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NUCLEAR REGULATORY COMMISSION

Title: **BRIEFING ON**
NRC INTERNATIONAL ACTIVITIES
PUBLIC MEETING

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Date: **Friday, June 18, 1999**

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1 UNITED STATES OF AMERICA
2 NUCLEAR REGULATORY COMMISSION

3 ***

4 BRIEFING ON
5 NRC INTERNATIONAL ACTIVITIES

6 ***

7 PUBLIC MEETING
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10 Nuclear Regulatory Commission
11 One White Flint North
12 Rockville, Maryland
13

14 Friday, June 18, 1999
15

16 The Commission met in open session, pursuant to
17 notice, at 9:40 a.m., Shirley A. Jackson, Chairman,
18 presiding.
19

20 COMMISSIONERS PRESENT:

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

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1 STAFF AND PRESENTERS SEATED AT THE COMMISSION TABLE:

2 ANNETTE L. VIETTI-COOK, Secretary of the
3 Commission

4 KAREN D. CYR, General Counsel

5 JANICE DUNN LEE, Director, Office of International
6 Programs

7 MALCOLM KNAPP, Deputy Executive Director for
8 Regulatory Effectiveness

9 ROY ZIMMERMAN, Deputy Director, NRR

10 ASHOK THADANI, Director, NRC

11 CARL PAPERIELLO, Director, NMSS

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P R O C E E D I N G S

[9:40 a.m.]

CHAIRMAN JACKSON: Good morning and welcome to the last Commission meeting I will chair. If I am correct, this is more or less Commission meeting number 311 since I took over as Chairman of the NRC in July of 1995. I noted that in Inside NRC they talked about fewer Commission meetings since I've been Chairman than under some previous chairmen. As you know, I'm focused on outcomes and not outputs.

As I told a reporter today, the metric is what have we done since I've been Chairman and not how many meetings. As Commissioner McGaffigan has pointed out, the issue has to do with the content of the meeting we have and the stakeholders who are involved.

COMMISSIONER MERRIFIELD: Chairman, if the meeting we had yesterday is any indication of our concern about making sure we thoroughly investigate issues, I think that is a pretty good piece of evidence.

CHAIRMAN JACKSON: Thank you.

I think this is actually the very first meeting of this type, the first annual summary of NRC international programs involving not only the Office of International Programs but the other cognizant offices that also have international activities and are part of our overall international program.

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1 I might begin the meeting by congratulating
2 Ms. Janice Dunn Lee on her recent appointment as the
3 Director of the NRC Office of International Programs.
4 Congratulations, Janice.

5 As many of you know, I have taken an active
6 interest during my tenure as Chairman in the role of the NRC
7 internationally. I believe that we provide a truly vital
8 service that is a benefit not only to the mature and the
9 developing countries with whom we interact, but also of
10 tremendous benefit to the United States and to our
11 licensees.

12 We help to ensure the U.S. common defense and
13 security in our review of export and import licenses.

14 We learn by watching the practices of other
15 regulatory programs.

16 We maintain our knowledge of the state of the art
17 by our participation in technical standards committees.

18 We leverage our research resources by entering
19 into joint programs with our foreign counterparts.

20 And we serve as a role model to our counterparts
21 in many foreign nuclear regulatory programs, helping to
22 strengthen the independence, the effectiveness, and the
23 programs of developing national nuclear regulatory bodies.

24 In point of fact, I had occasion to visit
25 Australia and visit a uranium mine and a site where some

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1 activity was going on that in fact supports our work in high
2 level waste. As we were traveling there, which was in the
3 Northwest Territory in Australia, the head of the regulatory
4 group in that part of Australia had an NRC paper that he had
5 just gotten, that had been faxed to him and had been
6 downloaded from the net.

7 We should not underestimate that influence, but
8 also, those of you who participate in the nuclear energy
9 agency, who work with countries, both western and eastern
10 Europe and in Asia, you know that it is a two-way street.
11 So the benefit that these interactions provide in terms of
12 the net increase in global nuclear safety is of significant
13 and enduring value to the United States, to the United
14 States domestic nuclear energy industry. Not simply because
15 of what we learn nor simply because of the safety benefits
16 to the residents of other countries -- all of those go
17 without saying -- but because of the simple truth that
18 public confidence is one of the single largest factors that
19 will influence the future viability of nuclear power, and
20 unsafe nuclear practices, wherever they occur, negatively
21 impact that public confidence.

22 So I am pleased at the opportunity to preside over
23 this meeting and Commission briefing on NRC international
24 activities, and I particularly am pleased because the
25 representation of NRC managers at the table today from NRR,

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1 from NMSS, from Research, as well as obviously the Office of
2 International Programs emphasizes that our international
3 activities are not simply matters of OIP focus but of
4 benefit and interest to all of our program offices.

5 I would only caution all of us today that this is
6 an open meeting and we need to be careful not to engage in
7 discussions that might involve sensitive or classified
8 information.

9 With that, unless my Commission colleagues have
10 any opening comments they wish to make, I would invite you
11 to proceed. Ms. Janice Dunn Lee.

12 MS. LEE: Chairman Jackson and members of the
13 Commission, as Director of NRC's Office of International
14 Programs, I am very pleased to be here today to discuss NRC
15 international activities.

16 International programs at NRC represents a low
17 cost, high impact investment which has achieved much under
18 the Commission's guidance and which has benefited from
19 stakeholder and public input. I want to thank the
20 Commission for giving the staff the opportunity to discuss
21 this program in a public forum.

22 As Chairman Jackson noted, it is the first public
23 meeting of this kind. I ask you to forgive me, because it
24 is also a first for me. While it is a first for me, it is
25 the last for Chairman Jackson in her tenure as Chairman of

1 the NRC. I would just like to take this opportunity to
2 publicly thank you for your service and commitment to NRC
3 and to this important program.

4 I am pleased to have at the table with me
5 representatives from the major program offices which support
6 the agency's international work. With me is Dr. Malcolm
7 Knapp, Deputy Executive Director for Regulatory
8 Effectiveness; Mr. Roy Zimmerman, Deputy Director, Office of
9 Nuclear Reactor Regulation; Mr. Ashok Thadani, Director,
10 Office of Nuclear Regulatory Research; and Dr. Carl
11 Paperiello, Director, Office of Nuclear Material Safety and
12 Safeguards.

13 In the spirit of the phrase "they who stay behind
14 still serve," I would like to acknowledge the other offices
15 who contribute significantly to the work of the
16 international programs that are not formally represented at
17 this table. These include the Office of the General
18 Counsel, the offices of Congressional and Public Affairs,
19 and also our regional offices. Their absence is better
20 recognition that given the time available this presentation
21 will only focus on our major activities and will try not to
22 encompass our entire program.

23 I will also try to be as concise and brief as
24 possible in the interest of time, and also because most of
25 you are familiar with our international activities.

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1 My objective today is to provide a snapshot of our
2 current activities and to outline how the program will be
3 managed. I will begin with an overview and then describe
4 some of our major programmatic areas. I will be emphasizing
5 current achievements and future challenges.

6 I will close my presentation by discussing what I
7 believe our future challenges are and how we might address
8 them. I believe the future of NRC's international programs
9 can be summed up as follows:

10 We should hue to our fundamental responsibilities
11 while we are meeting the challenges posed by change. In
12 addition, it is particularly important that we not let
13 funding issues shape our programs. I will discuss this in
14 more detail at the end of my presentation, and then I will
15 turn to my colleagues who will discuss their individual
16 program activities.

17 If there are no objections, I will begin.

18 [Slides shown.]

19 MS. LEE: Our international activities are based
20 on legal authority set forth in statutes, executive orders,
21 presidential decision directives, multilateral U.S.
22 Government commitments and agency to agency exchange
23 agreements. There are far too many to name individually,
24 but they do form the legal and the policy basis for NRC's
25 international role.

1 A compilation of these can be seen in Reference
2 Chart No. 1 at the back of the briefing book.

3 The Commission decides on policies and programs
4 related to all international activities. The Office of
5 International Programs facilitates relations with other
6 nations, multilateral organizations, and other U.S.
7 Government agencies. OIP proposes policy issues to the
8 Commission and provides implementing guidance to program
9 offices.

10 The Commission staff offices implement our program
11 and maintain the technical, regulatory, research, and
12 safeguards context.

13 Although some significant programs are externally
14 funded through the U.S. Agency for International
15 Development, substantial resources for NRC international
16 activities derive from licensee fees. Determining the
17 appropriate level of NRC's international involvement takes
18 cost into account. The interests of licensees are
19 considered as are the broader interests of the nation and
20 the global community.

21 While we have not formally engaged with Arthur
22 Andersen on the planning, budget and performance management
23 process, OIP has begun to focus international activities on
24 the NRC strategic goals and outcomes. These include
25 maintaining safety, increasing public confidence, reducing

1 unnecessary regulatory burden, and increasing the
2 effectiveness, efficiency and realism of NRC activities and
3 decisions.

4 Some of the criteria we use for setting
5 international priorities include improving the safety and
6 security of NRC licensed facilities, enhancing U.S. national
7 security, supporting foreign policy objectives, achieving
8 improved financial and personnel resources, supporting U.S.
9 reliability as a supplier of goods and services, and
10 developing and maintaining NRC influence and institutional
11 capabilities.

12 Our next slide is our budget slide. I just want
13 to point out that there is an error in the last column under
14 the travel. We are policy people, not mathematicians in
15 OIP. So I apologize for that. It should read 499K in the
16 very last column.

17 As the chart indicates, NRC international
18 resources are relatively level from FY 1999 to FY 2000. In
19 FY 1999, 6 FTE are reimbursable from AID funding for the
20 workload associated with our assistance program. Please
21 note that the FY 2000 budget request is for 6 FTE in the
22 general fund off the fee base. As part of the total NRC
23 budget it is pending congressional approval. If the general
24 fund FTE are not approved, staff is working with AID to
25 continue to have AID reimbursement for some FTE in FY 2000.

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1 The next slide provides a little road map of the
2 areas that I am going to be discussing.

3 NRC licenses exports and imports of nuclear
4 material and equipment which are defined in 10 CFR Part 110.
5 The departments of Energy, Commerce, and State exercise
6 control over exports of related technology, equipment and
7 commodities, including dual use items. NRC has a
8 consultative role in the review of these exports.

9 U.S. agreements for peaceful nuclear cooperation
10 provide the basis for our exports and applications are
11 approved only if export control requirements of the Nuclear
12 Non-proliferation Act of 1978 are satisfied.

13 A benefit to having NRC as the primary export
14 licensing authority is that NRC provides a technical
15 independent perspective, and decisions are a matter of
16 public record.

17 I will not dwell on the accomplishments or the
18 future challenges on the briefing slide except to conclude
19 by saying that the export licensing process is fairly
20 routine now, but it may face some serious tests in the
21 future. Examples that come to mind are potential exports to
22 North Korea and China.

23 Now I am going to speak about our other nuclear
24 non-proliferation activities.

25 The Nuclear Non-proliferation Treaty is the most

1 widely adhered to multilateral arms control treaty in
2 history, with 185 parties. We participate in the
3 inter-agency working group formulating U.S. policy, and we
4 are currently preparing for the review conference in the
5 year 2000.

6 We also provide technical assistance to the IAEA
7 in support of NPT Article 4, Assistance Obligations, which
8 were designed to reward developing countries adhering to NPT
9 obligations.

10 Under safeguards initiatives, I'm not going to
11 speak to this issue in particular because Dr. Paperiello
12 will mention most of them in his presentation, but I just
13 want to say that we do have an extremely significant,
14 important role in safeguards.

15 In core conversion, NRC provides technical
16 assistance in implementing the U.S.-Russia agreement for
17 permanently halting the production of plutonium for nuclear
18 weapons. Specifically, we provide technical assistance to
19 GAN, the Russian nuclear regulatory authority, to look at
20 the safety aspects of converting the cores. DoD reimburses
21 us for this work.

22 This project allows two important national
23 objectives to be brought together, and these are nuclear
24 safety and non-proliferation, which are two sides of the
25 same coin.

1 Under plutonium disposition, we have been involved
2 in DOE's dual track program for plutonium disposition,
3 including the vitrification and the MOX options. Our
4 primary interest is in monitoring what the Russians are
5 doing and identifying regulatory issues.

