

The Nuclear Materials Management and Safeguards System (NMMSS)



2015 Annual
Users
Training
Meeting

Accuracy

Accountability

Performance



May 11-14, 2015

Las Vegas, NV

SNM-MC&A Inspection Issues 2010 – 2015 at Power Reactors

Louis C. Carson II, NRC Region IV Sr. Health Physicist



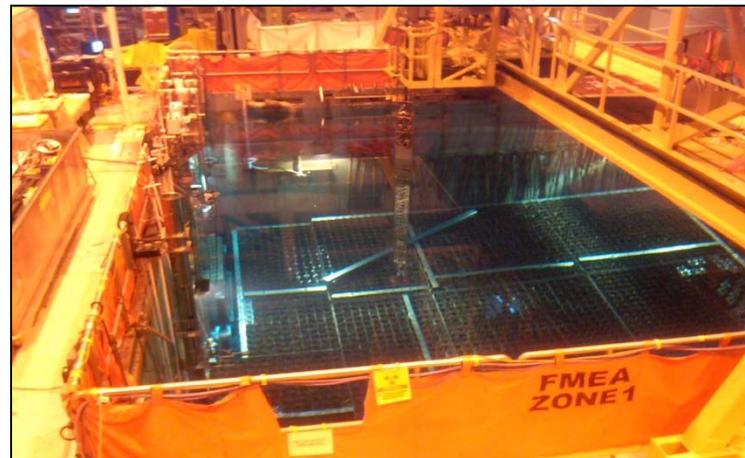
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Inspection Procedure 71130.11 **MATERIAL CONTROL AND ACCOUNTING**



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Inspection Procedure 71130-11



- *IP 71130.11 implemented in CY2010*
- **Conduct of MC&A Inspections**
 - *Currently, in-depth MC&A inspections at power reactors are conducted under IP 71130.11*
 - *Primary objective is to determine if the licensee has a program in place to account for all spent fuel and that all SNM in the inventory can be located.*
 - *The three basic components of an MC&A program at a power reactor are:*
 - *Record-keeping, which produces the book inventory*
 - *Written procedures*
 - *Physical inventory at a frequency not to exceed every 12 months*



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Physical Inventory

*Verify inventories every 12 months
Review most recent inventory for
completeness*

*Verify inventory performed using
physical observation and not just
records review*

*Verify non-fuel SNM included in
inventory (IRMs, SRMs, LPRMs,
TIPs) Determine if last 2 inventories
reconciled with book inventory,
discrepancies entered into CAP*

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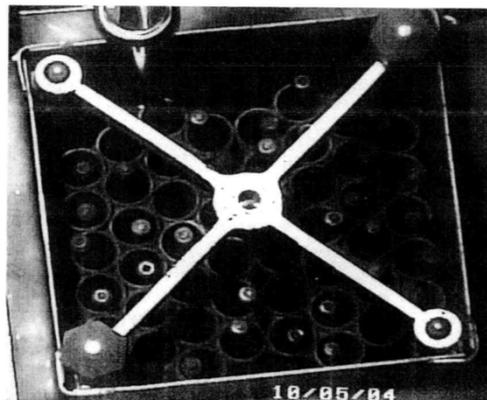
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Inspection Procedure 71130-11



- *Verify a random sample of 10 fuel assemblies are in proper location in SFP*
- *Verify a sample of containers of rods, pellets, fragments are in assigned locations and have not been accessed*
- *Verify all baskets and other containers of SNM hanging from side of SFP are clearly identified*



