

NOTE TO COMMISSIONER ASSISTANTS

DISTRIBUTION: OCM/ND <input checked="" type="checkbox"/> Davis, Roger <input type="checkbox"/> Croteau, Rick <input type="checkbox"/> Poole, Brooke <input type="checkbox"/> Kasputys, Clare <input type="checkbox"/> Shuaibi, Mohammed <input type="checkbox"/> Castleman, Patrick <input checked="" type="checkbox"/> Lopatto, Jeanne <input type="checkbox"/> Fragoyannis, Nancy OCM/EM <input checked="" type="checkbox"/> Astwood, Heather <input type="checkbox"/> Cummings, David <input type="checkbox"/> Brown, David <input type="checkbox"/> Beall, James OCM/JM <input checked="" type="checkbox"/> Droggitis, Spiros <input type="checkbox"/> Nolan, Kate <input type="checkbox"/> Thoma, John <input type="checkbox"/> Skeen, David OCM/GJ <input checked="" type="checkbox"/> Batkin, Josh <input type="checkbox"/> Coggins, Angela <input type="checkbox"/> Hatchett, Gregory <input type="checkbox"/> Reis, Terrence OCM/PL <input checked="" type="checkbox"/> Piccone, Josie <input type="checkbox"/> Marco, Cathy <input type="checkbox"/> Tadesse, Rebecca <input type="checkbox"/> Coe, Doug	From: Janice Dunn Lee, Director, Office of International Programs /RA/
	Date: April 5, 2006
	Subject: FOREIGN TRAVEL TRIP REPORT - FEBRUARY 2006 TRAVEL TO IAEA (DISCUSSIONS REGARDING IRAQ), GEORGIA AND ARMENIA
	Comment: From February 21 to 28, 2006, OIP staff participated in an IAEA-sponsored meeting on decommissioning nuclear facilities in Iraq, discussed potential radioactive source-related assistance activities with the Nuclear and Radiation Safety Service of the Georgian Ministry of the Environment and discussed ongoing or planned assistance efforts with the Armenian Nuclear Regulatory Authority. A copy of the trip report is attached. The trip report highlights that the IAEA staff agreed to form a dedicated committee to coordinate efforts to assist Iraq in decommissioning its nuclear facilities. The Coordinating Committee would be comprised of representatives from Iraq, IAEA, contributing Member States and International Organizations. Initially three working groups would report to the Coordinating Committee. These working groups would involve Data Collection and Analysis (data related to current status of Iraq's nuclear sites), Prioritization System Development (how to prioritize Iraq's decommissioning needs) and Regulatory and Strategic Issues. The report also highlights that the Georgians are anxious to begin working with NRC on enhancing regulatory oversight of sources. Initial efforts will include developing an inventory of sealed sources within Georgia. Contact: Jack Ramsey, OIP 415-2744

Please check one of the following, if applicable: ATTACHMENT CONTAINS: <input checked="" type="checkbox"/> Internal Use Only -- Not for Public Disclosure <input type="checkbox"/> Official Use Only -- Sensitive Internal Information <input type="checkbox"/> Confidential (Standard Form 705), Blue <input type="checkbox"/> Secret (Standard Form 704), Red
--

L. Reyes, EDO M. Virgilio, DEDMRS W, Kane, DEDH J. Silber, DEDIA K. Cyr, OGC T. Rothschild, OGC B. Sosa, OEDO J. Strosnider, NMSS D. Cool, NMSS C. Paperiello, RES P. Kang, RES	J. Dyer, NRR T. Hiltz, NRR M. Cullingford, NRR R. Zimmerman, NSIR C. Harris, NSIR J. Funches, CFO OIP Distribution	ADAMS Accession No. ML060960102
---	--	------------------------------------

Form updated March 24, 2006

E:\Filenet\ML060960102.wpd

NRC FOREIGN TRIP REPORT

Subject:

Travel to Austria, Georgia and Armenia.