6 In Fissile Material Cut-off Treaty, we have been
7 asked to participate in inter-agency working groups
8 developing U.S. negotiating positions on the treaty. NRC's
9 technical assistance during negotiation and implementation
10 of the treaty are important because some of its provisions
11 could affect NRC facilities.

12 An underlying benefit to NRC participating in
13 these non-proliferation activities is that NRC contributes
14 an independent technical viewpoint to determinations for
15 which other agencies have primary responsibility.

16 I am next going to focus on some of our
17 multilateral nuclear safety exchanges. As you can see from
18 the list, there are several here which I will very briefly
19 mention.

20 At the June 1992 G-7 Economic Summit in Munich a
21 major initiative was introduced to improve the safety of
22 Soviet designed reactors. Three nuclear safety institutions
23 were developed. They are the G-7 Nuclear Safety Working
24 Group; the G-24 Nuclear Safety Assistance Coordination
25 Mechanism, which we call NUSAC; the Nuclear Safety Account

1 administered by the European Bank for Reconstruction and
2 Development; and in 1998 the Chernobyl Shelter Fund was
3 added to these institutions. Each of these groups has a set
4 of responsibilities and a process for coordination.

5 Under accomplishments, I want to note that Russia
6 is now including GAN representatives in official delegations
7 to the G-7 Nuclear Safety Working Group, which helps to
8 increase their stature and visibility.

9 Under future challenges, I think a significant one
10 is the implementation of the NSA grant agreement closure
11 conditionalities. Decisions will be very difficult for
12 certain countries as they weigh plant closure against
13 possible extended operation based on improvements that have
14 been derived from assistance programs, as well as national
15 energy production needs, replacement energy costs, and
16 issues such as the nuclear policies of the European Union
17 and national intentions for accession into the EU.

18 Under treaty implementation, I just want to say
19 that after four years before the U.S. Senate the Convention
20 on Nuclear Safety was finally ratified this spring. In
21 spite of our limited participation in the first review
22 conference meeting in April, the U.S. was able to submit the
23 U.S. National Report, including a supplement describing our
24 changing regulatory program.

25 Two other conventions are currently pending.

1 One is the Joint Convention on Radioactive Waste
2 and Spent Fuel. While DOE has the primary lead for this
3 convention, the convention focus is on safety. Therefore
4 NRC should actively participate in its implementation.

5 There is also the Supplemental Convention on
6 Liability, which is under Executive branch review.

7 The IAEA is one of the primary multilateral
8 organizations where we play a significant role. The budget
9 of the IAEA is about \$290 million, to which the U.S.
10 contributes approximately \$73 million. OIP provides
11 centralized programmatic liaison on nuclear safety issues
12 and activities. We also play a significant role in the
13 safeguards arena, which NMSS will later address in this
14 briefing.

15 COMMISSIONER MERRIFIELD: Madam Chairman.

16 CHAIRMAN JACKSON: Please.

17 COMMISSIONER MERRIFIELD: I have a clarifying
18 question. I know there has been some question by a number
19 of our stakeholders about the monies which the NRC spends on
20 various international programs. My understanding is that no
21 money from the NRC directly goes towards that \$72 million
22 you mentioned, the U.S. contribution to the IAEA.

23 MS. LEE: The money is not directly funded from
24 NRC; it's funded through the State Department.

25 COMMISSIONER MERRIFIELD: No licensee fees pay for

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1 those activities, correct?

2 MS. LEE: Correct.

3 COMMISSIONER MERRIFIELD: Thank you.

4 MS. LEE: That's a very good point.

5 I'm not going to dwell on the accomplishments but
6 just to note that one additional one that is not noted on
7 the sheet is that the NRC is cosponsoring with the IAEA, the
8 EPA, and the Department of Energy the Symposia on
9 Restoration of Environments with Radioactive Residues in
10 November of this year.

11 A future challenge for us would be to maintain and
12 strengthen NRC support for IAEA activities, given reduced
13 financial and staff resources.

14 The Nuclear Energy Agency member states represent
15 the most advanced nuclear countries, with approximately 85
16 percent of the world's installed nuclear energy capacity.
17 The agency's regular budget is on the order of \$12 million
18 to which the U.S. contribution is approximately \$3 million
19 per year. NRC is represented on five main committees, and
20 the individual program offices will address their work
21 through the NEA during their presentations.

22 COMMISSIONER MERRIFIELD: Madam Chairman, may I
23 ask the same question regarding the NEA? Are there any
24 monies that directly go from the NRC to that \$3 million the
25 U.S. contributes towards the NEA?

1 MS. LEE: No. The State Department also funds
2 directly that contribution for the U.S.

3 COMMISSIONER MERRIFIELD: So none of the fees from
4 our licensees go towards that funding?

5 MS. LEE: Correct.

6 COMMISSIONER MERRIFIELD: Thank you.

7 MS. LEE: In the area of accomplishments, former
8 Commissioner Rogers was a U.S. representative on the OECD
9 high level advisory group which considered the future of the
10 Nuclear Energy Agency. They produced the so-called
11 Birkhofer Report, which had many recommendations and
12 suggestions. Some of these have been implemented, which
13 includes the development of a mission statement and a
14 strategic plan.

15 The future challenges that remain to be worked on
16 are the restructured committee system and also an MOU with
17 the IAEA to reduce overlap and duplication.

18 CHAIRMAN JACKSON: Are there any actions that you
19 think the Commission or the NRC staff should be taking
20 relative to preserving our interests with respect to NEA
21 committee structure or focus?

22 MS. LEE: Many of our NRC staff serve at very high
23 levels on these committees. The committees will be tasked
24 by the NEA director general to look within their own
25 structures to find methods and ways to streamline and become

1 more effective.

2 This issue was discussed at the last NEA Steering
3 Committee. The results of that meeting were that it was too
4 difficult for a steering committee to pick and choose which
5 committees should survive and which shouldn't, that it was
6 better to ask the committees themselves how they might
7 become more effective.

8 MR. THADANI: Chairman Jackson, in fact the
9 individual committees have already initiated moves to look
10 at how they can be more effective and efficient. In the
11 committee I'm active in, CSNI, Committee for Safety of
12 Nuclear Installations, we are working very hard to see how
13 we can reduce the number of working groups and be more
14 efficient and focus on the goals that we have been talking
15 about.

16 MS. LEE: I want to talk next about the
17 International Nuclear Regulators Association. As you know,
18 this is a forum for our senior-most regulators to discuss
19 nuclear safety policy issues. It was established in 1997;
20 it meets twice a year. The U.S. just completed chairing the
21 first INRA sessions and has passed the chair on to the UK,
22 who will act as chair for the following year.

23 Some of the accomplishments of the INRA include
24 development of some policy papers that were distributed in
25 different forums. There was a Key Elements of Nuclear

1 Safety paper. There was also a statement on Y2K and the
2 development of five fundamental concept papers was recently
3 completed.

4 A future challenge will be whether the U.S.
5 continues to participate and possible member expansion.

6 COMMISSIONER MERRIFIELD: Madam Chairman.

7 CHAIRMAN JACKSON: Please.

8 COMMISSIONER MERRIFIELD: I know the General
9 Accounting Office is currently in the process of conducting
10 an analysis or a report to be delivered back to the Senate
11 sometime soon. I am wondering if you have any sense of the
12 timing and where that analysis is at this point and whether
13 we have gotten any reaction yet. I know I was interviewed
14 as were other Commissioners.

15 MS. LEE: My understanding is that they are
16 wrapping up their audit of the INRA. I don't have an exact
17 date and time when the report is going to be delivered, but
18 it will be a written report. That's my understanding, and
19 it will be in the near future.

20 COMMISSIONER MERRIFIELD: Will they be sharing
21 that with us prior to it being published?

22 MS. LEE: Absolutely.

23 The next area I'm going to cover is the bilateral
24 nuclear safety exchanges. With regard to the binational
25 commissions, let me just say that we participate in two

1 binational commissions.

2 The first is the U.S.-Russia Binational
3 Commission, which is co-chaired by Vice President Gore and
4 his Russian counterpart. Over the past 18 months the
5 Russian side has been represented by Prime Ministers
6 Chernomyrdin, Kirienko and Primakov.

7 The second is the U.S.-South Africa Binational
8 Commission, which is led by Vice President Gore and
9 Mr. Mbeki, who was recently elected to succeed President
10 Mandela.

11 For us the meetings provide useful high level fora
12 to advance nuclear safety and security objectives. However,
13 given that the year 2000 is an election year, it is
14 difficult to predict if these commissions will continue or
15 what form they may take.

16 COMMISSIONER MERRIFIELD: Madam Chairman.

17 CHAIRMAN JACKSON: Please.

18 COMMISSIONER MERRIFIELD: I don't mean to put you
19 on the spot. Do you have any kind of count on the number of
20 visits that the commissioners receive on a yearly basis from
21 some of our international partners related to these?

22 MS. LEE: Related specifically to in general?

23 COMMISSIONER MERRIFIELD: In general and in terms
24 of our bilateral agreements we have with some of those
25 nations.

1 MS. LEE: I don't have a number for you here at
2 the table, but I'm happy to provide that for you after the
3 meeting.

4 COMMISSIONER MERRIFIELD: If you had it, that
5 would be great, but the fact you don't is fine too. The
6 point I'd like to make for the benefit of the audience and
7 the public is to share with them -- we as a Commission
8 frequently have individual meetings with participants from
9 all over the world. This week we hosted the president of
10 the Korean Institute for Safety. It seems like on a weekly
11 basis we are having visits from these folks.

12 For me, having been here seven of eight months, it
13 has been a very valuable tool and opportunity to gain a
14 variety of experience and knowledge about where our fellow
15 regulators are and how their programs are progressing, and
16 similarly, it also provides a terrific opportunity for us to
17 explain to them where we are and the changes that we are
18 making in terms of our programs.

19 I think people who look at some of the activities
20 undertaken by the Commission relative to visits that we make
21 abroad or activities where we are involved with IAEA and NEA
22 may not have an appreciation for the vast number of visits
23 that we have on a yearly basis. So perhaps next year or the
24 next time we have this briefing you may want to include some
25 synthesis and show the degree of those kinds of visits.

1 MS. LEE: I would be happy to do that. I could
2 probably give you a ballpark figure right now that we would
3 receive on the order of maybe 25 high level visits. That's
4 just Commission visits. But there are a number of exchanges
5 that go on at the technical level. They happen almost on a
6 daily basis with different countries. I'll get you a better
7 number, though.

8 COMMISSIONER MERRIFIELD: Thank you.

9 MS. LEE: International arrangements establish
10 NRC's regulatory information exchange and cooperation
11 program. Five-year arrangements are signed with regulatory
12 organizations in 31 different countries plus Taiwan. At
13 Reference Chart No. 2 you can see a list of all the
14 arrangements that we have.

15 These arrangement provide NRC with direct access
16 to safety-significant information. They set the framework
17 for NRC technical advice and assistance. They support U.S.
18 foreign policy objectives.

19 I would like to move on to talk about the mature
20 countries with which we have exchanges. I'm going to do
21 this by way of the comparative study that was done with the
22 U.S., French, Japanese, and UK regulatory authorities.

23 A Tim D. Martin and Associates report was
24 referenced at the June 1999 hearing before the U.S. Senate
25 Subcommittee on Clean Air. The report implied that the U.S.

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1 NRC had proportionately far more regulatory personnel than
2 other countries. NRC was requested to review this issue,
3 and the Commission asked the staff to prepare an apples to
4 apples comparison.

5 We found that aggregate comparisons are not
6 meaningful because they do not compare like programs. Not
7 only are they not apples to apples; they are really more
8 like comparing fruits and vegetables.

9 Our programs are conducted in substantially
10 different ways because of different infrastructures and
11 regulatory approaches. NRC's regulatory approach is largely
12 shaped by expectations of the U.S. public, the Congress,
13 past operational experience, and Commission policy.

14 Let me just say that I thought that the activity
15 itself was very, very useful in that it brought the staff
16 together and provided for in-depth knowledge of three major
17 foreign partners. It validated what we knew, but it also
18 identified areas which we did not know.

19 From the point of view of immediate access to
20 reliable information, the study also affirmed the benefits
21 of our international arrangements.

