

**UNITED STATES OF AMERICA**  
**NUCLEAR REGULATORY COMMISSION**

**Title:            BRIEFING ON SEVERE ACCIDENT MASTER  
                     INTEGRATION PLAN -- PUBLIC MEETING**

**Location:        Rockville, Maryland**

**Date:            Tuesday, October 14, 1997**

**Pages:          1 - 73**

**ANN RILEY & ASSOCIATES, LTD.**  
1250 I St., N.W., Suite 300  
Washington, D.C. 20005  
(202) 842-0034

#### DISCLAIMER

This is an unofficial transcript of a meeting of the United States Nuclear Regulatory Commission held on October 14, 1997 in the Commission's office at One White Flint North, Rockville, Maryland. The meeting was open to public attendance and observation. This transcript has not been reviewed, corrected or edited, and it may contain inaccuracies.

The transcript is intended solely for general informational purposes. As provided by 10 CFR 9.103, it is not part of the formal or informal record of decision of the matters discussed. Expressions of opinion in this transcript do not necessarily reflect final determination or beliefs. No pleading or other paper may be filed with the Commission in any proceeding as the result of, or addressed to, any statement or argument contained herein, except as the Commission may authorize.

1 UNITED STATES OF AMERICA  
2 NUCLEAR REGULATORY COMMISSION

3 \*\*\*

4 BRIEFING ON SEVERE ACCIDENT  
5 MASTER INTEGRATION PLAN

6 \*\*\*

7 PUBLIC MEETING

8 \*\*\*

9 Nuclear Regulatory Commission  
10 Commission Hearing Room  
11 11555 Rockville Pike  
12 Rockville, Maryland

13  
14 Tuesday, October 14, 1997

15  
16 The Commission met in open session, pursuant to  
17 notice, at 1:03 p.m., the Honorable SHIRLEY A. JACKSON,  
18 Chairman of the Commission, presiding.

19  
20 COMMISSIONERS PRESENT:

21 SHIRLEY A. JACKSON, Chairman of the Commission  
22 GRETA J. DICUS, Member of the Commission  
23 EDWARD McGAFFIGAN, JR., Member of the Commission  
24 NILS J. DIAZ, Member of the Commission  
25

ANN RILEY & ASSOCIATES, LTD.  
Court Reporters  
1250 I Street, N.W., Suite 300  
Washington, D.C. 20005  
(202) 842-0034

1 STAFF AND PRESENTERS SEATED AT COMMISSION TABLE:

2 ANNETTE VIETTI-COOK, Assistant Secretary

3 KAREN D. CYR, General Counsel

4 BRIAN SHERON, NRR

5 MARK CUNNINGHAM, Office of Research

6 ASHOK THADANI, Program Oversight, Investigations &  
7 Enforcement

8 CHARLIE ADER, Office of Research

9 ROBERT PALLA, NRR

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

ANN RILEY & ASSOCIATES, LTD.  
Court Reporters  
1250 I Street, N.W., Suite 300  
Washington, D.C. 20005  
(202) 842-0034



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

[1:03 p.m.]

CHAIRMAN JACKSON: Good afternoon, ladies and gentlemen. I am pleased to welcome members of the staff to brief the Commission on the status of the integration plan for closure of severe accident issues. The current element of this integration plan include, first, the severe accident research program, second the IEEE program and, third, the accident management plan.

The severe accident research program was initiated in the early 1980s to develop an understanding of severe accident phenomena and to provide a technical basis for regulatory decisions. A number of key issues associated with our understanding of severe accidents have been resolved over the last several years or are close to resolution.

These issues include the liner melt for BWRs, boiling water reactors, and direct containment heating for pressurized water reactors. The research program has emphasized those specific severe accident phenomena that could result in early containment failure and code development and has benefitted from our cooperative agreements on severe accident research with other countries.

Today's briefing will focus on the status of and the progress in implementing the elements of the integration

ANN RILEY & ASSOCIATES, LTD.  
Court Reporters  
1250 I Street, N.W., Suite 300  
Washington, D.C. 20005  
(202) 842-0034

1 plan for closure of severe accidents. The briefing will  
2 cover the current status of the issues.

3 I would also request that the staff emphasize  
4 findings that have resulted from the research activities as  
5 well as closure plans for the remaining key severe accident  
6 issues. I understand that copies of the viewgraphs are  
7 available at the entrances to this room.

8 If none of my colleagues have questions or  
9 comments at this time, please proceed.

10 MR. THADANI: Thank you very much. Good  
11 afternoon.

12 With me at the table are Charlie Ader and Mark  
13 Cunningham, from the Office of Research and Brian Sheron and  
14 Bob Palla from NRR.

15 Could I have viewgraph number 2, please?

16 I will briefly go over the background and then we  
17 will jump right into the severe accident research program  
18 first and follow up with the status of IPEEE in particular  
19 as well as accident management.

20 Viewgraph number 3, please.

21 As you noted, the Commission's involvement in  
22 addressing severe accident issues has actually grown over  
23 the years, I'd say both in terms of scope as well as  
24 sophistication for treatment of severe accidents.

25 In the mid-'80s, the Commission issued a policy

1 statement on severe accidents and concluded that the  
2 existing plants did not pose undue risk. However, there  
3 were two major questions that needed to be cleared up. One  
4 of the major questions had to do with plant-to-plant  
5 variation with the over 100 reactors of different designs.  
6 There was a question, could there be some outliers in terms  
7 of design implications. And that's what led to program on  
8 individual plant examination for internal events as well as  
9 for external events.

10 The other major program -- oh, by the way, that  
11 was -- the Commission noted that the licensees were best  
12 prepared to address those plant-specific issues.

13 On the other hand, it was recognized that there  
14 were some significant voids in our knowledge in terms of  
15 containment response as well as risk implications to public  
16 health and safety and the Commission had an ongoing,  
17 continued to work on this severe accident research program  
18 as well as the source program. Those were two major  
19 components it was recognized that the agency would be  
20 pursuing.

21 The idea to make sure that we look at issues in an  
22 integral manner was essential and in late '80s, as a matter  
23 of fact -- could I have viewgraph number 3, please? -- it  
24 was clear there were some key elements -- I thought for a  
25 moment it wasn't there so I wanted to be sure.

1           The key point to note here is that three major  
2 factors that we thought would lead to closure of severe  
3 accidents on operating reactors. One had to do with IPE and  
4 IPEEE as a very central element in that. And the two other  
5 important elements were the severe accident research program  
6 as well as the accident management program.

7           It was recognized that the -- it was essential to  
8 get early information on some key challenges to containment  
9 as part of the severe accident research program. Thus,  
10 containment performance initiative was one part of the  
11 severe accident research program, an important part of the  
12 program.

13           Since we have had some discussion about budget  
14 issues in the recent past, I thought I would like to share  
15 some of my thoughts with you up front and then we will pick  
16 up the specific as you asked us to address.

17           CHAIRMAN JACKSON: Okay. Let me ask you, as you  
18 are going through, to also talk about how you came to  
19 closure on the non-highlighted bullets here.

20           MR. THADANI: The --

21           CHAIRMAN JACKSON: On containment performance.  
22 The fact that you are not discussing them explicitly, you  
23 have them as arrows in the viewgraph material that we got.  
24 So I assume what you are going to focus on are things in  
25 bold face that are highlighted?

1 MR. THADANI: Yes.

2 CHAIRMAN JACKSON: Now, that means you're not  
3 going to focus on the others. The question is, does that  
4 mean that you have come to closure on the others or that  
5 they are subsumed topics in the ones that are highlighted?

6 MR. THADANI: The individual -- let me address  
7 each of them.

8 CHAIRMAN JACKSON: Okay.

9 MR. THADANI: Individual plant examinations, we  
10 will cover very briefly but the focus will be on external  
11 events because that's where much of the work is going on.

12 In terms of containment performance and  
13 improvements, we will touch upon that as part of the  
14 briefing to indicate what some of the insights are that have  
15 come out of this.

16 Improved plant operations is our more or less  
17 day-to-day activities. Those are ongoing activities and  
18 they will continue to go on, continue to focus on  
19 operations. So that's why it is identified there because it  
20 is an important part of this continued oversight of  
21 operating reactors that plays -- gives one some sense of  
22 confidence. It's not like we've finished everything, we're  
23 not paying attention to operations. The idea here was it is  
24 essential that we pay continued attention to operations and  
25 that that will just keep going.

1 CHAIRMAN JACKSON: All right.

2 MR. THADANI: In fact, I would like to -- having  
3 come from NRR in the recent past, in research, and in my  
4 current position here, I can reflect a little bit on some of  
5 the value of the program that I saw when I was at NRR and  
6 continued to believe in the importance of this effort.

7 We were faced with -- we have been faced with a  
8 number of issues over time and you addressed a couple of  
9 them. The Mark I liner melt-through issue is quite  
10 significant. There was a lot of debate, a lot of interest.  
11 How do Mark I containments respond to severe accidents? And  
12 the initial thinking was that any accident that leads to  
13 substantial damage of the core could lead to melt through  
14 the liner and thus lead to significant early releases.

15 The research program has put that issue to bed.  
16 It required certain accident management strategies, a fairly  
17 simple strategy, actually, to deal with this issue and,  
18 quite frankly, had it not been for the program and the  
19 experiments and the analysis that were done through this  
20 program, one would be thinking about design changes and, in  
21 fact, we were thinking about design changes until we got  
22 better understanding of how one could in fact terminate  
23 corium movement through the liner.

24 You will hear some more about direct containment  
25 heating issue. Several years ago, there was this concern

1     that one could have a high pressure core melt sequence that  
2     could potentially lead to almost an instantaneous failure of  
3     the containment from direct containment heating aspects.  
4     That has some geometry implications and so on and while the  
5     program on direct containment heating is not complete but  
6     much of the information has pointed out that certainly for  
7     large dry containments, this is not an important  
8     consideration. The probability of such conditions happening  
9     is pretty low and one could be quite confident about low  
10    risk and not high risk.

11           There are other examples. One that we were  
12    involved in had to do with containment venting for Mark I  
13    containments again and there were some design changes made,  
14    backfits were imposed because it as believed that the risk,  
15    early -- large early release probability may be fairly high  
16    unless one were to provide some hardened vent path and that  
17    would not only filter and reduce the activity level but also  
18    would reduce probability of accidents initiated by high  
19    containment pressure.

20           So these, and of course you have heard a great  
21    deal about NUREG 1465, the new source term, and the idea of  
22    rebaselining and looking at plants, where to go. So these I  
23    see are examples of the value of the program and I have  
24    tried in my mind to tie this concept with the increased use  
25    of risk-informed thinking in our decisions.

1           In the policy statement on PRA, we said we should  
2   be using risk-informed thinking in all activities to the  
3   extent they can be supported, the analyses can be supported  
4   by data, methods and so on. So a careful use of this. And  
5   in that policy statement we also say that the analyses  
6   should be done as realistically as one can do and not in  
7   some conservative manner.

8           I think in my -- again, I see severe accident  
9   research program as helping us through development of codes,  
10   doing analyses in as realistic a manner as we can. And thus  
11   it seems to me it would continue to play an important part  
12   in the learning process.

13           Today, we are still at a point where we think  
14   there are a number of uncertainties in some challenges to  
15   containment which could lead to -- potentially lead to large  
16   releases. So I think selected parts of severe accident  
17   program, at least in my mind, are quite valuable. We are  
18   going to take a very hard look, we are taking a very hard  
19   look to see if we can develop some priorities in what we are  
20   doing and in the priorities, we are also looking at what are  
21   some of the international implications if we were to  
22   terminate certain portions of the programs and so on. And  
23   we owe you that information, I believe, by the end of this  
24   month.

25           Another point I asked for some information on



1 budget. The severe accident research program budget in  
2 fiscal year '95 was \$12.4 million NRC funds and \$4.6 million  
3 of funds that were provided by international community to  
4 us. In '96, \$9.7 million is our budget and \$2 million  
5 provided by other countries to us.

6 CHAIRMAN JACKSON: You say 9.7. That means 9.7 is  
7 the total program of which 2 million is international or is  
8 it 9.7 plus 2 million?

9 MR. THADANI: It's 9.7 plus 2 million.

10 CHAIRMAN JACKSON: Okay, that's all I wanted to  
11 know. Okay.

12 MR. THADANI: Again, in '97, NRC funding level was  
13 6.4 million and international funding provided to us was 2.5  
14 million.

15 In fiscal year '98, our initial budget was \$4.6  
16 million and it looks to us like we will have about 1 million  
17 from international community. That's a very uncertain  
18 accident. But that's the information I wanted to provide to  
19 you.

20 CHAIRMAN JACKSON: Commissioner McGaffigan.

21 COMMISSIONER MCGAFFIGAN: Provided by the  
22 international community? You mean, these are experiments  
23 that we participate in where others also participate and  
24 provide funds? No one is transferring funds to us.

25 MR. THADANI: No, some of it is actual transfer of

1 funds that we can use in this country to conduct work that  
2 helps the overall severe accident program.

3 COMMISSIONER MCGAFFIGAN: How much is that as  
4 opposed to all of us participating in RASPLAN or  
5 something --

6 MR. ADER: If I can, the numbers that Ashok is  
7 citing for contributions, that's funding, actual funding  
8 contributed to the NRC for application to our severe  
9 accident programs, either codes, in some cases they are  
10 specific projects that we may be a bilateral with a country.  
11 But the majority of that is coming in under what we call the  
12 Cooperative Severe Accident Research Program, which is a  
13 number of bilateral --

14 CHAIRMAN JACKSON: It's actually dollars?

15 MR. ADER: That's actual dollars.

16 CHAIRMAN JACKSON: Right.

17 Why don't we do the following. We can't get into  
18 getting into all the details. Why don't you codify this  
19 information, if it is not already here at the Commission,  
20 just provide it and break it down because the focus here is  
21 to kind of understand where we are. We can take the dollars  
22 and decide that, you know, what has to happen. But it is  
23 important here for the Commission to understand what the  
24 program has accomplished, what questions have been answered,  
25 what issues have been closed out, what remains, you know,

1     how significant are they. And if you can answer it what  
2     ones need to be done here or by us versus our being able to  
3     get the information from somewhere else, then let's just  
4     leave the dollars aside because we can go back and forth and  
5     I would rather you have the exact information to provide to  
6     the Commission, okay?

7             MR. THADANI: Thank you.

8             With that, we will go to Charlie to go through the  
9     severe accident portion.

10            MR. ADER: Thank you, Ashok.

11            If I can have slide 5, please?

12            As was mentioned, severe accident research program  
13     over the years has provided a lot of information, has really  
14     been key to our understanding of risks for plants out there  
15     in doing probability risk assessments and moving into  
16     risk-informed regulation.

17            As you mentioned, a number of issues have been  
18     closed. Mark I liner was one of the issues that was  
19     mentioned. I guess the fundamental question, why have we  
20     been doing the research and the obvious answer is that the  
21     risk studies, WASH 1400, NUREG 1150 and the IPEs continue to  
22     show that severe accident is where the risk is to the  
23     public. That is the dominant contributor. And the early  
24     containment failure, as has been mentioned, is of that  
25     contribution primarily early containment failure.

1           The understanding of severe accidents is going to  
2 be key and has been key in moving into the areas of  
3 risk-informed regulation. We have closed issues. Mark I  
4 liner was one of the containment performance improvement  
5 areas. At the time that the IPE program was started, there  
6 was not a real understanding of whether water addition would  
7 prevent a liner failure or not so licensees were holding  
8 back on accident management strategies, not sure to modify  
9 the plant to add water.

10           The program came to conclusions on -- you know,  
11 narrowed the uncertainties and had provided the information  
12 which was incorporated through a generic letter and through  
13 the IPE program to provide to licensees. They have  
14 subsequently been able to go forward in accident management  
15 with the strategy of adding water. DCH, which I will talk  
16 about in a minute, is another one of the key issues.

17           The experimental work or the severe accident  
18 program has really been a two-part. We have been trying to  
19 build the analytical capabilities, the codes to give the  
20 staff the capabilities to deal with issues as they arise, to  
21 resolve new issues that may come up and to respond to  
22 industry initiatives. In doing that, the experimental  
23 program has been important in providing data and information  
24 for validating the codes.

25           Where we are focusing now, we are trying to look

1 at some of the areas of remaining uncertainty and those that  
2 are the biggest risk contributors. A lot of the experiments  
3 are geared toward providing the data. We continue to need  
4 to assess the models and provide better analytical tools for  
5 the Commission, for the staff.

6 The long-term question that we have been facing  
7 for a number of years is how do we maintain this expertise  
8 available either in house, out of house or through bilateral  
9 agreements so we have access to information and have the  
10 capabilities to respond when we need it.

11 CHAIRMAN JACKSON: Let me ask you a question. I  
12 mean, in terms of your second, third, fourth and fifth  
13 bullets, basically, the middle ones, is our current  
14 understanding of severe accidents sufficient to support our  
15 moving to risk-informed regulation from a technical  
16 perspective? Or at least moving in certain directions along  
17 that path? Or is there, you know, a lot more additional  
18 work required either by us or others that we could draw on  
19 in order to support that?

20 MR. ADER: I think it has clearly provided the  
21 basis to move forward into risk-informed regulation. There  
22 will be areas that there are uncertainties in or estimates  
23 in. We will have to deal with those. It may mean that you  
24 cannot move as far as either industry or we might like  
25 because of residual uncertainties or remaining

1     uncertainties.  There may be some areas that we may not be  
2     ready to make a decision.  I mean, they are going to be case  
3     specific.

4             CHAIRMAN JACKSON:  Case specific.

5             MR. SHERON:  An example of that is the steam  
6     generator area, which you will hear about hopefully in about  
7     a month.

8             CHAIRMAN JACKSON:  Okay.

9             MR. SHERON:  Where we found when we did the  
10    analysis that there was a large uncertainty in terms of the  
11    tube failure likelihood and the approach we are taking is  
12    basically to ask the utilities on a case-specific basis they  
13    will have to analyze their plants.

14            CHAIRMAN JACKSON:  Okay.  Commissioner Diaz?

15            COMMISSIONER DIAZ:  Yes, when you talk about  
16    uncertainties that are, you know, significant so we might  
17    not be able to move in an area, you're talking about an  
18    order of magnitude, a factor of two, or would you like to  
19    be -- what is uncertainty?

20            MR. ADER:  It obviously is going to be situation  
21    and accident scenario specific.  The uncertainty in the  
22    steam generator case that was mentioned, the initial  
23    judgment of that uncertainty was fairly high.  The early  
24    numbers and analyses that were coming out were showing a  
25    very high likelihood of tube failure.  That was an area that

1 we were able to build on our expertise and capabilities that  
2 we have today, refine the analysis, combine it with some of  
3 the material testing that was going on in a different part  
4 of research and provide information into NRR's regulatory  
5 analysis and narrow those uncertainties.

6 That one, it was more we were focusing on  
7 temperature, the temperature difference at which would lead  
8 to failure or not lead to failure. So it was not really an  
9 order of magnitude, it was just a few hundred degrees. But  
10 that was very key for that particular application.

11 MR. THADANI: If I may add to that, the key issue  
12 there was, in fact, temperature in the steam generator, hot  
13 gasses coming in, what temperature are we talking about.  
14 And that was a very sensitive parameter in terms of tube  
15 response. And the other factor that was critical also was  
16 the initial condition of the tubing material, if it had  
17 certain flaws, what type of flaws.

18 So there was -- there was the part here we're  
19 discussing in terms of severe accident research program was  
20 a thermal hydraulic aspects. The material aspects were  
21 dealt with through testing at Argonne National Laboratory.  
22 When I say "dealt with," at least we got better  
23 understanding of the material behavior.

24 Another example I could give you where we make  
25 clearly a very conservative assumption today, that if there

1 is substantial core damage has taken place, we assume the  
2 vessel will fail so the experiments were looking at trying  
3 to get information on geometry and heat transfer to see if  
4 in fact one can initiate accident management strategies,  
5 cooling the vessel from outside, downward heat transfer and  
6 so on to try to get better understanding of in fact could  
7 one maintain corium in vessel? I mean, it has two very  
8 significant things in my mind.

9 One is -- and I am not suggesting that we will end  
10 up with an answer that says, yes, indeed, one can maintain  
11 the damaged core in vessel. But the potential benefit is so  
12 significant, in terms of risk analysis, health effects and  
13 so on, because now even for severe accidents we can say  
14 we're not just relying on containment, we could maybe rely  
15 on pressure vessel itself as well.

16 COMMISSIONER DIAZ: Really, the direction of the  
17 question is I wonder if we would not serve the program and  
18 the NRC better if we wouldn't be talking of convergence of  
19 uncertainty rather than that uncertainty, per se. In other  
20 words, because of the difference in the phenomenology and  
21 the time-dependent processes, any one of these things will  
22 have significant uncertainties. I think what we are talking  
23 about is you perform analyses and experiments, you converge  
24 it to where you have a confidence and that uncertainty is  
25 within the bounds that you want.



1           Twenty percent, okay, would be a very good  
2 estimate of what direct containment heating is and therefore  
3 we can estimate within 20 percent we are probably right. So  
4 I think it is how we converge rather than what the  
5 uncertainty value is.

6           CHAIRMAN JACKSON: That was my understanding of  
7 what you were saying.

8           MR. ADER: Clearly. I will go back to Mark I  
9 liner. At the time that issue came up, the experts that  
10 looked at it said that even with water on a molten core, the  
11 liner will fail. Other experts said it will not fail. The  
12 central estimate was somewhere in between but it was a  
13 bimodal type of it will or will not and the research came to  
14 conclusions on that. So we can move forward.

15           COMMISSIONER DIAZ: So you had convergence.

16           MR. ADER: Convergence, yes.

17           CHAIRMAN JACKSON: Maybe, Mr. Cunningham, you have  
18 some edifying comments in this discussion.

19           MR. CUNNINGHAM: Well, Charlie used a good example  
20 in the BWR Mark I liner, that that was an issue back in  
21 NUREG 1150 that the experts, we owed and got information  
22 from a lot of experts and there was a good bit of difference  
23 of opinion in some cases and it showed dramatically in the  
24 risk measure of conditional probability of containment  
25 failure, given a core melt. And the research they have been

1 doing since then has really tackled that question directly.

2 CHAIRMAN JACKSON: I believe Commissioner  
3 McGaffigan had a question?

4 COMMISSIONER MCGAFFIGAN: Could I ask, it is  
5 related to Commissioner Diaz's question in a way, but how do  
6 the uncertainties today that you are dealing with compare to  
7 what they were in the early 1980s? I am trying to prepare  
8 for hard questions about, you know, how much is enough, but  
9 were the uncertainties much greater several years ago and  
10 now we are working on marginal uncertainties compared to the  
11 large uncertainties there were when we started spending,  
12 whatever it was, 100 million plus in this area?

13 MR. ADER: The uncertainties in the '80s, surely,  
14 after TMI, were very large. We basically did not understand  
15 a lot of the phenomena. We did not understand how an  
16 accident would progress, what the challenges to containment  
17 were.

18 We are to the point that we have been able to  
19 incorporate it into risk studies. 1150 had an extensive  
20 process, it was an expert elicitation. And we have been  
21 able to move on and come to conclusions. Some of those have  
22 still had to be conservative and the question is, to the  
23 extent of conservatism, we may want to incorporate to  
24 account for these remaining areas. That is somewhat the  
25 question we are facing.

1           The other one is maintaining the expertise so we  
2   can respond. Severe accident codes, I will address a little  
3   bit, are very complicated codes. They are not something you  
4   can put on a shelf and when you need them you pull off,  
5   somebody reads a manual and runs them and really can give  
6   you a good understanding. So the other portion is how do we  
7   maintain that capability in the staff.

8           COMMISSIONER MCGAFFIGAN: So this bullet, the  
9   fourth bullet, really should read, remaining internal work  
10   addresses areas of largest remaining uncertainty rather than  
11   implying that there is large uncertainty. Most of the  
12   uncertainties, the largest uncertainties at the start of the  
13   program have been whittled down.

14          MR. ADER: Correct.

15          COMMISSIONER MCGAFFIGAN: Now we have some -- you  
16   are, of course, as you did at the start of the program,  
17   looking at the largest remaining uncertainties and trying to  
18   whittle those down?

19          MR. ADER: Correct. That was one I looked at  
20   that, after I had time to look at it at leisure, I said I  
21   would have -- there are a couple bullets I would have  
22   rewritten. You caught one of them. I may not tell you the  
23   others.

24          CHAIRMAN JACKSON: Well, do go on.

25          MR. ADER: Slide six, please.

1           The areas of emphasis that were covered in the  
2   Commission paper, and I will touch on each of these in the  
3   briefing. The codes I have mentioned, they are the key to  
4   the analytical tools for the staff. Direct containment  
5   heating has been mentioned. Most of these have been  
6   mentioned. Lower head, debris coolability.

7           Cooperative severe accident research program, I am  
8   going to jump right to the bottom, is kind of an umbrella  
9   program where we have been very active internationally. The  
10   U.S. program has been recognized for a long time as really  
11   the leader in severe accident research. Countries were  
12   coming to us for access to our information.

13           I will touch on each of these. I won't read the  
14   list.

15           CHAIRMAN JACKSON: Excuse me. Let me ask you a  
16   couple questions.

17           Were any of these severe accident issues dominant  
18   risk contributors in the IPE or IEEE in which containment  
19   failure was explicitly evaluated?

20           MR. ADER: DCA, direct containment heating, some  
21   of the IPEs have shown that as a contributor still. Fuel  
22   cooling interaction or steam explosions have been shown as  
23   contributors. In 1150, steam explosions and direct  
24   containment heating were contributors to the early  
25   containment failures.

1           Some of these areas, some of the research has been  
2 directed toward issue resolution like direct containment  
3 heating. Other areas of research, lower head integrity,  
4 debris coolability, is really focusing on trying to assess  
5 the effectiveness of accident management strategies that  
6 could potentially remove our perception of challenges to  
7 containment as we have now. As Ashok said, we may not be  
8 able to totally remove them but they are showing some  
9 promise. But we are a little ways away.

10           CHAIRMAN JACKSON: How has risk analysis been used  
11 in the prioritization or sunseting of severe accident  
12 research programs?

13           MR. ADER: DCH was one of the issues that came out  
14 of the draft 1150, early 1150. It was not a phenomena that  
15 was in NUREG -- or WASH 1400, as I remember it. So the risk  
16 studies and the perception back in late '80s, early '90s,  
17 was that was an area that was a challenge to early  
18 containment failure. The fuel/coolant interactions have  
19 been shown to be a contributor.

20           Now, albeit if you go back to 1150 and plants will  
21 meet the safety goals so they are not issues that we have  
22 gone out and said, you know, we don't have time to pursue  
23 and better understand. Generally, those are the areas that  
24 we focused the research on.

25           CHAIRMAN JACKSON: Are these in any kind of

1 priority order?

2 MR. ADER: I started to say that when asked that  
3 question before but cooperative severe accident research  
4 program is really kind of an umbrella type of program so I  
5 would not say that because it is the last thing it's the  
6 lowest priority. The codes clearly would be the top of the  
7 list and they are there for that reason. Direct containment  
8 heating, we are near resolution, hopefully near resolution  
9 on. Lower head integrity, desbris coolability, there is  
10 some order going down here but I wouldn't hold it as rigid.

11 CHAIRMAN JACKSON: See, the difficulty we have is  
12 this. The difficulty is, when you list out these topics, we  
13 don't have a sense, okay, of, to use Commissioner Diaz's  
14 terminology, how much the uncertainty has been narrowed. We  
15 don't have a sense of what things have shown up as dominant  
16 risk contributors in accident sequences or from IPE or IEEE  
17 considerations. And then once you've gotten that  
18 prioritization, that's why I asked the question about risk  
19 analysis being used to prioritize what we do. Once one has  
20 gotten that priority, then we don't have a sense of what's  
21 come to closure or what has narrowed the uncertainty to a  
22 point that we can live with it and what's still wide open,  
23 particularly what may be wide open higher up on the list.

24 I think this is what we are trying to get out of  
25 you and if you can tell us today, it would be useful for you

1 and useful for us. And I think that's really kind of what  
2 we need to know.

3 MR. THADANI: Yes, indeed. And I think as we go  
4 through the presentation, you will see some areas, for  
5 example hydrogen combustion area, what basically has been  
6 concluded.

7 CHAIRMAN JACKSON: Yes, but see, I want to know  
8 first what's most important. That's number one from a risk  
9 point of view. Does it vary with classes of plants, are  
10 they all equally important depending upon what classes of  
11 plants I look at or are there some that are clearly  
12 standouts. That's number one. Number two, given those,  
13 what degree of closure do we have by whatever measure,  
14 whether it is narrowing uncertainties or just, you know,  
15 sufficiently we understand how to manage it, et cetera?  
16 That's the way one has to go through here, otherwise it is  
17 topics that have come up within the context of the severe  
18 accident research program that may hark back to TMI or some  
19 other accident but it's not possible just sitting here to  
20 extract from that where is the risk, what degree of closure  
21 do we have and are there things that have been found out  
22 recently or phenomena from abroad that have called into  
23 question the degree of closure we think we have on these or  
24 have they given us more comfort that there is more closure  
25 than we might have expected? That is the kind of thing, I

1 think, it is important for the Commission to understand.

2 Then the last thing I wanted to ask you, which you  
3 may not be able to answer but, given there is a discussion  
4 within the context of plutonium disposition and discussion  
5 about renormalizing the source term, are there any  
6 subtleties there that come into play that would call into  
7 question our results relative to the rebaselining of the  
8 source term? I think it's very important.

9 So I don't know if you can tell us today or if you  
10 are going to put it in a paper but as much as you can tell  
11 us today I think is very important in terms of all these  
12 questions.

13 Commissioner Diaz.

14 COMMISSIONER DIAZ: Thank you, Chairman. That is  
15 just what I was going to point out. Maybe I can bring it  
16 back to when you were asked to give us a breakdown of the  
17 cost and things.

18 What I really think we need is really a three or  
19 four dimensional matrix that shows, you know, by emphasis,  
20 our understanding in this investment, you know, how is the  
21 emphasis correlated with the risk? How is it converged as a  
22 function of time to a value? And that will give us some  
23 priority.

24 MR. THADANI: Fine, I understand. I think we can  
25 address some of it today but not all.



1 CHAIRMAN JACKSON: I think you need to propagate  
2 something to the Commission that lays that out. I mean,  
3 otherwise -- and you should make it part of this paper that  
4 you have provided.

5 MR. THADANI: Yes, end of October, yes.

6 CHAIRMAN JACKSON: Commissioner McGaffigan?

7 COMMISSIONER MCGAFFIGAN: Just a point of  
8 clarification. We are defining severe accident research  
9 here and we have a bunch of items under it.

10 My recollection when the budget was presented to  
11 us was that for some reason or other, hydrogen combustion  
12 was separate from severe accident and we made two different  
13 decisions on it in the context of the upcoming budget.  
14 There was a little piece of hydrogen combustion I thought  
15 back buried in this section. Am I wrong on that?

16 MR. THADANI: I believe it was part of the severe  
17 accident program but I better check with Charlie to be sure.

18 MR. ADER: At least from my perspective, hydrogen  
19 combustion has been part of it.

20 COMMISSIONER MCGAFFIGAN: I may be forgetting.

21 The other thing, you know, you have this paper by  
22 the end of the month. By December, you have a much broader  
23 paper due to the Commission that was going to look at, I  
24 believe, 39 different technical areas that you had --  
25 several of which are in the severe accident space and others

1 of which aren't, the majority of which. And you were going  
2 to use the matrix that you had given to us in the earlier  
3 paper that's out in the public domain and apply that to all  
4 the 39 areas.

5 Have you given any thought at all to the  
6 possibility of getting those two papers into better phase so  
7 that when we look at severe accident program, we can do it  
8 in a context? Or is that asking the impossible?

9 MR. THADANI: I will look into it but I would be  
10 surprised if, given, quite frankly, this morning, ACRS has  
11 asked for a meeting on November 4 to go over a number of  
12 issues related to research. They have asked some very good  
13 questions and he was telling me that it was going to be very  
14 difficult to meet on November 4 because we have so much on  
15 our plate that we have to do by the end of this month and  
16 early next month.

17 Given what he told me this morning, I am going to  
18 check with them but I believe it is going to be difficult.

19 MR. ADER: Let me move to slide 7. You asked the  
20 question of priority somewhat in what we need. There are  
21 issues of closure and there are issues of capability.

22 Severe accident codes bridges everything. It  
23 embodies the knowledge we have gained from years and years  
24 of research. With the exception of resolving a few issues,  
25 that's where we try to capture our understanding of severe

1 accidents. That's the analytical capabilities the agency  
2 would use in the future for dealing with issues as they come  
3 up, either risk informed or an issue like steam generator  
4 that came up that we need to deal with.

5 The codes are very involved, very complicated.  
6 There is a certain level of resources to have a capable code  
7 group available that -- I hate to put that in terms of  
8 closure and resolving an issue because that's just the  
9 fundamental -- I view it as a fundamental tool that we  
10 maintain.

11 CHAIRMAN JACKSON: How many NRC staff can, in  
12 fact, run, maintain or update the codes?

13 MR. ADER: Most of the code, the project managers  
14 I have, most of the code work is done at the national labs  
15 or maybe with some university support. Most of the project  
16 managers for the major codes, MELCOR several people can run  
17 it, VICTORIA -- I'm jumping ahead on the codes a little  
18 bit -- can run it.

19 Others have run the code in the past and more  
20 recently have been focusing on support for AP600 or  
21 something else and their capabilities have gotten a little  
22 rusty. We are trying to get back into the mode of being  
23 able to run and do the analysis work much more.

24 The modeling, we are much further away from being  
25 able to do the code development, the model development in

1 the severe accident codes because of the number of different  
2 areas.

3 CHAIRMAN JACKSON: So aside from some ability to  
4 run the codes, we basically are dependent on outside  
5 sources?

6 MR. ADER: Heavily dependent at this time.

7 CHAIRMAN JACKSON: But you developed a plan to  
8 migrate to in-house capability more and more, is that what  
9 you are telling me?

10 MR. ADER: We are trying to get more and more  
11 people and do more of the analysis in house. It has been a  
12 slow process due to competing demands and we really need on  
13 these codes to almost go away for a while and just work them  
14 and play with them and understand them.

15 MR. THADANI: My goal is very clear. It is the  
16 same here as we had in our thermal hydraulic analysis, core  
17 development analysis. The intention is to, in the long run,  
18 to make sure we can do the analysis, we can make the changes  
19 that are necessary to these codes. So that is the  
20 intention.

21 But we are not, as Charlie said, we are much  
22 further along in the thermal hydraulic codes than in severe  
23 accident codes in that area.

24 CHAIRMAN JACKSON: So have any of them been  
25 developed in house?

1 MR. ADER: No.

2 MR. THADANI: No.

3 CHAIRMAN JACKSON: How much of the work in this  
4 area -- and you can answer it later in terms of severe  
5 accident research more broadly -- have we committed to  
6 through bilateral agreements?

7 MR. ADER: The code work, we have one, one  
8 agreement, a code called GASFLO. It is a finite difference  
9 containment thermal hydraulic hydrogen distribution code.  
10 DOE is supporting it and FZK in Germany is supporting it.  
11 We are basically leveraging our resources at fairly low  
12 level to try to develop this as a tool that could be used in  
13 the future to replace or supplement the contained code which  
14 is the containment thermal hydraulics.

15 CHAIRMAN JACKSON: Okay.

16 MR. ADER: The other codes we are basically -- our  
17 contribution to the SESARP program that international  
18 countries are funding us to help develop the codes.

19 As far as running the codes, I will mention I had  
20 a discussion with my division director just this morning and  
21 he was telling me I need to really make sure we move this  
22 capability along. So I am getting that message loud and  
23 clear from several sources.

24 We currently are maintaining a two-tiered approach  
25 of the codes just through the capabilities. The MELCOR code

1 is an integrated code that will really cover from beginning  
2 to end of an accident. But not in the details of the SCDAP,  
3 RELAP and the contained code. Much more mechanistic and the  
4 capabilities are such that we can't put it all in one code  
5 at this time and have anything that really runs in a  
6 reasonable amount of time so we build on it.

7 Let me move on to a --

8 CHAIRMAN JACKSON: Let me ask you one quick and  
9 last question. How much access to experimental work is  
10 needed to keep the suite of codes current?

11 MR. ADER: You need the experimental work to  
12 assess the models that you are developing to take care of  
13 comments we've gotten from peer review processes or known  
14 weaknesses. Some of that is experiments that have been done  
15 but there are experiments going on worldwide and access to  
16 that data is key to being able to move the codes forward and  
17 to improve them.

18 CHAIRMAN JACKSON: Do we have to be part of the  
19 groups experimentally in order to have access to the data?

20 MR. ADER: In most cases, yes. We need to either  
21 be a participant or have a cooperative agreement. A certain  
22 amount of access, we can get by just us having the codes to  
23 trade. Some of the programs, the FARO program, I will  
24 mention later and the RASPLAV, those are pretty much, you  
25 belong to get the information or it is not available.

1           If I could move to the next slide, 9?

2           The steam generator is an example of a recent  
3 issue. It started out as an aging issue, it became rapidly  
4 a severe accident concern. The concern being a tube could  
5 fail in a severe accident situation leading to a containment  
6 bypass, which is an early containment failure.

7           We used the SCDAP RELAP code both to provide the  
8 initial conditions for the material tests that were being  
9 done at Argonne and then to provide the test data coming out  
10 of the tube tests with the thermal hydraulic conditions to  
11 assess the likelihood or the probability of tube failure.  
12 This is a case where we built on the work that had been done  
13 for DCH. We had capabilities that we had put together  
14 through those studies that we were able to quickly turn  
15 around and access to respond to the needs of NRR. The  
16 MELCOR and VICTORIA codes were part of the analysis to look  
17 at the releases off site.

18           Move to slide 10.

19           Direct containment heating is an issue that came  
20 up in 1150. The concern that if the vessel failed at high  
21 pressure, the lower head would melt through, you would  
22 inject molten debris into the containment atmosphere, you  
23 would get rapid heat transfer and fail the containment due  
24 to overpressure and hydrogen combustion effects. From the  
25 draft 1150, here is an example. Here is a case where we

1 have narrowed uncertainties.

2 Even though the containment failure probability  
3 was low, the early failure was estimated to contribute 80  
4 percent of the early fatality risks. The final NUREG 1150  
5 partly because of the severe accident research and other  
6 issues that were looked at between draft and final, that  
7 estimate was 20 percent but it was still viewed to  
8 contribute 20 percent of the risk.

9 COMMISSIONER DIAZ: And directly what caused the  
10 reduction? What element was critical?

11 MR. ADER: From the severe accident end, the  
12 loading on the containment was not reduced that much but the  
13 assessment of the likelihood of failing another part of the  
14 primary circuit to depressurize, the hot leg failure based  
15 on a better understanding, a better assessment of the  
16 progression of a severe accident, lowered the probability of  
17 having DCH as an event that would challenge it.

18 At that point in time, the view was still that the  
19 loads could potentially fail the containment.

20 CHAIRMAN JACKSON: What is the range of early  
21 containment failure probability due to direct containment  
22 heating? What you have here is early fatality risk. I am  
23 interested in early containment failure probability.

24 MR. ADER: I don't remember the percentage from  
25 direct containment heating as opposed to bypass. I think



1 the steam explosion was also a load for -- Mark was more  
2 involved in 1150.

3 MR. CUNNINGHAM: I believe, thinking back for  
4 Surrey, it was conditional probability of early containment  
5 failure given a core melt, given all core melts, if you  
6 will. I believe DCH was a few percent, steam explosion was  
7 around -- let me back up. In the case of Zion, steam  
8 explosion was about the same amount, a few percent if you  
9 will, for the PWRs.

10 CHAIRMAN JACKSON: How much of our severe accident  
11 research has -- what's been the cross-feed between that and  
12 the IPE programs?

13 MR. THADANI: The generic letter that we issued  
14 and the guidance we gave the industry?

15 CHAIRMAN JACKSON: That's right.

16 MR. CUNNINGHAM: Going back though, the generic  
17 letter was issued in 1988 so we were still in the middle of  
18 finishing NUREG 1150. There was still a lot of this -- this  
19 change was still happening coincident with sending out the  
20 generic letter. So the -- I believe the licensees had the  
21 opportunity to make use of what was used -- what came out of  
22 1150 in their programs to say, if I think my plant is  
23 sufficiently similar to Surrey or Zion, that I could use  
24 that as a basis to say I do or I don't have any severe  
25 accident vulnerabilities or a piece of the basis to see

1 whether or not I have any severe accident vulnerabilities.

2 Other plants went a somewhat different route.

3 They went, I would say, beyond 1150 but considered other  
4 factors and weighed factors that weren't weighed so heavily  
5 in 1150, for example from the -- some of the industry  
6 programs that were perhaps a little more or less pessimistic  
7 if you will about the probabilities of some of these events.  
8 So you had -- it was kind of a mixed bag at that time.

9 CHAIRMAN JACKSON: So I mean, I guess I am trying  
10 to get some sense of how often what we get quantitatively  
11 out of our severe accident work and what comes out of the --  
12 what has come out of the IPEs lineup with each other.

13 MR. ADER: Some of this, if I can, Mark, was  
14 timing. As Mark said, both DCH and liner melt through, when  
15 the IPE generic letter was put out, these were issues that  
16 there was not enough agreement on to really tell industry to  
17 analyze it based on these assumptions because there was such  
18 wide differences that these -- those two issues were kind of  
19 left to staff to resolve. It's been a couple years since I  
20 was directly involved with the IPE program but Mark I liner  
21 was an example.

22 I saw some IPEs where licensees took the 1150  
23 assumptions, which showed a reasonable probability of liner  
24 melt through, even with water on top, and characterized  
25 their plant that way. Other licensees took advantage of the

1 research results that have been published around that same  
2 time and dismissed liner melt through referencing the NUREG  
3 CRs that we had issued and came up with a different  
4 perception.

5 DCH, I don't remember them picking the results  
6 quite as much because it has been more of an ongoing and  
7 more of a recent program drawing to conclusion.

8 MR. THADANI: Two points. Number one, that the  
9 industry analyses were basically utilizing the results of  
10 research at that time, generally, I think. And that is  
11 basically what we indicated in the generic communication to  
12 the industry.

