

Office of
International
Programs



**NRC
International
Activities**
Annual Report
FY 2009

October 2009

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Message from the Director

In fiscal year 2009, the Nuclear Regulatory Commission continued to develop strategies for NRC's work with the international community. With the Commission's guidance, the staff participated in the U.S. Government's negotiation of new agreements for peaceful nuclear cooperation, and in the implementation of obligations under existing international conventions and treaties. In concert with licensees and Agreement States, we prepared input for the first U.S. declaration under the Protocol Additional to the U.S.-International Atomic Energy Agency Agreement for the Application of Safeguards in the United States. We worked with the international community to implement consistent export and import guidance for civilian uses of radioactive materials, and are revising NRC's regulations accordingly. We broadened our efforts to assist countries considering the option of nuclear power and with countries now engaged in new build of reactors and other fuel cycle facilities. We provided regulatory assistance for the control of radioactive sources. We shared operating experience information for existing nuclear power plants with other countries. We actively supported the safety, security, emergency response, technical support, and safeguards work of the International Atomic Energy Agency, and the safety work of the Nuclear Energy Agency.

The thread running through all these activities is our commitment to fulfill the NRC's mission to protect public health and safety, to promote the common defense and security, and to protect the environment.

The Office of International Programs' goal is to find creative, effective mechanisms to share information and learn about best practices, and to be a responsible partner in advancing nuclear safety and security. To this end we have worked to continuously improve our communication with the U.S. agencies which also have international programs to ensure consistency and avoid duplication of effort. I want to take this opportunity to thank my staff for the efforts they have made to maintain strategic flexibility to address the evolving regulatory environment, and to note with appreciation the leadership demonstrated by the legal and technical staff offices. We are leveraging international and domestic resources to carry out timely and efficient information exchanges to ensure that our domestic nuclear program benefits from our experienced international partners.



Margaret M. Doane
Director
Office of International Programs

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Overview of Accomplishments

Supported the U.S. Government's participation in the May 2009 Preparatory Committee for the 2010 Nuclear Non-Proliferation Treaty (NPT) Review Conference and subsequent U.S. Government international consultations.

Conducted extensive outreach with licensees to prepare for implementation of the Additional Protocol (AP) to the U.S. nuclear safeguards agreement with the International Atomic Energy Agency (IAEA), and worked closely with the Departments of State, Energy, Commerce and Defense and the National Security Council on preparing and submitting the first U.S. declaration under the AP in July 2009.

Participated in the U.S. Government delegation to the triennial Review Meeting of Contracting Parties to the Joint Convention on the Safety of Spent Fuel Management and the Safety of Radioactive Waste Management. Emerging trends included discussion of possible regional waste disposal solutions, and interest in greater public involvement in long-term waste management decision-making.

Achieved election of NRC senior managers to two key leadership positions for the 2011 Convention on Nuclear Safety (CNS) Review Meeting during the Organizational Meeting of the CNS in September 2009.

On June 23, 2009, published the proposed rule seeking public comments on Title 10 of the Code of Federal Regulations (CFR) Part 110 to improve the regulatory framework for the export and import of nuclear equipment and material.

Increased reactor-related assistance to 40 countries from the Commonwealth of Independent States (CIS), Southeast Asia, Africa, and the Middle East and hosted six assignees from six countries.

Developed and participated in Chairman and/or Commission regulatory information exchanges and site visits to 15 countries, and coordinated staff-level regulatory information exchanges with 27 countries, some of which were visited multiple times to implement agreed programs of work.

Conceptualized and implemented a plan to provide funding to the IAEA and the Nuclear Energy Agency (NEA) for cost-free experts to assist in new reactor safety and security regulatory infrastructure development needed for the design, construction and operation of new nuclear power plants in IAEA and NEA member states.

Coordinated agency-wide preparations to host an IAEA Integrated Regulatory Review Service (IRRS) mission in the U.S. in 2010.

