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Report to the Chairman, Committee on Foreign Relations, U.S. Senate

August 1999

NUCLEAR SAFETY

Information on the International Nuclear Regulators Association





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Resources, Community, and
Economic Development Division

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August 6, 1999

The Honorable Jesse Helms
Chairman, Committee on Foreign
Relations
United States Senate

Dear Mr. Chairman:

The United States currently participates in and expends funds on numerous organizations dealing with international nuclear safety. Several U.S. government agencies, including the Nuclear Regulatory Commission (NRC), take part in one or more of these organizations. One of these organizations, the International Nuclear Regulators Association, was established in 1997 as an informal group for senior regulators to exchange ideas and views on issues related to nuclear safety and regulation. Members include the Chairman of the NRC from the United States and the equivalent position in seven other countries--Canada, France, Germany, Japan, Spain, Sweden, and the United Kingdom. The Association's members selected the former Chairman of the NRC, who was a chief proponent of the Association, to serve as its first chairman, a position that she held until May 1999.[1]

You have expressed concern about NRC's participation in these organizations, particularly the International Nuclear Regulators Association, because, among other things, this association may duplicate the activities carried out under the Convention on Nuclear Safety, which was ratified by the U.S. Senate in March 1999.[2] Accordingly, you asked that

[1] On June 30, 1999, the NRC Chairman left NRC to assume a position as the president of a private university. The President appointed one of NRC's four remaining commissioners as the new chairman, effective July 1, 1999. Until another commissioner is appointed, NRC will operate with four commissioners rather than five. For the purpose of this report, we make frequent references to the five commissioners who were part of the NRC during the course of our work.

[2]The Convention is viewed by the executive branch as an important tool to encourage countries with civilian nuclear programs that do not meet western safety standards (especially those possessing Soviet-designed nuclear power plants) to improve the safety of their nuclear reactors. For more information on the Convention, see the following: Nuclear Safety: Progress Toward International Agreement to Improve Reactor Safety (GAO/RCED-93-153, May 14, 1993); Nuclear Safety: Uncertainties About the Implementation and Costs of the Nuclear Safety Convention (GAO/RCED-97-39, Jan. 2, 1997); and Nuclear Safety: The Convention on Nuclear Safety (GAO/T-RCED-99-127, Mar. 17, 1999).

we provide information on (1) the Association's activities since it was created, (2) U.S. costs to support NRC's participation in the Association, (3) the views of NRC's commissioners and others on the benefits of the Association, and (4) other groups and activities that promote nuclear safety and the extent to which these groups duplicate the work of the Association.

Results In Brief

The International Nuclear Regulators Association's activities since its inception over 2 years ago have focused in part on practical matters such as arranging and conducting meetings to discuss nuclear regulation and safety-related issues. Since 1998, the Association has published statements on topical matters, such as the year 2000 computer problem and its potential impact on the safe operation of nuclear power plants. The Commission's former Chairman told us that the Association's public statements are important because they increase public awareness of the group and help promote nuclear safety from a regulatory perspective.

According to the Nuclear Regulatory Commission, its costs for participating in the Association from fiscal year 1997 through May 1999 were $113,719. About two-thirds of these costs, or $72,500, are for the salary and benefits of Commission employees who support Association-related activities. The Commission Chairman's salary and benefits are not included in this amount because the Chairman's time is not allocated to individual projects or activities. The remainder of the expenses are for travel; activities related to hosting meetings and functions, such as breakfasts and dinners; and costs for the design and printing of stationery. The Nuclear Regulatory Commission anticipates spending $40,000 to $45,000 to support its participation in the Association in fiscal year 2000. Commission officials stated that the Commission's future costs for participating in the Association would decrease because the Commission's Chairman no longer serves as the Association's chairman or provides secretariat services.

Members of the International Nuclear Regulators Association, representatives of international organizations, and U.S. government and U.S. nuclear industry officials expressed differing views about the Association. Seven Association members, including the former Nuclear Regulatory Commission Chairman (who was also one of the Commission's five commissioners), found it to be useful as a way to exchange ideas and information about regulatory issues facing each country. Several of the Nuclear Regulatory Commission's other commissioners had concerns about the Association because they (1) are excluded from its activities, (2)

do not know how the group may be benefiting the Commission, and (3) believe that the countries that might benefit the most from the Association, such as Russia, are not members. In addition, one commissioner said that the Association does not have a clear purpose or mission.

Nine other international groups or organizations have been established or proposed that also promote nuclear safety and regulation. Some of these groups have formed under the auspices of larger, multilateral organizations. The creation of the International Nuclear Regulators Association was the impetus behind the development of at least two other groups of regulators. We obtained differing views as to whether the Association duplicated the work of other groups that promote nuclear safety. According to officials from the Nuclear Regulatory Commission's Office of International Programs and the Department of State, as well as some Association members, the Association does not duplicate the functions of other groups because its members consist of the heads of participating countries' nuclear regulatory organizations. However, a German nuclear regulatory official told us that having so many regulator groups raises potential for the duplication of activities. Furthermore, a senior Russian regulator said that all of the groups that promote nuclear safety need to have a clear division of responsibility.