13 The second part is the one that Charlie is talking  
14 about. There are some very significant issues in terms of  
15 early challenges. Liner melt through was one of those,  
16 where our understanding did change during that period and  
17 changed very significantly. At one time, people were  
18 talking about conditional probability being fairly close to  
19 one of liner melt through given core melt. And with  
20 accident management strategies and getting water in, in a  
21 reasonable type period, a certain amount, the conditional  
22 probability is fairly close to zero. We said something like  
23 10 to the minus 3 or some very low conditional probability  
24 of containment failure.

25 What we are doing as followup to the IPE reviews,

1     this is one of the action items that we are looking at to  
2     make sure that we go back to those plants if they, in fact,  
3     have -- do they have the strategies in place, accident  
4     management. If not, why not. My understanding is that they  
5     have the strategy in place but that it is an issue of  
6     calculations but we are going to follow up as a result of  
7     that, one of the IPE followup issues.

8             MR. ADER: Slide 11, please.

9             I guess the bottom line on direct containment  
10     heating or close to the bottom line, we have completed the  
11     testing, we have completed a lot of the issue resolution for  
12     the Westinghouse large drys and subatmospheric plants. We  
13     would like to say that that issue now, DCH does not  
14     challenge those containments. So we can even that 20  
15     percent to early fatality risk that was in 1150. We could  
16     eliminate that.

17             Now, I caveat that because I do need to mention we  
18     have a differing professional view in that we are reviewing  
19     if it is challenged or some of the analysis methods. So  
20     that came up just this summer and we are having to go back  
21     and look at that. If that had not come in, I wouldn't be  
22     able to tell you we have eliminated that challenge.  
23     Hopefully, we can still be to that point. We will have to  
24     wait and see.

25             CHAIRMAN JACKSON: So are you saying then that

1     there are no PWR containment types for which the direct  
2     containment heating is a threat?

3             MR. ADER: Well, the CE, B&W and the Westinghouse  
4     ice condensers, we are nearing resolution on. The results  
5     on the CE, B&W, they have a different cavity configuration  
6     is why they were separated out, is that DCH will still be  
7     for several plants a small challenge given the core melt,  
8     high pressure melt injection. But we have also gone back  
9     and revisited the likelihood of being in that situation and  
10    we are close, I think, to saying that we can resolve it for  
11    those plants without it being a serious challenge.

12            The ice condensers, because of their small size,  
13    there may be issues with hydrogen that even if DCH is  
14    eliminated, they have the problems with the hydrogen  
15    challenge resulting from the high pressure injection.

16            CHAIRMAN JACKSON: When you do this kind of  
17    analysis, you look at the kinds of things like the hole size  
18    of the reactor vessel and the composition of the melt and  
19    gas, et cetera?

20            MR. ADER: There are a number of what they call  
21    splinters where they will look at the amount of the corium,  
22    the content, metallic content versus acidic, looking at the  
23    hole size of the lower head, trying to characterize that.  
24    Potentially preexisting water in the cavity, preexisting  
25    hydrogen. So there are a number of issues that they will go

1 through.

2 We had a peer review group to help go through the  
3 experiments and the design and the issue resolution that  
4 will deal with, you know, have we considered the issues,  
5 have we considered a wide enough range.

6 I would mention we do have -- we have completed  
7 most of the experiments. We have a very small effort, two  
8 experiments remaining out at Sandia National Laboratories.  
9 That is a cooperative program with the French and the  
10 Germans. They have come to us based on some questions they  
11 had. We have some issues we are going to pursue. They  
12 wanted to take advantage of our expertise and our facilities  
13 and are sponsoring two-thirds and we are sponsoring the  
14 remaining one-third. They are paying two-thirds of these  
15 additional tests.

16 This whole program, hopefully, will be wrapped up  
17 mid- to late summer of next year.

18 COMMISSIONER DIAZ: You are talking about  
19 depressurization, you are talking about the primary? When  
20 you talk about depressurization, are you talking about the  
21 primary?

22 MR. ADER: Primary system, yes.

23 COMMISSIONER DIAZ: Just the primary. This does  
24 not include the possibility of dumping the steam into the  
25 condenser and have that mitigating actually the releases?

1 MR. ADER: No.

2 Slide 12.

3 Another fairly recent issue over the last several  
4 years is an issue of lower head integrity. Can we retain a  
5 molten core in vessel? The TMI vessel investigation project  
6 found a hot spot in the lower head of TMI. There was about  
7 20 tons of molten material that was in the lower head. The  
8 analysis at the time said the lower head would have failed  
9 but it did not and they saw indications of some rapid  
10 cooling part way through.

11 The question is, can we understand that mechanism?  
12 Is there a way that we can go back and revisit the lower  
13 head and say, if you have water inside the vessel, you will  
14 not fail the lower head or what are the conditions.

15 Another part of this program is looking at can you  
16 cool the vessel from external flooding. AP-600 has proposed  
17 that as a management strategy. At least one IPE, as I  
18 remember, had proposed that. I think at the time they had  
19 proposed it, people weren't ready to entertain it because we  
20 didn't have the information.

21 The third piece of this program is, if you can't  
22 retain it in vessel, can you -- can we narrow the range of  
23 uncertainties in the failure size of the failure of the  
24 vessel because that is really a key to the subsequent  
25 phenomena in the containment, or can we confirm our

1 assumptions.

2 Go to slide 13.

3 CHAIRMAN JACKSON: What's the impact of not being  
4 able to -- I mean, so where do you stand on reducing that  
5 uncertainty further and what's the impact?

6 MR. ADER: Okay, this is somewhat of a two-part  
7 program. One is to just look at the uncertainty of the hole  
8 size, the failure. But right now the severe accident  
9 analysis assumes that you will melt through the lower head  
10 and you will fail, that you will disperse debris either high  
11 pressure or low pressure into the cavity. If it's in the  
12 lower cavity, you will eventually fail base mat through  
13 core-debris interactions or you will overpressurize the  
14 containment due to the heat and the gaseous products coming  
15 off. That's what is in the current risk assessments and  
16 those are the assumptions we have been dealing with. So  
17 those would continue.

18 The hope would be here that there is a mechanism  
19 that shows you can avoid those containment challenges.  
20 There may be a mechanism that you can retain it in vessel  
21 through appropriate accident management strategies. So  
22 there is a resolution and there is an accident management  
23 component.

24 To deal with this type of issue, there are a  
25 number of questions that need to be looked at.



1 Moving to slide 13.

2 Heat loads internal to the vessel, the heat  
3 removal external to the vessel, can we explain this  
4 mechanism of what happened at TMI, is there a gap that  
5 formed to get cooling in between. And then the program to  
6 look at the lower head failure.

7 The OECD RASPLAV is a cooperative program. I  
8 think there was a recent Commission paper during the summer  
9 about Phase II of this program to go forward with three  
10 additional tests under the sponsorship of the OECD. We were  
11 looking at the in-vessel mechanisms in a program in  
12 cooperation with EPRI and a couple international partners  
13 out at Fauske Associates out in Chicago.

14 We have had a program at Penn State that is  
15 looking at the heat removal external to a vessel, the  
16 boiling on an atmosphere. And then the program at Sandia  
17 National Laboratories is looking at the failure under  
18 pressure temperature loads, how it will fail. Here is a  
19 case where we are trying, again, to get data that we can use  
20 to validate the models to predict lower head failure.

21 Lower head failure experiments at Sandia is  
22 another example of a program where the international  
23 community has looked at what we have done and said, we are  
24 very interested in that. There was a meeting last week that  
25 a deputy division director was at, at OECD, and there still

1 seems to be considerable interest to proceed with this as an  
2 OECD project, assuming that we are able to participate.  
3 Those discussions will happen over the next several months.

4 Moving to slide 14.

5 MR. ADER: As I mentioned, if you cannot retain  
6 the corium in vessel, and it fails, then you have what is  
7 currently in the risk assessments of late failure, late  
8 containment failure through either base mat meltthrough or  
9 overpressure of the containment.

10 The program we're involved in dealing with this  
11 again, it's an EPRI-sponsored program, a number of  
12 international participants called the MACE program, Melt  
13 Attack Coolability Experiments out at Argonne National  
14 Laboratory. The last experiment was run in January using  
15 prototypic corium, actually UO2 materials. There was  
16 evidence of several cooling mechanisms, both failure of the  
17 crust, water ingression, and bulk cooling. Discussions are  
18 under way regarding the next test in this series.

19 CHAIRMAN JACKSON: I know that the EPRI utility  
20 requirements document contained a spreading criterion for  
21 debris coolability. How does that comport with what the  
22 actual experimental results show?

23 MR. ADER: The results at this point in time  
24 are -- give indications of cooling. They are not conclusive  
25 enough to conclude that you can or cannot cool.

1 MR. THADANI: Basically our view was that one  
2 could not really depend on the value in the EPRI  
3 requirements document, which I think was .02 meters squared  
4 per megawatt. So we did not --

5 CHAIRMAN JACKSON: How much per --

6 MR. THADANI: It was .02 meters squared per  
7 megawatt. I think that was the value. And given the  
8 available information, we couldn't say yes or no.

9 CHAIRMAN JACKSON: Okay.

10 MR. ADER: And this is another example of a  
11 program looking to assess the effectiveness of possible  
12 accident management strategies, and can we through something  
13 like this show that another what we perceive as a  
14 containment challenge is not going to happen, and  
15 eliminating another failure mechanism.

16 Slide 15.

17 Fuel coolant interactions. As we mentioned  
18 earlier, NUREG 1150, some of the IPs, especially some of the  
19 BWR, had steam explosions. Energetic fuel coolant  
20 interaction is one of the challenges to containment  
21 integrity. This is an area where the uncertainty in the  
22 understanding is still -- or the uncertainty is still large,  
23 the understanding is still not as good as some of the other  
24 areas. There's a lot of work going on internationally in  
25 this arena. We have been making progress trying to bound

1 and understand and eliminate some of the challenges. We  
2 have eliminated one of the major ones, but there are still  
3 the failures ex-vessel in a lower cavity that could  
4 challenge containment.

5 CHAIRMAN JACKSON: Is this going to require more  
6 elaborate coolant calculations?

7 MR. ADER: The codes for fuel coolant interaction  
8 are not very mature I guess would be the right term. It's  
9 not a very well understood phenomenon. Depending on which  
10 end you're coming from, some people say we understand it  
11 much better than we used to, but there's a lot we still  
12 don't understand as far as capabilities of predicting. The  
13 codes that you see, what's called international standard  
14 problems, where a number of countries, a number of codes,  
15 will try to reproduce experimental results, and you see some  
16 wide variations. They don't track as well as some of the  
17 thermal hydraulic codes, the containment temperatures,  
18 pressures, and others.

19 COMMISSIONER DICUS: It goes back to some of the  
20 questions that were asked very early on. I'm trying to  
21 prioritize what efforts are done, and with this particular  
22 one I'm looking at the bullet on Slide 15 in which you say  
23 steam explosions rupturing the reactor vessel and  
24 containment have been considered significant in risk  
25 assessments, and I guess my question is to define

1 significant, and in light of the fact you said this is also  
2 one of the areas where you still have a great deal of  
3 uncertainty. Does this mean this is one of the areas that  
4 needs to be emphasized?

5 MR. ADER: The significant, as Mark said earlier,  
6 the early failures for say example Surry were fairly low,  
7 and that plant met the safety goal. But the contributors to  
8 early failure, DCH was one of the major contributors, the  
9 steam explosion was one of the major contributors, bypass I  
10 think is by far probably the largest contributor. So to the  
11 extent that we're trying to eliminate or understand early  
12 containment failures, as they are the risks significant,  
13 it's one of the more dominant contributors to the extent  
14 that it's a large contributor to risk. When you put it in  
15 terms of the safety goal it becomes, you know, the  
16 probability of failure is low.

17 MR. THADANI: If I may say, maybe in different  
18 words, and I think this goes partially towards the question  
19 you raised, also, Chairman, and that is you see a list of  
20 these issues. I think what we should have done was to have  
21 broken down the list in probably three categories: one that  
22 leads to -- potentially could lead to early containment  
23 failure and fairly significant health effects. Second  
24 category would be it's an issue with late containment  
25 failure and unlikely to lead to significant health effects.

1 The third category would be capability to actually analyze  
2 accidents and what might happen or not. And that is one or  
3 two of the issues that you see on the list, core  
4 coolability, I think the -- debris coolability, I mean -- is  
5 more of a late containment type issue. So intuitively one  
6 would assign it lower priority because of the lower  
7 consequences associated with that.

8 We will try and put some metrics together to cover  
9 these issues and tie them to the status where we are.

10 COMMISSIONER DIAZ: Restating that, you know, this  
11 Commission is getting very concerned about the word  
12 "significant." We like to know what lies between zero and  
13 significant and what lies above significant.

14 MR. THADANI: Thank you. Good comment.

15 COMMISSIONER MCGAFFIGAN: Could I --

16 CHAIRMAN JACKSON: Yes, please.

17 COMMISSIONER MCGAFFIGAN: One of the problems in  
18 this area I think, and you can correct me, is getting  
19 experimental data can be either straightforward if it's a  
20 small-scale thing or impossible, you know, or wildly  
21 expensive if it's -- how many of these areas is it -- have  
22 you made a judgment that you and probably the rest of the  
23 world, EPRI, DOE, your international colleagues that it's  
24 just too expensive to narrow this uncertainty, it isn't  
25 worth the large expense that, you know, a large-scale

1 experiment would involve to get the data?

2 MR. ADER: I think core melt -- what was called a  
3 core melt progression was the most recent experimental  
4 program that we stopped funding a couple years ago in the  
5 U.S. You were getting into issues where you needed  
6 reactors, you were taking actual fuel, you were focusing --  
7 the largest uncertainties were in the late phase of the  
8 core-melt progression, trying to understand what happened  
9 when you got a crucible of molten material that would fail  
10 and how that would interact. They were becoming basically  
11 prohibitively expensive, and we were finding we -- many of  
12 the issues like direct containment heating we were able to  
13 take kind of a bounding type of approach. We'd look at the  
14 extremes to deal with it. It was again, the value gained  
15 for the dollar, that was when we made a decision on it.

16 COMMISSIONER MCGAFFIGAN: Are any of the ones  
17 we're talking about today in similar situations where, you  
18 know, you could conceive of very expensive experiments which  
19 aren't worth it, therefore you've been -- you're taking  
20 bounding approaches but you're never going to get  
21 perfection, or --

22 MR. ADER: For the other areas we've moved much  
23 more into the real cooperative where there's still a fair  
24 amount of interest internationally. We can leverage our  
25 resources. A number of these experiments we could not fund

1 and we would not fund ourselves if we can leverage  
2 resources, you know, \$10 for \$1 or something on that order.  
3 You know, in the past we've judged the value gained, has it  
4 been worth the expenditure. That's clearly something we'll  
5 revisit.

6 COMMISSIONER DIAZ: The issue in modeling is  
7 always the problem of internal heat generation versus a  
8 standard, you know, thermohydraulic model with external heat  
9 generation. Is that what causes the problem in your  
10 modeling?

11 MR. ADER: For the last phase there's questions  
12 of, as you melt the zirconium and the steel do you get a  
13 blockage down below, will you get a debris bed which will  
14 form on top of that, well, you know --

15 COMMISSIONER DIAZ: This configuration is not the  
16 internal heat generation. It's just giving you --

17 MR. ADER: It's not a question of decay heat, it's  
18 more, you know, the material interactions, natural  
19 circulation, where you fail through sidewall as they did at  
20 TMI or will it melt through.

21 CHAIRMAN JACKSON: Go on.

22 MR. ADER: Moving on to Slide 16.

23 Very briefly, fuel-coolant interaction was an area  
24 that one of the main failure modes, the steam explosion  
25 in vessel that failed the upper head and failed containment,



1     which was a contributor in WASH-1400 and a contributor -- I  
2     will remove the word "significant" -- a contributor in  
3     NUREG-1150.

4             Research had progressed in that area enough for at  
5     least the experts to conclude that that was not a high risk.  
6     Here was a case of order of magnitude uncertainties.  
7     Earlier estimates were 10 to the minus 2, 10 to the minus 3,  
8     given a situation more recent experts went anywhere from 10  
9     to the minus 3 to physically unreasonable. I am not sure  
10    what number I would put on that but it is small.

11            They also indicated we didn't have a good enough  
12    handle on looking at the impacts of steam explosions in the  
13    lower head that may fail the lower head and challenge it, or  
14    exvessel in a reactor cavity and here is a program, the  
15    FARO/KROTOS program is a cooperative program. It's European  
16    Commission or European Union funded program at ISPRA in  
17    Italy that's using prototypic material. We leveraged  
18    ourselves in and are a participant in that program.

19            Then we have a small program at the University of  
20    Wisconsin and a program at Argonne looking at some of the  
21    chemical augmentation impacts of fuel-coolant interaction.

22            Slide 17, please.

23            Source term research is an area that a lot has  
24    been done over the years. The level we have right now is,  
25    that we are sponsoring is really fairly small.

1           Source term refers to the magnitude, the timing,  
2   the chemical form of fission products released, commonly  
3   referred to as the source term, but the source term is where  
4   the consequences come from -- the fission release and that  
5   understanding.

6           There's activities ongoing in the regulatory sense  
7   in the re-baselining effort, taking all of that knowledge  
8   that had been built upon over the years, looking to move  
9   that into the licensing arena, taking the old TID 14-1844  
10   source term which was a very simplistic source term and  
11   trying to make it a little bit more realistic. It's still  
12   kind of a composite of severe accident sequences.

13           The main program ongoing internationally that we  
14   participate in is the PHEBUS program in France at Cadurache.  
15   Commissioner Diaz, I believe you have visited that recently.

16           We are supporting them or they are actually coming  
17   to some of our experts at Sandia to help them design the  
18   experiments and analyze the experiments.

19           This is more of a confirmatory program and it is  
20   confirming our understandings, but here is a program that  
21   three years ago, I believe, right when we were getting ready  
22   to issue NUREG-1465, the revised source term, there were  
23   some preliminary results that came out of PHEBUS that were  
24   announced at a press conference that said our understanding  
25   of iodine releases is different than what we were getting

1 ready to publish. If we had not been a participant of  
2 that -- I mean some of the people in the Branch sat in  
3 Ashok's office when he was at NRR -- and tried to assure him  
4 why we could go forward and issue the NUREG.

5 It was their expectations of iodine release that  
6 the numbers they got were much larger. They were within the  
7 range of what we had assumed but when they saw they were  
8 getting some elemental iodine as opposed to what they viewed  
9 as no iodine, this was -- I don't remember whether it was  
10 significant or unexpected -- but by being a participant we  
11 were able to react to it and move on.

12 CHAIRMAN JACKSON: Does using other than uranium  
13 oxide fuel change anything?

14 MR. ADER: There have been questions. We have not  
15 looked at the MOX question. There have been questions on  
16 high burnup fuel that we were planning on trying to go back  
17 and revisit over the next year or two, looking at either  
18 past experiments.

19 There are some proposed experiments in Japan and  
20 potentially in France that may look at the higher burnups  
21 that we would, our plan would be to get access to that and  
22 fold that in to what we would be doing.

23 CHAIRMAN JACKSON: Higher burnups of UO<sub>2</sub>, base  
24 field.

25 MR. ADER: UO<sub>2</sub>, correct.

1 CHAIRMAN JACKSON: No issues with MOX? I mean  
2 what are the French doing with that? They use the MOX.

3 MR. ADER: I'm not sure what they have done. They  
4 have a program called VERCOR and I would have to go back to  
5 look to see if they have had MOX in there.

6 It is an issue we have not been focusing on here  
7 recently.

8 CHAIRMAN JACKSON: Well, the reason I asked is it  
9 is a question that has been put to me in a number of fora  
10 relative to our support of it, what we might do vis-v-vis  
11 the use of MOX fuel in a plutonium disposition program, and  
12 so, you know, I mean is it not an issue?

13 MR. THADANI: I think we just looked back to see  
14 if Tom King was there.

15 CHAIRMAN JACKSON: He is there.

16 MR. THADANI: I think he's there, and my  
17 understanding is we are looking at the issue.

18 I am not sure we can answer the question.

19 CHAIRMAN JACKSON: Tom, what can you say?

20 MR. KING: This is Tom King from Research.

21 I know the French and the Japanese are doing  
22 extensive test programs with MOX. We have looked into what  
23 they are doing on reactivity insertion events and basic fuel  
24 performance.

25 We have not at this point looked into their source

1 term activities related to MOX but that is something we will  
2 do as part of gathering information on MOX fuel, so I can't  
3 answer your specific question but I know that they do have  
4 extensive test programs.

5 CHAIRMAN JACKSON: Okay. How interested is the  
6 industry in using the revised source term for design basis  
7 accidents?

8 You said that it is being requested by operating  
9 plants, but how much interest is there?

10 MR. ADER: My sense is there has been a fair  
11 amount of interest. I think NRR has been a little closer to  
12 dealing with the licensees.

13 MR. SHERON: My understanding is that there are  
14 several plants that are very interested in using it.

15 MR. THADANI: And having had some discussions  
16 during Reg Information Conference, where we had break-out  
17 sessions on source term, by the number of utilities  
18 attending and having dialogue, I would say there was a fair  
19 amount of interest.

20 MR. ADER: Slide 18, please.

21 Hydrogen combustion is an area -- hydrogen has  
22 been considered a threat to containment. Plants have been  
23 inerted -- MARK Is, MARK IIs. Igniters have been installed  
24 on the ice condensers in the MARK IIIs.

25 I think the belief is that the threat to the large

1 drives is hydrogen and the global combustion has not been a  
2 threat.

3 Here was an area that some of the test program at  
4 high temperature at Brookhaven and the larger scale tests in  
5 the Russian Research Center RUT facility.

6 We are trying to confirm some of the understanding  
7 and narrow some of the uncertainties.

8 The new issue in hydrogen that has come up is the  
9 use of passive autocatalytic recombiners for combustion  
10 control for design base accidents. They have been proposed  
11 on AP-600.

12 There is a lot of activity internationally to use  
13 what is called PARS, so there's active research programs  
14 there with the activity -- I don't know if it is from AP-600  
15 or internationally but at least one utility has, I  
16 understand, has expressed interest in replacing some of  
17 their design base recombiners with passive autocatalytic  
18 recombiners.

19 I have been asked by others whether this is  
20 something we are accepting, and whether that means there is  
21 wide industry interest or limited industry interest I would  
22 not care to venture, but that is the new issue, where we are  
23 not trying to narrow uncertainties.

24 We are trying to understand the performance of the  
25 PARS, understand the issues that are involved in someone

1 using them as far as the mixing, the depletion rates, the  
2 performance, whether they could ignite hydrogen in a severe  
3 accident scenario even though they are being used in a  
4 design base accident scenario, to try to provide at least  
5 the knowledge base to NRR to deal with applicants or  
6 utilities that propose to use them, so again it is not a  
7 narrowing of uncertainties but it is trying to deal with the  
8 issue.

9 CHAIRMAN JACKSON: When do you expect to actually  
10 complete these experiments at Brookhaven and the Russian?

11 MR. ADER: The experiments at Brookhaven are  
12 months away in the Spring, late Spring, although there had  
13 been interest by the Koreans to extend that experimental  
14 program to try to do some of the experiments that we were  
15 not going to do because -- and he was another area I think  
16 funding -- we had kind of chopped the program and they  
17 wanted to continue the matrix, so they were looking to  
18 either jointly or maybe fund part of it.

19 The Russian research was really over this year,  
20 although I think they were delayed a little bit, so it would  
21 be extending into the early part of next year.

22 The program at Cal Tech was a very small program,  
23 trying to maintain just some capabilities in that area, for  
24 a small amount to increase their knowledge incrementally.

25 The power testing we hope to be done with by

1 mid-summer unless new issues come up or NRR has new needs in  
2 the area.

3 Finally, the Cooperative Severe Accident Research  
4 Program, as I mentioned, is an umbrella program. We have  
5 roughly 19 countries. There are several that are  
6 renegotiating to renew. There are some other countries --  
7 South Africa is one that has expressed interest, I think  
8 Argentina is in the process of joining Brazil and Mexico  
9 have discussed potential membership, so the membership could  
10 go up or down depending on the renewals of some of the  
11 current members.

12 We have a meeting next Thursday, the day after the  
13 water reactor safety meeting. We have a one-week meeting in  
14 the spring and we have a one-day meeting in the fall, just  
15 to try to give them the status of our program, so there will  
16 be a number of international participants at that meeting.

17 This program, as I mentioned earlier, is bilateral  
18 arrangements. We get in-kind and funding through our  
19 program.

20 COMMISSIONER DIAZ: Is it ongoing? Do we know how  
21 many years are our agreements?

22 MR. ADER: I think originally it was a program  
23 that got started and had maybe a three-year renewal. The  
24 countries have come back and some have renewed for five  
25 years. Some have delayed renewal for a year and then they



1       renew for three, so they have started to get staggered.

2               That completes the briefing on severe accidents.

3               MR. CUNNINGHAM: The next five slides cover the  
4       IPEEE program and we hadn't intended to cover IPE  
5       specifically in these but perhaps this is a good time to go  
6       back and address the issue of closure on IPEs that Chairman  
7       Jackson asked earlier.

8               With respect to the IPE program, I think we  
9       defined closure accomplishing two things. First, we  
10      reviewed all of the submittals that came in from the  
11      licensees. There were 75 submittals. All but three of  
12      those are now done. We expect two of the remaining three  
13      will probably be done by the end of next year. We have one  
14      last one that is kind of dragging out a little bit. So we  
15      have looked at the individual submittals from the licensees.  
16      We also have gone back and tried to look broadly at all of  
17      the submittals to see what they would tell us about  
18      perspectives from the frequencies of different types of core  
19      damaging accidents, are the generic issues that have been  
20      identified coming out of the program either -- are there  
21      generic issues that have been resolved or are there new ones  
22      coming up and that type of thing.

23              All of that type of general discussion has been  
24      embodied in the draft NUREG that we sent out about a year  
25      ago, NUREG 1560. The title was something like perspectives

1 on IPE programs or something like that. That was sent out  
2 last year. We had public comment on that, we had a public  
3 workshop in April I believe and now we are just finishing  
4 the final version of that document and it's coming, parts of  
5 it are coming up to the Commission as part of the quarterly  
6 update of the implementation, PRA implementation plan.

7 So between those two pieces, I think that is how  
8 we defined closure for that program. Individual reviews and  
9 then a generic look at everything. All of these submittals.

10 Now, there will be some items that Ashok mentioned  
11 earlier, what we call IPE followup actions, that are going  
12 to be tracked in the implementation plan that are specific  
13 items to either follow up on some generic issues that didn't  
14 seem to quite get addressed completely, to do some audits of  
15 the improvements that licensees said they were going to make  
16 to see if in fact they did make them and that type of thing.  
17 So there will be a few items like that but, by in large, we  
18 are not calling that necessarily the rest of the IPE  
19 program, they are just followup items.

20 So with that, I will turn to the IPTEE program.  
21 Supplement four to generic letter 8820 requested licensees  
22 to extend their IPEs out to consider plant-specific severe  
23 accident vulnerabilities that were initiated by what we call  
24 external events. That includes earthquakes, high winds,  
25 tornadoes, that type of thing, external flooding, floods to

1 the plant, and fires that are internal to the plant which,  
2 for a long legacy of bad reasoning is called an external  
3 event.

4 At any rate, supplement four was issued in 1991.  
5 Since then, licensees have been extending their IPEs to  
6 consider these other initiators. The last of those is due  
7 in in June of next year. We've gotten 63 so far, actually  
8 64 as of today, and we've got about 50 of those under  
9 review. Our goal now is to have the reviews completed by  
10 June of 1999.

11 In parallel with that, we have been developing  
12 what we call the IPEEE insights report, kind of the analog  
13 to what I talked about a few minutes ago as NUREG 1560. We  
14 have an interim report due to the Commission in November  
15 that will cover what we've seen from the first 24  
16 submittals. And the rest of the slides I have today are  
17 giving you a hint of what you will see in November in more  
18 detail.

19 Slide 22, please.

20 As we saw in the IPE program, most of the plants  
21 in the IPEEE program have proposed or identified and  
22 proposed and have made or are making improvements to their  
23 plant to deal with the not so much vulnerabilities but the  
24 core damage sequences that they see there, either initiated  
25 by seismic events or fires or others.

1           In the area of seismic, they are doing such thing  
2 as improving the anchoring of equipment such as motor  
3 control centers and that type of thing. They are going  
4 through and trying to pick up on certain relays that have  
5 been found to chatter, what's called chatter, in earthquakes  
6 and replace those types of relays, other things like that.  
7 Not major changes to their design but places where they, for  
8 relatively low cost, can improve the design.

9           Likewise, in fire, they are finding cables that  
10 they can move to other places to reduce the vulnerability to  
11 common cause failure of redundant cabling or something like  
12 that, improving their procedures. Getting portable  
13 equipment to cope better with fires and that type of thing.

14           Slide 23.

15           There are also a few things coming up in terms of  
16 plant improvements related to the other what we call the  
17 HFOs, the other type of external events. Most of the  
18 emphasis in IPEEE has really been on the seismic and the  
19 fire because people -- that's where people have seen  
20 significant core damage frequencies. HFOs are in there  
21 also. We have seen a few things such as people building up  
22 and improving the stacks on fossil units that happen to be  
23 adjacent to the nuclear units and that type of thing.

24           Out of this, out of the ones we have looked at so  
25 far, only two plants have identified vulnerabilities.

1 Again, in IPEs, IPEEEs as well as IPEs, we didn't come in  
2 and say here is the definition of vulnerability. The plants  
3 were allowed to define for themselves what vulnerability  
4 meant. At any rate, it was intended to be something that  
5 would be a fairly high scenario or a problem in the plant  
6 that had a fairly high associated core damage frequency.

7 Haddam Neck identified a seismic vulnerability  
8 related to some of the capacities of some of the equipment  
9 to take -- to -- or the capacity to perform in big  
10 earthquakes or not perform as the case may be. And Quad  
11 Cities identified a fire vulnerability. This is relating to  
12 fires in the turbine building either oil initiated, lube oil  
13 initiated or electrically initiated.

14 Some of the contributors to the vulnerability was  
15 the lack of separation of some redundant cabling in  
16 divisions. A reliance on equipment in the other unit to  
17 help shut down the plant during a fire and very much related  
18 to that a very complex, human-intensive way of having to  
19 shut the plant down safely in the event of certain fires.  
20 So it led to what they defined as a vulnerability.

21 They came to the staff in I believe February or  
22 March of last year. The licensee has identified three  
23 things, three programs, one of which they have initiated and  
24 two others they are working on now to reduce the core damage  
25 frequency from this fire vulnerability and to make the whole

1 process of coping with fire simpler in their plant.

2 Slide 24, please.

3 From a methods standpoint or an overall core  
4 damage frequency assessment standpoint, it is a little  
5 harder to say what we are saying from the IPEEEs relative to  
6 the IPEs because there is a greater variability in the  
7 methods that are being used to estimate the frequency, core  
8 damage frequencies from fires and earthquakes. So you see,  
9 it's a more complicated thing and some of the -- it's harder  
10 to compare something that was done with a five analysis, the  
11 EPRI-developed five method versus a standard PRA. So it is  
12 much more complicated in that respect.

13 However, we are seeing what we kind of expected to  
14 see, that we do have significant core damage frequencies  
15 coming from earthquake-initiated accidents and  
16 fire-initiated accidents. So it is kind of a confirmation  
17 of what led us to issue supplement four to the generic  
18 letter.

19 MR. THADANI: Bob?

20 MR. PALLA: Yes, okay. I wanted to talk about the  
21 status of the accident management program.

22 NRC has worked cooperatively with industry since  
23 1988 to develop guidance and strategies to respond to severe  
24 accidents. This effort has involved NEI, the owners group  
25 for each reactor design, INPO and EPRI. The efforts

1 culminated in generic severe accident management guidelines  
2 for each reactor design and related training materials and  
3 this, these guidelines embody many of the strategies that  
4 you've heard discussed a few moments ago such as  
5 depressurizing the reactor coolant system to avoid DCH and  
6 temperature-induced steam generator tube rupture, flooding  
7 the reactor cavity to try to enhance the potential for  
8 retaining core debris in vessel and preventing core/concrete  
9 interactions and adding water to the dry well of Mark I  
10 containments to prevent liner melt through.

11           These severe accident guidance, in effect, extends  
12 the scope of emergency guidance beyond the design basis in  
13 the current EOPs into the severe fuel damage regimes. The  
14 integration of these insights into each licensee's emergency  
15 response organization is the focus of the accident  
16 management program. Key elements of the program consist of  
17 preparing plant-specific severe accident management guidance  
18 and procedures. Training operators, technical support staff  
19 and managers in the guidance and procedures and maintaining  
20 accident management capabilities through periodic drills and  
21 refresher training.

22           Industry implementation is proceeding pursuant to  
23 a voluntary industry initiative. Commitments and schedules  
24 for completing implementation have been provided by each  
25 licensee on their dockets and approximately a third of the

1 sites will complete implementation by the end of this year.  
2 The balance of sites will complete implementation by the end  
3 of 1998.

4 COMMISSIONER DIAZ: You say voluntary?

5 MR. PALLA: The mechanism is one that NEI has  
6 undertaken. It involves the consent of 80 percent or more  
7 of their members. All of the industry's utilities are  
8 members. And approval of basically what they call a formal  
9 industry position, which articulates what they are  
10 committing to do. They brought this issue through that  
11 process and committed to undertake a course of action in  
12 this regard.

13 COMMISSIONER DIAZ: And that's where it is.  
14 Because I understood that voluntary was the other one in  
15 which they did not obtain 80 percent approval. This is,  
16 when they generate 80 percent approval is recommended  
17 action.

18 MR. THADANI: That's right. This is what I  
19 believe they call a binding initiative on the part of NEI  
20 and they have agreement and all licensees are going to  
21 implement accident management.

22 CHAIRMAN JACKSON: I think you meant voluntary, if  
23 I can paraphrase you, in the context that it was not done  
24 pursuant to a regulatory requirement.

25 MR. PALLA: Correct.



1           CHAIRMAN JACKSON: And that's the difference.  
2       When he says "voluntary," he means it is not pursuant to a  
3       regulatory requirement. How industry organizes the response  
4       and what's voluntary and what's not within that context is a  
5       separate issue and that is what you were speaking to.

6           MR. PALLA: Slide 27.

7           The status of the programs.

8           In SECY 97-132, the staff outlined plans to assure  
9       the adequacy of licensee implementation and confirmed that  
10      licensee commitments have been met. This process involves  
11      information gathering visits at a number of plants, the  
12      completion of a temporary instruction for guiding an  
13      inspection of the implementation, pilot inspections for a  
14      limited number of plants and, finally, an inspection of  
15      accident management implementation at the remaining plants.

16           Toward the first step of better understanding the  
17      nature and status of industry activities to implement  
18      accident management, NRC staff participated in  
19      industry-sponsored public workshop on accident management  
20      implementation in March of this year and this was an  
21      industry forum on issues that have been -- have arisen as  
22      licensees proceed to implement the programs. It gave us an  
23      opportunity to hear first hand of the plant-specific  
24      approaches that are being used and some of the issues that  
25      licensees are encountering as they implement.

1           On the second item, we subsequently participated  
2   in accident management demonstration visits at two plants.  
3   These demonstration visits were organized by NEI and hosted  
4   by licensees whose implementation activities were  
5   substantially complete. Comanche Peak and North Anna were  
6   the two plans that volunteered for this, both being  
7   Westinghouse plants.

8           The demonstration visits included two key  
9   ingredients. The first was an overview of licensee  
10  activities to develop and implement their plant specific  
11  guidance and the related training materials and how that  
12  training was administered to the various cadre of staff  
13  because training that we are talking about is -- it is  
14  commensurate with responsibilities in a severe accident.  
15  There is some training for the licensed operators. There is  
16  proportionally more training, for PWRs, more training for  
17  technical support staff, people that would be relied on to  
18  make the assessments and provide recommendations. And then  
19  there is some training also given to decisionmakers. So  
20  this training is parsed out in a way that is an attempt to  
21  be commensurate with responsibilities using a systematic  
22  approach to training.

23           These demonstration visits are kind of the next  
24  step for bringing us up the learning curve to better  
25  understanding what is this industry effort actually

1 producing. The third item, we are continuing to monitor  
2 licensee implementation and to interact with NEI to address  
3 implementation issues.

4 Our interactions with industry remain principally  
5 through NEI. We have some interactions with the BWR Owners  
6 Group, as I will mention in a moment, with regard to review  
7 of the severe accident guidance for BWRs but principally we  
8 are working with NEI at this point in the program.

9 Let me just go to slide 28.

10 A key remaining action is to complete the review  
11 of the boiling water reactor, what's called the emergency  
12 procedure and severe accident guidelines. These guidelines  
13 will, when implemented, essentially supersede emergency  
14 procedure guidelines, REV 4, that is currently in place.  
15 Fundamentally, the emergency procedure and severe accident  
16 guidelines are the same as the emergency procedure  
17 guidelines REV 4 with regard to the earlier parts of the  
18 procedure but what the Owners Group has done is develop the  
19 transition point in which -- beyond that, they have provided  
20 additional information on severe accident guidelines. They  
21 have basically created a two-part document that consists of  
22 basically the EPGs as we know them today and then they  
23 connect up to the severe accident guidelines where  
24 additional information on severe accidents is contained.

25 The BWR Owners Group submitted REV 0 of the

1 emergency procedure and severe accident guidelines in August  
2 of 1996 and a high level audit type review is still under  
3 way. We expect to complete this review in early 1998.

4 On the second item, we also plan to conduct -- we  
5 had two demonstration visits. These both involved  
6 Westinghouse plants. We intend to conduct several  
7 additional accident management demonstrations for combustion  
8 engineering, B&W and BWR plants. These demonstration visits  
9 are considered necessary since the generic materials that  
10 licensees for these designs are provided are different in  
11 many regards. The training materials similarly have  
12 basically gone to different levels of sophistication and  
13 detail. So we want to get out there and see what the  
14 implementation looks like at the CE, B&W and BWRs to get a  
15 good overview of the industry as a whole, rather than being  
16 fixated on just Westinghouse plants. We know there are a  
17 lot of other plants out there.

18 We anticipate that these visits will occur in late  
19 1997 and will wrap into early 1998.

20 The last bullet regarding inspections of the  
21 plants, implementation. We plan to confirm the adequacy of  
22 licensee accident management implementation. As mentioned  
23 in SECY 97-132. Following completion of the demonstration  
24 visits, we will reassess the planned inspection approach and  
25 refocus that as necessary, if necessary. We would then

ANN RILEY & ASSOCIATES, LTD.  
Court Reporters  
1250 I Street, N.W., Suite 300  
Washington, D.C. 20005  
(202) 842-0034

1 follow through with whatever inspection scope is deemed  
2 appropriate.

3 We anticipate that the inspections will be  
4 completed in the year 2000. Of course, this is dependent on  
5 resources to pursue it.

6 That basically concludes my comments.

7 CHAIRMAN JACKSON: Thank you very much.

8 Commissioner Dicus.

9 COMMISSIONER DICUS: Yes, just one question.

10 Recognizing, of course, that FEMA doesn't have any  
11 responsibility for the plants, that's our responsibility,  
12 but in light of what we are doing in discussing here with  
13 accident management and because it does have, and in source  
14 term as well, off-site, potential off-site implications,  
15 have we discussed this at all with FEMA, do you know? You  
16 may not be the right person for me to ask. I was just  
17 curious.

18 CHAIRMAN JACKSON: The question is on the table.

19 MR. THADANI: I don't know the answer but we will  
20 get the answer.

21 CHAIRMAN JACKSON: Commissioner Diaz?

22 COMMISSIONER DIAZ: Yes. Just trying to put these  
23 things together, it just occurred to me that you started  
24 with kind of a defense of the severe accident program and I  
25 think that might need to be addressed.

1           What I keep hearing as a theme is that whatever  
2   you do you are actually ending up with some accident  
3   management guidelines, directives, scenarios, that can be  
4   put in practical terms to mitigate the consequences of  
5   accidents. And I think that's an important component of  
6   what this program should be achieving and it should be  
7   really kind of a bottom line of why the program exists  
8   because there is no regulatory basis for it, but it is a  
9   practical side in utilizing these things.

10           In fact, I might just mention one because I still  
11   at heart am an old mechanical engineer. Quoting, you know,  
12   something you said several times, this is a variety of  
13   cooling mechanisms that you always find. I would say that  
14   you would always find them in whatever you do in the plant,  
15   because there is no way to have anything that is hot that  
16   won't get cool and many times we just focus on a specific  
17   cooling mechanism but all the others are there.

18           You should leverage this knowledge and this  
19   information that has come out of these programs to apply  
20   them into many other areas that actually need to have  
21   updated models and things and I think you are doing yourself  
22   and maybe the Commission a disservice by narrowly looking at  
23   how the information is used for the severe accidents.

24           You are actually doing a great job in applying  
25   them in accident scenarios. I would say there is a lesson

1 in there that is broader than just the severe accident.

2 CHAIRMAN JACKSON: Well, thank you very much for a  
3 very informative briefing on the NRC's severe accident  
4 research program. In fact, I believe the staff should be  
5 commended for your efforts to date and your accomplishments  
6 as well as your international leadership in this area. I do  
7 want to emphasize the importance of establishing a clear  
8 criteria for bringing the remaining programs to closure and  
9 the Commission will look for this information and the other  
10 information that has been asked for in the course of the  
11 briefing, particularly relative to prioritization as an aid  
12 in decisionmaking.

13 But, having said that, I would also stress the  
14 continuing importance of engaging the international  
15 community in the analytical and experimental programs of  
16 when there is mutual benefit because it does allow the kind  
17 of leveraging that you have talked about.

18 So unless there are any further comments or  
19 questions, we're adjourned.

20 Thank you.

21 [Whereupon, at 2:51 p.m., the briefing was  
22 concluded.]

