



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

FEB 18 1987

MEMORANDUM FOR: Victor Stello, EDO
James H. Sniezek, DEDROGR
Harold R. Denton, Director, NRR
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James M. Taylor, Director, IE
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FROM: James R. Shea, Director
Office of International Programs

SUBJECT: NRC INTERNATIONAL PROGRAM PLAN FOR FY 1987

Several weeks ago a draft of the subject plan was circulated to selected offices requesting further review and input regarding specific goals and priority activities for FY 1987.

Based on the responses and recognizing both the passage of time and the pending reorganization, OIP has prepared a somewhat simplified version of the plan for the remainder of FY 1987.

Comments or proposed revisions may be addressed to Ron Hauber. However, please assume that the current version, subject to necessary adjustments for the reorganization, will be used for the remainder of the year.

James R. Shea
James R. Shea, Director
Office of International Programs

Enclosure:
International Program Plan

cc w/enclosure:
T. Rehm, EDO
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NRC International Program Plan
FY 1987

1.0 Introduction

The NRC International Program Plan provides a framework for planning, budgeting and approving foreign travel and other commitments of NRC resources for international meetings and technical assistance on an annual basis. The Plan covers all international representation and information exchange activities of the NRC. It identifies major goals for the year and allocates resources to their pursuit.

2.0 International Interests

NRC's international activities serve technical and policy interests at the staff and Commission levels and support U.S. government objectives.

- Promote nuclear safety to help avoid major incidents which could significantly impact public health and safety.
- Promote effective physical security and safeguards practices, especially as they apply to U.S.-origin technology and materials.
- Assure access to foreign licensing, research, and incident information which is not available in the U.S.
- Develop joint research projects and programs combining U.S. and foreign funding and facilities.
- Assure that NRC safety documentation and expertise are made available to regulatory authorities of developing countries using U.S.-supplied power reactor technology.
- Demonstrate U.S. compliance with the Article IV technology transfer provision of the Non-Proliferation Treaty.
- Help assure U.S. influence and gain in the programs of the IAEA and NEA.

3.0 FY 1987 Goals

NRC's international program includes a variety of activities with twenty-some countries and two international organizations. Broadly speaking, NRC's "goals" are to maintain productive and cost-effective relations with these countries and organizations so as to successfully pursue the interests listed above. Among the many important commitments and objectives of NRC in FY 1987 are the following goals which merit special attention.

- 3.1 Play a prominent role in IAEA's post-Chernobyl nuclear safety program.
 - Participate in the meetings which define the expanded program.
 - Provide or help identify U.S. experts for OSART missions.
 - Arrange and coordinate an OSART mission to Calvert Cliffs NPP in early FY 1988.
- 3.2 Strengthen bilateral relations in selected areas.
 - Establish relations with the USSR in the reactor safety area.
 - Accelerate cooperative safety training with Korea.
 - Provide requested safety assistance to Mexico.
 - Strengthen emergency planning communications with Canada and Mexico.
 - Provide requested advice to China on its safety review of the Qin Shan NPP.
- 3.3 Pursue opportunities for beneficial research and licensing information exchanges.
 - Continue to emphasize international research programs on severe accidents, T/H code assessment, and piping integrity.
 - Expand engineering research cooperation with Japan (seismic) and Germany (materials).
 - Pursue ABWR joint review with Japan.
- 4.0 Program Management

For the purposes of this Plan, NRC's international activities are divided into four broad Program Areas. As indicated below, these Program Areas or their major subdivisions are assigned to specific Program Managers. The Program Managers' responsibilities include: maintaining a cognizance of all significant activities within their assigned areas; recommending priorities in regard to future activities; and helping to resolve resource-related issues. Program Managers are expected to consult closely with other interested offices and take their views and interests into account. In certain key areas (e.g., bilateral cooperation with Japan), Program Managers may be asked to develop more detailed planning documents, to be appended to this Plan.