Background

According to NRC's former Chairman, prior to the creation of the Association, no permanent forum was devoted solely to the mutual interests of senior nuclear regulatory officials. The Association's objectives include (1) building a global nuclear safety culture, (2) enhancing the stature of nuclear regulatory organizations worldwide, and (3) seeking consensus on how regulatory issues can be approached and implemented. According to the Association's charter, the group meets at least once each year and is headed by a chairman who is responsible for coordinating the Association's work. The first person to serve as the Association's chairman, NRC's former Chairman, served a 2-year term. Subsequent chairmen will serve for 1-year terms. In May 1999, Association members selected a new chairman, the United Kingdom's Chief Inspector of Nuclear Installations.

Association members decided to limit the group to eight countries with major civil nuclear power programs—Canada, France, Germany, Japan, Spain, Sweden, the United Kingdom, and the United States. Some countries with significant civil nuclear power programs that are not members of the Association include Russia, China, and the Republic of

Korea. According to the Association's charter, the membership takes into account the size and scope of each country's nuclear program, the existence of a well-established, independent nuclear regulatory authority, and a firm commitment to the provisions of the Convention on Nuclear Safety. Association members have discussed the possibility of adding new members but have made no final determination.

International Nuclear Regulators Association's Activities

NRC officials told us that the Association's activities since its inception over 2 years ago have focused in part on practical matters, such as arranging and conducting meetings to discuss nuclear regulation and safety related issues. Furthermore, according to one Association member, its Chairman thought that it was important for the Association to produce "public statements" on matters pertaining to nuclear regulation and safety. NRC's former Chairman told us that the Association's public statements are important because they increase public awareness of the group and help promote nuclear safety from a regulatory perspective. Since 1998, the Association has disseminated statements on nuclear safety that were provided to officials attending the G-7/G-8 Birmingham Economic Summit and the G/7G-8 Moscow Energy Ministerial Meeting on the World Energy Future.[3] For example, the Association's public statements identified several elements that should be present in every national nuclear power program, including the following:

- a national commitment to safety as a fundamental requirement for a nuclear power program;
- a legislative and regulatory framework governing the safety of nuclear power installations;
- a system of regulatory inspection and assessment, including independent safety analysis by the regulator; and
- the recognition that the prime responsibility for the safety of a nuclear power installation rests with the holder of the license, while a strong and competent regulatory body should ensure that each license holder meets its responsibility.

NRC's former Chairman also considered the development of formal relationships with other international nuclear bodies to be a key accomplishment of the Association. For example, in 1998, the Association

[3] The G-7 refers to the seven major industrialized countries --Canada, France, Germany, Italy, Japan, the United Kingdom and the United States. The G-8 consists of the G-7 countries plus Russia.

established cooperative arrangements with the International Atomic Energy Agency (IAEA)[4] and the Nuclear Energy Agency (NEA)[5] for the purpose of exchanging information and documents and participating in certain meeting and conferences hosted by the respective organizations. Furthermore, the Association published a statement on a proposal related to the future role and mission of NEA. The Association suggested that NEA consider the Association's views in the formulation of a strategic plan and in the development of a mission statement. According to NEA's Deputy Director General, the Association's advice was very useful in providing the consensus views of the top nuclear regulators from the major civil nuclear power countries within NEA. Furthermore, the Association's views were considered in the final stages of the development of NEA's strategic plan.

In addition, in early 1999, the Association prepared a brief statement on year 2000 (Y2K) computer problems. The Association urged governments, and their regulatory authorities and operating organizations, to (1) diagnose the extent to which the Y2K problems could affect nuclear power plants and other facilities using radioactive materials and (2) implement corrective programs and contingency planning in the near term. The statement was sent to Association members' governments, NEA, IAEA, and the Chairman of the first review meeting of the Convention on Nuclear Safety. IAEA's Deputy Director General for Nuclear Safety told us that the Association's Y2K statement came too late to be of any value because IAEA had already prepared a guidance publication on this matter. A Department of State official who headed the U.S. delegation to the Convention on Nuclear Safety told us that she was not aware of the Association's Y2K statement.

[4] IAEA was formed in 1957 as a specialized agency in the United Nations system. The organization serves as the world's central intergovernmental forum for scientific and technical cooperation in the nuclear field and as the international inspectorate for the application of nuclear safeguards and verification measures covering civilian nuclear programs. Currently, 128 nations are IAEA members.

[5] The Nuclear Energy Agency is a semiautonomous body within the Organization for Economic Cooperation and Development. The Agency's objective is to contribute to the development of nuclear energy through the cooperation of its 27 participating countries, including the United States.

NRC Has Spent About $114,000 on Association-Related Activities

Table 1 shows NRC's costs to participate in the Association from fiscal year 1997 through May 1999.

