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U.S. AGENCY FOR
INTERNATIONAL
DEVELOPMENT

Assistant Inspector General for Audit

August 1, 1994

MEMORANDUM

TO: AA/ENI, Thomas Dine

FROM: AIG/A, James B. Durnil

SUBJECT: Audit Report No. 8-118-94-012, "Audit of the Nuclear Regulatory Commission's Technical Assistance Activities in Russia"

Attached is the subject audit report on the results of a joint audit conducted by the Office of the Inspector General of the Nuclear Regulator Commission (NRC)and RIG/A/Bonn. The audit covered NRC's technical assistance activities in Russia under "the Lisbon Initiative."

The Lisbon Initiative, announced by the Secretary of State in 1992, committed the USG to improving the safety of civilian nuclear power plants in Russia and Ukraine. USG funding of $8.1 million for fiscal years 1992 and 1993 was provided by USAID to NRC via interagency agreements. Of that amount, NRC budgeted $3.2 million for technical assistance activities in Russia. NRC used the funds to provide equipment and training to Russia's nuclear regulatory body, Gosatomnadzor (GAN), to enhance GAN's regulatory capabilities in such areas as licensing, inspection, emergency support, and personnel training.

The joint audit found that NRC's program had several notable achievements, including increasing GAN's stature within the Russian nuclear system, improving licensing and inspection procedures, and establishing an emergency support center. The audit also found that NRC's program would benefit from the establishment of interim milestones and performance indicators.

The audit report recommended that NRC establish interim milestones and performance indicators for each Lisbon Initiative priority in order to ensure the successful accomplishment of each. NRC agreed with the recommendation and is taking appropriate actions. In addition, the audit report suggested that NRC consider expanding the scope of its assistance activities with GAN to include training in criminal investigative functions and the protection of confidential sources. NRC agreed to discuss this suggestion with NRC's counterparts at GAN.

Since the audit report recommendation is directed to NRC, no action is required by the ENI Bureau. I appreciate the cooperation and courtesies extended to my staff during the audit.

cc:

DAA/ENI
ENI/EEUD
ENI/EEUD/EI
ENI/PCS
ENI/NCA/R
ENI/FS
ENI/RFMC/CEE/Budapest
AIDREPs/CEE Countries
USAID Missions/NIS
AA/G
AA/M
AA/PPC
GC
LPA/PA/PR
PPC/CDIE/DI
M/FM
M/MPI
M/FM/FS
M/FM/PPC

Attachment: a/s

OFFICE OF THE INSPECTOR GENERAL

US NUCLEAR

REGULATORY COMMISSION

REVIEW OF NRC'S
TECHNICAL ASSISTANCE ACTIVITIES
IN RUSSIA
UNDER THE LISBON INITIATIVE

OIG/94A-15 June 28, 1994

AUDIT REPORT

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

June 28, 1994

OFFICE OF THE
INSPECTOR GENERAL

MEMORANDUM FOR: James M. Taylor
Executive Director for Operations

FROM: for Thomas J. Barchi
Assistant Inspector General for Audits

SUBJECT: REVIEW OF NRC'S TECHNICAL ASSISTANCE ACTIVITIES IN RUSSIA UNDER THE LISBON INITIATIVE

Attached is the Office of Inspector General's audit report entitled "Review of NRC's Technical Assistance Activities in Russia Under the Lisbon Initiative."

On June 17, 1994, the Deputy Executive Director for Nuclear Reactor Regulation, Research and Regional Operations responded to our draft report. He agreed with our recommendation to establish interim milestones and performance indicators for each priority. In addition, he directed the staff to discuss our suggestion regarding expanding the program to include investigative activities and the protection of confidential sources with NRC's counterparts in GAN.

