D. RIBUTION:

RMinogue	JRoe
DRoss	WDircks
FGillespie	TRehm
MErnst	EDO-384
JNorberg	DManson
COverbey	HFSB/subj
TRyan/rdg	HFSB/rdg
TRyan	CIrc
HDenton	Chron
PNorry	OCA
GCunningham	SECY

MAR 28 1985

The Honorable Beverly B. Byron
United States House of Representatives
Washington, DC 20515

Dear Congresswoman Byron:

The purpose of this letter is to respond to your February 14, 1985 inquiry to Chairman Nunzio Palladino, transmitting Mr. John Zombro's letter concerning periodic checks of personnel for alcohol and drug abuse at nuclear facilities and requesting information on any recent developments regarding this matter.

The Commission recognizes alcohol and drug abuse to be a social, medical, and safety problem affecting people in almost every industry and occupational group. Given the pervasiveness of the problem in our society, it seems reasonable to assume that alcohol and other drug abuse, as well as emotional and psychological factors, also exists in the commercial nuclear utility industry. The Commission has therefore requested the staff to provide them a policy statement for their review which describes the activities that the NRC will use to execute its responsibilities in this area to provide reasonable assurance that all nuclear power plant personnel working in vital areas at operating plants are fit for duty. A proposed policy statement currently before the Commission would allow nuclear power reactor licensees and applicants to develop and implement fitness for duty programs in accordance with guidelines being developed by the industry and concurred in by the NRC. The use of chemical (e.g., blood, breath) tests to screen for alcohol and other drug abuse would be in accordance with approved industry program guidelines. Further, the proposed policy statement says that the Commission will monitor applicant development and licensee implementation of fitness for duty programs, for a period of two years, to determine the degree to which desired results are being achieved. At the end of the two year period, the Commission will review progress made by the industry in this area, and will determine if additional regulatory action is required.

Thank you for bringing Mr. Zombro's letter to the NRC's attention.

Sincerely,

(Signed) William J. Dircks

William J. Dircks
Executive Director for Operations

Record Note: This closes action on RES #850358 and EDO #00384
REVISED PER EDO OFFICE (3/26/85) - * SEE PREVIOUS CONCURRENCE SHEET

EDO	EDO
J.Roe	W.Dircks
3/ /85	3/27/85

*HFSGB:DRAO	*HFSGB:DRAO	*HFSGB:DRAO	*DD/DRAO:RES	*D/DRAO:RES	RES/D*
T.Ryan:ce	C.Overbey	J.Norberg	M.Ernst	F.Gillespie	R.Minogue
3/06/85	3/07/85	3/07/85	3/13/85	3/13/85	3/20/85

8504100552

Congress of the United States

House of Representatives

Washington, D.C. 20515

February 22, 1985

The Honorable Nunzio Palladino
Chairman
Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Chairman Palladino:

We are interested in improving our understanding of how the agencies of the executive branch, including the Departments of State and Energy, the Arms Control and Disarmament Agency, and additionally, the Nuclear Regulatory Commission obtain and use studies, research, analyses and other information dealing with nuclear non-proliferation issues, policies, and activities. We are particularly interested in the external research program carried out by the Nuclear Regulatory Commission on all aspects of nuclear non-proliferation, including studies on international safeguards, nuclear export controls, nuclear licensing procedures, U.S. nuclear non-proliferation policy, the Non-Proliferation Treaty (NPT) and the NPT Review Conference, support for the International Atomic Energy Agency (IAEA) and any other related work. We also would like to know how the information, studies and other materials obtained through this research is used by individuals in the Nuclear Regulatory Commission or by others.

To assist us in our understanding, we would appreciate receiving the following information not later than March 18, 1985. For each year during the period January 1981 to the present, please provide the following:

1. A detailed description of the annual external research program of the Commission dealing with nuclear non-proliferation and other related subjects, including the program objectives and the amount budgeted.

2. A list of all external research contracts, regardless of classification, let between the Commission and firms, organizations or individuals for work directly and indirectly related to nuclear non-proliferation matters. Please include the title of any reports or other documents that were produced, a brief summary of work performed and its purpose, the names, addresses, and a brief description of the qualifications of the firms, organizations or individuals who performed the work, the specific names of contract and subcontract officers and principal investigators, the amount

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and duration of the contracts, and the type of contract and contracting procedure used, e.g. whether contracts were cost plus fixed fee, competitive or sole source, etc.