Table 1: NRC's Costs to Participate in the Association,1997 Through May 1999

Fiscal year	Salaries and benefits[a]	Travel	Meetings	Design and production of materials	Total
1997	$22,500	$3,664	$1,115	$7,156	$34,435
1998	30,000	14,412	4,829	0	$49,241
1999	20,000	7,220	2,823	0	$30,043
Total	**$72,500**	**$25,296**	**$8,767**	**$7,156**	**$113,719**

[a]Excludes the salary and benefits of the former NRC Chairman.

Source: NRC.

As shown in table 1, salaries and benefits are NRC's single largest cost for Association participation, amounting to $72,500 (or 64 percent of the total) through May 1999.[6] Salaries and benefits are for various officials in NRC's Office of International Programs and staff in the NRC Chairman's office who are devoted to Association activities, as well as the administrative and clerical staff employed in copying and mailing documents and travel needed to support participation in the Association. Travel is the second largest cost of NRC's participation in the Association, totaling $25,296 (or 22 percent of all expenses) through May 1999. While three of the Association's six meetings were in Washington, DC, NRC staff traveled to Association functions in Texas, California, Nevada, and Paris, France.[7] The trips to California and Nevada involved seven NRC staff and cost about $14,400. The Texas trip involved six NRC staff and cost about $7,200. Three NRC staff traveled to Paris at a cost of $3,664.

As part of the travel, Association officials took trips to two DOE facilities—Lawrence Livermore National Laboratory in California and the Yucca Mountain Site Characterization Project in Nevada. These trips were

[6] In 1997, NRC commissioners voted to limit NRC's personnel support for the Association. As a result, NRC can only provide one-fourth full-time equivalent staff for Association-related activities, which equates to between $30,000 and $35,000 per year in salary and benefits.

[7] The Paris meeting, held in May 1997, was an organizational preparatory meeting and was not hosted by NRC.

arranged by NRC to provide Association members with brief (half-day each) facility visits. According to a May 1997 Department of State memo providing guidance on the formation of the Association, the Association's objective is to focus and coordinate nuclear safety and security in civil nuclear programs worldwide but not to exercise regulatory authority over any national civilian nuclear program or conduct any site visits in that capacity. An NRC official said the trips to the DOE facilities did not conflict with the guidance on the Association's formation—including limits on its role and responsibilities--because the visits were not conducted with the intention of providing regulatory oversight over these facilities. Furthermore, NRC did not pay any of the travel or per diem expenses of other Association members who attended meetings in the United States. According to the Association's charter, members are to cover their own expenses for meetings.

Additionally, the Association's charter states that its Chairman is responsible for providing Secretariat functions during his or her time of incumbency. As a result, when NRC's former Chairman served as the Chairman for the Association, NRC spent $8,767 (or 8 percent of NRC's total costs) on activities related to hosting Association meetings, such as continental breakfasts, lunches, dinners, or receptions for its members. Also in its role as Association Chairman, NRC incurred costs of $7,156 (or 6 percent of its total costs) for the design and production of Association materials such as stationery and brochures. NRC anticipates spending $40,000 to $45,000 to support Association participation in fiscal year 2000. NRC officials stated that its future costs for participation would decrease because NRC's Chairman no longer serves as the Association's Chairman or provides secretariat services, including hosting meetings.

Officials Expressed Differing Views About the Benefits of the International Nuclear Regulators Association

Seven Association members and others told us that the group was a useful venue for sharing information on regulatory matters. However, others, including most of the NRC Commissioners, had concerns about the Association's benefits because, among other things, (1) they were excluded from participating in the group and (2) membership was limited to those countries with well-developed nuclear regulatory organizations.

International Nuclear Regulators Association Members Believe the Association Is Useful

Members from seven countries, including the United States, had positive views about the Association and generally found it to be very useful as a way to exchange ideas and information about regulatory issues facing each country.[8] For example, the United Kingdom's Association representative--and new chairman--told us that he was initially skeptical about the Association but has found it to be a very useful way to get to know his colleagues from other countries. NRC's former Chairman told us that she was proud of the Association's accomplishments over the past 2 years. Specifically, she said that Association meetings have helped outline important similarities and differences among its members' approaches to nuclear safety and have helped create common definitions of regulatory terms. Japan's representative said that the Association's accomplishments may not necessarily be specific and tangible. However, he said that the information exchanged among the members had enabled him to obtain a much better understanding of how others view their nuclear regulatory responsibilities.

Furthermore, IAEA's Deputy Director General for Nuclear Safety told us that the Association is one of a number of regulator groups that provide nuclear safety and regulation benefits. NEA's Deputy Director General told us that although the Association's impact has not been tangible, the process of having senior regulators meet on a routine basis is valuable. In his view, it is important to have as many organizations as possible discussing nuclear safety.