Dates of Travel and Countries/Organizations Visited:

February 21 and 22, 2006 - International Atomic Energy Agency
Vienna, Austria

February 23 to 25, 2006 - Nuclear and Radiation Safety Service
Tbilisi, Georgia

February 26 to 28, 2006 - Armenian Nuclear Regulatory Authority
Yerevan, Armenia

Author, Title, and Agency Affiliation:

John E. Ramsey, Senior Program Manager
Bilateral Assistance and Cooperation Section
Office of International Programs

Sensitivity:

Sensitive information - limited to NRC unless the Commission determines otherwise.

Background/Purpose:

The primary purpose of travel to IAEA was to participate in an IAEA-sponsored meeting on decommissioning nuclear facilities in Iraq. The primary purpose of traveling to Tbilisi, Georgia was to discuss potential radioactive source-related assistance activities with the Nuclear and Radiation Safety Service of the Georgian Ministry of the Environment. The primary purpose of travel to Yerevan, Armenia was to discuss ongoing or planned assistance efforts with the Armenian Nuclear Regulatory Authority.

Abstract: Summary of Pertinent Points/Issues:

The IAEA staff agreed to form a dedicated committee to coordinate ongoing or planned efforts to assist Iraq in decommissioning its nuclear facilities. The Coordinating Committee would be comprised of representatives from Iraq, IAEA, contributing Member States and International Organizations. Initially three working groups would report to the Coordinating Committee. These working groups would involve 1) Data Collection and Analysis (data related to current status of Iraq's nuclear sites), 2) Prioritization System Development (how to prioritize Iraq's decommissioning needs) and 3) Regulatory and Strategic Issues. *NRC needs to decide what, if any, role it desires to play in both the Coordinating Committee and the working groups.*

Georgian officials are anxious to begin working directly with NRC on enhancing regulatory oversight of sources. Initial efforts will focus on performing an overall assessment of nuclear-related laws in Georgia (including making suggestions for improvements) and developing an inventory of sealed sources within reachable areas of Georgia (the Georgian authorities can not currently enter the areas of South Ossetia and Abkhazia due to ongoing civil war).

Discussion:

IAEA MEETING ON DECOMMISSIONING NUCLEAR FACILITIES IN IRAQ

The Iraqi delegation made several presentations regarding the current status of key sites in Iraq formerly involved with the Iraqi nuclear weapons program (copies of these presentations are available upon request). Sites identified include Al-Tuwaitaha, Al-Wardya, Al-Jazeera and Al-Tarmiyah. Each of these sites was extensively damaged during the 1991 and 2003 Gulf wars. At present, the Iraqis are focusing on performing contamination surveys at each of these sites.

The Iraqis long-term goal is to decommission and perform as much environmental remediation as is practicable at each site. The aforementioned contamination surveys will identify both sites that need decontamination and decommissioning and the expected amount of radioactive waste at each site. However, the Iraqis have not yet developed a strategy for storing and/or disposing of the radioactive waste that will be generated.

The IAEA staff agreed to form a dedicated committee to coordinate ongoing or planned efforts to assist Iraq in decommissioning its nuclear facilities. The Coordinating Committee would be comprised of representatives from Iraq, IAEA, contributing Member States and International Organizations. Initially three working groups would report to the Coordinating Committee. These working groups would involve 1) Data Collection and Analysis (data related to current status of Iraq's nuclear sites), 2) Prioritization System Development (how to prioritize Iraq's decommissioning needs) and 3) Regulatory and Strategic Issues. *NRC needs to decide what, if any, role it desires to play in both the Coordinating Committee and the working groups.*

GEORGIA

Nuclear and Radiation Safety Service

Extensive discussions were held with representatives of the Nuclear and Radiation Safety Service of the Georgian Ministry of the Environment (NRC's regulatory counterpart). NRC's ongoing or planned radioactive source-related efforts in Armenia and Kazakhstan were discussed in detail. The Georgian officials advised that their highest-priority needs mirrored those in Armenia and Kazakhstan. *The Georgian officials are genuinely excited about the opportunity to begin working directly with NRC on enhancing regulatory oversight of sources.* It was agreed that initial efforts will focus on performing an overall assessment of nuclear-related laws in Georgia (including making suggestions for improvements) and developing an inventory of sealed sources within reachable areas of Georgia (the Georgian authorities can not currently enter the areas of South Ossetia and Abkhazia due to ongoing civil war). These efforts will start as soon as funding is available.