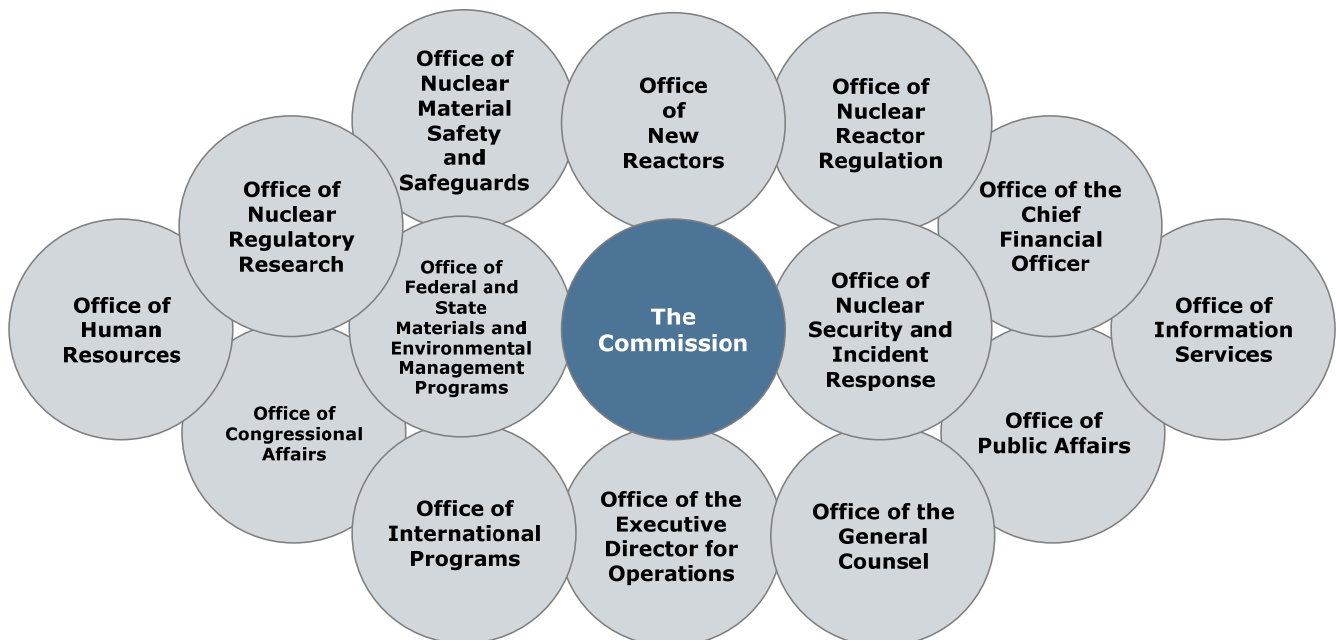
Planned and implemented a first-of-a-kind workshop in the U.S. on uranium recovery for countries in Africa and Central Asia.

Collaboration and Stakeholder Engagement

A COMBINED EFFORT

The Commission sets the agency’s overall international policy and strategies through the NRC Strategic Plan and by taking actions on individual topics. The wide-ranging program is coordinated for the Commission through the Office of International Programs, which develops day-to-day strategies and guidance consistent with Commission policy. NRC draws on the expertise and skill of NRC Program Offices to carry out its international activities. The Offices of the Executive Director for Operations, Nuclear Security and Incident Response; Nuclear Material Safety and Safeguards; Federal and State Materials and Environmental Management Programs; Research; Nuclear Reactor Regulation, New Reactors; Human Resources and the General Counsel are active participants in the agency’s international activities. Some Commission Offices – for example, the Offices of Public Affairs and Congressional Affairs – support the international program as needed, and the Office of the Chief Financial Officer is consulted regularly on budget-related matters. The quarterly meetings of the International Council, supplemented by the bi-weekly International Council Working Group discussions, serve as the primary intra-office coordination forum for these activities.

The Offices provide technical expertise for work which falls into the five categories of international activities: conventions and treaties, export and import licensing, bilateral arrangements, work with multilateral organizations, and international cooperative research. Staff’s work demonstrates the agency’s vision to advocate worldwide for strong, independent national regulatory authorities with skilled personnel and sustainable funding commensurate with national civilian nuclear programs.