NRC officials from the Office of International Programs also supported the Association. They noted that the group's small group setting was conducive to open and frank discussions. However, when we asked NRC officials to rate the overall value of the Association, they responded that it was of moderate benefit. According to the Department of State's Senior Coordinator for Nuclear Safety, who is responsible for coordinating U.S. international nuclear safety assistance, the Association has been useful in promoting information exchanges among its members. In March 1999, the Department of State's Deputy Assistant Secretary for Nonproliferation Affairs testified before the Senate Foreign Relations Committee on the Convention on Nuclear Safety. He said the Association was helpful to its

[8] We were unable to obtain a response from Germany's Association representative. According to an official from his organization, the German senior regulator was recently appointed and had not yet formed an opinion about the group.

members in performing their own national responsibilities, but it does not speak for the U.S. government.

Four of Five NRC Commissioners Have Concerns About the Association

Four of NRC's commissioners expressed concerns about NRC's participation in the Association and do not support it in its current form.[9] Two of these commissioners told us that it did not make sense that only NRC's Chairman participated in Association activities. One commissioner said that it was his initial impression, when the Association was being formed, that all NRC commissioners would be able to participate in the group's meetings. However, during the Association's formation, the country representatives determined that only each country's most senior regulatory official--NRC's Chairman and the foreign country equivalent--would participate. This commissioner noted that all NRC commissioners were entitled to full participation in the group because no one individual knows everything that occurs affecting the U.S. nuclear regulatory agency or the civil nuclear activities of any country.

This same commissioner also told us that he was concerned that the Association has moved beyond an informal group to areas that are outside of its jurisdiction or authority. For example, the commissioner believes that the Association should not be entering into agreements with international organizations or developing position papers that are distributed to foreign ministers. He said that the group should not be trying to assume a more active role in international nuclear activities because that is the purview of the Department of State or the Department of Energy. Several commissioners also told us that NRC's former Chairman has not kept them adequately involved in Association-related activities. As a result, they do not know how the group is benefiting NRC. According to one commissioner, the Association might be of great personal benefit to NRC's former Chairman, but all of the commissioners would benefit if these insights were circulated. He noted that information is exchanged between the commissioners' staffs but believed that this is insufficient. Furthermore, he believed that increased information sharing among commission members would be useful and could lead to greater commission support for the Association. According to one NRC commissioner, the Association does not have a clear purpose or mission.

[9] The NRC is headed by five commissioners appointed by the President and confirmed by the U.S. Senate for 5-year terms. One of the commissioners is designated by the President to be Chairman. The Chairman serves as the principal executive officer and the official spokesperson of the Commission.

Another commissioner said NRC should continue to participate in the Association only if (1) additional countries are added as members, (2) other NRC commissioners participate in the group's meetings, and (3) the costs of NRC's participation are minimized.

NRC's former Chairman disagreed with the views of the other commissioners. She said that Association information is circulated to all of the NRC commissioners. For example, NRC staff give periodic briefings and circulate Association documents and speeches to the Commission. Furthermore, each commissioner was given the opportunity to comment on the development of the Association, and their views were incorporated where feasible. The former Chairman also said that it may be impossible for all of the commissioners to participate in group- related activities because of agency regulations that restrict meetings without providing a public notification under NRC's interpretation of the Government in the Sunshine Act.[10] Under existing practices, any discussion of agency business by three or more commissioners, no matter how informal or preliminary, cannot be held without a formal public notice of a meeting. NRC is currently in the process of seeking to make the definition of a meeting less restrictive in order to enable the commissioners to meet to discuss general information so long as the discussions do not effectively predetermine final agency action. NRC's former Chairman also told us that she was aware that other commissioners resented their lack of involvement in Association activities. She noted, however, that her participation in the Association was fully transparent.

NRC noted that the commissioners were not seeking all-inclusive Commission participation in the Association. Rather, the commissioners believe that the Commission could be represented by the Chairman and one of the other commissioners at Association meetings. Alternating commissioner participation would enhance (1) overall Commission understanding of the Association's benefits for NRC and (2) NRC's representation by capitalizing on individual commissioners' areas of expertise.

Views of a Representative of the U.S. Nuclear Industry

According to the Senior Vice President and Chief Nuclear Officer of the Nuclear Energy Institute, an organization that represents the interests of

[10] The Government in the Sunshine Act (5 U.S.C. 552b) opens the policymaking deliberations of collegially headed federal agencies—such as boards, commissions, or councils—to public scrutiny unless closed in accordance with a number of exemptions.

over 300 companies involved in the commercial nuclear energy industry, the Institute generally opposes the use of NRC funds to support NRC international activities, including NRC's participation in the Association. While the Institute does not oppose the Association's activities, it believes that the Association should be supported by public funds rather than U.S. industry fees. NRC typically recovers nearly 100 percent of its annual budget through licensing and inspection fees assessed on the U.S. nuclear industry. He added that the Association does not serve the interests of the U.S. domestic nuclear industry because time spent on Association-related activities is time taken away from the NRC Chairman's normal duties. NRC's former Chairman disagreed, saying that NRC's presence in the international arena can be helpful in promoting the long-term interests of the U.S. nuclear industry. NRC officials, however, according to the former Chairman, are sensitive to industry concerns and are exploring ways to move some of their international programs off the fee-based system and into the general fund portion of NRC's future appropriations.