3. For each contract listed above, provide a description of how the work product was reviewed and evaluated as well as how it was ultimately distributed and used by the Commission. Please include a description of the Commission's policy for making this information available to members of Congress or releasing it to the public.

4. A description of all currently pending contracts or proposals and the planned external research program of the Commission for 1985.

To the extent practicable we would appreciate receiving this information on an unclassified basis. If however, any of your responses are classified, they should be transmitted by separate correspondence.

Thank you for your cooperation in this matter.

Sincerely,

Michael D. Barnes
Member of Congress

Edward J. Markey
Member of Congress

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

CHAIRMAN

April 9, 1985

D.C.

The Honorable Michael D. Barnes
United States House of Representatives
Washington, D.C. 20515

Dear Congressman Barnes:

In response to your letter of February 22, 1985 we have compiled a detailed description of our contractual projects relating to nuclear nonproliferation for the period January 1981 - March 1985. The project descriptions are presented in the enclosed document, "NRC Contractual Projects in Support of Nonproliferation and International Safeguards: 1981-1985" (Enclosure I). The broad objectives of the NRC nonproliferation and international safeguards program are described in our 1985 Policy and Planning Guidance statement which is provided as Enclosure II.

Please let us know if you desire further information in this regard.

Sincerely,

Nunzio Palladino

Nunzio J. Palladino

Enclosures:
I. "NRC Contractual Projects in Support of Nonproliferation and International Safeguards: 1981-1985
II. 1985 NRC Policy and Planning Guidance statement

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

CHAIRMAN

April 9, 1985

The Honorable Edward J. Markey, Chairman
Subcommittee on Energy Conservation and Power
Committee on Energy and Commerce
United States House of Representatives
Washington, DC 20515

Dear Mr. Chairman:

In response to your letter of February 22, 1985 we have compiled a detailed description of our contractual projects relating to nuclear nonproliferation for the period January 1981 - March 1985. The project descriptions are presented in the enclosed document, "NRC Contractual Projects in Support of Nonproliferation and International Safeguards: 1981-1985" (Enclosure I). The broad objectives of the NRC nonproliferation and international safeguards program are described in our 1985 Policy and Planning Guidance statement which is provided as Enclosure II.

Please let us know if you desire further information in this regard.

Sincerely,

Nunzio J. Palladino

Enclosures:
I. "NRC Contractual Projects in Support of Nonproliferation and International Safeguards: 1981-1985
II. 1985 NRC Policy and Planning Guidance statement

cc: Rep. Carlos Moorhead

NUCLEAR REGULATORY COMMISSION CONTRACTUAL PROJECTS IN SUPPORT OF NONPROLIFERATION AND INTERNATIONAL SAFEGUARDS: 1981-1985

Enclosure I

NRC CONTRACTUAL PROJECTS IN SUPPORT OF NONPROLIFERATION AND INTERNATIONAL SAFEGUARDS: 1981-1985

The Nuclear Regulatory Commission policy is: (1) to discharge its statutory licensing responsibilities to ensure that necessary controls are applied to the import and export of nuclear material, equipment, and facilities; (2) to facilitate the timely processing of export license applications to nations adhering to effective nonproliferation policies; (3) to meet its commitments for the implementation of international safeguards at U.S. licensed facilities; and (4) to work with the Executive Branch as the United States pursues improvements in international safeguards.

This document provides descriptions of NRC contractual projects that have been undertaken to support these nonproliferation and international safeguards areas of activity. Project descriptions are provided for the following projects:

Export and Import Licensing:

-- Export Licensing Review Criteria: International Safeguards
-- Foreign Fuel Cycle Facility Data
-- Transportation by Sea Verification (TRANSEAVER) - Phase II

Implementation of International Safeguards

at U.S. Licensed Facilities:

-- International Safeguards -- Assistance in the preparation of Design Information Questionnaires
-- Nuclear Materials Management and Safeguards System

Improvement in International Atomic Energy Agency Safeguards:

-- Implications of International Atomic Energy Agency (IAEA) technical objectives.
-- Design features for facilitating IAEA Safeguards
-- Technical assistance to strengthen IAEA Safeguards
-- Alternatives for Strengthening IAEA Safeguards

Other:

-- Office of International Programs Requirements Study

The NRC projects for improvements in IAEA safeguards are conducted in support of NRC participation in the interagency working group activities. In addition to the projects funded by NRC directly, NRC, through membership in the interagency Technical Support Coordinating Committee, approves, monitors, and evaluates contractual projects in support of the U.S. Program of Technical Assistance to International Safeguards (POTAS). Descriptions of these projects will be provided in a Department of State submission.