Attachment:
As stated

cc: H. Thompson, EDO
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REPORT SYNOPSIS

The Lisbon Initiative, announced by Secretary of State James A. Baker on May 23, 1992, provided funds to improve the safety of nuclear power plants in two of the former states of the Soviet Union: Russia and Ukraine. Funding was provided to the Nuclear Regulatory Commission (NRC) through the Agency for International Development (USAID) to support NRC's activities for improving the regulation of nuclear power in these countries. This report focuses on NRC's assistance to Russia; another report will follow on assistance to Ukraine.

NRC's assistance program provides equipment and training to Russia's nuclear regulatory body, Gosatomnadzor or GAN. NRC's objective is to enhance GAN's regulatory capabilities in such areas as licensing, inspection, emergency support, and personnel training.

We found that the program has had a number of notable achievements, including an increase in GAN's stature within the Russian nuclear system, improved licensing and inspection procedures, and the establishment of an emergency support center. However, we also found that the program would benefit from the establishment of interim milestones and measurable performance indicators. We also suggest NRC consider expanding the scope of activities to include training on criminal investigative functions and the protection of confidential sources.

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INTRODUCTION

Former Secretary of State James A. Baker announced the Multilateral Nuclear Reactor Safety Initiative at the Lisbon Conference on May 23, 1992. Under the Lisbon Initiative, the Nuclear Regulatory Commission (NRC), along with the Department of State, the Agency for International Development (USAID) and the Department of Energy (DOE), developed proposals for providing assistance to Russia and Ukraine, two of the New Independent States (NIS) of the former Soviet Union. USAID began to provide funding to NRC in Fiscal Year 1992 to support NRC's activities to improve the regulation of nuclear power in both Russia and Ukraine.

The NIS, as well as some East European countries, depend heavily on Soviet-designed nuclear power plants. Many of these plants have serious operational and design safety deficiencies. This is particularly true for the Chernobyl-type RBMK's and there is a similar concern about the VVER model 440/230's. These two types of reactors account for more than half of the 25 operating reactors on Russian territory. Safety deficiencies for these reactors include inadequate containment systems and ineffective core cooling provisions. Given the substantial concern over the operation of these reactors, the G-7 nations[1] decided at their 1992 Economic Summit to provide assistance to Russia and Ukraine to make their nuclear power plants safer.

The objective of this audit was to determine what the USAID funds were used for and evaluate how they met the objectives of the program. NRC's Office of Inspector General conducted this audit jointly with USAID's Office of Inspector General. This review focused on assistance to Russia only. Another report is planned to follow on the programs in Ukraine.

BACKGROUND

Following the accident at Chernobyl in 1986, NRC began a program of technical cooperation with the Soviet Union. NRC joined the Joint Coordinating Committee for Civilian Nuclear Reactor Safety (JCCCNRS) in 1988. The JCCCNRS initially focused on cooperative technical exchanges through topic-specific working groups.

[1] The G-7 nations are the most highly industrialized nations in the world and they hold annual summit meetings. The members are Canada, France, Germany, Great Britain, Italy, Japan, and the United States.

The JCCCNRS was restructured in 1992 to reflect the principles of the Lisbon Initiative and the dissolution of the Soviet Union. NRC's programs in Russia deal primarily with its regulatory counterpart, the State Committee for the Supervision of Nuclear and Radiation Safety under the President of the Russian Federation, also known as Gosatomnadzor or GAN.

USAID provided NRC $3.1 million and $5.0 million for Fiscal Years 1992 and 1993, respectively, for activities to support nuclear reactor regulation in Russia and Ukraine. For Fiscal Year 1992, NRC earmarked $1.5 million for projects in Russia, while for Fiscal Year 1993 the figure was $1.65 million. For Fiscal Year 1994, NRC requested $10.6 million for the entire project, with $7.0 million of that planned for programs in Russia. As of April 15, 1994, USAID had not transferred Fiscal Year 1994 funds to NRC. The Fiscal Year 1992 and 1993 funds have primarily been used for training GAN personnel and for equipment purchases, including computers and radio equipment.