Officials Express Concern About the Association's Limited Membership

Both the Nuclear Energy Institute official and three NRC commissioners said they were concerned about the Association's limited membership. The Institute official also questioned the ability of the Association to promote worldwide nuclear safety if its membership was limited to countries with well-developed regulatory organizations. He told us that the group's limited membership creates a sense of elitism, which does not encourage cooperation, especially in those countries with developing regulatory organizations. The three NRC commissioners told us that the Association's membership was too restrictive and was not reaching out to the countries that would benefit from participating in a group of countries with mature regulatory regimes. According to the commissioners, the Association needed to include countries such as Russia and China as well as countries with emerging nuclear programs if it is to promote global nuclear safety.

A few Association members said the group should not be expanded at the present time. NRC's former Chairman stated that expanding the group's membership at this time could detract from its safety objectives by inhibiting candid exchange of views and information. The Department of State's Senior Coordinator for Nuclear Safety told us that expanding membership to countries like Russia and China could shift the focus of the group from information exchange to identifying regulatory shortcomings. Furthermore, the Department of State's Deputy Assistant Secretary for Nonproliferation Affairs stated that although some of the Association's

members have an interest in expansion, they are not interested in making the Association a large and unwieldy body.

Other Groups and Activities That Promote Nuclear Safety

In addition to the Association, there are nine other regulator groups or organizations that exist--or have been proposed--for the purpose of promoting nuclear safety and regulation, as shown in table 2. Appendix I provides more detailed information about them.

Table 2: Regulator Groups and Organizations

		Characteristics/activities			
Organization/Agreement	**Date established**	**Head regulators involved[a]**	**Technical focus**	**Policy focus**	**U.S. participation**	**Members**
International Atomic Energy Agency Senior Regulators Meetings	1983		•		•	Senior regulators from among the IAEA's 128 member nations
Nuclear Energy Agency Committee on Nuclear Regulatory Activities	1989	[b]	•		•	Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, South Korea, Luxembourg, Mexico, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom, United States
Convention on Nuclear Safety[c]	1996	•[d]	•	•	•	50 nations have ratified; 65 nations have signed
International Nuclear Regulators Association	1997	•		•	•	Canada, France, Germany, Japan, Spain, Sweden, United Kingdom, United States
Western European Nuclear Regulators Association	1998		•			Belgium, Finland, France, Germany, Italy, Netherlands, Spain, Sweden, Switzerland, United Kingdom
Forum of Iberian-American Regulators	1997	•	•	•		Argentina, Brazil, Cuba, Mexico, Spain
Network of Regulators of Countries with Small Nuclear Programs	1998	•	•			Argentina, Belgium, Bulgaria, Czech Republic, Finland, Hungary, Netherlands, Slovak Republic, Slovenia, South Africa, Switzerland
Asia Nuclear Safety Consultative Organization[e]	**Proposed**					Australia, China, Japan, Indonesia, South Korea, Malaysia, Philippines, Thailand, Vietnam

		Characteristics/activities			
Organization/Agreement	Date established	Head regulators involved[a]	Technical focus	Policy focus	U.S. participation	Members
VVER Owners' Regulatory Group[f]	1993		•		•[g]	Armenia, Bulgaria, Czech Republic, Finland, Hungary, Russia, Slovak Republic, Ukraine
Forum for CANDU Regulators[h]	1996		•			Argentina, Canada, China, India, South Korea, Pakistan, Romania

[a]Equivalent to the NRC Chairman.

[b]From 1983 through 1996, NEA hosted a series of Senior Regulator meetings that involved head regulators. These meetings were disbanded after 1996 because some NEA members felt excluded and because of the planned formation of the Association.

[c]The Convention calls on its members to establish and maintain a legislative framework and an independent regulatory body to govern the safety of nuclear regulators. The Convention will also use a peer review process to assess countries' safety practices, including regulatory practices.

[d]Some head regulators attended a portion of the Convention's first meeting in May 1999.

[e]This organization will have a regulatory focus.

[f]The VVER is a Soviet-designed, pressurized light water cooled and moderated reactor.

[g]The United States and several other countries and organizations participate in this group as associate members and observers.

[h]CANDU is the Canada Deuterium Uranium nuclear reactor. This group has a component that deals with nuclear regulators.

Source: Nuclear Regulatory Commission, International Atomic Energy Agency, Nuclear Energy Agency, and interviews and materials from a variety of nuclear regulatory officials.

Other groups have formed in response to the Association. One of these groups, the Network of Regulators of Countries with Small Nuclear Programs, was established because its members were excluded from the Association. Another group, the Forum of Iberian-American Regulators, seeks to model itself on the Association because its founder—Spain's senior nuclear regulator—believes that the group is valuable. Spain's senior nuclear regulator also told us that the Association contributed to the development of the Western European Nuclear Regulators Association.