5.0 Program Area Outline and Summary of Estimated Foreign Travel

Program Areas	FY 1987 Travel \$	No. Trips	FTE*
A. NRC-Directed Activities			
A.1 Regulatory Info Exchange	150 K	70	3.5
A.2 Regulatory Assistance		10	.5
A.3 Research Coop Projects	200 K	95	4.7
B. NEA	45 K	30	1.2
C. IAEA			
C.1 Meetings	75 K	50	2.5
C.2 Technical Assistance		15	1.0
D. State Dept. Delegations	20 K	10	.2
Estimated Total NRC Resources**	490 K	280	13.6

6.0 Program Area A - NRC-Directed Activities

NRC's bilateral agreements with the regulatory and safety authorities of over twenty countries (22 regulatory agreements and over 50 research agreements) are the foundation of NRC's international cooperation program. (See Appendix A for a list of these agreements.) The regulatory agreements call for various forms of data exchange and safety cooperation including, in some cases, training and advice to help the authorities of developing countries assure the safe use of U.S.-supplied reactors. The research agreements sometimes involve large cash or in-kind expenditures by NRC and its foreign counterparts. The resulting programs are often highly leveraged with research results being obtained at a much lower cost to NRC than would be the case if undertaken alone. NRC benefits from foreign research programs costing \$100-150 million per year, using facilities built by others at a cost of \$300-400 million. NRC also receives increased peer review of U.S. research results through these cooperative programs.

Program Area A activities, including a large RES component, represent a large part of the total NRC staff effort expended on overseas activities. As the NRC research budget has decreased, the importance of foreign research cooperation has increased with a correspondingly higher level of foreign travel and activity by the RES staff and its contractors. Some growth is also anticipated in NMSS areas of interest and in reactor safety information exchange with the USSR.

* Estimated time outside the U.S. plus preparation and follow-up.

** Includes all projected foreign travel of NRC staff, OCM offices and ACRS; does not include approximately 140 foreign trips by contractor personnel, primarily in A.3.

6.1 Management Plan

- Program Manager for Regulatory Agreements: R. Hauber, IP
- Program Manager for Research Agreements: J. Cortez, RES

NRC's regulatory agreements are negotiated and administered by IP. NRC's research agreements are negotiated and administered by RES. The two offices work together to assure basic coordination of their respective agreements and activities. IP serves as the usual contact for both types of agreements in regard to formal notifications to the Department of State.

6.2 Current Emphasis

Under the IP-administered agreements with advanced countries, greatest emphasis is given to information exchange activities with Japan, France and Germany, including personnel exchanges. In regard to developing countries, greatest attention will be given to providing safety advice, upon request, to the regulatory authorities of countries commissioning or operating U.S.-supplied power reactors.* Under the RES-administered agreements, priority is being given to joint research on severe accidents, piping integrity, other engineering topics involving materials and seismic response, and on joint assessment of thermal-hydraulic calculational codes.

6.3 Goals and Priority Activities for FY 1987

Goal No. 1: Define possible NRC cooperation with the USSR following the Chernobyl accident.

- Send Bernthal team to USSR in Winter 1987.
- Participate actively in USG activities and policy deliberations on U.S. nuclear safety cooperation with USSR.
- Receive a USSR team to U.S. in late 1987.

Goal No. 2: Continue an active international safety research program

- Implement on-going major research programs in areas of severe accidents, thermal-hydraulic code assessment, and piping integrity.
- Expand international research in the engineering area with emphasis on seismic research with Japan and materials research with Germany.

* Many NRC technical assistance activities are carried out under the sponsorship of the IAEA, within its technical cooperation program. In these cases, IAEA pays all direct travel costs. See Program Area C.