23

24

25

CERTIFICATE

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

TITLE OF MEETING: BRIEFING ON SEVERE ACCIDENT MASTER  
INTEGRATION PLAN -- PUBLIC MEETING

PLACE OF MEETING: Rockville, Maryland

DATE OF MEETING: Tuesday, October 14, 1997

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

Transcriber: Christopher B. Culchall

Reporter: Michael G. Paulus





**United States Nuclear Regulatory Commission**

# **SEVERE ACCIDENT INTEGRATION PLAN**

**Presented by**

**Ashok Thadani, Brian Sheron,  
Charles Ader, Mark Cunningham, Robert Palla**

**October 14, 1997**

## **OUTLINE**

---

**BACKGROUND**

**SEVERE ACCIDENT RESEARCH**

**IPEEE PROGRAM**

**SEVERE ACCIDENT MANAGEMENT**

## **BACKGROUND**

---

**In 1988, staff developed an integration plan for addressing severe accident issues (SECY-88-147). For operating plants, this plan contained six elements:**

- Improved Plant Operations**
- Containment Performance Improvements**
- Severe Accident Research**
- Individual Plant Examinations (IPEs)**
- External Events (IPEEEs)**
- Accident Management**

# **SEVERE ACCIDENT RESEARCH**

## **SEVERE ACCIDENT RESEARCH**

---

- **Risk is dominated by severe accidents**
- **Understanding is necessary to risk-informed regulation and accident management**
- **Research has led to successful issue resolution**
- **Remaining experimental work addresses areas of largest uncertainty**
- **Remaining analytical work addresses code improvement and assessment**
- **Long term plan is maintenance of expertise to support risk informed regulatory initiatives, accident management, and issue resolution**

## **SEVERE ACCIDENT RESEARCH**

---

**Areas of recent emphasis in severe accident research include the following:**

- **Severe Accident Codes**
- **Direct Containment Heating**
- **Lower Head Integrity**
- **Debris Coolability**
- **Fuel-Coolant Interactions**
- **Hydrogen Combustion**
- **Source Term**
- **Cooperative Severe Accident Research Program**

## **SEVERE ACCIDENT CODES**

---

### **ISSUE**

- **Difficulty in performing prototypic experiments for a variety of scenarios**
- **Severe accident codes embody knowledge gained from substantial experiment program conducted over many years**
- **Severe accident codes provide the NRC the analytical tools to evaluate issues and to support risk assessments**

### **STATUS**

- **Currently maintain a two-tier approach to code development**

# SEVERE ACCIDENT CODES

(Continued)

## INTEGRATED CODE

MELCOR

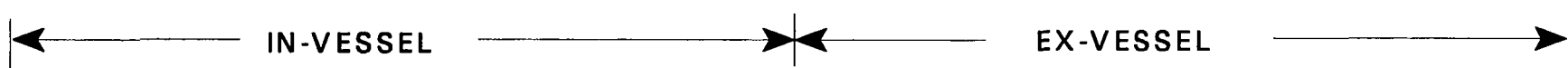
## DETAILED CODES

SCDAP/RELAP5

CONTAIN

VICTORIA

Thermal Hydraulics	Core Melting	FP Release from Fuel	FP Transport in RCS	Reactor Vessel Integrity	Core- Concrete Interactions	Release from Fuel Debris	FP Transport in Containment	Containment Loads
-----------------------	-----------------	----------------------------	---------------------------	--------------------------------	-----------------------------------	--------------------------------	-----------------------------------	----------------------





## **SEVERE ACCIDENT CODES (Continued)**

---

### **RECENT CODE APPLICATION**

- **Steam Generator Integrity Issue**
  - **Steam generator (SG) tube failure represents a containment bypass path during a severe accident**
  - **Analysis with SCDAP/RELAP5 of station blackout scenario**
  - **SCDAP/RELAP5 analysis combined with tube failure models to determine likelihood of tube failure**
  - **Analysis with MELCOR and VICTORIA assessed fission product release to environment and local effects on tubes (heating of tubes by fission product deposition)**

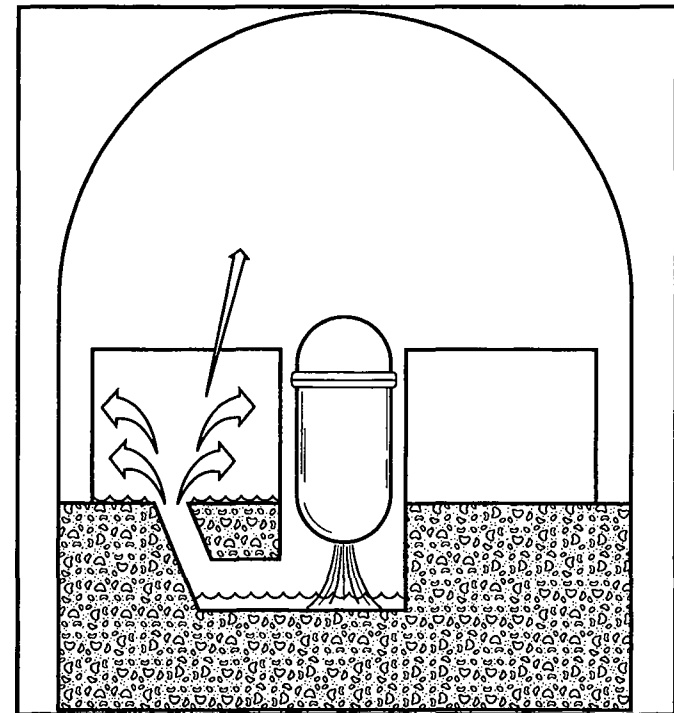
## **DIRECT CONTAINMENT HEATING (DCH)**

---

### **ISSUE**

**High pressure melt ejection and heating of containment atmosphere (DCH) has been identified as important contributor to early containment failure of PWR reactor containments in NUREG-1150 and IPEs**

- **Draft NUREG-1150 - DCH contributed ~ 80% of the early fatality risk for Surry**
- **Final NUREG-1150 - DCH contribution reduced to ~ 20% of the early fatality risk**



## **DIRECT CONTAINMENT HEATING (DCH)**

### **(Continued)**

---

#### **STATUS:**

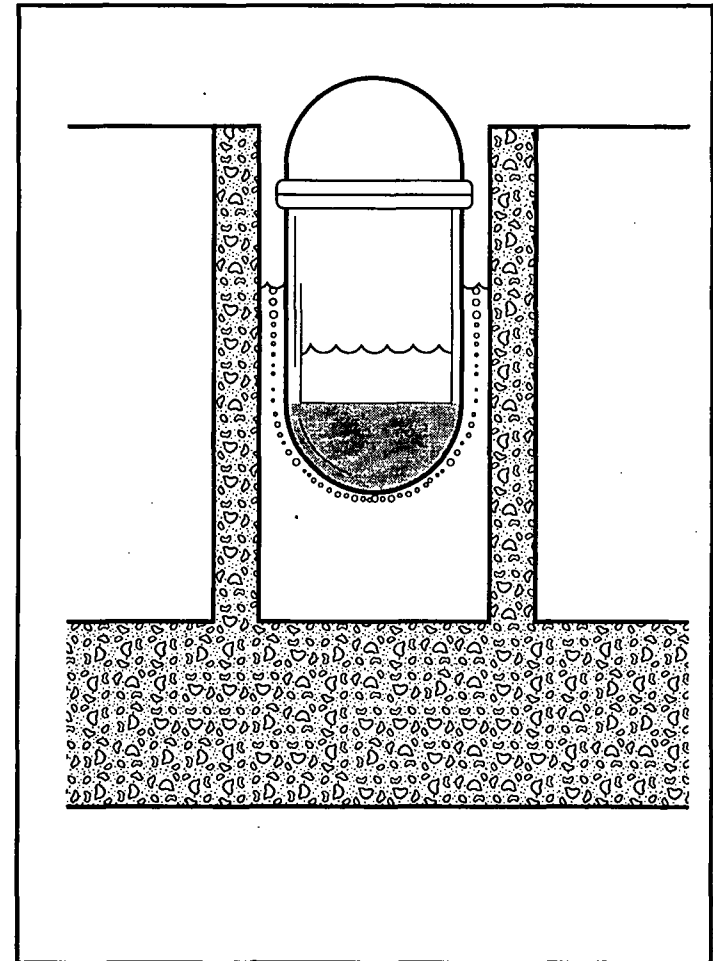
- **Large scale tests completed for Westinghouse and Combustion Engineering designs**
- **Test program provided data necessary for validating analytical models**
- **Issue resolution concluded that DCH not a threat for Westinghouse plants (except ice condensers)**
- **Issue resolution for CE, B&W and Westinghouse ice condenser plants nearing completion**
- **Cooperative research program ongoing at Sandia National Laboratories to evaluate depressurization to mitigate DCH**

## LOWER HEAD INTEGRITY

---

### ISSUE

- Examination of TMI-2 vessel raised question whether a molten core can be retained in the vessel by water addition
- Cooling a molten core by flooding outside the vessel (ex-vessel cooling) has been proposed
- If accident management is successful in cooling core in-vessel, challenges to containment integrity can be reduced
- If water is not effective, accident progression is then influenced by how the vessel fails



## **LOWER HEAD INTEGRITY (Continued)**

---

### **STATUS**

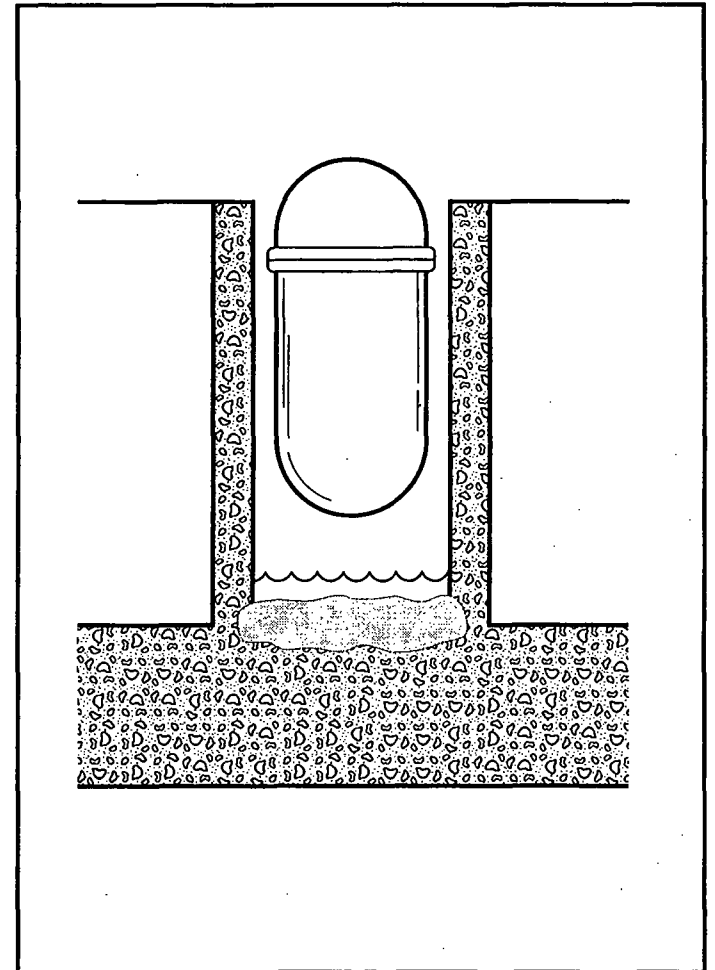
- **OECD RASPLAV Project (Russian Research Center) providing information to confirm heat load to vessel wall**
- **In-Vessel Cooling Experiments (Fauske Associates) investigating mechanisms for in-vessel cooling of core debris**
- **Ex-Vessel Cooling Experiments (Penn State) providing data on heat removal from vessel by ex-vessel flooding**
- **Lower Head Failure Experiments (Sandia National Laboratories) providing data to validate analytical models used to predict reactor vessel failure**
  - **International interest in supporting additional lower head failure experiments as an OECD project**

## DEBRIS COOLABILITY

---

### ISSUE

- If vessel fails, molten core debris can react with basemat concrete, causing containment failure through basemat liner or overpressure
  - Question: Can molten debris be cooled by an overlying water pool
- MACE program is examining ex-vessel cooling of core debris
- Recent large scale (2000 kg) test using prototypic material identified several potential cooling mechanisms

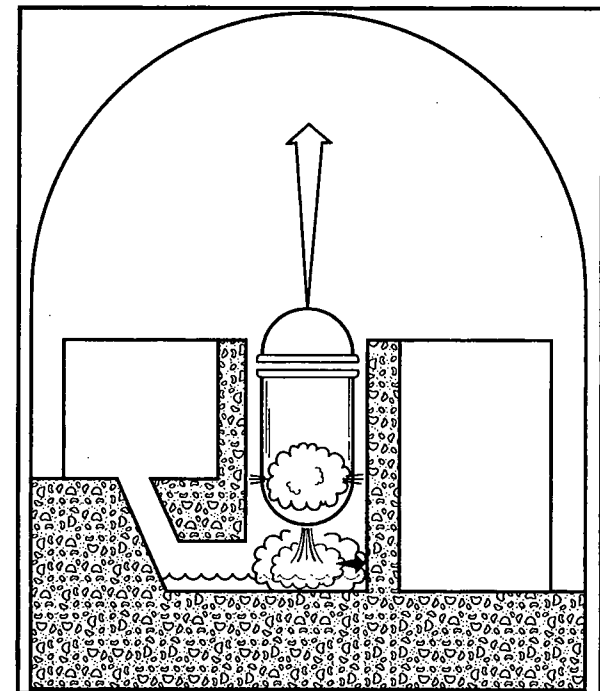


## FUEL-COOLANT INTERACTIONS (FCI)

---

### ISSUE

- FCIs result from contact between molten core and water
  - Results can be positive - quenching and cooling of molten debris  
OR Negative - energetic FCIs "steam explosions"
- Steam explosions rupturing the reactor vessel and containment have been considered significant in risk assessments
- Understanding of FCIs is important to confirm effectiveness and impacts of adding water during a severe accident



## **FUEL-COOLANT INTERACTIONS (FCI)**

### **(Continued)**

---

#### **STATUS**

- **Steam Explosion Review Group (SERG-2) addressed steam explosions in the reactor vessel leading to reactor vessel and containment failure**
  - **Concluded that research was sufficient to dismiss upper head failure as significant to risk**
  - **Concluded that additional work necessary on impact on lower head integrity and steam explosions in the containment**
- **Cooperative research under FARO/KROTOS program using prototypic material ongoing**
- **Experiments at Univ. of Wisconsin and Argonne National Laboratory ongoing**



## **SOURCE TERM RESEARCH**

---

### **ISSUE**

- **Source term refers to the magnitude, timing, and chemical form of the fission product release**
- **Understanding of the source term is essential to understanding risk**

### **STATUS**

- **Use of revised source term for design basis accidents being requested by operating plants**
- **PHEBUS experiments used to confirm our general understanding of fission product release and transport.**
- **Results to date have generally confirmed our understanding**

## **HYDROGEN COMBUSTION**

---

### **ISSUE**

- **Hydrogen combustion can challenge containment integrity**
- **New issue is the control of hydrogen using Passive Autocatalytic Recombiners (PARs)**
- **Confirmatory tests being performed at Sandia National Laboratories with a representative PAR**
  - **PARs shown to be effective in removing hydrogen**
- **Completing high temperature combustion experiments at Brookhaven National Laboratory and large scale experiments at Russian Research Center**
- **Continuing experiments at California Institute of Technology**

## **COOPERATIVE SEVERE ACCIDENT RESEARCH PROGRAM**

---

- **Cooperative Severe Accident Research Program (CSARP) is an international program sponsored by the NRC**
  - **Purpose to provide for cooperation and exchange of information**
  - **Implemented through bilateral agreements**
  - **Includes participants from 19 countries**

# **IPEEE PROGRAM**

## **IPEEE (EXTERNAL EVENTS) PROGRAM**

---

- **Requested licensees to identify plant-specific vulnerabilities to severe accidents caused by external events**
- **Complete reviews of IPEEE submittals and issue plant-specific SERs by June 1999**
- **Received 63 responses so far; will receive 11 more**
- **Developing IPEEE Insights Report**
  - **Interim report (November 1997)**

## **PRELIMINARY IPEEE PERSPECTIVES**

### **(for first 24 IPEEE reviews)**

---

- **Most plants have implemented or proposed improvements (i.e., hardware and procedural changes). For example:**

- **Seismic**

- Anchoring equipment**

- Replacing vulnerable relays**

- Bolting cabinets together**

- Housekeeping (e.g., proper storage of ladders, cranes)**

- **Fire**

- Relocating cables out of fire area**

- Improving fire response procedures**

- Acquiring portable equipment (e.g., pumps, oil tank trucks)**

## **PRELIMINARY IPEEE PERSPECTIVES (Continued)**

---

- **Plant improvements (cont.)**
  - **High winds, flood and other external events (HFO)**  
  
**Strengthening stacks of adjacent fossil fueled units**  
**Refurbishing flood wall**
- **Only two plants have identified "vulnerabilities"**
  - **Haddam Neck - Seismic vulnerability**
  - **Quad Cities IPEEE fire vulnerability (Turbine Building fires (oil and electrical))**
    - **Vulnerabilities include: lack of separation of redundant divisions, reliance on opposite unit equipment, complex safe shutdown method**
    - **Licensee and staff have taken and are continuing to take actions to sufficiently address this vulnerability**

## **PRELIMINARY IPEEE PERSPECTIVES (Continued)**

---

- **Wide variability of quantitative risk estimates (core damage frequency)**
  - **Comparison of quantitative CDF estimates not straight forward due to variability in: methods, input and modeling assumptions, approximations by analysts, and level of detail in analyses**
  - **CDF contribution from seismic and fire events can approach (or even exceed) that from internal events**



# **ACCIDENT MANAGEMENT**

## **ACCIDENT MANAGEMENT**

---

### **BACKGROUND**

- **Severe accident issue resolution and IPEs have led to strategies and guidance for severe accidents**
- **Integration of these into each licensee's Emergency Response Organization is the focus of the accident management program**
- **Industry implementation is proceeding: scheduled completion end of 1998**

## **ACCIDENT MANAGEMENT**

---

### **STATUS**

- **Participated in industry workshop on accident management implementation**
- **Completed accident management demonstration visits at two sites**
- **Continuing to monitor licensee implementation, and interact with NEI to address implementation issues**

## **ACCIDENT MANAGEMENT**

---

### **REMAINING ACTIONS**

- **Complete review of Boiling Water Reactor Owners Group "Emergency Procedure and Severe Accident Guidelines"**
- **Conduct accident management demonstration visits at CE, B&W, and BWR plants**
- **Confirm adequacy of licensee implementation through inspections and drill observations**



## **POLICY ISSUE** **(Information)**

June 23, 1997

SECY-97-132

**FOR:** The Commissioners

**FROM:** L. Joseph Callan  
Executive Director for Operations

**SUBJECT:** STATUS OF THE INTEGRATION PLAN FOR CLOSURE OF SEVERE  
ACCIDENT ISSUES AND THE STATUS OF SEVERE ACCIDENT  
RESEARCH

**PURPOSE:**

To inform the Commission annually of the status of and progress in implementing the elements of the Integration Plan for the Closure of Severe Accident Issues, i.e., the Individual Plant Examination of Internal Events (IPE), Individual Plant Examination of External Events (IPEEE), Severe Accident Research, and Accident Management (A/M) programs, as requested in a Staff Requirements Memorandum dated April 20, 1989.

**SUMMARY:**

The Integration Plan for Closure of Severe Accident Issues has four elements and the status is as follows:

**IPE Program:**

1. All 75 submittals have been reviewed. Staff evaluation reports have been issued for all except five. All submittals except two have been found to be in conformance to Generic Letter 88-20. The Browns Ferry (BF) multi-unit PRA is being reviewed to determine its applicability as an IPE of BF Unit 3.

Contact: A. Thadani, RES  
301-415-6802

**SECY NOTE:** TO BE MADE PUBLICLY AVAILABLE  
IN 5 WORKING DAYS FROM THE DATE  
OF THIS PAPER

2. Draft NUREG-1560 "Individual Plant Examination Program: Perspectives on Reactor Safety and Plant Performance" was published for public comment. An IPE workshop was held in Austin, Texas, on April 7-9, 1997, to solicit and discuss public comments. The final report is to be issued by September 30, 1997.
3. The IPE database was finalized and placed on the NRC web page. Draft NUREG-1603 (IPE database user's manual) was published. A final NUREG-1603 will be issued by December 1997.
4. RES has completed regional briefings on IPE submittals.
5. A program of follow-up activities, based upon IPE insights, is being developed by RES and NRR (September 30, 1997).

#### IPEEE Program

1. To date, 61 IPEEE submittals have been received with 41 under various stages of review.
2. A preliminary insights report, based on the first 24 IPEEE submittal reviews, is being developed and the report will be available in September 1997.

#### Severe Accident Research Program

1. The draft report for resolution of the direct containment heating issue for Combustion Engineering and B&W designs has been completed and is undergoing peer review.
2. The results of the Second Steam Explosion Review Group Workshop (SERG-2) were published in NUREG-1524, "A Reassessment of the Potential for an Alpha-Mode Containment Failure and a Review of the Current Understanding of Broader Fuel-Coolant Interaction Issues," in August 1996. The conclusion of the majority of the international experts participating in SERG-2 supported the estimates of low probability of alpha-mode failure (i.e., early containment failure due to internal missiles resulting from an in-vessel steam explosion).
3. Successful experiments as part of the international cooperative RASPLAV and the Meit Attack and Coolability Experiments (MACE) programs have been completed and are providing valuable information in assessing the ability to cool molten core debris either in-vessel or ex-vessel.
4. Lower head failure research also included separate effects testing at Pennsylvania State University and a jointly funded international program to examine gap cooling in the reactor pressure vessel. High pressure creep rupture testing of scaled reactor vessels was also performed.

5. In the area of fission product release and transport, preliminary results from the PHEBUS FPT-1 experiment have provided additional confirmation of the insights reflected in the revised source term.
6. Limited research is continuing in other areas to focus on reducing the uncertainties in select issues in order to improve and maintain the NRC capabilities to analyze severe accident issues.
7. Specific research on hydrogen combustion is underway in support of the staff's review of AP-600 (e.g., testing of a passive autocatalytic recombiner).
8. Code improvement activities are supporting releases of updated versions of the MELCOR and SCDAP/RELAP5 codes and include the completion of the peer review of the VICTORIA code.
9. Detailed analyses of steam generator tube heating during severe accidents were performed to support the ongoing steam generator tube integrity regulatory initiative.

#### Accident Management Program

1. Licensee implementation of A/M is continuing. Implementation will be completed at approximately 13 sites within the next two months, and an additional 17 sites by late-1997. Implementation at the balance of sites (40) will be completed within the latter half of 1998.
2. The staff attended an industry-sponsored workshop on A/M implementation in March 1997, and expects to participate in a series of licensee "demonstrations" of completed implementation over the next six months. The workshop combined with the A/M demonstrations could serve the role of the information gathering visits described in SECY-96-088, "Status of NRC Assistance to the DOE on Regulatory Plans for Plutonium Disposition Alternatives." The staff intends to reassess and refocus the approach to confirming licensee implementation after the A/M demonstrations.
3. The staff has completed a high level review of the Boiling Water Reactor Owners' Group (BWROG) Emergency Procedure and Severe Accident Guideline documents and identified areas where additional information is needed. The staff anticipates completing review of the BWROG documents by the end of the summer so that BWR licensee schedules for completing A/M implementation will not be impacted.

#### BACKGROUND:

On May 28, 1988, the staff presented to the Commission the "Integration Plan for Closure of Severe Accident Issues" (SECY-88-147). There were six major elements in that plan: the Severe Accident Research Program (SARP), A/M, Containment Performance Improvement (CPI) and the Improved Plant Operations (IPO) programs. On April 20, 1989, the

Commission requested that the staff provide periodic updates of the status of the various elements of the Plan. The last update was provided in June 1996 (SECY-96-088).

As noted in SECY-95-004, "Status of Implementation Plan for Closure of Severe Accident Issues, Status of Individual Plant Examinations, and Status of Severe Accident Research," and SECY-96-088, the CPI program element has been completed and the Commission is being kept informed of the status of the IPO program through other means. Consequently, the discussion provided below addresses the IPE, IPEEE, Severe Accident Research and A/M programs.

## DISCUSSION:

### I. IPE Program

1. All 75 IPE submittals have been reviewed. Staff evaluation reports (SERs) have been issued for all except five, two of which are in progress (Susquehanna and St. Lucie) and are expected to be issued by June 30, 1997. The other three submittals have been redone by the licensees to account for either staff concerns brought out during the IPE review process (Byron and Braidwood) or plant changes which resulted in the original IPE submittal being obsolete (Ginna). SERs are scheduled to be issued for these IPEs by the end of July 1997. In addition, all submittals (either the original or a resubmittal) except two (Crystal River and Susquehanna) have been found to be in conformance with the intent of Generic Letter 88-20. Completion of these IPE reviews is expected by the end of December 1997.
2. RES is evaluating the applicability of the TVA Browns Ferry multi-unit PRA, (which is a PRA of Unit 2 given operation of Units 1 and 3) as an IPE of Browns Ferry, Unit 3.
3. Draft NUREG-1560 "Individual Plant Examination Program: Perspectives on Reactor Safety and Plant Performance," (Parts 1 and 2) was published in October and November, 1996. Perspectives are presented on four major objectives as follows:
  - The impact on reactor safety;
  - The significant reactor design, containment performance and operational features relative to core damage, containment failure and radionuclide releases;
  - The different methods and models developed and quantified in performing the IPEs; and
  - The implication of the IPE results relative to the Commission's Safety Goals and the Station Blackout Rule.

A workshop was held in Austin, Texas, on April 7-9, 1996, to present the insights discussed in draft NUREG-1560 and discuss public comments. Approximately 100 participants attended from U.S. power utilities, reactor vendor owners' groups, industry consultants, and other federal and state agencies. Based on comments



received at the workshop and other written comments, a final version of NUREG-1560 will be issued by September 30, 1997.

4. The IPE database has been completed and is available to the public (can be downloaded from the NRC Web page). In addition, draft NUREG-1603, the user's manual for the IPE database, has been published. The final NUREG-1603 will be published by December 1997.
5. RES provided briefings on the IPE results to each of the regions. The briefings were attended by both regional personnel and resident inspectors.

These activities complete the IPE program. However, follow-up activities, based on the insights documented in draft NUREG-1560, are being identified. These activities will be documented in a staff plan as part of the PRA Implementation Plan.

## II. IPEEE Program

On June 28, 1991, the NRC issued Generic Letter 88-20, Supplement 4, "Individual Plant Examination of External Events (IPEEE) for Severe Accident Vulnerabilities, 10 CFR 50.54(f)," and NUREG-1407, "Procedural and Submittal Guidance for the Individual Plant Examination of External Events (IPEEE) for Severe Accident Vulnerabilities: Final Report." The generic letter requested all licensees to perform an IPEEE to identify plant-specific vulnerabilities to severe accidents caused by external events and report the results to the NRC.

To date, the staff has received 61 IPEEE submittals and will receive an additional 11 by the end of 1997, one by June 1998, and one with a date not yet determined. Currently, 41 submittals are under various stages of review with these reviews performed primarily with contractor support and reviewed by a senior review board of staff and contractors expert in PRA, fire and seismic analyses, as well as other relevant disciplines. The IPEEE review process focuses on: (a) quality and completeness of the submittals and (b) assessments and resolution of certain generic issues (see Attachment 1). An SER will be issued following the completion of each review indicating whether or not the submittal has met the intent of Generic Letter 88-20 and adequately addressed the relevant generic issues.

As stated in SECY-96-088, the staff is preparing a preliminary insights report based on the first 24 IPEEE submittal reviews. This report will: (1) summarize the significant IPEEE findings and evaluate whether any generic observations can be derived, (2) evaluate lessons learned about the methodologies used, and (3) assess the usefulness of the IPEEE analyses for regulatory applications. This report will be available by the end of September 1997. Some of the preliminary insights, together with newly received information from the Quad Cities IPEEE submittal, are:

1. Core damage frequencies (CDFs) due to internal fires range from  $\sim 2\text{E-}9$  to  $5\text{E-}3$  per reactor year (RY), (fire CDF for Quad Cities is reported to be  $\sim 5\text{E-}3/\text{RY}$ );

2. CDFs due to seismic events range from  $\sim 1\text{E-}7$  to  $2\text{E-}4/\text{RY}$  and seismic capacities, i.e., in terms of high confidence, low probability of failure, range from 0.05 to 0.5g (peak ground acceleration);
3. CDFs due to external floods and high winds range from less than  $1\text{E-}8$  to  $6\text{E-}5/\text{RY}$ ;
4. The fire CDF (about  $5\text{E-}3/\text{RY}$ ) at Quad Cities and the seismic CDF (about  $2\text{E-}4/\text{RY}$ ) at Haddam Neck were considered by the licensees to be potential vulnerabilities. Commonwealth Edison, the licensee for Quad Cities, has implemented some interim measures to reduce the potential fire risk and currently is evaluating additional measures to further reduce the potential fire risk. Northeast Utilities (NU), the licensee for Haddam Neck, had made many significant plant-specific improvements before submitting its IPEEE and stated in its submittal that it planned to assess what additional improvements would be needed to further reduce the potential seismic risk. (Since then, NU has decided to permanently shut down this plant.)
5. At many other plants, the licensees did not report potential vulnerabilities associated with external events, however, many plant-specific improvements were implemented at those plants.

### III. Severe Accident Research Program

The Severe Accident Research Program has provided support for the certification review of AP600 and has focused on phenomena and issues to understand and quantify potential challenges to containment integrity, with particular emphasis placed on addressing early containment challenges. Significant progress has been made in resolving both the direct containment heating and alpha-mode failure issues. Research is also underway to provide a better understanding of issues regarding molten core debris coolability, which ultimately may provide accident management strategies which can mitigate potential containment challenges. A limited number of experimental programs conducted at universities or under cooperative international agreements will continue to focus on specific issues, such as hydrogen combustion and fission product release, chemistry, and transport, and will support maintenance of expertise. The results of the experimental programs are used to develop and validate improved models in the NRC's severe accident codes. In many areas, the NRC has participated and will continue to participate in jointly funded cooperative projects with industry and foreign countries and organizations in order to leverage NRC resources. The status of the specific research areas is discussed in Attachment 2.

### IV. Accident Management Program

The goal of the accident management (A/M) program is to enhance the capabilities of the licensee's Emergency Response Organization (ERO) to prevent and mitigate severe accidents and minimize any off-site releases. As part of A/M implementation, the insights developed through the conduct of the IPEs, such as important accident sequences and equipment/system failure modes, will be considered by licensees in their development and implementation of plant-specific severe accident management guidance and ERO personnel training program enhancements.

In SECY-96-088, the staff described the industry commitment and schedules for implementing A/M pursuant to a formal industry position on this matter, staff plans for confirming the adequacy of licensee implementation, and the status of the review of severe accident management guidance for BWRs. Significant progress has been made since SECY-96-088 was issued, as described below.

### **Licensee Implementation of A/M**

As described in SECY-96-088, all licensees have committed to implement A/M in accordance with the formal industry position documented in Revision 1 to Nuclear Energy Institute (NEI) 91-04, "Severe Accident Issue Closure Guidelines," and have provided target dates for completing implementation. Although several licensees have reported some schedule slippage in the interim period, the schedules for completion are largely unchanged from the original commitment dates.

Licensee implementation of A/M is proceeding. Implementation will be completed at approximately 13 sites within the next two months and an additional 17 sites by late-1997. Implementation at the balance of sites (40), including the majority of the BWR sites, will be completed within the latter half of 1998. The later completion dates for BWRs are due to a BWROG decision to integrate the severe accident guidance within the Emergency Operating Procedures and delays in completing development of the integrated Emergency Procedure and Severe Accident Guideline package.

### **Plans for Evaluating Licensee Implementation**

In SECY-96-088, the staff outlined plans to perform a limited number of pilot inspections to develop confidence in licensee A/M implementation, combined with less detailed evaluations of A/M performance for the balance of plants. Major steps in the staff's approach for evaluating licensee implementation included: (1) conducting information gathering visits at two to four sites to observe how the elements of the formal industry position are being implemented, (2) completing a temporary instruction (TI) using insights obtained through the site visits, (3) performing pilot inspections at about five plants using the TI, (4) developing an inspection procedure (IP) for use at remaining plants based on findings from the pilot inspections and feedback from industry, (5) evaluating implementation at remaining plants using the IP, and (6) in the longer term, evaluating A/M maintenance on a for-cause basis as a regional initiative.

The staff met with NEI on December 19, 1996 to discuss the scope and schedules of the information gathering visits. At that time, NEI proposed to take the lead in organizing "demonstrations" of completed A/M implementation at four to six plants. These demonstrations would be in lieu of the information gathering visits and follow-on pilot inspections envisioned by the staff and would occur in the mid-1997 time frame. NEI also informed the staff of an industry-sponsored workshop concerning severe accident management implementation planned for March 11-13, 1997, and proposed that NRC staff attend in order to better understand the implementation approach and status.

In a follow-up meeting with NEI on January 24, 1997, the staff indicated that attendance at the A/M workshop together with participation in the A/M demonstrations could serve

the role of the information gathering visits, but that changes to the plans outlined in SECY-96-088 concerning the need for pilot inspections and the nature of the inspections at the balance of plants are not warranted at this time. The staff intends to reassess and refocus this aspect of the program after the A/M demonstrations.

NRR staff attended the NEI-sponsored workshop on accident management implementation on March 11-13, 1997. The purpose of the workshop was to provide a forum for utility personnel to explore and discuss alternative solutions to issues that have arisen during plant-specific implementation of severe accident management guidance (SAMG) and training. The workshop was open to the public and attended by approximately 200 persons, including utility staff responsible for implementing the various facets of severe accident management at their plants, representatives from each of the owners groups, the Electric Power Research Institute (EPRI), and several foreign organizations. The workshop provided the staff an opportunity to better understand plant-specific implementation approaches and issues and the major elements of implementation, such as development of plant-specific SAMG, initial staff training, SAMG validation, conduct of A/M drills and tabletop exercises, and use/applicability of 10 CFR Part 50.59 in the implementation process.


The staff is currently awaiting confirmation from NEI regarding the schedule and locations of the plant-specific A/M demonstrations. The first A/M demonstration visit is tentatively planned for late May 1997. A second demonstration visit is also being considered for late July 1997.

#### **BWR Emergency Procedure and Severe Accident Guidelines**

In SECY-96-088, the staff described the submittal of severe accident management guidance documents by the Boiling Water Reactor Owners Group (BWROG) and the initiation of a high-level review of the BWR Emergency Procedure and Severe Accident Guidelines (EP/SAG). (Severe accident management guideline documents have already been submitted by each of the PWR owners groups and reviewed by the staff, as described in SECY-94-166, "Status of Implementation Plan for Closure of Severe Accident Issues, Status of Individual Plant Examinations, and Status of Severe Accident Research.")

Subsequently, the BWROG submitted Rev. 0 of the (EP/SAG) and associated technical basis documents to NRC for information on August 29, 1996. The staff and Oak Ridge National Laboratory have completed a high level review of the EP/SAG documents. Areas where additional information and discussion with the BWROG is considered necessary were identified in an April 2, 1997, letter to the owners group. The BWROG has agreed to illustrate the EP/SAG implementation process and time-line by applying the guidelines to a limited number of BWR sequences identified by the NRC. A submittal from the BWROG containing this information is expected shortly. A meeting to discuss specific questions/concerns regarding the BWROG products will be scheduled once the submittal is received and the BWROG is prepared to address staff concerns. The staff anticipates completing review of the BWROG documents by the end of the summer so that BWR licensee schedules for completing A/M implementation will not be impacted.

The staff will continue to keep the Commission informed of progress on the above areas, An update of this paper on the status of the Integration Plan for the Closure of Severe Accident Issues will be provided in May 1998.

  
L. Joseph Callan  
Executive Director  
for Operations

**Attachments:**

1. Resolutions of Generic Safety  
Issues Dependent on IPEEE Reviews
2. Severe Accident Research Program

**DISTRIBUTION:**

Commissioners

OCAA

OIG

OPA

OCA

CIO

CFO

EDO

SECY

## RESOLUTIONS OF GENERIC SAFETY ISSUES DEPENDENT ON IPEEE REVIEWS

Resolutions of the following generic safety issues are dependent on the reviews of IPEEE submittals. These generic issues are of the following two types:

- (1) Issues identified during the initial planning of the IPEEE program and explicitly discussed in Supplement 4 of GL 88-20. These include:
  - . Unresolved Safety Issue A-45: Shutdown decay heat removal requirements
  - . Generic Issue 131: Potential seismic interaction involving the movable in-core flux mapping system used in Westinghouse plants (portions of the system have not been seismically analyzed)
  - . Eastern U.S. Seismicity: Charleston earthquake issue - eight plants identified as needing additional review
  - . Fire Risk Scoping Study: Plant-specific analyses needed to assess risk importance of certain fire risk issues
  - . Generic Issue 103: Design for probable maximum precipitation
- (2) Issues addressed by the staff subsequent to the issuance of Supplement 4 of GL 88-20, the resolution of which was connected to the plant-specific analyses being performed in the IPEEE program. These include:
  - . Generic Issue 156, "Systematic Evaluation Program (SEP)": Nine issues related to seismic-, fire-, and flood-initiated accidents were identified as being resolved as part of IPEEE
  - . Generic Issues 147 and 148: "Fire-Induced Alternate Shutdown/Control Room Panel Interactions," and "Smoke Control and Manual Fire-Fighting Effectiveness," respectively
  - . Generic Issue 57, "Effects of Fire Protection System Actuation on Safety-related Equipment"
  - . Generic Issue 172, "Multiple System Response Program": Eleven issues related to seismic-, fire-, and flood-initiated accidents were identified as being resolved because they will be addressed in IPEEE.

The issues identified above, except the Eastern U.S. Seismicity and SEP issues, apply to all plants. The Eastern U.S. Seismicity and SEP issues apply only to certain plants submitting an IPEEE. Table 1 identifies the plants for which these specific issues apply.

**Table 1 IPEEE Submittals  
Requiring Review of EUS SEISMICITY and SEP Issues**

Plant	SEP Plant	Eastern U.S. Seismic Plant
D. C. COOK 1-2	X	
KEWAUNEE	X	
HADDAM NECK	X	
TURKEY POINT 1-2	X	
BIG ROCK POINT	X	
BRUNSWICK 1-2	X	
FORT CALHOUN	X	
PALISADES	X	
PILGRIM	X	X
POINT BEACH 1-2	X	
ROBINSON	X	
THREE MILE ISLAND	X	
INDIAN POINT 2	X	X
DUANE ARNOLD	X	
MONTICELLO	X	
PEACH BOTTOM 1-2	X	
HATCH 1-2	X	
MAINE YANKEE	X	
MILLSTONE 2	X	
OYSTER CREEK	X	
VERMONT YANKEE	X	
OCONEE 1-3	X	X
ARKANSAS 1-2	X	X
FITZPATRICK	X	
CALVERT CLIFF 1-2	X	

Plant	SEP Plant	Eastern U.S. Seismic Plant
MILLSTONE 1	X	
BROWNS FERRY 1-3	X	
GINNA	X	
COOPER	X	
NINE MILE POINT 1	X	
SURRY 1-2	X	
PRAIRIE ISLAND 1-2	X	
QUAD CITIES 1-2	X	
ZION 1-2	X	
INDIAN POINT 3	X	X
DRESDEN 2-3	X	



The status of the specific research areas is discussed below:

**Direct Containment Heating:** Direct Containment Heating (DCH) refers to the process whereby, under certain accident scenarios, molten core debris is ejected under high pressure from the reactor vessel into the containment atmosphere. The subsequent rapid heating of the containment atmosphere, in conjunction with possible hydrogen combustion, can lead to early containment failure. DCH was identified as one of the important contributors to early containment failure for PWRs in NUREG-1150 and has also been identified as one of the leading contributors to early containment failure for PWRs in the IPEs. The results of previous research into the characteristics of debris dispersal and resultant containment loadings has led to closure of the DCH issue for all Westinghouse plants with large dry or subatmospheric containments, excluding ice condenser plants. Using a probabilistic framework to address uncertainties in the estimate of containment loads, the analysis leads to the conclusion that the containment is not threatened by credible loads resulting from a high pressure melt ejection (NUREG/CR-6338, February 1996). A draft analysis to address DCH in ice condenser plants is nearing completion and will undergo a peer review. The peer review process is expected to be completed by the end of 1997.

The DCH issue resolution methodology, which was previously used for Westinghouse plants, is also being used to address the DCH issue for the large dry reactor containments of the Combustion Engineering and Babcock and Wilcox designs. The model used to calculate containment loads due to DCH for these plant designs was bench-marked against large scale integral tests, conducted at Sandia National Laboratories, to investigate DCH in a CE-like design similar to that of Calvert Cliffs. (The CE-like designs have a reactor cavity design that results in a greater dispersal of the core debris into the containment atmosphere than do the cavities of the Westinghouse designs.) The results of these large scale DCH integral tests for CE-like designs were published in NUREG/CR-6469, "Experiments to Investigate Direct Containment Heating Phenomena with Scaled Models of the Calvert Cliffs Nuclear Power Plant," in February 1997. Preliminary results of the DCH issue resolution for CE and B&W plants are documented in draft NUREG/CR-6475. Peer review of NUREG/CR-6475 is near completion, and the final report will be published by September 1997.

**Fuel-Coolant Interactions and Debris Coolability:** NUREG-1150 and some IPEs have identified energetic fuel-coolant interactions (FCIs) or steam explosions as important contributors to early containment failure. In NUREG-1150, the alpha mode failure of the containment resulting from in-vessel steam explosions represented a significant fraction of the early failure probability for the Surry and Zion plants (although the overall likelihood of early containment failure was low). In June 1995, the Second Steam Explosion Review Group Workshop (SERG-2) was held to review the status of FCI research. The results of this review meeting were published in NUREG-1524, "A Reassessment of the Potential for an Alpha-Mode Containment Failure and a Review of the Current Understanding of Broader Fuel-Coolant Interaction Issues," in August 1996. The overall conclusion of the majority of the international experts participating in SERG-2 was that alpha-mode failure was a very low probability event and therefore resolved from a "risk perspective."

While the issue of alpha-mode failure is considered resolved as determined by the SERG-2, the experts did recommend a number of areas of future research relating to broader FCI issues. These areas would improve the ability to analyze other FCI challenges such as steam explosions in the lower reactor head or in ex-vessel reactor cavities. In this regard, under the Technical Exchange Arrangement between the NRC and Commission of the European Communities Joint Research Center (JRC), in Ispra, Italy, experimental work is being conducted as part of the FARO and KROTOS programs, using prototypic materials, to address the range of fuel-coolant interactions associated with both in-vessel and ex-vessel accident progression. An experimental program is also underway at Argonne National Laboratory to explore the chemical augmentation of fuel-coolant interactions using reactor materials (Zr and  $ZrO_2$ ). Finally, small scale experiments at the University of Wisconsin, using stimulant materials, are examining issues involving the energetics of steam explosions.