STAKEHOLDER ENGAGEMENT AND OUTREACH

On behalf of NRC and working with Commission and Program Offices on specific issues, OIP maintains active, iterative relationships with domestic and international stakeholders to encourage constructive stakeholder engagement for international activities.

Accomplishments in FY 2009:

Interacted with foreign regulatory counterparts to forge new and build on existing relationships to exchange mutually beneficial insights on export and import and other nuclear safety and security matters.

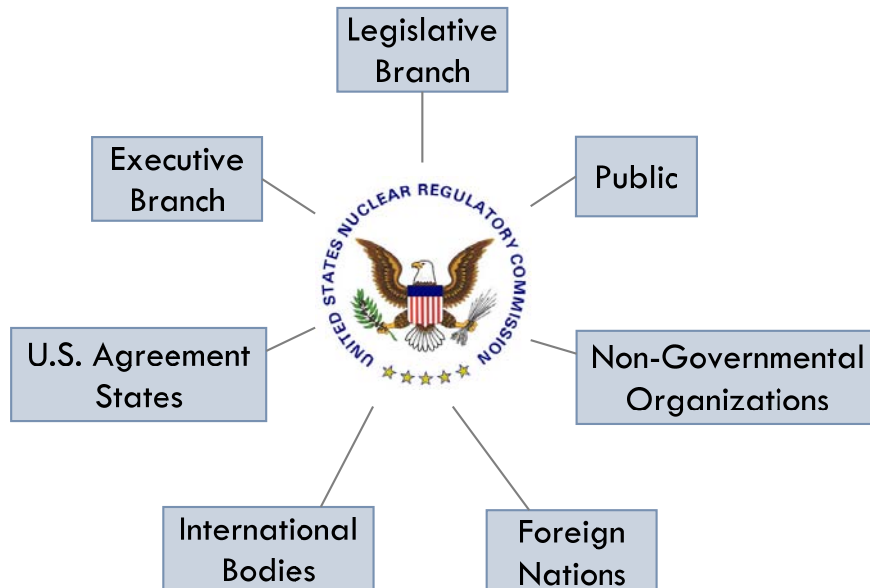
Engaged in a round table discussion with Region I staff and management to discuss export/import licensing and related domestic materials licensing issues to exchange information with NRC staff outside of Washington.

Met regularly with counterparts at the National Nuclear Security Administration to coordinate initiatives covering a wide range of topics, including regulatory security activities abroad.

Maintained ongoing discussions with relevant U.S. Government agencies to coordinate approaches to import/export issues, and nuclear safety and security policy issues.

Conducted extensive outreach with affected and potentially affected licensees to prepare for implementation of the Additional Protocol to the nuclear safeguards agreement between the U.S. and the IAEA.

External Stakeholders for NRC's International Activities



Legislation, Conventions and Treaties

The Atomic Energy Act and the Nuclear Non-Proliferation Act establish the overarching legal basis for all domestic and international regulatory activities. In addition to its governing legislation, the NRC acts upon obligations incurred by United States Government-negotiated, legally binding conventions and treaties. These obligations include leadership and technical support activities relating to nuclear non-proliferation, safety, safeguards, physical protection, radioactive waste and spent fuel management, emergency preparedness and response, and counter-terrorism.

In addition to the accomplishments listed for FY 2009 on page 5, we note the following activities:

The staff's continuing support for U.S. Government efforts to achieve broad adherence to the amended Convention on the Physical Protection of Nuclear Material, and to revise IAEA Information Circular 225, the international guidance document on the physical protection of nuclear materials and nuclear facilities.

The Commission supports President Obama's initiative to create a broad framework for civil nuclear cooperation pursuant to appropriate proliferation controls. The NRC's safety and security perspectives will be key elements of various arms control initiatives and treaties (e.g., progress associated with the NPT, opening negotiation on a Fissile Material Cut-Off Treaty). Regulatory requirements are also important considerations for efforts such as the Global Nuclear Energy Partnership, including development of proliferation-resistant cradle-to-grave approaches to the nuclear fuel cycle, incorporating best practices in security and safeguards.