- Goal No. 3: Exchange current information with Japan and W. Europe on reactor issues and means to assess and improve operations.
- Exchange visits of technical personnel with main nuclear energy countries.
 - Support an NRR staffer in a one-year assignment to France to work in the PRA area.
 - Organize and begin to implement a coordinated ABWR review with Japan.
- Goal No. 4: Enhance emergency notification and cooperation procedures with Canada, Mexico and the IAEA.
- Include foreign and IAEA participation in the 1987 Federal Field Exercise.
 - Meet with Canadian and Mexican representatives.
- Goal No. 5: Increase information exchange with key countries on waste regulation.
- Arrange an international meeting with senior regulatory officials from selected countries.
- Goal No. 6: Increase training support to Korea.
- Work with Korea to plan and carry out training for up to ten Koreans for periods of 3 months to one year each.
- Goal No. 7: Assist Mexico, on request, in its regulatory preparations for the operation of the Laguna Verde power reactor.
- Respond favorably, to the extent possible, to IAEA and Mexican requests for NRC staff to visit Mexico on advisory missions.
- Goal No. 8: Assist China in its safety review of the Qin Shan reactor.
- Receive a team of Chinese reviewers for 2-3 weeks of discussions at NRR in early 1987.
- Goal No. 9: Play a prominent role in international reactor technology discussions.
- Arrange a meeting of ACRS and their counterparts from Germany, France and Japan.
 - Send a substantial delegation to the 1987 SMIRT Conference.

6.4 Resource Summary for Program Area A

	FY 1987		
	Travel \$	No. Trips	FTE
EDO	5	2	.1
RES	180	87	4.5
NRR	50	30	1.5
NMSS	50	25	1.2
IE		2	.1
Regions		3	.2
IP	15	6	.3
AEOD	5	?	.1
OGC	5	2	.1
ACRS	20	10	.5
OCM	20	6	.3
Total	<u>350</u>	<u>175</u>	<u>8.7</u>

7.0 Program Area B Summary -- NEA Activities

The NEA, headquartered in Paris, promotes cooperation among its member governments (W. Europe, Australia, Canada, Japan and U.S.) in the safety and regulatory aspects of nuclear energy. The members are highly industrialized countries, many of which use and export nuclear fuel, equipment and services, especially LWR technology; some 80% of the world's nuclear capacity is in the NEA countries. Unlike IAEA, NEA is not involved in international safeguards or technical assistance to developing countries. In general, NEA presents a framework where members have much in common, technically and politically.

The work of the NEA is defined and carried out by committees formed of representatives from the member countries. NRC is actively involved in three NEA committees: the Committee on the Safety of Nuclear Installations (CSNI), the Committee on Radiation Protection and Public Health (CRPPH), and the Radioactive Waste Management (RWM) Committee. The programs under these committees involve: a) exchanges of information, studies and state-of-the-art reports to improve the data bases available to member countries, b) contributions to the effectiveness of R&D activities and the accuracy and validity of safety assessment tools through the coordination of national programs, joint evaluations, joint projects, etc., and c) efforts to achieve a basic compatibility of safety and regulatory practices, or internationally agreed interpretations, standards and guidelines.

The Chernobyl accident has caused additional Program Area B activity in FY 1987. Increased, but still minor, involvement of NMSS in the RWM Committee which began in FY 1986 will also continue in FY 1987.

7.1 Management Plan

- Program Manager for CSNI: H. Denton, NRR
- Program Manager for CRPPH: R. Cunningham, NMSS
- Program Manager for RWM: R. Browning, NMSS

IP provides broad coordination of NRC's participation in the NEA. IP interacts with the NEA staff, the U.S. Mission in Paris, State Department, and, within NRC, the EDO, NRR, RES, NMSS and others. IP takes the lead on day-to-day, non-technical, policy and management matters.

Technical and program management is carried out through the senior staff who represent NRC on the NEA committees. At present, the NRC representative on the CRPPH is R. Cunningham, NMSS-FC and on the RWM is R. Browning, NMSS-WM. The NRC management structure of the CSNI is outlined below.