In the area of debris coolability, RES is participating in a cooperative program, with EPRI, Department of Energy (DOE), and a number of international regulatory and research organizations, called the Melt Attack and Coolability Experiments (MACE) program. This program's objective is to determine the ability of water to cool prototypic ex-vessel core debris, thereby preventing basemat meltthrough. In January 1997, the M3b test, using 2000 kg of prototypic material, was successfully completed. Preliminary results have identified several cooling mechanisms that were involved in cooling the molten debris. Further analysis is underway. Discussions are planned with program participants regarding continuation of the program.

Hydrogen Combustion: In support of NRR's review of the AP600, two series of tests were completed at Sandia National Laboratories (SNL) to evaluate the performance of passive autocatalytic recombiners (PARs). Westinghouse proposes to use PARs in the AP600 design for the control of combustible gases following a design basis accident. Preliminary test results at SNL confirm the PARs' ability to recombine hydrogen with oxygen at relatively low concentrations (below 1% mole hydrogen) in both hydrogen-air and hydrogen-air-steam environments. Additional tests are planned to further explore the ignition potential of PARs and to better characterize the performance of PARs.

RES is also participating in two international cooperative programs aimed at extending the data base on hydrogen combustion into more prototypic situations. Under a cooperative program with NUPEC of Japan, testing was performed for detonation transmission in the large scale high temperature combustion facility at Brookhaven National Laboratory (BNL). This work is aimed at establishing criteria for detonation transmission of hydrogen-air-steam mixtures at elevated temperatures (500-700K). In another program, the NRC, FZK of Germany, and IPSN of France are coordinating an experimental program at the Russian Research Center (RRC) to investigate hydrogen combustion issues at large scale. These large scale experiments are being performed to study deflagration to detonation transition (DDT) in a steam environment and to verify hydrogen igniter separation distance. The findings from these experiments are being used to develop a generalized methodology to predict the possibility of detonations due to DDT in hydrogen, air, steam mixtures. Finally, small scale experiments are continuing at the California Institute of Technology to study diffusion flame stability and expansion of high speed jets into hydrogen mixtures.

Lower Head Failure/Vessel Integrity: One area of research of considerable interest worldwide over the last several years is to determine whether, during a severe accident,

molten core debris can be retained in-vessel, through either in-vessel cooling or ex-vessel cooling by flooding the reactor cavity. The NRC is cooperating with 14 countries under the auspices of the Organization for Economic Cooperation and Development's (OECD) Nuclear Energy Agency (NEA) to investigate melt-vessel interactions to provide data on the internal natural convection flow and local heat flux distribution inside the lower head of the reactor pressure vessel (RPV) for various melt compositions. This program involves large-scale integral experiments using molten  $\text{UO}_2$ , Zr, and  $\text{ZrO}_2$  (corium) in representative reactor lower head geometries, analytical studies, and a number of small-scale separate effects experiments. This program, named RASPLAV, is being performed at the Russian Research Center, Kurchatov Institute. In October 1996, the first successful large scale experiment with 200 kg of corium was performed. During this test the corium temperature reached  $2700^\circ\text{C}$ , and natural convection in the corium was established. Extensive post-test examination of the ingot from this experiment is currently underway. In May 1997 the second large scale test was performed. Although the test was terminated early (one hour into a planned 4-hour test), preliminary indications are that sufficient data was obtained to provide useful results.

A small scale experimental program is under way at Pennsylvania State University to address ex-vessel flooding of the reactor cavity to prevent vessel failure. The program investigates boiling heat transfer on downward facing surfaces in hemispherical and toroidal geometries. The results of these experiments have provided data on the critical heat flux (CHF) distribution on the bottom curved surface of the reactor vessel which led to the development of an analytical model for CHF on downward facing surfaces. Experiments on the effect of insulation, similar to that proposed for the AP600 design, are presently being performed and will be completed later this year.

Research is also underway to examine the possibility of cooling molten core debris through in-vessel cooling. In July 1996, Phase I of a cooperative experimental program on in-vessel debris coolability was completed at Fauske and Associates, Inc. (FAI). This project is jointly funded by the NRC, EPRI and organizations in Japan, France and Sweden. Four scaled experiments were completed during Phase I using simulant material ( $\text{Fe/Al}_2\text{O}_3$ ). The results of these experiments demonstrated that, with water present, molten material does not adhere to the vessel wall, and the vessel wall can strain away from the debris crust, thereby creating a gap that can enhance cooling of the debris and the vessel wall. Phase II of this program is currently being conducted using an oxidic simulant debris ( $\text{Al}_2\text{O}_3$ ) under various pressure and initial conditions. Also in support of the concept of in-vessel cooling, an experimental test facility was designed and built at the Russian Research Center to investigate heat transfer in gaps formed between the corium crust and the inner boundary of the lower head of the RPV. In this experimental test setup, the CHF is measured in gaps which are formed by two vertical walls. Test with non-vertical walls are planned.

Finally, an experimental program is ongoing at Sandia National Laboratories to better understand the mode, mechanism, location, timing, and characteristics of the failure of a reactor pressure vessel lower head under the combined effects of thermal and pressure loads if the molten core debris can not be cooled in-vessel. The first four experiments in this program were completed using scaled lower head test sections by October 1996. These experiments investigated lower head failure with both local and global heating and with and without vessel penetrations. Preparations for additional experiments to examine failure at lower system pressure are currently underway. The results of these experiments will be used to develop improved models of RPV failure in NRC's severe accident codes.

Fission Product Release, Chemistry and Transport: Research in this area is primarily through the participation in the PHEBUS-FP (fission product) project. The PHEBUS-FP project, sponsored jointly by the Commissariat à l'Énergie Atomique and the Commission of the European Communities with participation by the NRC under a cooperative agreement, is aimed at studying accident progression and fission product behavior in the reactor system and containment. On July 26, 1996, the second integral Phebus test, Phebus FPT-1, was conducted. This test, similar to FPT-0, was different in that it was conducted with pre-irradiated fuel with a correspondingly much larger fission product inventory. The test involved the melting of approximately 30% of the fuel and the release of over 70% of the volatile fission products. Preliminary data indicate that approximately 25% of the initial core inventories of iodine and cesium were transported to the containment. Only trace amounts of iodine were detected as gaseous iodine in the containment, confirming the insights reflected in the NRC's revised source term as described in NUREG-1465. Additionally, iodine in the sump was detected as an insoluble species, Ag I, and it was concluded that little or no revolatilization of iodine by radiolysis took place. The results of the FPT-1 test, and its predecessor FPT-0, have been extensively used for the assessment and validation of NRC severe accident codes. The next test, FPT-4, will examine fission product releases from a fuel debris bed rather than an initially intact fuel geometry. This will provide insights on the releases from accidents where the fuel is fragmented prior to significant melting.

Code Development/Improvement: Because of the difficulty in performing prototypic experiments for a variety of severe accident scenarios, substantial reliance must be placed on the development, verification, and validation of computer codes for analyzing severe accident phenomena. The severe accident codes provide the staff the analytical tools necessary to model plant accidents and transients to assist in resolving safety issues and for incorporating research results into the regulatory process. In the area of severe accident code development and assessment, a number of important activities should be noted.

MELCOR, the full-plant systems-level severe accident code, has been significantly enhanced, and an updated version, MELCOR 1.8.4, will be released in June 1997. Currently, MELCOR is used in conjunction with international cooperative experiments such as PHEBUS and an array of plant analyses associated with specific risk evaluations. Further, MELCOR is one of the most widely-used severe accident codes in the world. As such, RES supports the MELCOR Cooperative Assessment Program, an international program to promote the exchange of MELCOR assessment information and to provide the NRC with feedback concerning the use of the code by others.

Significant progress has also been made to implement improved models into the SCDAP/RELAP5 code. This code is a detailed mechanistic code for analysis of in-vessel severe accident progression for conventional plants (both PWRs and BWRs) and advanced light water reactor plants (ALWRs) from the initial phases of an accident, through core uncover, core degradation and relocation, and to reactor vessel or system failure. The MOD3.2 version of SCDAP/RELAP5 is scheduled for release by the end of September 1997. The SCDAP/RELAP5 code has been used to support the review of in-vessel coolability and retention of a core melt for the AP600 design.

The VICTORIA code, a mechanistic fission-product-behavior code for analyzing fission-product release and transport in the reactor coolant system, has recently undergone an

independent peer review. The peer review committee, which consisted of fission-product behavior experts from the U.S. and France, identified specific recommendations for code improvement. The committee's findings are currently being addressed as part of the plan for code maintenance. The peer review of the fuel-coolant interaction code, IFCI, was also completed. Finally, RES has initiated a cooperative project with FZK in Germany and DOE (through Los Alamos National Laboratory) to support the development and assessment of the GASFLOW code, a multi-dimensional (3-D) finite volume field code capable of predicting post-accident local conditions inside containment.

Steam Generator Tube Integrity: During the past year, a significant effort was devoted to the support of the proposed rulemaking on steam generator tube integrity. This included a comprehensive examination of the thermal hydraulic boundary conditions imposed on steam generator tubes during a limiting severe accident scenario. The scenario analyzed was a high pressure sequence (station blackout) further aggravated by the assumption that the steam generator is depressurized by failure, in the open position, of secondary system relief valves. Analyses were performed using the suite of severe accident codes, SCDAP/RELAP5, VICTORIA and MELCOR. The bulk of the effort went into examination of high temperature vapor circulation through the steam generator tubes using the SCDAP/RELAP5 code. VICTORIA analyses were performed to examine the effects of fission product deposition on the tubes and the heating of tubes by this mechanism. MELCOR analyses were performed to assess the offsite dose consequences for assumed tube leakage rates and tube ruptures. These assessments were then factored into the overall risk assessment considering the impact of steam generator tube defects.

**UNITED STATES OF AMERICA**  
**NUCLEAR REGULATORY COMMISSION**

**Title:            BRIEFING ON EEO PROGRAM**  
**PUBLIC MEETING**

**Location:        Rockville, Maryland**

**Date:            Tuesday, October 14, 1997**

**Pages:           1 - 72**

**ANN RILEY & ASSOCIATES, LTD.**  
1250 I St., N.W., Suite 300  
Washington, D.C. 20005  
(202) 842-0034

#### DISCLAIMER

This is an unofficial transcript of a meeting of the United States Nuclear Regulatory Commission held on October 14, 1997 in the Commission's office at One White Flint North, Rockville, Maryland. The meeting was open to public attendance and observation. This transcript has not been reviewed, corrected or edited, and it may contain inaccuracies.

The transcript is intended solely for general informational purposes. As provided by 10 CFR 9.103, it is not part of the formal or informal record of decision of the matters discussed. Expressions of opinion in this transcript do not necessarily reflect final determination or beliefs. No pleading or other paper may be filed with the Commission in any proceeding as the result of, or addressed to, any statement or argument contained herein, except as the Commission may authorize.

1 UNITED STATES OF AMERICA  
2 NUCLEAR REGULATORY COMMISSION

3 \*\*\*

4 BRIEFING ON EEO PROGRAM

5 \*\*\*

6 PUBLIC MEETING

7 \*\*\*

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

11  
12 Tuesday, October 14, 1997  
13

14 The Commission met in open session, pursuant to  
15 notice, at 10:04 a.m., the Honorable SHIRLEY A. JACKSON,  
16 Chairman of the Commission, presiding.  
17

18 COMMISSIONERS PRESENT:

19 SHIRLEY A. JACKSON, Chairman of the Commission

20 GRETA J. DICUS, Member of the Commission

21 NILS J. DIAZ, Member of the Commission

22 EDWARD McGAFFIGAN, JR., Member of the Commission  
23  
24  
25

ANN RILEY & ASSOCIATES, LTD.  
Court Reporters  
1250 I Street, N.W., Suite 300  
Washington, D.C. 20005  
(202) 842-0034



1 STAFF AND PRESENTERS SEATED AT COMMISSION TABLE

2 JOHN C. HOYLE, Secretary of the Commission

3 KAREN D. CYR, General Counsel

4 PATRICIA NORRY, DEDM

5 IRENE LITTLE, SBCR

6 PAUL BIRD, HR

7 BILL BEACH, Region III

8 CARL PAPERIELLO, NMSS

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

ANN RILEY & ASSOCIATES, LTD.  
Court Reporters  
1250 I Street, N.W., Suite 300  
Washington, D.C. 20005  
(202) 842-0034

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

[10:04 a.m.]

CHAIRMAN JACKSON: Good morning, ladies and gentlemen. Today the Commission is meeting to discuss the status of the NRC's Equal Employment Opportunity program for the period of October 1, 1996, to June 30, 1997.

The Energy Reorganization Act of 1974, as amended, requires the Executive Director for Operations to report to the Commission at semiannual public meetings on the status, progress and any problems associated with EEO efforts.

The Commission held the last EEO briefing on February 20, 1997. At the previous meeting and in a March 7, 1997, staff requirements memorandum, the Commission requested that the next briefing include a presentation by office directors on implementation of EEO program policies, including topics on preselection, development of management skills, and evaluation of those skills as part of job performance.

Today the briefing will include presentations by three office directors. SECY Paper 97-197, copies of which are available at the entrances to the room, contains additional information and data on the status of the NRC EEO program, the response to the March 7, 1997, SRM, and activities of the EEO advisory committees, subcommittees and the Joint Labor Management EEO Committee.

ANN RILEY & ASSOCIATES, LTD.  
Court Reporters  
1250 I Street, N.W., Suite 300  
Washington, D.C. 20005  
(202) 842-0034

1           Clearly the paper represents a great deal of work,  
2 initiatives, recommendations and plans on the parts of the  
3 Office of Small Business and Civil Rights, Human Resources,  
4 the EDO's office, the advisory committees, subcommittees,  
5 and the Joint Labor Management EEO Committee.

6           Further, I understand that you are continuing a  
7 spirit of cooperative dialogue as you search for improvement  
8 in the EEO program at NRC. I encourage you in these  
9 efforts, and I encourage you never to loose sight of the  
10 fact that, as you've heard me say before -- it's becoming a  
11 mantra -- excellence is as excellence does, and therefore  
12 the test will lie in whether the initiatives,  
13 recommendations and plans we implement will significantly  
14 result in a more equitable work environment or the  
15 perception of it for all of us at the NRC.

16           On that note, I welcome the presenters and all  
17 employees in the audience who have demonstrated by their  
18 presence an interest in and commitment to the NRC EEO  
19 program.

20           I look forward to hearing about the results and  
21 outcomes the NRC has achieved in the EEO area, evidencing  
22 that all employees can demonstrate their unique skills and  
23 talents in fulfillment of the agency's mission, can be  
24 evaluated fairly, and that there are enhanced opportunities  
25 for development and advancement without concern of

1 preselection at all grade levels regardless of race, gender,  
2 national origin, age, or disability.

3 Do any of my colleagues have any comments they  
4 would like to make? If not, Mrs. Norry, I understand you'll  
5 be leading the discussion. Please proceed.

6 MRS. NORRY: Thank you.

7 Chairman Jackson, Commissioner Dicus, Commissioner  
8 McGaffigan, Commissioner Diaz, good morning. We are pleased  
9 to be here today to provide the Commission with information  
10 on the current status of the agency's equal employment  
11 opportunity program covering the beginning of the fiscal  
12 year, October 1, 1996, through June 30, 1997.

13 Joining me, on my left, are Irene Little, Director  
14 of the Office of Small Business and Civil Rights; on my  
15 right, Paul Bird, Director, Office of Human Resources.

16 Ms. Little will now introduce the EEO committee  
17 chairs.

18 MS. LITTLE: Thank you, Mrs. Norry.

19 I would ask the committee chairs to stand as I  
20 call your name so that you can be seen by the audience here.

21 We are really pleased to have with us today  
22 representatives of various EEO committees and subcommittees.

23 Starting to my left is Sudhamay Basu, who is chair  
24 of the Asian Pacific American Advisory Committee.

25 Mike Weber, chair of the Joint Labor Management

1 Equal Employment Opportunity Committee.

2 Rene Cesaro, chair of the Affirmative Action  
3 Advisory Committee.

4 Reginald Mitchell, chair of the African American  
5 Advisory Committee.

6 Sharon Connelly, chair of the Committee on Age  
7 Discrimination.

8 Roxanne Summers, chair of the Federal Women's  
9 Program Advisory Committee.

10 Jose Ibarra, chair of the Hispanic Employment  
11 Program Advisory Committee.

12 Larry Vick, chair of the Performance Monitoring  
13 Subcommittee.

14 And Subinoy Mazumdar, chair of the Selection  
15 Subcommittee.

16 Also joining us today is Jim Thomas, president of  
17 the National Treasury Employees Union.

18 Thank you, Mrs. Norry.

19 MRS. NORRY: Thank you, Irene.

20 In addition to the committee members, we also have  
21 three NRC managers participating in this briefing to discuss  
22 their implementation of EEO policies.

23 They are Karen Cyr, the general counsel; Carl  
24 Paperiello, director of NMSS; and Bill Beach, the regional  
25 administrator of Region III.

ANN RILEY & ASSOCIATES, LTD.  
Court Reporters  
1250 I Street, N.W., Suite 300  
Washington, D.C. 20005  
(202) 842-0034

1           At the last briefing the Commission was informed  
2   that we plan to conduct a comprehensive review of the  
3   agency's EEO program and develop or realign strategies as  
4   appropriate for addressing equal opportunity for all NRC  
5   employees. This briefing is designed to provide feedback on  
6   this review, provide information to the Commission in  
7   response to the staff requirements memorandum following the  
8   last briefing, and also provide a status on the activities  
9   of the three EEO subcommittees.

10           I would like to begin with our response to the SRM  
11   which requested this briefing be expanded to include a panel  
12   of office directors to discuss their implementation of EEO  
13   programs. Specifically, they are asked to discuss their  
14   strategies to address the perception of preselection in the  
15   merit staffing process and to discuss the development of  
16   management skills and the evaluation of those skills as part  
17   of job performance.

18           The SRM also requested that the staff consider  
19   implementing the SES candidate development and supervisory  
20   development programs on a more systematic basis in concert  
21   with work force needs.

22           With regard to this last issue, the need for  
23   offering the SES candidate development program will be  
24   considered as part of the executive success and planning  
25   initiative.

1 Office directors and regional administrators will  
2 on an ongoing basis identify to the Office of Human  
3 Resources SES positions that they anticipate may become  
4 vacant. HR will then assess agency-wide replacement needs  
5 and recommend to the EDO whether the SES candidate  
6 development program is needed.

7 A similar process will be followed in assessing  
8 the need to open the supervisory development program.

9 With regard to our review of the EEO program, we  
10 have continued our efforts to improve this program,  
11 factoring in the recommendations of the various EEO  
12 committees and our dialogue with managers and supervisors  
13 for input into the overall process.

14 As a result of our review, we have determined that  
15 we should focus our affirmative action efforts in the  
16 following four areas:

17 [Slide.]

18 MRS. NORRY: Enhancing opportunities for  
19 advancement of minorities and women in professional  
20 positions.

21 Expanding the pool of women and minorities for  
22 supervisory, management, executive and senior level  
23 positions.

24 Enhancing our efforts to attract, develop, and  
25 retain disabled employees.

1           Improving communication about EEO and affirmative  
2           action objectives, improving management responsiveness, and  
3           evaluating our progress.

4           Some additional efforts underway as a result of  
5           our overall review are:

6           [Slide.]

7           MRS. NORRY: The staff has initiated efforts to  
8           update the agency affirmative action plan. At present, the  
9           U.S. Equal Employment Opportunity Commission has not yet  
10          issued final guidance for developing these new federal  
11          affirmative action plans. However, the staff has moved  
12          ahead to develop a plan based on draft EEOC guidance.  
13          Included are office and regional initiatives, as well as the  
14          affirmative action areas of emphasis I discussed earlier and  
15          identified in the briefing paper.

16          We believe such a plan will facilitate a more  
17          strategic approach to our goals and objectives and provide  
18          clear information to managers and staff on the direction of  
19          our EEO efforts. We hope to have this document finalized  
20          during the second quarter of fiscal '98.

21          The staff is also developing plans to implement a  
22          managing diversity process within the agency. This is a  
23          long-term initiative specifically designed to create and  
24          maintain an environment in which each employee is valued and  
25          will work cooperatively to perform at his or her highest



1 level. This process will be closely coordinated with the  
2 regulatory excellence efforts to utilize results gained from  
3 the organizational culture assessment.

4 The managing diversity process is intended to  
5 provide direct support to our goal of creating a diverse  
6 applicant pool and assisting managers in more effectively  
7 managing a more diverse work force.

8 We have continued to place a high priority on  
9 maintaining an effective EEO complaint process.

10 May I have the next viewgraph, please.

11 CHAIRMAN JACKSON: Before you go, can you  
12 elaborate a little more on the managing diversity process,  
13 what it will consist of? Will it have training modules?  
14 How long is it? Can you give us a little bit more?

15 MRS. NORRY: I would like to ask Irene to discuss  
16 that.

17 MS. LITTLE: Initially, what we would like to do  
18 is schedule a session for the top level managers in the  
19 agency to get what we call buy-in for the process. There  
20 are several approaches that we could take. We would like to  
21 have a presentation with an approach and get the buy-in at  
22 that level. The next step would then be to train the SES  
23 and other managers in the agency.

24 We are planning to try to dovetail our efforts so  
25 that by that time we will have the results of the culture

1 survey that is being done agency-wide, and we will then  
2 determine what additional training would be needed after  
3 that for employees and managers.

4 CHAIRMAN JACKSON: So at this point you are  
5 beginning to talk it up and develop your tools?

6 MS. LITTLE: We have done that. We have also  
7 already engaged with contracts to hire a consultant to bring  
8 in those first three sessions. That contract is basically  
9 in place at this time.

10 CHAIRMAN JACKSON: Commissioner Diaz.

11 COMMISSIONER DIAZ: On the EEO complaint process,  
12 I understand you are trying to make it more effective. What  
13 does that mean in terms of time? How long does it take to  
14 process a complaint now, and where do we want to be as far  
15 as the timing? Are we where we want to be?

16 MS. LITTLE: The regulation says that we should  
17 process an EEO complaint within 180 days. We are trying to  
18 meet that goal. Our effort to be more effective, though, is  
19 geared toward trying to give management and a potential  
20 complainant every opportunity to settle the complaint and  
21 not go to the final stages, if that is a possibility.

22 What we are doing is inserting an additional step  
23 in the process where my office will make contact with the  
24 office director before the complaint goes out for  
25 investigation to see if there is some way to settle the

1 complaint before it goes formal. That's how we would like  
2 to make the process more effective.

3 COMMISSIONER DIAZ: Some people think 180 days is  
4 a long time. Sometimes complaints of our licensees take 180  
5 days.

6 MS. LITTLE: It is a long time, but the process is  
7 fairly complicated.

8 MRS. NORRY: It requires a formal investigation.  
9 It is lengthy.

10 CHAIRMAN JACKSON: Would this intervention that  
11 your office is proposing likely potentially shorten the  
12 settlement of some of the complaints?

13 MS. LITTLE: We are hoping that it might provide  
14 an opportunity to settle some of the complaints, to resolve  
15 them at that stage, and we won't have to send them out for  
16 investigation. That's what we are hoping. We are at the  
17 very beginning of that now.

18 This year we only have seven formal complaints.  
19 We are hoping that we don't get a lot of opportunity to try  
20 this. Our EEO counselors are doing a very good job and  
21 resolving a lot of the issues informally. Here again,  
22 because we use an outside consultant to do our  
23 investigations -- and that costs money -- when it reaches my  
24 level at the initial formal stage, we try to give the office  
25 director and the complainant one more look-see to see if

1       there is a way to resolve the complaint.

2               MRS. NORRY:  If I could have slide 3 again,  
3       please.

4               [Slide.]

5               MRS. NORRY:  Just to reiterate a little bit what  
6       Irene said, the good news is that we are at the lowest in  
7       the last five years in terms of the total number of formal  
8       complaints, but we have the same number of contacts with EEO  
9       counselors, approximately.  What that says is that a lot of  
10      these potential complaints are getting resolved by the work  
11      of the EEO counselors.  This group is really doing an  
12      excellent job.  It occurs to us that perhaps at the next  
13      Commission briefing we might bring a representative from  
14      that group forward just to kind of share a little bit with  
15      you what they do and how they do it.

16              Highlighting some areas of staff activity in  
17      progress during 1997, the staff has continued an overall  
18      aggressive outreach and recruitment effort to attract well  
19      qualified women and minority candidates of all groups.

20              [Slide.]

21              MRS. NORRY:  Note that 25 percent of the 66  
22      professional positions filled from the beginning of the  
23      fiscal year through June 30 are minorities or women.  While  
24      this certainly is progress, more needs to be done to attract  
25      Hispanics and Native Americans.

1           To this end, we continue to participate in  
2 recruitment events sponsored by colleges, universities and  
3 regional chapters of the American Indian Science and  
4 Engineering Society, the society of Hispanic Professional  
5 Engineers, the Hispanic Association of Colleges and  
6 Universities, and other such organizations. Hopefully these  
7 efforts will result in more Hispanics and Native Americans  
8 in the applicant pool for professional positions.

9           I might also mention that we recently received a  
10 report by the U.S. Merit Systems Protection Board calling  
11 attention to the problem they call "addressing the barriers  
12 to Hispanic participation" and noting that Hispanics remain  
13 the only under represented minority group in the federal  
14 work force and urging federal agencies to devote a greater  
15 proportion of their recruitment efforts to increasing  
16 Hispanic representation.

17           Also noteworthy during this fiscal year, women in  
18 the SES increased from 15 to 19, including one minority  
19 woman, and minority men increased from 9 to 14. More needs  
20 to be done to develop minority women in the SES feeder  
21 group.

22           I have three slides which illustrate the  
23 activities of the Executive Resources Review Group during  
24 this period.

25           [Slide.]

1 MRS. NORRY: Slide 5 shows the composition of the  
2 22 selections as the grade 15 and SES levels. I believe  
3 those speak for themselves. Those are SES and grade 15  
4 nonbargaining unit positions.

5 [Slide.]

6 MRS. NORRY: Slide 6 shows the composition of the  
7 best qualified lists for the same positions.

8 [Slide.]

9 MRS. NORRY: Slide 7 depicts the distribution of  
10 these selections based on the opportunity to select. This  
11 one is a little hard to read, but let me just mention a  
12 couple things.

13 These data represent a significant change from  
14 fiscal 1996 with regard to opportunities to select and  
15 selection rates for these groups. For example, in 1996  
16 there were no African American males or Asian Pacific  
17 females appearing on the BQLs; no Asian males were selected  
18 from the four eligible applicants.

19 As noted in this slide, in 1997 there were nine  
20 opportunities to select African American males, and three  
21 were selected; four opportunities to select Asian Pacific  
22 American females, and one was selected; and 11 opportunities  
23 to select Asian Pacific American males, and two were  
24 selected.

25 CHAIRMAN JACKSON: Does opportunity to select

1 represent the number of individuals who applied for an SES  
2 or a nonbargaining unit GS-15 position?

3 MRS. NORRY: Those on the best qualified list.

4 CHAIRMAN JACKSON: So it's a BQL?

5 MRS. NORRY: That's right.

6 We should continue our efforts to enhance  
7 opportunities for minorities and women to advance into  
8 positions that are in the feeder group. This is especially  
9 true in the case of Hispanics, Native Americans and Asian  
10 females.

11 Minorities and women should be encouraged to seek  
12 out developmental assignments in areas where there is a high  
13 probability of staffing increases.

14 Additionally, management needs to be responsive to  
15 requests from unsuccessful candidates for specific  
16 promotions who seek feedback on areas that could enhance  
17 their competitiveness.

18 CHAIRMAN JACKSON: Let me ask you a question. Do  
19 we have statistics that are like these and representational  
20 statistics on women and minorities for each NRC office and a  
21 further breakdown by professional category so that you have  
22 a better opportunity to see where you should target?

23 MRS. NORRY: Yes, we do.

24 Irene Little will now summarize the work of the  
25 EEO advisory committees.

1 COMMISSIONER DICUS: Before we leave that,  
2 generally I've had an understanding -- maybe my  
3 understanding is wrong -- that one of the problems we may  
4 have with the percentage of minorities or women is that we  
5 are a technical agency. Given that, have we looked at other  
6 predominately technical agencies, perhaps NASA, to see what  
7 they are doing and compared notes with them on this sort of  
8 thing, to see across the federal agencies if the technical  
9 agencies are lagging behind the other agencies?

10 MRS. NORRY: Yes, we have looked at that.

11 Paul.

12 MR. BIRD: Yes, particularly NASA, EPA, DOE, and  
13 others that are sort of competing with us for the same  
14 groups. We talk to them very often at job recruitment fairs  
15 and then talk to their personnel directors with regard to  
16 things that they are doing to try to enhance their work  
17 force. It is heavy competition even within the Federal  
18 Government for minority groups in particular.

19 Hispanics has been a focused effort. NASA has  
20 difficulty there. Other agencies have had more success  
21 because of the location of their facilities. If you look at  
22 the population demographics, California and Texas have high  
23 populations of Hispanics. They tend to want jobs in those  
24 areas, and if you are in the right locations you tend to be  
25 more successful than if you are trying to get people to



1 relocate.

2 Again, the competition is very, very stiff for  
3 these technical resources. We rely heavily on Oak Ridge,  
4 the ORISE, to provide us data on where to look for  
5 minorities and where to recruit for minorities.

6 All the technical agencies tend to be at the same  
7 places almost at the same time.

8 CHAIRMAN JACKSON: How do we fair compared to the  
9 others?

10 MR. BIRD: I think we hold our own. Certainly we  
11 have some flexibility that some of the other agencies don't  
12 have in salary setting, and we apply that flexibility. That  
13 gives us an advantage. We don't have the advantages to do  
14 what the private sector can do, however, and they are  
15 basically in competition as well at these same events and at  
16 these same campuses.

17 I think we hold our own. We do very well within  
18 the government structure. There is still room for  
19 improvement and still a lot we can do.

20 CHAIRMAN JACKSON: I think it would be interesting  
21 for you to provide some comparative statistics for us. You  
22 can make a selection of agencies, beginning with our  
23 favorite, DOE, of course, and EPA, our other favorite. But  
24 you can also look at NASA and some of the others.

25 COMMISSIONER DIAZ: Now that you started this

1 table of selections, you might be able to actually provide a  
2 way of tracking these in a matrix that looks at selection,  
3 looks at every different division, and see how personnel are  
4 being selected in different parts of the agency. That might  
5 allow you to see areas where you need to put more effort.

6 CHAIRMAN JACKSON: That was part of the question.  
7 I asked the question about the breakdown. If you have the  
8 statistics, then you might as well use them the way he's  
9 talking about.

10 COMMISSIONER DICUS: We definitely lag behind the  
11 private sector. Or do we? Are we competitive?

12 MR. BIRD: They have certain advantages in  
13 recruitment and in pay, I think, and they are able  
14 consistently, when we get into the bidding wars, to come out  
15 ahead. They can have very focused recruitment and basically  
16 follow that with very attractive job offers. We can reach a  
17 certain point, and at that point we are really trading on  
18 the interest of people to work in the Federal Government, to  
19 work in public service, and to have some of the benefits  
20 that we do have.

21 Again, we hold our own in the government. I would  
22 say that we are not as effective as the private sector in  
23 some cases.

24 CHAIRMAN JACKSON: I think it would be  
25 interesting, since we are doing statistics searches here, to

1 actually pull up data in terms of how we look relative to  
2 entry level vis-a-vis the private sector versus if you look  
3 at the aging of the data, because I believe in fact there is  
4 somewhat of a crossover point.

5 MR. BIRD: Yes, there is. We've measured the  
6 progress. That's one thing we do when we are out marketing.  
7 We know that for engineers and scientists, HPs, about four  
8 or five years into a career, those that have come into the  
9 government are doing very well compared to those that came  
10 into the private sector. We try to trade on that data where  
11 we can and where we can get a receptive audience.

12 Of course many people are focused on their first  
13 salary, particularly coming out of college. Every year we  
14 go back and reassess our entry level salaries geared  
15 specifically to engineers and scientists and try to adjust  
16 those accordingly. We try to maintain a position of being  
17 at least in the middle of the market. We don't exceed it  
18 and we don't undershoot it, and we adjust that regularly to  
19 try to be attractive at an entry level.

20 MRS. NORRY: Irene.

21 MS. LITTLE: Thank you, Mrs. Norry.

22 At this point I would like to note the continued  
23 high level of cooperation by the EEO advisory committees who  
24 have made significant contributions to the agency's EEO  
25 efforts.

1           The three EEO subcommittees we reported on during  
2   our last EEO briefing in February have now completed their  
3   initial assessments and have developed a number of  
4   recommendations for consideration by the staff. I will  
5   highlight a few of these recommendations.

6           The Managing Diversity Subcommittee completed its  
7   review and has recommended that the agency move ahead with a  
8   managing diversity process as a strategic approach to full  
9   utilization of NRC's human resources.

10          I believe Mrs. Norry mentioned earlier that we are  
11   moving ahead with this process, and we plan to complete this  
12   initial phase by end of FY-98. Again, we appreciate the  
13   support from that committee and the input that they have  
14   provided to us.

15          The Performance Monitoring Subcommittee has  
16   completed approximately half of its reviews and has made  
17   recommendations to us regarding several programs that are  
18   designed to impact career opportunities for minorities and  
19   female employees.

20          The briefing paper for this briefing reflects  
21   their specific recommendations. So I won't go into details  
22   here.

23          The monitoring subcommittee will complete the  
24   additional reviews over the next few months, and at the next  
25   briefing we plan to report on their recommendations of those

1 reviews.

2 The Selection Subcommittee and the Joint Labor  
3 Management EEO Advisory Committee provided several  
4 recommendations on the merit selection process, including  
5 ways to mitigate the appearance of preselection. Some of  
6 these recommendations were adopted and some of them are  
7 under review by staff.

8 One of the key recommendations is the  
9 implementation of a checklist to be used by personnel  
10 specialists in the merit promotion process.

11 The Office of Human Resources and the Small  
12 Business and Civil Rights Office will continue review of the  
13 remaining recommendations and will report on their status  
14 during the next EEO briefing.

15 Thank you.

16 MRS. NORRY: We are confident that through these  
17 types of cooperative initiatives and implementation of the  
18 strategies we have discussed today we will continue to make  
19 progress in making NRC an agency that maximizes the  
20 potential of all of its employees.

21 This concludes my statement. The three managers  
22 will now make their presentations, starting with Karen Cyr,  
23 followed by Bill Beach, and then Carl Paperiello.

24 CHAIRMAN JACKSON: Before they begin, I actually  
25 have some general questions that I want to ask you on your

1 part of the program. They are somewhat statistical, and if  
2 you have the answers, fine, and if you don't, then you can  
3 get them for me as a follow-up.

4 You talked about 100 employees who participated in  
5 rotational assignments. Do you have any breakdown in terms  
6 of the representation of women and minorities? This is on  
7 page 4 of the SECY paper.

8 MR. BIRD: Yes, I do.

9 CHAIRMAN JACKSON: These rotational assignments  
10 are viewed as development opportunities, are they not?

11 MR. BIRD: Right.

12 There were actually 115, 47 of which were  
13 minorities and women. That's as of June 30; 16 were  
14 minority and 38 were women.

15 CHAIRMAN JACKSON: Then I noted the same SECY  
16 paper on the same page indicates that one Asian/Pacific  
17 American man was selected for the resident inspector  
18 development program. Can you give me some breakdown  
19 otherwise for the program, who else was in it and what  
20 success or special efforts you are making particularly in  
21 trying to attract Hispanics, Asian/Pacific Americans, and  
22 African Americans?

23 MR. BIRD: There have been three rounds of  
24 selections for the resident inspector development program.  
25 The first resulted in 14 selections, 12 of which were white

1 males, one Hispanic male, and one white female.

2 The second round, which was in 1997, resulted in  
3 13 selections; 12 were white males and one Asian/Pacific  
4 American male.

5 The third round of selections has just recently  
6 been completed. There were 12 selectees, all of which are  
7 white males. I'm sorry to say that some of those have  
8 declined our offer. We are still trying to wrap up that  
9 particular round. As you know, this particular program will  
10 not be continued in the future. I think there are some  
11 alternatives that may have better results.

12 MRS. NORRY: One of the things that this, among  
13 other things, tells us is that if we are going to have  
14 success in attracting women and minorities, we are going to  
15 have to start with some entry level positions.

16 These resident inspector programs are very  
17 important, but they have very, very high qualifications,  
18 understandably so. We hope in the future to get more of our  
19 people, this program as well as others, from some entry  
20 level efforts that are now ongoing.

21 CHAIRMAN JACKSON: Of the 40 SLS, how many work  
22 for Commission offices and therefore are temporary versus  
23 staff offices?

24 MR. BIRD: Twelve work for the Commission offices;  
25 12 work for Commission level offices; and 15 work for EDO

ANN RILEY & ASSOCIATES, LTD.  
Court Reporters  
1250 I Street, N.W., Suite 300  
Washington, D.C. 20005  
(202) 842-0034

1 level offices, for a total of 39. I believe that's as of  
2 June 30. It may have fluctuated a little, but not a lot.

3 CHAIRMAN JACKSON: Basically they aren't in the  
4 staff offices other than in the EDO office?

5 MR. BIRD: Right.

6 CHAIRMAN JACKSON: I'm talking about out in the  
7 land. Once you get beyond the EDO.

8 MRS. NORRY: We didn't mean the EDO's office per  
9 se; EDO level offices as distinguished from Commission level  
10 offices.

11 MR. BIRD: And they are pretty widely dispersed.

12 MRS. NORRY: That includes program offices.

13 CHAIRMAN JACKSON: All right.

14 Then there was attachment 1, page 1.1. It  
15 indicated that more than 50 employees were enrolled in three  
16 developmental programs for secretaries, for clerical  
17 employees and administrative assistants. How many of them  
18 were women and under represented minorities, and overall  
19 what has been the track record for the staff in these  
20 programs?

21 MR. BIRD: The Certified Professional Secretary  
22 program. There were six white employees, three  
23 Asian/Pacific Americans, one Hispanic, and six African  
24 Americans, all of whom were women, a total of 16 in that  
25 particular program.



1           That is an interesting program, because it does a  
2 lot of preparatory work for an exam. Unfortunately, the  
3 government does not pay for the exam itself. That is  
4 incumbent on the individual. In some cases the individual  
5 has chosen not to go ahead and take the exam. However, the  
6 benefit of the training certainly accrues to the agency,  
7 because it's an excellent program.

8           The Computer Science Development program. Eight  
9 participants were white, ten were African American, for a  
10 total of 18. Again, all were women.

11           The Administrative Skills Enhancement program.  
12 Seven were white, ten were African American, one was a white  
13 male, for a total of 18.

14           CHAIRMAN JACKSON: I note that the SECY paper  
15 points out that the performance elements and standards for  
16 evaluating executives were extensively revised to give more  
17 emphasis on organization effectiveness and on outcomes  
18 achieved. Does this mean that senior executives are  
19 evaluated on their outcomes, their effectiveness in  
20 accomplishing EEO goals and objectives?

21           MRS. NORRY: That is, as you know, an area of  
22 heavy emphasis under the management part of the senior  
23 executive appraisal. I believe we need to give appraising  
24 officials more assistance perhaps in how they might  
25 effectively evaluate that.

1           We need to do a better job. That's clear. We  
2   need to do a better job not only at the SES level, but also  
3   at all levels in evaluating performance there. It's  
4   difficult, but it's more than just a statistical exercise,  
5   and we have to be able to give managers effective guidance  
6   on how they can effectively rate that, and that's what we  
7   are going to be working towards.

8           CHAIRMAN JACKSON: Therefore they are going to  
9   remain part of the performance elements and standards with a  
10  focus on outcomes?

11          MRS. NORRY: That's right, on outcomes. Yes.

12          CHAIRMAN JACKSON: Let me ask a question that may  
13  be related to my earlier question. I noted that only four  
14  of 36 participants in the Certified Professional Secretary  
15  program completed the program and attained the certification  
16  since FY-95, and similarly, that only six of 41 participants  
17  successfully completed the Administrative Skills Enhancement  
18  program since FY-95.

19               Is there an underlying problem here, and is NRC  
20  giving the consistent support that is needed?

21          MR. BIRD: I think I mentioned that earlier. One  
22  of the things is the exam cost itself.

23          CHAIRMAN JACKSON: There is an exam associated  
24  with each of these programs?

25          MR. BIRD: Yes, and some people do not choose to

1 follow through to the examination.

2 CHAIRMAN JACKSON: Can you check to in fact  
3 understand if it's the cost of the exams that has the effect  
4 in terms of people not finishing?

5 MR. BIRD: We will follow up with the people that  
6 have taken these courses and certainly be able to assess  
7 that.

8 CHAIRMAN JACKSON: How much do these exams cost?

9 MR. BIRD: It's a little over \$100, I think.

10 CHAIRMAN JACKSON: Also, you have an attachment 4,  
11 and you talk about some work of the Performance Monitoring  
12 Subcommittee. They say that there is at least anecdotal  
13 evidence that the IDPs, the individual development plans,  
14 are not valued by management and therefore are of little  
15 value to employees.

16 Is the importance of the IDPs emphasized in  
17 management training and is management being held accountable  
18 in this area?

19 MR. BIRD: I believe that's an excellent tool. We  
20 have not made an IDP a requirement. Some employees have not  
21 wanted to complete IDPs. I think most managers do a very,  
22 very good job of trying, to the extent they can, to fully  
23 support the IDP process as well as those things that are  
24 discussed in an IDP and follow it through with actually  
25 getting the training accomplished.

1           This is sometimes difficult in an environment  
2       where you are trying to produce a lot of products internally  
3       and get the work done. So there is a balancing out, I  
4       think, in some cases of when you can actually follow through  
5       with some of these efforts.

6           All in all, personally I think it's a very well  
7       supported process, and I think some of the managers here can  
8       --

9           CHAIRMAN JACKSON: In fact, I would like each of  
10      the managers who speak to give us some indication of your  
11      thoughts about the IDP and the IDP process and how you  
12      specifically support or don't support the IDP process.

13          MR. BIRD: I might mention that we also have a  
14      contract in place that provides employees who choose to use  
15      it up to five one-hour sessions to look at strengths and  
16      weaknesses and basically develop an IDP with a counselor.  
17      Many people do take advantage of that. It's a very good  
18      opportunity to really do a professional job of planning.