Legal and Policy Basis for NRC's International Activities

- **Statutory Requirements**
 - Atomic Energy Act of 1954, as amended
 - 1978 Nuclear Non-Proliferation Act

- **International Treaties and Agreements**
 - Nuclear Non-Proliferation Treaty
 - 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 Case of a Nuclear Accident & Radiological Emergency
 - Convention on Nuclear Safety
 - Convention on Supplementary Compensation for Nuclear Damage
 - Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management

Export/Import Licensing

The NRC ensures that exports and imports of nuclear materials, facilities and equipment under the Agency's jurisdiction are licensed in accordance with applicable U.S. statutory and regulatory requirements. These exports and imports must also meet U.S. Government commitments under legally binding international treaties and multilateral and bilateral agreements.

Additional accomplishments in FY 2009:

NRC established a molybdenum-99 (Mo-99) working group to address regulatory issues associated with the safe and secure supply of medical isotopes, including the export and import of materials necessary for their production.

Reviewed 21 proposed Department of Energy Title 10 Code of Federal Regulations Part 810 authorizations involving transfers of nuclear technology to non-nuclear weapons states.

Supported U.S. Government efforts to achieve greater adherence to the IAEA Code of Conduct on the Safety and Security of Radioactive Sources.

Export/import licensing actions completed in FY 2009:

146 applications received
139 licensing actions completed
136 licenses issued

Commodities under NRC Export/Import Licensing Authority

- Nuclear reactors (10 CFR 110 Appendix A)
- Uranium enrichment facilities (10 CFR 110 Appendices B-H)
- Spent fuel reprocessing plants (10 CFR 110 Appendix I)
- Uranium and plutonium conversion plants (10 CFR 110 Appendix J)
- Heavy water or deuterium production plants (10 CFR 110 Appendix K)
- Nuclear fuel fabrication plants (10 CFR 110 Appendix O)
- Lithium isotope separation facilities (10 CFR 110 Appendix N)
- Equipment, component parts, and assemblies that are especially designed or prepared for exclusive use in any of the aforementioned facilities
- Special nuclear material (e.g., plutonium, enriched uranium, uranium-233)
- Source material (e.g., natural and depleted uranium, thorium)
- Byproduct material (10 CFR 110 Appendix L and Appendix P)
- Deuterium (heavy water)
- Nuclear grade graphite for nuclear end use (see 70 Federal Register 41937, July 21, 2005)

The commodities under NRC import licensing authority (10 CFR 110.9a) include the following:

- Nuclear production and utilization facilities
- Special nuclear, source and byproduct material

Bilateral Cooperation and Assistance

The NRC engages in a broad range of nuclear safety, security and emergency preparedness cooperation and assistance activities with foreign countries through bilateral arrangements and other exchange mechanisms. Cooperation is generally conducted with countries with mature nuclear regulatory programs, while assistance is offered to countries with new or less robust regulatory programs. In both cases the NRC hosts assignees each year to provide on-the-job training. NRC also assigns staff to foreign regulatory authorities to enhance information exchanges. The table on the next page shows all countries with which the NRC had bilateral arrangements in place in FY 2009.

Accomplishments in FY 2009 in addition to those listed on page 5:

The Commission conducted high-level regulatory information exchanges and site visits to Belgium, China, Finland, France, India, Italy, Japan, Republic of Korea, Mexico, the Slovak Republic, South Africa, Spain, Sweden and the United Kingdom.

OIP negotiated and/or renewed bilateral technical information exchange arrangements with regulatory counterparts in Brazil, Canada, France, Indonesia, Kazakhstan, and the European Commission. The NRC also signed Memoranda of Cooperation for the Import and Export of Certain Radioactive Sources with Brazil and Canada to harmonize regulatory approaches and ensure consistency with the Code of Conduct on the Safety and Security of Radioactive Sources.

With Program Office support, OIP implemented a pilot program for new reactor licensing assistance projects with select countries of the CIS and Vietnam to provide information on critical infrastructure needed for a safe and secure nuclear program.