22 COMMISSIONER MERRIFIELD: Madam Chairman.

23 CHAIRMAN JACKSON: Okay.

24 COMMISSIONER MERRIFIELD: I happened to have the
25 opportunity to travel internationally for the first time.

1 On behalf of the Chairman I signed a bilateral arrangement
2 between ourselves and Slovenia. Although they are not one
3 of the major countries that were in this comparative study,
4 I think it's instructive that I had some very positive
5 discussions with the chief regulator there. It became
6 readily apparent to me the degree and the knowledge that he
7 had of our regulations was reflective of the fact that they
8 take them almost verbatim.

9 I think there is something instructive here, that
10 there are a number of countries out there, even the mature
11 countries, which heavily rely on the rulemaking capacity of
12 this agency to develop their own programs. Obviously that
13 inures to their benefit. They are obviously adopting health
14 and safety practices that are the highest -- ours. But it
15 also makes it difficult to make international comparisons
16 since we are the lead in terms of making these safety
17 decisions. To the extent that others can borrow those
18 without having to have the research capability and the
19 capability in their own equivalent of NRR does make a
20 difference there, and I think that needs to be pointed out.

21 MS. LEE: Thank you very much for that.

22 Next I'm going to turn to our relations with what
23 we call transitional countries.

24 COMMISSIONER McGAFFIGAN: Madam Chairman, I think
25 the study that we did was a very important study. I commend

1 the people who worked on it, and Jim Blaha, who is not at
2 the table. I believe that we really do have a lot to learn
3 from the mature countries. They really are our benchmark.

4 One of the benefits that you had on your chart was
5 the in-depth knowledge of major foreign partners. I think
6 we have to increase our knowledge of these major countries.
7 As Ashok, I'm sure, will say later, the French have a larger
8 research program now than we do. We are still working off
9 of 45 years of leadership in this area, but especially with
10 mature countries, with mature programs at this point we have
11 a lot to learn. They are still learning from us.

12 The French are going through a major effort, which
13 the Consul d'Etat threw a little bit of roadblock into
14 recently, raising some constitutional issues. They are
15 creating a body very similar to us. There is a question
16 whether under the French constitution we are constitutional,
17 but luckily we are under the American Constitution.

18 I think we have an awful lot to learn. I would
19 actually encourage the staff on an ongoing basis, both in
20 international programs -- and I guess I will raise this with
21 the individual program offices later. I fear hubris on our
22 part. I fear that because we always were in front that we
23 will not learn. I don't think that's true, but I think it's
24 something we have to guard against.

25 We've had conversations here with the ACRS about

1 the Europeans as a group having greater desire to have very
2 little early release because of the density of their
3 populations. So they impose things like corium spreaders
4 and containment liners, et cetera, on their new reactors
5 which we don't impose on ours. We have to understand the
6 differences so we can justify the differences to the public,
7 and I think sort of constant benchmarking against the mature
8 programs is one of the most important elements of our
9 international programs.

10 CHAIRMAN JACKSON: For the record, would you say
11 what those three countries are? I think we know them.

12 MS. LEE: The three countries are the French, the
13 UK, and the Japanese.

14 COMMISSIONER McGAFFIGAN: I might even add that
15 many in NEI would look at this study and say, well, gosh, if
16 we had only lost the Revolutionary War, we would have the
17 British system, and they are the least expensive regulator.
18 I'm putting words in their mouth.

19 I talked to a British licensee recently who liked
20 the structure that we had under our decommissioning rule.
21 In Britain, when we were working on Westfall we were trying
22 to figure out what are you doing with Dounreay. You've got
23 the same problem there and they'll know it when they see it.
24 We, for better or for worse, recently said we will apply our
25 decommissioning rule. This particular licensee liked the

1 structure of having a rule under which they would operate as
2 opposed to the more flexible system. So I think constantly
3 trying to think about the differences is very helpful.

4 Sorry for the delay.

5 MS. LEE: Thank you.

6 Next I'm going to talk about the transitional
7 countries. I'm going to specifically mention Russia and
8 Ukraine but also note that the CEE countries fall into this
9 category, Central and Eastern Europe, and also Armenia and
10 Kazakhstan.

11 NRC has been providing regulatory assistance to
12 Russia and Ukraine since 1992. The program is intended to
13 enhance the independence and capability of the nuclear
14 regulators.

15 The areas covered include both technical and
16 managerial assistance. Our programs have succeeded not only
17 in providing tools of regulation, but also infusing the
18 concept of safety culture.

19 The greatest challenge for us remains in the area
20 of funding and continuing a positive momentum. However,
21 with regard to Russia, there are three additional
22 challenges.

23 The first is to continue to make positive
24 contribution to GAN despite the 50 percent cut in funding
25 imposed by Congress.

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1 Second, to assure that the momentum started in
2 1992 does not dissipate, our continued presence is necessary
3 to protect our investment.

4 Third, the stability of the government and the
5 country's economic health are continuing problems.

6 COMMISSIONER MCGAFFIGAN: Could I again raise a
7 question or two here? Maybe it's going to be addressed
8 later by Carl.

9 One of the challenges is clearly in the materials
10 control accounting area with the Russians. We have a recent
11 Academy of Sciences report that Mr. Hearn and Mr. Meserve
12 and others worked on that suggested that we needed to
13 continue the program and not declare victory because there
14 is not a lot more to do. But this is also an area where DOE
15 has the clear lead, for better or for worse, and all funds
16 are appropriated to DOE. The last time I checked with you
17 all, ten months into the fiscal year we were still waiting
18 for DOE to tell us what it is that they thought we could
19 contribute to the MPCNA efforts. This may be embarrassing,
20 but it's not classified. Could you tell us where this
21 stands, or was this going to be part of Carl's presentation?

22 MS. LEE: I can address that unless Carl would
23 prefer to. We might say two different things.

24 MR. PAPERIELLO: We are really not getting very
25 far. We received a letter from them on May 20th which says,

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1 yes, we are going to fund you but we still haven't figured
2 out how we are going to do it, and maybe it will just be
3 another contractor. Which doesn't make us very happy.

4 On May 28th we sent them a letter, basically
5 sending them a reimbursable agreement, saying that we need
6 to hear from you by the end of June.

7 We have spoken to them this week. They are still
8 trying to structure their own agreement. If we don't hear
9 from them by the end of June, we will be sending the
10 Commission a paper with possible options, including just
11 terminating the program.

12 COMMISSIONER McGAFFIGAN: I think that would be
13 unfortunate. It may be reality, but I believe -- and you
14 guys can correct me -- I'll ask a question rather than
15 making a statement. Isn't it true that our work in this
16 program, our little piece of it, has been uniformly praised
17 for the quality of the work?

18 MS. LEE: Yes.

19 COMMISSIONER McGAFFIGAN: Is it true that GAO is
20 currently looking into the program again?

21 MS. LEE: Yes. They are doing an update of a
22 review they began three years ago.

23 COMMISSIONER McGAFFIGAN: Would we have been
24 better off had the Congress given us a piece of a mission in
25 this area initially?

1 MS. LEE: Yes.

2 COMMISSIONER McGAFFIGAN: And giving us,
3 therefore, presumably some general fund appropriations to go
4 with it?

5 MS. LEE: Yes.

6 COMMISSIONER McGAFFIGAN: This annual going hat in
7 hand to DOE has served no one well but certainly has not
8 served the one little piece of the program that I think has
9 been uniformly considered excellent.

10 MS. LEE: That's correct.

11 CHAIRMAN JACKSON: It has been noted that we have
12 had GAO reviews and others that have indicated the quality
13 of the NRC contributions in this arena, but the
14 arrangements, particularly vis-a-vis the funding, have made
15 it particularly difficult for us.

16 MS. LEE: That's correct.

17 COMMISSIONER McGAFFIGAN: Let me go one step
18 further in case there is a GAO person in the audience or
19 they read the tape. I honestly think GAO in its current
20 analysis should consider whether it should make a
21 recommendation to Congress in this area. Not to put words
22 in their mouth, but something for them to consider would be
23 to give us a statutory role here and a very small amount of
24 money for the part of the program that GAO believes that we
25 can make a contribution to. We would clearly coordinate

1 with DOE; we would clearly not go off on our own; but the
2 current arrangement doesn't seem to be working.

3 MS. LEE: That's correct. I think we would be in
4 a much better position if that were to occur. I just don't
5 know the likelihood of that happening in the Congress.

6 I would like to move on to talk about our
7 relationships with the developing countries. We find in
8 this area that the IAEA is really the most cost effective
9 way to facilitate assistance.

10 I'm just going to talk a little bit about one area
11 where I think it has been particularly useful, and that is
12 the area to address orphan sources in member states. The
13 IAEA has a model project for upgrading radiation protection
14 and waste safety infrastructures. The project focuses on
15 five regional areas: Latin America, Europe, Africa, and
16 East and West Asia.

17 The IAEA also has several assistance projects to
18 help countries such as Georgia, Turkey, Peru respond to
19 emergency lost source incidents. I think they have been
20 very effective in this area.

21 Moving on to the foreign assignee program, this
22 program started in 1974 in response to requests from
23 developing countries for on-the-job regulatory experience
24 and training in the U.S. From 1974 to now NRC has hosted a
25 total of 270 foreign assignees from 32 countries. Your

1 Reference Chart No. 3 in the back provides a list of
2 assignees by country and by year.

3 Applicants for the program are proposed by their
4 employing regulatory organization or by the IAEA fellowship
5 program. The assignees are expected normally to be given
6 duties and responsibilities similar to those of regular NRC
7 employees, and subsistence expenses and cost of travel are
8 paid for by the IAEA or the sponsoring foreign government.

9 Security considerations are, of course, first and
10 foremost. We have a very detailed arrangement. We do
11 background checks. We provide stand-alone computers and
12 they are given very limited access to our building.

13 The program enhances regulatory awareness
14 capabilities and commitment in developing countries.

15 We view the program as an excellent mechanism for
16 developing quality relationships with key personnel in
17 foreign regulatory agencies. Some of these individuals now
18 serve at the office and division director levels in their
19 regulatory organizations.

20 COMMISSIONER DIAZ: How do you define what is a
21 mature country and what is a developing country? Is
22 belonging to OECD the definition of maturity, or is the
23 definition of maturity something else?

24 MS. LEE: There is no clear-cut criteria that
25 defines these programs. I would say that we talk about them

1 in generalities, that the mature programs are the countries
2 that have what we call significant nuclear power programs,
3 that have nuclear power reactors, materials regulations,
4 that type of thing.

5 The categories are just categories that we lump
6 together. They are not very good ones. It's hard in fact
7 to define countries that are mature versus some developing.
8 Numbers of reactors don't necessarily provide definition.

9 COMMISSIONER DIAZ: Not just OECD participation?

10 MS. LEE: I think that is factored in but not
11 really a criteria.

12 COMMISSIONER DIAZ: So we kind of have a magic
13 wand.

14 MS. LEE: It's a case by case basis.

15 COMMISSIONER McGAFFIGAN: I would also like to put
16 in a plug for the foreign assignee program. I think we
17 benefit in really understanding some of the foreign
18 programs. There is a very interesting article -- I will
19 commend our French assignee -- in Control, I think they call
20 the journal that they have. He was talking about what the
21 French could learn from the American program and what we
22 could learn from the French program.

23 I wish every assignee wrote a little article like
24 that or a larger article at the end of their assignment,
25 because there were some real insights in that. I appreciate

1 the foreign assignees when they bring that sort of value
2 added.

3 COMMISSIONER MERRIFIELD: Do we talk to them at
4 the end of their assignment to get lessons learned?

5 MS. LEE: Yes. They provide an assessment
6 evaluation to us.

7 COMMISSIONER McGAFFIGAN: This was a broader
8 assessment evaluation of where is the U.S. regulatory
9 program and where could it improve. I don't know whether
10 they do that. If they do that, that would be good. I think
11 the assessment more is how did the assignment go rather than
12 what I suggested this French assignee did.

13 MS. LEE: But we could talk to them about that.
14 We could broaden it. I think that is an excellent
15 suggestion.

16 As a final piece of my presentation, I would like
17 now to turn to an examination of the challenges which face
18 us and my vision for NRC's international programs. I
19 encapsulate my vision in three phases: keeping to the core,
20 challenging the process, and fostering cooperation.

21 It is important to remind ourselves what NRC's key
22 strategic international goal is. It is to support U.S.
23 national interest in safe and secure use of nuclear
24 materials and in nuclear non-proliferation. I refer to this
25 as keeping to the core.