19          CHAIRMAN JACKSON: Let me hear from the folks who  
20      have the people.

21          Karen.

22          MS. CYR: Thank you, Chairman. I'd like to talk  
23      briefly a little bit about our efforts to enhance career  
24      opportunities for women and minorities because I think this  
25      is really a necessary complement to the other concerns which

1 are on the agenda today, the merit selection issues, and so  
2 on.

3 From our standpoint, we believe that the  
4 rotational assignments are really a cornerstone on the  
5 useful means of enhancing career development for our  
6 purposes.

7 We have encouraged staff members to seek  
8 rotational assignments to enhance their knowledge of the  
9 agency's functions and to provide opportunities to interact  
10 more frequently with NRC officials outside of OGC. Many  
11 women and minorities in our office have participated in this  
12 program, including those who in recent years have served in  
13 rotational assignments in NRR and IRM, in the Office of  
14 Personnel, in the Controller's Office, the Enforcement  
15 Office, and also in Commissioner offices.

16 An OGC attorney served for a three-month  
17 rotational assignment at the White House; two OGC staff  
18 members recently participated in the Women's Executive  
19 Leadership program under the auspices of OPM; and among the  
20 rotational assignments that were arranged as part of this  
21 program were details to the Department of Justice, to an NRC  
22 region, and to other offices within the agency. We have one  
23 attorney who is currently on rotational assignment to the  
24 Office of Small Business and Civil Rights.

25 The reason we encourage staff members to

1 participate in these rotational assignments is to broaden  
2 their professional background and to enable them to better  
3 appreciate the regulatory mission of the agency in which  
4 they serve. Moreover, these rotational assignments enhance  
5 the ability of the staff to network within and outside the  
6 agency and to demonstrate their skills to those outside of  
7 OGC.

8           The importance of rotational assignments to  
9 employee career development is demonstrated by the fact that  
10 in the past year three OGC staff members have accepted  
11 permanent positions in offices in which they had served on  
12 rotation, and we are pleased that women and minorities were  
13 well represented among those who participated.

14           Similarly, we have accepted rotational employees  
15 to our office when they can contribute to its mission or  
16 learn from serving in our legal offices. We have had a  
17 staff member from NRR and from the Office of Commission  
18 Appellate Adjudication rotate to OGC and contribute  
19 significantly to the legal support for our enforcement  
20 program.

21           Another employee rotated into OGC and then  
22 subsequently competed successfully for a promotion to a  
23 permanent position within the office.

24           We continue to offer employees a variety of  
25 developmental training programs that are designed to enhance

1 their skills and facilitate career advancements. These  
2 programs have included paralegal training that provides an  
3 opportunity for those in clerical or administrative  
4 positions to become certified paralegal specialists. We  
5 also have one employee in the Computer Science Development  
6 program. Among the participants in these are many women and  
7 minority staff members.

8 With respect to the IDP, I don't think we do as  
9 good a job as we ought to. We have a number of employees  
10 who have IDPs and who we encourage and follow up in getting  
11 the training which they have laid out for those programs,  
12 but I don't think we do a good enough job in sort of  
13 systematically pushing our staff on a recurring basis to  
14 make sure that those who want to follow these programs  
15 understand the opportunities that are available both in  
16 terms of a counseling framework and also in terms of the  
17 support that we can provide to them in this area. I think  
18 it's an area where we need to do a better job in terms of  
19 keeping employees aware of these opportunities.

20 CHAIRMAN JACKSON: Is there a clear salutary role  
21 for the IDPs in terms of people's ability to move along and  
22 do people clearly understand that?

23 MS. CYR: I think it does have a salutary role. I  
24 think it helps make the employees aware of the various  
25 career opportunity paths that they have within the agencies.

1 In past years we have had a number of employees, for  
2 instance, who have gone through paralegal training both  
3 within our office and outside our office, and that has come  
4 about through IDP initiatives.

5 That has been very beneficial to us and I think to  
6 the employees. People who have gone through that program  
7 have competed successfully for opportunities in our office  
8 as well as paralegal positions outside the agency subsequent  
9 to that, unfortunately for us, in terms of losing those  
10 people, but it was a very good opportunity to enhance their  
11 careers.

12 I think it's an opportunity for them to understand  
13 all the things that are available to them. We have people  
14 in our office who may think too narrowly about, well, is my  
15 only opportunity to be a paralegal specialist or what other  
16 opportunities do I have.

17 I think it's an opportunity for them to see, for  
18 instance, the Computer Science Development program, or to  
19 think more broadly about what the scope of their  
20 opportunities are within the agency and not just within the  
21 office that they currently happen to be in. I think people  
22 get too wrapped up in what they are doing with their current  
23 job and not always looking broadly enough at the skills they  
24 are learning here and how those can apply elsewhere. I  
25 think the IDP program is very useful in that respect, and we



1 need to do a better job of keeping our employees aware of  
2 what that can do for them.

3 At the attorney level we also encourage them to  
4 maintain their legal expertise and skills by participating  
5 in offsite seminars and conferences, and these include  
6 courses presented by the Department of Justice, the American  
7 Bar Association, the Federal Bar Association, and OPM.

8 CHAIRMAN JACKSON: Mrs. Cyr, I think Commissioner  
9 Dicus has a question.

10 COMMISSIONER DICUS: It was on that topic. So  
11 it's perfect that you went into it. To what extent is there  
12 encouragement for attorneys to participate in professional  
13 organizations off site?

14 MS. CYR: To the extent that it can be done  
15 without any interference with our work, it is encouraged, as  
16 long as people can balance it. We have a number of people  
17 who have been committee chairs in the past or are currently  
18 committee chairs for professional bar associations. We have  
19 people, for instance, participating in administrative law  
20 sections in various legal organizations. It's a good  
21 opportunity for them to bring back to us sort of current  
22 activities and also let us know about ongoing activities  
23 that are of interest to all of the office and all of the  
24 attorneys in the office.

25 COMMISSIONER DICUS: I think that is one of the

1 great values of that.

2 To the other two managers, I might ask you as you  
3 make your comments to what extent you are likewise  
4 encouraging the professional staff, or nonprofessional  
5 staff, for that matter, to take advantage of offsite  
6 conferences, meetings, courses that are available and to  
7 what extent you may be encouraging them as it's appropriate  
8 to be involved in the organizations that they are eligible  
9 to be involved in. So you might address that issue.

10 CHAIRMAN JACKSON: So that you don't think that  
11 you are just being asked this question, I actually make it a  
12 condition for anyone who works in my office that they have  
13 to continue to grow and develop, whether it's taking  
14 courses, participating in offsite seminars, et cetera; that  
15 even though I work them to death and I stretch them, they  
16 cannot depend upon the work itself just helping them to  
17 grow. I expect them to do some developmental activities,  
18 and we talk about that as part of their performance  
19 appraisal. But it's a condition of working in my office.  
20 They can't work there and not continue to grow and to learn  
21 in formalized ways and informal ways.

22 MS. CYR: I think it is going to become much more  
23 critical in our office particularly. As our FT limitations  
24 really take hold and we have either a decreasing number of  
25 staff or a static number of staff, people have to be able to

1 be flexible to work in a number of different areas. I think  
2 this ongoing outside development for our attorneys is going  
3 to be very important in terms of making sure that with the  
4 people we have left that we are able to deal with the  
5 various issues that come up to us.

6 OGC also takes seriously the goal of the NRC as  
7 reinforced by President Clinton's formal policy on the  
8 subject. To establish a family friendly work environment  
9 for its employees, through the years, as permitted by work  
10 loads in various segments of the office, OGC has  
11 accommodated those whose family responsibilities require  
12 that they convert from full-time to part-time schedules  
13 temporarily, or in some cases permanently.

14 The primary beneficiaries of these flexible  
15 approaches have been women, and we believe that this has  
16 really enabled us to retain several valuable staff members  
17 who might otherwise have considered leaving the agency if  
18 this had not been available to us.

19 With respect to the topic of preselection, OGC is  
20 well aware of the concerns that have been expressed recently  
21 about preselection of staff in the agency, especially in the  
22 context of competitive promotions. We believe that to avoid  
23 these concerns management must cast a broad net in  
24 soliciting applicants for competitive promotions.

25 The goal should be a selection process that

ANN RILEY & ASSOCIATES, LTD.  
Court Reporters  
1250 I Street, N.W., Suite 300  
Washington, D.C. 20005  
(202) 842-0034

1 permits a broad range of applicants to participate. Vacancy  
2 announcements and rating criteria should not be crafted so  
3 narrowly as to create the appearance that the position is  
4 being established for a particular individual.

5 Last year we had the opportunity to post for  
6 several senior attorney positions at the grade 15 level. We  
7 looked at how we had filled such vacancies in the past and  
8 we decided to shift our approach somewhat. We wrote vacancy  
9 announcements that we believe were not unduly restrictive  
10 and did not unnecessarily require experience in narrow  
11 specific subject areas of the law. The use of these vacancy  
12 announcements and selection criteria that were substantially  
13 related to the day-to-day duties of the position were  
14 instrumental in enabling us to select very outstanding  
15 applicants for competitive promotion.

16 All NRC attorneys at the grade 14 level were  
17 provided an opportunity to qualify and to compete for these  
18 positions without regard to the specific area of legal  
19 expertise that each person had developed within the agency.  
20 This was because we have generally found that attorneys with  
21 strong legal skills can perform at an outstanding level in  
22 many different substantive areas of the law. As a result,  
23 we had a broad array of highly qualified candidates from  
24 which to select.

25 We believe that as a result of our approach the

ANN RILEY & ASSOCIATES, LTD.  
Court Reporters  
1250 I Street, N.W., Suite 300  
Washington, D.C. 20005  
(202) 842-0034

1 applicants believe that each of them had a fair opportunity  
2 to compete for a senior attorney position.

3 We pursued a similar approach subsequently in the  
4 selections for two grade 14 attorneys and two selections for  
5 positions in the program support area. We crafted vacancy  
6 announcements that focused not simply on what the job  
7 required in the past or what rating factors might apply in  
8 other offices or agencies but on what the qualifications and  
9 rating factors are currently today with respect to the  
10 day-to-day duties of the position, and we are pleased that  
11 women and minorities were well represented in the group of  
12 applicants who were selected competitively for positions  
13 with OGC in the past year.

14 With respect to the issue of development of  
15 management skills, consistent with the recent directive from  
16 the Commission, all SES members are required to complete 24  
17 hours of training that is designed to hone their management  
18 skills. I think this has been a very beneficial push from  
19 the Commission. I can see it in terms of the discussions  
20 that we have and the interactions that we have, although  
21 people sort of reluctantly at the time thought, well, I'm  
22 not sure I want to go take this on top of the other kinds of  
23 training. But I think it has been very beneficial for us.

24 We have taken advantage of both external courses  
25 and Office of Personnel has offered a number of

1 opportunities for these management seminars within the  
2 agency, and I think it has been very healthy for the agency  
3 as a whole.

4 We educate our managers about EEO and human  
5 resources through some specialized external training but  
6 also through a lot of the in-house courses that we have had  
7 from EEO managers and the town meetings and the particular  
8 small meetings that the Director of the Office of Small  
9 Business and Civil Rights has held.

10 CHAIRMAN JACKSON: Let me stop you there for a  
11 second. Have you put into place since the Commission push  
12 on this any mechanisms or feedback loop to test for yourself  
13 the understanding and implementation of the management  
14 training by your people?

15 MS. CYR: Not in a formal way. People have taken  
16 somewhat diverse courses. It's has been more on an informal  
17 basis.

18 CHAIRMAN JACKSON: But you as a manager can see  
19 the benefits?

20 MS. CYR: We can see benefits in terms of how  
21 individuals approach particular problems. As I make the  
22 point in my written statement, I think it's really in terms  
23 of our informal communication. We are a small enough office  
24 that we have the opportunity to interact a lot as a team of  
25 managers. We see each other as resources based in part on

1 this training and part on experience of how to address  
2 various problems that come up. I think it has been very  
3 beneficial to us as an office and as part of the larger  
4 organization to have this type of training in a sense forced  
5 upon us. I think everybody sees the benefits of it, and it  
6 has been very beneficial to us.

7 As Pat knows, it is part of our formal assessment  
8 in the performance appraisal process, both the midyear and  
9 the annual written appraisals which we do as well and also  
10 the triennial reassessment we do for SES managers, and it's  
11 something that I look at to make sure everybody has in fact  
12 done the training, how they are performing as managers  
13 across the board, and the human resources factors, and it is  
14 something that we are assessing and do in fact emphasize as  
15 a critical element in our assessment process.

16 CHAIRMAN JACKSON: Thank you.

17 MRS. NORRY: Bill.

18 MR. BEACH: Good morning, Chairman and  
19 Commissioners. First and foremost, we in Region III are  
20 committed to equal employment opportunity for all our  
21 employees and all our applicants for employment. We fully  
22 support the agency's affirmative action objectives and  
23 initiatives.

24 Currently Region III has 240 full-time and  
25 part-time employees. Thirty-four percent, or about a third,

1 of the staff are women and 12 percent are minorities.

2 I have communicated the agency's EEO policy and my  
3 expectations for implementing this policy to all managers,  
4 supervisors and staff.

5 At my request, the director of the Office of Small  
6 Business and Civil Rights, Ms. Little, met with the Region  
7 III management team and staff to discuss EEO status and  
8 objectives recently. In support of this initiative, the  
9 deputy executive director for management services,  
10 Mrs. Norry, and her management team came to Region III to  
11 communicate the agency's EEO policy and discuss other  
12 administrative issues. My plan is to establish this as an  
13 annual meeting.

14 To enhance communications further, managers and  
15 supervisors are required to discuss EEO issues and  
16 initiatives during quarterly performance reviews. We have  
17 also developed an EEO reference manual for managers and  
18 supervisors which consolidated EEO policies, guidance,  
19 initiatives, and regional demographics.

20 To enhance career development for the regional  
21 staff, we are using the individual development plan, or IDP,  
22 and mentoring programs. I am requiring supervisors and  
23 managers to encourage the staff to develop IDPs and to  
24 ensure that new employees are assigned mentors.

25 To answer your question, Chairman, we have a



1 higher percentage than we did that are using IDPs, but we  
2 still have to do a better job in that area. We are not  
3 where we need to be.

4 Our support of rotational development assignments  
5 will continue to be a key factor in this initiative. In the  
6 past year the region supported 37 rotational assignments to  
7 headquarters and within the region to enhance the career  
8 development of both its managers and its staff. We have  
9 supported key rotations of women and minorities to positions  
10 such as acting deputy regional administrator, acting  
11 director of the Division of Resource Management and  
12 Administration, and acting chief of the Materials Licensing  
13 Branch.

14 Over the past year we have worked hard to recruit  
15 and hire 21 highly qualified people, ten women and  
16 minorities. We recognize we need to continue to improve.  
17 With assistance from the Region III EEO Advisory Committee,  
18 we are identifying additional recruitment sources for  
19 attracting women and minority applicants, including those at  
20 the entry level. Additionally, women and minorities will  
21 continue to be included on recruitment teams.

22 I am meeting on a regular basis with our personnel  
23 staff and will meet on a quarterly basis with members of the  
24 regional EEO Advisory Committee to discuss employee concerns  
25 and ways to improve the working environment in the region.

1           With respect to preselection, during this past  
2 year we have promoted 16 employees, eight of which were  
3 minorities and women.

4           We fully support the initiative launched by the  
5 Office of Human Resources to review and update position  
6 descriptions to accurately reflect current duties and  
7 responsibilities of the positions.

8           Additionally, to avoid the appearance of a rating  
9 panel that may favor a certain candidate, on an annual basis  
10 I appoint five permanent panel members to serve for a period  
11 of one year. In an effort to increase women and minority  
12 representation, we will extend our panel membership to other  
13 regions and NRC headquarters.

14           I am requiring selecting officials to interview  
15 all "A" or "best qualified" candidates. I, in turn, review  
16 all selections for new hires, promotions and competitive  
17 reassignments before offers are extended to ensure fair and  
18 equitable implementation of the agency's merit selection  
19 process.

20           CHAIRMAN JACKSON: Is your annual rating panel  
21 used only for certain positions or for all positions in the  
22 region?

23           MR. BEACH: For all positions.

24           CHAIRMAN JACKSON: Are women and minorities  
25 represented at this point on the panel?

1 MR. BEACH: Yes, they are, and we want to try to  
2 get a higher number.

3 As to training of our managers, 28 of the region's  
4 29 managers and supervisors have completed the formal  
5 training requirements outlined in Management Directive  
6 10.77, Employee Development and Training. To emphasize the  
7 importance of initial and continuing education, I have  
8 revitalized the regional training council. The council  
9 meets on a monthly basis and is chaired by the deputy  
10 regional administrator.

11 To provide individual broadening experiences,  
12 division directors and branch chiefs are sometimes rotated  
13 between divisions. I have also initiated semiannual  
14 management retreats for senior managers and an annual  
15 management retreat for branch chiefs as additional forums to  
16 enhance communication and team work.

17 Finally, we are striving to provide more honest  
18 and realistic performance appraisals. I have implemented  
19 quarterly performance reviews for all managers, supervisors  
20 and staff to improve communication between the groups. The  
21 reviews are intended to provide more frequent interactions  
22 for discussion of performance strengths and weaknesses,  
23 training needs, career development options, and our EEO  
24 initiatives. The results should be a greater awareness of  
25 individual needs to help provide for a better work

1 environment and maximize every individual's potential.

2 CHAIRMAN JACKSON: Thank you.

3 Commissioner Dicus.

4 COMMISSIONER DICUS: I'd like for someone to give  
5 me a little bit of a feel of what is happening in the other  
6 regions along much the same lines as the things that you've  
7 discussed.

8 CHAIRMAN JACKSON: I think that is a good  
9 question, but we are also going to specifically hear -- each  
10 region each time is going to be represented at these  
11 meetings. But that is a good question for now.

12 COMMISSIONER DICUS: The other part of this is,  
13 how are we communicating?

14 For example, you have your regional EEO committee  
15 looking at new sources to recruit minorities and women. If  
16 you find a new source or you find something that seems to  
17 work, how are you communicating that to headquarters and to  
18 the other regions? How is the communication going? How  
19 does this come together?

20 This would extend to the good things you find and  
21 things you find that don't work, and even in the offices.  
22 How is this being communicated?

23 MRS. NORRY: The one place I know it comes  
24 together is through Paul Bird's office and the regional  
25 personnel representatives who talk on the phone frequently,

1 who meet frequently, and who can compare notes.

2 Paul.

3 MR. BIRD: We keep an inventory of applications.  
4 This is from all sources. In the case of the regions, they  
5 will tap into that resource base. We do a whole lot of  
6 interaction with applications across regions because they are  
7 very similar in their needs.

8 I think the central repository of applications and  
9 the use of that is one of the key ways that we don't lose  
10 applicants in one area when they might be suitable for  
11 another area. It also allows us to provide an applicant  
12 pool in addition to specific recruitment efforts that might  
13 go on in a particular location.

14 MS. LITTLE: Additionally, we work very closely  
15 with Paul's staff in designing the recruitment schedule of  
16 where we are going to go to recruit. We also provide  
17 representatives to go to specific areas to recruit. For  
18 example, the last time we talked about trying to recruit  
19 Native Americans. We identified some places there to get  
20 those on the recruitment schedule.

21 CHAIRMAN JACKSON: Commissioner Diaz.

22 COMMISSIONER DIAZ: What is the total number of  
23 new hires that we have per year or, say, this year?

24 MR. BIRD: That does fluctuate. I just happen to  
25 have run the data for the past fiscal year. Our new hires

1 were 104. That does fluctuate.

2 CHAIRMAN JACKSON: And that's across all job  
3 categories?

4 MR. BIRD: That's across the job categories.

5 CHAIRMAN JACKSON: Commissioner McGaffigan.

6 COMMISSIONER MCGAFFIGAN: I think what heard on  
7 preselection that they are doing is commendable and a very  
8 comprehensive approach. I would be interested in what the  
9 others have to say.

10 CHAIRMAN JACKSON: I think those two tie together.  
11 Your comment and Commissioner Dicus' question is a relevant  
12 one. You can hear the advertisement here first that in the  
13 other regions as well as the headquarters offices we are  
14 going to be looking to understand what kind of feedback and  
15 learning there is, and now that Mr. Beach has put down a  
16 marker, we want to hear from the rest.

17 MRS. NORRY: I think we should also remember that,  
18 as Irene mentioned in talking about the efforts of the  
19 subcommittees, the one focused on preselection came forward  
20 with a number of useful ideas, some of which have already  
21 resulted in some actions. So that's another very good  
22 source for ideas here.

23 CHAIRMAN JACKSON: Thank you.

24 MRS. NORRY: Carl.

25 MR. PAPERIELLO: I have always believed that since

1 the essence of a manager's job is to achieve results through  
2 the efforts of others, staffing is one my highest  
3 priorities. This involves both the acquisition and the  
4 training of the most capable staff resources permit.  
5 Currently, about half of the NMSS staff have advanced  
6 degrees, about evenly split between the Ph.D.'s and the  
7 master's level.

8 In the area of training, I have required that  
9 anyone who inspects or conducts licensing activities --

10 CHAIRMAN JACKSON: Let me ask you a question. How  
11 do those statistics compare with NRR.

12 Mr. Collins, can you give us some edification?

13 [Laughter.]

14 COMMISSIONER DIAZ: It's moving down the line.

15 CHAIRMAN JACKSON: Commissioner Diaz says it's  
16 moving down the line.

17 [Laughter.]

18 CHAIRMAN JACKSON: Thank you.

19 MR. PAPERIELLO: I require anyone who inspects or  
20 conducts licensing activities with signature authority to be  
21 trained and qualified in accordance with the appropriate  
22 manual chapters. I have had these manual chapters revised  
23 to make sure they adequately encompass NMSS activities.

24 I also require training and qualification plans  
25 for all new NMSS employees even if their activities are not

1 covered by these manual chapters, and I require all new  
2 hires to be introduced to me, at which time I verify with  
3 the section chief that there is a training plan in place and  
4 discuss it with the new employee.

5 I have required all NMSS managers to take  
6 managerial training in accordance with the NRC's Mandatory  
7 Supervisory Core program. I track completion of all the  
8 training in the office, both managerial and staff, in the  
9 NMSS operating plan. Except for those becoming supervisors  
10 in the past year, NMSS managers have completed essentially  
11 all the required training and new supervisors are completing  
12 their training at an acceptable rate.

13 Last year I revised the standards and elements of  
14 all the section chiefs in NMSS to place increased emphasis  
15 on management by splitting the standard management element  
16 into two elements, one for human resource management and a  
17 second for financial and contractor resource management.  
18 The practical result is that two of the usual five elements  
19 in a section chief's appraisal deal with resource management  
20 rather than the previous one in five. This October we will  
21 be completing the first round of appraisals against these  
22 elements and I'll be reviewing them to see what kind of  
23 results we have achieved.

24 Actually, I plan on taking additional steps to  
25 upgrade management training in my office. Next week we have



1 our annual management retreat, and I have drafted an outline  
2 of a plan to be discussed next week that will require either  
3 IDPs or training plans for all NMSS managers, the  
4 development of additional training activities, and a  
5 proposal to mentor all new supervisors in NMSS.

6 We have initiated a program with the Office of  
7 Small Business and Civil Rights to establish liaison with  
8 colleges and universities in the Washington, D.C. area to  
9 focus on entry level recruiting. I believe this serves to  
10 balance the office with respect to employment grade and also  
11 recruit well qualified women and minorities who appear to be  
12 well represented in area schools. We are currently working  
13 to put this program in place.

14 We have identified who runs the various  
15 engineering and science departments at these schools. We  
16 have made phone calls to about half of them, and we will  
17 follow that up with a letter.

18 The goal is, if we can maintain contact with the  
19 schools and go to career days and do colloquia and things  
20 like that, the people will get to know us and we will be  
21 able to recruit entry level people.

22 CHAIRMAN JACKSON: So it's too soon to say whether  
23 this is effective in recruiting well qualified women and  
24 minority candidates.

25 MR. PAPERIELLO: That's true, but it should.

1           CHAIRMAN JACKSON: Let me ask you a question. Who  
2 do you have involved in the entry level recruiting?

3           MR. PAPERIELLO: Division directors. Each  
4 division owns a couple schools.

5           CHAIRMAN JACKSON: So they actually go to the  
6 schools?

7           MR. PAPERIELLO: That's the goal, to go to the  
8 schools. We have been looking for natural relationships  
9 where the people have graduated from the school. We don't  
10 always have that, but the idea is to go to the school and  
11 "get to know me and I will get to know your people."

12          CHAIRMAN JACKSON: The reason I asked the question  
13 is I used to work for Bell Labs. It has a very high  
14 percentage of Ph.D.'s in the research area. To recruit  
15 Ph.D.'s they sent out Ph.D.'s, and that included when they  
16 were specifically trying to recruit women and minorities.

17          If you are talking about looking for natural  
18 relationships, people want to talk with the individuals who  
19 are doing the kind of work they are being recruited to do,  
20 number one. Number two, if someone is a woman or minority  
21 candidate, people want to feel that they are being taken  
22 seriously and that you are sending your very precious  
23 Ph.D.'s and master's degree people out to recruit; you are  
24 sending your professional staff to recruit professionals.  
25 You're telling me that your program is designed for that.

1 MR. PAPERIELLO: That's what I'm trying to do.  
2 Hopefully I will know in a year whether I'm successful in  
3 that. What you have said has been my experience. You need  
4 to have natural relationships and the like.

5 CHAIRMAN JACKSON: I am specifically speaking with  
6 respect to this program you've initiated with OP and the  
7 Office of Small Business and Civil Rights.

8 MR. PAPERIELLO: Right.

9 COMMISSIONER DIAZ: You said this is specifically  
10 in the Washington, D.C. area. Have we also targeted areas  
11 in the country that have a high percentage of different  
12 minorities, because they really change quite a bit?

13 MR. PAPERIELLO: I understand, and the answer is I  
14 haven't.

15 CHAIRMAN JACKSON: Maybe you should consider that.  
16 For instance, if we are saying that Hispanics are under  
17 represented, if you don't go where there are high  
18 percentages of Hispanic students, particularly in California  
19 and parts of the Southwest and New York --

20 MR. PAPERIELLO: I understand that. I have a bias  
21 there. In the Midwest, we had a hard time in Chicago  
22 recruiting people from out of the Midwest who would stay for  
23 any length of time.

24 CHAIRMAN JACKSON: That's because you weren't  
25 recruiting them to lovely Washington, D.C.

1                   [Laughter.]

2                   MR. PAPERIELLO: I understand. Part of it is how  
3 many people I have.

4                   COMMISSIONER DIAZ: If I can be recruited, anybody  
5 can be recruited.

6                   [Laughter.]

7                   CHAIRMAN JACKSON: You heard it from the source.

8                   MR. PAPERIELLO: I could tell some stories,  
9 particularly coming from an interview in the Southwest into  
10 a Chicago snowstorm.

11                  CHAIRMAN JACKSON: But it works.

12                  Commissioner McGaffigan.

13                  COMMISSIONER MCGAFFIGAN: I have the same concern  
14 as Commissioner Diaz about getting Hispanics represented  
15 here. If we don't have any, we are not going to have the  
16 natural relationship. In New Mexico there obviously are  
17 lots of students who get recruited by the labs, Sandia and  
18 Los Alamos and DOE Albuquerque operations. I don't know  
19 quite how to tap into that.

20                  What sort of program does the center have in San  
21 Antonio, the FFRDC? I know in New Mexico the congressional  
22 delegation meets every year not only with the federal  
23 employees but with the two lab directors and encourages  
24 their programs. Do you know anything about minority and  
25 female representation at the center and what progress they

1 make?

2 MR. PAPERIELLO: No, I don't. I'll look, but I  
3 don't.

4 CHAIRMAN JACKSON: You can check on that.

5 MR. PAPERIELLO: Just as an aside, Dr. Santiago  
6 Parra on my staff, who is Hispanic, is working with the  
7 Office of Human Resources to try to improve our recruitment  
8 in that particular area.

9 The liaison with the schools was just something I  
10 started some months ago. I was looking for help from the  
11 Office of Human Resources on that and I am just trying to  
12 get it off the ground before I try to branch out.

13 CHAIRMAN JACKSON: We appreciate that. This is a  
14 wonderful opportunity to build these things from the  
15 beginning.

16 MR. PAPERIELLO: Right.

17 To help with issues concerning potential  
18 preselection, all GG-14 and GG-15 promotions in my office  
19 have to be discussed with me. I require that all "A"  
20 candidates be interviewed by the selecting officials.

21 I further require the selecting official to show  
22 me some kind of analysis to support the particular  
23 selection. My goal is not to second guess the selecting  
24 official but rather ensure the selection was in accordance  
25 with merit principles. Clearly, more needs to be done. I

1 believe that standardizing and reducing the number of  
2 position descriptions, development of standard vacancy  
3 announcements and rating factors, and development of  
4 performance-based rating criteria are steps needed in this  
5 direction.

6 CHAIRMAN JACKSON: Are you planning to implement  
7 these steps?

8 MR. PAPERIELLO: I'm planning to do some of it. I  
9 cannot on my own right now revise all of the position  
10 descriptions.

11 CHAIRMAN JACKSON: Mr. Bird.

12 MR. BIRD: We have an initiative underway. It's a  
13 global initiative, if you will, to look at every position in  
14 the agency and revise them accordingly to make sure they are  
15 accurate and current. It does take the individual line  
16 manager's participation, and we have sort of a map on doing  
17 that within the next year and completing it.

18 MR. PAPERIELLO: Actually my staff and your staff  
19 is giving me a briefing next Monday on the BPR effort we  
20 have had underway and to try to improve the overall hiring  
21 process, because in fact, of the 100-and-some new hires that  
22 we made in the past year, about 39 of them were in NMSS.

23 I'm trying to streamline the thing and make it  
24 effective and make improvements in this area.

25 Actually, all NMSS managers and supervisors have

1 attended refresher training this year on the performance  
2 appraisal process, and I expect, if the results warrant it,  
3 I am going to require this refresher training be done on an  
4 annual basis. We have worked with the Office of Personnel  
5 to develop this training.

6 I would finally note that four SES managers in  
7 NMSS are women and two others are minority males. Of the  
8 two senior level positions, one is filled by a woman.

9 Thank you.

10 CHAIRMAN JACKSON: Thank you.

11 Commissioner Dicus.

12 COMMISSIONER DICUS: The encouragement for taking  
13 advantage of offsite training, meetings, organizations.  
14 Would you address that, please?

15 MR. PAPERIELLO: I haven't explicitly.  
16 Implicitly, yes, because we have people going to any number  
17 of meetings. I have individuals who participate in minority  
18 recruiting activities that are part of their professional  
19 societies. I have people on my staff who actively work with  
20 various IAEA committees on standards. So I have it, but I  
21 can't say that this is my program. What I have done is  
22 encouraged all my managers to ensure their staff have  
23 training.

24 Also, I have talked to the professional staff and  
25 I've talked to the partnership and emphasized that

1 professional people have to take some responsibility for  
2 their own training and development.

3 I started at this agency as an inspector and  
4 worked various steps up. When I was a first-line supervisor  
5 I was somewhat appalled by the professional employees, that  
6 the only training they felt they had to get was what the  
7 government provided. I personally have always spent some of  
8 my own resources in keeping myself technically qualified in  
9 my field and managerially qualified, and I think the people  
10 who don't do that aren't being very professional.

11 I like to do as much as we can do, but I think the  
12 employees have to take some ownership of their career and  
13 their profession.

14 CHAIRMAN JACKSON: Commissioner McGaffigan.

15 COMMISSIONER MCGAFFIGAN: This is really to  
16 Mrs. Norry. The contract with the FFRDC, is there any  
17 requirement in that contract for good performance in equal  
18 employment opportunity, or whatever?

19 If we don't have it, and we may well not, does DOE  
20 in its relationship with its FFRDCs? They have far more  
21 experience and it's far deeper. Do they require it?

22 If it isn't a contractual requirement, it turns  
23 out at least in New Mexico to be a sort of moral requirement  
24 on the two labs to work hard. Do you happen to know the  
25 answer to that?



1 MRS. NORRY: No. Can we get back to you on that?

2 COMMISSIONER McGAFFIGAN: Sure.

3 CHAIRMAN JACKSON: Karen.

4 MS. CYR: My counsel informs me that it currently  
5 is not. It could be if you structured it appropriately.

6 CHAIRMAN JACKSON: I think when the new EEOC  
7 guidance comes out, that offers an opportunity to review any  
8 contracts like that that we have with respect to that,  
9 because that new guidance is going to be referenced to what  
10 the law is today. So it offers an opportunity.

11 COMMISSIONER McGAFFIGAN: My thought is FFRDCs are  
12 different from other contractors and the government treats  
13 them as such.

14 CHAIRMAN JACKSON: Absolutely.

15 Does the National Treasury Employees Union  
16 representative have any comments he would like to make?

17 MR. THOMAS: I have a small number of comments.

18 First, nothing was mentioned about the mediation  
19 process. I assume this was an oversight. In the recent  
20 contract, for EEO complaints we introduced an optional  
21 mediation process, which would be before the complaint goes  
22 formal or goes to an arbitrator, and it's in lieu of a  
23 second step. I believe that that may resolve some of the  
24 complaints.

25 CHAIRMAN JACKSON: How does that play into what

1 Mrs. Little talked about in terms of her office's  
2 involvement in helping to resolve EEO complaints?

3 MR. THOMAS: For bargaining unit employees there  
4 are two different procedures that you can use for an EEO  
5 complaint. The process that she was describing was the  
6 formal statutory procedure. If an employee elects to file  
7 an EEO complaint via the grievance process, that is where  
8 the mediation would occur. So there are two separate  
9 processes.

10 CHAIRMAN JACKSON: Okay.

11 MR. THOMAS: In the area of preselection, I more  
12 or less agree with what I heard, but I think there are a  
13 couple of other things that are happening within the agency  
14 that present a problem with preselection.

15 I worked here for a long time. To my way of  
16 thinking, the agency has always, in the personnel sense,  
17 operated like dozens of separate agencies headed by a  
18 commission. As a result, if you compare us to most of the  
19 other agencies I'm familiar with, we have an incredible  
20 number of positions for a small agency.

21 I think we should focus on developing a position  
22 where you are looking for a good scientist, a good engineer,  
23 regardless of where that person is going to work, and post  
24 and hire towards that as opposed to trying to post a  
25 position with rating factors that are directed to a

1 particular job. Even though somebody is not intending to  
2 develop those factors to hire a particular person, the net  
3 effect is that someone who does not have current experience  
4 in the X,Y,Z branch may be disadvantaged even though they  
5 may be an excellent scientist or engineer applying for the  
6 job.

7 I'm glad to hear that we are making some efforts  
8 to redo position descriptions, to make them more accurate.  
9 I think the other area that needs serious attention is our  
10 classification system.

11 I mentioned to the Commission once before that our  
12 system is grossly out of date. As an example, in the CIO  
13 reorganization we are using position descriptions that were  
14 developed before the IBM PC was first marketed to try to  
15 determine how to classify these jobs. That's absurd. I  
16 think that's an area that we really need to get some  
17 attention into.

18 CHAIRMAN JACKSON: Have you made these specific  
19 recommendations to the Office of Human Resources as part of  
20 their overall review that Mr. Bird mentioned?

21 MR. THOMAS: That's sort of a yes and no. These  
22 are areas that are nonnegotiable. So we cannot raise the  
23 issues as a part of bargaining, but we have discussed them  
24 from time to time.

25 CHAIRMAN JACKSON: I mean in the spirit of

1 cooperation as opposed to bargaining. Have you made these  
2 recommendations?

3 MR. THOMAS: We've discussed them, yes.

4 In the area of recruitment, I agree with  
5 Mr. Bird's comment about the agency doesn't have the  
6 flexibility of some in the private sector, but there is an  
7 area that I believe the Commission may give us some help on  
8 in increasing that recruitment.

9 At the agency partnership level approximately two  
10 years ago we developed a cafeteria plan, a mechanism of  
11 being able to essentially use pretax dollars for child care  
12 and for medical accounts. It's common practice in the  
13 private sector; it's not available in the public sector.

14 Everyone was in agreement on the plan. There is  
15 just a question as to whether or not it's legal. Our  
16 attorneys have advised us that because of section 161(d) --  
17 I may have an incorrect cite -- the Commission would have  
18 the authority to alter salaries to allow us to do that. The  
19 agency would not have to pay a cent toward the program; the  
20 employees would pay for it, but it would allow them to  
21 direct pretax dollars into accounts and have that used for  
22 child care and medical account.

23 CHAIRMAN JACKSON: Can you speak to how what you  
24 are talking about plays into the issues that are before us  
25 today?

1 MR. THOMAS: I believe that if somebody is  
2 considering working for the NRC or Bell Labs, if Bell Labs  
3 offers a cafeteria program that allows someone to put \$5,000  
4 into a pretax account for child care, and in many cases up  
5 to \$2,500 for medical, that generates a savings to them of  
6 in excess of \$2,000; even more in higher brackets. All  
7 things being equal, that's probably the chop they would go  
8 after, because effectively it generates a higher salary.

9 CHAIRMAN JACKSON: Are you arguing that that helps  
10 with the recruitment of women and minorities?

11 MR. THOMAS: Yes.

12 A final comment is an old EEO concept, equal pay  
13 for work of equal value. You may be aware that there was an  
14 arbitration decision sometime earlier this year indicating  
15 that employees can grieve the concept of what we term de  
16 facto detail. Essentially an employee is placed in a job  
17 where they are doing an identical duty to somebody at a  
18 higher grade but they are getting the lower pay. That is  
19 something I think the Commission is going to have to  
20 address. Not the Commission, but the agency is going to  
21 have to address in order to correct the problem, because we  
22 are getting an increasing number of grievances, and I don't  
23 think it's going to be that long before we have over 100.

24 CHAIRMAN JACKSON: How does that play into the  
25 issues under discussion today? How does it specifically

1 play into the EEO issues that we are discussing?

2 MR. THOMAS: In many cases I believe you will find  
3 that the individuals who are waiting for that promotion, the  
4 higher percentage are women and minorities, and I think the  
5 agency may very well be able to redirect its program efforts  
6 in assignments of duties to where individuals either get  
7 that promotion or that the agency doesn't continue to ask  
8 them to do higher graded duties without the pay.

9 CHAIRMAN JACKSON: Thank you very much.

10 It's very important, at the risk of my lawyer  
11 having a heart attack, that when you speak -- I understand  
12 the union's authority, et cetera -- but it's very important  
13 that you put things into the context to be helpful to the  
14 Commission on the issues that are under discussion.

15 Commissioner McGaffigan.

16 COMMISSIONER MCGAFFIGAN: I'd like to follow up on  
17 one point Mr. Thomas made and direct a question to the  
18 staff. The issue of increased selection, of getting  
19 somebody who is a well qualified person who may not have the  
20 exact qualifications for the position resonates with me,  
21 because recently on a SECY paper I commented that in the  
22 future we may be looking for versatile individuals,  
23 especially at the entry levels.

24 To try to operationlize his comment, and correct  
25 me if I am misspeaking, the notion would be that one of the

1 selection criteria might be "is this person going to be able  
2 to be used in multiple other places in my organization or in  
3 the agency as a whole?"

4 As I think about it, that opens up some cans of  
5 worms. Suddenly you are choosing somebody for versatility  
6 because they can do multiple jobs in NMSS or NRR or swing  
7 back and forth between both, and I'm favoring that person  
8 compared to a person who might for the particular job have  
9 stronger credentials.

10 Is that what you are suggesting, Mr. Thomas, that  
11 a versatility factor be put into the selection criteria?

12 MR. THOMAS: I would think more along the lines of  
13 going after a good scientist or engineer. I guess the  
14 theory being that if someone is a good health physicist,  
15 they can be a good health physicist for NRR, NMSS or  
16 Research.

17 COMMISSIONER MCGAFFIGAN: Is versatility or the  
18 ability to do multiple jobs within the Commission staff an  
19 appropriate selection criteria, or does that get me into  
20 legal trouble?

21 MR. BIRD: I think we look at that very heavily if  
22 we are hiring at the entry level.

23 MRS. NORRY: That's right. At that level you are  
24 much more able to do that. Also, the developmental and  
25 rotation programs we have foster that. You take someone who

1 is in one area and it's just amazing what you see when you  
2 put them in what sometimes turns out to be a totally  
3 different area and they indeed, as might be expected, do  
4 blossom. We do that over and over again. That adds to that  
5 persons value.

6 The other thing is that we are in constant  
7 dialogue with managers in their descriptions of the  
8 positions and how they put them forward as to whether the  
9 requirements of that position are overstated or are too  
10 narrow. That dialogue has resulted in some positions being  
11 differently described. That goes on all day long from  
12 Paul's office and from my group. We ask those questions.  
13 We should not be overdescribing jobs.

14 COMMISSIONER MCGAFFIGAN: If I am advertising a  
15 GS-15 job, a fairly senior job, and I also regard that  
16 position as a position to get into the senior management of  
17 the Commission staff, EDO or OGC, or wherever, is it fair as  
18 a selection official to be thinking about which of the two  
19 people in filling that job, or three people or ten, I see a  
20 better career path upward for because of the versatility?

21 MRS. NORRY: You need to describe that in your  
22 description of the job and the requirements.

23 CHAIRMAN JACKSON: I think before we go too far  
24 into specific decisions about how specific jobs get  
25 selected, I offer you the opportunity to take the



1 discussions with lawyers off line.

2 Thank you, Mr. Thomas.

3 Are there any further comments from any of the  
4 presenters or from any of the committees?

5 MR. VICK: I'm the chairman of the Performance  
6 Monitoring Subcommittee. One of the key recommendations  
7 made by our committee in the paper today before you is that  
8 full support be restored to the intern program because it  
9 has been shown to be the most effective tool for bringing  
10 women and minorities into the technical ranks of the agency.

11 The current NRR intern program has declined to the  
12 point that it no longer contains most of the attributes that  
13 made the original program particularly attractive to women  
14 and minorities. As such, much of the EEO gains achieved  
15 through this program may be lost if it's not restored. This  
16 program offered interns the opportunity to obtain broad  
17 experience in agency-wide programs and as a result produced  
18 a pool of employees who have developed expertise needed by  
19 the agency. A program of this nature is the principal means  
20 we have to attract women and minorities into the agency and  
21 provide them with the opportunity to build a promising  
22 career here at the NRC.