The funding for Fiscal Years 1992 and 1993 was a reimbursable agreement between USAID and NRC, while the Fiscal Year 1994 funds will come to the NRC as a transfer of budget authority from USAID. According to the legislation authorizing the assistance funds, NRC is primarily responsible for managing and implementing the program. In addition, although NRC will report the Fiscal Year 1994 transfer of funds as additional budget authority, it is not subject to fee recovery.

Two Interagency Agreements (IAA's), one for each Fiscal Year's funding, between USAID and NRC govern the use of the funds. The IAA's describe how the funds will be transferred and the implementation and monitoring requirements. The IAA's both expire on September 30, 1994, but NRC has requested an extension on these agreements of at least a year. If the IAA's expire before the funds are spent, the money must be returned to USAID.

NRC has organized its programs in Russia into seven "priorities" designed to improve the operations of GAN. GAN and NRC jointly determined these priorities at the beginning of the program. The seven priorities are:

1) Licensing Basis and Safety Analysis: provides training on the NRC's process for licensing nuclear power reactors.

2) Inspection Program Activities: provides training and technical assistance on the NRC's inspection program.

3) Creation of an Emergency Support Center: provides a response plan, procedures and equipment necessary to improve Russia's ability to respond to emergencies.

4) Analytical Support Activities: provides assistance to establish the capability to perform accident analysis using NRC developed computer codes.

5) Establishment of Regulatory Training Program: provides ability to define training requirements for different positions and establishes a training center.

6) Material Control and Accountability: assists in creating an MC&A system and with physical protection activities.

7) Fire Protection Support: provides technical assistance for the development and initial application of methodologies for nuclear power reactor fire protection and post-fire shutdown analysis review and inspection.

For Fiscal Year 1994, GAN and NRC have proposed three new priorities as well as modifications to the current priorities. The three new priorities will be a probabilistic risk assessment, training on the licensing and inspecting radioactive material, and organizational strengthening, including document control management and electronic information communication. Modifications to current priorities include the provision of an analytical simulator for training of GAN personnel and assistance with developing a legislative basis for enforcement.

Since the establishment of the project, funding for material control and accountability (Priority #6) has been changed to the Department of Defense as part of the Comprehensive Threat Reduction Program (formerly the Safe and Secure Dismantlement Program). Because funding is no longer coming from USAID under the Lisbon Initiative, this project was not included in this audit. A full description of our objectives, scope, and methodology is contained in Appendix I.

FINDINGS

In general, we found that NRC's program to assist GAN has had positive effects on the regulation of Russian nuclear power production, such as improved licensing and inspection procedures and progress on the establishment of an emergency support center. However, the program would benefit from the establishment of interim milestones and measurable performance indicators to serve as management tools to help assure program objectives are achieved. Depending on the availability of funding, NRC may also want to consider expanding the scope of the activities it is undertaking with GAN to include criminal investigative functions and training on the protection of confidential informants.

ASSISTANCE PROGRAM HAS NOTABLE ACHIEVEMENTS

We found that NRC's assistance to GAN has resulted in a number of achievements in the 18 months since it began. These include GAN's increased stature in the Russian nuclear system, a reorganization of GAN to better reflect a licensing and inspection agency, and the beginning of an emergency support center. GAN personnel told us that the U.S. program was valuable because training and equipment had already been provided, while most other international assistance so far involved only declarations concerning the willingness to provide assistance.

The increased stature gained by GAN within the structure of Russian nuclear power authorities is an important achievement attained through this project. For example, GAN officials told us that through the efforts of NRC and the Department of Energy, GAN has gained greater respect as an independent regulator and as an important player in decisions about nuclear safety. GAN officials told us that this effort has had a positive effect in all of GAN's work, from day-to-day activities to high-level meetings.

