't have that level of  
18 knowledge. It is inconsistent with what EPA is  
19 currently doing with hazardous waste insofar as they  
20 are requiring notification and, as described in the  
21 paper, it's basically a clear trail of knowledge that  
22 the importing country and the exporting country are  
23 fully aware of what's happening and consent to it.

24 (Slide) May I have page 9, please?

25 Option 2 is escalating the formality by one



1 degree, where we would amend Part 110 to require  
2 notification and consent of recipient countries. And  
3 a possession license to receive foreign waste is, of  
4 course, as we just said, an affirmed requirement  
5 already. Now, this option is essentially like what  
6 EPA is doing now with hazardous waste.

7 (Slide) May I have slide 10, please?

8 The advantages are that one is given an  
9 information base to conduct oversight and tracking by  
10 at least putting the requirement out there. It gets  
11 us closer to the EPA requirements. However, it's not  
12 much of an additional control and you're depending on  
13 the affected people being fully informed and informing  
14 the NRC of it. So, the formality -- it's a little bit  
15 difficult to assure effectiveness and enforceability  
16 because basically you're putting a poster up that  
17 says, "Under our regulations, you've got to tell us  
18 what you're doing," but it's not quite so formal and  
19 enforceable as licensing would be. So, that would be  
20 a disadvantage of Option 2.

21 (Slide) If we turn to page 11, we look at  
22 Option 3. This is a specific licensing. I would just  
23 note that we're not presenting you with a rule or  
24 anything for Option 3, but in developing a rule, if  
25 that were the course of action chosen, you could

1 confront issues like do you want to include greater  
2 than Class C waste, these cobalt 60 sources or cesium  
3 137 sources of high intensity -- or however we would  
4 deal with those could be dealt with.

5 But basically looking at Option 3 for low-  
6 level waste and the uranium and thorium tailings, it  
7 would be a requirement for a specific license and if  
8 we turned to page 12, we'd see that the advantages  
9 would be a greater control. Through licensing, I  
10 think you can assuredly get a greater control. We  
11 would avoid the inconsistency that in the case of a  
12 U.S. licensee exporting waste, being subject to 20.302  
13 means there's sort of a licensing requirement on them  
14 right now, whereas a foreign agent exporting to the  
15 U.S. doesn't have that similar requirement. This  
16 Option 3 of licensing whichever way it goes, licensing  
17 export or import, eliminates that inconsistency.

18 Now, this can alleviate public concern in  
19 the sense of having an information base, the knowledge  
20 of what's going on and the control thereof. But, of  
21 course, it goes without saying that if the U.S. has a  
22 public policy of authorizing the importation of low-  
23 level waste from a foreign country for disposal here,  
24 that, rest assured, could generate public concern.  
25 And, of course, that would be a matter of the policy

1 of implementation.

2 The disadvantages of going to the licensing  
3 option, of course, again, the threat, we don't see a  
4 problem, although our knowledge is limited, and it  
5 would divert resources from some other activities.

6 COMMISSIONER ROBERTS: Elaborate on the  
7 public concerns that this is going to alleviate.

8 MR. BERNERO: It's the lack of knowledge  
9 concerned.

10 COMMISSIONER ROBERTS: Who's concerned?

11 MR. BERNERO: Well, from time to time -- we  
12 regularly hear about people saying that the Marshall  
13 Islands are proposing to become a waste dump and are  
14 we going to authorize that, or the People's Republic  
15 of China is going to do this, or somebody is sending,  
16 exporting wastes to less developed countries for  
17 dumping. Although we have regulations in place, we  
18 don't have the knowledge base that we can say with  
19 confidence that's not going on. So, that's really the  
20 public concern that would be alleviated. It would  
21 really be providing that knowledge base and the  
22 control.

23 (Slide) May I have slide 13?

24 Option 4 then is the most formal of the  
25 options. It's basically a bilateral international

1 agreement between two countries. It would, by its  
2 very nature, incorporate all the constraints that  
3 would go with the licensing option or the notification  
4 option. You'd have the mutual notice and consent and  
5 everything laid out and can have a much higher level  
6 of formality. Of course it's a very formal  
7 arrangement between two nations. It's not the  
8 regulation of traffic between any number of nations.

9 (Slide) May I have page 14?

10 Option 4 does afford the same opportunities  
11 for consistency with our regulations that licensing  
12 would. Frankly, I think it would encourage disposal  
13 in the generator nation because you'd have such a high  
14 level of proof or argument needed to justify export or  
15 import. In the same sense, public concern can be  
16 alleviated because of this knowledge base and control  
17 that would be exercised. But the disadvantage, of  
18 course, it would be a much more complex, a much more  
19 cumbersome arrangement.

20 (Slide) May I have slide 15?

21 COMMISSIONER ZECH: Why do you say it would  
22 be more cumbersome?

23 MR. BERNERO: Well, you're just negotiating  
24 bilateral agreements. It wouldn't be as simple as a  
25 licensing action where the proponent comes to us --

1 COMMISSIONER ZECH: I see.

2 MR. BERNERO: -- and authorities are  
3 notified. It would require --

4 COMMISSIONER ZECH: Negotiating --

5 MR. BERNERO: Yes, negotiating and  
6 implementing --

7 COMMISSIONER ZECH: -- challenges.

8 MR. BERNERO: -- bilateral agreements.

9 COMMISSIONER ZECH: All right.

10 MR. BERNERO: Now, if you just look on page  
11 15, at the resource estimates, we can just quickly  
12 capture what the resource picture is. Option 1, of  
13 course, is the status quo.

14 If you look at Option 2, it's the low side  
15 of the resources. Option 2, remember, is this  
16 notification one. You'd have to do some rulemaking.  
17 There'd be some modest implementation. We don't  
18 really know what the traffic is or would be, so we're  
19 kind of poking in the dark as to implementation costs,  
20 resource estimates.

21 If we look at Option 3 and Option 4, they  
22 both involve rulemaking and the implementation is just  
23 visualized for the same amount of traffic as being  
24 more costly, a bit higher resources. But we don't  
25 really know what those resources are going to be

1 because, again, we don't know whether there's going to  
2 be any attempt to have a significant traffic in the  
3 export and import of low-level waste.

4 So, to recapitulate what Mr. Stello said at  
5 the outset, the staff came forward with the paper and  
6 with the recommendation that given that we really  
7 don't see an evident problem, we recommend Option 1.  
8 If, as we say in the paper, the Commission would want  
9 a more formal control posture of this, then of the  
10 other three options which constitute some sort of  
11 entry into a control posture, Option 3 is the  
12 recommended one.

13 Now, I believe that the Office of  
14 International Programs and our colleagues from the  
15 Department of State have views of their own. So, I'd  
16 like to turn over to Mr. Shea first from International  
17 Programs.

18 COMMISSIONER ZECH: Thank you very much.

19 Mr. Shea, you may proceed.

20 MR. SHEA: Thank you, Mr. Chairman.

21 I would like to comment from the standpoint  
22 of the Office of Governmental and Public Affairs. We  
23 believe that the Commission paper and the presentation  
24 that Bob gave today both do a good job of analyzing  
25 the options that are available to the Commission in

1 this area. But after looking at all the factors  
2 involved from a policy perspective, we strike a  
3 different balance, I guess you'd say and on balance,  
4 we prefer Option 3. I think that that's a better  
5 choice for the Commission, to require a specific  
6 license to export or import certain types of low-level  
7 waste, basically because it would provide greater  
8 control and a better knowledge base for this potential  
9 problem.

10 Looking at the issue broadly, while it's  
11 true there haven't been many waste import or export  
12 cases so far and no clear evidence of harm, we do have  
13 some doubts in that area since we don't have the  
14 knowledge base. And, in the future, I guess I see the  
15 volume of waste increasing worldwide and the  
16 difficulty of disposing of it becoming greater. That  
17 seems to me to argue internationally for a greater  
18 formality in dealing with this problem over this  
19 country and abroad.

20 It's especially true, I think, since even  
21 one significant import or export waste case occurring  
22 without NRC's knowledge and approval could raise  
23 public concerns about possible health and safety  
24 impacts and the adequacy of Commission oversight and  
25 regulation in this area because the sensitivity

1 worldwide about waste is simply so great.

2 Looking at our present system of licensing  
3 of waste imports and exports, the system doesn't  
4 really allow for firm guarantees that we'll know about  
5 all such problems. We have these imports and exports  
6 under general license. They can go without our  
7 knowledge or approval.

8 As the paper indicates with, I think, a  
9 relatively small expenditure of resources, most of  
10 which would fall on IP after the rulemaking, NRC could  
11 insure that we know about such waste movements and  
12 approve them. This could be done over time. I don't  
13 see that there's a rush here. We could do this  
14 gradually. It would be up to the Commission, of  
15 course, to decide about whether this allocation of  
16 resources would be appropriate.

17 As Bob noted, one advantage of this approach  
18 would be that we'd eliminate inconsistencies between  
19 our import requirements and those we place on our  
20 domestic materials licensees, if they want to dispose  
21 of waste.

22 Option 3 would then, in summary, I think  
23 help avoid potential adverse impacts on U.S. citizens  
24 better than Option 1 and it would be a cooperative  
25 step that would help other countries prevent adverse



1 and unintended environmental affects on their  
2 citizens. We would require the consent of the  
3 receiving country under Option 3 before a waste export  
4 would be approved by the U.S., and we would avoid  
5 getting into the judgments about the health and safety  
6 impacts abroad. As Bob noted, the Commission decided  
7 in the Philippine reactor case to not make such  
8 judgments. But we'd be looking at it from the  
9 standpoint of whether these exports are inimical  
10 to the common defense and security, a broad finding  
11 that would take into account the receptivity in  
12 foreign countries or the political sensitivity in  
13 these countries to the disposition of waste from the  
14 U.S.

15 The State Department is represented here  
16 today and I think these latter areas particularly are  
17 their province. So, I think it would be desireable  
18 for us to hear from the State Department on their  
19 perspective in this area.

20 COMMISSIONER ZECH: Thank you very much.

21 Mr. Stratford, welcome again.

22 MR. STRATFORD: Thank you.

23 COMMISSIONER ZECH: You may proceed.

24 MR. STRATFORD: Thank you, Mr. Chairman.

25 We are pleased to be here today to comment

1 on the proposed policy on the import and export of  
2 low-level radioactive waste.

3 With me today is Bill Nitze, who is the  
4 Deputy Assistant Secretary for Environment, Health and  
5 Natural Resources in the OES Bureau. Bill's people  
6 are responsible, along with the EPA, for the  
7 international activities which are taking place with  
8 respect to the import and export of hazardous wastes.  
9 In a moment, I'm going to ask Bill to bring you up to  
10 date on U.S. activities in this area, because I think  
11 there is a very strong relationship.

12 At the outset, I wish to note that the views  
13 expressed here today remain the informal views of the  
14 Department and are officially only the views of the  
15 OES Bureau of the Department. We have, Bill and I,  
16 gone over what we're saying here today with Assistant  
17 Secretary Bernthal himself.

18 We note also from the policy issue paper  
19 that the staff prepared that if the Commission  
20 believes that further regulatory authority is needed,  
21 then the staff recommends that State be requested to  
22 establish a formal government-wide policy in this area  
23 and we would, of course, be pleased to cooperate in  
24 that respect.

25 With respect to whether or not there is an

1 immediate problem, we agree with the staff. That is,  
2 we have not seen any instances of import or export of  
3 radioactive waste and we have no reason to believe  
4 that any are likely to take place in the near future.  
5 However, the disposal of radioactive material is  
6 fraught with severe public concerns. The political  
7 and economic expense to the United States government  
8 of even a single controversial export could be very  
9 high. We have already seen how damaging such cases  
10 can be as indicated by actual exports of unregulated  
11 hazardous waste to Western Africa by European firms.  
12 These cases resulted in severe diplomatic  
13 repercussions and direct actions against those held  
14 responsible for such exports.

15 I'd also like to note that Mr. Bernthal  
16 addressed this issue when he appeared before the  
17 Subcommittee on Environment, Energy and Natural  
18 Resources of House Government Operations last July.  
19 He noted then that many countries would hold the U.S.  
20 government responsible for waste problems created by  
21 private U.S. firms, that the U.S. would be held  
22 morally responsible for any damage caused by waste  
23 generated by U.S. companies and disposed of in an  
24 under-developed country whether or not the receiving  
25 government consented to the shipment, and, finally, he

1 noted before the Committee that an increased volume of  
2 actual or proposed exports means a heightened risk of  
3 something going wrong.

4 As I indicated, we do not believe that there  
5 is likely to be an increased volume of radioactive  
6 waste imports or exports. Nevertheless, the prospect  
7 of diplomatic repercussions for environmental harm  
8 leads us to believe that the U.S. government should be  
9 in a position to assure that such consequences do not  
10 occur.

11 With respect to the options which have been  
12 proposed by the staff, let me first address Option 4,  
13 banning all import and export of waste except pursuant  
14 to a government to government agreement.

15 We do not believe that the Commission needs  
16 to pursue Option 4 at this time. The goals of Option  
17 4 can be effectively served in a more resources  
18 efficient manner. Option 4 could cause NRC and the  
19 Executive Branch to dedicate substantial staff  
20 resources to develop and negotiate specific  
21 arrangements in order to permit what may be a limited  
22 number of environmentally benign exports or imports.