Description of all NRC contractual projects in support of nonproliferation and international safeguards activities are provided in this document. There are no new projects anticipated for FY85. Thus, the pending and planned program is covered in the descriptions of the current projects, where applicable. Four contracts are scheduled to extend into or through FY85. These are: (1) Export Licensing and Review Criteria, (2) Foreign Fuel Cycle Facility Data, (3) Nuclear Materials Management and Safeguards System (NMMSS), and (4) Technical Assistance to International Atomic Energy Agency (IAEA) Safeguards.

Most of the NRC contractual projects in the nonproliferation and international safeguards area were concluded under a Memorandum of Understanding between NRC and the Department of Energy (DOE). This agreement enables NRC to procure the services of DOE prime contractors. Accordingly, for these projects, information on contracting procedures was deemed not applicable and was so noted on the individual project descriptions.

EXPORT AND IMPORT LICENSING

-- Export Licensing Review Criteria: International Safeguards

-- Foreign Fuel Cycle Facility Data

-- Transportation by Sea Verification (TRANSEAVER) - Phase II

Project 1:

Title:

Export Licensing Review Criteria: International Safeguards

Purpose and Summary of Work:

Establish an effective and efficient process for conducting international safeguard reviews for export licensing pursuant to the Nuclear Regulatory Commission's (NRC) mandate under the Nuclear Non-Proliferation Act (NNPA) of 1978. The project will produce specific international safeguards review criteria supported by comprehensive guidance for identifying, obtaining, and analyzing the relevant essential safeguards related information. In FY84 the contractor developed draft evaluation criteria and an accompanying manual. In FY85 the contractor will develop a method for the NRC to analyze certain periodic safeguards information available to the NRC to enable it to assess historical international safeguards information and to track patterns, if any.

Contractor:

Battelle-Pacific Northwest Laboratory (PNL)
Richland, Washington 99352

Qualifications:

PNL had the requisite background in international safeguards effectiveness and evaluation methods and export licensing criteria to perform the work. Additionally, it was not available elsewhere at this time.

Contract Officer:

a) Maynard J. Plahuta
PNL Operations Branch

b) NRC Project Manager:
Brian Horn
Office of Nuclear Material Safety and Safeguards

Subcontractor:

None.

Principal Investigator:

J. A. Christiansen
PNL/Energy Supply Division

Amount of Contract:

FY81: ---
FY82: $190,000.
FY83: $ 20,000.
FY84: $150,000.
FY85: ---

Duration:

11/23/81 -- 3/31/85

Type of Contract:

Department of Energy (DOE)-NRC Interagency Agreement.

Contracting Procedure Used:

Not applicable (Interagency Agreement).

How work was reviewed and evaluated:

PNL submitted monthly progress reports, including statements of expenditures, to the NRC project manager. Draft reports will be submitted when produced to the NRC for review and comment.

How work was distributed/used by Commission:

No report has been completed for this project. When one is available, it will be used to support NRC technical staff in their safeguards review in support of export licensing.

Project 2:

Title:

Foreign Fuel Cycle Facility Data

Purpose and Summary of Work:

To provide information on foreign fuel cycle facilities and activities, and to the extent possible, on research and development (R&D) activities. Information provided includes identification of facilities, description of activities, material inventories and flow, storage capabilities, operational performance and capacities, sources of materials and services. Information provided may include company confidential or proprietary information. Information is provided to assist the Nuclear Regulatory Commission safeguards staff in reviewing country-specific and facility-specific information as part of export licensing reviews.

The Nuclear Assurance Corporation (NAC) provided information for one country in FY82, ten countries in FY83, and fourteen countries in FY84. In FY85 NAC is providing updated information on analyses completed in FY82 and FY83.

Contractor:

Nuclear Assurance Corporation
5720 Peachtree Parkway
Norcross, Georgia 30092

Qualifications:

NAC has a unique data base maintained on a continuous basis, including historical and multi-year data not otherwise available. The requirement for multipurpose information to support export licensing reviews requires historical multi-year data for comparisons and confirmation. To the best of the NRC's knowledge NAC is the only U.S. firm with the needed data base.