Institute for Physics

The Georgians also provided a tour of the Institute for Physics in Mtskheta (north of Tbilisi). The Institute once house a Soviet-designed research reactor (a pool-type IRT-M). All fresh and spent fuel (HEU-based fuel) has been removed. The Georgians are currently attempting to obtain funding needed to decommission the reactor.

(b)(4)

(b)(4)

(b)(4)

The Georgians also provided a tour of a new sources storage facility constructed at the Physics Institute by DOE as part of the Global Threat Reduction Initiative (GTRI). This facility was intended to more securely house the sources currently in temporary storage at the Physics and Agricultural Institutes. The Georgians indicated that construction of this facility was completed in June 2005. However, the facility currently can not be used because the lower levels of this facility are prone to flooding (visual inspection of these areas confirmed water damage). The Georgians are also concerned about the lack of ability to handle sources over the projected 50-year lifetime of the facility (i.e., there are no hot cells).

Illicit Trafficking

Discussions held regarding illicit trafficking in nuclear and radioactive materials are contained in a classified supplement to this trip report.

ARMENIA

Status of Armenian Nuclear Regulatory Authority

In December 2005 Armenian President Kocharian issued a decree¹ that clarified and strengthened the status of the Armenian Nuclear Regulatory Authority (ANRA). This decree restored ANRA's right to promulgate technical regulations and sign international agreements. It also restored the pay scale for ANRA staff that existed prior to ANRA's incorporation into the Ministry of Nature Protection in early 2002 (the salary for ANRA staff increased from \$150 per month to \$300 per month). These changes should both strengthen ANRA's independence and restore ANRA's technical competence (i.e., the increase in salary should halt the departure of experienced staff from ANRA that has occurred over the past 2 years).

Enhancing Regulatory Oversight of Radioactive Sources

The restoration of ANRA's authority to promulgate technical regulations has reinforced ANRA's ability to license users of radioactive sources. ANRA will now move forward to formally adopt draft regulations developed last year through the ANRA/NRC assistance program. ANRA will now also initiate efforts to license organizations that use high-activity sources (Categories 1 and 2). Within the next few months, seminars will be held at which ANRA will explain its new licensing requirements to these users (seminars will be held in Yerevan, and at the ANRA regional offices in Goris and Vanadzor). ANRA's goal is to issue licenses to users of Category 1 and 2 sources by the end of 2006.

¹Additional background and discussion is contained in a November 2005 trip report entitled "Meeting of the Nuclear Energy Safety Council of the President of the Republic of Armenia"

Orphan Sources

ANRA has received an offer from DOE/NNSA for DOE/NNSA to both develop a strategy for locating orphan sources in Armenia and to conduct training for Armenian specialists on equipment that can be used to help locate such sources. As needed, ANRA intends to request comparable orphan sources-related support from NRC.

Armenian Nuclear Power Plant

Armenian President Kocharian recently announced that operation of the Armenian Nuclear Power Plant (ANPP) will continue until at least 2016. In recognition of this reality, a new international initiative to improve design and operational safety at the ANPP is in its early stages. Efforts began in December 2005 at a kick-off meeting sponsored by IAEA. This meeting resulted in the development of a prioritized list of modifications and safety improvements still needed to address the highest-priority safety issues for VVER-440/230s identified by IAEA in 1992.

ANRA indicated that additional support from NRC will be needed in the reactor safety arena, especially for reactor safety improvements sponsored by DOE. Unfortunately, funds available to NRC to provide reactor safety-related assistance have been reduced. As such it is not clear what support NRC may be able to provide ANRA in this area², even for projects sponsored by DOE.

Pending Actions/Planned Next Steps for NRC:

NRC should continue to develop regulatory strengthening-related assistance activities in Iraq and Georgia. NRC should also continue its assistance activities for ANRA.

