The Status of the NC Increased Security Control Program

The NCHPS / Oct. 18, 2007

By: NCRPS - Radioactive Material Branch
Outline:

- Brief History
- Present
  - 1st Round of Inspections
    - Outcomes
  - 2nd Round of Inspections
    - Expectations / Challenges
    - Recommendations
- Future
- Questions
Brief History

After 9/11, the NRC immediately began issuing Advisories to certain NRC and Agreement State licensees to enhance security. These Advisories instructed licensees to add additional controls:

- Installation of additional physical barriers
- Enhanced coordination with law enforcement
- More restrictive site access controls
History Review:

Brief History

- The Advisories were followed up by Orders with similar requirements
- Panoramic Irradiators greater than 10k Ci
  - June 2003
- Manufacturers and Distributors
  - January 2004
Brief History

- During the summer of 2005, the NRC and States developed a Transition Plan to address the issuance of “Increased Controls” for an additional 2000 licensees – Health and Safety

- The Increased Controls were issued by all Agreement States and the NRC between September 2 – December 2, 2005
Applicability of Increased Controls

- The Increased Controls were issued based on possession limit authorization
  - Issued for licenses which authorize possession at or above Table 1 values
  - Some licenses have open ended authorizations
- Licensee Implementation of the Increased Controls is based on possession

Some licensees missed this opportunity.
### History Review:

<table>
<thead>
<tr>
<th>Radionuclide</th>
<th>Quantity (curies)</th>
<th>Radionuclide</th>
<th>Quantity (curies)</th>
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<tbody>
<tr>
<td>Am-241</td>
<td>16</td>
<td>Pm-147</td>
<td>11,000</td>
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<tr>
<td>Am-241:Be</td>
<td>16</td>
<td>Pu-238</td>
<td>16</td>
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<td>Cf-252</td>
<td>5.4</td>
<td>Pu-239:Be</td>
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<td>Cm-244</td>
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<td>Se-75</td>
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<td>Co-60</td>
<td>8.1</td>
<td>Sr-90 (Y-90)</td>
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<td>27</td>
<td>Tm-170</td>
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<td>270</td>
<td>Yb-169</td>
<td>81</td>
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<td>Ir-192</td>
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</table>
Present Status:

- Current IC License Distribution
- 1st Round of Inspections
- 2nd Round of Inspections
1st Round Inspection Outcomes

NRC INFORMATION NOTICE 2007-16 (05/11/07): Common Violations of the Increased Controls Requirements and Related Guidance Documents

“A review of common violations identified during initial inspection of licensees’ IC programs indicated that licensees may not have completely understood the IC requirements or fully reviewed the guidance documents.”
Implementation Challenges:

The increased controls are a matter of compatibility with NRC and must be implemented in a time frame desired by the NRC and with essentially identical content to those being used by NRC for its licensees.

The intent and objective of the increased controls is to enhance existing security and control requirements to reduce the risk of malevolent use of radioactive material quantities of concern. The increased controls cannot prevent 100% of all attempts at theft, sabotage or diversion; however, in total, the increased controls provide multiple layers of control, or a “defense in depth,” that are designed to provide enhancements to mitigate the risk of malevolent uses.
The cost of implementing increased controls was considered during the drafting process. The NRC and Agreement States considered effectiveness, the potential burden on licensees, and costs required of licensees to comply with the increased controls. The increased controls allow for substantial flexibility in meeting the objectives so that licensees can tailor measures to their own specific programs and operations. With appropriate enhancements, existing security, safety, and business practices can adequately address the requirements of the increased controls. Also, the bases for the increased controls are very similar to the requirements of other agencies (e.g., select agent, hazardous material, or explosive material security requirements), which many licensees are already implementing.
Implementation Challenges:

“The adequacy of a licensee’s method to comply with increased controls can only be determined during an on-site inspection.”
The increased controls are **purposely not prescriptive** in order to allow licensees to tailor programs to their specific facility and operations. Various approaches are available to licensees to meet the objectives of the increased controls, and that **there exists no one solution for all licensees**.
Implementation Tool Kit:

http://ncradiation.net/rms/rmsichome.htm

NCRPS
1st Round Outcomes
1st Round Outcomes
Present Status:

2nd Round of Inspections
• 2007 / 2008
• Frequency
• Method
• Expectations
• Recommendations
IC Inspection Frequency:

• Limited federal guidance to date
  • option for “Priority Based Frequency”
• Current NC strategy is all IC licensees are priority
  • standard frequency of 12 months
    • 18 months to be “over-due”

“As Agency Determined” for:
• new IC licensees
• revised licenses
• compliance challenged licensees
• management discretion
2nd Round of Inspections:

• Underway
• May be unannounced (typically courtesy notification given)
  • Same authority as H&S inspections
• All elements of IC-1 through IC-6 fair game
• Scope and duration is dependent on licensee
  • Scope and sophistication of operations
  • Numbers and types of sources
  • Inspection History
• Standard format of reporting and enforcement
  • RSO point of contact
• Field work inspections likely
NOTICE

The U.S. Nuclear Regulatory Commission (NRC) has tasked their staff with developing a plan, in conjunction with the Agreement States, to begin fingerprinting and criminal history record checks for all persons that have access to radioactive materials in Quantities of Concern (i.e., those that are currently determined to be Trustworthy and Reliable pursuant to the Increased Controls). This direction responds to Section 652 of the Energy Policy Act of 2005, which was incorporated into the Atomic Energy Act in Section 149 ([http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr0980/rev1/vol-1-sec-1.pdf](http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr0980/rev1/vol-1-sec-1.pdf)).
New Finger Print Requirement:

“In Process”

• Will most likely follow same roll-out as original orders.
Reference Material:

The Design and Evaluation Of Physical Protection Systems

Mary Lynn Garcia
Expectation: Continuous Improvement

Continuous Improvement

Plan  Do
Act   Check

Standardization
Recommendations:

- Identify Expectations & Stakeholders;
  - Engage, Educate, Share, Prepare
    - Radiation Safety Sub-Committees
    - Plan for needed resources

- Perform Self-Audits
  - “Program Reviews” (standardized documentation)

- Monitor NC RPS and NRC websites

- Develop and document comprehensive programs
  - Document revisions
New (IC) License Applications:

…the process for a license application that is identified to include *quantities of concern* will undergo BOTH the standard (health & safety) licensing process and a concurrent, but separate, Increased Security application assessment (*i.e. two separate application packages will be required*)

(This will take longer than standard license application process)