OIP also developed and implemented a pilot workshop to provide regulatory approaches to security of radioactive sources in select countries of the CIS, focusing on legal framework, organizational structure, fundamentals of a regulatory program and a training program to qualify regulatory staff. It is anticipated that the workshop will be offered in other regions in FY 2010.

Chairman Jaczko's Goals and Objectives for NRC's International Activities

Maintain and develop international relationships.

Continue to develop and strengthen our ability to receive operating experience and information on emerging issues from international community. (short term)

Ensure that we have the resources necessary to continue to provide advice and support to nations developing nuclear regulatory programs. (medium term)

Prepare for increased issues surrounding transfers of protected technology and information. (medium term)

The NRC conducted staff-level regulatory information exchanges with Argentina, Armenia, Australia, Canada, China, Egypt, France, Georgia, Hungary, India, Italy, Japan, Kazakhstan, Lithuania, Moldova, the Netherlands, Poland, Romania, Russia, Singapore, the Slovak Republic, South Africa, the Republic of Korea, Spain, Turkmenistan, the United Arab Emirates and Vietnam.

OIP staff participated in the first meeting of the 28-nation Forum of Nuclear Regulatory Bodies in Africa. FNRBA members requested cooperation and support from NRC in the areas of regulatory oversight of uranium mining and milling, and for new nuclear power plants. They also expressed interest in NRC's ongoing or planned radioactive source-related assistance efforts, especially assistance to develop national registries of radioactive sources.

The Office of Nuclear Regulatory Research signed and/or renewed implementing agreements with the Swedish Radiation Safety Authority, the Japan Nuclear Energy Safety Organization, the Comision Nacional De Seguridad Nuclear y Salvaguardias of Mexico, the Swiss Paul Scherrer Institute, the Atomic Energy Research Institute of Hungary, the American Institute in Taiwan and the Taipei Economic and Cultural Representative Office, and the National Nuclear Regulator of the Republic of South Africa. It also met with representatives of the European Atomic Energy Community staff to discuss the Technical Exchange Arrangement currently under negotiation.

The Office of International Programs continued to guide the foreign assignee program to bring qualified candidates to work at the NRC. During FY 2009, NRC hosted eight assignees from France, Germany, Iraq, Japan, Lithuania, the Republic of Korea, and Vietnam.

Bilateral Technical Information Exchange and Cooperation Arrangement and Letter of Agreement Partners

Argentina	Germany	Republic of Korea
Armenia	Greece	Romania
Australia	Hungary	Russia
Belgium	Indonesia	Slovak Republic
Brazil	Israel	Slovenia
Bulgaria	Italy	South Africa
Canada	Japan	Spain
China	Kazakhstan	Sweden
Croatia	Lithuania	Switzerland
Czech Republic	Mexico	Tecro (Taiwan)
Egypt	Netherlands	Ukraine
European Commission	Peru	United Arab Emirates
Finland	Philippines	United Kingdom
France	Poland	Vietnam

Cooperation With Multilateral Organizations

NRC's multilateral cooperation activities are primarily conducted with the NEA and the IAEA, as well as through other international bodies such as the International Commission on Radiological Protection (ICRP).

NRC's work at the NEA takes advantage of the NEA's forum for countries with well-developed nuclear power programs to consult on issues of common interest. Management and staff actively participate in the NEA's ongoing nuclear safety program through leadership positions on the Steering Committee and on the committees on regulatory activities, safety of nuclear installations, waste management, and radiation protection and public health. The NRC continues its leadership role in the Multinational Design Evaluation Program (MDEP), with 9 other participating countries. The issue-specific working groups on Vendor Inspection Cooperation, Digital Instrumentation and Control, and Codes and Standards, and the two design-specific working groups are developing harmonized approaches to enhance national review of new reactor programs.