23 I must say, Mr. Chairman, having been  
24 involved in the negotiation of agreements for  
25 cooperation in the nuclear area, they are indeed

1 complex. One took five years and none have taken less  
2 than a year.

3 It is true that in the area of hazardous  
4 waste exports, the Administration is giving serious  
5 consideration to a requirement for a government to  
6 government agreement. This is in response to a  
7 growing international interest in setting up more  
8 controls over the movement of hazardous waste.

9 At this point, I'd like to ask Bill if he  
10 could say a word or two about just what we are doing  
11 in the hazardous waste area.

12 COMMISSIONER ZECH: All right. Thank you  
13 very much.

14 Welcome. You may proceed.

15 MR. NITZE: Thank you, Mr. Chairman. It's a  
16 pleasure to be here in the NRC for the first time.

17 I think, as most of you know, we have an  
18 existing prior informed consent system governing the  
19 export or import of hazardous waste under the Resource  
20 Conservation and Recovery Act. As has been mentioned,  
21 the basic mechanism in that system is for the  
22 exporting government to notify the importing  
23 government of the proposed shipment and seek their  
24 consent. If that consent is not forthcoming, the  
25 shipment does not take place.

1           This system only applies to hazardous wastes  
2 as they are defined under the Resource Conservation  
3 and Recovery Act. As has been mentioned, the  
4 particular low-level radioactive wastes proposed to be  
5 exported by Eldorado Resources would not fall within  
6 that definition because those wastes are not  
7 flammable, corrosive, reactive or toxic. So, it is a  
8 fairly narrow and restrictive category of wastes that  
9 are subject to the existing prior informed consent  
10 system.

11           Now, at the moment, we are considering, as  
12 has been mentioned, a further control option which  
13 would be to ban the export of hazardous wastes as  
14 defined in RCRA from the United States absent a  
15 bilateral agreement with the receiving country. Now,  
16 in some cases, those agreements could involve more  
17 than one receiving country, but they would primarily  
18 be bilateral agreements. We have two such agreements  
19 in place, with Canada and with Mexico.

20           I thought it would be useful to provide a  
21 little background and context for consideration of  
22 this option. The foreign context has been alluded to  
23 by Dick. There have been a number of incidents, some  
24 involving the United States, some involving foreign  
25 countries, that have aroused concern about hazardous

1 wastes being disposed of in developing countries in an  
2 environmentally unsound way. I'm sure many of you  
3 remember the Philadelphia incinerator ash case, for  
4 example, where the barge floated over much of the  
5 oceans and we still don't know for sure what the final  
6 disposal of that waste was.

7 The domestic context is that the United  
8 States is the world's major hazardous waste generator  
9 as a whole. We generate approximately 275 million  
10 tons of hazardous waste every year. We believe that  
11 less than one percent of that is currently exported  
12 and that 90 percent or more of the exported quantity  
13 goes to Canada or Mexico under our existing bilateral  
14 agreements. So, for the moment, although we generate  
15 a very large volume of hazardous waste in this  
16 country, we do not have a major export situation and  
17 the bulk of those exports go to our two neighbors  
18 under existing agreements.

19 Our concern at State and at EPA is that the  
20 costs of disposing of hazardous wastes domestically  
21 are rising so rapidly -- I've heard numbers as high as  
22 \$2,000.00 a ton -- that there will be a growing  
23 commercial incentive for companies, municipalities and  
24 other generators to seek to dispose of these wastes at  
25 lower cost abroad. Indeed, there have been some very

1 active negotiations, for example between a syndicate  
2 in Detroit and a particular West African country about  
3 setting up a major waste export arrangement with that  
4 country involving considerable amounts of money. For  
5 a poor West African country, \$20, \$30, \$40 million  
6 over five years is a very large sum of money indeed.

7 So, what we want to do is to get better  
8 control over the situation before it gets out of hand  
9 and before we run a really severe risk of an  
10 international incident.

11 Now, there is also a further international  
12 context. The OECD countries have been considering an  
13 agreement among those countries controlling exports of  
14 hazardous wastes for several years now. More  
15 importantly, the United Nations Environment Program  
16 has been conducting negotiations on an international  
17 convention to control transboundary shipments of  
18 hazardous wastes, involving not only the developed but  
19 also all of the developing countries.

20 The basic principle which will be enshrined  
21 in that convention, which is due for final negotiation  
22 and signature this month, will be that no country will  
23 permit the export of hazardous waste where it has  
24 reason to believe that the waste will not be disposed  
25 of in an environmentally sound manner. The agreement



1 will be much more complicated than that, but that will  
2 be the central principle.

3 The agreement would permit, in its current  
4 form, bilateral agreements between a party and another  
5 party or non-parties provided they meet certain basic  
6 standards with respect to environmentally sound  
7 disposal as contained in the agreement.

8 We're not sure we're going to be able to  
9 sign onto the convention being negotiated at the  
10 current time. We have some concerns about specific  
11 provisions. But we feel that for both domestic and  
12 international policy reasons, we should take a step  
13 beyond the current prior informed consent procedure in  
14 order to avoid potential embarrassment and cost to the  
15 United States of improper disposal of U.S. waste  
16 abroad.

17 COMMISSIONER ZECH: Thank you very much.

18 MR. STRATFORD: Mr. Chairman, if I might  
19 continue, we also note that the IAEA is in the process  
20 of addressing transboundary movements of radioactive  
21 waste. I just returned from the February Board of  
22 Governors meeting last weekend and in his address to  
23 the Board, Director General Blix noted that the  
24 development of a comprehensive regime for the safe  
25 management of radioactive waste continues to be one of

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1 the IAEA's important program priorities.

2 The Director General also noted that a  
3 technical working group of experts with the objective  
4 of elaborating an internationally agreed code of  
5 practice for international transactions involving  
6 nuclear waste, such a working group is now scheduled  
7 for May of this year and the Director General hopes  
8 that its results will be ready to be considered by the  
9 General Conference next year.

10 We have been discussing this working group  
11 with the Secretariat of the IAEA, asking them to ask  
12 countries to submit information on their national laws  
13 and regulations.

14 For these reasons, we think that any further  
15 consideration of requiring government to government  
16 agreements is premature. In the area of hazardous  
17 waste, there has been extensive study and  
18 international consultation leading to carefully  
19 negotiated international agreements. This is not yet  
20 the case with respect to radioactive waste.

21 With respect to Option 2, requiring prior  
22 notification and consent, apparently this would not  
23 give the NRC the authority to prevent an export which  
24 simply ought not go forward.

25 When Assistant Secretary Bernthal testified

1 last July, he noted that he was particularly concerned  
2 about the possibility of exporting hazardous waste to  
3 a country which does not manage it safely or may not  
4 respond effectively to an accident. He noted that  
5 prior consent of the receiving government would not  
6 protect us from receiving some portion of the blame  
7 for a situation.

8 We recognize that the NRC does not have the  
9 authority to consider the health, safety, and  
10 environmental impacts of an export on the citizens of  
11 recipient nations. However, given the breadth of  
12 existing NRC statutory authority and its ability to  
13 expand its regulations, we believe that the Executive  
14 Branch and the NRC acting together can effectively  
15 control radioactive waste exports.

16 If, for example, the State Department had  
17 reason to believe that a proposed export posed  
18 potential harm to the health, safety or environment of  
19 the recipient country, I believe that the Executive  
20 Branch would exercise its discretion under the Atomic  
21 Energy Act to recommend that the license be denied on  
22 inimicality grounds because of the broad, adverse  
23 effect on our relations with other countries.

24 Thus, we are inclined to believe that the  
25 U.S. government should be clearly able to deny the

1 import or export of radioactive waste where such an  
2 import or export could have a negative impact on the  
3 common defense and security by prejudicing our  
4 bilateral or multilateral relations which could  
5 include where an import could adversely affect public  
6 health and safety abroad.

7 COMMISSIONER CARR: You mean that's under  
8 current law?

9 MR. STRATFORD: We believe that under  
10 current law, when we give you a judgment on whether an  
11 export would be inimical to the common defense and  
12 security, we can take into account whether the  
13 ultimate effect of that export is going to prejudice  
14 our relations with that country or with a lot of other  
15 countries.

16 COMMISSIONER CARR: But that assumes we come  
17 to you.

18 MR. STRATFORD: That assumes you come to us,  
19 that's correct. We would presume, and I would suspect  
20 the staff would concur, that before they would be  
21 prepared to issue a specific license for the export of  
22 radioactive waste, that they would come to the  
23 Executive Branch and say, "What is your view of  
24 whether this export will be inimical?"

25 COMMISSIONER CARR: So that's not under

1 current law and current regulation then because we  
2 don't require specific license right now, right?

3 MR. STRATFORD: No. Given our support for  
4 Option 3, which is to require a license, that would  
5 presumably be part of our recommendation on your  
6 rulemaking.

7 COMMISSIONER CARR: I was trying to separate  
8 whether we're talking about what goes on today or what  
9 goes on when you want it to.

10 MR. STRATFORD: Well, let me also address  
11 the situation of Option 2 with consent. If you get  
12 the consent of a government, doesn't that solve the  
13 problem? Not necessarily. I can visualize a  
14 situation where Company X comes in and says, "We want  
15 to export these radioactive clothes from a hospital to  
16 Country X and here's a letter from the Ministry of  
17 Health consenting to the export." Well, A, do we  
18 really know that the country is capable of handing it,  
19 and B, we have one other concern which is that when  
20 African countries thought that radioactive waste was  
21 being exported to other African countries, you can  
22 imagine what hit the fan all over the place in Europe  
23 and Africa. There were many screams for what is going  
24 on.

25 So, in other words, even if Country X

1 consents, if that leads to major impacts on what's  
2 going on in the OECD and the UNEP situation with  
3 respect to trying to negotiate international  
4 agreements, we might take the view that I don't care  
5 if Country X consents. There are broader foreign  
6 policy issues here at stake before we let this license  
7 go forward which could create major impacts on what  
8 we're trying to do in a broader sense through the IAEA  
9 with respect to creating an international regime. So,  
10 that's another reason why Option 2, we think, doesn't  
11 quite get you there.

12 In summary, we don't see this issue as a  
13 significant regulatory problem at this time, but we do  
14 think that a single incident could have unfortunate  
15 repercussions which should be avoided if at all  
16 possible. For that reason we believe that the USG  
17 should have the authority in place to render judgments  
18 on specific cases.

19 Now, we also think that it might be possible  
20 to foresee most of the environmentally benign  
21 licensing situations and perhaps deal with those  
22 through some form of general or multi-case  
23 authorization. Translated, how do we handle fuel  
24 licenses to Japan, for example? Once the first  
25 license has been approved to go from here to Reactor

1 X, multiple licenses after that, you don't have to go  
2 back to the Executive Branch every time. They go  
3 through as a matter of course. If, for example, you  
4 had a low-level waste facility in Mexico which you  
5 knew was a good facility and Company X already had a  
6 license to export to it, that's the kind of thing that  
7 you might issue multiple licenses on or multiple  
8 authorizations so that one review takes care of all  
9 shipments to that facility.

10 Finally, Mr. Chairman, let me say that  
11 whatever decision the Commission makes in this area,  
12 we wish to assure you that the Department stands ready  
13 to assist in any way possible. And, of course, we  
14 also look forward to the continued participation of  
15 the NRC staff in the development of an international  
16 regime in this area under the auspices of the IAEA.

17 Thank you, Mr. Chairman.

18 COMMISSIONER ZECH: Thank you very much.

19 MR. BERNERO: Just one final thing. The  
20 Eldorado request is covered in the paper and the  
21 company has a different name, Cameco, now. The staff  
22 recommends that the Commission authorize us to go  
23 forward as recommended on that.

24 COMMISSIONER ZECH: All right. Thank you  
25 very much.

1 Questions of my fellow Commissioners?

2 Commissioner Roberts?

3 COMMISSIONER ROBERTS: No.

4 COMMISSIONER ZECH: Commissioner Carr?

5 COMMISSIONER CARR: I'm concerned we've been  
6 tossing around radioactive waste, the term, and low-  
7 level waste and the public is not going to know the  
8 difference between the "radioactive waste" and the  
9 "low-level waste" or slightly radioactive waste or  
10 whatever from a public participation standpoint. But  
11 I think we ought to be very careful to define the low-  
12 level waste we're talking about licensing, what  
13 exports and imports out.

14 MR. BERNERO: In this context we're talking  
15 about low-level waste in the definition of 10 CRF 61,  
16 that is waste that requires disposal in a licensed  
17 burial ground, classes A, B, and C, and we're talking  
18 about uranium and thorium tailings as well. These are  
19 the less radioactive. It's really natural  
20 radioactivity and metallic content. Although the  
21 option is there, we are not talking about greater than  
22 Class C waste or high-level waste.

23 COMMISSIONER CARR: And we're not talking  
24 about the Eldorado, Cameco request then.

25 MR. BERNERO: Well, it falls down at the



1 very lowest level of the uranium and thorium tailings  
2 business.

3 COMMISSIONER CARR: Doesn't even come in?

4 MR. BERNERO: Yes, it's insignificant, yes.

5 COMMISSIONER CARR: Well, it doesn't apply.

6 MR. STELLO: That's right.

7 MR. BERNERO: That's right.

8 MR. STELLO: It doesn't.

9 COMMISSIONER CARR: But it's "radioactive  
10 waste." So, I want to make sure we're -- if we ship  
11 that to Africa, that's okay?