Points for Commission Consideration/Items of Interest:

Information contained in this trip report may be of interest to the Commission.

²Additional discussion regarding funding reductions and their impact is contained in OIP's September 13, 2005 memorandum to the Commission on FY2005 Freedom Support Act funds from the U.S. Agency for International Development.

NOTE TO COMMISSIONER ASSISTANTS

DISTRIBUTION: OCM/ND U Davis, Roger <input type="checkbox"/> Croteau, Rick <input type="checkbox"/> Poole, Brooke <input type="checkbox"/> Kasputys, Clare <input type="checkbox"/> Shuaibi, Mohammed <input type="checkbox"/> Castleman, Patrick U Lopatto, Jeanne <input type="checkbox"/> Fragoyannis, Nancy OCM/EM U Astwood, Heather <input type="checkbox"/> Cummings, David <input type="checkbox"/> Brown, David <input type="checkbox"/> Beall, James OCM/JM U Droggitis, Spiros <input type="checkbox"/> Nolan, Kate <input type="checkbox"/> Thoma, John U Skeen, David OCM/GJ U Batkin, Josh <input type="checkbox"/> Coggins, Angela <input type="checkbox"/> Hatchett, Gregory U Reis, Terrence OCM/PL U Piccone, Josie <input type="checkbox"/> Marco, Cathy <input type="checkbox"/> Tadesse, Rebecca U Coe, Doug	From: Janice Dunn Lee, Director, Office of International Programs /RA/
	Date: June 13, 2006
	Subject: FOREIGN TRAVEL TRIP REPORT - MAY 2006 TRAVEL TO KAZAKHSTAN
	Comment: From April 30 to May 6, 2006, OIP and NMSS staff conducted a workshop on dry storage of spent fuel and discussed ongoing or planned radioactive source-related assistance activities with representatives of the Kazakh Atomic Energy Committee (KAEC). A copy of the trip report is attached. The trip report highlights how, over the past two years, KAEC has made significant progress in developing their national registry of sealed radioactive sources. The registry currently includes basic information on 57 Category 1 sealed sources at 18 sites, 276 Category 2 sealed sources at 32 sites and 1,736 Category 3 sealed sources at 76 sites. To maintain the accuracy and completeness of this registry, KAEC is in the process of incorporating reporting requirements into the licenses issued to users, shippers, etc. The trip report also highlights a workshop on licensing and inspection of spent fuel dry storage installations conducted by NMSS staff. KAEC staff intend to use insight gained from this workshop during their efforts to review proposals for dry storage of the BN-350 sodium cooled fast breeder reactor spent fuel. Insights gained by KAEC staff during the workshop have already necessitated modifications to DOE's current draft packaging and temporary storage safety analysis report.
	Contact: Jack Ramsey, OIP 415-2744

Please check one of the following, if applicable: ATTACHMENT CONTAINS: U Internal Use Only -- Not for Public Disclosure <input type="checkbox"/> Official Use Only -- Sensitive Internal Information <input type="checkbox"/> Confidential (Standard Form 705), Blue <input type="checkbox"/> Secret (Standard Form 704), Red
--

L. Reyes, EDO M. Virgilio, DEDMRS W, Kane, DEDH J. Silber, DEDIA K. Cyr, OGC T. Rothschild, OGC B. Sosa, OEDO J. Strosnider, NMSS D. Cool, NMSS B. Sheron, RES	J. Dyer, NRR M. Weber, NRR T. Hiltz, NRR M. Cullingford, NRR R. Zimmerman, NSIR C. Harris, NSIR J. Funches, CFO OIP Distribution	ADAMS Accession No. ML061640371
---	---	--

NRC FOREIGN TRIP REPORT

Subject:

Travel to Almaty, Kazakhstan.

Dates of Travel and Countries/Organizations Visited:

April 30 to May 6, 2006 - Kazakh Atomic Energy Committee
Almaty, Kazakhstan

Author, Title, and Agency Affiliation:

John E. Ramsey, Senior Program Manager
Bilateral Assistance and Cooperation Section
Office of International Programs

Sensitivity:

Sensitive information - limited to NRC unless the Commission determines otherwise.

