



NMMSS Users Annual Training Meeting
Orlando, Florida—May 23-25, 2006
*Sponsored by the U.S. Department of Energy &
the U.S. Nuclear Regulatory Commission*

U.S. and Russian Cooperation on the Russian Federal Information System (FIS)



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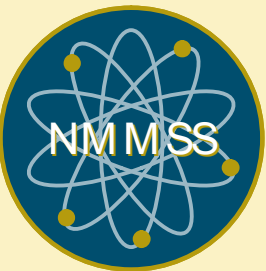
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Nunn – Lugar Program

- Soviet Nuclear Threat Reduction Act – Nov 1991
 - Recognized the threat through upheaval in Russia
 - Money to control and dismantle Weapons of Mass Destruction (WMD)
- Became a major force in non-proliferation especially in Russia and the Former Soviet Union (FSU) countries
 - 1992 – 1996 DOE supports effective Lab to Lab initiatives
 - 1996 to present DOE phases out Lab to Lab but keeps technical expertise to continue work





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Partnership Begins for State System of Accounting and Control (SSAC)

- U.S. Believes National System critical for Nuclear Material Security
 - National nuclear material accounting system needed in Russia to replace financial accounting system
 - Russian team trained in NMMSS
 - Russian understanding of NMMSS – UCRL-CR-132636
 - Basis for Russian National system
 - State of the economy and Material Control and Accounting (MC&A) technologies require phased approach
 - Russians concerned organizations cannot comply
 - U.S. mandate to assist sites with WMD
 - Compromise to create a national system but use organizations within U.S. cooperation as pilot/test



Federal Information System (FIS)



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Joint Development of Russian System

- Must follow generally accepted principals of accounting
- U.S. system principals applied to Russian needs and capabilities
- Quantity based accounting as opposed to financial
 - Standardize codes
 - Standardize rules and frequency of reporting
- Confidence in the information
 - Ability of all organizations to report
 - Reconciliation
 - Inspection oversight
- Best practices and international standards
 - IEEE standards and documentation
 - U.S. experience with NMMSS evolution



Federal Information System (FIS)



FIS Mission and Objectives

- Objectives: Facilitate the establishment, operation and use of the Federal Information System (FIS), the Russian Federation national nuclear material control and accounting (MC&A) system
 - Provide a major component of the Russian Federation State System of Accounting and Control (SSAC) of nuclear material
 - Provide foundation for national MC&A
 - Provide information to support oversight activities
 - Provide information to support other agencies and ministries
 - Provide information for tracking nuclear material transfers
 - Account for foreign owned material
 - Meet international reporting obligations such as IAEA and other treaties
 - Support emergency response by providing accurate organization records outside the organization





Russian Roles and Responsibilities

- All Russian nuclear material owned by Russian Federation
 - Private ownership of material not allowed
 - Foreign owned material does exist
 - Organizations have ‘ownership’ responsibilities based on agreements with Rosatom
- Sponsor and User
 - Federal decree makes Federal Atomic Energy Agency (Rosatom) owner of the national accounting
 - Authority over Nuclear Material use and transfer
- Russian developers and operators
 - Rosatom Situation and Crisis Center (SCC) are operators and managers of system
 - Atominform Institute are developers





Development First Five Years

- Development 1996 – 2000
 - Russian development team decides on Material Balance Area (MBA) level reporting
 - Book Inventory (IL) and Inventory Change Reports (ICR)
 - Develop documentation for system and users
 - Established XML for information exchange
- Rosatom given authority over FIS in 2000
 - All organizations must report in order to have a usable national system
 - Recognizes economic roadblocks to MBA level reporting
 - Introduces annual summarized reporting at the organizational level in order to get all organizations reporting