12 MR. BERNERO: In this situation it would  
13 not, as I understand it, fall into the category of  
14 radioactive waste. And at the moment it may, and  
15 looks like it isn't even hazardous waste.

16 COMMISSIONER CARR: It only depends on how  
17 to you define radioactive waste.

18 MR. NITZE: Yes. Could I comment briefly on  
19 that point? That question of definition is a very  
20 important question in the negotiations.

21 COMMISSIONER CARR: Critical to the whole  
22 operation, for my money.

23 MR. NITZE: The United States in the  
24 hazardous waste area is insisting that if we sign on,  
25 we be permitted to use our definition of hazardous

1 waste. We may not be able to prevail on that point.  
2 It is an open point in the negotiations.

3 There is great pressure, particularly from  
4 developing countries, to widen the scope of the UNEP  
5 Convention to cover other types of waste, such as  
6 municipal waste, medical waste, and other wastes which  
7 are perceived as being potentially toxic or posing a  
8 threat to the environment. I am sure that if the  
9 developing countries had any idea that we were sending  
10 waste their way which could be described in any way as  
11 radioactive, they would want those wastes covered by  
12 the terms of any such convention.

13 COMMISSIONER CARR: The other question I got  
14 is when Dick Cunningham got into the general license,  
15 specific license. I'm not sure I quite understand all  
16 that. Does a specific licensee currently have to have  
17 our permission to export or import low-level waste?

18 MR. CUNNINGHAM: No, sir.

19 MR. BERNERO: No, he does not.

20 MR. CUNNINGHAM: Does not. If you have a  
21 specific license, the general license that's written  
22 in the rule says you can import or export material  
23 you're allowed to possess.

24 COMMISSIONER CARR: So, all our hospitals  
25 today could export their waste rather than do whatever

1 they're doing with it, right?

2 MR. CUNNINGHAM: That's correct.

3 COMMISSIONER CARR: Without us knowing it or  
4 caring.

5 MR. CUNNINGHAM: That's correct.

6 MR. MALSCH: Yes, Commissioner Carr, but the  
7 general license to import is broader than that. The  
8 waste can be imported under a general license if it's  
9 possessed in the U.S. either under a specific license  
10 or a general license or an exemption or a DOE  
11 contractor.

12 COMMISSIONER CARR: Can be imported?

13 MR. MALSCH: Can be imported.

14 COMMISSIONER CARR: So, our waste disposal  
15 facilities can import it if they want to?

16 MR. MALSCH: Yes. So can people who are  
17 exempt from licensing, in which case we would never  
18 know.

19 COMMISSIONER CARR: And we wouldn't know  
20 that either.

21 COMMISSIONER CURTISS: Would we know that  
22 when they disposed of it?

23 MR. MALSCH: It would depend on how they  
24 chose to dispose of it. They wouldn't be subject to  
25 20.302 as an exempt -- they would be generally exempt

1 from all regulations. If they're a general license or  
2 a specific license, then they are subject to 20.302  
3 and would need our specific approval.

4 COMMISSIONER CARR: To do what?

5 MR. MALSCH: To dispose in some unusual  
6 fashion.

7 COMMISSIONER CARR: Well, what does disposal  
8 mean? If we import a bunch of non-regulated waste  
9 from Canada and use it to build roads with, is that  
10 disposal?

11 MR. MALSCH: Well, not exactly. That's the  
12 Eldorado problem.

13 COMMISSIONER CARR: Yes.

14 MR. MALSCH: If you import the materials  
15 under a general license and its possession in the  
16 United States is license exempt, then the entire  
17 transaction is really not regulated from our  
18 standpoint.

19 COMMISSIONER CARR: Well, it appears to me  
20 from what your paper says that if the Canadian  
21 material was generated in our country, our guy  
22 couldn't dispose of it in a general waste throw-away,  
23 right? If one of our licensees had the material that  
24 Canada wants to ship into us, would he have to have  
25 our permission to dispose of it?

1 MR. BERNERO: No, it's an unimportant  
2 quantity.

3 COMMISSIONER ZECH: Is it considered low-  
4 level waste or not?

5 MR. BERNERO: The Cameco waste? No.

6 COMMISSIONER ZECH: It's not?

7 MR. BELL: Under the legal definition, low-  
8 level waste is always -- it's not high-level waste,  
9 spent fuel or 11e(2) byproduct material under the Mill  
10 Tailings Act. So, basically, all radioactive waste  
11 not in those specific categories becomes low-level  
12 waste.

13 MR. BERNERO: But then you have to carry --

14 COMMISSIONER CARR: Let me repeat my  
15 question again.

16 MR. MALSCH: The problem is it fits the  
17 definition of low-level waste, but it is sufficiently  
18 low in hazard, that we have essentially deregulated it  
19 by exempting it by licensing and regulation.

20 COMMISSIONER CARR: But he would have to  
21 come get our permission to dispose of it.

22 MR. MALSCH: No.

23 MR. BELL: Commissioner Carr, a domestic  
24 licensee in this situation would likely apply to  
25 dispose of it on site under 20.302.

1 COMMISSIONER CARR: He has to.

2 MR. BERNERO: Right.

3 MR. BELL: Well, he has the option of  
4 sending it to a commercial burial ground also, but he  
5 wouldn't do that. In most cases, he'd apply for an  
6 on-site disposal under 20.302 and because of the very  
7 low radioactive concentrations, we would approve it.

8 COMMISSIONER CARR: Well, if he sent it to a  
9 just a commercial waste dump, he wouldn't have to  
10 apply to us to do that?

11 MR. BELL: Well, he's authorized to do that  
12 under his license already.

13 COMMISSIONER CARR: This whole thing is a  
14 little more complicated than I am prepared to decide  
15 on yet. I'm going to have to take a hard look at it  
16 because I don't -- as I understand it, Option 2 would  
17 put us in line with EPA, but EPA doesn't like the line  
18 they're in now because they don't get notified. Is  
19 that correct?

20 MR. NITZE: It's not that they don't get  
21 notified. The receiving countries sense they have no  
22 control over the export and there are some cases where  
23 they would like to have control over the export even  
24 though the receiving country consents because they  
25 might not believe that the receiving country was in a

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1 position to properly dispose of it.

2 COMMISSIONER CARR: But I would think the  
3 receiving country would like to think they're  
4 sovereign in that respect and could make their own  
5 decisions and wouldn't want big brother looking after  
6 them.

7 MR. NITZE: Funnily enough, that's exactly  
8 what they're asking for. They want big brother to  
9 look after them.

10 COMMISSIONER CARR: All of them?

11 MR. NITZE: Yes, it's pretty uniform.

12 COMMISSIONER CARR: Or just all of the  
13 candidates? That's all I've got.

14 COMMISSIONER ZECH: Commissioner Rogers?

15 COMMISSIONER ROGERS: I'm just curious as to  
16 whether Option 3 might give more problems than is  
17 immediately apparent if there are significant  
18 differences in policies and regulations in different  
19 countries that are involved. I'm not thinking of any  
20 particular case, and it may degenerate into just a few  
21 situations that aren't that important. But it seems  
22 to me that it might be more complicated than it looks  
23 in terms of the -- that it would have a certain  
24 parallelism to a bilateral agreement. Other countries  
25 are going to have, in some cases, their own views on

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1 these things and this license that we're talking about  
2 is something that would have to be different perhaps  
3 for each country that you're talking to if you're  
4 exporting and maybe even if you're importing.

5 I wonder whether it doesn't have some  
6 complications there that would make it a little bit  
7 more of an elaborate process than is apparent from  
8 what's been offered.

9 MR. BERNERO: Well, I think if there were a  
10 negative finding by the Department of State as was  
11 suggested, if the NRC had a licensing mechanism to  
12 evaluate the safety within our jurisdiction and then  
13 turned to the Executive Branch for its opinion, if  
14 there were a negative opinion and the importing  
15 country, a foreign country trying to import waste for  
16 profit, disagreed with that negative opinion, it would  
17 amount to a stand-off sort of thing. It would be a  
18 difficult thing and perhaps would be tantamount to  
19 Option 4.

20 COMMISSIONER ROGERS: If we didn't do  
21 anything, if we went with Option 1, what impact would  
22 you see, if any, of the Free Trade Agreement with  
23 Canada on the status quo? Would that change anything?

24 MR. STRATFORD: I'm no expert on the  
25 Canadian Free Trade Agreement, but I don't see that

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1 there would be any particular impact.

2 COMMISSIONER ROGERS: Well, I was thinking  
3 of the differences between -- you've illustrated that  
4 there's a difference between a U.S. generated waste  
5 and the constraints that are on a U.S. corporation in  
6 how they deal with it. Now, if we're talking about a  
7 true bilateral free trade agreement with Canada,  
8 should we regard those companion Canadian operations  
9 really as having to comply with the same kind of thing  
10 that a U.S. one would, or is that something that  
11 nobody's considered yet?

12 MR. BERNERO: I don't think we could. I  
13 don't think we could say that a Canadian licensee is  
14 subject to 20.302 and therefore has to do something  
15 that a U.S. licensee would have to do. I just don't--

16 MR. MALSCH: That's true.

17 MR. BERNERO: Even under the Free Trade  
18 Agreement, I don't think we could do that.

19 COMMISSIONER ROGERS: So, you don't see  
20 really an impact so far of the Free Trade Agreement?

21 MR. BERNERO: I don't think so, but I can't  
22 say that we exhaustively pursued that.

23 MR. MALSCH: We certainly never looked at  
24 the Free Trade Agreement ourselves.

25 COMMISSIONER ROGERS: I wonder if it isn't

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1 something that someone ought to look at because there  
2 may be some new issues that come up there. I don't  
3 want to send anybody off on a wild goose chase, but it  
4 is a new element in the picture.

5 MR. MALSCH: I think your point,  
6 Commissioner Rogers, does indicate the value of an  
7 Executive Branch overall policy in this regard,  
8 looking at all facets such as this and the value of  
9 such a development of policy.

10 MR. STRATFORD: Commissioner, my instinctive  
11 reaction would be that it's probably not something  
12 that would affect the Free Trade Agreement because to  
13 the extent that the U.S. regulates imports or exports  
14 for health or safety or other reasons, I don't believe  
15 the Free Trade Agreement impacts on that.

16 For example, those items that are under  
17 munitions controls, for example, not that Canada wants  
18 arms from the U.S., but the fact that there's a Free  
19 Trade Agreement doesn't stop us from licensing items  
20 under munitions controls, doesn't stop us, for  
21 example, from licensing nuclear items to Canada which  
22 you do right now. You are perfectly capable under the  
23 law of saying, "No, Canada, you can't have X," which  
24 we license because either the Executive Branch has  
25 said no or there are other reasons, et cetera.

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1           So, I don't think that extending your regime  
2   to say that Canada, in order to get low-level waste  
3   from us, or in order to send it to us, we are going to  
4   have to issue a license on that in any way impacts on  
5   the Free Trade Agreement. But that's an instinctive  
6   reaction, not an informed one.

7           COMMISSIONER ROGERS: Coming back to Option  
8   3, do you see -- I take it you do, but I want to just  
9   be clear on that -- do you see Option 3 as consistent  
10  with our developing of a more general national policy  
11  in this area or does it, in a way, short-circuit that?

12          MR. STRATFORD: Yes, I think I do. The  
13  developing national policy in the hazardous waste area  
14  boils down to let's get a better handle on where it  
15  goes, under what conditions, and be sure the country  
16  has provided an informed consent and, at the same  
17  time, to negotiate international arrangements so that  
18  the rest of the world is comfortable with what may be  
19  an increasing trade under bilateral agreements. I  
20  think that's a point that shouldn't be lost, that you  
21  and Country X might consent, but the uproar that that  
22  would touch off everywhere else is something that has  
23  to be taken into account.

24           What we have said here is, we're not sure  
25  we're quite ready to say, "Nothing can happen absent a

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1 bilateral agreement," because there's an international  
2 regime being developed right now, the beginnings of  
3 it, under IAEA auspices, to start looking down that  
4 direction. It's a little soon to say nobody in the  
5 U.S. can do anything absent an agreement that we don't  
6 even know what it might look like yet in the broader  
7 sense.

8           What we are saying is, although we don't see  
9 any specific instances, I would rather be able to say,  
10 if there's another allegation that U.S. radioactive  
11 waste wound up in West Africa, that I don't know if it  
12 did or it didn't, but I know that nobody can get it  
13 out of this country without a license and there  
14 haven't been any licenses issued.

15           When we had the big flap in West Africa not  
16 too terribly long ago and we were writing the cable  
17 guidance that says to all of Europe and Western Africa  
18 what our response is to all this, and I said, "Well,  
19 we know that nothing went, right? There is no  
20 radioactive waste from the U.S. that's over there,"  
21 the answer was, "Well, no we don't know that." To  
22 which my answer was, "Uh-oh."

23           Now we've got to say, "To the best of our  
24 knowledge," and if it happens again I guess I would  
25 rather be in a position to say, "A license is

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1 required, none were issued."

2 COMMISSIONER ROGERS: How big a burden do  
3 you think this license, if we ultimately went that  
4 route, Option 3, would that be on the licensees, do  
5 you believe? Would it delay things? I see this  
6 Canadian shipment has been delayed many months just  
7 because of our uncertainty in how we want to deal with  
8 it. Is that going to introduce a whole new element of  
9 delay and expense in dealing with rather routine  
10 matters?