A March 1999 report by the Senate Committee on Foreign Relations on the Convention on Nuclear Safety expressed concern about the large number of international nuclear safety-related groups in which the United States participates. According to the report, the Committee believes that one benefit of the Convention on Nuclear Safety is to consolidate some of the activities of these groups under the auspices of the Convention. The

Committee also expressed its hope that the Administration would eliminate activities which unnecessarily duplicate those to be performed under the Convention on Nuclear Safety.[11] In that report, the Committee made clear its desire that the executive branch limit U.S. participation in nontreaty organizations, which exist largely to discuss broad regulatory policy. The Committee report stated that the Association replicates the purpose of the Convention on Nuclear Safety. For example, the Committee report noted, the Association's charter differed little in substance from the primary purpose of the Convention on Nuclear Safety. That is, both seek to enhance nuclear safety on a worldwide basis. The Committee attached several conditions to the ratification of the Convention. For example, it required the President to certify that the U.S. government will not unnecessarily duplicate activities undertaken in conjunction with the Convention. On April 9, 1999, the President made that certification.

According to NRC and Department of State officials as well as some Association members, the Association does not duplicate the functions of other nuclear regulatory groups. According to NRC officials, the regulatory meetings that are held under the auspices of IAEA and NEA, for example, involve much larger memberships, are more formal and structured, focus on more technically oriented issues, and generally are attended by less senior officials than Association members. They also made the following comments about other groups:

- The Network of Regulators of Countries with Small Nuclear Programs consists of countries with small nuclear power programs that have limited numbers of regulatory staff. The Network also focuses more on technical issues and involves less senior regulators.
- The Forum of Iberian-American Regulators, though modeled on the Association, has a smaller membership linked by culture, language, and dependence on imported nuclear technology.
- The Western European Nuclear Regulators Association has a specific technical goal of assessing the state of nuclear safety in seven Eastern European countries that are candidates for membership in the European Union.
- The VVER Owners' Regulatory Group as well as the Forum for Canada Deuterium-Uranium Regulators also focus on narrower technical issues

[11] S. 866, 106th Cong. 1st Sess., contains provisions that (1) urge the Secretary of State to ensure that the Association's activities are "practicable" under the Convention on Nuclear safety and (2) require that the President submit a report identifying any Association activity that duplicates the Convention during the first year after ratification.

surrounding these reactor designs. A VVER reactor is a Soviet-designed water-cooled nuclear power reactor. The Canada Deuterium-Uranium reactor is a Canadian-designed nuclear power reactor.

A German nuclear regulatory official told us, however, that while the Association may serve a useful function, the formation of all of these regulator groups may result in overlap and duplication. A senior Russian regulatory official told us that there needs to be a clear division of responsibility among the many groups. NRC's former Chairman has suggested that Association members may sponsor a "congress" to which all of these new regulator groups would be invited for the purpose of providing a broader forum for discussing nuclear regulatory issues and establishing better lines of communication.

Finally, according to Department of State and NRC officials, the Association and the Convention on Nuclear Safety are not duplicative even though they share the broad objective of promoting nuclear safety. The Department of State's Deputy Assistant Secretary for Nonproliferation said that there are significant differences between the Association and the Convention. Specifically, he said that the Convention is a formal, legally binding international agreement that has now been ratified by 50 countries. Furthermore, the Convention sets up a system of national reporting and peer reviews to ensure that countries are complying with their obligations to meet international safety standards. In contrast, the Association is informal and does not meet pursuant to any legal requirement. The Convention requires that meetings take place at least once every 3 years, while the Association meets at least annually to informally discuss general regulatory issues of concern to its eight members.

Agency Comments And Our Evaluation

We provided a draft of this report to the Nuclear Regulatory Commission for its review and comment. NRC generally agreed with the information presented in our report. However, NRC wanted to clarify the role of the commissioners in participating in Association-related activities. The commissioners are not seeking all-inclusive Commission participation in the Association. Rather, they believe that the Commission could be represented by the Chairman and one of the other commissioners at Association meetings. Alternating commissioner participation would enhance (1) overall Commission understanding of the Association's benefits for NRC and (2) NRC's representation by capitalizing on individual commissioners' areas of expertise. We have added this additional

information to our report. NRC also provided technical comments, which we incorporated. NRC's comments are presented in appendix II.

Scope And Methodology

To obtain information on the purpose and impact of the Association, we reviewed NRC documents and had discussions with various officials who were knowledgeable about the Association's responsibilities. We met, or had discussions with, all of the NRC commissioners, including the former Chairman and officials from NRC's Office of International Programs. We also met or had discussions with officials from the Department of State, foreign regulatory bodies, and international organizations. Specifically, we discussed the Association with IAEA's Deputy Director General for Nuclear Safety and the Nuclear Energy Agency's Deputy Director General. We also obtained information from the following Association members: the President and Chief Executive Officer/Atomic Energy Control Board (Canada); Director, Directorate for the Safety of Nuclear Installations (France); Chairman, Nuclear Safety Commission (Japan); President, Consejo de Seguridad Nuclear (Spain); Director General, Nuclear Power Inspectorate (Sweden); and HM Chief Inspector of Nuclear Installations, Health and Safety Executive, Nuclear Safety Directorate (United Kingdom). We also met with the Senior Vice President and Chief Nuclear Officer of the Nuclear Energy Institute. We obtained data related to U.S. costs to support Association-related activities from NRC.