The training on licensing and inspection activities (Priorities #1 and #2) received from NRC, has aided GAN in reorganizing to better reflect an agency which does licensing and inspection. Presently, GAN is developing regulatory licensing and inspection documents for nuclear facilities using the U.S. Code of Federal Regulations as a model. At the time of this audit, 66 GAN representatives had attended NRC sponsored training in the United States on such topics as: NRC's organization; plant construction and operation licensing inspection methods and procedures; and reactor operator licensing. Of these 66, GAN officials stated that 61 still work for GAN. NRC and GAN managers responsible for the program jointly determined the topics for training.

NRC is also using USAID funds to establish an emergency support center in GAN headquarters (Priority #3). The project is using radio transmitters to establish a communications system which does not depend on Russia's telephone system, which is vulnerable to periodic interference and interruptions. It is planned for the incident response center to eventually have communication links with all Russian nuclear power plants and possibly all fuel cycle facilities. The communications system is presently functioning between GAN headquarters and two power plants, near St. Petersburg and Kalinin, as part of a pilot program.

INTERIM MILESTONES AND PERFORMANCE INDICATORS NEED TO BE DEVELOPED TO GAUGE PROGRESS

Interim milestones have not been established to assist NRC managers in overseeing program progress. Similarly, performance indicators to measure program results have not yet been developed, but would be a useful management tool for program managers. Sound management practices require that program objectives be well defined and performance indicators, with goals and timeframes, be established. Progress should be measured and potential problems identified. Strong project management from NRC is needed particularly when considering the amount of money involved, the importance of the program, and the numerous and complex projects which are being undertaken.

Interim milestones would alert project managers of potential implementation problems and provide time to develop alternatives to achieve objectives and keep projects on track. For example, for Priority #5, the establishment of a regulatory training program, GAN officials told us that ten computers were provided before planning was completed and personnel in place to use them as they were intended. Although GAN officials assured us they would use the computers for other purposes, this event demonstrates the need for aggressive oversight to ensure that interim steps are effectively accomplished and integrated with the overall project. In addition, Priority #5 is not scheduled for completion until 1998, while the current Interagency Agreements for Fiscal Years 1992 and 1993 are due to expire September 30, 1994. Any funds which are not spent before the IAA's expire must be returned to USAID. Thus, interim milestones could become especially important given potential funding constraints.

Further, this project involves long lead time purchases of computer hardware and software, to be completed by 1997, as well as office equipment, including copy and fax machines, video equipment, and the furniture for the training center. However, GAN is having difficulty obtaining the space for the training center,

primarily because it lacks funds to purchase or rent space. The project manager stated he understood the need to assure that appropriate space would be available prior to ordering any furniture or equipment which requires space in the proposed training center. However, he could not provide an analysis for what items could be provided and used without space versus what items required space. Failure to achieve performance indicators and interim milestones can provide early warning signals that a project needs management attention if goals are to be achieved.

The use of performance indicators could help prevent problems with other long-term projects, such as the probabilistic risk assessment project proposed to be done with Fiscal Year 1994 funding. The multi-year, $2.5 million project will use Russian companies as subcontractors to the U.S. contractor. NRC should include quantifiable performance indicators in these contracts, which USAID has recognized as being particularly important when using foreign contractors. For example, for its projects overseas, USAID recommends its project officers include indicators of progress or benchmarks which permit measurement of the contractor's progress against the expenditure of both time and money.

OTHER OBSERVATIONS

Funding levels and timeframes permitting, we believe program managers should consider further expansion of overall program coverage. For example, NRC may want to expand the scope of activities it is undertaking in Russia to include criminal investigative functions and training on the protection of confidential informants.

GAN officials expressed an interest in having a seminar on investigative activities. They stated that the organization does not have a special investigative or enforcement office. Inspectors gather the information on any incidents of wrongdoing which then goes to local prosecutors. In addition, GAN does not have any general policies about protecting confidential sources of information about nuclear safety violations.