23 Will the Commission consider restoring the intern  
24 program to its previous stature?

25 Thank you.

1 CHAIRMAN JACKSON: We will take that as a question  
2 for the record that we will respond to.

3 Any further questions or comments from any of the  
4 presenters or committees?

5 [No response.]

6 CHAIRMAN JACKSON: Commissioner Diaz.

7 COMMISSIONER DIAZ: I have a couple of comments  
8 and suggestions. I was just thinking of my years in looking  
9 at this thing. Sometimes it is important to realize when we  
10 are talking about equal employment opportunities and having  
11 everybody given a fair chance that what we are talking about  
12 is based on merit. The cultural differences that we have  
13 should not be part of how we deal with the process. If it  
14 were because of cultural difference, for example, Hispanic  
15 in my case, you can look and say, well, he's shy and quiet.

16 [Laughter.]

17 COMMISSIONER DIAZ: That would certainly be a  
18 problem. I think everyone in here should be very conscious  
19 that what we are really trying to say is those cultural  
20 differences do not play a part, that what we are looking at  
21 is the merit of each person. That's a key issue that keeps  
22 running when people keep asking, what are we talking about,  
23 equal employment opportunities? We don't pay attention to  
24 those cultural things.

25 I've got a note here on the issue of what I call

1 the first phase. Everything that we build on essentially  
2 has to start with a hiring. I'm not sure that as an agency  
3 we are really telling people out there that there are  
4 challenging technical jobs in this agency and that those  
5 challenges need to be well articulated, that people need to  
6 see where they fit.

7 Specifically, the Commission has directed the  
8 agency to be more risk informed and eventually performance  
9 based. I think that we need to get that notice around and  
10 get people to know that we want them to come with a basis in  
11 this area, because it's important as a foundation of a job,  
12 and I don't think that that message is clearly out there,  
13 and I think it should be clearly said out there.

14 It is probably an obvious things to bring the  
15 issue of Hispanics as far as recruitment and as far as  
16 opportunities for improvement within the agency. This has  
17 now been recognized as an issue in the Federal Government.  
18 I think it is a major issue. I don't know why it happened  
19 and I only care that we do something specific about it.

20 I would like to recommend that the next time we  
21 meet specific actions that we are taking in this area be  
22 highlighted, because in many places we have taken for a  
23 specific task many times a specific group. I remember being  
24 involved in saying we need to work to get more African  
25 Americans and this is the year that we are going to

1 emphasize that. Without taking anything from any of the  
2 other groups, I think that it is properly the year to focus  
3 on the fact that we don't have enough Hispanic Americans  
4 entering or being promoted at this level.

5 To put my money where my mouth is, I will be happy  
6 two or three times during the year to go and recruit at any  
7 center where there is an actual specific large Hispanic  
8 population, or African American, or both at the same time,  
9 and I will take the time to go and sit with them and  
10 actually explain the fact that there are great opportunities  
11 in this agency.

12 Thank you.

13 CHAIRMAN JACKSON: Thank you.

14 I'd like to thank all of the employees in  
15 attendance for your interest in this important topic and to  
16 especially thank all the participants for your views, your  
17 comments, the information you provided and suggestions.  
18 This was an extensive briefing on a complex and sensitive  
19 subject.

20 As we face the challenges not unlike those we  
21 regulate, including streamlining and budget effects, both  
22 managers and supervisors as well as our employees have  
23 co-responsibility in actualizing an environment where  
24 employees are provided an equal opportunity -- and I've said  
25 this before -- to display their talents, to advance free of

1 either real or perceived preselection, and to contribute to  
2 the agency's mission. I think the idea of managing  
3 diversity and diversity as a process is an important one.

4 We talk a lot about statistics. The idea is not  
5 to have an obsessive focus on the statistics but to have it  
6 help us to renormalize as we go along, and to manage the  
7 process.

8 I second what Commissioner Diaz has said about our  
9 giving more focus to the recruitment of Hispanics, but I  
10 also am mindful of the fact that we have a very diverse  
11 population here and a diverse population to draw on. My job  
12 is to see that we give emphasis where we need to but as we  
13 continue to ensure that all of our employees have the  
14 opportunities they deserve.

15 So I urge the managers and supervisors especially,  
16 to the best of your ability, and I think training is an  
17 important part of that, to try to remove some of the  
18 cultural influences that the Commissioner spoke about, to  
19 evaluate employees fairly and objectively, to recognize  
20 those employees that demonstrate superior performance or  
21 candidates that we believe may be capable of that, and to  
22 continue to give emphasis to training and development  
23 opportunities.

24 Secondly, to the employees, particularly those of  
25 you who may feel discouraged at times, I urge you to

1 continue to be proactive and to take the initiative, to set  
2 goals and objectives, to aim high, and to continue to work,  
3 both in informal and in formal ways, to avail yourselves of  
4 all the relevant training, rotational assignments,  
5 counseling opportunities to act in positions, et cetera, to  
6 maximize your potential.

7 If you apply for a position and you are not  
8 selected, you should seek feedback, and if you don't feel  
9 you are getting that feedback, then you need to propagate  
10 that higher up, and if need be, you propagate it to the  
11 Commission, you propagate it to me, so that you can better  
12 prepare yourselves for selection or promotion in the future.

13 To those employees who have advanced in the  
14 agency, I encourage you to serve as mentors to those who  
15 have not advanced in the agency and to share your  
16 experiences so that we can all gain and be a stronger  
17 agency.

18 We look forward to hearing from another set of  
19 office directors at the next meeting that the Commission  
20 will select, but you can assume that it will at least  
21 include NRR --

22 [Laughter.]

23 CHAIRMAN JACKSON: And another regional  
24 administrator. We are interested in hearing about progress  
25 outcomes and results that NRC is achieving in this important

1 area.

2 We stand adjourned. Thank you.

3 [Whereupon, at 11:45 a.m., the briefing was  
4 concluded.]

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

ANN RILEY & ASSOCIATES, LTD.  
Court Reporters  
1250 I Street, N.W., Suite 300  
Washington, D.C. 20005  
(202) 842-0034

CERTIFICATE

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

TITLE OF MEETING:    BRIEFING ON EEO PROGRAM  
PUBLIC MEETING

PLACE OF MEETING:    Rockville, Maryland

DATE OF MEETING:    Tuesday, October 14, 1997

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

Transcriber: Michael G. Paulus

Reporter: Michael G. Paulus



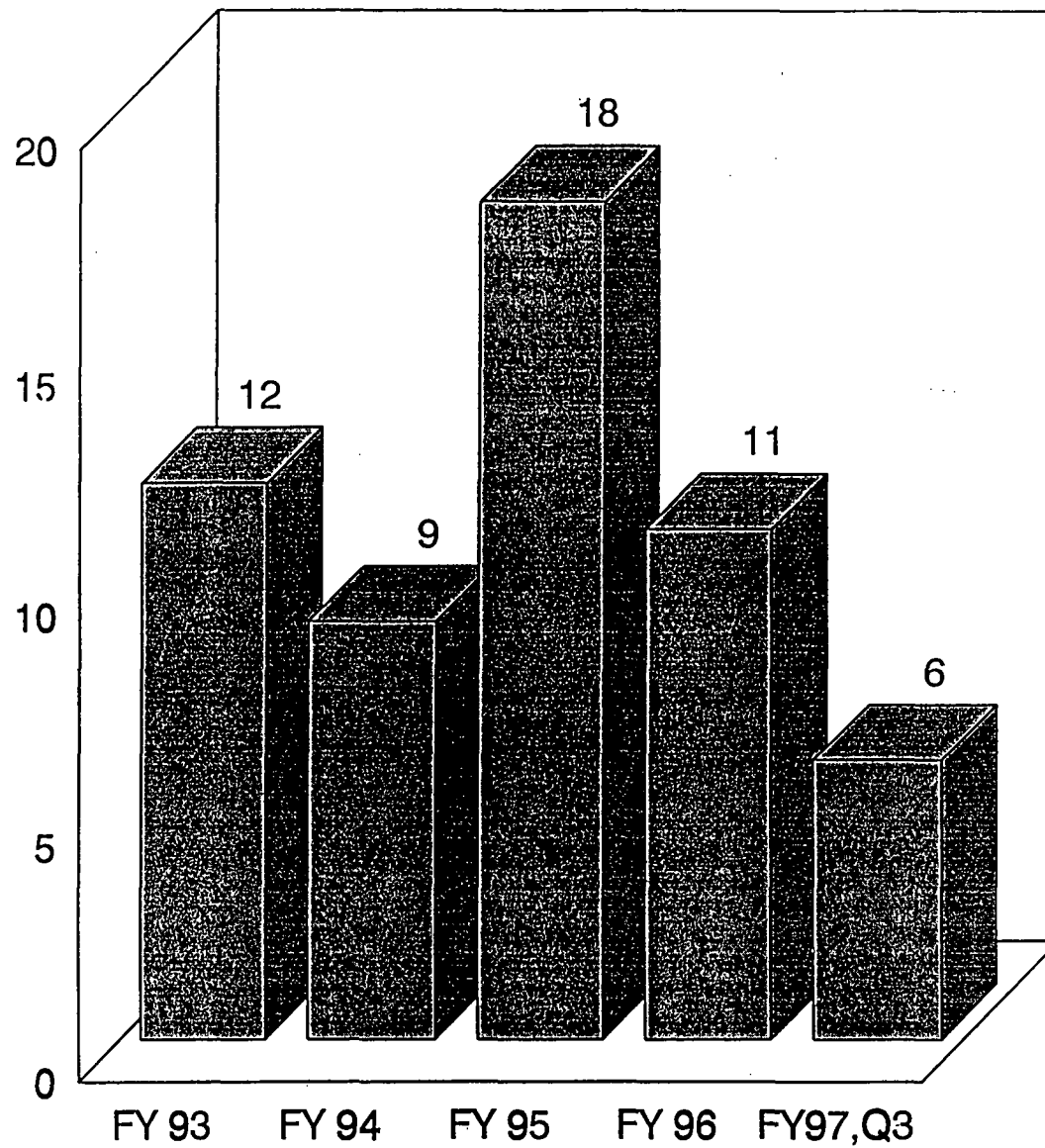
## **AFFIRMATIVE ACTION AREAS OF EMPHASIS**

- (1) Enhancing opportunities for advancement of minorities and women in professional positions.**
- (2) Expanding the pool of women and minorities for supervisory, management, executive, and senior level positions.**
- (3) Enhancing efforts to attract, develop, and retain disabled employees.**
- (4) Improving communication and EEO and affirmative action objectives, improving management responsiveness, and evaluating progress.**

## **RESULTS OF THE OVERALL EEO PROGRAM REVIEW**

- **THE STAFF HAS INITIATED EFFORTS TO UPDATE THE AFFIRMATIVE ACTION PLAN**
- **THE STAFF IS TAKING STEPS TO IMPLEMENT A MANAGING DIVERSITY PROCESS IN THE AGENCY**
- **WE CONTINUE TO PLACE A HIGH PRIORITY ON MAINTAINING AN EFFECTIVE EEO COMPLAINT PROCESS**

**NUMBER OF FORMAL EEO COMPLAINTS  
FILED BY FISCAL YEAR**



DATA CURRENT AS OF SEPTEMBER 17, 1997.

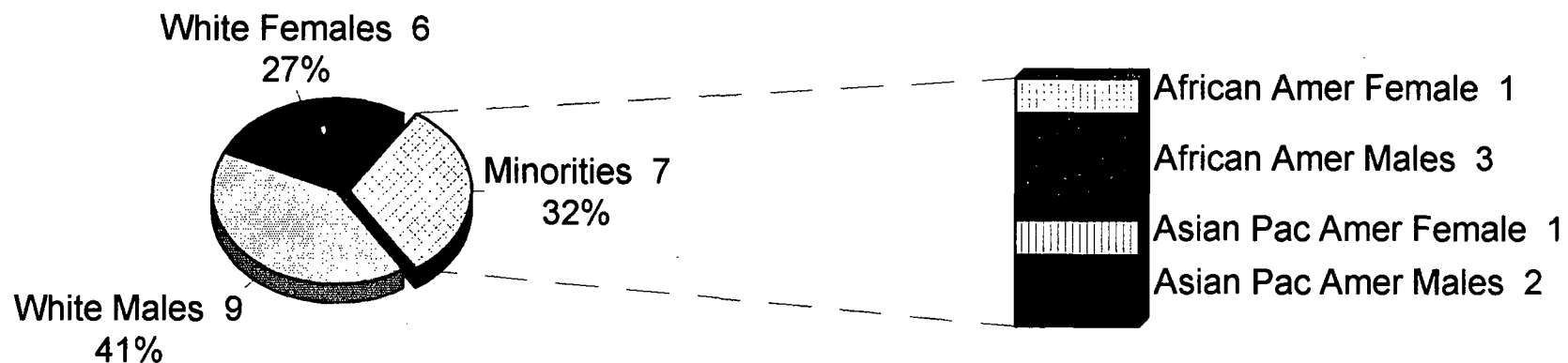
(Since the briefing paper was prepared, two complaints were consolidated and one was dropped. Hence, the total complaints for FY 97 is 6 rather than 8.)

## PROFESSIONAL HIRES FOR FY97

ETHNICITY	WOMEN	MEN	TOTAL
WHITE	7 (11%)	49 (74%)	56 (85%)
AFRICAN AMERICAN	4 (6%)	3 (5%)	7 (10%)
ASIAN PACIFIC AMERICAN	0 (0)	3 (5%)	3 (5%)
HISPANIC	0 (0)	0 (0)	0 (0)
NATIVE AMERICAN	0 (0)	0 (0)	0 (0)
TOTAL	11 (17%)	55 (83%)	66 (100%)

# Selections

## Total of 22

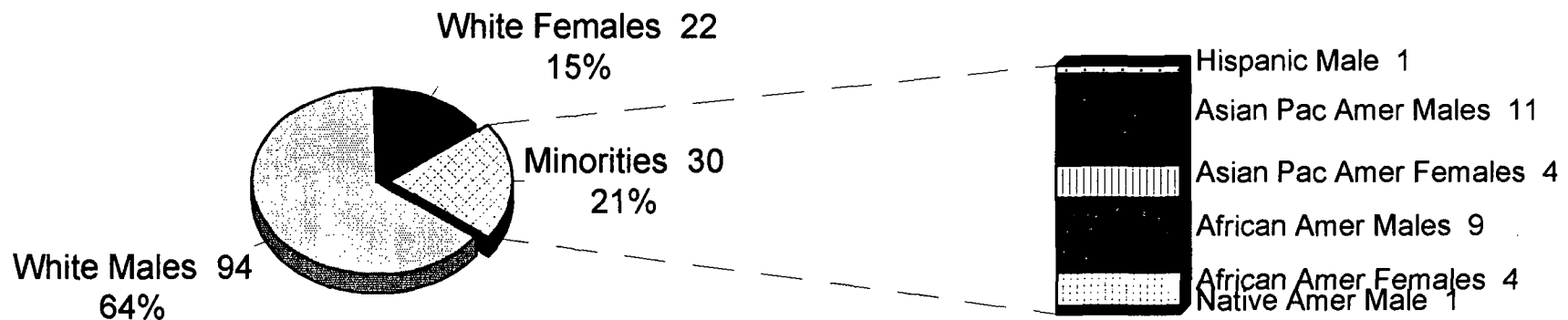


Includes competitive selections for Senior Executive Service and nonbargaining unit GG-15 positions from internal and external sources.

Data for 10/01/96 - 09/30/97

# Best Qualified Applicants

## Total of 146

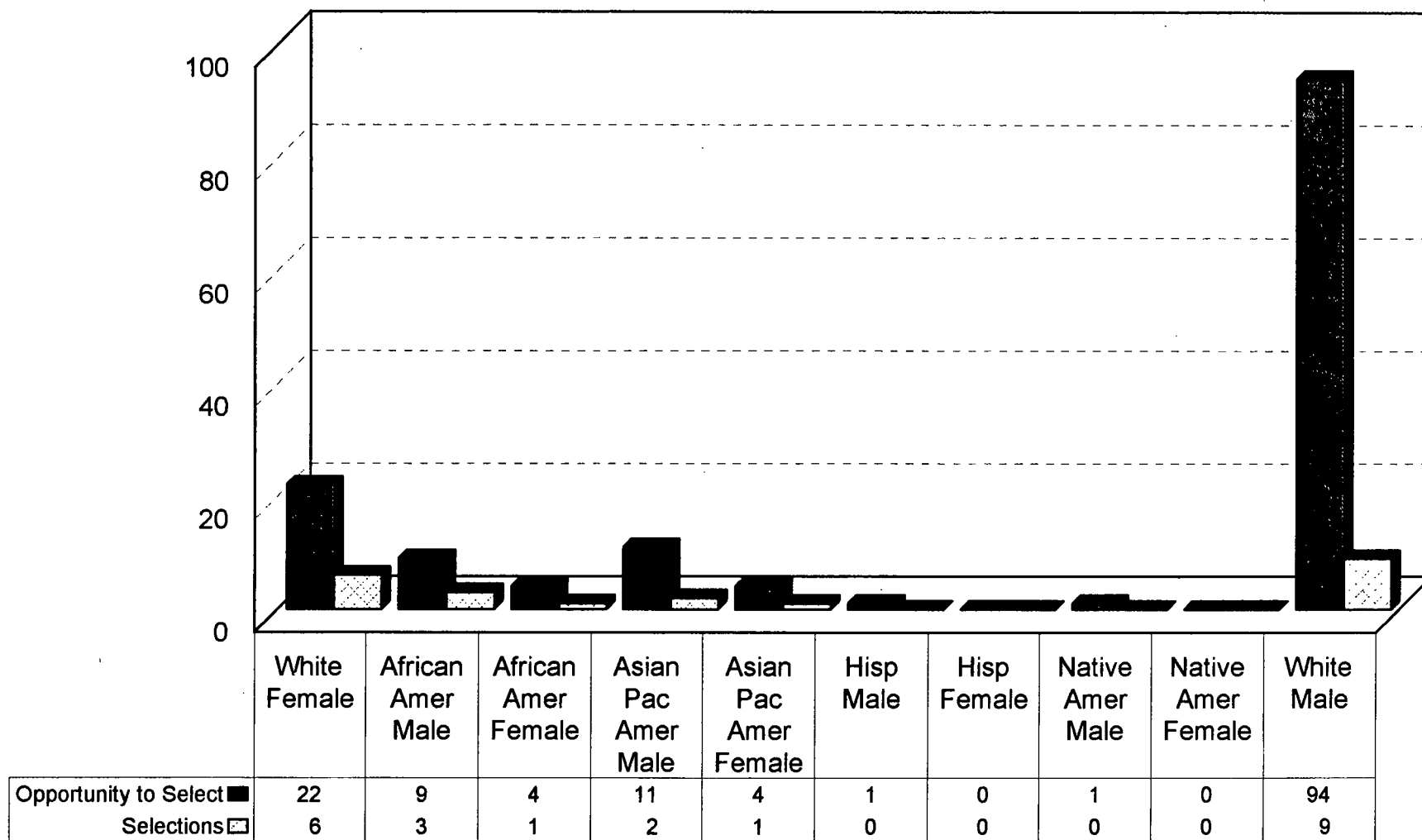


Includes internal and external applicants on Best Qualified Lists for Senior Executive Service and nonbargaining unit GG-15 positions filled competitively.

Data for 10/01/96 - 09/30/97

# Distribution of Selections Based on the Opportunity to Select

## 10/01/96 - 09/30/97



Includes Senior Executive Service and nonbargaining unit GG-15 positions filled competitively.

Data for 10/01/96 - 09/30/97



## **POLICY ISSUE** **(Information)**

August 29, 1997

SECY-97-197

**FOR:** The Commissioners

**FROM:** L. Joseph Callan  
Executive Director for Operations

**SUBJECT:** EQUAL EMPLOYMENT OPPORTUNITY (EEO) BRIEFING

**PURPOSE:**

To inform the Commission of the status of the Equal Employment Opportunity (EEO) Program at the NRC.

### **BACKGROUND:**

The Energy Reorganization Act of 1974, as amended, requires the NRC Executive Director for Operations (EDO) to report to the Commission at semi-annual public meetings on the problems, progress, and status of the Agency's Equal Employment Opportunity (EEO) program. For the next briefing scheduled for October 14, 1997, the staff is providing a report that includes EEO accomplishments for the period October 1, 1996, to June 30, 1997 (Attachment 1). In response to the March 7, 1997, Staff Requirements Memorandum (Attachment 2), the report also includes statements by Carl J. Paperiello, Director, Office of Nuclear Materials Safety and Safeguards; Karen Cyr, General Counsel; and Arthur W. Beach, Regional Administrator, Region III; on the

**CONTACT:**  
Irene P. Little, SBCR  
(301) 415-7380

Paul E. Bird, HR  
(301) 415-7516

**SECY NOTE: TO BE MADE PUBLICLY AVAILABLE  
IN 5 WORKING DAYS FROM THE DATE OF THIS PAPER**



implementation of EEO program policies within their respective organizations (Attachment 3). In addition, the report includes a joint statement from the six EEO Advisory Committees that contains status reports of three EEO Subcommittees and a separate statement by the Joint Labor Management Equal Employment Opportunity (JLMEEEO) Committee (Attachment 4). Also included in Appendix A to Attachment 4 are staff responses to recommendations from the Committees and Subcommittees.

## **DISCUSSION:**

### **A. STATUS OF THE AGENCY'S EEO PROGRAM**

Since the last EEO briefing in February 1997, the staff has continued its ongoing assessment of the EEO program within the Agency. As a result of this assessment, **the staff has initiated efforts to update the affirmative action plan** to include requirements established by Equal Employment Opportunity Commission (EEOC) guidance, EEO initiatives developed for regional and program offices, and the affirmative action focus areas that we traditionally report on during our semi-annual briefing of the Commission. This plan will undergird all affirmative action and EEO activities within the Agency and provide the basis for assessing the performance of managers in the EEO area. Our goal is to complete this plan early in the first quarter of FY 1998.

**The staff has also renewed its plan to implement a Managing Diversity process in the Agency.** This is a process by which the Agency will examine and assess its organizational culture/climate, and modify the Agency's human resource and management system, as appropriate, to effectively manage its culturally diverse workforce and improve regulatory effectiveness. This is a long-term initiative designed to create and maintain an environment in which every employee is valued and will work cooperatively to do his or her best work. The Agency is undergoing mission, resource, and organizational change. The implementation of a Managing Diversity process can assist managers and employees in managing change effectively and in adjusting to a shift in organizational culture by addressing policies, procedures, and practices that either hinder or facilitate achievement of Agency goals. Our goal is to initiate implementation of a Managing Diversity process in the first quarter of FY 1998.

**We continue to place a high priority on maintaining an effective EEO complaint process.** Our primary goal is to work with managers and employees to eliminate any valid basis for complaints. However, for employees who believe they have been subjected to unlawful discrimination, we maintain a cadre of 34 EEO counselors throughout the Agency. These counselors are trained to work with employees and managers in efforts to resolve issues that could lead to EEO complaints. In June of this year, staff conducted its annual training for the EEO counselors. This training is intended to inform counselors of the latest changes in policies, practices, and EEO case law, and to provide a "lessons learned" forum to improve the overall counseling program. A review of counseling activities to date in FY 1997 indicates a continuing effective program (i.e., of 94 employees counseled, only 8 have filed formal complaints).

Additionally, as part of this overall assessment, **the staff analyzed five years of trend data for women and minority groups in some of NRC's major occupational areas** (Engineers, Health Physicists, Computer Specialists and other administrative positions ), utilizing the 1990 census data and information provided by Oak Ridge Institute for Science and Engineering. While underrepresentation of Hispanics continues in some of our major occupations, representation of women and some minority groups has generally fluctuated from year to year. As an example, for Nuclear Engineers, in FY 1990, Hispanic men were the only underrepresented group, while in FY 1996 only Asian/Pacific American men were underrepresented. For Health Physicists, Asian/Pacific American men and Asian/Pacific American women were the only groups underrepresented in FY 1990, compared to FY 1996 where white women were the only group underrepresented. Because we are dealing with relatively low numbers and, in some cases, there is no representation of some groups in a particular job series (i.e., there are no Native Americans in the Health Physics, Electrical or Mechanical Engineering fields), minor changes in the workforce can significantly alter the representation of a specific group. Underrepresentation of this sort does not warrant focused recruiting of members of particular groups to the exclusion of members of other minority groups. Rather, **we have concluded that a more effective approach is an ongoing outreach and recruitment effort to attract well-qualified women and minority candidates for all groups, to ensure equal opportunity for employment and career advancement.** Training and development programs will be assessed as an integral part of our affirmative action initiatives, as a mechanism to facilitate improving job performance and to provide employees equal opportunity and equal access to training for advancement. We will focus our affirmative action efforts in the following four specific areas:

- (1) Enhancing opportunities for advancement of minorities and women in professional positions.
- (2) Expanding the pool of women and minorities for supervisory, management, executive, and senior level positions.
- (3) Enhancing efforts to attract, develop, and retain disabled employees.
- (4) Improving communication about EEO and affirmative action objectives, improving management responsiveness, and evaluating progress.

**During this fiscal year, we have continued our aggressive recruitment efforts to increase the representation of minorities and women in the workforce.** (Table 1 shows the demographic profile of the Agency's permanent staff.) Contacts were maintained with member colleges of the Hispanic Association of Colleges and Universities and with Historically Black Colleges and Universities in efforts to recruit Hispanic and African American entry-level employees. Contacts have also been made with the American Indian Service and Engineering Society (AISES) to identify Native Americans for positions at all grade levels. We continue to advertise in technical professional publications as well as on the World Wide Web for both entry-level and higher level positions requiring experience. **The Agency continues to recruit for individuals with**

**disabilities** through monthly advertisements in the journal *Careers and the Disabled* and participation in conferences and job fairs targeting persons with disabilities.

**During the first nine months of FY 1997, approximately 100 employees participated in developmental rotational assignments.** Staff from the Office of Human Resources (HR) and the Office of Small Business and Civil Rights (SBCR) participated in brokering many of these assignments, and HR continues to publicize rotational assignments in the Weekly Announcements to inform all employees of the opportunities available. To help employees define their career goals, develop strategies for enhancing career options, and prepare Individual Development Plans, HR continues to provide the Career Counseling Program.

From the beginning of the fiscal year through June 30, 1997, **approximately 25 percent of hires for professional positions were female or minority.** Seven of the 66 individuals hired during this period for professional positions are white women, 49 are white men, three are African American men, four are African American women and three are Asian/Pacific American men. One Asian/Pacific American man was selected for the Resident Inspector Development Program, and one white woman for the Graduate Fellowship Program. Five employees were selected for Senior Level Service (SLS) positions, including two white men, one white woman, one Asian/Pacific American man, and one African American woman. Of 12 employees moving into the SES, eight are white men, one is a white woman, one is an African American woman, and two are African American men. Twenty-five employees moved into supervisory positions: 19 are white men, three are white women, two are African American men, and one is an African American woman. (Tables 2-4 show a demographic profile of SES, SLS, and Supervisors/Managers in the Agency.)

During the last briefing, **the Commission suggested that consideration be given to implementing the SES development and supervisory programs on a more systematic basis in concert with work force needs.** As part of an executive succession planning initiative, Office Directors and Regional Administrators will annually identify SES positions in their offices that they anticipate may become vacant. **The Office of Human Resources will then assess Agency-wide replacement needs and recommend whether the SES Candidate Development Program should be offered. A similar assessment will be made regarding activation of the Supervisory Development Program.** (A more detailed summary of EEO accomplishments since September 30, 1996, follows in Attachment 1.)

## **B. RESPONSE TO THE MARCH 7, 1997, STAFF REQUIREMENTS MEMORANDUM**

Following the last briefing on February 20, 1997, the Commission requested, through a Staff Requirements Memorandum, that the next Commission briefing include a presentation by Office Directors on implementation of EEO program policy. **Specifically, the Commission requested that the Office Directors address topics concerning preselection, development of management skills, and evaluation of those skills as part of job performance.** In response to this request, three Office Directors have provided statements as part of this report, and will

address implementation of EEO policy within his or her respective organization during the Commission briefing. Additionally, the staff has reviewed the issues of preselection, development of management skills, and evaluation of these skills as part of job performance. A brief discussion on each issue follows.

### Preselection

We understand the staff's concerns about preselection, especially as they relate to merit selections. While NRC follows merit staffing policies and procedures included in Management Directive 10.15 and applicable portions of the Collective Bargaining Agreement, apparently some employees remain skeptical as to the fairness of this system. In an effort to respond to these concerns, **HR has expanded its review of vacancy announcements, including the rating factors, to ensure that the factors are not too narrowly crafted but are as broad as the requirements of the position will permit.** Also, explanatory language is now added to all vacancy announcements to assist applicants in addressing the rating factors. This practice should yield a broader, more diverse range of applicants for many positions.

**We have recently launched an agency-wide initiative to revise position descriptions (PD) to ensure that they accurately reflect the current duties and responsibilities of the positions.** This should help eliminate any inconsistency between rating factors/rating criteria and job duties. Furthermore, in order to address the specific areas which impact the perception of preselection, based on recommendations from the Selection Subcommittee, **we have adopted a merit staffing checklist to assist management officials in thinking through the merit selection process in the early stages, so that selection criteria are not unduly restrictive and candidates are able to compete in a fair and equitable manner.** (A more detailed explanation and a copy of the checklist are contained in Attachment 4.)

### Management Skills

The Agency recognizes the major role that line managers play in implementing EEO program policies and in achieving EEO goals. **We have instituted several agency-wide initiatives to develop management skills.** For instance, since December 1996, HR has been offering a course, "Effective Management Participation in Merit Staffing," that provides information about merit staffing policies and procedures. This course, which has been presented five times at Headquarters and three times at Regional Offices, includes guidance for selecting officials in providing constructive feedback to nonselected job candidates. The course has been attended by supervisors and employees involved in the selection process as well as by representatives of the EEO Advisory Committees. The Agency intends to continue offering this course so that supervisors and rating officials can be more knowledgeable about merit selection procedures and are better prepared to provide constructive feedback to job candidates.

**Two years ago, the Agency instituted an annual continuous learning requirement focused on improving managerial knowledge, skills, and abilities. This year HR and the Office of**

**the Chief Financial Officer (CFO) are developing a curriculum to enhance the program and resource management skills of NRC supervisors and managers. Similarly HR and the Office of the Chief Information Officer (CIO) will be developing an information technology curriculum for executives.** Another initiative, Executive Succession Planning, will be used to identify and assess the management skills and competencies needed for successful executive performance. The Agency will initiate appropriate planning to ensure that there is a cadre of highly-qualified replacements for higher level executive positions, as well as continue to invest heavily in management and executive development through participation in such programs as the Women's Executive Leadership Program, the Supervisory Development Program, the SES Candidate Development Program, the Supervisory and Managerial Development Curriculum, the Federal Executive Institute, and the Management Development Centers. The Office of Human Resources continuously assesses executive staffing needs to determine the appropriate time to offer another SES Candidate Development Program and Supervisory Development Program.

#### Evaluation of Management Skills as Part of Job Performance

Evaluation of management skills as part of job performance is accomplished institutionally through the performance appraisal process. Performance evaluation is an ongoing process, which as a minimum requires the establishment of performance elements and standards at the beginning of the appraisal period, a mid-year performance review discussion, and a formal discussion at the conclusion of the appraisal period when appraisals are completed and conveyed by executives and managers to their subordinate supervisors. For Senior Executives, management effectiveness, including effectiveness in accomplishing EEO goals and objectives, has been a critical element in performance plans throughout the Federal government since the implementation of SES performance plans in 1979. **This year at the NRC, performance elements and standards for evaluating executives were extensively revised to reflect more emphasis on contributions to organizational effectiveness as well as outcomes achieved.**

#### **C. ACTIVITY OF THE EEO ADVISORY COMMITTEES**

The staffs of SBCR and HR worked closely with members of the six EEO Advisory Committees and the JLMEEEO Committee to reach consensus on three areas of primary concern to the EEO Advisory Committees. These areas are: (1) the perception of preselection, (2) implementing a managing diversity process, and (3) monitoring the programs which are already in place to facilitate equal employment opportunity. Three Subcommittees of the Advisory Committees agreed to review and report on these three areas. Since the last Commission briefing, **the Advisory Committees, the Subcommittees, and the JLMEEEO Committee have made considerable progress in the review of these issues and have developed several recommendations for consideration by Agency management.** Some of these recommendations have been adopted, others require further review, and some will not be adopted at this time. Significant recommendations agreed upon for implementation are:

- (1) Utilization of a merit staffing checklist designed by the Selection Subcommittee to assist management officials in addressing the steps in the merit selection process to assure that selection criteria are not unduly restrictive and that candidates are considered in a fair and equitable manner.
- (2) Implementation of a managing diversity process. The Managing Diversity Subcommittee supports the Agency's goal to effectively manage a culturally diverse work force as it adjusts to mission and resource changes and improves regulatory excellence.
- (3) To the extent possible, continuation and enhancement of initiatives and programs, such as the SES Candidate Development Program, Computer Science Development Program, the Intern Program, which are designed to support the Agency's mission through development of its employees.
- (4) Publication of additional information for all employees on the merit staffing process, including guidance for addressing rating factors and a contact person from HR to answer questions regarding the process.

A complete list of Committee and Subcommittee recommendations are included in Attachment 4.



L. Joseph Callan  
Executive Director  
for Operations

- Attachments:
1. EEO Accomplishments for the period October 1, 1996 to June 30, 1997
  2. March 7, 1997, Staff Requirements Memorandum
  3. Statements by Carl J. Paperiello, D/NMSS; Karen Cyr, OGC; and Arthur W. Beach, RGN-III/ORR
  4. Joint Statement by EEO Advisory Committees and their three Subcommittees, a Statement by the Joint Labor Management EEO Committee, and Staff Responses to Committee and Subcommittee Recommendations

**DISTRIBUTION:**

Commissioners  
OGC  
OCAA  
OIG  
OPA  
OIP  
OCA  
ACRS

ACNW  
ASLBP  
CIO  
CFO  
EDO  
REGIONS  
SECY

Tables 1-4

# **PERMANENT STAFF - ACTIVITY IN FY 1997**

ETHNICITY/GENDER	AGE UNDER 40	AGE 40 AND OVER	TOTAL ON BOARD AS OF 6/30/97	CHANGES IN FY 97 TO DATE		
				INCREASE	DECREASE	NET CHANGE
WHITE						
MEN	331	1284	1615	51	75	-24
WOMEN	228	575	803	19	35	-16
TOTAL	559	1859	2418	70	110	-40
AFRICAN AMERICAN						
MEN	35	82	117	3	1	2
WOMEN	102	162	264	8	6	2
TOTAL	137	244	381	11	7	4
ASIAN PACIFIC AMERICAN						
MEN	18	132	150	3	1	2
WOMEN	20	27	47	0	1	-1
TOTAL	38	159	197	3	2	1
HISPANIC						
MEN	17	24	41	1	1	0
WOMEN	9	14	23	1	3	-2
TOTAL	26	38	64	2	4	-2
NATIVE AMERICAN						
MEN	0	4	4	0	0	0
WOMEN	1	2	3	0	0	0
TOTAL	1	6	7	0	0	0
SUMMARY						
MEN	401	1526	1927	58	78	-20
WOMEN	360	780	1140	28	45	-17
TOTAL	761	2306	3067	86	123	-37

## NOTES

ALL DATA CURRENT TO 6/30/97

AGES COMPUTED AS OF 6/30/97

Table 1



SES STAFF - ACTIVITY IN FY 1997						
ETHNICITY/GENDER	AGE UNDER 40	AGE 40 AND OVER	TOTAL ON BOARD AS OF 6/30/97	CHANGES IN FY 97 TO DATE		
				INCREASE	DECREASE	NET CHANGE
WHITE						
MEN	3	144	147	8	13	-5
WOMEN	3	13	16	1		1
TOTAL	6	157	163	9	13	-4
AFRICAN AMERICAN						
MEN	1	6	7	2		2
WOMEN		1	1	1		1
TOTAL	1	7	8	3	0	3
ASIAN PACIFIC AMERICAN						
MEN		5	5			
WOMEN						
TOTAL		5	5	0	0	0
HISPANIC						
MEN		2	2			
WOMEN						
TOTAL		2	2	0	0	0
NATIVE AMERICAN						
MEN						
WOMEN						
TOTAL			0	0	0	0
SUMMARY						
MEN	4	157	161	10	13	-3
WOMEN	3	14	17	2	0	2
TOTAL	7	171	178	12	13	-1
NOTES						
ALL DATA CURRENT TO 06/30/97						
AGES COMPUTED AS OF 06/30/97						

Table 2

SENIOR LEVEL STAFF - ACTIVITY IN FY 1997							
ETHNICITY/GENDER		AGE UNDER 40	AGE 40 AND OVER	TOTAL ON BOARD AS OF 6/30/97	CHANGES IN FY 97 TO DATE		
					INCREASE	DECREASE	NET CHANGE
WHITE							
	MEN	1	28	29	2	3	-1
	WOMEN	1	3	4	1	1	0
	TOTAL	2	31	33	3	4	-1
AFRICAN AMERICAN							
	MEN		1	1	0		0
	WOMEN		1	1	1		1
	TOTAL		2	2	1		1
ASIAN PACIFIC AMERICAN							
	MEN		3	3	1		1
	WOMEN		1	1			
	TOTAL		4	4	1	0	1
HISPANIC							
	MEN						
	WOMEN		1	1			
	TOTAL		1	1	0	0	0
NATIVE AMERICAN							
	MEN						
	WOMEN						
	TOTAL			0	0	0	0
SUMMARY							
	MEN	1	32	33	3	3	0
	WOMEN	1	6	7	2	1	1
	TOTAL	2	38	40	5	4	1
NOTES							
ALL DATA CURRENT TO 6/30/97							
AGES COMPUTED AS OF 6/30/97							

Table 3

SUPERVISORS AND MANAGERS - ACTIVITY IN FY 1997						
ETHNICITY/GENDER	AGE UNDER 40	AGE 40 AND OVER	TOTAL ON BOARD AS OF 6/30/97	CHANGES IN FY 97 TO DATE		
				INCREASE	DECREASE	NET CHANGE
WHITE						
MEN	14	307	321	19	36	-17
WOMEN	6	47	53	3	7	-4
TOTAL	20	354	374	22	43	-21
AFRICAN AMERICAN						
MEN	1	16	17	2	2	0
WOMEN	1	11	12	1		1
TOTAL	2	27	29	3	2	1
ASIAN PACIFIC AMERICAN						
MEN		15	15			
WOMEN		4	4			
TOTAL		19	19	0	0	0
HISPANIC						
MEN		5	5			
WOMEN		1	1			
TOTAL		6	6			0
NATIVE AMERICAN						
MEN		1	1			
WOMEN			0			
TOTAL		1	1			0
SUMMARY						
MEN	15	344	359	21	38	-17
WOMEN	7	63	70	4	7	-3
TOTAL	22	407	429	25	45	-20
NOTES						
ALL DATA CURRENT TO 6/30/97						
AGES COMPUTED AS OF 6/30/97						

Table 4

**EEO ACCOMPLISHMENTS FOR THE PERIOD OCTOBER 1, 1996 TO JUNE 30, 1997**

## **1. ENHANCING OPPORTUNITIES FOR RECRUITMENT/ADVANCEMENT OF WOMEN AND MINORITIES IN PROFESSIONAL POSITIONS**

The Agency utilizes various methods of advertising to recruit for entry level and higher level positions requiring work experience. In coordination with the National Association of Colleges and Employers, we advertise for entry level engineers and scientists through a network that extends to 1600 colleges and universities nationwide. Additionally, recruitment brochures and job applications are furnished to career service offices at 170 colleges and universities (including several colleges having significant minority enrollment).

For minorities and women with work experience, vacancies are announced through the Federal Research Service, the Office of Human Resources (HR), and on the World Wide Web, as well as in journals and newspapers.

More than 50 employees were enrolled in the three developmental programs for secretaries, clerical employees, and administrative assistants. HR provided career guidance and IDP assistance to several of these employees.

NRC participated in the Women's Executive Leadership (WEL) Program, a developmental program that helps prepare high-potential Federal employees at the GG-11/12 level for future leadership positions. During this period NRC supported two white women and two Hispanic men in the WEL Program. Two white women and one African American woman were selected in June for the 1997-1998 WEL Program.

During the first nine months of FY 1997, 66 employees were assigned or hired into professional positions. Included in that number are 7 white women, 49 white men, 3 African American men, 4 African American women and 3 Asian/Pacific American men.

During FY 1997 we completed selections for rounds two and three of the Resident Inspector Development Program. A total of twenty-two selections were made (ten in the first round and twelve in the second round). All selectees are white male. In an effort to attract more women and minorities for this program, round three included advertisements in *MAES*, *Minority Engineer*, *Women Engineer*, *Society of Women Engineers*, *Power Engineering and Nuclear News*. Future advertisements will appear in *Hispanic Engineer*, *U.S. Black Engineer*, *Winds of Change*, *Diversity and Careers in Engineering*, *Journal of the NTA* and *NSBE Journal*.

In FY 1997, the Agency recruited for the NRC Graduate Fellowship Program. Thirty-nine eligible candidates applied (24 white men, two white women, one Hispanic man, three African American women, two African American men, two Asian/Pacific American women, one Asian/Pacific American man, one Native American woman and three men who did not self identify); of the 39, 11 (eight white men, one white woman, one Asian/Pacific American man and one Asian/Pacific American woman) were selected for in-person interviews with NRC officials (one white man declined to be interviewed). Of those interviewed one white woman and one white man were selected.

To date, we have attended three recruitment events to attract Native American applicants. These events were sponsored by colleges and universities or regional chapters of the American Indian Science and Engineering Society (AISES). On April 11-13, 1997, we attended the 1997 Region IV AISES Conference in Rochester, New York. We will attend the Annual AISES Conference in November of this year. Advertisements were placed in four journals targeting Native American candidates.

We have contacted a local representative of AISES to explore cooperative education program possibilities. Given the relatively small population of Native Americans in engineering and science, our strategies for the upcoming year will focus strongly on development of our relationship with AISES and individual contact with Native American students and professionals. In addition, we have obtained a list of universities with high percentages of Native American engineering graduates and will add them to our recruitment schedule starting in the Fall of 1997. We also plan to send the universities recruitment material and place advertisements in their campus publications.