1 To know if we are achieving this goal, we need to
2 ask ourselves, are we doing the right things? Is the work
3 critical to our mission outcomes? Are we doing it
4 effectively and efficiently? We should not find ourselves
5 focusing exclusively or primarily on the question, can we
6 afford to do this?

7 The policy basis for participation in
8 international activities was set by the Commission in its
9 1997 Strategic Assessment and Rebaselining Initiative.
10 Affirming to this end, staff will continue to actively
11 participate with Executive branch agencies to maintain NRC's
12 role in policy formulation. We will continue to participate
13 in exchange activities, and we will continue to provide a
14 wide but carefully selected range of safety and safeguards
15 assistance.

16 Staff, with Commission guidance, will measure our
17 effectiveness through the strengths and the unique
18 contributions that we bring, in other words, our value
19 added, and not condition our participation based on what our
20 resources will allow.

21 Under challenging the process, what I mean by this
22 is NRC continues to undergo change. It is not business as
23 usual. I believe any OIP program officer would readily
24 state that even in the past six months we have increased the
25 emphasis on how we plan, how we budget, and how we implement

1 our plans and our budget as individuals, as an office, and
2 as managers of larger programs. However, we must also
3 challenge the process to make sure that we do not omit
4 conducting important emergent activities simply because they
5 have not been planned for.

6 The Commission itself, interested in the scope and
7 depth of our work, has led us through some of this change.
8 You have emphasized the need for more thorough and timely
9 analysis, a better coordinated process, avoiding overlap and
10 duplication, and demonstrated in-depth knowledge of the
11 countries with which we interact.

12 I thank you for your feedback and your guidance.
13 I have communicated your expectations to the OIP staff, and
14 we are focusing on performance.

15 We need to do a better job at fostering
16 cooperation internally and externally with our stakeholders.
17 This cooperation should be based on a shared belief in the
18 benefits of international cooperation.

19 On the internal front, as we face the challenge of
20 securing funding, we need to speak with a single voice.
21 After consultation with the directors of program offices and
22 the Office of the Executive Director for Operations, we have
23 agreed to form a council to address international policy and
24 program implementation. This international council will
25 meet regularly and will improve information sharing and

1 coordination of NRC's international programs.

2 I appreciate the support and the enthusiasm with
3 which my colleagues have agreed to this idea.

4 On the external front, the public and NRC
5 licensees derive tangible and intangible benefits from these
6 activities. The public perception of how safely plants are
7 run as well as how secure they are influences its confidence
8 in nuclear energy. The U.S. as a major supplier of nuclear
9 fuel, equipment and technical services depends on an orderly
10 and predictable export licensing regime to enhance their
11 marketability.

12 In addition, our safety assistance program allows
13 U.S. companies to expand their business interests.
14 Cooperation with foreign countries in nuclear safety
15 research provides a larger experience base than exists in
16 the U.S. alone. Together we can identify and resolve safety
17 issues in an economical manner.

18 Our assistance also helps in the prevention and
19 mitigation of problems in countries with weak or embryonic
20 nuclear safety cultures. Given that the operators of
21 nuclear facilities spend millions of dollars per year on
22 insurance, imposing a small cost on licensees to support NRC
23 staff for assistance is on balance a very cost effective
24 insurance policy.

25 NRC's participation in international safeguards

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1 and non-proliferation helps us assess potential threats
2 against the U.S.

3 We must remember that NRC's regulatory strengths
4 influence U.S. credibility domestically and abroad. We
5 should be ready to emphasize these points, as appropriate,
6 in our dialogues with the Congress, the domestic industry,
7 and our relevant stakeholders.

8 This concludes my portion of the presentation. I
9 would now like to turn the briefing over to Dr. Knapp, who
10 will introduce the program offices individually.

11 COMMISSIONER McGAFFIGAN: Madam Chairman. If the
12 French think it's important to have people come to the U.S.,
13 and reading Control again, I see the British inspectors
14 spend some time, and the French inspector, mostly in the
15 reactor area, do we think it's important to send some of our
16 folks to France, to England, to Germany, to Spain?

17 MS. LEE: Yes, we do.

18 COMMISSIONER McGAFFIGAN: It wouldn't really be
19 part of our international program. It would be like sending
20 somebody to Capitol Hill, another foreign country, on a
21 political science association exchange. We think that is
22 valuable because it brings us knowledge of that institution.
23 If we don't have the hubris that we have nothing to learn,
24 then we should be sending people out and trying to tap and
25 understand and benchmark ourselves against those regulators.

1 I ask if that is happening.

2 MR. ZIMMERMAN: I can give you a recent example.
3 This last spring we sent a senior reactor analyst over to
4 France for several weeks to look at the way they do their
5 inspection planning and process, particularly with regard to
6 outages. We have found that to be very useful.

7 We have done it and look for opportunities to
8 continue to do it, as well as participate in other direct
9 inspection activities at facilities. So in addition to
10 taking part in multilateral and bilateral meetings, we are
11 also looking at having a direct observation of activities in
12 the field and close working relationships with the
13 regulator.

14 COMMISSIONER MCGAFFIGAN: I would be interested to
15 see how much of that we do and how that is planned into our
16 programs, but that is something I can explore another time.

17 MR. THADANI: If I may make a quick comment on
18 that from Office of Research, it seems to me that we tend to
19 get more assignees from other countries here than we send
20 our people. I think France is a very good example. From
21 the Office of Research we did send one person about two
22 years ago to France to spend a substantial amount of time to
23 truly learn from them. But I think we don't do enough, and
24 we need to think hard if we can get additional benefit from
25 this.

1 COMMISSIONER McGAFFIGAN: Thank you.

2 MR. ZIMMERMAN: Also sending individuals not only
3 from the headquarters but from the regions to give them that
4 opportunity as well.

5 COMMISSIONER McGAFFIGAN: Right. At times we do
6 it. Joe Callan, when we were starting up the program with
7 the Ukrainians, didn't he spent a significant period of time
8 there in a sort of assistance mode?

9 What I am saying is I suspect and the British and
10 French and other examples indicate that they are going off
11 in a learning mode, where we are not in assistance but we
12 are really trying to benchmark and learn.

13 I'm glad we do some of it, and I would just
14 suggest to this council that you think about whether that
15 should be expanded and how to do so cost effectively and
16 whether there are language issues. I know there may well
17 be. The Europeans all speak English and can come this way,
18 but other than Commissioner Diaz we are a little bit short
19 on our foreign language capabilities.

20 My main concern is that we not suffer from hubris.

21 MS. LEE: I would just add one more point. We did
22 have an NRC individual spend a year in Japan.

23 COMMISSIONER DICUS: Also, haven't you assisted in
24 some way or the other state people going to assist in
25 foreign countries?

1 MS. LEE: I think we have been involved to a
2 certain degree with that, yes.

3 COMMISSIONER DICUS: Commissioner Merrifield.

4 COMMISSIONER MERRIFIELD: One question. We talked
5 a lot today about the activities we have under way in Europe
6 and some of the activities we have under way in Asia. It
7 has struck me to a certain degree that our relationships in
8 many ways are sort of east-west related. I would commend
9 Commissioner Diaz for taking some time with our southern
10 neighbors in Mexico, Brazil, and Argentina. I believe, I
11 think as he does, that those are important relations for us,
12 as well as with Canada, the north-south.

13 I am wondering if you have any thinking in terms
14 of ways in which we can strengthen those relationships as we
15 move forward with international programs. That may be some
16 work that we as Commissioners have to do; it may be some
17 work we have to do as a Commission.

18 MS. LEE: I think that is an excellent point. We
19 have had visits to Canada and Mexico that have occurred
20 throughout the recent years. We have had technical teams
21 exchange visits and information. I would like to see more
22 of that, quite frankly. I think we can think about that
23 area in a better way, and I would like to see that happen.

24 COMMISSIONER MERRIFIELD: That will certainly be a
25 priority for me in the coming year. Thank you.

1 MR. KNAPP: On behalf of the EDO's office, a
2 couple of comments on Janice's presentation. We are quite
3 interested in international and I think that we will be
4 seeing increased attention at the EDO level in the coming
5 year.

6 I'm looking forward to working with Janice and
7 working on the international strategic arena as we go
8 through the PBPM process and as we agree to and pursue an
9 outcome-based program. I think we will see stronger
10 internal coordination and a more outcome-based process
11 within the next year. I'm looking forward to that.

12 As I turn it over to the office representatives to
13 talk about their programs, I would note the presentations
14 this morning in fact will begin with desired outcomes
15 followed by a discussion of their activities and a
16 discussion of the benefits which they foresee from each of
17 the programs.

18 With that, I will turn it over to Roy Zimmerman of
19 NRR.

20 MR. ZIMMERMAN: Good morning.

21 Our desired outcomes in NRR are clearly to benefit
22 from our international experiences that contribute to our
23 four performance goals that Janice mentioned, that are shown
24 here in the middle of the slide.

25 We recognize that there is a wealth of information

1 that we can gain from the operating experience with our
2 international peers. We also recognize our responsibility
3 to assist in the fulfillment of not only NRC's but the U.S.
4 international nuclear safety obligations. We appreciate the
5 opportunity to be able to do that as well.

6 With regard to resources, approximately one
7 percent of NRR's budget goes into the international area.

8 Most of our international activities are designed
9 to gain safety information through bilateral and
10 multilateral exchanges.

11 For example, over the past four years we worked
12 closely with our peer regulators from Canada, France, and
13 the UK to understand the challenges that these countries had
14 in the area of digital I&C. We were experiencing both
15 hardware and software challenges.

16 These insights that we worked with them on helped
17 us to finalize our SRP in this particular area of digital
18 I&C. We then were able to take this SRP and use it to our
19 advantage with regard to the advanced reactor design
20 certifications, particularly with the Westinghouse reactor.

21 It also has assisted us in contributing to our
22 review of the Y2K program. International insights brought
23 to our attention challenges with regard to embedded chips
24 that may not necessarily be readily observable to us in
25 certain systems. We found that very valuable.

1 Also, the standard review plan for digital I&C
2 allows us to complete our reviews of modifications that
3 plants make as they go from analog to digital systems and
4 will continue to assist us as we move forward in the license
5 renewal area.

6 Discussions with peer regulators from Spain and
7 Taiwan have helped us gain information on safety performance
8 of high burn-up fuel, and likewise this contributed to
9 developing our standard review plan and acceptance criteria
10 for review of extended cycle times. We were able to receive
11 data from both Spain and Taiwan associated with corrosion
12 measurement techniques associated with that fuel.

13 With regard to material issues, France provided
14 extensive data to us on steam generator tube integrity
15 issues, including crack growth rate, which is useful in our
16 review of steam generator issues in this country.

17 We have also benefited from exchanges with Spain,
18 Japan, and Sweden on techniques for examining and repairing
19 core shroud degradation.

20 The standard review plan associated with digital
21 I&C is also going to get an opportunity to get a good test
22 as the Temelin reactor, which has a Westinghouse digital I&C
23 system, comes on line in the fall of next year, as well as
24 the Lungmen dual unit facility, a GE facility in Taiwan. We
25 were able to participate in the review with the appropriate

1 regulators. It assisted us in the development of our SRP,
2 and now as those two plants go through pre-operational
3 testing and initial startup of those systems in the fall of
4 2000, it will be a good operational test of our SRP.

5 Over the past several years we have also provided
6 assistance to Russia and the Ukraine, the regulatory
7 authorities there, and we were able to describe for them and
8 assist in their development of an inspection program
9 development of a framework for their regulatory process.
10 Specific areas like fire protection and challenges in their
11 ventilation systems as well as working in the license
12 renewal area are some of the primary areas where we are
13 lending assistance to those countries.

14 We spoke recently to Commissioner McGaffigan's
15 point associated with our assignees going into the field and
16 benefiting from extended stays, visiting France where we are
17 able to gain insights on inspection planning in that
18 country, and we had a number of individuals that visited
19 Sizewell. It was a mutual benefit as shutdown risk concerns
20 were discussed associated with that facility.

21 We have also benefited from involvement in a
22 number of technical groups, such as the Working Group on
23 Inspection Practices. This is an opportunity for the member
24 country representatives to discuss and learn from each other
25 about nut and bolt issues associated with the way

1 inspections are being conducted.

2 Right now, with the development of our reactor
3 oversight program, there is heightened interest in that
4 working group and understanding in great detail and
5 following with us as we go through our pilots where we stand
6 in that process. The personal involvement that I've had
7 with members of that group is that they are very
8 knowledgeable and up to speed on exactly where we are in the
9 process and are anxiously following the developments from
10 our pilots.