CSNI (Parent Committee)	H. Denton
CSNI Licensing Subcommittee	R. Vollmer
CSNI-Research Interests	D. Ross
PWG-1	C. Heltemes, AEOD
PWG-2	B. Sheron, NRR
PWG-3	C. Serpan, RES
PWG-4	M. Silberberg, RES
PWG-5	T. Speis, NRR
Fuel Cycle Working Group	J. Roberts, NMSS

It is expected that NRC's representatives will be cognizant of all proposed activities in their areas; will limit and make clear to NEA, NRC's commitments regarding support of future meetings, assuring that levels are consistent with NRC's interests and available resources; and will be responsible for identifying and endorsing, to IP and the particular NRC office whose employees or contractors are to be involved, the appropriate people to be nominated and sent to given meetings.

It is expected that NRC representatives will attend the annual/semiannual meetings of the three NEA Committees as well as any "Bureau" meetings to which they might be invited by virtue of leadership positions they might hold. In the CSNI, NRC's lead people in each of the PWG's will also attend their annual meetings or arrange for a suitable stand-in. In regard to specialists meetings and other Committee or PWG-sponsored activities, NRC's representatives will a) work to avoid any growth in the number of activities requiring NRC or contractor participation, and b) arrange to nominate the appropriate NRC or contractor experts to attend whatever meetings or activities they endorse on NRC's behalf. In holding the line against any net growth in the number of NEA meetings in FY 1987 and future years, NRC representatives should give priority to information exchange activities which may contribute timely data to NRC regulatory decisions. Representatives should also actively promote IAEA-NEA co-sponsorship of meetings and strongly oppose all unnecessary duplication of effort by NEA, IAEA and others.

7.2 Current Emphasis

Following the Chernobyl accident, the national representatives of the 23 NEA countries (U.S. - R. Kennedy) called for strengthening international incident reporting and analysis, expanding work on severe accidents and reactor containment, and more coherent measures against radiation exposure and radioactive contamination in accident situations. In addition, they confirmed that the Chernobyl accident itself should be the subject of further studies to determine the relevance of the accident to the safety of nuclear reactors in the NEA countries. Specific areas of interest will include reactor operation, human factors and the management of accident situations, and an examination of the desirable future evolution of reactor safety research and development.

7.3 Goals and Priority Activities for FY 1987

Goal No. 1: Maintain a strong NRC role in NEA to set useful priorities in its technical work program and to avoid duplication with IAEA.

-- Participate actively in the annual/semiannual meetings of the CSNI and its Licensing Subcommittee; the CRPPH; and the RWM.

-- Participate actively in the annual meetings of the five CSNI Principal Working Groups.

Goal No. 2: Support the principal objectives of the NEA Steering Committee, CSNI, CRPPH and RWM.

-- Participate in reviews of the Chernobyl accident and its implications, and in follow-up work on incident reporting and analysis; reactivity, human factors and other post-accident studies; intervention levels in the regulation of contaminated foodstuffs; etc.

-- Participate directly or through contractors in other on-going NEA safety-related activities which require NRC support and/or promise to make a significant contribution to NRC technical program objectives.

7.4 Resource Summary for Program Area B

	FY 1987		
	Travel \$	No. Trips	FTE
EDO			
RES	10	7	.3
NRR	18	12	.5
NMSS	10	6	.2
IE			
Regions			
IP	1	1	
AEOD	3	2	.1
OGC	3	2	.1
ACRS			
OCM			
Total	<u>45</u>	<u>30</u>	<u>1.2</u>

8.0 Program Area C Summary -- IAEA Activities

The International Atomic Energy Agency (IAEA) headquartered in Vienna, Austria has over 100 member countries. Its responsibility for implementing effective international safeguards makes it a critically important organization in the eyes of the U.S. Government. IAEA also carries out a broad range of nuclear safety activities involving various means of technical information exchange and the development of safety standards (transportation, materials handling, reactors, waste management), as well as technical assistance to developing countries.