We attended 13 recruitment events to attract Hispanic applicants. These events were sponsored by colleges and universities or regional chapters of the Society of Hispanic Professional Engineers, the Hispanic Association of Colleges and Universities, the National Association of Hispanic Executives (NAHFE), or other Hispanic organizations. The primary goal of NAHFE is to enhance opportunities for Hispanic Americans to serve in high level positions in the Federal sector.

Data provided by the Engineering Workforce Commission of the American Association of Engineering Societies helped us to identify other colleges with a high number of Hispanic engineering graduates. We are targeting these schools for recruitment through campus visits, mailings, and advertisements placed in campus publications.

For entry-level professional positions, we are recruiting at educational institutions that are members of the Hispanic Association of Colleges and Universities (HACU), Historically Black Colleges and Universities (HBCU), and at campuses with significant diversity among their graduating engineers and scientists. Women and minority professional employees serve as members of recruitment teams. Recruitment visits include attendance at career fairs as well as networking with engineering and science faculty and societies on campus.

Oak Ridge Institute for Science and Education (ORISE) sent NRC Graduate Fellowship Program information to students and faculty from the NRC HBCU Faculty/Student Research Participation Program. Included in this list are students who may have an interest in health physics and nuclear engineering. Additionally, a direct national mailing was made to more than 600 science and engineering faculty at HBCUs and HSIs. Program announcements were sent to the campus newspapers and placement offices. Presentations, including discussion of the NRC Graduate Fellowship Program, were made to the Nuclear Engineering Department Heads and to Academic Directors of Health Physics Programs.

## **2. EXPANDING THE POOL OF WOMEN AND MINORITIES ELIGIBLE FOR SUPERVISORY, MANAGEMENT, EXECUTIVE, AND SENIOR LEVEL POSITIONS**

The pool of women and minority employees eligible for supervisory, management, executive, and Senior Level positions decreased from October 1, 1996 to June 30, 1997. The number of women in grades GG-13 through GG-15 decreased from 431 to 425, but minorities at the same grade levels increased from 345 to 346.

As of June 30, 1997, the number of women in the Senior Executive Service (SES) increased 13% to 17 and the number of minorities in the SES increased 25% to 15. Also as of June 30, 1997, the total number of employees in Senior Level Service (SLS) positions was 40, including 29 white men, 4 white women, 1 African American man, 1 African American woman, 3 Asian/Pacific American men, 1 Asian/Pacific American woman and 1 Hispanic woman.

The Executive Resources Board Group continued its activities during FY 1997, reviewing Best Qualified Lists for 11 GG-15 positions, one SLS position, and 12 SES positions and bringing to the attention of Office Directors and Regional Administrators their responsibility to ensure that selecting officials provide appropriate consideration to well-qualified minority and women applicants.

## **3. ENHANCING OPPORTUNITIES FOR ATTRACTING, DEVELOPING, AND RETAINING DISABLED EMPLOYEES**

We continue to recruit for persons with disabilities. During this fiscal year, contacts were made with potential applicant sources including the President's Committee on Employment of People With Disabilities (Internet), Job Ready Disabled Veterans Connection, "Able Beneficiaries' Link to Employees," Job Accommodation Network, National Association of the Deaf, National Information Center on Deafness, American Foundation for the Blind and the Lighthouse, Inc. Advertisements were placed in professional magazines and newspapers. Several applications were received from various sources. These applications are referred to appropriate program offices for consideration as vacancies occur.

NRC continues to participate in job fairs and attend conferences for persons with disabilities. Vacancy announcements are sent to colleges and universities and state rehabilitation service offices. We continue to provide developmental opportunities for persons with disabilities by facilitating their participation in technical and management training. Individual Development Plans are developed for persons with disabilities as part of the Agency's career counseling program.

The Program Coordinator who serves as the primary contact for employees with disabilities also serves as liaison with other NRC offices to provide reasonable accommodation services when

required by persons with disabilities. During FY 1997, the Agency undertook a variety of actions which directly benefitted employees with disabilities. These actions include:

- o Installation of automatic door opening devices in OWFN and TWFN
- o Modification of bathrooms in TWFN
- o Purchase of 7 ergonomic chairs, 6 ergonomic keyboards, 8 ergonomic wrist pads, three 17" computer monitors for visually impaired employees, and 1 TTY service for a hearing impaired employee.

#### **4. IMPROVING COMMUNICATION ABOUT EEO AND AFFIRMATIVE ACTION OBJECTIVES, IMPROVING MANAGEMENT RESPONSIVENESS, AND EVALUATING PROGRESS**

The Deputy Executive Director for Management Services accompanied by the Director of SBCR, the Director of HR, and the Director of Administration visited Region III which was the first of four planned visits to the Regional offices. The purpose of the visit was to discuss goals and objectives of the three offices. Meetings were held with the Regional Administrator and principal staff and with all employees.

The Director, SBCR, met with all office directors and has started meeting with division directors to discuss the goals and objectives of the Agency's EEO program, and ways to support the specific goals. The Director, SBCR, also visited Region I and discussed EEO initiatives/goals and ways to achieve these goals.

During the first six months of FY 1997, SBCR and the EEO Advisory Committees sponsored several special events and exhibits to communicate and publicize contributions made by women and minorities. Speakers included Dr. Carolyna Smiley-Marquez to celebrate the heritage and rich culture of the Native Americans during Native American Heritage Month; Dr. Dennis Kimbro to commemorate the life of Dr. Martin Luther King, Jr.; Ms. Gwendolyn Boyd to celebrate national Black History Month; Dr. Audrey Nelson-Schneidner along with a dramatic presentation of Sojourner Truth's speech by Ms. Janie Taylor to commemorate national Women's History Month; and Dr. Susan Bean along with the Manipuri Dancers to celebrate Asian Pacific American Heritage Month. Poster exhibits were featured for each of these events as well as for National Hispanic Heritage Month, Women's Equality Day, and National Disability Awareness Month.

Career awareness seminars were sponsored in December 1996, and in April 1997. SBCR, the Hispanic Employment Program Advisory Committee, and the Office of Nuclear Materials Safety and Safeguards jointly sponsored "Career Strategies" seminars, which provided participants with the tools necessary to "Manage Multiple Priorities." In June 1997, SBCR sponsored a career seminar focusing on the skills needed to "Strive and Survive" in today's market.



The Federal Women's Program Advisory Committee held an employee constituency meeting in January 1997 to provide an overview of the Committee's role and responsibilities, to introduce the committee members, and to identify employee concerns. The regions participated in this meeting via conference call. As a result, all Advisory Committees are soliciting input from and interacting on a regular basis with regional liaisons. Three EEO subcommittees were formed to address specific areas of concerns jointly identified by the seven EEO Advisory committees. The specific concerns are merit staffing, performance monitoring, and managing diversity. The three subcommittees have worked closely with SBCR and HR to gain a better understanding of the Agency's human resources/EEO/Affirmative Action programs, policies, and procedures; to gain consensus in addressing issues; and to provide management with recommendations in support of the Agency's goals. Recommendations from the three subcommittees are included in Attachment 4 along with the staff responses to these recommendations. To ensure understanding and sufficient communication of the subcommittee issues and subsequent recommendations, the EEO subcommittees will host an employee meeting to share the results of their joint efforts later this fiscal year.

MARCH 7, 1997, STAFF REQUIREMENTS MEMORANDUM

UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

March 7, 1997

OFFICE OF THE  
SECRETARY

MEMORANDUM TO: L. Joseph Callan  
Executive Director for Operations

FROM: John C. Hoyle, Secretary

SUBJECT: STAFF REQUIREMENTS - BRIEFING ON EEO PROGRAM  
(SECY-97-021), 10:00 A.M., THURSDAY, FEBRUARY  
20, 1997, COMMISSIONERS' CONFERENCE ROOM, ONE  
WHITE FLINT NORTH, ROCKVILLE, MARYLAND (OPEN  
TO PUBLIC ATTENDANCE)

The Commission was briefed on the EEO program by the NRC staff and representative members of NRC's EEO advisory committees. The Commission requested that the next EEO briefing be expanded to include a panel of office directors to brief the Commission on their implementation of EEO program policies, including topics concerning pre-selection, development of management skills, and evaluation of those skills as a part of job performance. The Commission also suggested that consideration be given to implementing the SES development and supervisory development programs on a more systematic basis in concert with work force needs.

(EEO) (OP/SBCR)

(SECY Suspense: 8/29/97) 9700046

cc: Chairman Jackson  
Commissioner Rogers  
Commissioner Dicus  
Commissioner Diaz  
Commissioner McGaffigan  
OGC  
CIO  
CFO  
OCA  
OIG  
Office Directors, Regions, ACRS, ACNW, ASLBP (via E-Mail)  
PDR - Advance  
DCS - P1-24

STATEMENTS BY CARL J. PAPERIELLO, DIRECTOR, OFFICE OF NUCLEAR  
MATERIALS SAFETY AND SAFEGUARDS; KAREN CYR, GENERAL COUNSEL; AND  
ARTHUR W. BEACH, REGIONAL ADMINISTRATOR, REGION III

Statement by: Carl J. Paperiello  
June 12, 1997

## IMPLEMENTATION OF EEO PROGRAM POLICIES WITHIN NUCLEAR MATERIAL SAFETY AND SAFEGUARDS

My management philosophy is, "Since the essence of a manager's job is to achieve results through the efforts of others, staffing is one of the highest priorities for a manager." The staffing process involves both the hiring and training of the most capable staff resources will permit. Currently, about 25 percent of the Nuclear Material Safety and Safeguard (NMSS) staff have Ph.D.'s and about another 25 percent have master's degrees.

I require any employee who inspects or conducts licensing activities with signature authority to be trained and qualified in accordance with MC 1245 and 1246. I have had these manual chapters revised to ensure they adequately encompass NMSS activities. I require section chiefs to put in place a training plan for all new employees, even if the employee's activities are not specifically covered by the inspection and licensing manual chapters. I personally meet with new employees, during which time I emphasize the importance of the training plan.

All NMSS managers are required to take managerial training as a priority in accordance with the NRC's Mandatory Basic Supervisory Core program. I track completion of all training, managerial and staff, in the NMSS operating plan. Except for those becoming supervisors in the past year, NMSS managers have completed virtually all the required managerial training. New supervisors are completing their training at an acceptable rate. Additionally, in FY 1997 all NMSS managers and supervisors will be required to attend refresher training in the performance appraisal process. I expect that if the results warrant, I will require this refresher training on an annual basis. NMSS is working with the Office of Personnel to develop this training.

Last year standards and elements of all NMSS Section Chiefs were revised to place increased emphasis on management by splitting the standard management element into two elements: one for human resource management and a second for financial and contractor resource management. The practical result is that two of the usual five elements in a Section Chief's appraisal deal with resource management rather than the one in five.

NMSS has initiated a program with the Office of Personnel and the Office of Small Business and Civil Rights to establish liaison with colleges and universities in the Washington, D.C. area to focus on entry level recruiting. This serves to balance the Office with respect to grade level and also recruit well-qualified women and minorities who are well represented in area schools.

To help deal with issues concerning potential preselection, selecting officials are required to discuss with me all GG-14 and GG-15 promotions. All "A" or "best qualified" candidates are interviewed by the selecting official and I require the selecting official to show me an analysis to

support the particular selection. My goal is not to second guess the selecting official but rather to ensure the selection was made in accordance with merit principles. Clearly, more needs to be done. Standardizing and reducing the number of position descriptions, development of standard vacancy announcements and rating factors, and development of performance-based rating criteria are steps needed in this direction.

Finally, I would note that four SES managers in NMSS are women, two are minority males. Of the two senior level positions, one is filled by a woman.

## COMMISSION EEO BRIEFING OFFICE OF THE GENERAL COUNSEL

Recent Commission papers on the NRC EEO Program have focused on (a) Agency efforts to enhance career opportunities for women, minorities and those with disabilities. In addition, at the EEO Commission briefing in February of this year there was specific focus on (b) what can be done to avoid preselection concerns and (c) the development of management skills with the goal of evaluating those skills as part of job performance. OGC is continuing a number of programs and practices that are consistent with the overall Agency effort in these areas.

### Enhancing Career Opportunities for Women, Minorities and Those With Disabilities

OGC believes that rotational assignments are a useful means of enhancing career development. We have encouraged staff members to seek rotational assignments to enhance their knowledge of the Agency's functions and to provide opportunities to interact more frequently with NRC officials outside of OGC. Many women and minority employees in our Office have participated in this program, including those who in recent years served in rotational assignments in NRR, IRM, OP, OC, OE and Offices of Commissioners. Last year, one of our attorneys served on a rotational assignment to the Office of Chairman Jackson. One of the Regional Counsels participated in a rotational assignment with Chairman Jackson and was selected to serve as the Chairman's Legal Assistant. An OGC attorney served a three month rotational assignment to the White House. Two OGC staff members recently participated in the Women's Executive Leadership Program under the auspices of OPM. Among the rotational assignments arranged as part of this program were details to the Department of Justice, an NRC Region and other offices within the Agency. One OGC attorney is currently on rotational assignment to the Office of Small Business and Civil Rights.

The reason we encourage staff members to participate in rotational assignments is to broaden their professional background and enable them to better appreciate the regulatory mission of the Agency in which they serve. Moreover, rotational assignments enhance the ability of the staff to network within and outside the Agency, and to demonstrate their skills to those outside of OGC. The importance of rotational assignments to employee career development is demonstrated by the fact that in the past year three OGC staff members have accepted permanent positions in offices in which they had served on rotation. We are pleased that women and minority staff members are well represented among those who have participated in the rotational assignment program.

Similarly, OGC has accepted on rotation a number of employees from other offices who can contribute to its mission or learn from serving in the Agency's legal office. A staff member from NRR and from OCAA rotated into OGC and contributed significantly to legal support for the

NRC enforcement program. Another employee rotated into OGC and competed successfully for a promotion to a permanent position within the Office.

OGC continues to offer employees a variety of developmental training programs that are designed to enhance their skills and facilitate career advancement. These programs have included paralegal training that provides an opportunity for those in clerical or administrative positions to become certified paralegal specialists. Many women and minority staff members have participated in this program and as a result have become more effective in their current positions. Several have competed successfully at the NRC and elsewhere for paralegal positions. One of our paralegal specialists enrolled in law school. With the Agency paying for certain courses, as appropriate, the employee graduated from law school and is now a licensed attorney qualified to compete for the next appropriate Attorney vacancy in the Agency.

Attorneys in OGC are encouraged to maintain their legal expertise and skills by participating in off-site seminars and conferences. These include courses presented by the Department of Justice, the American Bar Association, the Federal Bar Association and the Office of Personnel Management. Women and minorities are well-represented among the staff attending these courses.

Similarly, women and minority attorneys are among those who recently have availed themselves of the opportunity to take Agency-funded post graduate courses at local law schools in the areas of environmental law and employment law. One of our attorneys participated in a highly acclaimed trial advocacy program sponsored by the National Institute of Trial Advocacy (NITA).

The hallmark of OGC recruitment through the years has been the honor law graduate program. Until this year, the program recently has been "on hold" because of FTE limitations. However, women and minorities are very well represented among the most recent honor law graduates who joined the Agency. These attorneys have performed admirably and contributed significantly to the mission of OGC. As they are promoted to higher grades, it is important that they be provided career opportunities in senior positions in an attempt to encourage them to continue their careers at the NRC. While OGC has reduced the number of supervisory positions in the Office, there remain executive positions as well as several senior level positions to which these attorneys can aspire. To prepare them to compete for these career opportunities in the future, attorneys--including women and minorities--are provided training not only in substantive legal areas but in management and supervision through participation in programs such as the Agency's SES Candidate Development Program, Supervisory Development Program and OPM's Women's Executive Leadership Program.

OGC has a number of attorneys who have disabilities. Through the years, the Office has provided these talented staff members the accommodation needed to allow them to function very effectively in their positions. Whether it be specially designed office space or the purchase of state-of-the-art equipment, the Office's investment in accommodating the special needs of these



employees was a sound one since the Agency continues to benefit from their substantial skill and expertise. Most recently, a senior OGC staff member has suffered from an illness that temporarily made it difficult for him to travel to work. As a result, we were fortunate to be able to set up a state-of-the-art videoconferencing system that in effect enabled him to personally attend meetings with senior OGC management and staff.

OGC takes seriously the goal of the NRC, as re-enforced by President Clinton's formal policy on the subject, to establish a "family-friendly" work environment for its employees. Through the years, as permitted by workload in various segments of the Office, OGC has accommodated those whose family responsibilities require that they convert from full-time to part-time schedules temporarily or, in some cases, permanently. The primary beneficiaries of these flexible approaches have been women. Moreover, on a number of occasions, staff members with pregnancy-related difficulties or particular personal situations have participated in the "work at home" program. We believe that the family-friendly approach OGC has taken through the years has enabled several valuable staff members to remain with the NRC.

#### Avoiding Concerns About Pre-selection

OGC is well aware of concerns that have been expressed recently about pre-selection of staff in the Agency, especially in the context of competitive promotions. We believe that to avoid these concerns, management must cast a broad net in soliciting applicants for competitive promotions. The goal should be a selection process that permits a broad range of applicants to participate. Vacancy announcements and rating criteria should not be crafted so narrowly as to create the appearance that the position is being established for a particular individual.

Last year, OGC posted several Senior Attorney positions at the Grade 15 level. We knew that competition for these positions would be intense. To ensure that the process would not only BE fair, but would be PERCEIVED as fair, we wrote vacancy announcements that were not unduly restrictive and did not unnecessarily require experience in narrow, specific subject areas of the law. The use of well-crafted vacancy announcements, and selection criteria that were substantially related to the day-to-day duties of the position, were instrumental in enabling us to select outstanding applicants for competitive promotion.

All NRC attorneys at the Grade 14 level were provided an opportunity to qualify and compete for these positions--without regard to the specific area of legal expertise each person had developed with the Agency. This is because we have generally found that attorneys with strong legal skills can perform at an outstanding level in many different substantive areas of the law. As a result, we had a broad array of highly qualified candidates from which to select.

We maintain that as a result of our approach to this selection process, each applicant believed

that he or she had a fair opportunity to compete for a Senior Attorney position--an opportunity which has grown increasingly rare in recent years.

We pursued a similar approach with selections for two Grade 14 Attorneys and two selections for positions in the program support area within OGC. We crafted vacancy announcements that focused not simply on what the job required in the past, or what rating factors might apply in other offices or other agencies for this position, but on qualifications and rating factors that are related to the day-to-day duties of the position as they are currently within the General Counsel's office of the NRC.

We are pleased that women and minorities were well represented in the group of applicants who were selected competitively for positions within OGC during the past year.

In sum, with respect to avoiding pre-selection concerns, experience has shown that the use of out-dated or marginally relevant decision criteria have the effect of screening out well-qualified candidates. There are two unfortunate results from this. First, the Agency loses an opportunity to select someone who in reality is highly qualified for the position. Second, those who are not selected based on reasons that are only marginally relevant to the duties of the position may have reason to conclude that the outcome of the selection process was tainted by management's desire to pre-select a particular applicant.

#### Development of Management Skills and Evaluating Those Skills As Part of Job Performance

OGC encourages its managers and supervisors to maintain the skills necessary to effectively lead a modern, computer-assisted Government legal office. Consistent with NRC policy and practice, those currently in SES positions are required to complete 24 hours of training that is designed to hone their management skills. This training is in the form of in-house seminars sponsored by the Office of Personnel, management seminars outside the Agency or self-study at the individual training center maintained by OP. OGC management staff has attended executive training at the highly acclaimed Federal Executive Institute (FEI), the Executive Decision making Program at the National Defense University and leadership seminars at George Washington University. A number of our staff members have attended training in alternative dispute resolution at the Federal Mediation and Conciliation Service and OPM's Management Development Center.

OGC attorneys have participated successfully in the NRC's most recent SES Candidate Development Program and Supervisory Development Program. One of those attorneys serves in a Senior Level position; another is now in a Senior Supervisory Attorney position.

OGC educates its managers about EEO and human resources issues through participation in Agency training and development courses. This includes participation in workshops on sexual harassment prevention, the course entitled "EEO for Managers and Supervisors" and town

meetings on EEO that have been presented by the Office of Small Business and Civil Rights. Managers and supervisors in our office are expected to implement the principles they learn in formal training. How do we determine whether this is happening? In a word, the answer is communication--communication between managers both horizontally and vertically in the OGC organization as well as communication between management and the staff. Through ongoing communication of both an informal and formal nature, we can assess the effectiveness of our management skills. For example, weekly meetings attended by all OGC managers facilitate effective management planning for the future and allow for evaluation of how effective we have been in the past. These meetings, and more frequent interaction among smaller groups of OGC managers, present invaluable opportunities for collegial discussion and resolution of management and human resources issues.

We are attentive to feedback from our staff about how management performance can be improved. This feedback results from staff-management interaction that is both informal and ongoing or may be more formal such as the Labor-Management Partnership process. An example of productive input from employees was a recent suggestion from the OGC Labor-Management Partnership Committee. The Committee suggested a core group of training courses designed to ensure that attorneys are as proficient as possible in performing legal research on-line. As a result, both management and staff are currently taking specially designed mandatory training courses which will enhance attorney efficiency and contain the cost of computerized legal research.

Managers and supervisors are accountable for the quality of their management effectiveness, as reflected in the quality of legal services provided to the Agency by their legal staff. Feedback to managers and supervisors regarding their performance is provided in a number of ways. In addition to ongoing informal feedback as issues arise, performance evaluation of a more formal nature is provided during the mid-year performance review, the annual performance appraisal, the performance awards program and the triennial SES re-certification program.

**IMPLEMENTATION OF EEO PROGRAM POLICIES IN REGION III  
EEO COMMISSION BRIEFING - SEPTEMBER 19, 1997**

**By A. Bill Beach, Regional Administrator**

**First and foremost, Region III is committed to equal employment opportunity (EEO) for all our employees and for all applicants for employment. We fully support the agency's affirmative action objectives and initiatives.**

**Demographics**

**Currently, Region III has 240 full and part-time employees. The following table depicts the workforce demographics by ethnicity and gender. Thirty-four percent of the staff are women and 12% are minorities. Sixty-four percent are between the ages of 40-68 and less than 2% are disabled.**

REGION III PROFILE AS OF JUNE 30, 1997			
ETHNICITY	WOMEN	MEN	TOTAL
African American	5% (13)	1% (3)	7% (16)
Asian Pacific	1% (3)	2% (5)	3% (8)
Hispanic	0.4% (1)	2% (5)	2.5% (6)
Native American	0	0	0
White	27% (64)	60% (146)	87.5% (210)
<b>TOTAL</b>	<b>34% (81)</b>	<b>65% (159)</b>	<b>100% (240)</b>

**During the past year, 21 new employees were hired to work in Region III, including 12 white men, 5 white women, 2 African American men, 1 African American woman, and 1 Hispanic man. During this same period, we promoted 16 employees, including 8 white men, 4 white women, 1 African American man, 1 African American woman, 1 Hispanic man and 1 Hispanic woman. Positions filled by women and minorities include 3 Senior Resident Inspectors. In addition, an African American woman was promoted to the position of Secretary to the Regional Administrator. The region supported 37 rotational assignments to enhance the career development of its managers and staff. Women and minorities were assigned to positions such as Acting Deputy Regional Administrator, Acting Director of the Division of Resource Management and Administration, Acting Chief of the Materials Licensing Branch and Enforcement Specialist.**

### **Ongoing EEO Initiatives**

During the 12 months of my tenure as Regional Administrator, I have communicated the agency's EEO policy and my expectations for implementing this policy to all managers, supervisors and staff. At my request, the Director of the Office of Small Business and Civil Rights met with my management team and staff to discuss EEO status and objectives. In support of this initiative, the Deputy Executive Director for Management Services and her management team, including the Director of the Office of Human Resources and the Director of the Office of Administration came to Region III to discuss EEO and other administrative issues. My plan is to establish this as an annual meeting. To enhance communications further, I require managers and supervisors to discuss EEO issues and initiatives during quarterly performance reviews. This is essential since annual appraisals address the performance of managers and supervisors on the fulfillment of their responsibilities in achieving EEO objectives. We have developed an EEO reference manual for managers and supervisors which consolidates EEO policies, guidance, initiatives and regional demographics.

To systematically enhance career development for regional staff, we are revitalizing the IDP and mentoring programs. I am requiring supervisors and managers to encourage staff to develop IDPs and to ensure that new employees are assigned mentors. To assist them in facilitating these efforts, I am expanding the duties of our Employee Development Specialist to include provisions for individualized advice and assistance to staff on developmental opportunities, including cross training and skill building activities. Additionally, she will be required to monitor the progress of employees in achieving career development objectives. Our support of rotational developmental assignments will continue to be a key factor in this initiative.

With assistance from the Region III EEO Advisory Committee, we are identifying additional recruitment sources for attracting women and minority applicants, including those at the entry level. Our plan is to develop ongoing relationships with faculties, career counselors and professional societies at educational institutions having significant minority representation, to emphasize the NRC's interest in recruiting and hiring women and minorities. Additionally, women and minorities will continue to be included on recruitment teams.

Finally, I am meeting on a regular basis with our personnel staff and on a quarterly basis with members of the regional EEO Advisory Committee to discuss employee concerns and ways to improve the working environment in the region.

### **Actions to Reduce the Perception of Preselection**

We fully support the initiative launched by the Office of Human Resources to review and update position descriptions to accurately reflect current duties and responsibilities of the

positions. Additionally, to avoid the appearance of a Rating Panel that may favor a certain candidate, Region III established a process for an annual rating panel several years ago. On an annual basis the Regional Administrator appoints five "permanent" panel members to serve for a period of one year. In an effort to increase women and minority representation we will extend our panel membership to other regions and NRC headquarters. I am requiring selecting officials to interview all "A" or "best qualified" candidates. I, in turn, review all selections for new hires, promotions, and competitive reassignments before offers are extended to ensure fair and equitable implementation of the agency's merit selection process.

#### **Development and Evaluation of Management Skills**

Twenty-eight of the regions 29 managers and supervisors have completed the formal training requirements outlined in Management Directive 10.77, Employee Development and Training. Additionally, new managers and supervisors are provided a Supervisor Training Syllabus that includes references of all management procedures, including EEO policies and objectives. We require the new manager/supervisor to review these references within six months of being appointed to a supervisory position. Progress on completing the Syllabus is tracked and reviewed monthly to ensure successful and timely completion. In an effort to focus the 24 hours management training requirements on the needs of regional staff, we provide hour courses in the regional office such as "Providing Positive Reinforcement," and "Coaching for Improving Performance." Furthermore, to emphasize the importance of initial and continuing education and to provide a forum for discussion and evaluation of training courses, I have revitalized the regional training council. The council meets on a monthly basis and is chaired by the Deputy Regional Administrator.

To provide individual broadening experiences, and to enhance communications and fairness, Division Directors and Branch Chiefs are rotated between divisions. I have also initiated semiannual management retreats for senior managers and an annual management retreat for Branch Chiefs as additional forums to enhance communication and teamwork.

Finally, we are striving to provide more honest and realistic performance appraisals. I have implemented quarterly performance reviews for all managers/supervisors and staff to improve communication between the groups. The reviews are intended to provide more frequent interactions for discussion of performance strengths and weaknesses, training needs, career development options and EEO initiatives. The result should be greater awareness of individual needs and fewer surprises at the end of the performance rating period.

JOINT STATEMENT BY THE EQUAL EMPLOYMENT OPPORTUNITY ADVISORY  
COMMITTEES AND THEIR THREE SUBCOMMITTEES

STATEMENT BY THE JOINT LABOR MANAGEMENT EQUAL EMPLOYMENT  
OPPORTUNITY COMMITTEE

July 1, 1997

MEMORANDUM TO: Irene P. Little, Director  
Office of Small Business and Civil Rights

FROM: EEO Advisory Committee Chairpersons

SUBJECT: EEO ADVISORY COMMITTEES' JOINT COMMISSION  
BRIEFING STATEMENT

The Equal Employment Opportunity Advisory Committees jointly conduct biannual Commission meetings with the Office of Small Business and Civil Rights (SBCR), Office of Human Resources (HR), and the Commission to discuss progress in implementing the Agency's EEO program.

Since the last Equal Employment Opportunity (EEO) Briefing (SECY-97-021), the EEO Advisory Committees have continued to work with SBCR and HR on the joint strategic plan which established three Subcommittees (composed of members of the Advisory Committees, SBCR, and HR) to address the open Joint Statement Issues (and associated questions) as well as other important issues. To date, progress has been made in the deliberations of these Subcommittees. A report from each of the Subcommittees is included in the attached EEO Advisory Committees' Joint Commission Briefing Statement. Specific issues representing the additional concerns of individual committees are included in Attachment 5.

The mutual cooperation, hard work and improved communications established last year continues among the EEO Advisory Committees, SBCR, and HR. These efforts have resulted in a positive approach to seeking resolution to long-standing issues. We believe a constructive framework has been established to develop policy alternatives that are effective and that address the concerns and interests of all the EEO Advisory Committees.

If you have any questions, please contact José Ibarra at (301) 415-6345.

Attachments: As stated



## EEO ADVISORY COMMITTEES JOINT STATEMENT

Chairman Jackson, Commissioner Dicus, Commissioner Diaz, and Commissioner McGaffigan, Executive Director for Operations, and the Office of Small Business and Civil Rights, the Equal Employment Opportunity Advisory Committees (the Committees) sincerely appreciate the opportunity to express our views and concerns regarding the Nuclear Regulatory Commission's (NRC's) Equal Employment Opportunity (EEO) program. The advisory committees are: Affirmative Action Advisory Committee (AAAC), Advisory Committee for African Americans (ACAA), Asian Pacific American Advisory Committee (APAAC), Committee on Age Discrimination (CAD), Federal Women's Program Advisory Committee (FWPAC), and Hispanic Employment Program Advisory Committee (HEPAC).

On January 27, 1997, the Committees reported in SECY-97-021 on the status of the issues of common interest to all the Committees. The Committees, in consultation with the Office of Small Business and Civil Rights (SBCR) and the Office of Human Resources (HR), have continued to work together to address and resolve the open Joint Statement issues and questions raised by the Committees. In 1996 three Subcommittees were established comprised of members from each of the EEO Committees as well as SBCR and HR. The Subcommittees created were: 1) Performance Monitoring, 2) Managing Diversity, and 3) Selection. A report on each Subcommittee's activities is included in this statement. Specific issues representing the additional concerns of individual committees outside the scope of the Subcommittee efforts are included as attachments to this statement.

### Performance Monitoring Subcommittee Report

Since the last EEO Commission Briefing, the Performance Monitoring Subcommittee has been working actively on the issue of "Monitoring and Evaluation of Affirmative Action Programs" (Issue No. 2 of Joint Statement in SECY-96-157). While the programs/initiatives reviewed were not specifically established to address EEO, and statistics have not been kept regarding the career progression of employees who have participated in these activities, recruiting women and minorities is routinely stressed. As a result of this effort, a diverse group of participants is often identified. The Subcommittee is collecting and evaluating specific data associated with the Agency's programs and initiatives described in SECY-97-021. Review and evaluation of 18 of 34 initiatives are included in this report (Attachment 1). Each evaluation includes a brief description of the program/initiative, and a review of relevant data and demographics. Where appropriate, recommendations are offered.

During the next six months, the Subcommittee will continue to work with SBCR and the Office of Human Resources (HR) to address and evaluate the remaining programs/initiatives and provide recommendations as appropriate.

## Managing Diversity Subcommittee Report

The objective of the Managing Diversity Subcommittee is to encourage senior level management to strategically support and lead the implementation of a **Managing Diversity Process** at the NRC. The goal of this process would be to ensure that the NRC manages change effectively and efficiently, and to create an environment that maximizes the potential of every employee to do his or her best work. We believe the NRC employee is one of the Agency's most valuable assets. Employees who are valued, who believe they are contributing, and who feel good about the organization are more productive. Therefore, Agency objectives should be met without giving unfair advantage or disadvantage to any person or group of persons.

In today's environment of downsizing and streamlining, Federal managers, especially NRC managers, are faced with tremendous challenges to do more with fewer and fewer people and with lower budgets. As a result, it has become more imperative to seek and maintain a highly skilled and competent workforce that enables the Agency to accomplish its mission. Change, as we know, is inevitable and we must take a hard look at the NRC human resource and managerial systems and ask tough questions concerning NRC's ability to maintain its competitive advantage in the workforce. Some questions could be:

Why don't NRC's human resources and managerial systems work naturally to meet the goals of MD?

Given the diverse workforce we have, are we getting the highest level of productivity?

What is the current morale of the NRC and how do employees feel about the Agency?

To address these concerns and assist the transition of the organization into one that is more empowering, we recommend that the NRC support a comprehensive and strategic managerial process to develop *a natural* capability that taps the potential of **all** employees. Affirmative action initiatives and cultural diversity awareness should continue to be valued and maintained by the organization. However, we believe a Managing Diversity Process would assist in bringing about long-term organizational changes that support the changing goals and objectives of the Agency, create an environment that maximizes the potential of all employees, and support regulatory excellence.

In the recent past, senior management began to explore the viability of implementing a Managing Diversity Process at the NRC. On March 1, 1996, Dr. Roosevelt Thomas briefed a select group of top Agency officials and some members of the Strategic Assessment and Rebaselining Steering Committee on the concept of managing diversity. Since this briefing, there have been significant changes in the Commission, in top management, and in the Office of Small Business and Civil Rights. Sustaining the Agency's commitment to ensure equal opportunity for our culturally diverse workforce while promoting support of the Agency's vision and carrying out its mission is essential. A long-term commitment to this goal should be emphasized, and a process identified that symbolizes the level of accountability of the leadership and management at the

NRC. We therefore recommend that further consideration be given to implementing this process at the NRC.

To assist in developing our perspectives, the Subcommittee has been collecting and will be considering information from the National Institutes of Health, the National Aeronautics and Space Administration, Hughes Network Systems, and Hewlett Packard regarding steps they have taken to manage a diverse workforce. Although the process varies in each organization, they believe they have been successful at different stages of the process in emphasizing the imperative nature of maximizing employee potential in a supportive organizational environment.

Our specific recommendations include the following:

1. Conduct a briefing and discussion (by Dr. Roosevelt Thomas) on the concept of managing diversity for top Agency officials and the EEO Advisory Committee and Subcommittee chairpersons.
2. Link the Managing Diversity process to the Strategic Assessment and Rebaselining Steering Committee initiative. (Reference the Multi-Year Implementation Plan)
3. Conduct awareness sessions on the Managing Diversity concept for all supervisors and managers (including executives) and determine if an organizational assessment is needed.
4. Develop strategic steps and follow-through.

We thank the committee members for their joint effort in developing this statement, especially the support from the Office of Small Business and Civil Rights and the Office of Human Resources, and for presenting diverse perspectives in understanding and developing our recommendations.

#### Selection Subcommittee Report

During the February 20, 1997 EEO Briefing, the Selection Subcommittee discussed with the Commission the employees' concern with preselection and the action items the Subcommittee planned to pursue. The Subcommittee members then formed Review Groups, which included SBCR and HR representatives, to study the issues and develop recommendations. We are pleased to inform the Commission on our progress to date.

The first action item we undertook was to establish the magnitude and nature of preselection prevalent at NRC. The Review Group formed for this purpose gathered information on recent instances where preselection seemed to have occurred. These instances occurred in vacancy announcements (restrictive rating factors, biased rating criteria, restrictive qualifications, improper series or title of position), in the formation of rating panels, and in the decisions by Selecting Officials. Based on this review, we concluded that preselection does occur.

A second Review Group studied the merit selection processes in comparable organizations, including Federal agencies, private organizations, and universities. In some organizations, the selection process is made by a panel and the final few candidates are interviewed by three or more individuals, from different offices, to ensure that the best candidate is selected without undue bias from the Selecting Official. We recommend that NRC consider the use of such selection panels, particularly for higher-graded positions. However, we are still in the process of collecting and evaluating data from outside companies on the panel selection process. Creating an absolutely fair selection process is extremely difficult. Some of the organizations used consultants to study and revise their selection policy. We believe that the NRC could benefit from additional information on selection processes from comparable outside organizations, and recommend that such an effort be pursued.

The third Review Group reviewed NRC policies, procedures, and practices related to the merit selection process included in Management Directive 10.15, "Merit Staffing Program," as well as applicable OPM policies and procedures. We concluded that the Management Directive had been carefully written and was adequate to ensure fair selection if followed as intended. We observed, however, that, in certain cases, the Management Directive could be misunderstood or incorrectly applied. We made a number of recommendations on the Management Directive and current selection process. The Review Group, comprised of EEO volunteers and of employees of HR and SBCR with experience in this area, then considered how to modify procedures in order to assure that they comply with the goal of having an effective merit selection process. We are convinced that these modifications would significantly improve both the selection process and employee morale. Among the modifications that we recommend and have set forth in Attachment 2, are that there be a new NRC policy statement concerning preselection, periodic audits of merit selection cases, regular channels for redressing problems, a variety of training improvements, increased management experience in working with diverse groups of employees, more effective career planning, less use of noncompetitive assignments, creation of a standing group from which rating panels would be chosen, and enhanced communication. A proposed Policy Statement on Preselection is included in Attachment 3.

In addition, we developed a Checklist for the HR Specialist to use as a guide in discussions with Selecting Officials prior to posting a vacancy announcement. In order to identify problems, we met with a group of Selecting Officials who reviewed the Checklist and provided input. The Checklist is included as Attachment 4. The Subcommittee believes that these recommendations would significantly improve both the selection process and employee morale.

### Summary Statement

In 1996, the EEO Committees formed a working relationship with SBCR and HR and have continued to work cooperatively on the three Subcommittees. During this period, we have made some progress on the three issues. However, in gathering the data for the analyses and in talking to our constituents, we continue to sense that NRC employees are skeptical as to the fairness of the system intended to provide equal opportunity for all. We are confident the recommendations that we propose to resolve the issues, if implemented, will bring the NRC to a more equitable position. In conclusion, the EEO Advisory Committees appreciate the attention the Commission has given to our concerns.

Jacob Philip, Chairperson, Affirmative Action Advisory Committee (AAAC)

Reginald Mitchell, Chairperson, Advisory Committee for African Americans (ACAA)

Sudhamay Basu, Chairperson, Asian Pacific American Advisory Committee (APAAC)

Sharon Connelly, Chairperson, Committee on Age Discrimination (CAD)

Roxanne Summers, Chairperson, Federal Women's Program Advisory Committee (FWPAC)

Jose Ibarra, Chairperson, Hispanic Employment Program Advisory Committee (HEPAC)

PERFORMANCE MONITORING SUBCOMMITTEE

**Individualized Learning Center**

The Individualized Learning Center offers employees access to training aids designed to enhance their knowledge and skills in a variety of functional areas. The Individualized Learning Center (ILC) has a wide variety of materials that headquarters and regional employees can use for self improvement. Examples of self-paced material include video and audio tapes, computer-based instruction, multiple media training in computer skills, secretarial skills, management/supervision techniques, communication, and more. The Center allows employees to obtain training needed in support of the Agency's mission at a pace conducive to their schedules. The Subcommittee recommends that the Commission instruct the staff to make usage data available for the purpose of future monitoring.

**Graduate Fellowship Program**

The Graduate Fellowship Program supports employees who are recent engineering and science college graduates seeking to obtain advance study and practical work experience in health physics, and specialty engineering disciplines such as nuclear engineering, electrical engineering, criticality engineering, and probabilistic risk assessment. The opportunity to participate in this program is available to these employees based on their academic record and satisfactory performance during the first six to nine months with the NRC. Recruitment efforts to attract interest to this program have been extensive. However, a limited number of minority applicants have requested enrollment in the program. For FY 1995 and FY 1996, 15 employees have participated in the program of which 8 (53%) were white men, 4 (27%) were white women, and 3 (2%) were Asian men. This program enables the Agency to develop advanced skills of technical employees. The Subcommittee recommends the Agency maintain its aggressive recruitment effort to attract minorities and women into the program.

**Technical Management**

The Technical Management Program prepares employees trained and experienced in science or engineering to be proficient in managing technical projects and organizing and supervising technical personnel.

Often technical employees continue to meet additional educational and training goals only in technical areas. This program offers technical staff the opportunity to gain managerial expertise. It is sponsored and managed by Johns Hopkins University, and is made available to all technical staff. For FY 1995 and FY 1996, 25 employees have participated in the program of which 14 (56%) were white men, 2 (8%) were white women, 5 (20%) were African American men, and 4 (16%) were African American women. The Subcommittee recommends the Agency continue to offer this program and enhance advertising and recruitment efforts to attract employees, especially women and minorities.

#### **NRC Senior Fellowship Program**

The Senior Fellowship Program is designed to fill the Agency's critical need for specialized skills for which expertise cannot be readily obtained. Since FY 1995, two requests have been made and two white men were competitively selected: one in FY 1995 for advanced expertise in instrumentation and control; and one in FY 1996 for advanced expertise in fracture mechanics (nondestructive examination). The Subcommittee recommends the Agency enhance employee awareness of the program and make a list available to all employees of disciplines critically needed in support of the mission.

#### **SES Candidate Development Program**

The SES Candidate Development Program is designed to create an available pool of certified graduates to fill SES vacancies. It was last offered in FY 1994 and 23 participants were selected. To date, 14 (61% - 10 white men, 1 African American man, 2 white women, and 1 Asian man) graduates have been placed in senior executive positions and 9 (39%) have not been placed (1 Asian man, 1 African American woman, 2 white women, and 4 white men). Note that 71% of those graduates placed were white men. This program enables a diverse group of employees to develop managerial skills in preparation for assignments to senior executive positions. The Subcommittee recommends a systematic approach to determine when this program should be activated, and enhance recruitment efforts to attract minorities when advertised.

### **Supervisory Development Program**

The Supervisory Development Program is designed to create a pool of graduates to compete for supervisory positions. Completion of this program does not guarantee the participant will receive or be selected for a supervisory position. Graduates will receive a presumptive "A" for supervisory/management knowledge and skill rating factors. This program was last offered in FY 1995 and 27 participants were selected (12 white men, 9 white women, 2 African American women, 1 African American man, 1 Hispanic man, 1 Asian man, and 1 Asian woman). To date, 7 graduates (26%) have been selected for supervisory positions, and 20 (74%) have not been selected. This program enables the Agency to enhance supervisory skills for a diverse group of employees. The Subcommittee supports this program and recommends a systematic approach to determine when this program should be activated and maintain recruitment efforts to attract women and minorities.

