Presentation to the Drug Testing Advisory Board (HHS/SAMHSA)

Drug Testing at Commercial Nuclear Power Plants and Fuel Facilities

10 CFR Part 26, “Fitness-for-Duty Programs”
“A Direct Contribution to Safety and Security”

December 4, 2018
Disclaimer

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Discussion Topics

• Fitness-for-Duty (FFD) Program Objective
• Individuals covered by the FFD Program
• FFD Program Elements
• Assuring Safety and Security through a Defense-in-Depth Strategy
• FFD Performance
• Industry Activities/Initiatives
FFD Program Objective

Provide reasonable assurance that nuclear power plant personnel are trustworthy, reliable, and not under the influence of any substance, legal or illegal, or mentally or physically impaired from any cause, which in any way adversely affects their ability to safely and competently perform assigned duties or be afforded unescorted access to the protected areas of nuclear power plants, sensitive information, or strategic special nuclear material (SSNM).

An FFD program developed under Part 26 is intended to create an environment which is free of drugs and alcohol, and the effects of such substances.
Individuals Covered by the FFD Program

- Security
- Control Room Operators
- Maintenance & Surveillance (craft & supervisors)
- Health Physics, Chemistry, & Emergency Response
- Construct or Direct the Construction of Reactor Plants
- All other persons who have unescorted access
- FFD Program Personnel*

* FFD Program Personnel include the managers, technicians, collectors, Medical Review Officers, and Substance Abuse Experts who implement the program
Assuring Safety and Security through a Defense-in-Depth Strategy

- People
  - Education, experience, training, qualification, etc.
  - Drug and Alcohol Testing (pre-access, random, for-cause, followup, and post-event)
  - Behavioral Observation
  - Fatigue Management

- Access Requirements (e.g., background checks, fingerprinting, psychological testing)

- Physical Protection (e.g., vehicle barriers, blast walls, blast resistant enclosures, etc.)

- Detection (e.g., cameras, infra-red, motion, explosive vapors, x-ray, etc.)

- Programs for Insider Mitigation, Cyber Protection, and Information Controls
Overall Industry Performance, 2017

[Draft]

148,357 Individuals drug & alcohol tested

1,143 Individuals tested positive for a drug, alcohol, or refused a test
   2/3 identified prior to entering the facility – pre-access testing
   1/3 identified inside the facility – primarily by random testing

0.44% Random positive rate

0.77% Overall positive rate

Observations

• Contractor/vendors still testing 3-4x higher than licensee employees
• Subversion attempts continue to be identified
• FFD program personnel remain the Silent Heroes of our program

• FFD Program Personnel include the managers, technicians, collectors, Medical Review Officers, and Substance Abuse Experts who implement the program
• All results in this presentation are Medical Review Officer verified
### Results by Test and Employment Categories, 2017

#### Licensee Employees

<table>
<thead>
<tr>
<th>Test Category</th>
<th>Tested</th>
<th>Positive</th>
<th>Percent Positive</th>
<th>Tested</th>
<th>Positive</th>
<th>Percent Positive</th>
<th>Total</th>
<th>Positive</th>
<th>Percent Positive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Access</td>
<td>8,513</td>
<td>36</td>
<td>0.42%</td>
<td>71,586</td>
<td>695</td>
<td>0.97%</td>
<td>80,099</td>
<td>731</td>
<td>0.91%</td>
</tr>
<tr>
<td>Random</td>
<td>34,624</td>
<td>48</td>
<td>0.14%</td>
<td>25,100</td>
<td>212</td>
<td>0.84%</td>
<td>59,724</td>
<td>260</td>
<td>0.44%</td>
</tr>
<tr>
<td>For Cause</td>
<td>111</td>
<td>14</td>
<td>12.61%</td>
<td>757</td>
<td>64</td>
<td>8.45%</td>
<td>868</td>
<td>78</td>
<td>8.99%</td>
</tr>
<tr>
<td>Post-Event</td>
<td>136</td>
<td>-</td>
<td>0.00%</td>
<td>492</td>
<td>11</td>
<td>2.24%</td>
<td>628</td>
<td>11</td>
<td>1.75%</td>
</tr>
<tr>
<td>Followup</td>
<td>3,044</td>
<td>13</td>
<td>0.43%</td>
<td>3,994</td>
<td>50</td>
<td>1.25%</td>
<td>7,038</td>
<td>63</td>
<td>0.90%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>46,428</td>
<td>111</td>
<td>0.24%</td>
<td>101,929</td>
<td>1,032</td>
<td>1.01%</td>
<td>148,357</td>
<td>1,143</td>
<td>0.77%</td>
</tr>
</tbody>
</table>