The NRC also participates in the full range of the IAEA's activities, including nuclear safety, international safeguards, security, emergency preparedness, and technical assistance. NRC's preparations to host an IAEA IRRS mission in the U.S. have intensified in FY 2009, drawing on expertise from all Program Offices as well as OIP and OGC. The NRC continues its leadership role in IAEA safety standards committees. It is a key member of the IAEA's International Nuclear and Radiological Event Scale effort, which will promptly communicate events of safety significance at nuclear and radiological facilities to the international public. Staff is active in technical and consultant meetings developing consensus approaches to the methodology for basic safety and security guidance, including the newest four-year Nuclear Security Plan establishing the program's strategic vision. Staff regularly interacts with domestic licensees to ensure the application of IAEA safeguards in the U.S. is consistent with U.S. Government obligations, holds leadership positions in U.S. Government interagency committees associated with IAEA safeguards activities, and assists in the development of new safeguards approaches for facilities which will be built in the future. The staff closely coordinates with IAEA on regional efforts to exchange information on establishing safety and security regulatory infrastructure for nuclear power.

NRC's robust program of confirmatory research projects is a key component of its international activities. NRC's views are actively solicited both bilaterally and multilaterally, and international interactions benefit the regulatory approaches NRC applies domestically. For example, the benefit-to-cost ratio of international research projects is 11 to 1 (i.e., \$2.8 million a year in NRC contributions to NRC benefits from actual research valued at approximately \$32 million). As a result of these projects, NRC receives valuable technical information seismic issues, fuel behavior and material science, fire modeling, loss-of-coolant accident experiments, aircraft impact test assessments, and radionuclide sorption data. NRC also hosts two major programs to support development and maintenance of safety modeling computer codes.

In addition to activities noted above and on page 5, accomplishments in FY 2009 included:

Establishing senior staff-level positions at NEA to provide secretariat services for MDEP, and developing a program, including an NRC-funded cost-free expert, to support countries with limited infrastructure which are interested in new reactor power plant programs.

Signing the renewal of the NRC-NEA Halden Reactor Project for 2009-2011.

Participating in NEA programs examining construction experience and regulatory issues of siting, licensing and regulatory oversight of new reactors; gas cooled and sodium reactors; coordinating national comments on the ICRP draft recommendations; tracking trends in occupational exposures at nuclear power plants; the role of stakeholders in the international system of radiation protection; and fostering developments in geological disposal and decommissioning.

Leading the revision of the IAEA’s Basic Safety Standards for Protection Against Ionizing Radiation and for the Safety of Radiation Sources.

Establishing an NRC-funded cost-free expert at the IAEA to assist in safety programs related to countries seeking support to develop nuclear power programs, and will enable NRC to reach more countries than bilateral activities would support. An NRC staff member has also been selected to be a Department of State-funded cost-free expert at IAEA to assist in the evaluation of the Integrated Regulatory Review Service guidelines and to collate lessons learned from IRRS missions worldwide.

Providing funding and experts to the IAEA’s Department of Technical Cooperation to support regional workshops and training efforts in the area of radioactive source safety and security; this activity leveraged NRC staff resources by using retirees.

Working with the IAEA to revise the Illicit Trafficking Database to improve reporting of information in the database.

Senior staff led IAEA IRRS missions to Canada, the United Kingdom and Vietnam.

NRC Representation on IAEA and NEA Committees

IAEA Safety Committees

- Commission on Safety Standards
- Radiation Safety Standards Committee
- Waste Safety Standards Committee
- Nuclear Safety Standards Committee
- Transportation Safety Standards Committee

NEA Committees

- Committee on Nuclear Regulatory Activities
- Committee on the Safety of Nuclear Installations
- Radioactive Waste Management Committee
- Committee on Radiation Protection and Public Health

About the Office of International Programs

OIP implements Commission policy guidance concerning NRC's international activities related to international conventions and treaties, export and import licensing, bilateral activities, multilateral organization programs, and cooperative research. In consultation with other Program Offices, OIP administers the NRC's international programs and provides policy advice and assistance to the Chairman, the Commission, and to NRC management and staff. OIP's budget for FY 2009 was \$3.5M in contract support and 36 full-time equivalent (FTE) staff, approximately 1% of the NRC's agency-wide budget.