### **Intern Program**

The Intern Program is designed to provide structured training and developmental assignments to recent engineering graduates who have limited nuclear-related, industrial, and regulatory experience. This was a 2-year program for recent engineering graduates. During FY 1995 and FY 1996, 38 interns (5 African American women, 4 African American men, 2 Asian/Pacific American women, 3 Asian/Pacific American men, 2 Hispanic women, 2 Hispanic men, 8 white women, 12 white men) were competitively selected to participate in the program. This program provides an excellent opportunity to hire diverse groups of interns, especially minorities and women, and train them in nuclear regulatory/licensee methodology not readily available to the academic community. While selection for participation in this program is merit based, recruiting of women and minorities is stressed, and therefore it is supportive of EEO goals. However, support for this important program has fallen to disturbing levels. This is one of the few tools that have traditionally been used to recruit women and minorities into technical areas. The Subcommittee recommends that support for this program be fully restored.



### **Women's Executive Leadership Program**

The Women's Executive Leadership Program is a 12-month developmental program that provides supervisory/managerial training and developmental opportunities for high potential GG-11/12 employees, both men and women. This program is under the direction of the USDA's Graduate School. For FY 1995 and FY 1996, nine (3 Hispanic women, 1 Asian woman, 1 white man, and 4 white women) employees have participated in the program. This program may enhance the career potential of mid-level employees and recruiting of women and minorities is stressed. The Subcommittee recommends that this program continue to be offered to enhance the career potential of mid-level employees and that it encourage more minority participation.

### **Rotational Process**

The Rotational Process offers employees the opportunity to gain experience that may enhance their career potential, and provides managers with additional resources to meet organizational objectives for a specified period of time. During FY 1996 and FY 1997, approximately 400 employees participated in rotational assignments. The Subcommittee recommends that this process continue to be offered to enhance the career potential of employees, and that backfills for rotations be advertised to assist in identifying potential replacements.

### **Certified Professional Secretary Program**

The purpose of the Certified Professional Secretary Program is to provide an opportunity for administrative staff to take college-level course work in support of professional advancement and to prepare participants for certification examination. Since FY 95, only 4 of 36 (11%) participants have completed the program and attained certification. Programs targeting administrative staff have the potential of supporting EEO goals, as persons filling these positions are more likely to be women and minorities than the professional staff. Given the changing nature of the job of administrative staff at NRC, it is not clear that this program is an effective means of providing appropriate training and experiential opportunities for administrative

staff. Therefore, the Subcommittee recommends that the staff reassess the program to determine if it continues to meet the needs for which it was designed.

#### **Administrative Skills Enhancement Program**

The purpose of the Administrative Skills Enhancement Program initiatives is to provide opportunities for administrative staff to receive specialized training in accounting, budget and finance, contract procurement, personnel, and paralegal. Since FY 95, only 6 of 41 (15%) participants have successfully completed this program. Nearly all of the participants during the monitoring period were women, and about half were minorities. Given the changing nature of the job of the administrative staff at NRC, it is not clear that this program is an effective means of providing appropriate training and experiential opportunities for administrative staff. Therefore, the Subcommittee recommends that the staff reassess the program to determine if it continues to meet the needs for which it was designed.

#### **Computer Science Development Program**

The Computer Science Program offers employees the opportunity to complete college level training in computer technology and provides another source of applicants for computer-related vacancies. During FY 95 and FY 96, 35 participants have enrolled in the program and completed courses at their own pace. All of these participants were women and over half were minorities. This program may provide another source of applicants for computer-related vacancies and offer employees an opportunity to achieve their goals. The Subcommittee recommends that this program continue to be offered to enhance the career potential of employees, especially women and minorities.

#### **Mentoring Program**

The Mentoring Program is designed to pair a more experienced employee who volunteers to assist a less experienced employee with his or her career goals and aspirations. Program objectives include improving the staff member's productivity and potential for advancement, supporting upward mobility and human resource development, improving staff morale,

and helping the Agency meet equal employment opportunity goals. Since FY 1995, approximately 100 participants have volunteered for the program. This program offers another approach to employee training and development. The Subcommittee recommends that this program continue to be offered employees to enhance their career potential.

### **Career Counseling**

Career Counseling offers employees the opportunity to obtain professional career advice in developing personal and professional strategies to achieve career goals. This program is closely linked to the Agency's Individual Development Plan and is conducted in a confidential manner. Since FY 1996, 75 employees have received career counseling. This program assists employees in exploring and focusing on career goals and strategies in support of the Agency's mission. The Subcommittee recommends that the Agency continue to offer this service to help employees focus their careers and enhance their career potential.

### **Student Career-Experience Program (former Coop Program) Student Temporary Employment Program (former Stay-in-School Program) Summer Employment Program:**

The three programs listed above provide students the opportunity to gain experience that is directly related to their educational and potential career goals. Currently, participation in these programs is maintained at low levels due to budget constraints and the overall impacts of downsizing. The program provides a significant source of potential employees, especially women and minorities. Since FY 1995, six students have participated in the Student Career-Experience Program and were assigned to technical duties. Since FY 1995, 18 students have participated in the Summer School Program and were assigned to technical and administrative duties. These programs provide significant sources of potential employees, especially women and minorities. The Subcommittee recommends that the Agency continue to offer these programs to attract student interest for employment considerations in the future and that participants be encouraged to consider full-time employment with the NRC.

## Individual Development Plan

The IDP serves as a tool for employees to use in defining short- and long-term career goals and strategies. The IDP serves as one mechanism to use in the employee development process. Anecdotal evidence suggests that the program is not valued by management and therefore is of little value to employees. The Subcommittee believes some managers support the IDP but many others do not encourage employees to develop their full potential or skills in support of the Agency's mission. Employee initiative and supervisory approval are not enough to make the process effective. Strong management support for the entire process is essential for the success of this program. The Subcommittee recommends that the IDP not only be established, but implemented and maintained on an ongoing basis. The Subcommittee recommends also the Agency continue to offer this process and enhance staff awareness of IDP training sessions made available to offices upon request.

SELECTION SUBCOMMITTEE RECOMMENDATIONS

1. Issue a policy statement by the Commission on the Merit Selection Process, listing those activities that are specifically prohibited.
2. Establish an independent body consisting of representatives from the EEO Advisory Committees and Senior Management to conduct a periodic review of some of the merit selection cases and ensure that Office Directors and the Regional Administrators provide active leadership in the Merit Selection Process.
3. Communicate to all employees the name, telephone number, and E-mail address of the person or group that employees may contact, either informally or anonymously, to register cases of possible discriminatory selection, and ensure that SBCR follows up on these cases.
4. Conduct workshops to inform employees about the Merit Selection Process and the recourse open to employees who have questions about the process.
5. Reinforce the message that the Office of Human Resources has a dual role: both to help the Selecting Official get the best qualified person for the vacancy and to ensure that merit principles are followed.
6. Communicate the importance of several aspects of the Merit Selection Process that do not seem to have been given adequate attention by upper management: up-to-date position descriptions and elements and standards (a situation made worse by constant reorganizations); annual management training requirements; management responsibility for employee career planning and advancement, for example through the use of IDPs; managers who clearly demonstrate good managerial or communications skills; and performance awards based on good managerial and communications skills. Consistent enforcement of these measures would send a signal to both managers and employees that career development for

employees and managerial and communications skills are as important as technical skills.

7. Strongly encourage managers to work with a wider selection of employees, on teams or task forces, as mentors, etc. Special efforts could be made to ensure that managers and supervisors interact more frequently with diverse groups of employees. (The real basis for much of the preselection problem stems from the natural tendency to select a known quantity: someone who has a similar background, who has done similar work, or who has previously worked for or is otherwise known to the rating panel or the selecting official).
8. Consider modifying the Merit Selection Process to encourage more "career planning" for all employees, while maintaining competition as much as possible in the overall process. Use of IDPs is encouraged and used for training but they are not used often enough to help employees move from one job to another.
9. Issue guidance to improve timely communication between management and employees, particularly concerning planned reorganizations. For example, employees who expect to apply for an open position may suddenly discover that it has been abolished.
10. Enforce the limit of 90 days for noncompetitive assignments to higher graded positions. If the position is eventually going to be filled through the competitive process, the vacancy announcement should be posted promptly (not delayed until the 90 days have elapsed). If the position cannot reasonably be expected to be filled in 90 days, supervisors should consider the following to ensure the fair use of temporary promotions: a) rotate several people in the position before posting it, giving each person equal time; b) use a competitive process to decide who should be given the temporary promotion; or c) assign someone at the same grade level.
11. Train Selecting Officials in ways to become informed about and evaluate "nontechnical" skills (e.g., communications, managerial skills) and reinforce the importance of those skills in choosing supervisors and managers.

12. Strongly encourage Selecting Officials to interview all candidates on the Best Qualified List whenever feasible, especially if some of the candidates are unknown to them, or if there are other indications that perception of preselection might be a problem (e.g., one of the Best Qualified candidates has been in the position on a temporary basis while others are unknown to the Selecting Official). Training to enhance interviewing techniques should be encouraged.
13. Require a Selecting Official to choose one of the candidates from the Best Qualified List, unless there are extenuating circumstances for which the Selecting Official has received prior approval from the Director, Office of Human Resources. In that case, the extenuating circumstances should be explained in writing to each candidate on the Best Qualified List.
14. Consider establishing a roster of Rating Panel members to avoid Rating Panels that might favor a certain candidate. These members could be chosen in advance and trained in the Merit Selection Process. Rating Panel members and Rating Officials would be chosen from the roster, according to the grade and technical expertise of the position being filled. Efforts would be made to choose Panel Members who would not give the appearance of preselection in favor of any known top candidates for the job. The Selecting Official should be prohibited from being the Rating Official.
15. Require that Senior Level Service jobs be reserved for their original purpose: to give recognition to outstanding technical (as opposed to managerial) expertise and talent. They have been used extensively to shelter the jobs of managers whose positions were abolished due to downsizing. There is very little competition for these high-level jobs.
16. Communicate to employees the rules for granting extensions beyond the closing date for vacancies.
17. Track the use of all waivers and exceptions from the Merit Selection Process granted under M.D. 10.15, in addition to making the exception part of the selection record.

18. Address the issue that arises in the climate of downsizing, where there is an important FTE advantage to choosing an employee from within the Office posting the position rather than one from outside that Office. In cases where the Merit Selection Process reveals a better candidate from outside the Office, FTE considerations can discourage supervisors from choosing the better candidate.
19. Permit use of "accretion of duties" promotions on a limited basis to support the reevaluation or reclassification of work that has occurred as a natural outgrowth of on-going assignments. This may minimize the perception of preselection that now occurs when a position is competed that is actually an "accretion of duties" promotion.
20. Conduct periodic surveys to determine employees' opinions on the fairness of the selection process, make the survey results available to the staff, and brief the Commission on the survey results.

The Subcommittee believes that these recommendations would significantly improve both the selection process and employee morale.



DRAFT POLICY STATEMENT ON PRESELECTION

The NRC supports merit selection of employees pursuant to Management Directive 10.15. Nevertheless, the perception is widespread that managers engage in "preselection" for some positions, defeating the Agency's commitment to merit selection.

Improper preselection should be avoided and may be subject to appropriate sanctions. Any person with specific reasons to believe this practice has occurred is encouraged to provide a detailed, factual report of their observations to the Office of Human Resources, including the Regional Personnel Officer, or to the Office of Small Business and Civil Rights.

Included among improper practices are unfairly favoring a particular individual by including overly restrictive requirements in a job vacancy announcement, unfairly influencing a rating panel, unfairly providing increased duties or experience to a favored person in order to help them to qualify for an open position, and choosing someone for a position when they are not the best qualified.

## MERIT STAFFING CHECKLIST

### Purpose

To assist the manager in successfully implementing the Agency's merit selection process fairly and equitably and in such a manner as will promote employee confidence in the system.

### Questions to be discussed by the HR Specialist and the Appropriate Management Officials:

1. Is the position description for the position current and accurate? If no, please explain. Has the position description recently been changed? If so, why? Discuss the classification and ensure that there is a mutual understanding of the position.
2. What are the major duties/responsibilities of this position?
  - Time spent on each activity
  - Criticality of each activity (#1 being the most critical)
3. Can this position be classified as multi-disciplinary (e.g. duties cover more than one occupational series)?
4. Can this position be filled at a lower level? Should this be posted as a career ladder position?
5. Can this position be filled on a part-time basis (requirement of part-time career regulations)?
6. What knowledge, skills, or abilities (KSAs) are required to perform the duties of the position? Which KSAs must the selectee bring to the position to perform the basic duties and responsibilities? Would a demonstrated ability to learn or "equivalent experience" be acceptable? Identify specialized experience or selective factors, if any. These must be included in the minimum qualifications required by the Job Vacancy Announcement.
7. Do the rating factors correlate with the position description? What rating factors will be effective in distinguishing superior from basically eligible candidates? Should any of the factors be weighted?

(Supervisory/managerial positions must use standardized rating factors described in MD 10.15 -- emphasize to manager that managerial skills are critical to effective supervisory/managerial performance.) DESCRIBE RATING FACTORS USING EXAMPLES. There should be no more than 5 rating factors (2 factors related to the occupation, 1 related to communications, 1 interpersonal skill factor and 1 leadership factor).

8. Develop rating criteria. Rating criteria must be directly related to the rating factors. (Encourage/assist manager in developing rating criteria prior to posting the vacancy.)

9. Identify possible panel members (assist manager in identifying members that can bring a broad and objective perspective to the rating process). Inform manager that you will work with the panel members to arrange for the panel meeting. If panel members have questions, the HR Specialist will arrange for a meeting of the parties. Mention some of the indications of a "stacked" panel.

10. Do you plan to interview the highest rated candidates? Would you like guidance on interviewing techniques? Inform HR senior management if internal candidates will not be interviewed.

11. Has this position been filled on a temporary basis? If so, for how long by the same person? Was the temporary position filled without competition? If answer is yes to these questions, selecting official should assure that he/she will carefully consider all candidates in the highest qualifications category.

12. Are there accurate elements and standards in place for this position? (If no, recommend that the process be started to put them in place.)

Asian Pacific American Advisory Committee (APAAC)  
Equal Employment Opportunity Advisory Committee  
Briefing Statement

The Asian Pacific American Advisory Committee (APAAC) appreciates the opportunity to address the Commission on the state of affairs of the Asian Pacific American (APA) employees. In the last EEO Commission Brief dated February 20, 1997 (SECY-97-021), APAAC identified three concerns: (1) Lack of Asians in SES/SLS positions; (2) Impact of time-in-grade, and (3) Impact of office reorganizations. APAAC notes that the Commission recognized these concerns during this meeting. All three concerns relate to limited career advancement opportunities of APA employees at NRC. The APAAC reported that it would seek resolution of these concerns via the Selection Subcommittee, the Office of Small Business and Civil Rights (SBCR) and the Office of Human Resources (HR).

While the Selection Subcommittee did not address these specific concerns, their final statement included recommendations to improve the merit selection process and ensure a fair and equal opportunity for all employees.

The SBCR and the HR have developed a generic and aggressive approach to address these concerns. This generic approach supports affirmative action initiatives designed to enhance career opportunities for all underrepresented groups including Asian employees. Further progress will be made in this direction through a continued team approach, and such progress will be reported on in the future at EEO briefings.

Committee on Age Discrimination (CAD)  
Equal Employment Opportunity Advisory Committee  
Briefing Statement

The Committee on Age Discrimination (CAD) is pleased with the cooperation of the advisory committees in their joint efforts to support the three joint subcommittees tasked with working with the Offices of Human Resources (HR) and Small Business and Civil Rights (SBCR) to address the

issues of merit selection, performance monitoring, and managing diversity. CAD members participate on two of these Subcommittees.

CAD's Data Analysis Subcommittee continues to review EEO statistical information to identify indications of age discrimination within the NRC. Any such findings will be provided to the Director, SBCR, for review and action she believes to be appropriate.

Advisory Committee for African-Americans (ACAA)  
Equal Employment Opportunity Advisory Committee  
Briefing Statement

The Advisory Committee for African-Americans (ACAA) would like to thank the Commission for the opportunity to address it on the state of Equal Employment Opportunity (EEO) for African-Americans. ACAA fully supports the EEO Committees Joint Statement and the work of the Subcommittees, Office of Small Business and Civil Rights, and the Office of Human Resources. In addition to our participation on the Subcommittees, ACAA will continue to monitor activities in the Agency that may result in adverse impacts affecting women and minorities--especially African-Americans. These activities include but are not limited to office reorganizations, promotion opportunities, and placement of senior managers.

Hispanic Employment Program Advisory Committee (HEPAC)  
Equal Employment Opportunity Advisory Committee  
Briefing Statement

The Hispanic Employment Program Advisory Committee (HEPAC) is grateful for the opportunity to address the Commission. HEPAC supports the EEO Committees Joint Statement. Hispanics continue to be more visible in the Agency, and a selected few Hispanics have advanced but still the majority of the Hispanics remain static in their careers and have little faith in the merit selection process and the opportunities for advancement.

HEPAC supports the efforts to recruit more Hispanics. HEPAC members are a valuable resource able and willing to assist the Office of Small Business and Civil Rights and the Office of Human Resources in recruiting and developing new strategies to attract more Hispanics to the NRC. HEPAC believes that there needs to be more focus placed on the veteran NRC Hispanics. More attention needs to be paid to the areas of training, development opportunities, and rotational assignments in order to prepare Hispanics for advancement.

Federal Women's Program Advisory Committee (FWPAC)  
Briefing Statement

Members of the FWPAC have participated actively in the three Subcommittees described in the Joint Statement. The Subcommittees have allowed all of the EEO committees to leverage their assets in addressing issues of great concern to the agency. Without this cooperation, efforts by individual committees on these issues of necessity would have been only superficial. The diverse perspectives of Subcommittee members, NTEU representatives, as well as HR and SBCR, have resulted in well thought out positions for consideration by NRC management. We applaud these efforts and will continue to support them.

A remaining issue of concern to FWPAC is the rapid change in the jobs of administrative staff. People who were hired years ago to type and answer phones must today be more than computer literate. They develop databases, spreadsheets, as well as work with word processors. While we recognize that the primary mission of the agency remains technical, some emphasis on redefining these critical positions is needed. This important issue will be an area of focus for FWPAC in the coming year.

Affirmative Action Advisory Committee (AAAC)  
Briefing Statement

The Affirmative Action Advisory Committee (AAAC) appreciates the opportunity to address the Commission. We have worked cooperatively with the other EEO Advisory Committees in formulating this joint statement to the Commission and stand firmly behind the positions taken.

During the past year, the AAAC had been involved closely with the other EEO Committees in the work of the three Subcommittees. The Subcommittees, composed of members of the Advisory Committees, SBCR, and HR, have the task to discuss and report to the Commission on serious issues related to the effectiveness of EEO programs in the agency. These issues concern selection to various job openings in the agency, performance monitoring of agency initiatives to assure EEO compliance and the management of a diverse work place. Substantial progress has been made to date in the deliberations of these Subcommittees and which will be reported to the Commission in this briefing.

For the coming year, the AAAC will discuss and focus on issues concerning the potential redefining of the job functions of secretarial and other administrative support personnel in the technological age. Discussions will be held with the other EEO committees to come up with a common approach. Of special interest is the effectiveness of agency programs relating to upward mobility potential for affected lower graded individuals in a climate of downsizing and changes in priorities. AAAC will continue to provide assistance to SBCR and HR in identifying and analyzing issues of employee concern and recommend appropriate steps to mitigate these concerns.

JOINT LABOR-MANAGEMENT EQUAL EMPLOYMENT OPPORTUNITY  
COMMITTEE PRESENTATION TO  
THE UNITED STATES NUCLEAR REGULATORY COMMISSION

The Joint Labor-Management Equal Employment Opportunity Committee (JLMEEOC) was established by the Nuclear Regulatory Commission and the National Treasury Employees Union (NRC/NTEU) Collective Bargaining Agreement to advise the NRC on matters about equal employment opportunity (EEO). The Committee is currently chaired by Michael Weber and co-chaired by Clayton Pittiglio. The current members are Cynthia Carpenter, Doris Foster-Curseen, Rateb Abu-Eid, David B. Matthews, Clayton L. Pittiglio, Lisa A. Shea, Ronald B. Uleck, and Michael F. Weber. We thank you for this opportunity to discuss EEO-related matters and welcome any comments you or your staffs may have. The JLMEEOC's major initiatives since the last briefing are listed below.

*Avoiding Pre-Selection*

Concerns about pre-selection of candidates emerged as a major focus of the February 1997 Commission meeting on EEO. In response to this concern, the JLMEEOC developed two sets of recommendations on how the agency can improve the merit selection process to enhance current procedures that cause concerns about pre-selection.

In developing the recommendations, the Committee coordinated with the Director of the Office of Small Business and Civil Rights and the Selection Subcommittee. The Committee was particularly pleased with the willingness of all participants to engage in a constructive review of the issue and identification of practical approaches to eliminate pre-selection and minimize perceptions of pre-selection in the selection process. Ms. Irene Little has been especially supportive of the Committee's activities and deserves special recognition.



### *Other Initiatives*

The JLMEEOC is continuing to evaluate the selection process for Resident Inspectors and Commissioner Assistants. The Committee has requested information on these programs from the Office of Human Resources and anticipates bringing recommendations to the Commission after this information has been received and assessed. Progress continues on developing recommendations on effective communications.

The Committee continues to follow with interest the Office of Human Resource's efforts to conduct a Sexual Harassment Awareness week at NRC and looks forward to reporting favorably about this effort at the next Commission briefing on EEO.

### *Summary*

The JLMEEOC believes that substantial progress continues to be made by NRC in developing and implementing EEO-related programs and to help resolve several specific concerns in the EEO area. The JLMEEOC anticipates continued progress in the EEO area, with the support of management and staff.

**STAFF RESPONSES TO COMMITTEE AND SUBCOMMITTEE RECOMMENDATIONS**

June 11, 1997

MEMORANDUM TO:

Peter B. Bloch, Chair  
Managing Diversity Subcommittee

FROM:

Irene P. Little, Director  
Office of Small Business & Civil Rights

SUBJECT:

MANAGING DIVERSITY SUBCOMMITTEE  
RECOMMENDATIONS

I received your subcommittee recommendations, and appreciate the time and effort the subcommittee devoted to the Managing Diversity (MD) issue identified by the EEO Advisory Committees. The background information provided along with information from both public and private sector organizations enhances the relative merit in support of your committee's recommendation to establish a Managing Diversity process at the NRC. As indicated, this process would be designed to manage change effectively and efficiently, and create an environment to maximize the potential of all employees.

You are aware that in FY 1996, NRC senior management began to review recommendations for implementing a MD process at the NRC. As a follow on, the Strategic Planning Group factored into its review, consideration of a Managing Diversity process. And the Strategic Assessment and Rebaselining Steering Committee's Phase I Report identifies as an open item, "How can the NRC optimize opportunities to sustain its commitment to a culturally diverse workforce as it adjusts to mission and resource changes during the planning periods?" The Office of Small Business and Civil Rights responded to this open item in May of this year indicating plans to fund an MD process at the NRC, beginning in FY 1998. The four recommendations you have identified support implementation of such a process agency wide. And, our plan is to incorporate these recommendations, to the extent feasible as we proceed with implementation.

As you know, managing a diverse workforce is an ongoing process. Gaining support from management and staff will be critical to the success of this effort. Subcommittee interest in this initiative, as well as the input you have provided, enhances awareness of the need to have Agency commitment for growth and opportunity to its culturally diverse workforce.

I want to thank the subcommittee for its commitment and effort in researching the facts, and developing sound recommendations for our consideration.

July 9, 1997

MEMORANDUM TO: Subinoy Mazumdar, Chairman  
Merit Selection Subcommittee

FROM: Irene P. Little, Director  
Office of Small Business & Civil Rights

SUBJECT: MERIT SELECTION SUBCOMMITTEE  
RECOMMENDATIONS

I received your subcommittee recommendations, and appreciate the time and effort the subcommittee devoted to the pre-selection issue identified by the EEO Advisory Committees. I agree that this issue is difficult to address because it is based, in large part, on a perception of pre-selection as opposed to clear evidence of pre-selection. However, the subcommittee was able to gather merit selection data from other Federal agencies, private companies, and educational institutions and subcommittee members were required to review and digest numerous details of the merit promotion process included in Management Directive 10.15. You researched several facts, considered several perspectives and worked together to gain consensus on a large volume of information.

I agree with the subcommittee's overall philosophy that improving implementation of the merit selection process, and communicating to the staff about the process, could significantly diminish or eliminate the perception of pre-selection.

I especially appreciate your collaborative efforts with staff from the Office of Personnel (OP), a small number of selecting officials, and my staff in developing a merit staffing checklist that integrates the perspectives of both management and employees. The 12 items on the check list are intended to enhance consistency in the vacancy announcement and rating process. I believe this checklist can be a useful tool, and the OP has agreed to use this checklist as a guide in their discussions with managers.

I also believe the 17 recommendations to improve the merit selection process have merit. Some of them are easily adoptable within our current merit selection process. However, others may require modification, change in policy or procedures, and some may require partnering or negotiations with the union before final decisions can be made.

Over the next six months, OP and SBCR will carefully consider and respond to each recommendation submitted. Again, I want to thank the members of the subcommittee for the extensive time and effort expended in developing sound recommendations for our consideration.



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001  
July 9, 1997

MEMORANDUM TO: Larry Vick, Chairperson  
Performance Monitoring Subcommittee

FROM: Irene P. Little, Director  
Office of Small Business and Civil Rights

SUBJECT: PERFORMANCE MONITORING REPORT

I have received your Subcommittee recommendations, and appreciate the time and effort devoted to the subcommittee's assessment of 18 of the 34 initiatives which you identified. These initiatives were designed to train and develop staff and to enhance their career potential in support of the Agency's mission. You researched the facts to determine the level of employee participation in these activities, and their potential impact on EEO goals and objectives.

I agree that while these initiatives were not specifically designed to address EEO, many of them (i.e., Technical Management Program, SES Candidate Development Program, Supervisory Development Program, Administrative Skills Enhancement Program, Certified Professional Secretary Program, Computer Science Program, Women's Executive Leadership Program), reflect participation of a significant number of women and minorities. I support your recommendations that the Agency should enhance and continue operation of these programs to the extent possible. We will continue to work with you as the Subcommittee completes its evaluation of the remaining programs/initiatives.

The Subcommittee also indicated review plans for Issues 3, 4, 5, and 9 of the Joint Committee Statement (SECY-96-157). As you know, these issues were addressed, in some detail, in a memorandum to EEO Advisory Chairpersons on April 25, 1996 and included in the July 10, 1996 EEO Commission Briefing package.

As stated in the April 25, 1996 memorandum, EEO and affirmative action are incorporated in the strategic planning process (Issue 3). The Strategic Planning Group factored into its review, the need to maximize the potential of all employees while sustaining a culturally diverse workforce. SBCR is following through on this initiative with plans to fund a Managing Diversity process in FY 1998. The second part of Issue 3, Impact on Women and Minorities due to Recent Reorganizations, will continue to be reviewed by the Labor Management partnership Committee and should be addressed through that forum. Issue 4, Management Accountability, is part of the SES and non-SES supervisory appraisal process. Elements and standards of both systems include assessment of EEO. Additionally, SBCR has provided managers written guidance on appraising managers and supervisors in this area. Issue 5, Increased Representation of Women

July 9, 1997

and Minorities, will continue to be one of the principal focus areas in filling technical, supervisory, management, executive, and where possible, upward mobility positions. Issue 9, relates to root causes of EEO complaints. In the last briefing (February 20, 1997), we provided five years of data on the bases for EEO complaints within the NRC. We will continue to analyze this data and whenever possible establish strategies for correcting issues that lead to complaints.

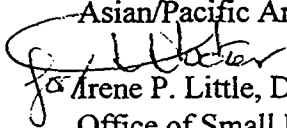
I believe the expanded responses provided to you in the April 25, 1996 memorandum address the concerns raised by the Joint Committees. However, if further clarification is needed, please call me. Again, I appreciate the effort of the Subcommittee and the recommendations submitted.



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

August 5, 1997

MEMORANDUM TO: Sudhamay Basu, Chairperson  
Asian/Pacific American Advisory Committee

FROM:  Irene P. Little, Director  
Office of Small Business and  
Civil Rights

SUBJECT: Pending Issues

This memorandum responds to the Asian/Pacific American Advisory Committee section of the joint statement submitted to me on July 1, 1997.

Your section of the paper states three issues of concern to your committee: (1) Lack of Asians in SES/SLS positions; (2) Impact of time-in-grade, and (3) Impact of office reorganizations. These issues were reviewed by the Selection Subcommittee and I agree that these issues were addressed as part of the generic recommendations for making the merit process more equitable. We will continue to assess the impact of these issues on equal opportunity for your constituents and all employees.

I appreciate your continued support in maintaining a "level playing field" for all NRC employees.



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

July 10, 1997

MEMORANDUM TO: Michael F. Weber, Co-Chairperson  
Joint Labor-Management Equal Employment  
Opportunity Committee

Clayton L. Pittiglio, Co-Chairperson  
Joint Labor-Management Equal Employment  
Opportunity Committee

FROM: Irene P. Little, Director  
Office of Small Business and Civil Rights

SUBJECT: RECOMMENDATIONS REGARDING THE  
PERCEPTION OF PRE-SELECTION

This responds to the two sets of recommendations submitted to me on May 8, 1997 regarding the perception of pre-selection in filling vacancies within the Nuclear Regulatory Commission (NRC).

As you are aware, a subcommittee (Selection Subcommittee) has been in place since December 1996, to review the perception of pre-selection within the NRC and provide recommendations to address the bases for such a perception. That Subcommittee has done extensive review of the Merit Selection Management Directive (10.15); has discussed merit selection with other Federal agencies, private companies and educational institutions for the purpose of comparing NRC's merit promotion process with others; and has also reviewed your recommendations. Staff from the Office of Small Business and Civil Rights (SBCR) and the Office of Human Resources (HR) have been heavily involved in this initiative and several recommendations (attached) have been submitted for management consideration. As appropriate, your recommendations will be considered for implementation along with those from the Selection Subcommittee.

You offered up six distinct recommendations—

1. Ensure that crediting plans are developed at the same time as the corresponding vacancy announcement to improve consistency between the rating factors included on the vacancy announcement and the rating criteria used to evaluate applicants. Also include enough detail in the vacancy announcement to assist applicants in addressing rating factors.



2. Publish a pamphlet on the merit staffing process, including specific examples on addressing rating criteria.
3. Conduct workshops for staff on the merit staffing process and include tips for addressing rating factors.
4. Establish a procedure and communicate it to all managers in Management Directive 10.15 that requires the selecting official and his/her supervisor to avoid contact with the rating panel (once a vacancy announcement is posted) until the rating process is complete.
5. Provide some flexibility to rating panels to identify greater than 5 "A" candidates on the Best Qualified List, in the event that top scores are clustered and the difference in scores are not considered significant by the rating panel.
6. Establish a standing review panel to audit the integrity of vacancy announcements, rating factors, and crediting plans by reviewing a specific portion (e.g., 20-25%) of vacancy announcements throughout the year.

Your first three recommendations relate to rating process criteria and the need for employees to better understand the merit selection process especially how to address rating factors. Your fourth recommendation relates to line management involvement in the rating process. These four recommendations are conceptually similar to the recommendations from the Selection Subcommittee, which HR is planning to implement, with some modifications. Specifically, HR intends to develop crediting plans and vacancy announcements concurrently although there may be instances where this is not practical. In addition HR plans to develop and disseminate information on the merit staffing process to all NRC employees. This information will include names of HR staff at headquarters and the regional offices that employees may meet with for clarification and/or additional information on the selection process. As you may know, HR staff can provide feedback to unsuccessful applicants to assist them in understanding how to improve their opportunities for advancement.

Your fifth and sixth recommendations would need to be addressed through labor management partnership or negotiations.

During the next six months, we will be working through numerous recommendations submitted by the various EEO committees and subcommittees. We will keep your Committee and the other EEO Advisory Committees advised as we proceed. I appreciate the efforts of your Committee in suggesting ways to assure equal employment opportunities at the NRC.

Attachment:

## SELECTION SUBCOMMITTEE RECOMMENDATIONS

1. Issue a policy statement by the Commission on the Merit Selection Process, listing those activities that are specifically prohibited.
2. Establish an independent body consisting of representatives from the EEO Advisory Committees and Senior Management to conduct a periodic review of some of the merit selection cases and ensure that Office Directors and the Regional Administrators provide active leadership in the Merit Selection Process.
3. Communicate to all employees the name, telephone number, and email address of the person or group that employees may contact, either informally or anonymously, to register cases of possible discriminatory selection, and ensure that SBCR follows up on these cases.
4. Conduct workshops to inform employees about the Merit Selection Process and the recourse open to employees who have questions about the process.
5. Reinforce the message that the Office of Human Resources has a dual role: both to help the Selecting Official get the best qualified person for the vacancy and to ensure that merit principles are followed.
6. Communicate the importance of several aspects of the Merit Selection Process that do not seem to have been given adequate attention by upper management: up-to-date position descriptions and elements and standards (a situation made worse by constant reorganizations); annual management training requirements; management responsibility for employee career planning and advancement, for example through the use of IDPs; managers who clearly demonstrate good managerial or communications skills; and performance awards based on good managerial and communications skills. Consistent enforcement of these measures would send a signal to both managers and employees that career development for employees and managerial and communications skills are as important as technical skills.
7. Strongly encourage managers to work with a wider selection of employees, on teams or task forces, as mentors, etc. Special efforts could be made to ensure that managers and supervisors interact more frequently with diverse groups of employees. (The real basis for much of the

preselection problem stems from the natural tendency to select a known quantity: someone who has a similar background, who has done similar work, or who has previously worked for or is otherwise known to the rating panel or the selecting official).

8. Consider modifying the Merit Selection Process to encourage more "career planning" for all employees, while maintaining competition as much as possible in the overall process. Use of IDPs is encouraged and used for training but they are not used often enough to help employees move from one job to another.
9. Issue guidance to improve timely communication between management and employees, particularly concerning planned reorganizations. For example, employees who expect to apply for an open position may suddenly discover that it has been abolished.
10. Enforce the limit of 90 days for noncompetitive assignments to higher graded positions. If the position is eventually going to be filled through the competitive process, the vacancy announcement should be posted promptly (not delayed until the 90 days have elapsed). If the position cannot reasonably be expected to be filled in 90 days, supervisors should consider the following to ensure the fair use of temporary promotions: a) rotate several people in the position before posting it, giving each person equal time; b) use a competitive process to decide who should be given the temporary promotion; or c) assign someone at the same grade level.
11. Train Selecting Officials in ways to become informed about and evaluate "nontechnical" skills (e.g., communications, managerial skills) and reinforce the importance of those skills in choosing supervisors and managers.
12. Strongly encourage Selecting Officials to interview all candidates on the Best Qualified List whenever feasible, especially if some of the candidates are unknown to them, or if there are other indications that perception of preselection might be a problem (e.g., one of the Best Qualified candidates has been in the position on a temporary basis while others are unknown to the Selecting Official). Training to enhance interviewing techniques should be encouraged.
13. Require a Selecting Official to choose one of the candidates from the Best Qualified List, unless there are extenuating circumstances for

which the Selecting Official has received prior approval from the Director, Office of Human Resources. In that case, the extenuating circumstances should be explained in writing to each candidate on the Best Qualified List.

14. Consider establishing a roster of Rating Panel members to avoid Rating Panels that might favor a certain candidate. These members could be chosen in advance and trained in the Merit Selection Process. Rating Panel members and Rating Officials would be chosen from the roster, according to the grade and technical expertise of the position being filled. Efforts would be made to choose Panel Members who would not give the appearance of preselection in favor of any known top candidates for the job. The Selecting Official should be prohibited from being the Rating Official.
15. Require that Senior Level Service jobs be reserved for their original purpose: to give recognition to outstanding technical (as opposed to managerial) expertise and talent. They have been used extensively to shelter the jobs of managers whose positions were abolished due to downsizing. There is very little competition for these high-level jobs.
16. Communicate to employees the rules for granting extensions beyond the closing date for vacancies.
17. Track the use of all waivers and exceptions from the Merit Selection Process granted under M.D. 10.15, in addition to making the exception part of the selection record.
18. Address the issue that arises in the climate of downsizing, where there is an important FTE advantage to choosing an employee from within the Office posting the position rather than one from outside that Office. In cases where the Merit Selection Process reveals a better candidate from outside the Office, FTE considerations can discourage supervisors from choosing the better candidate.
19. Permit use of "accretion of duties" promotions on a limited basis to support the reevaluation or reclassification of work that has occurred as a natural outgrowth of on-going assignments. This may minimize the perception of preselection that now occurs when a position is competed that is actually an "accretion of duties" promotion.

20. Conduct periodic surveys to determine employees' opinions on the fairness of the selection process, make the survey results available to the staff, and brief the Commission on the survey results.

The Subcommittee believes that these recommendations would significantly improve both the selection process and employee morale.

## DRAFT POLICY STATEMENT ON PRESELECTION

The NRC supports merit selection of employees pursuant to Management Directive 10.15. Nevertheless, the perception is widespread that managers engage in "preselection" for some positions, defeating the Agency's commitment to merit selection.

Improper preselection should be avoided and may be subject to appropriate sanctions. Any person with specific reasons to believe this practice has occurred is encouraged to provide a detailed, factual report of their observations to the Office of Human Resources, including the Regional Personnel Officer, or to the Office of Small Business and Civil Rights.

Included among improper practices are unfairly favoring a particular individual by including overly restrictive requirements in a job vacancy announcement, unfairly influencing a rating panel, unfairly providing increased duties or experience to a favored person in order to help them to qualify for an open position, and choosing someone for a position when they are not the best qualified.

## MERIT STAFFING CHECKLIST

### Purpose

To assist the manager in successfully implementing the Agency's merit selection process fairly and equitably and in such a manner as will promote employee confidence in the system.

### Questions to be discussed by the HR Specialist and the Appropriate Management Officials:

1. Is the position description for the position current and accurate? If no, please explain. Has the position description recently been changed? If so, why? Discuss the classification and ensure that there is a mutual understanding of the position.
2. What are the major duties/responsibilities of this position?
  - Time spent on each activity
  - Criticality of each activity (#1 being the most critical)
3. Can this position be classified as multi-disciplinary (e.g. duties cover more than one occupational series)?
4. Can this position be filled at a lower level? Should this be posted as a career ladder position?
5. Can this position be filled on a part-time basis (requirement of part-time career regulations)?
6. What knowledge, skills, or abilities (KSAs) are required to perform the duties of the position? Which KSAs must the selectee bring to the position to perform the basic duties and responsibilities? Would a demonstrated ability to learn or "equivalent experience" be acceptable? Identify specialized experience or selective factors, if any. These must be included in the minimum qualifications required by the Job Vacancy Announcement.
7. Do the rating factors correlate with the position description? What rating factors will be effective in distinguishing superior from basically eligible candidates? Should any of the factors be weighted? (Supervisory/managerial positions must use standardized rating factors described in MD 10.15 -- emphasize to manager that managerial skills are critical to effective supervisory/managerial performance.) DESCRIBE RATING FACTORS USING EXAMPLES. There should be no more than 5 rating factors (2

factors related to the occupation, 1 related to communications, 1 interpersonal skill factor and 1 leadership factor).

8. Develop rating criteria. Rating criteria must be directly related to the rating factors. (Encourage/assist manager in developing rating criteria prior to posting the vacancy.)

9. Identify possible panel members (assist manager in identifying members that can bring a broad and objective perspective to the rating process). Inform manager that you will work with the panel members to arrange for the panel meeting. If panel members have questions, the HR Specialist will arrange for a meeting of the parties. Mention some of the indications of a "stacked" panel.

10. Do you plan to interview the highest rated candidates? Would you like guidance on interviewing techniques? Inform HR senior management if internal candidates will not be interviewed.

11. Has this position been filled on a temporary basis? If so, for how long by the same person? Was the temporary position filled without competition? If answer is yes to these questions, selecting official should assure that he/she will carefully consider all candidates in the highest qualifications category.

12. Are there accurate elements and standards in place for this position? (If no, recommend that the process be started to put them in place.)





UNITED STATES  
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

May 30, 1997

MEMORANDUM TO: Larry Campbell  
Reactor Engineer  
Office of Nuclear Reactor Regulation

FROM: Irene P. Little, Director *Irene Little*  
Office of Small Business & Civil Rights

SUBJECT: RECRUITMENT OF NATIVE AMERICANS

I appreciate your efforts to assist the Agency in identifying sources for recruiting Native Americans. The report you provided from the National Education Resource Center which identifies colleges and universities that have recently graduated Native Americans with bachelors and masters degrees in engineering will enable us to target additional schools to attract potential candidates for employment. The Office of Personnel will examine this report and consider additional schools for potential recruitment targets for the next fiscal year.

The Agency is also scheduled to participate in the upcoming American Indian Science and Engineering Society Conference in November 1997 and supports your recommendation to attend the special session for recruiters of Native Americans at the beginning of the conference. We have contacted Mr. Chuck McAfee, Deputy Director, American Indian Science and Engineering Society(AISES), to obtain additional information regarding the conference and career fair activities.

Regarding the establishment of a "Summer Hire" Program for Native Americans, the NRC has a limited summer program for FY 1997. However, the NRC is not authorized to establish and fund programs managed through AISES. I am not sure what would be gained by having AISES manage a summer program. Under our procedure, students interested in summer employment with the NRC should submit their application directly to the Office of Personnel for consideration. However, as an alternative, we are taking Mr. McAfee's suggestion that the NRC advertise vacant positions in AISES' publication, the "Winds of Change" as a means of attracting Native American applicants for all NRC positions. This publication is distributed to approximately 100,000 readers nationwide. In addition to the Winds of Change, the NRC currently advertises in the Native American Yearbook, and the Annual College Guide for American Indians. The NRC also advertises vacant positions on the Internet via the National Association of Colleges and the Virtual Career Fair. Additional uses of the Internet are continually being assessed and will be considered by the Office of Personnel.

The NRC has maintained a substantial Co-op Program in past years, however, due in part to downsizing, the agency currently does not have an active program. Individual program offices and regions may identify slots on a case-by-case basis. To reach the widest possible Native American distribution, the Office of Personnel will advertise these positions via the publications listed above and on the Internet.

The information and recommendations you have provided are helpful and will direct the Agency toward additional sources for Native American applicants. I appreciate and encourage your continued support. Of course, if you know qualified persons interested in working for the NRC, please have them forward their resumes to the Office of Personnel.