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 SUBJECT: SSD: U.S.-RUSSIA MC AND A AND PHYSICAL
 PROTECTION SEMINAR

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1. LIMITED OFFICIAL USE ONLY -- ENTIRE TEXT
2. SUMMARY. U.S. MATERIAL CONTROL AND ACCOUNTING (MC AND A) AND PHYSICAL PROTECTION EXPERTS LED BY PHILIP TING (NUCLEAR REGULATORY COMMISSION) AND RONALD CHERRY (DEPARTMENT OF ENERGY) RECENTLY CONDUCTED A 1-WEEK SEMINAR IN ST. PETERSBURG (OCTOBER 26-30) AND VISITED TWO RUSSIAN NUCLEAR FACILITIES (NOVEMBER 2-4). THE SEMINAR AND SITE VISITS WERE CONDUCTED CONSISTENT WITH UNDERSTANDINGS REACHED BY THE U.S. MC AND A WORKING GROUP AND ITS RUSSIAN COUNTERPARTS DURING SAFETY, SECURITY AND DISMANTLEMENT TALKS IN AUGUST 1992. THE OBJECTIVE OF THE SEMINAR AND SITE VISITS WAS TO LAY THE GROUNDWORK FOR A FUTURE BILATERAL AGREEMENT BETWEEN THE U.S. AND RUSSIA ON MC AND

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A AND PHYSICAL PROTECTION COOPERATION. SIDE DISCUSSIONS WERE HELD DURING THE SEMINAR REGARDING A FOLLOW-ON MC AND A AND PHYSICAL PROTECTION WORKSHOP TO BE HELD IN THE U.S. ,

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POSSIBLY DURING THE IN MID-JANUARY TO EARLY FEBRUARY 1992 TIMEFRAME. IT IS ANTICIPATED THAT THE SEMINAR AND FOLLOW-ON WORKSHOP WOULD LEAD TO A U.S.-RUSSIAN AGREEMENT FOR COOPERATION IN MC AND A AND PHYSICAL PROTECTION. END SUMMARY.

3. U.S. PARTICIPANTS IN THE SEMINAR WERE:

- P. TING - NRC (CO-LEADER)
- R. CHERRY - DOE (CO-LEADER)
- D. JOY - NRC

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- M. KELLY - NRC
- M. ZUKOR - DOS
- S. JACOBSEN - ORNL
- K. THOMAS - LANL
- H. SMITH - LANL
- J. MARKIN - LANL
- B. BARDNER - SNL
- J. RUDOLFO - SNL

APPROXIMATELY 86 MANAGERS AND SPECIALISTS FROM 25 RUSSIAN NUCLEAR ENERGY-RELATED ORGANIZATIONS, INCLUDING SEVERAL FORMERLY CLOSED SITES, ATTENDED THE SEMINAR. KEY RUSSIAN ATTENDEES WERE: VICTOR GUBANOV, CHAIRMAN FOR NUCLEAR SAFETY, SAFEGUARDS, AND EMERGENCY PREPAREDNESS, MINISTRY OF ATOMIC ENERGY (MINATOM); IGOR BUMBLIS, HEAD OF CENTRAL RESEARCH INSTITUTE ON MANAGEMENT, ECONOMICS AND INFORMATION (ATOMINFORM); VLADIMIR SHMELEV, KURCHATOV INSTITUTE; AND YURI VOODIN, HEAD OF SAFEGUARDS DEPARTMENT, GOSATOMNADZOR.

MC&A AND PHYSICAL PROTECTION SEMINAR

4. THE SEMINAR WAS HELD OCTOBER 26-30 AT THE ST. PETERSBURG EDUCATION CENTER, A MINATOM PROFESSIONAL DEVELOPMENT FACILITY. BASED ON AN AGREED AGENDA (REFTEL), THE U.S. PARTICIPANTS PRESENTED BRIEFINGS DESCRIBING THE U.S. NATIONAL MC AND A AND PHYSICAL PROTECTION SYSTEMS.

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IMPLEMENTATION OF NATIONAL REQUIREMENTS AT THE FACILITY
LEVEL, U.S. TECHNOLOGIES FOR MC&A AND PHYSICAL PROTECTION,
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AND THE U.S. NATIONAL INFORMATION SYSTEM FOR MATERIAL
ACCOUNTING. DURING THE LAST TWO DAYS OF THE SEMINAR. U.S.
AND RUSSIAN EXPERTS ON MC&A AND PHYSICAL PROTECTION MET
SEPARATELY TO DISCUSS SPECIFIC TECHNICAL ISSUES. THE
RUSSIAN SIDE DID NOT MAKE FORMAL SEMINAR PRESENTATIONS,
BUT THE PRINCIPAL RUSSIAN ORGANIZERS (GUBANOV AND BUMBLIS)

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ENCOURAGED ATTENDEES TO ASK QUESTIONS AND PARTICIPATE IN
DISCUSSIONS. ALTHOUGH THE RUSSIAN ATTENDEES ASKED MANY
QUESTIONS ON TECHNICAL TOPICS, AS A RULE THEY DID NOT
ENGAGE WHEN U.S. PARTICIPANTS PROBED FOR DETAILED
INFORMATION ON RUSSIAN REQUIREMENTS AND PRACTICES.