11 COMMISSIONER MCGAFFIGAN: I might use this as an
12 opportunity to ask a question. I think I saw a trip note
13 that you had written where some of our foreign colleagues
14 were a little concerned about where we were going because we
15 weren't going to be doing enough second-guessing of
16 management. I'm being pejorative. They feel much more
17 comfortable in Europe as federal bureaucrats evaluating
18 management of the facilities and making that part of their
19 program. We as a Commission have decided to do something
20 different because we saw how Senator Inhofe reacted to the
21 notion that we could grade management.

22 Could you give us a little more insight into how
23 those discussions went?

24 MR. ZIMMERMAN: You said it very well. That is
25 how it went. Our presentation brought out where we were

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1 headed in terms of a process that was more objective, more
2 scrutable, more predictable, and the benefits of that, and
3 to move away from the more subjective nature. The
4 discussion on the performance indicators, supplemented and
5 coupled with the inspection program, was our presentation.

6 There was a movement among a number of countries
7 that there was a desire to get a better handle on management
8 performance. Some of that handle they wanted to receive was
9 very personal in terms of where they see some weak
10 management individuals to engage regulator to utility and
11 address those issues.

12 We came back and indicated that we see a bigger
13 benefit in being able to identify objectively what the issue
14 is, and if that leads a reasonable individual to track back
15 to a particular management individual or management process
16 or safety culture, then it can take you through the facts
17 rather than a more direct issue associated with any
18 particular individual management style per se.

19 COMMISSIONER McGAFFIGAN: I think this is a good
20 example of where we have a good discussion with our foreign
21 colleagues and we end up actively disagreeing. Maybe
22 because of cultural differences between us and them; maybe
23 because even they should consider whether they go to that
24 personal level. I think Towers Perrin had a few examples of
25 that that didn't look very good when they were shown to the

1 light of day. We think the right way to go, and
2 Commissioner Diaz has been at the forefront of this, is to
3 focus on results and facts and not try to second-guess
4 management.

5 MR. ZIMMERMAN: We are also participating in the
6 Technical Committee on Aging Management and License Renewal.
7 This is a very good opportunity for us to get additional
8 age-related data to assist us in our reviews. We also share
9 and benefit from discussions on advances in performing
10 probabilistic safety assessments.

11 Janice discussed safety. That was an area where
12 NRR had a significant role. We had 14 of our technical
13 reviewers during 1998 that did a lot of work in preparing
14 that draft.

15 COMMISSIONER DIAZ: Excuse me, Mr. Zimmerman.
16 Following Commissioner Merrifield's lead, who pays for our
17 participation in the Convention on Nuclear Safety?

18 MS. LEE: I can answer that. We pay for that. We
19 pay the FTEs that go to review the country reports, to
20 prepare our own national report. This is a treaty
21 obligation for which we have made commitments, and we pay
22 for that. It comes out of the NRC budget.

23 COMMISSIONER DIAZ: Besides the travel costs and
24 the FTEs, do we pay any contract costs?

25 MS. LEE: I'm not aware of any contract costs, but

1 we do pay travel and staff costs.

2 MR. ZIMMERMAN: We have looked at the FTE
3 contribution enrolled in travel costs. It came out to about
4 one FTE with a very small contribution in the travel area.

5 COMMISSIONER DIAZ: So it's small?

6 MR. ZIMMERMAN: One FTE. It's 14 individuals that
7 worked on it. It added up to one FTE.

8 COMMISSIONER DIAZ: It certainly is an obligation
9 that we have as being part of the United States Government.
10 It could definitely be separated and say this is actually
11 being paid by us.

12 COMMISSIONER McGAFFIGAN: This is another one of
13 these leading questions. I regret that we didn't get to
14 fully participate in the meeting, because from the press
15 reports I saw, it sounded like it would have been an ideal
16 opportunity for some folks from NRR and perhaps NMSS and
17 Research to have had involvement in those peer discussions.
18 The document that came out of the meeting, by any standard
19 I've seen and done with the rapidity with which it was done,
20 was a very high quality document that the group produced.

21 MS. LEE: We will have an opportunity three years
22 from now to fully engage.

23 COMMISSIONER McGAFFIGAN: Right. I think it will
24 be a worthwhile cost is all I'm saying.

25 MR. ZIMMERMAN: Slide 25 on foreign assignees. We

1 have had some discussion already on foreign assignees. From
2 NRR's perspective, we are clearly seeing a benefit, and we
3 think it is a mutual benefit for the foreign assignees that
4 we currently have on board.

5 The listing in front of you is in fact foreign
6 assignees that are currently on board in NRR. The
7 individuals that are assigned these roles are very competent
8 individuals. Their up to speed time is very little, and
9 they are able to make meaningful contributions to assist us
10 in our task and our mission very quickly, and we believe
11 that they are likewise benefiting from their time here and
12 getting to better understand our processes.

13 COMMISSIONER McGAFFIGAN: Again I might note I
14 believe it's correct that Japan is the first licensing
15 authority to grant an extension beyond 40 years to an
16 operating license. I think they did that in the last few
17 months. Isn't that correct?

18 MR. ZIMMERMAN: I think that's right.

19 COMMISSIONER McGAFFIGAN: That's based on
20 Nucleonics Week.

21 MR. ZIMMERMAN: If there are no further questions,
22 Ashok Thadani will discuss the Office of Research.

23 MR. THADANI: Good morning. You've heard about
24 the four outcome goals. I think most of the activities that
25 we are involved in with the international communities are

1 focused on trying to address the outcome goals that have
2 been talked about.

3 Central in achieving those goals is the
4 contribution of the information we get from other countries,
5 a contribution that makes us able to make sound technical
6 decisions. It has become more and more important as years
7 have gone by. Some of the experimental work that is going
8 on in other countries is very much first-class quality type
9 of work. It has been of great value to us in understanding
10 some of the issues. I will come back and give you some
11 examples of those issues.

12 I think you have said it yourselves at this
13 meeting that it is not just important to get good
14 information, but it's equally important to make sure that
15 information is shared by the countries. There are many ways
16 we go about doing that. Setting up benchmark international
17 standard problems just happens to be an example of how we go
18 about trying to make sure the information is shared.

19 Another area where we are fairly active is the
20 issue of international standards. In some cases I think we
21 are getting some very good input ourselves, but nevertheless
22 to make sure that the best technical information is
23 utilized. As you have said yourselves again this morning,
24 light water reactor technology is global, and it is
25 important to us in terms of safety of plants not just in

1 this country but as well as in other countries.

2 I will come back and discuss some specific
3 numbers. We have been working very hard to make sure that
4 our resources are properly leveraged to take advantage of
5 what the other countries are doing to help us make the
6 decisions that we need to make.

7 This is a bit busy. As our budget has gone down,
8 it really has become important that we increase our
9 cooperation with international organizations as well as
10 domestic organizations.

11 I believe this is completely consistent with the
12 direction we were given in Direction Setting Issue 22 by the
13 Commission. The current situation is that we have actually
14 64 bilateral and multilateral research agreements.
15 Commissioner Merrifield and Commissioner Diaz, I may note
16 that we do have some agreements with some of the South
17 American countries as well, and we are in fact attempting to
18 increase our interaction with them.

19 We have 23 additional agreements under negotiation
20 currently.

21 What is the value of these agreements? There are
22 two cases I would like to present to you.

23 The first one is we have initiated work in terms
24 of improving our thermal hydraulic codes. As you know, we
25 have gone down in terms of the work we do in the severe

1 accident arena. We have increased our efforts in the area
2 of risk assessment. We decide what it is that we want to
3 do.

4 We are fortunate in that we get about \$2 million a
5 year from other countries to participate in the programs
6 that we are working on. So this is additional funding that
7 we utilize to help us get to where we want to get and to
8 share this information with other countries.

9 Another category where we get great value is we
10 contribute about \$4 million per year to international
11 research programs. Some of the research is conducted in
12 other countries and some is conducted in this country. For
13 example, the lower head failure work that is going on at
14 Sandia National Laboratory is supported by a number of other
15 countries.

16 For this \$4 million the other countries'
17 contribution is about \$60 million. Many of the programs we
18 could not support clearly were it not for the fact that
19 other countries have come forward in many cases and put up a
20 fair amount of resources.

21 I will come back to this point when I say a few
22 words about some of our future needs and how that might be
23 an important element.

24 COMMISSIONER MERRIFIELD: I don't know what the
25 numbers are, Ashok, but we have obviously had a significant

1 reduction in the past years in terms of our own research
2 capabilities and the number of FTE that we have here in the
3 agency who were engaged in these kind of research
4 activities.

5 As Commissioner McGaffigan has noted, and I agree
6 with him, because of that, areas in which we had a lot of
7 strength previously we don't have the resources to be strong
8 in everything now. So we will have a greater dependence and
9 interrelationship with other international countries in
10 terms of taking benefit of their research. That \$4 million,
11 it would seem to me, is very critical and a good investment
12 in leveraging the funds we have in terms of getting the best
13 value of research out there and sharing in the other
14 information that these other countries have.

15 MR. THADANI: Indeed, I can say with some
16 confidence that the U.S. was clearly a leader in many of the
17 technical areas. We are no longer leaders in all those
18 areas that we were once, leaders in those categories.

19 You are quite right. It is essential that we stay
20 in close contact with those countries where they have in
21 fact gone on in considerable additional work.

22 Commissioner McGaffigan talked about the European
23 PWR and the idea of core catchers, and so on. In the severe
24 accident arena, if I may say, the Europeans are doing much
25 more work, and we are trying to leverage our resources to

1 get that information.

2 Another major area where we need to catch up is in
3 the area of fuels. We used to be leaders, but for the past
4 20 years, roughly, we haven't done very much research. Some
5 of the new issues are developing, and I will share with you
6 some of those cases.

7 To go back to respond to part of what you said,
8 Commissioner Merrifield, since you gave me an opportunity,
9 five years ago our budget was --

10 COMMISSIONER MERRIFIELD: I don't want to give you
11 too great an opportunity.

12 [Laughter.]

13 MR. THADANI: In any case, I think as an agency we
14 are getting tremendous return in terms of our investment in
15 our international activities.

16 Let me say just a couple of words about our
17 involvement in IAEA and NEA. I am personally quite active
18 in the NEA Committee for Safety of Nuclear Installations.
19 NEA provides us a great forum for making sure we can
20 leverage our resources, because that provides an opportunity
21 to bring issues to the table.

22 There is fairly good technical discussion and a
23 lot of discussion of merit for going forward with doing any
24 work at all. The recent success we had was the Sandia lower
25 head failure example I used earlier where NEA has taken the

1 leadership, and we are getting a substantial amount of
2 resources from other countries.

3 There is this issue which I think we alluded to
4 earlier to make sure that within NEA activities are
5 conducted in an efficient and effective manner. I am
6 chairing a working group within NEA, CSNI, to make sure that
7 we are actually being effective and efficient. We hope to
8 develop some recommendations for NEA in that regard.

9 I think Janice sort of touched on this. We are
10 assisted GAN and Ukraine regulatory authorities in the area
11 of risk assessment by developing procedures, guides and
12 training, and so on, so they can get a better understanding
13 of the risk.

14 CHAIRMAN JACKSON: Is our degree of participation
15 in the international communities, including standards review
16 groups, sufficient for us to keep up with the state of the
17 art?

18 MR. THADANI: I believe it is sufficient at this
19 stage. Where we are perhaps lacking a little bit is in the
20 area of IAEA. The number of standards that IAEA puts
21 together is quite significant, and we tend to do overview
22 rather than a thorough review. So there I think we are
23 probably applying limited resources just because of those
24 constraints of resources.

25 Let me give you a few specific examples of some of

1 the benefits that have been derived from our interaction
2 with the international community.

3 The very first one relates to the AP-600 design,
4 the passive design that was approved recently. The
5 experimental programs that were under way by Westinghouse in
6 Italy and with cooperation with us in this country were
7 facilities of very small size. There were significant
8 questions about scaling.

9 Japan had a full-scale facility that we took
10 advantage of. If we had to do that research in this
11 country, I'm convinced we would have needed probably about
12 \$30 million to \$60 million to just construct such a
13 facility. The value of this facility is that it led to
14 actual changes in design for AP-600.