We obtained information on other international regulatory organizations from various documents provided primarily by NRC. We also discussed these matters with officials who participated in these groups. In addition, we talked to an official from Switzerland's Nuclear Safety Inspectorate about the Network of Regulators of Countries with Small Nuclear Programs and the first deputy chairman of Russia's nuclear regulatory organization, Gosatomnadzor.

We conducted our review from March 1999 through July 1999 in accordance with generally accepted government auditing standards.

Copies of this report are being sent to appropriate congressional committees; the Honorable Greta Dicus, Chairman of the Nuclear Regulatory Commission; the Honorable Madeleine Albright, Secretary of State; and the Honorable Jacob Lew, Director, Office of Management and Budget. Copies will also be made available to others upon request.

Please call me at (202) 512-3841 if you or your staff have any questions about this report. Key contributors to this review were Gene Aloise, Glen Levis, Jonathan Gill, and Duane Fitzgerald.

Sincerely yours,



(Ms.) Gary L. Jones
Associate Director, Energy,
Resources, and Science Issues

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Abbreviations

CANDU	Canada Deuterium Uranium Reactor
GAO	General Accounting Office
IAEA	International Atomic Energy Agency
NEA	Nuclear Energy Agency
NRC	Nuclear Regulatory Commission
OECD	Organization of Economic Cooperation and Development

Nuclear Regulator Groups

This appendix discusses other groups of regulators and activities—excluding the International Nuclear Regulators Association and the Convention on Nuclear Safety—that have been established or proposed over the past several years.

Meetings of the International Atomic Energy Agency's Senior Regulators

Since 1983, the International Atomic Energy Agency's General Conference has sponsored the Special Scientific Program on Nuclear Safety for Senior Regulators. These 2-day meetings of senior regulators from countries with major nuclear power programs are typically held annually on technical issues such as nuclear power plants, radiation, and waste safety. The Nuclear Regulatory Commission's (NRC) Executive Director for Operations represents the United States at these meetings. NRC officials and some other Association members told us that the International Atomic Energy Agency setting is too large and too formal for open and frank discussions on nuclear regulatory issues.

Nuclear Energy Agency

During the 1980s, the Nuclear Energy Agency (NEA), which is part of the Organization of Economic Cooperation and Development (OECD),[1] sponsored two nuclear regulatory groups – Heads of Regulatory Agencies Meeting and the Committee on Nuclear Regulatory Activities.

Meetings of NEA's Heads of Regulatory Agencies

The meetings of the Heads of Regulatory Agencies, begun in 1983, were intended to encourage the exchange of views between senior regulators on regulatory issues. The Nuclear Energy Agency continued these meetings on an ad hoc basis through 1991 and biannually from 1992 through 1996. Many member countries saw value in these meetings, and one NRC Chairman recommended that annual meetings be held. Nevertheless, some members felt excluded from this process, and NEA discontinued these meetings after 1996. According to an NEA official, this meeting was the forerunner of the International Nuclear Regulators Association. Once the Association was established, this official believed that there was no longer a need for this forum for senior regulators

[1] OECD was formed in 1961 and provides its 29 member countries a setting in which to discuss and develop economic and social policy. The organization has an annual budget of around $200 million. OECD is organized around committees and a number of semiautonomous bodies. The NEA, which was formed in 1972, is a semiautonomous body within OECD. NEA's objective is to contribute to the development of nuclear energy as a safe, environmentally acceptable, and economical energy source through cooperation among its participating countries. NEA's membership consists of 27 countries, two-thirds of which have active nuclear power programs; its annual budget is about $16 million.

The Committee on Nuclear Regulatory Activities

The Committee on Nuclear Regulatory Activities was formed in 1989 to serve as a permanent standing committee addressing technical issues on regulation, licensing, and the inspection of nuclear installations within the OECD's NEA. The committee's primary mandate is to provide a forum for the exchange of technical information, views, and experiences among regulatory organizations. The committee is organized into several different subgroups. The U.S. representative to the committee is the NRC's Director of the Office of Nuclear Reactor Regulation. Compared with the International Nuclear Regulators Association, the committee is much larger and more technical, and involves lower level nuclear regulators.

Western European Nuclear Regulators Association

After several years of meeting on an informal basis, the European Union's nuclear regulators decided to form the Western European Nuclear Regulators Association in 1998. It is a regional organization consisting of 10 European Union members, 5 of which are members of the International Nuclear Regulators Association. Its general goal is to promote the harmonization of nuclear safety approaches within the European Union, and its specific goal is to assess the state of nuclear safety in the Eastern European countries that are candidates for European Union membership. This marks the first time a group of different regulators have come together to pass judgment on nuclear safety in other sovereign countries. The Western European Nuclear Regulators Association's March 1999 report examined 23 operating plants in seven Eastern European countries.