#### Contractor/Vendors (CVs)

<table>
<thead>
<tr>
<th>Test Category</th>
<th>Tested</th>
<th>Positive</th>
<th>Percent Positive</th>
<th>Tested</th>
<th>Positive</th>
<th>Percent Positive</th>
<th>Total</th>
<th>Positive</th>
<th>Percent Positive</th>
</tr>
</thead>
<tbody>
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<td>Pre-Access</td>
<td></td>
<td></td>
<td></td>
<td>80,099</td>
<td>731</td>
<td>0.91%</td>
<td>64.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Random</td>
<td></td>
<td></td>
<td></td>
<td>59,724</td>
<td>260</td>
<td>0.44%</td>
<td>22.7%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>For Cause</td>
<td></td>
<td></td>
<td></td>
<td>868</td>
<td>78</td>
<td>8.99%</td>
<td>6.8%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post-Event</td>
<td></td>
<td></td>
<td></td>
<td>628</td>
<td>11</td>
<td>1.75%</td>
<td>1.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Followup</td>
<td></td>
<td></td>
<td></td>
<td>7,038</td>
<td>63</td>
<td>0.90%</td>
<td>5.5%</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td>148,357</td>
<td>1,143</td>
<td>0.77%</td>
<td>100.0%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Where were the most tests conducted in 2017 (>90% of tests)?

<table>
<thead>
<tr>
<th>Licensee Employees</th>
<th>Contractor/Vendors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-access 18.3%</td>
<td>Pre-access 70.2%</td>
</tr>
<tr>
<td>Random 74.6%</td>
<td>Random 24.6%</td>
</tr>
<tr>
<td>Followup 6.6%</td>
<td>Followup 3.9%</td>
</tr>
<tr>
<td><strong>99.5%</strong></td>
<td><strong>98.8%</strong></td>
</tr>
</tbody>
</table>

#### Where were most drug and alcohol testing violations identified in 2017 (>90% of positives)?

<table>
<thead>
<tr>
<th>Licensee Employees</th>
<th>Contractor/Vendors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre Access 32.4%</td>
<td>Pre-access 67.3%</td>
</tr>
<tr>
<td>Random 43.2%</td>
<td>Random 20.5%</td>
</tr>
<tr>
<td>For Cause 12.6%</td>
<td>For Cause 6.2%</td>
</tr>
<tr>
<td>Followup 11.7%</td>
<td></td>
</tr>
<tr>
<td><strong>100.0%</strong></td>
<td><strong>94.1%</strong></td>
</tr>
</tbody>
</table>
Since at least 2014, this chart under reports the substances used by individuals with a drug testing violation. This is because of the high number of subversion attempts each year, and because in at least 60% of these subversion attempts, no specimens were tested.
Results by Employment Category, 2017

Licensee Employees
(46,428 tested; 111 individuals positive)

- Alcohol: 35.3%
- Marijuana: 34.5%
- Cocaine: 11.8%
- Amphetamines: 13.4%
- Refusal to Test: 2.5%

Contractors/Vendors
(101,929 tested; 1,032 individuals positive)

- Alcohol: 16.4%
- Marijuana: 39.9%
- Cocaine: 12.3%
- Amphetamines: 10.8%
- Refusal to Test: 19.2%

Other: 1.7% Opiates: 0.8% PCP: 0.1%
## Additional Substance Test Results, 2011-2017

The 31 test results in this table reflect positive results for 24 individuals. That is, some individuals tested positive for more than one of the substances in the same testing event.

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzodiazepines</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Buprenorphine</td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td>1</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Fentanyl</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Hydrocodone</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Hydromorphone</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td>1</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Methadone</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td>1</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Norbuprenorphine</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Oxycodone</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Oxymorphone</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Propoxyphene</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Tramadol</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>2</td>
<td>6</td>
<td>4</td>
<td>7</td>
<td>7</td>
<td>1</td>
<td>4</td>
<td>31</td>
</tr>
</tbody>
</table>
66% of individuals (16 of 24) tested positive on for-cause testing
25% of individuals (6 of 24) tested positive for one or more of the semi-synthetic opiates in the updated HHS Guidelines (i.e., hydrocodone, hydromorphone, oxycodone, oxymorphone)
57% of individuals that tested positive for an additional substance, also tested positive for a substance in the NRC-required testing panel (i.e., amphetamine, methamphetamine, cocaine, marijuana)
Subversion attempt – any willful act or attempted act to cheat on a required test (e.g., refuse to provide a specimen, alter a specimen with an adulterant, provide a specimen that is not from the donor’s body)

Sanction for a subversion attempt: Permanent denial of unescorted access (10 CFR 26.75)

Subversion Attempt Trends

- 2012 – 177 of 1,114 violations (15.8% subversions)
- 2013 – 148 of 1,007 violations (14.7% subversions)
- 2014 – 187 of 1,133 violations (16.5% subversions)
- 2015 – 232 of 1,200 violations (19.3% subversions)
- 2016 – 304 of 1,164 violations (26.1% subversions)
- 2017 – 298 of 1,143 violations (26.1% subversions)

Subversion Attempts in 2017

- 45 facilities with at least 1 subversion attempt
- 67% identified at Pre-Access testing (200 of 298)
- 98% by contractor/vendors
Industry Activities/Initiatives

- Oral fluid testing
- Expanded panel testing
- Auditing of HHS-certified laboratories
- Background checks and true identity determinations
U.S. Nuclear Regulatory Commission
Office of Nuclear Security and Incident Response

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