5. OBSERVATIONS. THE U.S. PARTICIPANTS MADE SEVERAL
OBSERVATIONS BASED ON RUSSIAN QUESTIONS AND COMMENTS
DURING THE SEMINAR. ONE OBSERVATION WAS THAT THE RUSSIAN
MINISTRY OF FINANCE IS EXTENSIVELY INVOLVED IN THE RUSSIAN
SYSTEM OF NUCLEAR MATERIAL ACCOUNTING AT THE FACILITY
LEVEL. THE RUSSIAN APPROACH TO MC AND A APPEARS TO BE
ORIENTED MORE TO MATERIALS MANAGEMENT FROM A FINANCIAL
STANDPOINT THAN TO ACCOUNTING FOR NUCLEAR MATERIAL WITH
NONPROLIFERATION AS THE OBJECTIVE. IN THE PAST, NUCLEAR
MATERIAL AT RUSSIAN SITES WAS SAFEGUARDED THROUGH A
COMBINATION OF PHYSICAL PROTECTION AND SECRECY. WITH THE
CHANGES IN THE FSU OVER THE PAST YEAR, INCLUDING THE
"OPENING" OF THE NUCLEAR SITES, IT EVIDENTLY HAS BECOME
NECESSARY TO UPDATE THE OLD RUSSIAN MC AND A SYSTEM WITH
MORE MODERN METHODS SUCH AS THOSE PRACTICED IN THE UNITED
STATES AND OTHER WESTERN COUNTRIES. RUSSIAN EXPERTS
INDICATED THAT RUSSIA NEEDS TO ESTABLISH A NATIONAL SYSTEM

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OF MC AND A AND PHYSICAL PROTECTION SIMILAR TO THE U.S.
SYSTEM TO OVERSEE FACILITY SAFEGUARDS PRACTICES. RUSSIAN
EXPERTS INVOLVED IN ORGANIZING THE ST. PETERSBURG SEMINAR
EMPHASIZED THE VALUE OF THE EXCHANGE AS A MEANS OF
INTRODUCING RUSSIAN SPECIALISTS, PARTICULARLY THOSE FROM
THE FACILITIES, TO THE "FOREIGN" APPROACHES AND METHODS
PRACTICED IN THE U.S. THE U.S. PARTICIPANTS AT THE

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SEMINAR NOTED NUMEROUS DIFFERENCES BETWEEN HOW NUCLEAR MATERIAL IS SAFEGUARDED IN RUSSIA AND HOW MC AND A AND PHYSICAL PROTECTION ARE PRACTICED IN THE U.S. SINCE THE U.S. MISSION WAS INFORMATION EXCHANGE, HOWEVER, THE U.S. EXPERTS ONLY NOTED THE DIFFERENCES AND DID NOT OFFER ANY ASSESSMENT OF THE CURRENT RUSSIAN SYSTEM'S EFFECTIVENESS.

SITE VISITS

7. SITE VISITS TO TWO NUCLEAR FACILITIES WERE CONDUCTED TO FAMILIARIZE THE U.S. EXPERTS WITH RUSSIAN MC&A AND PHYSICAL PROTECTION SYSTEMS AND PRACTICES. ON NOVEMBER 2, THE U.S. DELEGATION VISITED THE LENINGRADSKAYA NUCLEAR POWER PLANT, AND RBMK REACTOR, OUTSIDE ST. PETERSBURG. BEFORE THE TOUR, THE PLANT'S CHIEF ENGINEER MADE A PRESENTATION ON THE MC AND A SYSTEM AT THE FACILITY. THE

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TOUR, WHICH WAS VERY GENERAL, INCLUDED THE FRESH FUEL STORAGE BUILDING AND ONE OF THE FOUR REACTORS (UNIT 3). THE OVERALL IMPRESSION OF THE U.S. EXPERTS WAS THAT THE FACILITY'S MC&A SYSTEM BASICALLY WAS AN ITEM ACCOUNTING
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SYSTEM SIMILAR TO THAT REQUIRED IN THE U.S. AT
NRC-LICENSED NUCLEAR POWER PLANTS.