Forum of Iberian-American Regulators

The Forum of Iberian-American Regulators was established in 1997. Its membership includes five nations with shared characteristics: language and cultural ties, importation of technology for nuclear power stations, and regulatory agencies with limited resources. According to the current chairman, who is also a member of the International Nuclear Regulators Association, the forum involves its member nations' most senior nuclear regulatory officials, concentrates on a broad array of issues, conducts annual meetings, and has an annually rotating secretariat paid for by the sponsoring member country. Membership may eventually expand to all of the Spanish-American countries interested in nuclear safety and radiological protection.

Network of Regulators of Countries With Small Nuclear Programs

In 1998, the Network of Regulators of Countries with Small Nuclear Programs was formed in reaction to being excluded from the Association. This group is composed of 11 countries with small nuclear power programs and limited nuclear regulatory resources and staff. African, European, and South American nations are represented. The organization seeks to facilitate information exchanges between its members, promote a common understanding of nuclear safety culture, and support the activities of other international organizations such as IAEA and NEA. The network plans to hold an annual general meeting and to appoint a new chairman each year. It is technically oriented. An official from Switzerland's Nuclear Safety Inspectorate told us that the group emphasizes informal communications and that members frequently correspond via electronic mail and telephone calls. He said that the group would continue to be successful as long as it remains technical.

Asia Nuclear Safety Consulative Organization

At least nine Asian countries are interested in formalizing a series of Pacific Basin nuclear conferences into a formal regulatory body, the Asia Nuclear Safety Consultative Organization. The formation of the International Nuclear Regulators Association has been accompanied by increased interest in forming this organization, according to Korean nuclear regulators. Initial topics may include restructuring the electricity industry, waste management, extending the operating life of nuclear power plants, regulatory efficiency, and public transparency. The organization's establishment has been delayed, however, because of disagreements among potential members over its structure and mission.

VVER Owners' Regulatory Group

The VVER[2] Owners' Regulatory Group, composed of eight countries, was formed in 1993. Between 1987-1992, a Council of VVER Regulators met to exchange information and propose solutions to VVER-related safety problems. The group meets and rotates the chairmanship annually. It has established a variety of working groups to deal with a range of technical issues, such as in-service inspection methods and seismic upgrading, as

[2] The VVER is a type of Soviet-designed pressurized, light water cooled and moderated reactor that exists in three different models. As of January 1999, the Department of Energy reported that 45 VVER-type reactors were operating worldwide. Though later models have better safety features, the Department has reported that all the VVERs have safety shortcomings, some of them serious.

well as a working group to study the implementation of the Convention on Nuclear Safety.

Forum for Canada Deuterium Uranium Regulators

The Forum for Canada Deuterium Uranium Regulators was formed in 1996 for countries that operate these pressurized heavy water, natural uranium power reactors. Seven diverse nations, all members of the forum, operate 28 reactors and have 10 under construction.

Comments From the Nuclear Regulatory Commission

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

July 16, 1999

Ms. G. L. Jones
Associate Director
Energy, Resources and Science Issues
Resources, Community, and Economic Development Division
General Accounting Office
Washington, D.C. 20548

Dear Ms. Jones:

I am writing in response to your letter of July 12, 1999 to Mr. William Travers, Executive Director for Operations of the Nuclear Regulatory Commission (NRC), which forwarded copies of the General Accounting Office's proposed report entitled Nuclear Safety: Information on the International Nuclear Regulators Association (GAO/RCED-99-243). The NRC has reviewed the document, and has also made it available for review to the Office of the Senior Coordinator for Nuclear Safety at the Department of State. The collected comments are summarized below, and were discussed with Mr. Glen Levis of your staff on July 15, 1999.

Now on p. 3.
Now on p. 6.
Now on p. 10.

There are a number of small errors in the text. On page 3, bottom line, the word "chairman" should be made plural ("chairmen"). The term FTE, which is defined in a footnote at the bottom of page 7, is "full time equivalent," not "full time employee." Finally, on page 11, fifth line, the word "effectively" should be inserted before the word "predetermine."

Now on p. 10.

The Commission would also like to clarify the discussion on page 10 on Commission participation in International Nuclear Regulatory Association (INRA) meetings. When the former NRC Chairman stated that it may be impossible for all of the Commissioners to participate in INRA-related activities because of the agency's implementation of the Sunshine Act, it could leave the misimpression of the views expressed by other Commissioners. The Commissioners were not seeking all-inclusive Commission participation in INRA activities. Rather, the Commissioners expressed the view that the NRC could be represented by the Chairman and one of the other Commissioners at INRA meetings. Alternating Commissioner participation would enhance overall Commission understanding of how INRA benefits the NRC, and could enhance NRC's representation by capitalizing on individual Commissioner areas of expertise.

If you have questions about this response, please contact me at (301) 415-1780 at your convenience.

Sincerely,

Janice Dunn Lee, Director
Office of International Programs

cc: Chairman Dicus
Commissioner Diaz
Commissioner McGaffigan
Commissioner Merrifield
D. Corley, OEDO

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