Contract Officer:

a) NAC
Dwight B. Ferguson
Vice President and Treasurer

b) NRC Project Manager:
Brian Horn
Office of Nuclear Material Safety and Safeguards

Subcontractor:

None.

Principal Investigators:

W. J. Lee
J. J. Stobbs
J. S. Hobbs
D. M. Collier

Amount of Contract:

FY81: ---
FY82: $ 9,500.
FY83: $ 83,430.
FY84: $179,284.
FY85: $ 60,000.

Duration:

6/82 -- 11/85

Type of Contract:

Fixed price sole source contract.

Contracting procedure used:

This was conducted as a non-competitive sole source procedure. There were two potential U.S. sources, NAC and Transnuclear Inc. Transnuclear Inc. did not have the data base "in house," but would depend on its association with the West German firm Nukem. NRC did not feel it could work with Nukem because of conflict of interest implications, as Nukem performs nuclear fuel cycle services. NAC does not provide nuclear fuel cycle services.

How work was reviewed and evaluated:

Contractor provides the NRC with detailed work plan identifying milestones and projected dates of accomplishment for each fuel cycle analysis. After NRC review and approval, this becomes the operating schedule. The NRC holds periodic meetings with NAC staff. In addition, the NRC can make on-site inspections.

How work was distributed/used by Commission:

The NAC analyses are used as aids in safeguards reviews carried out in support of NRC export licensing procedures. Reports are not distributed beyond the NRC as information is company proprietary.

Project 3:

Title:

Transportation by Sea Verification (TRANSEAVER) - Phase II

Purpose & Summary of Work:

The TRANSEAVER project was begun by the Arms Control and Disarmament Agency (ACDA) to develop a system for continuous monitoring of the status and position of nuclear cargoes shipped by sea using Remote Continuous Verification (RECOVER) type components and International Marine Satellite (INMARSAT) ship-to-shore communications. Phase I included the conceptual design of a generic TRANSEAVER system and general consideration of legal and regulatory issues. Phase II included complete specification, fabrication, documentation and a test of a TRANSEAVER system for a particular type of shipment. It also included consideration of specific legal and regulatory issues. In 1984 the U.S. Government determined that it would no longer support the TRANSEAVER program.

The Nuclear Regulatory Commission (NRC) contributed $64,000 in funding to the project during FY81-FY82. The project was administered by ACDA and will be discussed in their submission to your offices.

IMPLEMENTATION OF INTERNATIONAL SAFEGUARDS AT U.S. LICENSED FACILITIES

-- International Safeguards: Assistance in Preparation of Design Information Questionnaires

-- Nuclear Materials Management and Safeguards System

Project 4:

Title:

International Safeguards -- Assistance in the Preparation of Design Information Questionnaires

Purpose and Summary of Work:

To develop guidance procedures to aid licensees in preparing the Design Information Questionnaire (DIQ) and criteria to aid NRC in review of the completed DIQs.

Contractor:

Brookhaven National Laboratory
Upton, New York 11973

Qualifications:

The Technical Support Organization (TSO) at Brookhaven provides technical assistance in all areas of safeguards to the NRC and the Department of Energy (DOE). TSO provides assistance under the direction of the International Safeguards Projects Office (ISPO) on tasks for the U.S. Program for Technical Assistance to International Atomic Energy Agency Safeguards (POTAS).

Contracting Officer:

a) Gregory A. Ogeka
Chief, Administration
Brookhaven National Laboratory

b) NRC Project Manager:
Lawrence F. Wirfs
Office of Nuclear Material Safety and Safeguards

Subcontractor:

None.

Principal Investigator:

Alan Bieber, Jr.

Amount of Contract:

FY78: $150,000.
FY79: $100,000.
FY80: $117,400.
FY81: ---
FY82: ---
FY83: ---
FY84: ---

Duration:

9/25/78 -- 1/31/82

Type of Contract:

DOE-NRC Interagency Agreement.

Contracting Procedure Used:

Not applicable (Interagency Agreement).

How work was reviewed and evaluated:

TSO submitted monthly letter status reports to the NRC project manager. Draft reports for each subtask, and a final report, were submitted to the NRC for review and comment.