15 One of the most significant changes was the
16 capability to depressurize and be able to use long-term
17 passive cooling system. It was very critical to understand
18 the pressures and temperatures properly. The Rosa facility
19 identified some of the problems. That was not the only
20 design change that resulted. There were others as well.

21 Some of the other examples I like to use is our
22 effort with the European Commission's network on evaluating
23 steel components. This is basically a full-fledged
24 pressurized thermal shock type of effort, not only
25 introducing flaws on the surface as well as subsurface of

1 the vessels, but creating those conditions to see how these
2 vessels would behave. We are providing a very small
3 fraction of the overall cost of this program.

4 Another example goes to the issue of fuels I was
5 talking about. We have not done research over the last 20
6 or so years. The French have continued, and in the mid-90s
7 the French identified the potential impact of higher burn-up
8 levels on fuel and the fuel response under certain accident
9 conditions, and the potential for pretty serious
10 consequences. That sensitized us. That was our first
11 information that led us to make sure that we are in fact
12 fully engaged in that effort, and with the support of the
13 Commission we are in fact involved.

14 The whole issue of the need for making sure that
15 we have the right codes. There is a lot of work going on,
16 and the international community helps us make sure we stay
17 up to date.

18 Commissioner Dicus knows about this much more than
19 in fact I do, the JCCRER Project 2.3. It is important in
20 leveraging resources. We are providing a very small
21 fraction of the overall cost. This would help us get a
22 better understanding of long-term exposure based on data
23 from the workers exposure, both internal and external.

24 NEA and our multilateral and bilateral agreement
25 also allow us to make sure the right technical people are

1 getting together and debating issues. I cannot, quite
2 honestly, understate the importance of that. I believe
3 firmly that not just taking information and reviewing
4 something, but being involved in these things is how one
5 gets deep understanding of issues. I think that is very
6 important. That is another value that we have from our
7 interaction with the international community.

8 We have access to a number of international
9 facilities. NEA is very helpful in helping us get access to
10 those facilities. Examples certainly are Cabri in France
11 and some of the facilities in Japan, particularly seismic
12 facilities.

13 I do want to acknowledge that we have two
14 assignees in the Office of Research. From Switzerland, Dr.
15 Chen. He has already been very successful in helping us
16 separate two specific codes, a severe accident code from our
17 thermal hydraulic code, because we are trying to consolidate
18 the thermal hydraulic code, and this separation in the
19 modular form helps us. I want to acknowledge the work he
20 has done and contribution he has made to separate those
21 codes and help us in our move towards more efficient use of
22 these codes.

23 Dr. Sanchez has just come on board from Spain.
24 Dr. Sanchez is going to be working on thermal hydraulic
25 codes in the neutronics connection. We are looking forward

1 to working with him as well.

2 While there are many areas, I wanted to focus on a
3 selected area for this discussion. It is very clear that
4 the industry has gone to fairly high burn-up levels now and
5 they are going to go to higher because of obvious challenges
6 trying to optimize fuel designs. We are going to have to
7 rely on some cooperative effort to get the necessary
8 technical information to confirm those changes that we
9 believe the industry is going to make are going to be
10 appropriate.

11 France and Japan are two countries we are going to
12 rely more and more on to get the information we need. To
13 respond to what Commissioner McGaffigan said earlier, France
14 and Japan do have resources which are three to four times
15 our resources in terms of research capability. I think we
16 are just going to have to make sure we are closely connected
17 with those organizations so we can get the necessary
18 information. That relates to both the high burn-up fuel and
19 the MOX fuel area.

20 Burn-up credit is basically an example of
21 unnecessary burden reduction where we are trying to get data
22 to reduce uncertainty so we can make sure appropriate credit
23 is given for reactivity in terms of the burned fuel. Today
24 the assumptions are conservative, and it does cost a fair
25 amount of money. We are hoping to get the information to be

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1 more realistic in terms of reactivity aspects of burned
2 fuel.

3 These are some examples I wanted to share with
4 you. I assure you there are many other areas that we could
5 talk about if we had the time.

6 Thank you very much.

7 CHAIRMAN JACKSON: Thank you.

8 Dr. Paperiello.

9 MR. PAPERIELLO: While the NMSS international
10 activities constitute about 2 percent or less of our total
11 annual budget, they are a significant responsibility.

12 NMSS international activities are a consequence of
13 treaties and other international agreements, NRC export
14 licensing responsibilities, and mutually beneficial
15 technical exchanges.

16 The United States has entered into treaties and
17 international agreements to place legal requirements for
18 some nuclear materials activities in the United States.

19 These requirements include making NRC licensed
20 peaceful use facilities eligible for the application of
21 International Atomic Energy Agency safeguards, ensuring the
22 tracking and use obligations are implemented on nuclear
23 materials in the United States that originated or were
24 processed in foreign countries, and implementing export
25 controls on nuclear and nuclear-related materials, equipment

1 and technology.

2 These treaties and international agreements
3 include the Nuclear Non-proliferation Treaty, the U.S.-IAEA
4 Safeguards Agreements, the Nuclear Suppliers Group, and
5 agreements for cooperation with other countries.

6 We conduct numerous activities to satisfy U.S.
7 treaty and international agreement obligations. More
8 specifically, we implement certain treaty and agreement
9 obligations associated with bilateral cooperation and
10 international safeguards agreements. These obligations
11 include verifying and returning the safeguard seals attached
12 by other safeguards inspectorates, tracking and reporting
13 quantities of materials on which international obligations
14 have been attached, facilitating the application of IAEA
15 safeguards at NRC licensed facilities selected by the IAEA
16 for the application of safeguards, and reporting exports and
17 imports, transfers and material balance information to the
18 IAEA.

19 The United States is a major exporter of nuclear
20 fuel, equipment, technical expertise and other services.
21 The NRC is responsible for ensuring that certain exports of
22 nuclear materials, equipment and services satisfy the
23 requirements of the Atomic Energy Act, which includes
24 requirements relating to the application of international
25 safeguards and the adequacy of physical protection.

1 In support of import and export licensing of
2 nuclear materials and equipment, we review export and
3 re-transfer cases to assure that the country to which the
4 United States materials are to be shipped has international
5 safeguards agreements in place, that the IAEA has been able
6 to implement IAEA safeguards at the facilities in question,
7 and that an adequate physical protection program is in place
8 to protect nuclear materials.

9 NRC conclusions with regard to the adequacy of
10 physical protection are based in large part on the results
11 of physical protection bilateral meetings held with
12 receiving countries to discuss their physical protection
13 program.

14 In addition, we support U.S. non-proliferation
15 goals through participation in U.S. coordinated efforts for
16 strengthening international safeguards. We provide
17 technical expertise to strengthen the IAEA's capability to
18 verify the accuracy and completeness of states'
19 declarations. This support is provided through
20 contributions to the U.S. inter-agency activities to
21 strengthen safeguards, and in some cases directly to the
22 IAEA and states themselves.

23 We participate in U.S. Government efforts to
24 negotiate and implement the U.S.-Russia-IAEA Trilateral
25 Verification Initiative and other non-proliferation

1 programs, such as HEU down-blending, transparency, and
2 plutonium disposition.

3 Our activities support IAEA and U.S. Government
4 verification actions and policy initiatives associated with
5 the irreversible commitment to remove high enriched uranium
6 and plutonium from the U.S. and Russian nuclear weapons
7 program.

8 We also participate in selected mutually
9 beneficial bilateral and other international efforts to
10 strengthen regulatory regimes and create a global nuclear
11 safety culture.

12 For example, we provide support to Russia, Ukraine
13 and Kazakhstan in material protection, control and
14 accounting using support funds from the Department of
15 Defense and the Agency for International Development. We
16 also support the strengthening of the safety regulatory
17 capability in Ukraine and Russia using AID's funds. Both
18 programs are currently on hold pending funding.

19 In the area of waste and decommissioning, to the
20 extent that we see a benefit to our current issues, we
21 participate in selected international workshops and other
22 activities.

23 One important but very small area in terms of
24 budget and FTE is participation in the standard setting
25 activities of international bodies like the IAEA which can

1 have a direct impact on regulation in this country.

2 NRC participation in the standard setting
3 activities of international bodies provides an opportunity
4 to share our expertise with our international counterparts,
5 learn from their perspectives on issues, and help ensure
6 that the products they issue are compatible with NRC
7 technical and policy views.

8 For example, we participated on the Waste Safety
9 Standards Advisory Committee formed by IAEA to develop a
10 series of guides and standards on radioactive waste
11 management and support the radioactive waste safety program.
12 We participated in the International Convention on Nuclear
13 Waste and Spent Fuel, for example.

14 We participated in the IAEA Transport Safety
15 Standards Advisory Committee in developing transportation
16 standards. We also support the Department of
17 Transportation's international efforts in developing
18 transportation standards. Our own Part 71 in significant
19 part and of course DOT's equivalent regulations are based on
20 the international standards.

21 We are involved in radiation protection activities
22 of the International Commission on Radiation Protection,
23 which is an advisory body on radiation safety standards, and
24 on IAEA's Radiation Safety Standards Advisory Committee.

25 We also represent the United States on NEA's

1 Committee on Radiation Protection and Public Health. In
2 these areas we have developed the international basic safety
3 standards for protection against ionizing radiation. One
4 aspect of that particular guidance document provided support
5 for our own efforts on Part 35 with respect to the dose to
6 friends and relatives to support a patient, a standard for
7 exposure for those individuals.

8 Our efforts on clearance and decommissioning are
9 also being coordinated with these bodies.

10 In all, in fiscal 1999 there are 8 FTE and about
11 \$25,000 for activities under the Non-proliferation Treaty
12 and safeguards. In addition, there is about one FTE used
13 for technical exchanges.

14 I didn't have in my formally prepared remarks the
15 issue of foreign assignees. We have had foreign assignees
16 in NMSS in a number of areas. We have also had both
17 headquarters and regional people participate in training
18 activities, particularly in developing countries, on the
19 regulation of materials used in industry and medicine.

20 Thank you.

21 CHAIRMAN JACKSON: Let me ask you a question.
22 Maybe it is actually to all of you. You probably addressed
23 it when I had to leave the room and Commissioner McGaffigan
24 was asking a number of questions in this regard.

25 Do you feel having to have DOE fund NRC

1 participation in certain assistance efforts has affected the
2 staff attitude towards participation in those activities?
3 Anybody care to answer?

4 MS. LEE: I would answer that question. I would
5 say it has definitely affected the staff's attitude. It is
6 a real struggle to have to deal with getting money from
7 other agencies. These reimbursables are not easy things to
8 get. The classic example is this MPCNA. We have negotiated
9 with DOE over the course of the last 18 months and we have
10 really gotten not very far. If I was the staff person
11 working on this, my attitude would be a little diminished
12 and very deflated. I'm not so sure that the effort that you
13 put in is worthy of the outcome. I think it tends to
14 deflate the human spirit in their approach to work.

15 CHAIRMAN JACKSON: You were going to say
16 something, Carl?

17 MR. PAPERIELLO: I think you expressed it
18 extremely well.

19 CHAIRMAN JACKSON: Roy.

20 MR. ZIMMERMAN: I would share Janice's thought.

21 CHAIRMAN JACKSON: Ashok.

22 MR. THADANI: I think we have not had as extensive
23 an involvement in some of the activities that we have had
24 with some other agencies. It's a difficult issue in
25 general, I think.

1 CHAIRMAN JACKSON: Commissioner Dicus.

2 COMMISSIONER DICUS: I don't have any further
3 questions.

4 CHAIRMAN JACKSON: Commissioner Diaz.

5 COMMISSIONER DIAZ: No.

6 COMMISSIONER MERRIFIELD: One quick question. We
7 have been striving to a great degree over the last year and
8 a half to reform the way we do business around here in our
9 regulations fully consistent with our mandate to protect
10 health and safety, to make them more risk-informed, and also
11 to reduce unnecessary burden. I direct this at Roy, Ashok
12 and Carl.

13 Our efforts through the Chairman's tasking memo
14 and all of the other regulatory activities that we have had
15 under way, would you agree with the statement that those
16 have benefited and perhaps significantly benefited from the
17 interactions we have had with our foreign partners?

18 CHAIRMAN JACKSON: Try not to all speak at once.
19 Ashok.

20 MR. THADANI: There is absolutely no doubt in my
21 mind that we have benefited, and there are many examples we
22 could get into.