8. ON NOVEMBER 3, THE U.S. DELEGATION VISITED THE ANGARSK ENRICHMENT PLANT FOR LOW ENRICHED URANIUM (2.0 - 3.5 PERCENT U-235) NEAR IRKUTSK IN SIBERIA. THE U.S. DELEGATION RECEIVED A FORMAL BRIEFING FROM THE PLANT MC&A MANAGER ON THE FACILITY'S MC&A SYSTEM. INCLUDING A COMPUTERIZED INFORMATION SYSTEM. THE PLANT TOUR, WHICH WAS CONDUCTED AT NIGHT, WAS GENERAL IN NATURE AND INCLUDED THE SOURCE MATERIAL (NATURAL URANIUM) BUILDING AND THE GASEOUS DIFFUSION PLANT. THE U.S. GROUP WAS INFORMED THAT THE PLANT IS IN THE PROCESS OF CONVERTING GASEOUS DIFFUSION TO GAS CENTRIFUGE TECHNOLOGY. THE U.S. EXPERTS SAW SOME GASEOUS DIFFUSION EQUIPMENT STILL IN OPERATION, BUT THE DELEGATION WAS NOT SHOWN THE GAS CENTRIFUGE FACILITY. DURING BOTH THE BRIEFING AND THE TOUR. FACILITY PERSONNEL WERE GENERALLY OPEN AND RESPONSIVE TO QUESTIONS FROM THE U.S. EXPERTS. NEVERTHELESS, BASED ON THE INFORMATION AVAILABLE DURING THE BRIEF VISIT, THE U.S. EXPERTS COULD NOT CONFIRM THAT THE MC&A SYSTEM DESCRIBED

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BY IN THE BRIEFING AND TOUR WAS BEING FULLY IMPLEMENTED. CONFIRMING AN OBSERVATION FROM THE SEMINAR IN ST. PETERSBURG, THE U.S. EXPERTS OBSERVED THAT ACCOUNTING AT THE ANGARSK FACILITY APPEARED TO BE DONE MORE FOR FINANCIAL MANAGEMENT PURPOSES, NOT SAFEGUARDS. FOR EXAMPLE, DURING A VISIT TO THE ANALYTICAL LABORATORY IN THE ENRICHMENT FACILITY, THE U.S. EXPERTS LEARNED THAT MATERIAL MEASUREMENTS WERE CONDUCTED PRIMARILY FOR PROCESS CONTROL. IN THE AREA OF PHYSICAL PROTECTION, THE U.S. EXPERTS NOTED ARMED GUARDS POSTED AT ALL THE LOCATIONS

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TOURED BY THE DELEGATION, WHICH APPEARED TO EXCEED NRC REQUIREMENTS FOR A LICENSED LEU FACILITY IN THE U.S. HOWEVER, BECAUSE THE PLANT TOUR WAS CONDUCTED AFTER DARK, EXTERIOR PHYSICAL PROTECTION MEASURES WERE NOT CLEARLY VISIBLE.

9. ON NOVEMBER 5, THE U.S. DELEGATION VISIT THE MINATOM CENTRAL RESEARCH INSTITUTE ON MANAGEMENT, ECONOMICS AND INFORMATION (ATOMINFORM) IN MOSCOW. THE DELEGATION WAS BRIEFED BY THE INSTITUTE STAFF ON AN AUTOMATED MATERIAL INFORMATION SYSTEM.

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FOLLOW-ON WORKSHOP DISCUSSIONS

10. ON OCTOBER 27, CHERRY AND M. KELLY (NRC) MET ON THE MARGINS OF THE SEMINAR WITH GUBANOV AND BUMBLIS TO DISCUSS A POSSIBLE FOLLOW-ON WORKSHOP IN THE U.S. GUBANOV AGREED TO PROVIDE TO THE U.S. DELEGATION A LIST OF TOPICS WHICH THE RUSSIAN TECHNICAL EXPERTS WOULD PRESENT, AND A LIST OF SUGGESTED TOPICS THAT THE U.S. SIDE COULD CONSIDER COVERING. DURING THE 5 NOVEMBER VISIT TO ATOMINFORM. BUMBLIS PROVIDED TO TING AND CHERRY A COPY OF A LETTER FROM GUBANOV ADDRESSED TO DOE AND NRC AND INDICATED THAT AN OFFICIAL VERSION WOULD BE SENT THROUGH THE U.S. EMBASSY IN MOSCOW. IN THE LETTER' GUBANOV PROPOSED A TWO-WEEK WORKSHOP BE CONDUCTED AFTER JANUARY 20 1993 IDENTIFIED

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TOPICS WHICH COULD BE ADDRESSED IN THE WORKSHOP, AND RECOMMENDED SEVERAL SPECIFIC TECHNICAL PRESENTATIONS TO BE MADE BY RUSSIAN EXPERTS. IN THE LETTER, GUBANOV ALSO REQUESTED VISITS TO TWO U.S. NUCLEAR FACILITIES AND PROPOSED THAT THE U.S. BEAR THE COST OF THE RUSSIAN VISIT. THE PROPOSED SIZE OF THE RUSSIAN DELEGATION IS 22 MEMBERS. TING AND CHERRY INDICATED THAT THE U.S. SIDE WOULD STUDY GUBANOV'S PROPOSALS CAREFULLY AND PROVIDE A RESPONSE THROUGH OFFICIAL CHANNELS. EAGLEBURGER

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