How work was distributed/used by Commission:

The final product is used as guidance to U.S. facilities in their preparation of DIQs when they are selected by the International Atomic Energy Agency (IAEA) for safeguards application under the U.S.-IAEA safeguards agreement.

Project 5:

Title:

Nuclear Materials Management and Safeguards System (NMMSS)

Purpose and Summary of Work:

The NMMSS is the national data base and information support system on nuclear materials that are under safeguards or special accounting procedures of the U.S. Government. The system receives, processes, stores, retrieves, analyzes, and reports information on forecasts, inventories, material balances, and transactions. Nuclear materials data collection and reporting, as required by International Atomic Energy Agency (IAEA) agreements and bilateral agreements is processed by NMMSS. The Nuclear Regulatory Commission (NRC) funding covers the NRC proportionate share of continuing development, implementation, operation, and maintenance of the system. (NRC currently supports 30% of NMMSS; the Department of Energy (DOE) 70%.)

Contractor:

Martin Marietta Energy Systems, Inc.
Oak Ridge, Tennessee 37831

Qualifications:

Martin Marietta was chosen by DOE to maintain the NMMSS system as a small portion of its responsibility for overall management of the nuclear complex at Oak Ridge, Tennessee. The organization and personnel of Martin Marietta have participated in all phases of the nuclear industry since the Manhattan Project.

Contract Officers:

a) DOE
J. B. LaGrone
Oak Ridge Operations Office

b) Martin Marietta
George J. Farris

c) NRC
C. K. Nulsen
Office of Nuclear Material Safety and Safeguards

Subcontractors:

None.

Principal Investigators:

Not applicable.

Amount of Contract:

FY81: $1,200,000.
FY82: $1,300,000.
FY83: $1,115,500.
FY84: $1,170,000.
FY85: $1,135,000.

Duration:

Pre-FY81 through the present.

Type of Contract:

DOE-NRC Interagency Agreement.

Contracting procedure used:

Not applicable (Interagency Agreement).

How work was reviewed and evaluated:

Monthly status reports are provided to the NRC project manager. Reports are reviewed extensively by the NRC staff to check accuracy prior to transmittal to the IAEA and other clients. Periodic discussions are held with DOE to evaluate overall management of the system.

How work was distributed/used by Commission:

Reports are generated weekly, monthly, quarterly, semi-annually, and on request of NRC staff. These reports deal with material inventory, material balance, safeguards data monitor material transaction, etc., and are used to support NRC inspection and to respond to requests for data from the Congress, the press, the public, and others.

Monthly Inventory Changes are transmitted to the IAEA for those facilities which the Agency has selected for safeguards according to the U.S.-IAEA Safeguards Agreement.

Material Balance Reports and Physical Inventory Listing Reports are transmitted to the Agency following physical inventories taken at all selected facilities.

Monthly Import and Export Reports are sent to the IAEA, as well as semi-annual reports of transactions of selected nuclear material which involve the U.S. and Canada/Australia, and any interim reports that are requested by either the U.S. or Canada/Australia.

IMPROVEMENTS IN IAEA SAFEGUARDS

-- Implications of International Atomic Energy Agency (IAEA) Technical Objectives

-- Design Features for Facilitating IAEA Safeguards

-- Technical Assistance to Strengthen IAEA Safeguards

-- Alternatives for Strengthening IAEA Safeguards

Project 6:

Title:

Implications of International Atomic Energy Agency (IAEA) Technical Objectives

Purpose and Summary of Work:

To conduct a technical study assessing state materials control, surveillance, and accounting capabilities necessary to meet the IAEA performance criteria suggested by the U.S., and to assess the IAEA resources and inspection procedures necessary to verify such performance.

Contractor:

Battelle-Pacific Northwest Laboratory (PNL)
Richland, Washington 99352

Qualifications:

PNL had background in IAEA inspection techniques, resources and constraints. It had awareness of information on facility design, safeguards effectiveness evaluation methods, safeguards measurement capabilities and accounting practices at foreign facilities, state-of-the-art measurement capabilities, and current and possible IAEA inspection procedures and resource allocation strategies.