NRC participates in technical and operational activities of the IAEA safeguards program, helps coordinate U.S. support efforts, and assists in IAEA training programs and workshops. NRC plays a leading role in the implementation of the U.S./IAEA Safeguards Agreement.

NRC is also closely involved in the planning and implementation of IAEA's nuclear-safety program. Over a ten-year period NRC managed the substantial U.S. government and industry effort to help IAEA develop some 60 power reactor safety codes and guides in its Nuclear Safety Standards Program. NRC has participated in various advisory and working group meetings and has been a leading source of experts for IAEA safety missions and technical assistance assignments to developing countries. NRC staff members have also been assigned to the IAEA for periods of one or more years.

Most recently, the Soviet accident at Chernobyl has resulted in major new U.S. and international demands for nuclear safety work to be carried out within the IAEA. The U.S. Government joined the other members of the IAEA Board of Governors to outline and fund a \$2 million supplemental safety program in the IAEA. This program will involve activities specifically requiring NRC staff or contractor participation through at least FY 1989. An increase in resource expenditures is shown for FY 1987.

8.1 Management Plan

-- Program Manager: J. R. Shea, IP

IP provides broad coordination of NRC's participation in the IAEA, interacting with the IAEA staff, U.S. Mission in Vienna, State Department and all interested NRC offices. IP takes the lead in day-to-day, non-technical policy and management matters. IP normally represents NRC on the U.S. delegations to the meetings of the IAEA Board of Governors (Feb. and June) and usually accompanies NRC senior representatives (OCM or EDO) to the IAEA General Conference (September).

Management of NRC's participation in IAEA activities requires close coordination between IP and other NRC offices. IP is the primary NRC recipient of information and requests concerning planned IAEA meetings and activities and it disseminates that information to interested NRC managers along with recommendations on relative priorities, etc. NRC managers, such as those listed below who have special knowledge of IAEA, assist IP in determining whether NRC participation is appropriate and which office ought to provide the expert manpower for the activity.

IAEA Program Elements

Safeguards
 Reactor Safety
 Operational Data
 Safety Research and Standards
 Radiological Protection,
 including Transportation
 Emergency Preparedness
 Waste Management
 Inspection

NRC Sub-Area Contacts

Burnett, NMSS
 Denton, NRR
 Heltemes, AEOD
 Ross, RES

 Cunningham, NMSS-FC
 Jordan, IE
 Browning, NMSS-WM
 Partlow, IE

8.2 Current Emphasis

The expanded (post-Chernobyl) IAEA nuclear safety program includes a number of priority activities of interest to NRC. These include establishing international standards for operator training, studying human factors related to plant operations, using IAEA safety guides as a basis for internationally accepted safety requirements, arranging OSART visits to power reactors throughout the world and improving incident reporting and analysis (and associated coordination between IAEA and NEA). NRC will participate in these activities and other on-going safety and safeguards efforts. NRC will use its IAEA participation to demonstrate a leadership role in international nuclear safety matters and to develop contacts with the USSR, Eastern Europe and Cuba on safety and safeguards subjects.