Accomplishments in FY 2009:

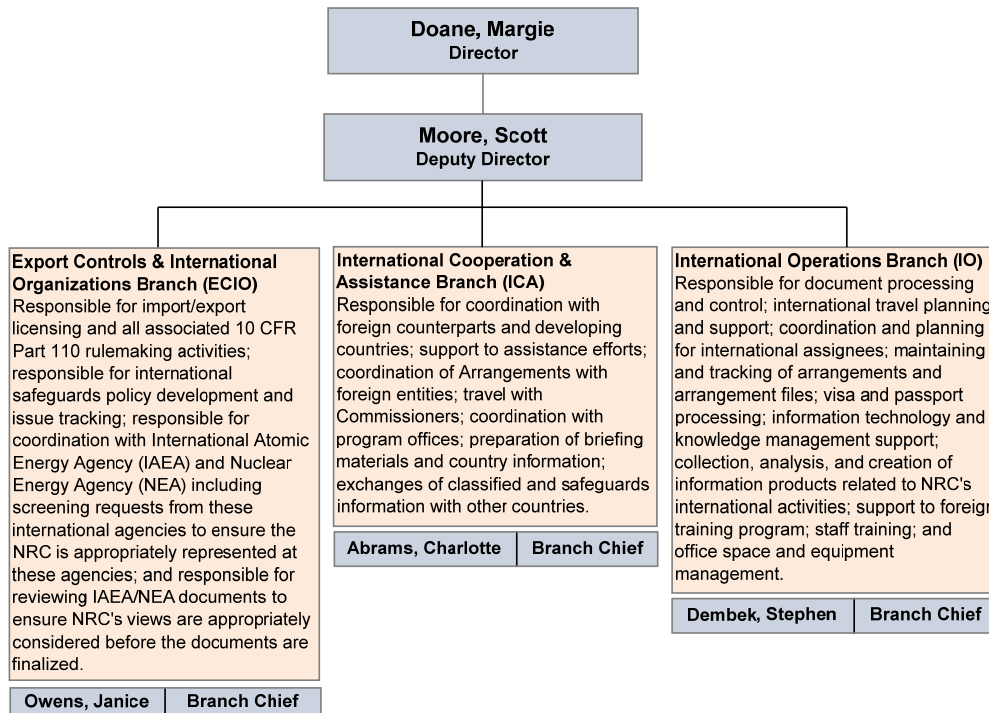
Created the OIP Peer Recognition Award program.

Enabled rotational job assignments for 25 employees within and outside of OIP, and four OIP managers mentored 14 NRC staff members.

Agreed to assume the NRC's agency-wide passports and visa function, and developed procedures and staff training to ensure seamless transition of the activities from the OCFO

Reorganized into three branches to respond to increases in staff and functional responsibilities.

OIP Organization Chart



Acronyms and Abbreviations

AP	Additional Protocol (to the U.S./IAEA nuclear safeguards agreement)
CFO	Office of the Chief Financial Officer
CFR	Code of Federal Regulations
CIS	Commonwealth of Independent States
CNS	Convention on Nuclear Safety
FNBRA	Forum of Nuclear Regulatory Bodies in Africa
FSME	Office of Federal and State Materials and Environmental Management Programs
FY	Fiscal Year (October 1 – September 30)
HR	Office of Human Resources
IAEA	International Atomic Energy Agency
ICRP	International Commission on Radiological Protection
IRRS	Integrated Regulatory Review Service
MDEP	Multinational Design Evaluation Program
Mo-99	Molybdenum-99
NEA	Nuclear Energy Agency
NMSS	Office of Nuclear Materials Safety and Safeguards
NPT	Nuclear Non-Proliferation Treaty
NRC	Nuclear Regulatory Commission
NRO	Office of New Reactors
NRR	Office of Nuclear Reactor Regulation
NSIR	Office of Nuclear Security and Incident Response
OE	Office of Enforcement
OGC	Office of the General Counsel
OIP	Office of International Programs
OPA	Office of Public Affairs
RES	Office of Research

Notes