Contract Officer:

a) PNL
Maynard J. Plahuta
Operations Administration

b) Nuclear Regulatory Commission (NRC) Project Manager:
Lawrence F. Wirfs
Office of Nuclear Material Safety and Safeguards

Subcontractor:

a) Battelle-Pacific Northwest Laboratory
Human Affairs Resources Center (HARC)
Richland, Washington 99352

b) Science Applications, Inc. (SAI)
La Jolla, California

c) Exxon Nuclear Company, Inc.
2101 Horn Rapids Road
Richland, Washington 99352

Principal Investigators:

M. Mullen, PNL
C. A. Bennett, Battelle/HARC
J. E. Glancy, SAI
J. L. Jaech, Exxon Nuclear

Amount of Contract:

FY78: $149,000.
FY79: $ 88,500.
FY80: ---
FY81: ---

Duration:

9/15/78 -- 3/31/81

Type of Contract:

Department of Energy (DOE)-Nuclear Regulatory Commission Interagency Agreement.

Contracting Procedure Used:

Not applicable (Interagency Agreement).

How work was reviewed and evaluated:

Monthly progress reports and a draft copy of the final report were sent to the NRC project manager for review and comment. The final report was distributed to the Department of State, Department of Energy, and the Arms Control and Disarmament Agency for evaluation.

How work was distributed/used by Commission:

This technical study was used by an interagency group as the basis for identifying priority activities concerning IAEA resource allocation and future goal definition in IAEA performance criteria.

Project 7:

Title:

Design Features for Facilitating International Atomic Energy Agency (IAEA) Safeguards

Purpose & Summary of Work:

To determine the relative costs, impacts, and effectiveness of adopting certain design features for nuclear facilities which would improve the efficiency and effectiveness of IAEA inspection and verification efforts in facilities. Design aspects have been addressed for Light Water Reactors (LWR), reprocessing plants, Mixed Oxide (MOX) fuel fabrication plants, on load reactors, and Low Enriched Uranium (LEU) fuel fabrication facilities. During FY85 design aspects will be addressed for Away-from-Reactor (AFR) storage facilities for spent fuel from power reactors, and other facilities recommended by the interagency Action Plan Working Group (APWG).

Contractor:

Battelle-Pacific Northwest Lab (PNL)
Richland Operations Office
Richland, WA 99352

Qualifications:

This study was a follow-on to the "Implications of IAEA Technical Objectives" project which was conducted by PNL. The technology and understanding of the problem gained by PNL in the initial effort placed them in a unique position to perform this follow-on work.

Contract Officer:

a) PNL
Janet L. Bryant

b) Nuclear Regulatory Commission (NRC) Project Manager
Eugene Sparks
Office of Nuclear Material Safety and Safeguards

c) DOE Project Manager
Maynard J. Plahuta

Subcontractors:

None.

Principal Investigators:

Kenneth R. Byers
Ann L. Doherty
Neil L. Harms
Mark J. Mullen

Amount of Contract:

FY80: $175,000.
FY81: $ 80,000.
FY82: $ 75,000.
FY83: $ 80,000.
FY84: ---

Duration:

12/1/79 - 9/28/84

Type of Contract:

NRC-DOE Interagency Agreement.

Contracting procedure used:

Not applicable (Interagency Agreement).

How work was reviewed and evaluated:

PNL submits monthly letter status reports to the NRC project manager. Regular meetings, approximately every three months, are held between PNL and the NRC project manager. Draft reports are submitted to the NRC for review and comment. Final draft reports are submitted to the Department of State, the Arms Control and Disarmament Agency, and the Department of Energy for review and comment.

How work distributed/used by Commission:

The NRC provides the results of these studies to an interagency group for developing U.S. positions on safeguard approaches for facilities which may be undertaken by the IAEA for strengthening the effectiveness and efficiency of its safeguards system. After review by an interagency group, the reports are submitted to, and discussed with, the IAEA. The reports are used in preparing IAEA guidance documents on design features to facilitate the applications of IAEA safeguards.

Project 8:

Title:

Technical Assistance to Strengthen International Atomic Energy Agency (IAEA) Safeguards

Purpose & Summary of Work:

To provide specialized technical assistance to the Nuclear Regulatory Commission staff in support of U.S. efforts to strengthen IAEA safeguards.

During FY79-81 Battelle-Pacific Northwest Laboratory (PNL) conducted a study entitled "Implications of IAEA Technical Objectives." That study provided detailed technical analyses of safeguards systems and resources required to attain IAEA technical objectives in several types of facilities covered by IAEA safeguards.