Background/Purpose:

The primary purpose of travel to Almaty, Kazakhstan was to discuss ongoing or planned nuclear safety and security assistance efforts with the Kazakh Atomic Energy Committee.

Abstract: Summary of Pertinent Points/Issues:

Over the past two years the Kazakh Atomic Energy Committee (KAEC) has made significant progress in developing their national registry of sealed radioactive sources. The registry currently includes basic information on 57 Category 1 sealed sources at 18 sites, 276 Category 2 sealed sources at 32 sites and 1,736 Category 3 sealed sources at 76 sites. To maintain the accuracy and completeness of this registry, KAEC is in the process of incorporating reporting requirements into the licenses issued to users, manufacturers, shippers, importers, etc. Reports on sealed source inventories, shipments, disposal, etc. will be required to be submitted to KAEC either quarterly or annually.

A workshop on licensing and inspection of spent fuel dry storage installations was conducted by staff from NMSS' Spent Fuel Project Office (SFPO). SFPO staff made presentations on the NRC process and methods used to make licensing determinations, and discussed NRC operational and inspection experiences with dry cask spent fuel storage. KAEC staff were very appreciative of the information conveyed by the SFPO staff. KAEC staff intend to use insight gained during their efforts to review the proposals for dry storage of the BN-350 sodium cooled fast breeder reactor spent fuel.

Discussion:

ENHANCING REGULATORY OVERSIGHT OF RADIOACTIVE SOURCES

Background

Efforts to assist KAEC in enhancing regulatory oversight of radioactive sources began in early 2004. Initial efforts focused on conducting an inventory of radioactive sources in Kazakhstan and in conducting an overall assessment of existing Kazakh nuclear and radiation protection-related laws, rules and regulations (including making recommendations for improvements).

Inventory of Sealed Sources

The first phase of the inventorization effort included obtaining historical information on potential sealed source users from regional offices of the Sanitary Epidemiological Service (SES) of the Ministry of Health of Republic of Kazakhstan. This was a significant effort as information from over 20 SES regional offices was needed. Information obtained was then complemented with existing KAEC licensing-related data, information from the Ministry of Statistics and information from the Ministry for Emergency Situations. The second phase of the inventorization effort involved KAEC's contacting each organization identified during phase one as a potential sealed source user and requesting that each organization conduct an actual physical inventory of its sealed sources. This inventorization effort identified approximately 7,000 sealed sources in use at around 190 locations (including 57 Category 1 sealed sources at 18 sites, 276 Category 2 sealed sources at 32 sites, 1,736 Category 3 sealed sources at 76 sites, 3,423 Category 4 sealed sources at 120 sites and 1,534 Category 5 sealed sources at 85 sites, categorization based upon the IAEA-sponsored Code of Conduct on the Safety and Security of Radioactive Sources).

The inventorization effort did not identify any users of Category 1 sealed sources that had not previously been licensed by KAEC. The inventorization effort did, however, identify one user with a Category 2 sealed source (only one source) and 14 users with Category 3 sealed sources (involving 413 sources) that had not been licensed by KAEC. KAEC has already started the process of licensing these users. Actual licensing of these users should be finished within two to three months.

To maintain the accuracy and completeness of this registry, KAEC is in the process of incorporating reporting requirements into the licenses issued to users, manufacturers, shippers, importers, etc. Reports on sealed source inventories, shipments, disposal, etc. will be required to be submitted to KAEC either quarterly or annually.

Assessment of Laws, Rules and Regulations

In August 2005 KAEC completed an overall assessment of nuclear and radiation protection-related laws, rules and regulations in force in Kazakhstan (a Russian language version of this assessment is available upon request). This assessment included comparing such laws, rules and regulations against international guides and standards, and making recommendations for modifications needed to bring existing laws, rules and regulations into conformance with these international guides and standards. Using this assessment, KAEC elected to focus its initial efforts on making necessary updates and changes to existing Kazakh laws. Updating and changing existing rules and regulations will be addressed upon adoption of the changes to the laws.