11 MR. SHEA: I would think, Commissioner, that  
12 establishing this policy framework and deciding on how  
13 we're going to deal with it would in the long run  
14 expedite the process of dealing with these. I think  
15 we've had an uncertainty here in dealing with this  
16 particular case from Canada that's held it up, but  
17 once we have a framework established, I think there  
18 will be relatively few cases and there will be some  
19 delay, of course, in taking it to the State  
20 Department, as we would plan to do to get their review  
21 and approval. But as Mr. Stratford indicated, once  
22 you have certain specific cases approved, such as the  
23 example of the export to Mexico of a particular type  
24 of waste, succeeding cases of a similar type could go  
25 under general license or without the specific

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1 approval.

2 So, I guess because I don't see a large  
3 number cases in the near-term, possibly in the long-  
4 term that would increase then because we'll have a  
5 framework for dealing with it that I don't see a major  
6 impact on the licensees coming up.

7 MR. STELLO: Commissioner Rogers, I think I  
8 would reserve -- we don't have the rule written. I  
9 don't know what it's going to say. I think that  
10 question probably is best answered when you really  
11 have the rule in front of you, you've been through the  
12 process and you really have an understanding of what  
13 those impacts might be. I don't think we really know.

14 MR. STRATFORD: Commissioner, if I might,  
15 let me add one thing because I used the word "Mexico"  
16 a couple of times. Let me just hasten to say, for the  
17 benefit of our Mexican friends, that there are no  
18 proposals to export low-level radioactive waste to  
19 Mexico and I only used that as an example.

20 COMMISSIONER ZECH: Commissioner Carr has  
21 another question.

22 COMMISSIONER CARR: I've got one comment and  
23 one question on your feeling that we'll know that no  
24 waste has been exported to Africa because we haven't  
25 issued any licenses. As you know from what he said,

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1 that's a \$550 billion problem and economics are going  
2 to drive it much like they drive the drug problem. I  
3 don't think just because we haven't issued a license  
4 won't mean there won't be some waste smuggling if  
5 there's that kind of money in it. That's just a  
6 comment.

7 The second thing is, since the driving force  
8 in this whole thing seems to be public perception  
9 rather than the public health and safety, what would  
10 be the disadvantage of doing nothing until we get a  
11 national policy, not only on radioactive waste  
12 disposal or export and import, but also on all waste,  
13 hazardous waste, radioactive waste, just waste export  
14 and import and have a federal policy on that? If we  
15 wait until we do that, and everybody's agreed there's  
16 no immediate public health and safety problem, it's a  
17 public perception problem that ought to cover more  
18 than just our part of the problem. Is there a  
19 disadvantage in that?

20 MR. NITZE: I think there would be an  
21 advantage in it. The difficulty is that there is  
22 fragmentation among statutory authorities and  
23 regulations.

24 COMMISSIONER CARR: All the more reason to  
25 have a federal policy.

1 MR. NITZE: Yes. Unfortunately, there is a  
2 political reluctance to open up the whole issue of  
3 hazardous waste management for the purpose of  
4 eliminating that statutory fragmentation. We are  
5 proceeding step by step at State and EPA to try and  
6 convince other concerned agencies that at least with  
7 respect to the current category of hazardous waste  
8 regulated under RCRA, we should have further control  
9 on exports. We may be able to persuade them, not  
10 immediately but within the near future, to include  
11 some other specific categories like municipal wastes  
12 or medical wastes.

13 I would personally be in favor of going  
14 further and looking generically at the whole waste  
15 management issue, both from a domestic and from an  
16 international point of view. But given the amount of  
17 blood that's been shed over the text of some of these  
18 statutes and regulations, there's a certain political  
19 reluctance to do that.

20 COMMISSIONER ZECH: Thank you.

21 Commissioner Curtiss?

22 COMMISSIONER CURTISS: I have a number of  
23 questions. If I understand what State and IP see as  
24 the principal -- of Option 3, it commits the  
25 Commission working in consultation with the State

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1 Department to evaluate the environmental impacts and  
2 the health and safety concerns that might arise out of  
3 waste disposal in foreign countries and somewhere  
4 between the two agencies to reach a judgment, not just  
5 on whether the country has consented to the import  
6 into their country, but some sort of judgment in this  
7 country as to the environmental health and safety  
8 consequences of that license.

9 MR. SHEA: Well, I think we would be  
10 cautious on the health and safety assessment. We  
11 would look at the environmental and at the non-  
12 inimicality issue that was mentioned earlier. I think  
13 that would be the focus of our review and would seek  
14 the views of the Executive Branch that Dick indicated  
15 would take into account the potential adverse effect  
16 on foreign relations of such exports.

17 COMMISSIONER CURTISS: How do you square  
18 that approach with the Commission's decision in the  
19 Philippines case when it said it wasn't going to look  
20 at extra territorial environmental impacts?

21 COMMISSIONER ROBERTS: Diametrically  
22 opposed.

23 COMMISSIONER CURTISS: Why shouldn't we do  
24 that for reactors?

25 MR. SHEA: Well, I guess, if I could start

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1 on that one, I would say that we start with the  
2 Commission position. That has been reaffirmed in the  
3 Court of Appeals, as I understand it, that we do not  
4 evaluate health and safety impacts abroad.

5 COMMISSIONER CURTISS: We're authorized to,  
6 but we don't.

7 MR. SHEA: That's right, we choose not to.  
8 We would then, as I see it, stay away from directly  
9 addressing those impacts, at least within NRC's  
10 judgments. We would look at the inimicality that are  
11 common to defense and security, turn to the State  
12 Department and ask for their views on that matter, and  
13 then State Department, the Executive Branch, can take  
14 into account a broader set of criteria in their  
15 findings. They, of course, would have to give us a  
16 positive recommendation before we could proceed ahead  
17 with an export.

18 MR. STRATFORD: Commissioner, if I might,  
19 that has been a longstanding issue about whether one  
20 looks at health and safety abroad. But at some point,  
21 it has to be looked at as a simple matter of common  
22 sense.

23 Let's take a reactor export case. Country X  
24 comes to you and says, "We want to purchase one  
25 Westinghouse 1,000 megawatt reactor for building in

1 our country and, oh, by the way, we are not going to  
2 need the emergency core cooling system or the  
3 containment vessel. Thanks very much. It will make  
4 it a lot cheaper for us."

5 You come to the Executive Branch and you  
6 say, "What do you think of that, Executive Branch?"

7 Now, we're going to look at that and say,  
8 "Do we assess the health and safety impacts abroad as  
9 a matter of law? No. Does that make sense as an  
10 export? No." Why not? It's inconsistent with  
11 everything this country has been trying to do in the  
12 safety area internally. It's going to create a huge  
13 ruckus worldwide that we would export something of  
14 that nature and the potential impacts of something  
15 going wrong in the country are so high that as a  
16 foreign policy matter we're going to say, "I'm not  
17 sure we want the Executive Branch associated with that  
18 kind of an export to that country where that can  
19 create a real fuss."

20 Now, that's common sense. What's going to  
21 happen is, you're going to get an Executive Branch  
22 judgment back that says for all of those reasons we do  
23 not consider that this is consistent with the common  
24 defense and security in the sense of how it effects  
25 our foreign relations. That's the way I think you

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1 have to fold in that kind of a judgment and that's the  
2 way we would fold our thinking in on a judgment on a  
3 specific export of low-level radioactive waste.

4 MR. BERNERO: But I would add a point to it,  
5 Commissioner Curtiss. The reactor example, of course,  
6 is a self-evident one that we would never license such  
7 a reactor without a containment or ECCS. In a waste  
8 disposal situation there would be an inevitable  
9 dialogue between the Executive Branch and the NRC,  
10 "Would you license that disposal? Is that a  
11 reasonable method of disposal?" That's at least  
12 implicit in the licensing action in order to enable  
13 the Executive Branch to render an opinion.

14 COMMISSIONER CURTISS: Option 2 serves our  
15 purpose then, just to ask whether the country has  
16 consented to that and the State Department can make  
17 the inimicality finding. But to go beyond Option 2  
18 from our standpoint seems to me to run up against what  
19 the Commission said in the Philippines case.

20 MR. STRATFORD: But Option 2 never gets to  
21 us to make the inimicality finding. That's the point.  
22 Option 2 is the company writes you a letter and says,  
23 "Next month we're sending out all of this low-level  
24 waste and here's our permission from the Minister of  
25 Health. Thank you very much. We look forward to not

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1 hearing from you on this subject." That's Option 2.

2 Our view is that that may not be enough, A,  
3 where the material is not going to be properly cared  
4 for in the receiving country, or, B, maybe it is but  
5 it touches off such a ruckus in the surrounding  
6 countries where it's going that we have to think real  
7 hard about the inimicality finding in terms of our  
8 overall foreign policy for the area.

9 That gets you back to the direction I think  
10 that Commissioner Carr was going about what's the  
11 general policy on the export of radioactive waste and  
12 that's where that kind of thinking begins to come in.

13 MR. BERNERO: I think the point I was trying  
14 to make didn't quite get across. In order to judge--  
15 in order for any inimicality judgment to be made by  
16 the Department of State, there needs to be a technical  
17 basis of whether or not the proposed foreign disposal  
18 is responsible or apparently not responsible, a  
19 technical judgment of whether that's the right kind of  
20 container for the waste or that's the right kind of  
21 burial ground or whatever the facility is. And thus,  
22 I think the NRC in the licensing would be inevitably  
23 drawn toward getting that information and making  
24 informally some sort of opinion or finding to the  
25 Department of State.

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1 COMMISSIONER CURTISS: How do you  
2 distinguish that from the Philippines where we said we  
3 wouldn't look at where the reactor is sited?

4 MR. BERNERO: That's a problem.

5 COMMISSIONER CURTISS: What is the  
6 difference between that and the Philippines case?

7 MR. BERNERO: We would be doing it  
8 internally, not externally, but we would be doing it.

9 MR. MALSCH: I think we would have to  
10 reconsider, at least partially, the Philippines  
11 reactor case, but that's not necessarily a problem.  
12 The court didn't say we couldn't look at impact. It  
13 said we needn't look at it.

14 COMMISSIONER CURTISS: No, I'm not focusing  
15 on our legal authority, I'm focusing on the question  
16 of whether the policy is consistent in the low-level  
17 waste area with what we've said in the reactor area,  
18 whether by taking a particular approach in this case  
19 we set the precedent for or started down the slippery  
20 slope of saying we would consider extra-territorial,  
21 environmental or health and safety impacts for reactor  
22 exports. The Commission has addressed that issue  
23 already.

24 MR. MALSCH: The one difference I see, at  
25 least in the Philippines reactor case, we did not have

1 the Executive Branch coming in and giving us advice  
2 about foreign policy implications of adverse  
3 environmental impacts. That was not an ingredient in  
4 the case.

5 COMMISSIONER CURTISS: Okay.

6 MR. MALSCH: The holding by the Commission  
7 in the case was rather broadly stated in terms of we  
8 would not look. So, at least to some extent, it would  
9 require either limiting the case or reconsidering it.  
10 That doesn't pose any legal problem, it's just a  
11 matter of explaining why we choose to change our  
12 policy in that regard. Agencies do that all the time.

13 COMMISSIONER CURTISS: Okay. Let me turn  
14 around and ask a couple of questions about the import  
15 question. With the compacting process pretty well  
16 defined in this country and limits of what each of the  
17 compacts can and has to accept, how do you envision  
18 coordinating the policy on import with the states and  
19 the compacts in terms of their interests and approval  
20 in that process?

21 MR. BELL: Basically that would be handled  
22 through the -- if we went through the rulemaking  
23 process, it would be handled through the rulemaking in  
24 the normal coordination through the state programs.

25 COMMISSIONER CURTISS: State would have to

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1 concur in an import?

2 MR. BELL: State would be in a position  
3 to -- since the states control the volumes, I suppose  
4 the state would be in a position refuse to accept the  
5 material. One of the issues that has been raised  
6 though is with the proliferation of sites, at some  
7 future time, in fact, states may be looking for  
8 additional waste in order to keep the disposal site  
9 economically viable.

10 COMMISSIONER CURTISS: Yes. That's a good  
11 point.

12 MR. MALSCH: Yes. I just wanted to make a  
13 point that agreement states cannot regulate imports or  
14 exports. Once the material gets into the country, it  
15 will be indistinguishable from the other kinds of  
16 materials the agreement states might regulate.

17 MR. BELL: Compact has control over --

18 MR. MALSCH: Compacts also cannot regulate  
19 imports or exports. No interstate compact can.

20 COMMISSIONER CURTISS: I take it we'd make  
21 the decision on the import --

22 MR. MALSCH: Right.

23 COMMISSIONER CURTISS: -- the Commission  
24 would, but in recognition of the fact that this is  
25 low-level waste and it would have to go to a low-level



1 waste site and the states define what goes into low-  
2 level waste compact sites, that at some point before  
3 the waste came here we'd seek the concurrence of the  
4 state or the compact?

5 MR. BERNERO: Well, the application would  
6 necessarily say that a proposed action is to import a  
7 certain amount of radioactive waste and dispose of it  
8 in that state or in that burial ground. We would not  
9 issue a license to dispose of it in that burial ground  
10 unless there was evident willingness to accept it in  
11 that burial ground. The state, therefore, isn't  
12 really regulating the import. It's just regulating  
13 what they will take in their burial ground or not.

14 COMMISSIONER CURTISS: Right.

15 MR. BERNERO: I'd like to reinforce Mike's  
16 point though, that with a large number of low-level  
17 burial sites there might be seeking such, there might  
18 be an attempt to obtain further revenue that way.