In FY82, analyses were undertaken of the IAEA inspection manpower estimates, determined in the Technical Objectives study. Two reports were provided to the NRC: "Sensitivity of Inspection Effort to Underline Assumptions: Light Water Reactors," and "Sensitivity of Inspection Effort to Underline Assumptions: Reprocessing Plants and Fuel Fabrication Facilities."

During FY83, PNL initiated an investigation of alternative near-term and intermediate-term inspection performance levels that could be reasonably achieved within the framework of the long-term IAEA technical objectives. In addition, PNL provided peer review for NRC of selected studies and reports. This effort assisted NRC in responding to requests for technical reviews that addressed Standing Advisory Group on Safeguards Implementation (SAGSI) model safeguards approaches, evaluation methodology, and the U.S.-IAEA Safeguards Agreement. One example of peer review analysis was PNL's review of the IAEA report STR 140, "An Advanced Safeguards Approach for a Model 200 T/A Reprocessing Facility."

During FY84, analyses continued in the performance level and peer review topics started in FY83. In addition, the Design Features task was merged into this contract for administrative purposes. The facilities addressed in this subtask during FY84 were Away-From-Reactor (AFR) and Low Enriched Uranium (LEU) fuel fabrication facilities.

Contractor:

Battelle-Pacific Northwest Lab
Richland Operations Office
Richland, WA 99352

Qualifications:

The contract was awarded to PNL for two reasons: a) the expertise needed was not generally available elsewhere; and, b) the previous related studies were conducted by PNL.

Contract Officer:

a) PNL
Maynard J. Plahuta, Chief
PNL Operations Branch
Energy Programs Division

b) NRC Project Manager
Eugene Sparks
Office of Nuclear Material Safety and Safeguards

Subcontractors:

None.

Principal Investigators:

Neil L. Harms
Frank P. Roberts
Brian W. Smith

Amount of Contract:

FY82: $ 87,100.
FY83: $150,000.
FY84: $150,000.
FY85: $230,000.*

Duration:

3/22/82 - 12/31/85

Type of Contract:

Department of Energy-Nuclear Regulatory Commission Interagency Agreement.

Contracting procedure used:

Not applicable (interagency agreement).

* $230,000. has been budgeted for this contract for FY85, but the funds have not yet been obligated.

How work was reviewed and evaluated:

All work completed under this contract was undertaken by NRC as part of an interagency coordinated effort PNL submits monthly review reports to the NRC Project Manager on progress to date. Draft reports are reviewed initially by NRC staff and then transmitted for review and comment to the State Department, the Arms Control and Disarmament Agency, and the Department of Energy.

How work distributed/used by Commission:

The series of reports completed under this contract are provided to the an interagency group for consideration in developing U.S. positions related to IAEA objectives and performance targets. After review by the interagency group, the reports are discussed with the IAEA. Specifically, the technical reports on design features are transmitted to the IAEA for use in preparing an IAEA guidance document on design features to facilitate the application of IAEA safeguards.

Project 9:

Title:

Alternatives for Strengthening International Atomic Energy Agency (IAEA) Safeguards

Purpose and Summary of Work:

Assist the Nuclear Regulatory Commission (NRC) in identifying alternatives for strengthening IAEA safeguards. Project consisted of three tasks: (1) to conduct a survey to characterize the current IAEA safeguards system, (2) to conduct a survey of current initiatives for strengthening IAEA safeguards being carried out in the U.S. and abroad, and (3) based on these surveys, to identify any gaps in the current safeguards system which are not already being addressed, and propose alternative means to close those gaps.

Two contractors, Brookhaven National Laboratory (BNL) and Battelle-Pacific Northwest Laboratory (PNL), were chosen to accomplish these tasks. PNL was chosen for tasks (1) and (3); BNL for task (2).

Contractors:

Battelle-Pacific Northwest Laboratory
Richland, Washington 99352

Brookhaven National Laboratory
Upton, New York 11973

Qualifications:

Both BNL and PNL have extensive experience with the IAEA and its safeguards system.