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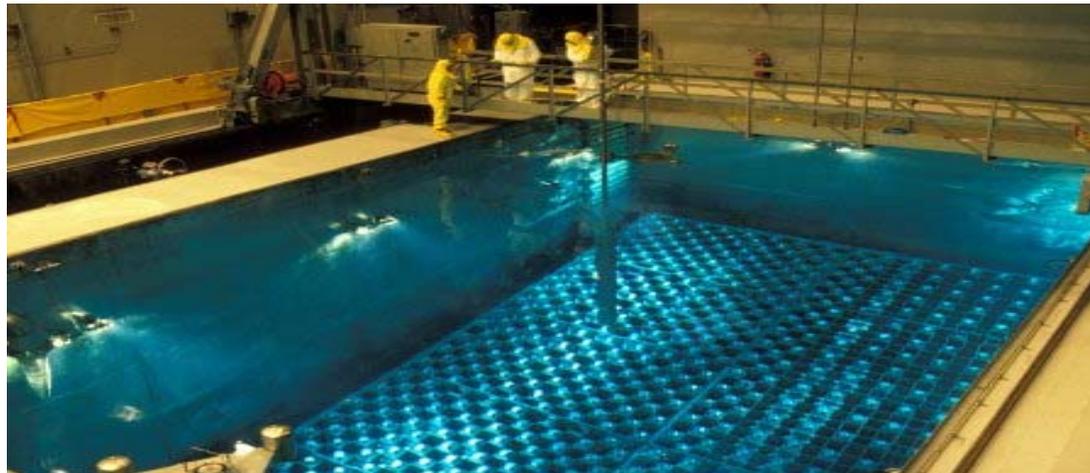
Inspection Procedure 71130-11



NNSA



- **SNM Reports** - Verify licensee made required reports (NRC Form 741 and 742) to NMMSS
- Specific documents reviewed during this inspection are listed. Inspectors complete 15 required samples as defined in Inspection Procedure 71130-11.



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Ten Inspection Findings 2010-2015



- *Failure to Establish Procedures for All SNM*
- *Failure to Inventory All SNM Possessed Annually*
- *Failure to Establish Records, Procedures, and Inventory for All SNM*
- *Failure to Perform Inventory and Follow Procedure*
- *Violation of 10 CFR 74.19 for failure to perform adequate physical inventories of non-fuel SNM*
- *Failure to provide adequate procedural guidance to maintain records of receipt, inventory and transfer for Non-Fuel SNM*
- *Inadequate inventory performed on detectors in storage*
- *Failure to Verify Recipient's License Conditions Prior to shipping SNM*
- *Failure to Implement SNM-MC&A Procedures per 10 CFR 74.19*
- *Failures to maintain complete and accurate records of all SNM possessed and implement procedures sufficient to account for all SNM possessed*



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Most Significant Issue



- *Nuclear power plants have been storing nuclear instruments containing highly enriched uranium low (LSNM) or strategic significance outside the Protected Area.*
- *This is due to Part 73 Security Plans not adhering to the intent of 10 CFR 73.67*
- *This issue will result in a proposed rule change to 10 CFR 73.67*
- *The issue is that ANSI N15.8-2009, Section 13 requires SNM-MC&A to be part of the Security Plan*

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Most Annoying & Persistent Issue “All is All”



- *10CFR74.19(a)(1) states that “each licensee shall keep records showing the receipt, inventory, acquisition, transfer and disposal of **All** SNM in its possession regardless of its origin or method of acquisition”*
- *The Industry has proposed that the word “**All**” be interpreted to mean “**Reportable Quantity**”.*
- *NUREGs BR-0006/BR-0007 states that DOE/NRC Forms (741/742/742C) are required for reporting quantities of SNM 1 gm or more of U-235, U-233, or Pu isotopes & Pu-238 1/10 gram.*

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Specific NMMSS Concerns



- *NMMSS Reporting Identification Symbol RIS Numbers (1-Unit, 2-Units, SFPs, & ISFSIs)*
- *NMMSS Composition Code Usage (i.e. 861 Cooling Basins: SFPs & ISFSIs)*
- *In-House Transactions or Intra-Plant Transfers between Units, Spent Fuel Pools, & ISFSIs being documented in NMMSS space (RIS & Composition Codes, 865?)*
- *NMMSS Composition Code Usage 860 vs 864 for non-fuel SNM*