23 CHAIRMAN JACKSON: Carl.

24 MR. PAPERIELLO: I think the other way. We have
25 been able to budge them, particularly in the area of

1 transportation, to consider risk-informing transportation
2 requirements.

3 CHAIRMAN JACKSON: Roy.

4 MR. ZIMMERMAN: We have clearly benefited and we
5 use the process as a filter so that as we go about doing
6 work or planning a trip, we challenge ourselves to make sure
7 it is driving us toward our outcome goals or another
8 obligation that we might have, and that we expect that the
9 request for the trip or the participation explain it in
10 terms of our four goals, and that the trip report that we
11 get back explains the benefit in terms of those four goals.
12 So we are trying to talk and walk along the lines of our
13 PBBM project.

14 COMMISSIONER MERRIFIELD: But there is a tangible
15 benefit we have realized from that process?

16 MR. ZIMMERMAN: Yes.

17 COMMISSIONER McGAFFIGAN: Madam Chairman, just one
18 last thing. I want to congratulate you on your 309
19 meetings.

20 CHAIRMAN JACKSON: 311.

21 COMMISSIONER McGAFFIGAN: I wish you well. To my
22 more eloquent junior colleague this is a cue. Are you going
23 to do that? I thought you said you were.

24 COMMISSIONER MERRIFIELD: As I have said before, I
25 think the Chairman has done a terrific job here. I said

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1 that to our employees earlier this week. If you measure
2 this progress of an agency and the individual who has headed
3 it, where it started and where it ended in that individual's
4 tenure, certainly if the agency is in a position to move
5 forward in a positive manner, I think in both of those we
6 have benefited and certainly are a measure of Chairman
7 Jackson's tenure here.

8 I did have another comment I wanted to make about
9 international programs. Do you want me to weigh in on that
10 now?

11 CHAIRMAN JACKSON: Sure.

12 COMMISSIONER MERRIFIELD: I do think that this
13 meeting today has been very helpful. This Commission has
14 had a number of our stakeholders who have raised concerns
15 about the level of resources that we have invested in
16 international programs here in the agency. As a
17 conservative and indeed a fiscal conservative, I look very
18 closely at spending in those areas.

19 I do have to say, however, given my own
20 interaction in some of the activities I've had in regards to
21 the bilateral arrangements and discussions we had over the
22 last year, and the reports that we have heard today, I think
23 it shows a clear demonstration that the relatively small
24 monies that we put forward in this agency for international
25 programs do have a tangible benefit to our licensees and to

1 the programs that we have here as an agency.

2 I think we also need to recognize that countries
3 around the world look to the U.S. Nuclear Regulatory
4 Commission for our regulations and follow them. I've had
5 many individuals that quote me almost verbatim on many of
6 the NUREGs we have and many of the regulations we have.

7 So I think these are dollars well spent. I would
8 challenge those who are raising that as an issue. I think
9 these programs are worthwhile and we should continue
10 pursuing them.

11 CHAIRMAN JACKSON: Thank you.

12 Dr. Knapp.

13 MR. KNAPP: I have one final comment, if I may.
14 In recognition of the fact that this your 312th Commission
15 meeting and your last, I would like on behalf of probably
16 several hundred people who have sat on this side of the
17 table at one time or another to express our appreciation for
18 your attention, your interest, your support of the staff in
19 these public meetings, and overall your effective leadership
20 of the meetings. We appreciate it very much.

21 CHAIRMAN JACKSON: Thank you very much. I'm going
22 to cry if we keep this up.

23 COMMISSIONER MERRIFIELD: Don't worry. We'll get
24 you there next week.

25 [Laughter.]

1 CHAIRMAN JACKSON: I see.

2 This brings the presentations and our discussions
3 to a close. I would like to thank each member of the panel
4 today for your participation and insights. I'm encouraged
5 in fact by your enthusiasm, by your insight and your
6 commitment to the future health of these programs.

7 Again, as all of us have said, while our
8 international activities comprise only a small part of the
9 overall NRC budget and program, I believe that each of you
10 have demonstrated the breadth of our involvement and the
11 broad spectrum of benefits we derive, as Commissioner
12 Merrifield has said, from that involvement.

13 I would encourage and challenge you to continue to
14 carry the torch of international nuclear safety, and I thank
15 each of you, and that is a broad "each of you," for the
16 service that you have provided to the Commission and the
17 support and service you have provided to me.

18 Unless my colleagues have any further comments, we
19 are adjourned.

20 [Whereupon at 11:29 a.m., the briefing was
21 concluded.]

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CERTIFICATE

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

TITLE OF MEETING: BRIEFING ON
NRC INTERNATIONAL ACTIVITIES
PUBLIC MEETING

PLACE OF MEETING: Rockville, Maryland

DATE OF MEETING: Friday, June 18, 1999

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: Mike Paulus

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U.S. NUCLEAR REGULATORY COMMISSION INTERNATIONAL ACTIVITIES

ANNUAL SUMMARY FOR 1999

Briefing to the Commission

Janice Dunn Lee, Director
Office of International Programs

June 18, 1999

ORGANIZATION, GOALS AND PRIORITIES

- **Legal and Policy Bases** (See Reference Chart 1)
- **Organization and Support**
- **Goals**
 - ▶ **Planning, Budget, and Performance Management (PBPM) Process**
 - ▶ **NRC Strategic Goals/Outcomes**
- **Criteria for Setting International Priorities**

NRC INTERNATIONAL ACTIVITIES BUDGET¹

(Dollars in Thousands)

	FY 1999			FY 2000		
	Program Support (\$)	FTE	Travel (\$)	Program Support (\$)	FTE	Travel (\$)
OIP	95	22	148	155	23	151
NRR	0	4	232	0	3	250
NMSS	25	8	70	25	8	75
Other Offices²	25	1	21	25	1	23
Sub Total	145	35	471	205	35	499
Reimbursable³	0	6	0	0	0	0
General Fund⁴	0	0	0	0	6	0
Grand Total	145	41	471	205	41	531

1 Data is based upon the FY 2000 Green Book and excludes Cooperative Research, Agency for International Development funds, and salaries and benefits. Full time equivalents include overhead and direct staff.

2 Office of International Program's resources include export/import licensing

3 Includes Office of the General Counsel and Office of Administration

4 Reimbursable and General Fund FTE are included in the following offices: Administration, Nuclear Reactor Regulation, International Programs, and Nuclear Regulatory Research

MAJOR PROGRAMMATIC AREAS

Export/Import Licensing

Other Nuclear Non-Proliferation Activities

Multilateral Nuclear Safety Activities

Bilateral Nuclear Safety Activities

Foreign Assignee Programm

EXPORT/IMPORT LICENSING

Accomplishments

- **140 Export/Import Licensing Cases
(Oct. 1, 1997 - March 31, 1999)**
- **45 Executive Branch Consultation Cases**
- **Six U.S. Agreements for Peaceful Nuclear
Cooperation**

Future Challenges

- **Maintain Strong U.S. Role**
- **Lost/Orphan Sources and Unauthorized Shipments
of Contaminated Materials**
- **Reduce Licensing Paperwork Burden**

OTHER NUCLEAR NON-PROLIFERATION ACTIVITIES

- **Nuclear Non-Proliferation Treaty (NPT)**
- **Safeguards Initiatives**
- **Core Conversion**
- **Plutonium Disposition**
- **Fissile Material Cut-Off Treaty (FMCT)**

MULTILATERAL NUCLEAR SAFETY EXCHANGES

Munich Summit Institutions

Treaty Implementation

International Atomic Energy Agency

Nuclear Energy Agency

International Nuclear Regulators Association

MUNICH SUMMIT NUCLEAR SAFETY INSTITUTIONS

Accomplishments

- **Increasing GAN's Stature and Visibility**
- **Chornobyl Sarcophagus Improvement**
- **G-24 NUSAC Meetings Decreasing**

Future Challenges

- **NSA Grant Closure Agreements**
- **Chornobyl Sarcophagus Fund**
- **Strengthening GAN**

TREATY IMPLEMENTATION

Accomplishments

- **Convention on Nuclear Safety**

Future Challenges

- **Joint Convention on Radioactive Waste and Spent Fuel**
- **Supplemental Convention on Liability**

INTERNATIONAL ATOMIC ENERGY AGENCY

Accomplishments

- **Year 2000 Computer Problem**
- **Operational Safety Review Team Mission (OSART)**
- **Increased NRC Participation Despite Reduction in Resources**

Future Challenges

- **Maintain NRC Support for IAEA Activities**

NUCLEAR ENERGY AGENCY

Accomplishments

- **Birkhofer Report**

Future Challenges

- **Restructured Committee System**
- **Avoid Duplication of Activities**

INTERNATIONAL NUCLEAR REGULATORS ASSOCIATION

Accomplishments

- **Group Constituted**
- **Deliverables**

Future Challenges

- **U.S. Participation**
- **Membership Expansion**

BILATERAL NUCLEAR SAFETY EXCHANGES

Binational Commissions

NRC International Arrangements

Nuclear Safety Exchanges

- ▶ **Mature Countries**
- ▶ **Transitional Countries**
- ▶ **Developing Countries**

Foreign Assignee Program

INTERNATIONAL ARRANGEMENTS

(See Reference Chart 2)

31 Countries, Plus Taiwan

Accomplishments

- **7 Renewed**
- **2 New Memoranda of Understanding**

Future Challenges

- **Use Letters of Agreement for Those Eligible**
- **Consider Extension to 10 Years**

MATURE COUNTRIES: COMPARATIVE STUDY

Conclusions

- **Aggregate Comparisons Not Meaningful**
- **Programs are Conducted in a Substantially Different Way**
- **NRC Approach Shaped by Expectations**

Benefits

- **In-depth Knowledge of Three of NRC's Major Foreign Partners**
- **Reaffirmed Benefits of International Arrangements**

TRANSITIONAL COUNTRIES: RUSSIA AND UKRAINE

Accomplishments

- **Equipped Emergency Response Centers**
- **Training**
- **GAN/NRA Regulatory Bills Now Before Legislatures**
- **License Applications and Inspection Guidance**

Future Challenges

- **Funding**
- **Absorbing Assistance**

DEVELOPING COUNTRIES

Accomplishments:

- **Support of IAEA Extra Budgetary Program for Asia (EBP)**
- **Hosting IAEA Fellowships, Scientific Visits, Other Training and Assignments**
- **Bilateral and Multilateral Technical Consultation with Partner Countries and IAEA**

Future Challenges:

- **Sustained Support and Funding**
- **Prioritizing Requests**
- **Ongoing Support of IAEA Activities**
- **Increased Attention to Orphan Sources -- IAEA Model Project and Action Plan**

FOREIGN ASSIGNEE PROGRAM

(See Reference Chart 3)

1974-1999: 270 Assignees From 32 Countries

Accomplishments

- **Effective Interaction with International Nuclear Community**
- **Regular Assignment of Personnel from Major Foreign Partners**
- **Strict Screening of Applicants and Security Plan**

Future Challenges

- **Adequate Funding for Assignees from Developing Countries**

**OFFICE OF
NUCLEAR REACTOR REGULATION**

**OVERVIEW OF
INTERNATIONAL ACTIVITIES**

ROY ZIMMERMAN, DEPUTY DIRECTOR

JUNE 18, 1999

I. OVERVIEW OF NRR INTERNATIONAL ACTIVITIES

A: DESIRED OUTCOMES

To Benefit from International Safety and Regulatory Experience:

- **Obtain Safety Information and Insights that Contribute to Our Performance Goals of:**
 - ▶ **Maintaining safety**
 - ▶ **Reducing Unnecessary Regulatory Burden**
 - ▶ **Improving Public Confidence**
 - ▶ **Making NRC Activities and Decisions More Effective, Efficient and Realistic**
- **Information and Insights Can Result in Savings in NRC Resources, and Result in Important Safety Knowledge that has Not Been Detected by NRC or Its Licensees**
- **To Assist in the Fulfillment of NRC and U.S. International Nuclear Safety Obligations**
- **Resources: 1% of NRR budget**

II. SPECIFIC ACTIVITIES

A: Bilateral Technical Exchanges with Foreign Counterparts

Benefits

- **Gained Information on Software and Hardware Design, Testing, Verification/Validation and Acceptance Criteria for Digital Instrumentation and Control Systems (I&C)**
 - ▶ **Advanced Reactor Design Certification**
 - ▶ **Contributing to the Y2K Program Review**
 - ▶ **Aiding NRC in Retrofits/License Renewal Reviews**
- **Gained Information on Safety Performance of High Burnup Fuel. Contributed to NRR's Acceptance Criteria for Review of Extended Cycle Times**
- **Gained Data on Material Issues: e.g., Steam Generator and Reactor Vessel Internals. Provided NRR with Early Indications of Potential Issues**