Contract Officers:

a) Neil L. Harms
Pacific Northwest Laboratory

b) David Schweller
Area Manager, Brookhaven Area Office

c) NRC Project Manager:
Phillip Ting
Office of Research

Subcontractor:

PNL Subcontractor:
INET Corporation
Sunnyvale, CA

Principal Investigators:

PNL Tasks:
P. T. Reardon
M. F. Mullen
K. L. Swinth
F. A. Morris
C. A. Bennett

BNL Tasks:
B. Keisch
A. Bieber, Jr.
W. A. Higinbotham
H. J. C. Kouts
J. B. Sanborn
E. V. Weinstock

Amount of Contract:

PNL Tasks:
FY83: $90,000.

BNL Tasks:
FY83: $40,000.

Duration:

7/1/82 -- 1/31/83

Type of Contract:

Department of Energy (DOE)-NRC Interagency Agreement.

Contracting procedure used:

Not applicable (Interagency Agreement).

How work was reviewed and evaluated:

Contractors submitted monthly status reports to the NRC project manager. Drafts of the final reports were reviewed by the NRC staff and the State Department, Arms Control and Disarmament Agency, and Department of Energy staffs.

How work was distributed/used by Commission:

The final products were provided to an interagency group for its consideration in identifying priority activities for its program to support and strengthen international safeguards. The report was classified confidential, and thus distribution was limited.

OTHER

-- Office of International Programs Requirements Study

Project 10:

Title:

Office of International Programs Requirements Study

Purpose and Summary of Work:

Analyze the Office of International Programs' (IP) current data and word processing techniques, and interview appropriate personnel in order to recommend future automated techniques to support the professional activities of the office, including work on processing of nuclear exports and imports and international safeguards/nonproliferation policy matters. The contractor outlined a proposed plan and schedule for automation, which encompassed programming needs, equipment acquisition, system development, user training and documentation. Major milestones and management decision points for implementing these plans were identified.

Contractor:

Meridian Corporation
5113 Leesburg Pike
Suite 700
Falls Church, VA 22041

Qualifications:

Meridian Corporation, in competition with several other firms, demonstrated the most complete understanding of IP's responsibilities, along with a proven ability to conduct such requirements studies. Meridian has conducted similar studies for the Departments of Energy and Commerce. Additionally, their proposal was within the competitive range.

Contracting Officers:

a) Meridian Corporation
Ronald J. Rogers
Director, Information Systems Group

b) NRC Project Managers
Janice Vargo (December 3, 1984 - April 1, 1985)
Office of International Programs

R. Neal Moore (April 1, 1985 - May 3, 1985)
Office of International Programs

Subcontractor:

None.

Principal Investigator:

Ira Goldman
Meridian Consultant

Amount of Contract:

$44,860. (About one-half this sum was for nonproliferation-related work.)

Duration:

December 3, 1984 - May 3, 1985

Type of Contract:

Cost plus fixed fee.

Contracting Procedure Used:

The Meridian Corporation was chosen from among five companies which submitted technical proposals to the Office of International Programs. The selection was based on an evaluation of the key elements of a) personnel; b) technical approach and understanding of the requirements; and c) related corporate experience.

How work was reviewed and evaluated:

The Meridian final product, which will be available May 3, 1985, will be evaluated against the original statement of work and reviewed by all staff in IP.

How work was distributed/used by Commission:

The information gathered through the contract, and the automated systems recommended, will be used to support the Commission in its nuclear export/safeguards/nonproliferation role, as well as to support the Commission's international cooperative efforts in improving nuclear safety in the U.S. and abroad.

U.S. Nuclear Regulatory Commission (NRC) Policy and Planning Guidance: 1985

International Safeguards:

Policy:

1. The proliferation of nuclear explosives technology poses a threat to the security interests of the United States. Hence, the NRC will carefully discharge its statutory licensing responsibilities to ensure that necessary controls are applied to the import and export of nuclear materials, equipment, and facilities.

Planning Guidance:

1. The NRC should continue to facilitate the timely processing of export license applications to nations which adhere to effective non-proliferation policies. The NRC will also continue to meet its commitments for the implementation of international safeguards at U.S. licensed facilities and to work with the Executive Branch as the U.S. pursues improvements in international safeguards.

2. The staff should continue to pursue obtaining timely, accurate, and complete information from the Executive Branch regarding exports so that the Commission can carry out its international responsibilities.

3. The Commission, as noted in its policy statement of August, 1982, continues to believe in reducing to the maximum extent possible the use of highly enriched uranium in both domestic and foreign reactors. The staff should continue to review license applications in light of this policy statement.