19 COMMISSIONER CARR: The licensee, the  
20 compact would then come to us for permission to  
21 import.

22 MR. MALSCH: Well, or the person choosing to  
23 dispose of it in the --

24 COMMISSIONER CARR: Well, but if they're out  
25 seeking the business, they could apply for the

1 license.

2 MR. MALSCH: The state?

3 COMMISSIONER CARR: Well, the compact.

4 MR. MALSCH: I suppose. But the point would  
5 be that only we can license imports and exports.

6 COMMISSIONER CARR: I understand that but  
7 the implication is they're going broke unless they  
8 bring in some more waste from some outside source.  
9 So, I would think the onus would be on them to apply  
10 for the license and then say, "I have a license to  
11 import. Who wants to be my customer?"

12 COMMISSIONER CURTISS: That's right. The  
13 Rocky Mountain compact could be a licensee to dispose  
14 of wastes and --

15 MR. BERNERO: It's hypothetically possible.

16 COMMISSIONER CURTISS: -- an individual  
17 could apply to import waste from Canada here. We'd  
18 have to approve it. I take it what you're saying is  
19 we would look to some firm indication that some  
20 compact somewhere has agreed or concurred in disposal  
21 of that waste in that site. They may be soliciting  
22 it, if their economics are suspect, but we wouldn't  
23 move forward and let the waste come across the border  
24 until the state or compact had signed off in some way  
25 to dispose of the waste.

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1 MR. MALSCH: In fact, I suppose we could  
2 license any low-level waste site operator to import  
3 the waste.

4 COMMISSIONER CARR: Sure, I think that's --

5 COMMISSIONER CURTISS: That's all I have.  
6 Thank you.

7 COMMISSIONER ZECH: Mr. Stratford, you  
8 mentioned the international convention that's  
9 apparently ongoing and you mentioned the IAEA and  
10 their involvement in this subject of radioactive  
11 waste. Do you know of any other country that has a  
12 specific policy regarding the import and export of  
13 radioactive waste?

14 MR. STRATFORD: Not off the top of my head,  
15 Mr. Chairman, no. Let me ask -- anybody have an idea?

16 MR. PETERSON: Well, France said they won't  
17 do it at all.

18 MR. STRATFORD: Staff tells me France does  
19 have a policy which is no.

20 To imports and exports?

21 MR. PETERSON: I think it's just exports.

22 MR. STRATFORD: Exports. I don't have a  
23 detailed answer to your question, Mr. Chairman. We  
24 can look into that for you if you'd like.

25 COMMISSIONER ZECH: I think it would be

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1 interesting to know if anyone else has such a policy.

2 It seems to me that the discussion this  
3 morning would perhaps lead to a fifth option and that  
4 might be to try to look at the issue on a government-  
5 wide basis, as Mr. Carr has suggested, and we've had  
6 some discussion on that. Obviously the State  
7 Department is involved in it. Other agencies, of  
8 course, are involved in it other than NRC.

9 Perhaps we are indeed involving ourselves in  
10 a very broad policy of national and even international  
11 impact. I think that it's worth considering. I  
12 recognize the difficulty that we've been informed  
13 about of bringing that off, but still it might be a  
14 responsible thing to do. So, I'd suggest we might  
15 want to think about that anyway.

16 MR. STRATFORD: Mr. Chairman, if I could  
17 just interject one second.

18 COMMISSIONER ZECH: Yes.

19 MR. STRATFORD: The general conference of  
20 the IAEA, what they asked the Director General to do  
21 in a resolution was to establish a technical working  
22 group with the objective of elaborating an  
23 internationally agreed code of practice for  
24 international transactions, including nuclear waste,  
25 based on a review of current national and

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1 international laws and regulations on waste disposal.

2 As I indicated earlier, that working group  
3 is scheduled for May of this year and I think that's  
4 exactly what you're looking for, what is the all other  
5 countries' polices, laws, regs. on this matter.  
6 That's what we've encouraged the IAEA to start  
7 collecting for this working group.

8 I don't know off the top of my head if NRC  
9 is scheduled to participate in that working group, but  
10 I must say I certainly think that would be a useful  
11 exercise.

12 MR. CUNNINGHAM: Mr. Chairman?

13 COMMISSIONER ZECH: Yes.

14 MR. CUNNINGHAM: May I add something to  
15 that?

16 COMMISSIONER ZECH: Certainly.

17 MR. CUNNINGHAM: At least as late as last  
18 September, the driving force for IAEA to undertake  
19 this was not so much advanced countries exporting to  
20 developing countries as it was to take care of waste  
21 problems in developing countries. We have sources  
22 there, as the cesium teletherapy source in Brazil,  
23 where countries don't know how to get rid of this  
24 material when it reaches the end of its useful life.

25 There was a proposal about a year ago that

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1 importing -- advanced countries take waste from the  
2 developing countries. Now, you may recall you  
3 attended the scientific session there, Mr. Chairman.  
4 The biggest single problem in developing countries is  
5 not materials we regulate, but these old radium  
6 sources that are around in developing countries and  
7 there's a lot of concern that they will get out of  
8 control.

9 Having said that, we don't regulate radium.  
10 So, there is a larger problem here that we ought to  
11 have some general policy on, I think.

12 COMMISSIONER ZECH: Well, I guess what I'm  
13 suggesting perhaps is -- and Mr. Stratford, you have,  
14 I believe, elaborated a bit on my thought that if this  
15 is being considered internationally it might benefit  
16 not only this Agency but our country to have the  
17 international thinking before we, at this single  
18 Agency in our country, went off and made a rather  
19 grand scale policy.

20 So, it might well be that we want to see  
21 what does come out of that international effort. And  
22 again, I think that even though there might be great  
23 difficulty involved to look to the possibility after  
24 that effort, looking to the possibility of perhaps  
25 making a national policy that would benefit from the

1 results of that international effort.

2 In any case, I suggest that that might be a  
3 fifth option and I'd ask the staff to think about that  
4 for us too.

5 As far as the Eldorado, Cameco, situation is  
6 concerned, while I'm suggesting we might want to think  
7 about a fifth option and therefore hold up any  
8 Commission final action on a broad policy, it seems to  
9 me as far as that specific case we really might have  
10 enough information to make a decision on that specific  
11 one, recognizing that it would not be precedent  
12 setting, certainly because of the very low levels that  
13 we've heard about. But I would suggest we might want  
14 to think about deciding that one. And perhaps the  
15 broader issue, we might need further information and  
16 even another briefing later on after we'd heard about  
17 the international convention.

18 COMMISSIONER CARR: Well, as I understand  
19 that, our approval is not the final approval on that  
20 shipment. There's got to be EPA approval and the  
21 state of New York probably, huh?

22 MR. BELL: Cameco puts the material to be  
23 imported for disposal in an EPA regulated hazardous  
24 waste site. There is a letter --

25 COMMISSIONER CARR: Ours is a no objection

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1 type recommendation.

2 MR. BELL: -- from EPA recommending that  
3 they perform certain tests on the wastes and such  
4 before it would be accepted.

5 COMMISSIONER CARR: So, it wouldn't be a  
6 policy decision for us since it's not material we have  
7 any interest in.

8 MR. BERNERO: Yes, it's a no objection --

9 COMMISSIONER CURTISS: Is that because it's  
10 BRC?

11 COMMISSIONER CARR: No, the term is not BRC.

12 COMMISSIONER ZECH: Yes, it's not BRC. It's  
13 analogous.

14 COMMISSIONER CARR: I wish it were.

15 COMMISSIONER ZECH: But it takes some kind  
16 of a decision on our part, whether it be no objection  
17 or whatever.

18 Would you review real quickly, where does  
19 this Cameco stand? I understand it has been through a  
20 number of parts of our government. I understand the  
21 State Department has no objection, is that correct?

22 MR. BELL: That's right.

23 COMMISSIONER ZECH: Could you tell me about  
24 the other agencies?

25 MR. BERNERO: Yes, go ahead.

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1 MR. BELL: Well, State Department -- we have  
2 a letter in the Commission papers stating that the  
3 State Department has no objection. And as an  
4 enclosure to that letter there is a letter from the  
5 Environmental Protection Agency saying they have no  
6 objection provided the waste -- certain tests are  
7 performed on the wastes and it meets those tests.

8 COMMISSIONER ZECH: Well, perhaps we have  
9 enough information to take a look at that and then see  
10 whether we can make a no objection decision or  
11 whatever decision has been required.

12 Well, with that, let me thank all of you,  
13 particularly you, Mr. Stratford and Mr. Nitze, for  
14 being with us today.

15 It is a very important matter, a broad  
16 policy that we're talking about, of import and export  
17 of radioactive waste.

18 I would ask the staff of both NMSS and GPA  
19 to continue their coordinated effort to follow this  
20 area. I do believe that we need to keep working with  
21 the other federal agencies. I can't help but believe  
22 that perhaps it is a broad enough policy that we might  
23 want to take a little more time before we make a final  
24 decision on that broad policy. I would suggest that  
25 perhaps we might want to separate the Cameco matter

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1 and see if we can feel confident that we can handle  
2 that separately, while perhaps we might want to  
3 reflect more on the broader issue.

4 Are there any other comments of my fellow  
5 Commissioners?

6 If not, thank you very much for an excellent  
7 presentation. We stand adjourned.

8 (Whereupon, at 11:30 a.m., the hearing was  
9 concluded.)

CERTIFICATE OF TRANSCRIBER

This is to certify that the attached events of a meeting  
of the United States Nuclear Regulatory Commission entitled:

TITLE OF MEETING: PROPOSED POLICY ON IMPORT AND EXPORT OF LOW-LEVEL  
RADIOACTIVE WASTE

PLACE OF MEETING: ROCKVILLE, MARYLAND

DATE OF MEETING: MARCH 2, 1989

were transcribed by me. I further certify that said transcription  
is accurate and complete, to the best of my ability, and that the  
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PROPOSED COMMISSION POLICY ON  
IMPORT AND EXPORT OF LOW-LEVEL WASTE

ROBERT BERNERO  
NMSS  
MARCH 2, 1989

SECY-88-191--IMPORTATION OF WASTE FROM  
CANADA TO THE U.S. FOR DISPOSAL  
(7/8/88)

ELDORADO ASKED TO DISPOSE  
OF SLIGHTLY RADIOACTIVE WASTE AT  
U.S. HAZARDOUS WASTE DISPOSAL SITE

STAFF CONCLUDED:

- ° UNIMPORTANT QUANTITY
- ° EXEMPT FROM NRC REGULATION
- ° COULD BE IMPORTED FOR DISPOSAL

STAFF REQUIREMENTS MEMORANDUM  
(8/11/88)

DISAPPROVED SECY-88-191 AND DIRECTED  
STAFF, IN COORDINATION WITH GPA, TO:

"...CONSULT WITH THE STATE DEPARTMENT  
AND OTHER FEDERAL AGENCIES,"

"OBTAIN ADDITIONAL INFORMATION FROM  
ELDORADO, AND"

"PREPARE A PROPOSED BROAD POLICY FOR THE  
COMMISSION'S REVIEW AND APPROVAL"

BACKGROUND

NO GOVERNMENT-WIDE POLICY

TRANSFERS MAY NOT BE ADEQUATELY  
CONTROLLED

EPA AND DOS MAY PLACE ADDITIONAL  
RESTRICTIONS ON EXPORTS OF  
HAZARDOUS WASTES

PROPOSED POLICY OPTIONS

AFFECT ONLY:

- LOW-LEVEL RADIOACTIVE WASTE
- U AND TH TAILINGS

NOT AFFECTED:

- SPENT NUCLEAR FUEL
- RADIOACTIVE MATERIAL RETURNED TO  
AN NRC-LICENSED SUPPLIER



POLICY OPTIONS:

1. STATUS QUO--CONTINUED USE OF EXISTING REGULATIONS
2. REQUIRE NRC NOTIFICATION AND CONSENT OF RECIPIENT COUNTRIES
3. REQUIRE A SPECIFIC LICENSE
4. BAN TRANSFERS EXCEPT UNDER INTERNATIONAL AGREEMENTS

OPTION 1: CONTINUED USE OF EXISTING REGS

10 CFR PART 110 APPLIES  
TO TRANSFERS OF EQUIPMENT AND  
MATERIAL CONTAINING SOURCE, BYPRODUCT  
AND SPECIAL NUCLEAR MATERIAL

'RADIOACTIVE WASTE' NOT DISTINGUISHED  
AS A SEPARATE CATEGORY

LLW MAY BE TRANSFERRED UNDER  
GENERAL LICENSE

OPTION 1:      ADVANTAGES

- REGULATIONS EXIST
- NO DOCUMENTED HARM
- CONSISTENT WITH COMMISSION POSITION
- NO ADDITIONAL RESOURCES

DISADVANTAGES

- NRC IS NOT AWARE OF ALL TRANSFERS
- NO NRC REVIEW OR APPROVAL
- INCONSISTENT REGULATION
- INCONSISTENT WITH CURRENT EPA REGS

OPTION 2: REQUIRED NOTIFICATION OF NRC  
FOR ALL IMPORTS AND EXPORTS

AMEND PART 110 TO REQUIRE:

- ° NOTIFICATION OF NRC
- ° CONSENT OF RECIPIENT COUNTRIES
- ° A POSSESSION LICENSE TO RECEIVE  
FOREIGN WASTE

OPTION 2:      ADVANTAGES

- ° OVERSIGHT AND TRACKING
- ° ESTABLISHES INFORMATION BASE
- ° REMOVES INCONSISTENCIES IN REGS
- ° SIMILAR TO EPA REQUIREMENTS

DISADVANTAGES

- ° LITTLE ADDITIONAL CONTROL
- ° INEFFECTIVE IF REPORTS NOT REVIEWED
- ° EFFECTIVENESS AND ENFORCEABILITY LIMITED

OPTION 3: REQUIRE A SPECIFIC LICENSE

AMEND 10 CFR PART 110 TO REQUIRE  
A SPECIFIC LICENSE

CERTAIN TYPES OF LLW (E.G., GTCC)  
COULD BE BANNED OR SUBJECT TO GREATER  
CONTROLS

OPTION 3:      ADVANTAGES

- GREATER CONTROL
- ELIMINATES INCONSISTENCIES
- ALLEVIATES PUBLIC CONCERN

DISADVANTAGES

- NO KNOWN THREAT
- DIVERSION OF RESOURCES

OPTION 4: BAN IMPORTS AND EXPORTS EXCEPT  
UNDER INTERNATIONAL AGREEMENTS

AMEND 10 CFR PART 110 TO ALLOW TRANSFERS  
ONLY UNDER INTERNATIONAL AGREEMENT

AGREEMENTS COULD PROVIDE FOR:

- ° NOTICE AND CONSENT
- ° INFORMATION EXCHANGE
- ° DISPOSAL CRITERIA
- ° ENFORCEMENT
- ° PERIODIC EFFECTIVENESS REVIEWS



OPTION 4:      ADVANTAGES

- ° AGREEMENTS COULD ASSURE CONSISTENCY  
WITH NRC REGS
- ° ENCOURAGES DISPOSAL IN GENERATOR  
NATION
- ° ALLEVIATES PUBLIC CONCERN

DISADVANTAGES

- ° COMPLEX AGREEMENTS MUST BE NEGOTIATED
- ° MAY INHIBIT TECHNOLOGY EXCHANGE

RESOURCE ESTIMATES

- OPTION 1: NO ADDITIONAL RESOURCES  
REQUIRED
- OPTION 2: RULEMAKING: 1 FTE/YR FOR 2/YRS  
IMPLEMENTATION: 0.2 FTE/YR
- OPTION 3: RULEMAKING: 1 FTE/YR FOR 2/YRS  
IMPLEMENTATION: 1 FTE/YR
- OPTION 4: RULEMAKING: 1 FTE/YR FOR 2/YRS  
IMPLEMENTATION: 1 FTE/YR

INFORMAL DOS VIEWS

- ° PREFERS A SPECIFIC LICENSE REQUIREMENT
- ° VIEWS A NOTIFICATION REQUIREMENT AS  
LESS DESIRABLE

NO FORMAL DOS POSITION HAS  
BEEN RECEIVED BY THE COMMISSION

STATUS OF ELDORADO REQUEST

- ° EPA AND DOS HAVE NO OBJECTION
- ° SITE OPERATOR WITHDREW PROPOSAL
- ° CAMECO NOW SEEKS DISPOSAL IN NY
- ° INFORMATION ON TH CONTENT PROVIDED
- ° COMBINED U & TH IS UNIMPORTANT QUANTITY
- ° STAFF RECOMMENDS THAT NRC RESPOND  
TO CAMECO WITH NO OBJECTION



## **POLICY ISSUE** **(Notation Vote)**

February 23, 1989

SECY-89-068

For: The Commissioners

From: Victor Stello, Jr.  
Executive Director for Operations

Subject: PROPOSED NUCLEAR REGULATORY COMMISSION (NRC) POLICY ON  
IMPORT AND EXPORT OF LOW-LEVEL RADIOACTIVE WASTE

Purpose: To obtain Commission approval of (1) a proposed approach to  
establish a policy on import and export of low-level radio-  
active waste and (2) a proposed action on the inquiry from  
Eldorado Resources Limited (Eldorado), of Ontario, Canada,  
to dispose of waste in the U.S.

Summary: This paper evaluates four options for establishing a  
Commission policy on the import and export of low-level  
radioactive wastes (LLW). These options are: (1) continue  
existing policy as codified in 10 CFR Part 110; (2) require  
that NRC be notified of all imports and exports of LLW; (3)  
require a specific license to import and export LLW; and  
(4) ban the import and export of LLW; except with countries  
with which the U.S. has an agreement. The staff finds  
that there is no need for change from existing regulation  
or procedures. However, if, as a matter of policy, the  
Commission prefers a more controlling regulatory climate,  
the staff would recommend Option 3 which would require that  
all persons seeking to import or export LLW obtain a  
specific NRC license. The staff believes this option would  
provide the NRC with the most comprehensive information on  
import and export activities and enable the NRC to maintain  
active control over these transfers of LLW. If the  
Commission desires that the staff pursue Option 3, the  
staff also recommends that a letter be sent to the  
Department of State indicating our concerns about transfers  
of low-level waste and suggesting that State establish a

Contact:  
Regis Boyle, NMSS  
492-0559

government-wide policy in this area. Should the Commission approve Option 3, the staff would ultimately need to obtain the concurrence of the Executive Branch in proposed revisions to NRC export regulations in 10 CFR Part 110.

This paper also addresses the proposed importation of wastes from Eldorado, as a follow-up to SECY-88-191. In this paper, the staff recommends that the Commission approve the staff's finding that the Eldorado waste is an unimportant quantity of source material, based on review of additional information from Eldorado on the characterization of its waste. Therefore, we have no basis to objection to the waste being imported and disposed of at a U.S. Environmental Protection Agency (EPA) or State permitted hazardous waste management facility as proposed by Eldorado.

Background:

On July 8, 1988, the staff submitted a paper (SECY-88-191), to the Commission, which addressed Eldorado's request to dispose of slightly radioactive waste at a hazardous waste management facility in the State of Michigan. The staff concluded that the Eldorado waste contained an "unimportant quantity" of source material (10 CFR Section 40.13(a)) and would be exempt from NRC regulation. Therefore, the waste could be imported into the U.S. for disposal at a hazardous waste management facility, as proposed by Eldorado, without NRC review or approval.

In the Staff Requirements Memorandum dated August 11, 1988 concerning SECY-88-191, the Commission directed the staff to "prepare a broad policy for the Commission's review and approval" regarding the importation of radioactive waste into the United States, and to "consult with the State Department and other federal agencies." It also directed the staff to obtain additional information from Eldorado on the characterization of its waste.

Discussion:

Currently, the U.S. has no government-wide policy governing the import and export of low-level radioactive wastes. However, in recent months the export and import of all types of waste have received increasing public attention. A number of reports have alleged that developed countries are attempting to dispose of their wastes in developing countries. In this regard, EPA and the Department of State are considering national and international policy initiatives that would strengthen existing regulation of the export of hazardous wastes. NRC has the authority to regulate the import and export of radioactive wastes containing byproduct, source or special

nuclear material but should monitor closely any EPA and Department of State actions regarding hazardous wastes in order to assure consistent national policy.

This paper evaluates several broad policy options that the Commission may pursue to either maintain or enhance existing NRC regulation of the import and export of radioactive waste. However the Commission elects to proceed in this area, answers to a number of more specific policy questions will need to be developed by staff in the course of implementing the Commission's broad policy direction. Some of these questions are provided in Appendix A.

The policy options in this paper address low-level radioactive waste as defined in the Low-Level Radioactive Waste Policy Amendments Act of 1985 and uranium or thorium tailings as defined in Section 11e(2) of the Atomic Energy Act. For the purpose of this paper, radioactive material is considered to be "waste" only if the material is imported or exported solely for waste management purposes and ultimate disposal.

With the exception of a few isolated instances, the staff is unaware of extensive interest in either importing or exporting non-discrete radioactive waste for disposal. The staff is also unaware of any instances involving the export or import of radioactive waste under existing NRC regulations which have raised any public health and safety concerns. Furthermore, U.S. Ecology and Chem-Nuclear Company, operators of the three low-level radioactive waste disposal sites in the U.S. have indicated that they are unaware of any foreign wastes having been disposed of at their facilities.

Some of the international implications of the return of radioactive sources to supplier countries have been under consideration by the U.S. government (see SECY-89-020, dated January 25, 1989). NRC staff is participating in various advisory committees of the International Atomic Energy Agency (IAEA) and anticipates continued, active participation.

None of the options presented in this paper would change existing policy for radioactive material that is returned to an NRC-licensed supplier for disposal or to the import or export of spent nuclear fuel. The import and export of these wastes would continue to require a specific

license. (For quantities in excess of 100 kilograms of source or special nuclear material, in the case of imports of spent fuel.)

The staff has identified and evaluated the following four options for establishing an NRC policy on the import and export of radioactive wastes:

1. Continue to regulate the import and export of radioactive waste under the existing regulations, which permit the import and export of a wide range of materials under a general license.
2. Require notification of NRC for both the import and export of wastes and consent from the receiving country before export of wastes from the U.S.
3. Require a specific license for the import or export of radioactive wastes.
4. Ban the import and export of radioactive wastes, except under an appropriate agreement with another country.

Option 1: Status Quo--Continued Use of Existing Regulations

Description: Under this option the present policy on import and export of nuclear materials, as codified in 10 CFR Part 110, would be continued. These regulations describe the licensing, enforcement, and rulemaking procedures and criteria for the import and export of nuclear equipment and material including byproduct, source, and special nuclear material. However, 10 CFR Part 110 does not distinguish "radioactive waste" as a separate class of material subject to these regulations. Consequently, radioactive wastes are regulated under the provisions of 10 CFR Part 110 to the extent that the wastes contain byproduct, source, or special nuclear material in quantities and concentrations that are subject to NRC regulations.<sup>1</sup>

---

1] In the case of Eldorado, the facts indicate that the waste material contains unimportant quantities of source material and therefore is exempt from NRC regulation under 10 CFR Part 40 and Section 62 of the Atomic Energy Act (the Act).



Existing regulations permit LLW to be imported or exported under a general license issued pursuant to 10 CFR 110.27, with some restrictions. For example, radioactive waste can be imported into the U.S., under a general license, if the consignee is authorized to possess the material under: (1) a contract with the U.S. Department of Energy (DOE); (2) an exemption from domestic licensing requirements issued by the Commission; or (3) a general<sup>2</sup> or specific domestic license. Radioactive waste can be exported from the U.S. under a general license if the provisions of the §§110.20-110.23 in 10 CFR Part 110 are satisfied. Thus, while the existing regulations address the import and export of radioactive wastes to the same degree they address other radioactive materials, they do not assure that the NRC is cognizant of all transfers of radioactive wastes across U.S. borders.

Under this option staff would continue to monitor the progress of the EPA and the Department of State as they endeavor to develop stricter national policy governing the export of hazardous wastes. At a later time NRC could revisit this issue and elect to modify its regulations regarding radioactive wastes in a manner consistent with the final outcome of these efforts.

Advantages: Existing regulations already provide some regulatory control over the import and export of nuclear material, with the exception of those materials that can be generally licensed under Part 110. To the staff's knowledge, there exists no documented evidence of any adverse health and safety effects attributed to the intentional import or export of LLW. Furthermore, the Commission has taken the position in the Philippine Reactor Export case and several materials export licensing cases, that its consideration of health, safety and environmental impacts of an export is confined to those that affect

2] Review of general licenses (referred to in 10 CFR 110.27) that are found in 10 CFR Parts 30, 31, 40 and 70 indicate that radioactive waste can be imported under the general license in Part 110 in only a few cases (e.g. potentially §40.22). Waste containing quantities of radioactive material that are exempt from NRC regulations could be imported under the Part 110 general license (e.g., §§30.18, 40.13(a)).

the territory of the U.S. or the global commons and that NRC is without jurisdiction to consider impacts upon the citizens of recipient nations. This position was upheld by the U.S. Court of Appeals for the District of Columbia Circuit in NRDC v. NRC, 647 F.2d 1345 (D.C. Cir. 1981). Executive Order 12114, however, calls for concise environmental reviews by the Executive Branch of any exported reactor or nuclear waste management facility.

One additional advantage of this option is that no resources for rulemaking need be expended as existing regulations would remain unchanged.

Disadvantages: The existing regulations have two principal disadvantages. First, they do not provide NRC with a full awareness of activities related to the import and export of radioactive wastes. Because an importer may regularly ship the waste into the U.S. under a general license (provided, of course, that the consignee meets the requirements specified in 10 CFR Part 110), NRC would not necessarily be cognizant of such transfers. Thus, NRC may be in a position of knowing little about the quantities, types, and concentrations of radioactive wastes being imported or exported. NRC is therefore precluded from making case-by-case decisions on the import of specific radioactive waste streams and possibly, to a lesser extent, on export of specific radioactive waste streams.

Secondly, under existing regulations foreign entities may, under certain circumstances, be treated differently from domestic licensees. For example, if a domestic licensee holding a specific license sought to dispose of wastes that contain byproduct, source, or special nuclear material in quantities that would be exempt under other circumstances, that licensee would have to file a request pursuant to 10 CFR Section 20.302 ("Method for obtaining approval of proposed disposal procedures") and obtain NRC approval before disposal. However, the disposal requirements of 10 CFR Part 20 would not apply to disposal of wastes with similar characteristics from a foreign entity that is not an NRC licensee. (The request from Eldorado illustrates this point).