B: BILATERAL SUPPORT TO FOREIGN REGULATORY BODIES

Benefits

- **Knowledge Transfer of NRR Regulatory Review Processes to Czech Regulatory Authority (SUBJ) for Digital I&C and Nuclear Fuel for the Temelin NPP. Anticipated NRR Gain is Experience with Application of Chapter 7 of SRP for Acceptance of Digital I&C Software.**
- **Observation of Regulatory Review and Application of Chapter 7 of SRP to Lungmen Project (2 ABWRs) in Taiwan. Anticipated NRR Gain is Experience with Application of Chapter 7 of SRP for Acceptance of a U.S. Design of an Integrated Digital I&C System.**
- **Knowledge Transfer of NRR Regulatory Processes to Russian (GAN) and Ukrainian (NRA) Regulatory Authorities.**
- **Bill Jones, a Senior Reactor Analyst, Participated as an Active Observer with the French Nuclear Safety Authority in Shutdown (Outage) Inspections and Associated Activities. Bob Tjader, Warren Lyon (NRR) and Dwight Chamberlain (RIV) Participated as Active Observers with U.K. Nuclear Regulatory Authority in Inspections at Sizewell-B.**

C: PARTICIPATION IN MULTILATERAL AGENCIES' TECHNICAL GROUPS

Benefits

- **Working Group on Inspection Practices (Committee on Nuclear Regulatory Activities, NEA). Affords an Opportunity to Learn About the Programs and Practices of Foreign Regulatory Authorities. For Example, Other Countries Considering Moving in Direction of Inspecting and Regulating Utility Management. Gaining International Perspectives on Inspection "Best Practices" and Review of NRR Improved Reactor Oversight Program.**
- **Technical Committee on Aging Management and License Renewal (IAEA). Access to Data on Plant Aging.**
- **Technical Committee on Procedures for Independent Peer Review of PSA (IPERs; IAEA). Gaining Experience and Improving NRR Competence in Risk Informed Regulatory Reviews.**

D: IMPLEMENTATION OF CONVENTION ON NUCLEAR SAFETY (CNS)

Benefit

- **NRR Staff Wrote U.S. National Report for CNS Which Fulfills Implementation of a Treaty to Which the U.S. is a Party. Of Benefit to U.S. Commitment to Support International Nuclear Safety.**

E: FOREIGN ASSIGNEES

Benefits

- **Assignees Accepted Based Upon Competence and Defined Work Programs. Assignees Contribute to NRR Mission and Through Their Work Learn NRC Regulatory Processes and Methodology**
 - ▶ **France: Emergency Preparedness and Safety System Functional Inspections**
 - ▶ **France: Steam Generator Tube Integrity and Piping**
 - ▶ **Japan: License Renewal and Inspections**
 - ▶ **Mexico: Observation of Region IV Counterpart Meetings**
 - ▶ **Spain: Digital Instrumentation and Control Systems**
 - ▶ **Switzerland: Operator Licensing and Human Performance and Inspections**

**OFFICE OF
NUCLEAR REGULATORY RESEARCH**

**OVERVIEW OF
INTERNATIONAL ACTIVITIES**

ASHOK THADANI, DIRECTOR

JUNE 18, 1999

DESIRED OUTCOMES

- **Obtain Information That Contributes to NRC's Ability to Make Sound Realistic Decisions Based upon Worldwide Experience**
- **Broader Sharing of Data and Practices Among the International Community**
- **Help Ensure That International Standards and Technical Studies Reflect Current State of Knowledge**
- **Leverage NRC Research Funds**

INTERNATIONAL RES ACTIVITIES

- **The Office of Nuclear Regulatory Research Manages and Coordinates 64 Bilateral and Multilateral Research Agreements**
- **23 Additional Agreements Are Currently under Negotiation or Renewal**
- **International Participants Contribute \$2m/yr to NRC's Research Programs: [E.g., Code Application and Maintenance (Camp)]**
- **\$4m/yr of NRC Research Budget Is Also Leveraged by Participation in International Research Programs Conducted in the U.S. and in Other Countries**
- **For \$4m, NRC Benefits from Research Costing over \$60m (NRC Contribution Ranges from \$64k/yr to \$800k/yr.)**
- **Active Participation in OECD/NEA and IAEA Activities Related to Research and Standards**
- **PRA Methodology Training and Advice to Russian and Ukraine Regulatory Authorities (And Their Support Organizations) to Perform Level 1 PRA for a Vver-1000, and a Vver-440 Reactor Design**

BENEFITS TO THE AGENCY

- **International Research Provided Data with Direct Regulatory Applications. For Example:**
- **Rosa Thermal-hydraulic Facility: Provided Data and Insights for Code Improvements and Design Deficiencies, and Helped Resolve ACRS Concerns**
- **NESC: Provided Large Scale Fracture Data That is Used to Validate the Analysis Used for PTS Assessment
(NESC: European Commission's Network on Evaluating Steel Components)**
- **Fuels Test Results Identified High Burn-up Fuel Performance Concerns**
- **Provides RES with Data and Analysis to Develop/Enhance NRC Analytical Codes**

BENEFITS TO THE AGENCY (CONT.)

- **JCCRER Project 2.3: Will Provide a Database on Deterministic Health Effects from Long Term Exposures of Workers to Radioactive Materials**
- **Interaction of Top Researchers from Other Countries in NRC Sponsored Research**
- **Provides NRC Access to Foreign Test Facilities**
- **Provides Contributions from Foreign Assignees. Presently Two Assignees**
 - ▶ **Switzerland (HSK): Thermal-hydraulic Analysis and Code Modeling**
 - ▶ **Spain (CSN): Thermal-hydraulic Analysis and Code Modeling**

ANTICIPATED FUTURE NEEDS

(Examples)

- **MOX Fuel Data: Will Rely on Data from France (Cabri), Japan (NSRRC), and Norway (Halden)**
- **High Burn-up Fuel: Will Rely on Data from France (Cabri), Japan (NSRRC), and Norway (Halden)**
- **Burn-up Credit: Data Will Be Sought from France and Belgium**

**OFFICE OF NUCLEAR MATERIAL
SAFETY AND SAFEGUARDS**

**OVERVIEW OF
INTERNATIONAL ACTIVITIES**

CARL PAPERIELLO, DIRECTOR

JUNE 18, 1999

SUMMARY OF NMSS INTERNATIONAL ACTIVITIES

While the NMSS international activities constitute about 2% or less of our total annual budget, they are a very important part of our responsibilities.

The NMSS involvement internationally is primarily for two reasons:

- **Treaties and Agreements**
- **Mutually Beneficial Activities and Technical Exchanges**

TREATIES AND AGREEMENTS

- **Implementation of International Agreements and Treaties**
 - ▶ **Assist in Implementation of U.S. Commitments**
 - ▶ **Facilitating IAEA Inspections of Licensed Facilities**
 - ▶ **Tracking of Obligated Material**
 - ▶ **Reporting to IAEA**
- **Import/Export Licensing**
 - ▶ **IAEA Safeguards**
 - ▶ **Physical Protection**
- **Other Non-proliferation Related Efforts**
 - ▶ **Strengthening International Safeguards**
 - ▶ **U.S.-Russia-IAEA Trilateral Verification Initiative**

MUTUALLY BENEFICIAL ACTIVITIES AND TECHNICAL EXCHANGES

- **Support to Former Soviet Union**
- **IAEA Waste Safety Standards Advisory Committee (WASSAC)**
- **IAEA Transport Safety Standards Advisory Committee (TASSAC)**
- **IAEA Radiation Safety Standards Advisory Committee (RASSAC)**
- **International Commission on Radiological Protection (ICRP)**
- **NEA Committee on Radiation Protection and Public Health (CRPPH)**

FUTURE CHALLENGES

Keeping to the Core

Challenging the Process

Fostering Cooperation

REFERENCE CHARTS

- 1. Legal and Policy Bases of NRC's International Role**
- 2. NRC's Technical Information Exchange and Cooperation Agreement/Letter of Agreement Partners**
- 3. Foreign Assignees Hosted by the NRC**

REFERENCE CHART 1

LEGAL AND POLICY BASES OF NRC'S INTERNATIONAL ROLE

Statutory Requirements

- Atomic Energy Act of 1954, as amended**
- 1978 Nuclear Non-Proliferation Act**
- Cooperative Threat Reduction Act**
- Freedom Support Act**
- Early Notification and Assistance in Accident Conventions**

U.S. Government Obligations and Commitments

- Participation in International Atomic Energy Agency (IAEA)**
- Organization for Economic Cooperation and Development/Nuclear Energy Agency (OECD/NEA)**
- Nuclear Suppliers Group (NSG)**
- Zangger Committee**
- Group of Seven Nuclear Safety Working Group (G-7 NSWG)**
- Group of 24 Nuclear Safety Coordination (G-24 NUSAC) Mechanism**
- Nuclear Safety Activities at EBRD -- Nuclear Safety Account, Chernobyl Sarcophagus Fund**
- Vice Presidential Commissions**

International Treaties and Agreements

- Nuclear Non-Proliferation Treaty (NPT)**
- IAEA-U.S. Safeguards Agreement**
- Convention on the Physical Protection of Nuclear Material**
- Convention on Early Notification of a Nuclear Accident**
- Convention on Assistance in the Case of a Nuclear Accident and Radiological Emergency**
- Convention on Nuclear Safety (CNS)**
- Convention on Supplemental Liability and Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management)**

Executive Orders and Presidential Decision Directives

- President Clinton's September 1993 Non-proliferation Initiative**
- Presidential Decision Directive/National Security Council-41 "U.S. Policy on Improving Nuclear Material Security in Russia and the Other Newly Independent States" (September 20, 1995)**

REFERENCE CHART 2

NRC'S TECHNICAL INFORMATION EXCHANGE AND COOPERATION ARRANGEMENT/LETTER OF AGREEMENT PARTNERS

(Dates Are Entry Into Force)

	Argentina	11/30/90		Armenia	09/30/97
	Belgium	06/06/78		Brazil	05/20/76
	Canada	06/21/89		China	10/17/81
	Czech Republic	04/14/89		Egypt	06/08/81
	Finland	09/26/80		France	06/28/74
	Germany	10/01/75		Greece	10/18/78
	Hungary	09/24/90		Indonesia	10/28/92
	Israel	05/19/78		Italy	05/29/75
	Japan	05/30/74		Kazakhstan	02/14/94
	Korea, Republic of	03/18/76		Lithuania	04/29/94
	Mexico	04/28/81		The Netherlands	10/03/77
	Peru	08/28/90		The Philippines	07/02/93
	Russia	04/26/88		Slovak Republic	04/14/89
	Slovenia	09/19/85		South Africa	09/27/94
	Spain	10/29/74		Sweden	12/06/74
	Switzerland	12/09/74		(Taiwan)	03/20/78
	Ukraine	04/26/88		United Kingdom	03/13/75

FOREIGN ASSIGNEES HOSTED BY THE NRC
January 1974 - June 1999

Each country code entry represents one foreign assignee from that country for that particular calendar year. Entries in italics denote the presence of assignees spanning parts of or more than a calendar year.

REFERENCE CHART 3a

Country Codes for Foreign Assignee Table

AR Argentina	CL Chile	FI Finland	IL Israel	MY Malaysia	SE Sweden	VE Venezuela
AT Austria	CN China	FR France	IN India	NL Netherlands	SI Slovenia	YU Yugoslavia
AU Australia	CO Colombia	GB United Kingdom	IT Italy	NO Norway	SK Slovakia	ZA S.Africa
BE Belgium	CZ Czech R.	GR Greece	JP Japan	PH Philippines	SU Russia	
BG Bulgaria	DE Germany	HK Hong Kong	KR S.Korea	PK Pakistan	TH Thailand	EU Euratom
BR Brazil	DK Denmark	HU Hungary	LU Luxembourg	PL Poland	TR Turkey	
CA Canada	EG Egypt	ID Indonesia	MR Morocco	PT Portugal	TW Taiwan	
CH Switzerland	ES Spain	IE Ireland	MX Mexico	RO Romania	UR Ukraine	