CONCLUSIONS

NRC's assistance to GAN has had a number of positive effects, especially when considering the little time that it has been operating. However, to strengthen program oversight, NRC needs to establish interim milestones and performance indicators to help assure that projects will meet their objectives within any funding

limitations which may be imposed. Interim milestones and performance indicators would also help managers identify whether they may need to adjust their objectives to reflect changed circumstances. Resources permitting, program managers should also consider expanding the program to include investigative activities and the protection of confidential sources.

RECOMMENDATIONS

We recommend the Executive Director for Operations:

-- Establish interim milestones and performance indicators for each priority which should be used as a managerial tool to help assure the successful accomplishment of each priority in a timely manner.

In addition the Executive Director for Operations may wish to consider:

-- Expanding activities to cover: specialized investigative functions to examine purposeful misconduct where deception or covert activity was employed to mask activities; and inspector functions to rely upon truthfulness of documents and verbal accounts concerning activities by program personnel.

AGENCY COMMENTS

On June 17, 1994, the Deputy Executive Director for Nuclear Reactor Regulation, Research and Regional Operations responded to our draft report. He agreed with our recommendation to establish interim milestones and performance indicators for each priority. In addition, he directed the staff to discuss our suggestion regarding expanding the program to include investigative activities and the protection of confidential sources with NRC's counterparts in GAN.

OBJECTIVES, SCOPE, AND METHODOLOGY

We initiated our review to assess NRC's management of programs to assist nuclear reactor regulation in Russia using funds provided by the Agency for International Development (USAID). Our objective was to determine what USAID funds were used for and how expenditures contributed to meeting project objectives.

We conducted our review from January 1994 through April 1994. We reviewed the Interagency Agreements between USAID and NRC, Memoranda of Meetings between the Russian regulator GAN and NRC, Quarterly Evaluation Reports, and the work plans of project managers. We interviewed officials at NRC headquarters and the Technical Training Center responsible for the project. We interviewed officials from GAN and representatives of the USAID mission and U.S. Embassy in Moscow, Russia.

Our review was conducted in accordance with generally accepted Government auditing standards.

AGENCY COMMENTS ON DRAFT REPORT

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

JUN 17 1994

MEMORANDUM FOR: Thomas J. Barchi
Assistant Inspector General for Audits

FROM: James L. Milhoan
Deputy Executive Director
for Nuclear Reactor Regulation,
Research and Regional Operations

SUBJECT: DRAFT REPORT - REVIEW OF NRC'S TECHNICAL ASSISTANCE ACTIVITIES IN RUSSIA UNDER THE LISBON INITIATIVE

This responds to the May 17, 1994 memorandum transmitting the subject draft report. I am pleased to note your conclusion that NRC's assistance to the Russian regulator, GAN, has had a number of positive effects. With respect to your specific recommendations, I submit the following:

Recommendation

Establish interim milestones and performance indicators for each priority which should be used as a managerial tool to help assure the successful accomplishments of each priority in a timely manner.

Response

Agree. I have sent a memorandum to all project officers, tasked with implementing nuclear safety assistance efforts, to develop input which will form the basis of the program plan. The program plan will include milestones for each priority, as well as provide supporting indicators to the overall objective of establishing a viable nuclear regulatory organization within Russia. Completion date: July 31, 1994.

Recommendation

Consider expanding activities to cover: specialized investigative functions to examine purposeful misconduct where deception or covert activity was employed to mask activities; and inspector functions to rely upon truthfulness of documents and verbal accounts concerning activities by program personnel.