An additional disadvantage is that NRC's current regulations are not consistent with EPA's regulations

on the import and export of hazardous wastes (discussed in more detail under Option 2).

Implementation: Since this option represents the status quo, no additional NRC activities would be necessary to implement it.

Resources: No additional staff resources would be required for rulemaking because the regulations are in place. The amount of resources needed to implement the existing regulations represent the base case in comparison to the resources required to implement the other options.

Option 2: Require Notification of NRC for All Imports and Exports

Description: This option would amend the regulations contained in 10 CFR Part 110 to require written notification of the NRC before radioactive wastes are imported or exported and written consent from a receiving country prior to receipt of wastes from the U.S. NRC would thereby acquire a regulatory mechanism to track wastes that are imported or exported, but would not obtain any additional regulatory control over that provided under current regulations. To provide greater control over the importation of radioactive wastes, the staff recommends that this option also include an amendment to the existing regulations that would permit acceptance of foreign radioactive waste for disposal only by a person with a specific license to possess the byproduct, source or special nuclear material.

This option is similar to EPA's existing regulations governing the import and export of hazardous wastes (40 CFR Part 262). EPA's regulations were promulgated under the Resource Conservation and Recovery Act (RCRA), as amended by the Hazardous and Solid Waste Amendments Act of 1984 (HSWA). In brief, these EPA regulations prohibit the export of hazardous waste unless certain requirements are met. These requirements include: (1) advance written notification to EPA of the plan to export hazardous wastes; (2) prior written consent to the plan by the receiving country; (3) attachment of a copy of the receiving country's written consent to the manifest accompanying each waste shipment; and (4) conformance of the waste shipment to such consent.

EPA is now reviewing the adequacy of its existing export regulations and is considering: (1) seeking additional authority to prohibit exports where environmentally sound disposal is questioned, or (2) banning imports and exports except under international disposal agreements. (NRC has the authority under the Atomic Energy Act that EPA is seeking under items (1) and (2) above.) Executive Branch concurrence in rules pertaining to export of source or special nuclear material is required, however, by Section 126 of the Act). Option 4 in this paper parallels item (2) above.

Advantages: This option provides NRC with a means to monitor import and export activities beyond that provided in §110.20(e) and §110.53 through the notification process. While the primary objective of this option is oversight or tracking, NRC could also take action if a threat to public health or safety were to materialize, i.e., if NRC became aware of an importer violating existing NRC regulations, an order to prevent the activity from continuing could be issued.

Permitting acceptance of foreign radioactive waste for disposal only by a person with a specific license would provide NRC additional control over the importation of wastes and remove the inconsistencies in present NRC regulations that permit waste of foreign origin to be subject to less regulatory oversight than waste resulting from domestic licensed activities.

Additionally, adoption of this option could provide NRC with an estimate of the extent to which radioactive waste is being imported and exported. If after some time, NRC determines that the import and/or export of radioactive waste poses a substantial risk to public health and safety, then NRC could promulgate more rigorous regulatory standards within the confines of its jurisdiction.

Finally, under this option, NRC regulations would be made similar to existing EPA regulations for the export and import of hazardous wastes.

Disadvantages: This option provides little additional regulatory control (other than notification of NRC and acceptance of foreign radioactive waste only by specific licensees) beyond those of Option 1.

Second, unless a specific license were added, it requires only that NRC be notified of imports and exports. If resources are allocated to impose a reporting requirement and no additional resources are made available to ensure that the required reports receive a meaningful review by NRC, little, if any, of the health and safety benefits identified above will be realized. In this respect, NRC may also be at risk of having information on an import or export activity but not having taken appropriate action to avoid a potential hazard to public health and safety.

This option may also prove to be of limited effectiveness and difficult to enforce. EPA has reported that enormous quantities of hazardous waste have been exported, without proper notification of intent, because the exporters claimed they were unaware of EPA's notification requirements. Consequently, EPA is considering enhancing its regulatory control.

Implementation: In order to implement this option, 10 CFR Part 110 would have to be amended to incorporate the appropriate reporting requirements. Once the modifications are final, a small level of staff effort would be necessary to process the written notifications and consents.

Resources: This option would require amendments to 10 CFR Part 110. It is estimated that the rulemaking would require one Full-Time Equivalent Unit (FTE) per year over a two-year period. (The estimated resource requirements for rulemaking for Options 2, 3 and 4 are essentially the same.) The resource estimate for implementing this option after the regulations have been modified is estimated to be about 0.2 FTE per year.

Option 3: Require a Specific License for All Imports and Exports

Description: This option would amend 10 CFR Part 110 to require that any person seeking to import or export radioactive wastes obtain a specific license, rather than operate under a general license. Several variations of this option could be pursued, i.e., some types of waste, such as Greater-than-Class C wastes, might be banned from import or export by

regulation, whereas other types might be generally licensed, such as the return of sealed radiation sources to a manufacturer as specified in a purchase agreement. The extent of NRC control on import and export activities under this option would depend on the criteria established during rulemaking for specific license applications. As noted earlier, any rule changes pertaining to the export of source or special nuclear material would need the concurrence of the Executive Branch.

Advantages: Under this option, all importers and exporters of radioactive wastes would have to apply for a specific license under 10 CFR Part 110. In so doing, the importers would become subject to NRC's other regulatory requirements, such as 10 CFR Section 20.302 ("Method for obtaining approval of proposed disposal procedures"). Consequently, NRC would assume more active and comprehensive regulatory control over transfers of radioactive wastes between the U.S. and foreign countries. NRC would then be able to license the import and export of radioactive wastes based on the merit and adequacy of such activities. This option removes the inconsistencies in NRC regulations that may permit waste of foreign origin to be subject to less regulatory oversight than waste resulting from domestic licensees.

This option would also provide some additional protection of the public health and safety in that all transfers would be subject to an NRC licensing review. The specific license requirement would provide the necessary framework to alleviate concerns from abroad and the U.S. that the NRC may not be adequately controlling transfers of radioactive wastes.

Disadvantages: The principal disadvantage of this option is that it could result in a diversion of staff resources from other, perhaps more important, public health and safety issues. As mentioned earlier, the staff is unaware at this time of any significant health and safety problems with the intentional import and export of radioactive wastes. Furthermore, the implementation of this option would limit NRC review of the safety of waste exports in order to be consistent with the Commission's position (and the Court of Appeals decision) in the Philippine

Reactor Export case discussed above. Therefore, the export of waste under this option would be similar to Option 2 in that the written consent of the receiving country would be required.

Implementation: In order to implement this option, 10 CFR Part 110 would need to be amended to require specific licenses for importers and exporters of radioactive wastes.

The NRC staff would need to prepare for review and evaluation of the license applications that would result from this option. Staff may also need to develop regulatory guidance for potential license applicants.

Resources: As mentioned earlier, the resource requirements necessary to modify NRC regulations for Options 2, 3 and 4 are essentially equal and are estimated by staff to be one FTE per year for two years. There will also be some impact on the resources of the export/import licensing staff, estimated to be no more than one FTE per year.

Option 4: Ban Imports and Exports Except under International Disposal Agreements

Description: Under this option the Commission would ban the import or export of radioactive waste except between the U.S. and countries with which the U.S. has negotiated an appropriate agreement. A ban on export of source or special nuclear material contained in waste would require the concurrence of the Executive Branch. At a minimum, such agreements would contain provisions for notifying NRC of shipments of radioactive wastes; obtaining the consent of the receiving government; exchanging information on the manner in which the wastes would be managed in the receiving country; cooperation and enforcement; and periodic review of the effectiveness of the agreement. With regard to imports, provisions would also be needed to provide consistency with disposal requirements for domestic licensees. The U.S. has negotiated similar agreements with Canada and Mexico addressing the disposal of hazardous wastes.

Advantages: This option is administratively straightforward. It would assure intergovernmental acceptance, provide a framework for control of such

transfers, and encourage other countries to take responsibility for waste disposal within their own territories. Again, as with Option 3, it would alleviate concerns from abroad and the U.S. that NRC may not be adequately controlling transfers of radioactive wastes. With regard to radioactive waste that may be imported into the U.S., this option could provide for consistent regulation of its disposal. Through specific intergovernmental agreements, NRC could require that imported wastes be subject to the same regulations on disposal of wastes as similar U.S. NRC-licensed facilities.

Disadvantages: These agreements, which would have to be negotiated through the Department of State, would involve extensive negotiations of technical, administrative and political complexity. In the absence of an exception clause, this option could also have the effect of discouraging or prohibiting international research activities and technological exchanges because an international agreement would be required for the transfer of even small quantities of waste for these activities.

Implementation: Implementation of this option would require rulemaking to amend 10 CFR Part 110 so that radioactive wastes could only be imported or exported under the conditions specified in an appropriate agreement.

Resources: Once again, the estimated staff resources for rulemaking to modify NRC regulations for Options 2, 3 and 4 are essentially equal, about one FTE per year for two years. For implementation it is believed that Option 4 would require fewer staff resources than Option 3, or somewhat less than one FTE per year. NRC staff might also be called upon to consult with the Department of State and other appropriate Federal agencies in the negotiation of any agreements. Once such agreements are in place however, a minimum staff effort in oversight would be expected.

Conclusion:

The staff recommends that no change be made to existing regulations (Option 1). However, if, as a matter of policy, the Commission prefers a more controlling regulatory climate, the staff recommends that the Commission adopt Option 3. The Department of State has indicated informally that it also prefers a specific



license requirement. NRC staff understands that State would find a simple notification and consent requirement (similar to Option 2) to be less desirable and acceptable only as an interim measure while NRC establishes a specific licensing regime.

The staff would pursue implementation of Option 3 through the rulemaking process and will coordinate with the Department of State, EPA, and other appropriate Federal agencies to ensure that the staff's proposed rules are consistent with national policy on the import and export of hazardous wastes. A possible schedule for promulgating this rulemaking amendment is as follows:

- Interact with DOS, EPA, and other affected federal agencies . . . . . the balance of 1989
- Initiate development of proposed rule. . . . . January 1990
- Issue proposed rule. . . . . January 1991
- Issue final rule . . . . . January 1992

Further, in pursuing the rulemaking described by Option 3, staff also suggests that a letter be sent to the Executive Branch (Enclosure 1) requesting that an overall U.S. Government policy on the import and export of radioactive waste be established under which the Commission would implement its revised import/export regulations.

Status of Eldorado Request: Subsequent to the staff's submittal of SECY-88-191, NRC received a letter (Enclosure 2) from the Department of State indicating it had no objection to the staff's proposed response to Eldorado. However, it did indicate that if the waste is determined to be hazardous, then the recipient of this waste would have to comply with EPA's regulations for import of hazardous waste.

In response to our request for additional information on the characterization of the waste (Enclosure 3), Eldorado (renamed Cameco in a recent merger), by letter of November 3, 1988 states that the thorium concentration of its waste is below one part per million; therefore the total concentration of natural uranium and thorium is estimated at slightly above 100 parts per million (Enclosure 4).

Based on this information, the staff has determined that the combined uranium and thorium is an unimportant quantity of source material pursuant to 10 CFR Section 40.13(a).

Therefore, before the implementation of any of the options identified in this paper, the staff recommends that NRC respond to Eldorado with no objection to its proposal to import its waste, and dispose of it in an EPA or State permitted hazardous waste facility. Such a facility would provide the assurances that the wastes are properly managed and disposed of. A proposed staff response (Enclosure 5) is attached.

In addition, it was learned that the disposal site operator withdrew its request to dispose of the Eldorado wastes, at the request of the State of Michigan. As noted in its letter of November 3, Cameco is now pursuing the option of disposing its waste with Chemical Waste Management Company in the State of New York.

Recommendations:

That the Commission:

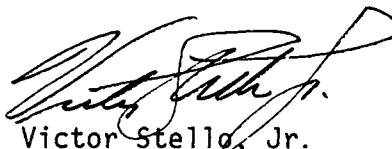
1. Approve the staff position that no change to existing regulations is needed (Option 1).
2. Approve the staff's finding that the waste from Eldorado is an unimportant quantity of source material.

Coordination:

The Office of Governmental and Public Affairs concurs in the above analyses of options but prefers Option 3. The Office of General Counsel has no legal objection. In addition, the staff has had preliminary discussions with the EPA and the Departments of State, and Energy. Based on these discussions, the staff did not identify any inconsistencies between the options presented in this paper and the policies of the above Federal agencies.

Scheduling:

The staff does not know any specific circumstance that would require Commission action soon.



Victor Stello, Jr.  
Executive Director for Operations

Enclosures:

1. Proposed Letter to Department of State
2. Letter from Department of State, August 4, 1988
3. Letter to Eldorado, October 13, 1988
4. Response from Eldorado (Cameco), November 3, 1988
5. Proposed Letter to Cameco

Commissioners' comments or consent should be provided directly to the Office of the Secretary by c.o.b. Monday, March 13, 1989.

Commission Staff Office comments, if any, should be submitted to the Commissioners NLT Monday, March 6, 1989, with an information copy to the Office of the Secretary. If the paper is of such a nature that it requires additional time for analytical review and comment, the Commissioners and the Secretariat should be apprised of when comments may be expected.

DISTRIBUTION:

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## APPENDIX A

The staff has identified a number of specific policy questions which will need to be addressed in the course of implementing broad Commission guidance regarding the import and export of radioactive waste. Additional questions may emerge during rulemaking.