In early 2006, KAEC proposed revisions to the laws on utilization of atomic energy, licensing, radiation protection of the population and environmental protection. Proposed changes also remove inconsistencies within these respective laws. The Kazakh interagency reviewed and approved these proposed modifications. The proposed modifications were submitted in the late spring of 2006 to the Kazakh Parliament for review and approval. KAEC hopes that the Parliament will adopt these proposed changes by the end of 2006.

DRY CASK STORAGE OF SPENT FUEL

Background

The BN-350 sodium cooled fast breeder reactor was operated from 1973 until 1999. The reactor's driver assemblies contained uranium enriched from 17 to 26 percent, while the breeder assemblies contained natural uranium. The shutdown of the reactor necessitates that the Kazakhs address disposition of both the spent driver assemblies and the breeder blanket assemblies (which, after irradiation, now contain approximately 3 metric tons of weapons-grade plutonium). The disposition of these breeder blanket assemblies creates a significant proliferation concern as the assemblies are not highly radioactive (that is, the breeder blanket assemblies do not emit sufficient radiation to provide an inherent theft or diversion deterrent).

Several years ago DOE completed a project where spent driver assemblies and irradiated breeder blanket assemblies were packaged together into dried and sealed canisters.

(b)(7)(F)

These packaged assemblies are currently stored in the BN-350 spent fuel pool.

(b)(5)

Storage, Transport and Storage

The Kazakhs intend to remove the packaged assemblies from the spent fuel pool, temporarily store the packaged assemblies on the BN-350 reactor site, transport the packaged assemblies across Kazakhstan to the Baikal-1 site and finally storage the packaged assemblies at the Baikal-1 site for a period of at least 50 years. DOE has offered to provide the Kazakhs with a Russian-designed dual use cask in which the packaged assemblies can be housed. The Kazakhs have been hesitant to rely solely on this Russian-designed cask because Russia has very limited experience in dry storage of spent fuel (Russia typically reprocesses spent fuel, so historically there has never been a need in Russia for dry storage of spent fuel). Nonetheless, KAEC expects to receive an application for approving this dual-use cask by the end of this year. This is especially challenging as KAEC has no experience in reviewing dry storage installations.

In response to a request from KAEC management, a workshop on licensing and inspection of spent fuel dry storage installations was conducted by staff from SFPO. Topics covered by the SFPO staff include NRC's legal bases for regulatory oversight of spent fuel, spent fuel dry storage facility safety analysis report requirements, dry cask storage systems safety analysis report requirements, inspection requirements for cask manufacturers, inspection requirements for independent spent fuel storage facilities, storage cask off-normal event and accident analysis, application of computer codes to thermal and structural analyses, assessment and control of heavy loads, pre-operational inspection and assessment considerations, and transportation considerations (presentation slides available through ADAMS accession number ML061210565). Considerable discussion was also held on "lessons learned" from NRC's experience with dry cask storage facilities.

KAEC had previously been provided information on NRC's regulatory requirements for dry storage by DOE. However, KAEC has been very reluctant to rely upon regulatory support from DOE (i.e., KAEC has been concerned that having an applicant/licensee also provide regulatory support constitutes a conflict of interest). As such, KAEC staff were very appreciative of the information conveyed, the explanations provided and the practical insight shared by the SFPO staff. KAEC staff indicated that they plan on incorporating information obtained during this workshop into their near-term efforts for reviewing DOE's request to load the packaged assemblies from the BN-350 into the Russia-designed cask for temporary storage at the BN-350 site. The importance of this to KAEC staff was evident as even during the workshop KAEC staff identified several issues that necessitate DOE modify the current draft packaging and temporary storage safety analysis report.

Pending Actions/Planned Next Steps for NRC:

NRC should continue assistance activities for KAEC.

Points for Commission Consideration/Items of Interest:

Information contained in this trip report may be of interest to the Commission.