8.3 Goals and Priorities for FY 1987

- Goal No. 1: Help define the content and priorities within the \$2 million/year expanded IAEA safety program.
- Participate in expert working groups and Board of Governors meetings for this purpose.
 - Work with State Department and DOE to coordinate the U.S. position on related questions.
- Goal No. 2: Examine the appropriateness of using IAEA safety guides and other documents for international standards.
- Participate in meetings to screen and update selected NUSS safety guides.
 - Encourage International Nuclear Safety Advisory Group (INSAG) development of international safety principles.
 - Work with State Department and DOE to coordinate the U.S. position to any proposal to make NUSS guides mandatory on an international basis.
- Goal No. 3: Support the IAEA Operational Safety Review Team (OSART) program and other direct safety advisory services.
- Help identify appropriate U.S. safety experts to join OSARTs, upon request by IAEA; send NRC staff experts when appropriate.
 - Arrange an OSART visit to Calvert Cliffs NPP in FY 1988.
 - Provide NRC experts, when appropriate, to join Radiation Protection Assistance Team (RAPAT) and Assessment of Safety-Significant Events Teams (ASSET) visits.
- Goal No. 4: Support IAEA's Technical Assistance Program in Regard to Selected Countries and Subjects.
- Goal No. 5: Support IAEA's Fellowship Program and Other Training Efforts.
- Use IAEA program to maximize the placement of Korean safety trainees in NRC and other U.S. assignments.
 - Participate in special safety and safeguards training aimed at countries using U.S. technology's materials and/or having special relationships with NRC or the U.S. Government.
 - Support fellowship and training activities with a broad range of IAEA countries, including East European countries, where this can be done at low cost to NRC.

Goal No. 6: Provide Direct Support to Improving IAEA Safeguards.

- Participate in expert and advisory group meetings and provide direct consultative support in Vienna.
- Help coordinate U.S. support programs to IAEA safeguards through the Action Plan Working Group and the POTAS Program.
- Help present IAEA training courses and workshops.

8.4 Resource Summary for Program Area C

	FY 1987		
	Travel \$	No. Trips	FTE
EDO	2	1	
RES	18	15	.8
NRR	13	10	.5
NMSS	17	14	.7
IE		5	.4
Regions		5	.4
IP	10	6	.3
AEOD	6	3	.2
OGC	2	1	
ACRS	2	2	.1
OCM	5	3	.1
Total	<u>75</u>	<u>65</u>	<u>3.5</u>

9.0 Program Area D Summary -- State Department Delegations

This final category covers NRC's participation in activities outside the normal scope of NRC exchange agreements and not sponsored by NEA or IAEA. It includes U.S. Government team visits to other countries and State Department-organized delegations to represent the U.S. at nuclear energy joint committee meetings, bilateral safeguards or physical security discussions, or other high-level meetings. Participation in certain international standing committees is also included. A partial listing of activities in this category is given below:

- UN Conference on Peaceful Uses of Nuclear Energy (PUNE)
- US Joint Nuclear Energy Standing Committees with Korea, USSR, Egypt, Indonesia and Taiwan
- U.S. Government-Industry Seminars on Nuclear Energy
- NPT Review Conference
- United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR)
- International Commission on Radiation Protection (ICRP) Working Groups
- Pacific Basin Conferences
- International Conferences on Nuclear Technology Transfer (ICONTT)

9.1 Management Plan

-- Program Manager: J. R. Shea, IP

Where possible, Program Area D meetings will be projected in the yearly plan. As in other areas, it is recognized that a certain number of activities will be unanticipated far in advance and will be dealt with on a case-by-case basis. State Department requests for NRC participation in international conferences and meetings of joint standing committees will normally be coordinated by IP which will make a recommendation in writing to the EDO.

9.2 Current Emphasis

The long-planned UN Conference on Peaceful Uses of Nuclear Energy will be held in Geneva, Switzerland in FY 1987. A small NRC delegation headed by Chairman Zech will participate, in close coordination with State Department and DOE.

NRC will continue to support U.S. joint standing committees, including appropriate coordination of NRC-USSR bilateral discussions with the US-USSR joint committee.

NRC will use its Program Area D participation to promote improved safety, physical security, and safeguards programs worldwide.

9.3 Goals and Priority Activities for FY 1987.

See 9.2

9.4 Resource Summary for Program Area D

	FY 1987		
	Travel \$	No. Trips	FTE
EDO	2	1	
RES	2	1	
NRR	2	1	
NMSS	2	1	
IE			
Regions			
IP	6	3	.1
AEOD			
OGC			
ACRS			
OCM	6	3	.1
Total	<u>20</u>	<u>10</u>	<u>.2</u>