Some of the international implications have been under consideration by various committees of the IAEA. In particular, the IAEA is expanding their program for the safe use (including waste management and transborder shipment) of sealed radiation sources. NRC has been actively participating on these committees.

1. Is the U.S. public likely to be significantly burdened with additional radiation insult and long-term costs for management and control of imported wastes?
2. Are there clear economic advantages to the import of radioactive wastes, e.g., would importing waste assist in maintaining the economic viability of disposal facilities or State compacts?
3. Are there clear policy, health and safety, or economic disadvantages to denying import or export of certain radioactive wastes, e.g., interference with ongoing U.S. foreign trade in sealed sources and gauges used in medical or other applications?
4. Is it in the U.S. foreign policy or foreign relations interest to assist certain countries with the disposal of their radioactive wastes?
5. Does the U.S. have an adequate disposal mechanism available as well as sufficient disposal capacity so as not to impact adversely the disposal of domestically generated wastes?
6. Is imported waste similar to waste generated in the U.S. and therefore not likely to result in new radiological and/or environmental problems?
7. Do operators of disposal facilities as well as the State compact commissions or if boards object to the import of (a) a specific waste stream (b) foreign waste in general?
8. How great of an impact can be expected from public, congressional, and/or international perception of importing and exporting waste for disposal purposes?
9. Are national authorities in countries receiving exported U.S. waste technically competent to understand what they are receiving and agree to its receipt?

10. What considerations, if any, should be given to the capability and ability of a recipient country to safely manage and dispose of radioactive wastes recognizing that NRC would have no authority to deny a license on these grounds?
11. Does exporting some or all categories of waste help to solve a significant problem in the U.S., such as limited available disposal capacity.
12. Would exporting the waste adversely affect the economic viability of disposal facilities for State Compacts?

ENCLOSURE 1



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

DRAFT

Dr. Frederick M. Bernthal  
Assistant Secretary of State  
for Oceans and International  
Environmental and Scientific Affairs  
U.S. Department of State  
Washington, DC 20528

Dear Dr. Bernthal:

The export and import of all types of waste are receiving increasing public attention. In recent months a number of reports have alleged that developed countries are attempting to dispose of "toxic and nuclear" wastes in developing countries, such as West Africa, that do not have the infrastructure to safely manage and dispose of such wastes. To the best of our knowledge, nuclear wastes have not been exported from the United States to West Africa or any developing country. In addition, there have been recent inquiries from persons regarding the import of foreign wastes into the U.S. for disposal. The effects of this heightened perception are certainly cause for concern.

The United States currently does not have a government-wide policy on the import and export of radioactive wastes. The Commission believes it timely that a clear government-wide policy statement in this area be developed. A national policy statement on the import and export of radioactive wastes could alleviate growing concerns abroad and also provide the necessary policy framework for the Nuclear Regulatory Commission (NRC) to implement appropriate import/export licensing controls over the material. It is the Commission's preliminary judgement that the best approach would be to develop a U.S. policy that achieves greater control and accountability over radioactive wastes to prevent them from being imported or exported in an unsafe or irresponsible manner.

As an initial step, the Commission is proceeding with a rulemaking action to revise our current regulations in 10 CFR Part 110 to require that any person seeking to import or export radioactive wastes obtain a specific license rather than operate under a general license as permitted under current NRC regulations. We will coordinate this proposed rule with the Executive Branch before publishing it in the Federal Register for comment.

The Commission considers establishing a national policy on the import and export of radioactive wastes to be an important element in facilitating the Commission's responsibilities to assure the orderly and safe regulation of radioactive waste shipments. We look forward to working with you and other appropriate Executive Branch agencies on this matter and are prepared to meet with you at an early date to discuss this proposal further.

Sincerely,

Lando W. Zech, Jr.



ENCLOSURE 2



RECEIVED

88 AUG 4 P3:10

United States Department of State

*Bureau of Oceans and International  
Environmental and Scientific Affairs*

*Washington, D.C. 20520*

August 4, 1988

Dr. Harold R. Denton, Director  
Office of Governmental and Public Affairs  
Nuclear Regulatory Commission  
Washington, D. C. - 20555

Dear Dr. Denton:

This is in response to your letter of May 3, 1988, regarding the proposal by Eldorado Resources Limited of Canada to import into the State of Michigan waste material containing trace levels of uranium. We understand that the material is calcium fluoride, a process waste resulting from the annual production of uranium hexafluoride. We also understand from our conversations with NRC staff that there may have been at least one previous import of calcium fluoride into the United States for disposal, and that it is the view of the NRC that there are no NRC regulatory restraints regarding the import of Eldorado's waste material.

Your letter raised the question of whether the proposed import might raise broader questions regarding transborder shipments of hazardous waste. In this respect, we inquired of the U.S. Environmental Protection Agency (EPA) in the attached letter to Acting Associate Administrator Sheldon Myers whether the EPA had a regulatory responsibility regarding the import of this waste. The EPA has advised in the attached letter that calcium fluoride is not a listed hazardous waste pursuant to the Resource Conservation and Recovery Act (RCRA). However, EPA also advises that should testing show that the material proposed to be imported is a waste with hazardous characteristics (flammable, corrosive, reactive or toxic), then the material would be covered by the hazardous waste regulations, and notification by the receiving facility in the United States to EPA would be necessary. EPA further suggested that Eldorado test the material it wishes to send to the U.S. in order to make this hazardous waste determination.

Subject to the above recommendation from the EPA, we have no objection to the response which the NRC proposes to make to Eldorado and to the State of Michigan, as set forth in your letter.

Sincerely,



Richard J. K. Stratford  
Deputy Assistant Secretary for  
Nuclear Energy and Energy Technology

Enclosures:

1. Letter of May 19, 1988 to Dr. Sheldon Myers, EPA.
2. Letter of June 8, 1988 from Dr. Sheldon Myers, EPA.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

JUN 8 1988

OFFICE OF  
INTERNATIONAL ACTIVITIES

Mr. Richard J.K. Stratford  
Deputy Assistant Secretary for Nuclear  
Energy Technology Affairs  
Bureau of Oceans and International  
Environmental Scientific Affairs  
U.S. Department of State  
Washington, D.C. 20520

Dear Mr. Stratford:

This is in response to your letter of May 19, 1988  
inquiring about whether or not calcium fluoride waste material  
is regulated by EPA as a hazardous waste under the Resource  
Conservation and Recovery Act (RCRA).

I have consulted with both our Office of Solid Waste and  
the RCRA Hotline which inform me that calcium fluoride is not a  
listed hazardous waste under RCRA. However, should testing  
show that it is a waste with hazardous characteristics (flammable,  
corrosive, reactive or toxic), then the material would be  
covered by the hazardous waste regulations. If the material  
does test to be hazardous, then notification by the receiving  
facility in the U.S. to EPA would be necessary. I suggest that  
El Dorado test the material it wishes to send to Chem-Net to  
make this hazardous waste determination.

If you have any questions, please do not hesitate to call  
me.

Sincerely,

A handwritten signature in cursive script, appearing to read "Sheldon A. Meyers", is written over the typed name.

Sheldon Meyers  
Acting Associate Administrator



United States Department of State

*Bureau of Oceans and International  
Environmental and Scientific Affairs*

*Washington, D.C. 20520*

May 19, 1988

Dr. Sheldon Myers  
Acting Assistant Administrator for  
International Affairs  
Environmental Protection Agency  
Washington, D.C.

Dear Dr. Myers:

I am writing to transmit the information we have received from the Nuclear Regulatory Commission and Eldorado Resources Limited concerning Eldorado's proposal to import into the State of Michigan large quantities of calcium flouride waste material containing trace levels of uranium (less than 100 parts per million). The Commission intends to advise Eldorado and Michigan that there are no NRC regulatory constraints regarding the import of Eldorado's waste material.

Dr. Charles Newstead has already been in touch with you concerning this matter and I understand that you are in the process of determining whether the EPA has a regulatory responsibility regarding the import of this waste. I shall be happy to meet with you to ascertain whether any further action by the State Department or EPA is required or desirable.

Sincerely,

Richard J. K. Stratford  
Deputy Assistant Secretary  
for Nuclear Energy and  
Energy Technology Affairs

Enclosure as stated.

ENCLOSURE 3

OCT 13 1988

Dr. D. Moffett, Manager  
Research, Technology  
and Environment Division  
Eldorado Resources Limited  
Suite 700, 350 Albert Street  
Ottawa, Ont. Canada K1R 7X7

Dear Mr. Moffett:

As you are aware, the United States Nuclear Regulatory Commission (NRC) has been reviewing Eldorado's request to dispose of waste generated during production of uranium hexafluoride at a hazardous waste management facility in Michigan. At question is the applicability of NRC regulation to the import and disposal of this waste, due to its radioactive content.

The proposal by Eldorado indicates that the radioactive content of the waste is less than 500 ppm natural uranium. However, the NRC staff also needs to know the concentration of thorium in this waste.

In addition, we recently learned that Eldorado no longer seeks to dispose of the subject waste in Michigan, but that you may pursue disposal with Chemical Waste Management in the state of New York. Until we are able to conclude our review, please keep us informed of any such alternatives you intend to pursue for disposal of this waste in the United States. We intend to keep the appropriate state authorities informed as to NRC's decisions regarding this waste.

Lastly, you should note that NRC's regulations pertain only to the radiological content of the waste Eldorado has requested to dispose of in the United States. United States Environmental Protection Agency (EPA) regulations for import and disposal may apply to other potentially hazardous properties of this waste.

We look forward to additional communication with you regarding the disposition of the Eldorado waste.

Sincerely,

*Original Signed by*  
**MICHAEL J. BELL**

Michael J. Bell, Chief  
Regulatory Branch  
Division of Low-Level Waste Management  
and Decommissioning  
Office of Nuclear Materials Safety  
and Safeguards

cc: Roland Lickus, NRC Region III  
John McGrath, NRC Region I  
Paul Merges, New York Department of Environmental Conservation  
George Bruchmann, Michigan Department of Public Health



ENCLOSURE 4

# Cameco

A Canadian Mining &amp; Energy Corporation

Research, Technology & Environment  
P.O. Box 3430, Station "C"  
Ottawa, Ont., K1Y 4J6  
(613) 238-5222 Fax: (613) 729-4788

November 3, 1988

Mr. Michael J. Bell  
Chief, Regulatory Branch  
Division of Low-Level Waste Management  
and Decommissioning  
Office of Nuclear Materials Safety  
and Safeguards  
Mailstop 5E4  
11555 Rockville Pike  
Rockville, Maryland  
USA 20852

Dear Mr. Bell:

In response to your recent query on the thorium content of Cameco's calcium fluoride waste, the results show that the concentration does not exceed 1 part per million ( $\mu\text{g/g}$ ). Analysis by two separate laboratories on two samples gave the following results.

LAB NO.	ANALYSIS TECHNIQUE	RESULT (ppM Total Th)
1	Delayed Neutron Counting	1
2	ICP/MASS Spectroscopy	0.9

Since the estimated uranium concentration is 100 ppm, the total concentration of natural uranium and thorium in the waste would be significantly less than 500 ppm.

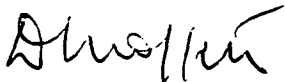
Therefore, we plan to pursue disposal with Chemical Waste Management Co. in the State of New York as noted in your letter. No other disposal sites are presently being considered by our company. However, we will keep you informed of any change of plans.

Mr. M.J. Bell  
November 3, 1988  
Page 2

We recognize that the NRC's regulations only apply to the radioactivity in the waste and that the US Environmental Protection Agency may also wish to review our proposal. If required, we would be prepared to meet with you and the US EPA to address any outstanding issues.

We wish to extend our fullest cooperation in reaching a solution to the disposal of this waste. If we can be of any further assistance to the NRC, please do not hesitate to call.

Yours very truly,

A handwritten signature in dark ink, appearing to read "D. Moffett", with a stylized flourish at the end.

D. Moffett  
General Manager  
Research, Technology and Environment

/sjl

ENCLOSURE 5



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

Dr. D. Moffett, General Manager  
Research, Technology and Environment  
Cameco  
P.O. Box 3430, Station "C"  
Ottawa, Ont. K1Y4J6

DRAFT

Dear Dr. Moffett:

The U.S. Nuclear Regulatory Commission (NRC), has reviewed the information and data provided by you concerning your request to dispose of Cameco's waste generated during the production of uranium hexafluoride.

Based on our review, the NRC has determined that the combined uranium and thorium content of the waste is an unimportant quantity of source material pursuant to 10 CFR 40.13(a). Therefore, NRC has no objection to your proposal to import the waste and dispose of it in a U.S. Environmental Protection Agency (EPA), or state permitted hazardous waste facility.

The NRC recommends that you contact the U.S. Department of State and the EPA to assure that those agencies have no objection to your proposal. Attached is correspondence the NRC has received from the U.S. Department of State (DOS), during the course of its evaluation. You should note that it has been suggested that Cameco test the material it wishes to send to the U.S. in order to determine if this material is hazardous waste. The NRC recommends that you pursue this matter with the DOS and EPA.

Finally, you should be aware that the NRC determination of no objection to your proposal pertains only to the radioactive content of the waste. It may be that Cameco will have to comply with other federal and state regulations in order to dispose of the calcium fluoride waste in the U.S.

If you should have any questions on this matter, please do not hesitate to contact me.

John T. Greeves, Acting Director  
Division of Low-Level Waste Management  
and Decommissioning  
Office of Nuclear Material Safety  
and Safeguards