Deployment to all Organizations

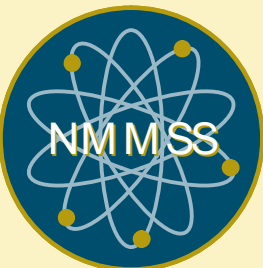
- Deployment 2001 – 2006
 - System developed with flexibility for level of reporting
 - Adapt MBA level with organization level
 - Continue with subset of MBA level and combine with summarized
 - Develop and enact regulations to support FIS
 - All organizations in civilian sector report first IL January 2002
 - Annual summarized organization IL
 - National Nuclear Material Registry reported annually to the government
 - Quarterly summarized ICR begins in 2003
 - Rosatom recognizes more detail and frequency
 - Individual shipments and receipts
 - Less summarization for IL



Summarized Reporting Business Rules

- Paper reports must be submitted with director's signature
- Electronic reports can be submitted along with the paper
- Reconciliation once a year, at present not required to balance
- ICRs are summarized at the organization level and sent quarterly
- Inventory reports are summarized at the organization level and sent annually





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2003 Workshop in U.S

- U.S. NMMSS Policy and operation personnel exchange information with Russian team
 - Presentations by both sides
 - Many common issues
- Understanding of RIS major breakthrough
 - Solving the Russian dilemma of too high a level of summarization
 - Graded approach to reporting frequency
 - Transactions (ICRs) as they happen
 - Introduction of universal reporting
- Reporting Areas (RA) within organizations report to FIS
 - Rosatom will negotiate agreements with all organizations to establish Reporting Area for each organization
 - Reports summarization to any level
 - RA level
 - MBA level
 - Item level



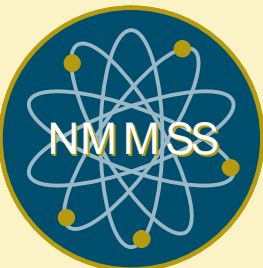
Federal Information System (FIS)



FIS Material Classification and Reconciliation

- FIS Material Kind
 - One material kind can have multiple element and isotope lines
- Batch concept to summarize individual entries in site MC&A systems
- FIS reconciles to:
 - MBA or Organization
 - Material Kind
- Uniqueness of each record
 - Reporting entity
 - Owner
 - Program code
 - Batch ID
 - Material Kind
 - Enrichment level, if applicable





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System Overview

- Operating center is closed limited access
- Oracle data base and application
- Windows NT operating system
- Moved the system from Atominform to Situation and Crisis Center (SCC) in 2005
- Standard output reports to Rosatom, reporting organizations and Federal Government
- Nearly all data is received manually and reports are typically distributed manually



Federal Information System (FIS)



Methods of Reporting Data

- Limitations include
 - Electronic reporting difficult
 - Automated site systems lacking
 - Infrastructure incomplete
 - Summarizing data to the organization level
- Manual reporting
 - Most are hard copy to be entered at FIS
 - Most sent by courier
- SCC actively working on infrastructure
 - Recognizes electronic reporting major obstacle to frequent and detailed reporting





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Continuing U.S. and Russian Partnership

- U.S. continues to support the FIS
 - Implementation of universal reporting January 2008
 - User outreach
 - FIS workshops functioning like user group meetings
 - FIS News - www.fisnews.ru
 - Training classes
 - U.S. Technical assistance
 - Best practices for implementation of infrastructure
 - Electronic reporting initiatives
 - Fine tuning system to meet universal reporting requirements
 - Operations management



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Continuing U.S. and Russian Partnership

- Need for additional information to complete system
 - Meetings with DOE NMMSS managers and policy groups in March 2003
 - Began the move to more detail reporting and the development of the universal reporting concept
 - U.S. workshop November 2004
 - Meetings with U.S. fuel cycle companies to discuss foreign owned material accounting practices
 - Met with NAC to talk about lessons learned in moving NMMSS from Oak Ridge and to new location in Atlanta
- New economic mandates from Russian government officials
 - Need to understand issues with foreign trading partners
 - Invited Peter Dessaulles to Moscow to discuss foreign obligations accounting
- Exchanging information on accounting part of the importance of the partnership between Russia and the U.S.



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