



U.S. Nuclear Regulatory Commission Nuclear Safety Assistance to the CEE and NIS Countries

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OBJECTIVE

NRC participates in bilateral and multilateral efforts to strengthen the regulatory authorities of countries in which Soviet-designed nuclear power plants are operated.

Countries involved are the New Independent States of the former Soviet Union (Armenia, Kazakhstan, Russia and Ukraine) and of Central and Eastern Europe (Bulgaria, Czech Republic, Hungary, Lithuania and Slovak Republic).

NRC's goal is to see that its counterparts receive the basic tools, knowledge and understanding needed to exercise effective regulatory oversight, consistent with internationally accepted norms and standards.

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BILATERAL ASSISTANCE

U.S. bilateral assistance efforts began in 1991. As of October 2000, NRC has been provided with approximately \$44 million to be used to provide nuclear safety-related assistance to the FSU and CEE countries.

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ARMENIA

Activities with the Armenian Nuclear Regulatory Authority (ANRA) began in 1995. To date, a total of approximately \$2.8 million in assistance has been provided. Projects undertaken include:

- o fire protection,
- o site security,
- o radioactive waste and spent fuel management,
- o seismic issues,
- o reactor pressure vessel embrittlement,
- o licensing of nuclear power plants designed to earlier standards, and
- o development of a safety analysis report review capability.

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BULGARIA

Activities with the Bulgarian Committee for Peaceful Uses of Atomic Energy (CUAEPP) began in 1991. To date, a total of approximately \$0.8 million in assistance has been provided. Projects undertaken include:

- o Training on regulatory and technical issues addressed by NRC,
- o participation in training courses at NRC's technical training center,
- o regulatory review of instrumentation and control (I&C) systems,
- o digital I&C safety review training, and
- o peer reviews of licensing evaluations generated by CUAEPP staff.

CZECH REPUBLIC

Activities with the Czech State Office for Nuclear Safety (SONS) began in 1991. To date, a total of approximately \$2.3 million in assistance has been provided. Projects undertaken include:

- o Training on regulatory and technical issues addressed by NRC,
- o participation in training courses at NRC's technical training center,
and
- o Support on Temelin-specific issues (design basis accident analysis review methodology, I&C review and licensing methodology, and fuel licensing methodology).

HUNGARY

Activities with the Hungarian Atomic Energy Commission (HAEC) began in 1991. To date, a total of approximately \$2.0 million in assistance has been provided. Projects undertaken include:

- o Training on regulatory and technical issues addressed by NRC,
- o participation in training courses at NRC's technical training center,
- o fellowships on such topics as NRC's management techniques, organization issues and program tracking procedures,
- o improving analytical capabilities for performing safety analyses (provision of computer codes),
- o support for participation in computer code users groups, and
- o public affairs workshops.

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KAZAKHSTAN

Activities with the Kazakh Atomic Energy Committee (KAEC) began in 1995. To date, a total of approximately \$3.5 million in assistance has been provided. Projects undertaken include:

- o Power and research reactor inspection techniques,
- o material physical protection, control and accounting (MPC&A),
- o development of a safety analysis report review capability,
- o licensing of spent fuel dry cask storage systems, and
- o decommissioning.

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LITHUANIA

Activities with VATESI began in 1991. To date, a total of approximately \$3.0 million in assistance has been provided. Projects undertaken include:

- o Training on regulatory and technical issues addressed by NRC,
- o participation in training courses at NRC's technical training center,
- o technical support for review of Ignalina Safety Analysis Report, and
- o support for VATESI efforts to perform a thorough technical review, in support of Ignalina licensing decisions.

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RUSSIA

Activities with the Russian Federal Nuclear and Radiation Safety Authority (GAN) began in 1992. To date, a total of approximately \$14 million in assistance has been provided. Projects undertaken include:

- o Legislative and Regulation Development,
- o Licensing and Inspection Practices,
- o Emergency Response,
- o Analytical Techniques and Methods, and
- o Infrastructure Development.

Recent areas of emphasis include:

- o Probabilistic Safety/Risk Assessment for Kalinin,
- o Licensing of Digital Instrumentation and Control (I&C) Systems, and
- o Emergency Response.

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SLOVAK REPUBLIC

Activities with the Slovak Nuclear Regulatory Authority (NRA) began in 1991. To date, a total of approximately \$0.8 million in assistance has been provided. Projects undertaken include:

- o Training on regulatory and technical issues addressed by NRC,
- o participation in training courses at NRC's technical training center,
- o workshops on identifying methods to effectively implement the NRA's international obligations, and
- o quality assurance (QA) training program, including licenses, radiation safety requirements for irradiators and the manufacture and distribution of radioactive sealed sources.

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UKRAINE

Activities with the Nuclear Regulatory Department of the Ministry of the Environment and Natural Resources began in 1992. To date, a total of approximately \$16.5 million in assistance has been provided. Projects undertaken include:

- o Legislative and Regulation Development,
- o Licensing and Inspection Practices,
- o Emergency Response,
- o Analytical Techniques and Methods, and
- o Infrastructure Development.

Recent areas of emphasis include:

- o Supporting Regulatory Analysis Projects for Long-Term NPP Licensing.

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MULTILATERAL

NRC's participation in multilateral efforts to strengthen the regulatory authorities of countries in which Soviet-designed nuclear power plants are operated began in 1992. Multilateral activities NRC participates in include:

- o G-7 Nuclear Safety Working Group,

- o EBRD-Administered Nuclear Safety Account and Chernobyl Sarcophagus Fund, and

- o IAEA.

IAEA SUPPORT

Since 1995, the U.S. has provided approximately \$4.75 million through its Nuclear Safety Voluntary Contribution to support IAEA activities. Efforts supported include:

- o Armenia (\$624,000, including support for TC Projects ARM/9/003, ARM/9/004, ARM/9/007 and ARM/9/008),
- o Bulgaria (\$144,000, including support for TC Project BUL/9/018),
- o Kazakhstan (\$145,000, including support for TC Project KAZ/9/003),
- o Ukraine (\$60,000, including support for TC Project UKR/4/004),
- o Regional Activities (\$710,000, including support for TC Projects RER/9/023, RER/9/052, RER/9/050, RER/9/046, RER/9/047 and RER/0/015),

IAEA SUPPORT

(continued)

- o VVER Regulators Group (\$340,000),
- o Y2K (\$100,000)
- o VVER and RBMK Extrabudgetary Program (\$1,450,000, including support for the Extrabudgetary Projects on RBMK Accident Analysis and Pipe Cracking),
- o Asian Extrabudgetary Program (\$545,000),
- o IAEA/UNDP Project on Radiation Safety (\$300,000),
- o Implementation of the Nuclear Safety Convention (\$50,000).

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IAEA SUPPORT

(continued)

- o Research Reactor Safety (\$25,000, including support for TC Project RER/9/058),
- o Tajikistan – Orphan Sources and Mill Tailings (\$70,000),
- o Radioactive Materials Safety and Security (\$112,000), and
- o Reserve for Non-Member States (\$25,000).

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