



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

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TO: Ambassador Goodby SSD 202/647-2224  
(Name) (Company/Agency) (FAX No.)

MESSAGE: Per our discussion yesterday I  
am sending a copy of our analysis of the  
Kurchatoff/ATI project. Also, Ted Sherr  
and Janice Dunn Lee are interested in discussing  
your idea of a subsidiary agreement with  
GAN to provide safeguards regulatory  
assistance to RUSSIA.

FROM: Steve Caudill, Int'l Safeguards

PHONE: 301/504-2383

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

March 24, 1994

MEMORANDUM FOR: The Chairman  
Commissioner Rogers  
Commissioner Remick  
Commissioner de Planque

FROM: James M. Taylor  
Executive Director for Operations

SUBJECT: TECHNICAL REVIEW OF THE PROPOSAL FROM THE KURCHATOV  
INSTITUTE ON NUCLEAR MATERIAL CONTROL AND ACCOUNTABILITY  
(NUMACS PROJECT)

By letter dated January 28, 1994, to Chairman Selin, Mr. Yuri G. Vishnevsky, Chairman, Federal Nuclear and Radiation Safety Authority of Russia, expressed support for the successful and timely completion of the NUMACS Project and requested that the U.S. support this work under the Safe and Secure Dismantlement (SSD) program (Enclosure 1). The Office of Nuclear Material Safety and Safeguards (NMSS) has reviewed the summary proposal from the Kurchatov Institute on the NUMACS Project developed in collaboration with the American Technical Institute (ATI). Attached for your information is a summary of the results of this review (Enclosure 2). As you recall, the summary proposal was presented to the Nuclear Regulatory Commission by Dr. Nikolai Ponomarev-Stepnoy of the Kurchatov Institute during a meeting at NRC on January 19, 1994. The complete proposal on the NUMACS Project, which contains the detailed technical specifications of the material control and accounting (MC&A) system, has not been made available to NRC for review.

Based on the recent meeting in Moscow, it would appear that the NUMACS project is not likely to gain full Russian government support. In addition, even if this were not the problem, it does not appear to represent a cost-effective approach for support to Russia due to its high cost with respect to the U.S.-envisioned assistance effort and its limited initial application. Notwithstanding, there are elements of the proposal we may be able to pursue, in the course of time, as our support program gets off the ground.

The NUMACS MC&A system does address a number of MC&A components that are comparable to the MC&A system suggested in the U.S. SSD Program Plan, and is an effort of significant merit towards the goal of developing a facility MC&A system in Russia and other countries of the former Soviet Union. However, we would not recommend support of the NUMACS Project in its present form. In order to be viewed as an acceptable MC&A system from the U.S. perspective, NUMACS would need to be complemented with a number of elements of the U.S. SSD Program Plan, and some components of NUMACS' proposed assistance need to be enhanced.

Contact: Janice Dunn Lee, NMSS  
504-3379

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MMSS's review has concluded that the proposed NUMACS MC&A system overlaps to some degree, but is more limited in scope than the U.S. assistance effort to Russia as described in the SSD MC&A and Physical Protection Subgroup Program Plan. The scope does not include certain necessary components of a national MC&A system, such as training for regulatory officials, a licensing program, an inspector training and certification program, and an enforcement program. Furthermore, the NUMACS Project does not address certain necessary components of a facility MC&A system, such as a measurement control program. In addition, there are a number of elements in the envisioned U.S. technical support program area that are not addressed by NUMACS. Finally, NUMACS does not address physical protection, which is a significant component of the envisioned U.S. assistance effort to Russia.

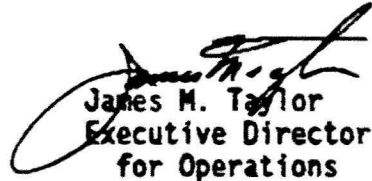
Furthermore, during recent discussions at the Technical Working Group meeting in Moscow held on February 14-18, 1994, it became apparent that Russian officials did not embrace or advocate the NUMACS project. Such a project would require full endorsement of all parties to the agreement, and, as expected, MINATOM opposed consideration of the KI approach and GAN did not press for its consideration. Consequently, there was general recognition that sources for funding such a project would need to be explored outside of the SSD program.

Staff has considered the role of Kurchatov as a model facility and concluded that any jointly developed U.S.-Russian facility MC&A system should first be implemented in model facilities other than Kurchatov Institute. The Department of Energy (DOE) representatives to the SSD MC&A subgroup agree with this view and while the U.S. supports the eventual implementation of an MC&A system at Kurchatov Institute, as well as at all other Russian nuclear facilities, the U.S. encourages that model facilities have characteristics that will allow the demonstration of MC&A and physical protection systems in large, complex material processing plants containing different material types in various forms. It is believed that other Russian facilities containing these elements would be more appropriate candidates to serve as models under the SSD program.

During the Technical Working Group meeting, staff raised the issue of what role the Kurchatov Institute might serve in the MC&A area. While several proposals were offered for consideration, such as a technical support organization, an extension of staff for the regulatory body, or as a technical training center, the Russians were not ready to define or commit to any specific role for Kurchatov. More work is needed to be done from the Russian perspective. Staff will continue to explore future options for Kurchatov.

Based on the comments noted above, a proposed letter in response to the letter from Mr. Vishnevsky on the NUMACS Project is attached as Enclosure 3. Staff recommends that a copy of this letter be sent to Dr. Ponamarev-Stepnoy. Unless the Commission objects, I intend to sign the letter ten days from the date of this memorandum.

SECY, please track.



James M. Taylor  
Executive Director  
for Operations

Enclosures:

1. Letter from Mr. Vishnevsky
2. NUMACS Technical Review
3. Letter to Mr. Vishnevsky

cc: SECY  
OGC  
OCA  
OPA  
OIP