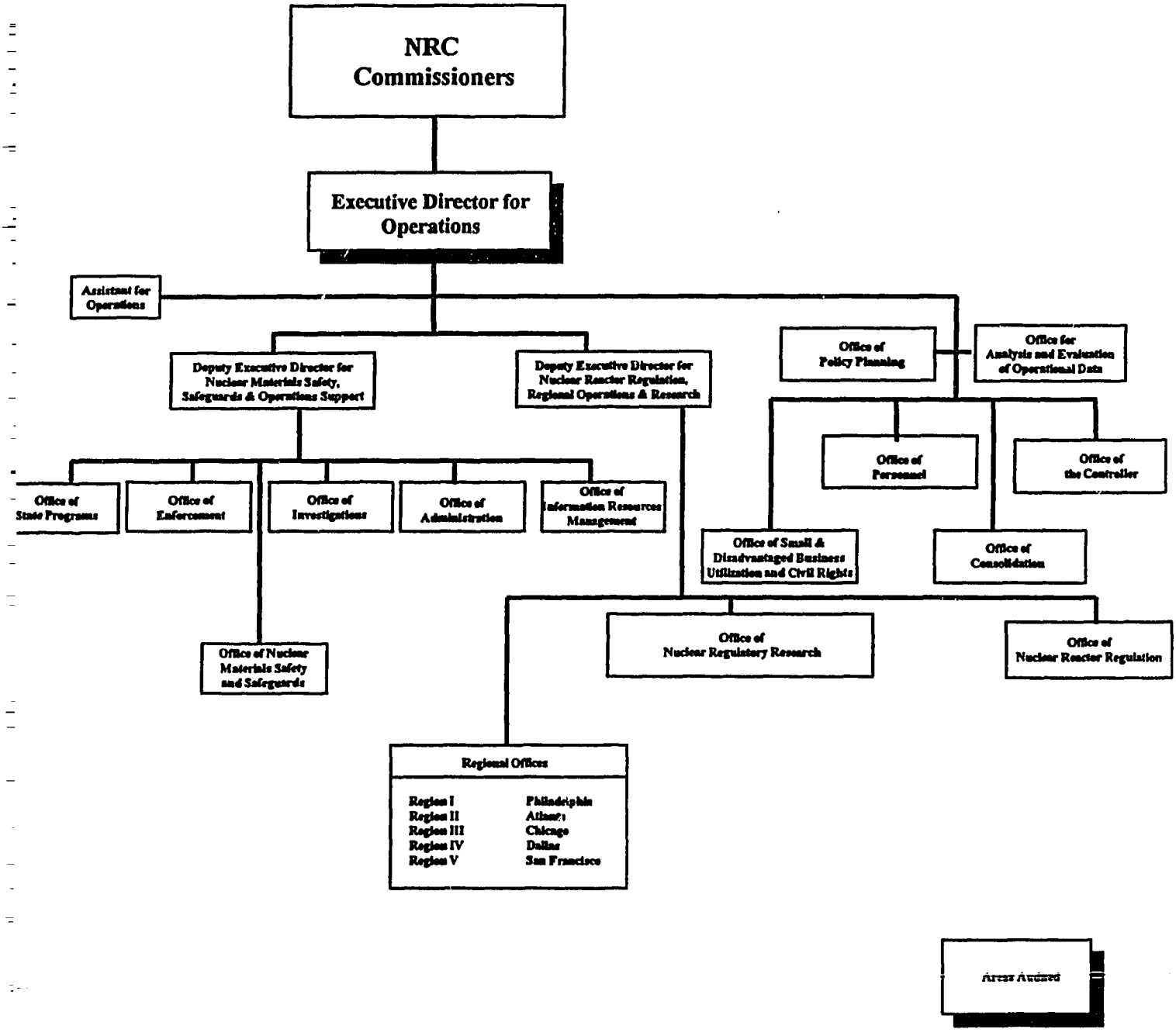
Thomas J. Barchi -2- JUN 17 1994

Response

Prior to considering the possibility of expanding the scope of NRC activities in Russia to include criminal investigative functions, I will direct my staff to discuss with our GAN counterparts the possibility of conducting a seminar on investigative activities and protection of confidential sources in order to gain an understanding of the potential Russian interest in this area.

James L. Milhoan
Deputy Executive Director
for Nuclear Reactor Regulation,
Research and Regional Operations

U.S. NRC FUNCTIONAL ORGANIZATION CHART



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