



Summary of Fitness for Duty Program Performance Reports for Calendar Year 2012

PURPOSE

The U.S. Nuclear Regulatory Commission (NRC) provides the following fitness for duty (FFD) program performance summary to inform interested members of the public and stakeholders on the drug and alcohol (D&A) testing performance of the commercial nuclear industry for calendar year (CY) 2012. The information presented in this report was developed from FFD program performance reports submitted by licensees and other affected entities in accordance with Section 26.717 of Title 10 of the *Code of Federal Regulations* (10 CFR) Part 26, "Fitness for Duty Programs" (Part 26). The enclosed ["Detailed Data Analysis"](#) contains detailed information on testing results, associated site- and event-specific descriptions, and data presentations in both graphical and tabular formats.

BACKGROUND

On June 7, 1989, the NRC issued regulations to require licensees authorized to construct or operate nuclear power reactors to provide reasonable assurance that plant personnel are reliable, trustworthy, and not under the influence of any substance, legal or illegal, or mentally or physically impaired from any cause that in any way affected their ability to safely and competently perform their duties. These regulations required licensees to establish D&A testing programs and report test results to the NRC. On March 31, 2008, the NRC amended these requirements to, in part, strengthen the D&A testing requirements and broaden the scope of D&A testing to other NRC licensees (e.g., owner operators of uranium fuel fabrication facilities) and to persons who perform safety- or security-significant activities within the protected areas of these sites. This final rule, published in the *Federal Register* (FR) (73 FR 16966), became effective on April 30, 2008.

Disclaimer

The information in this report is provided as a public service, is solely for informational purposes, and is not, nor should be deemed as, an official NRC position, opinion, guidance, or "a written interpretation by the General Counsel" under 10 CFR 26.7, "Interpretations," on any matter to which the information may relate. The opinions, representations, positions, interpretations, best practices, or recommendations that may be expressed by the NRC technical staff in this document are solely their own and do not necessarily represent those of the NRC. Accordingly, the fact that the information was obtained through the NRC technical staff will not have a precedential effect in any legal or regulatory proceeding. Readers should take care in reaching conclusions based on individual interpretations of the illustrated or tabulated data, because the report may not provide site- or event-specific information to help inform a conclusion.

The FFD program performance reports submitted by each licensee and other entity are available to the public through the NRC's Agencywide Documents Access and Management System (ADAMS) on the NRC Web site at <http://www.nrc.gov/reading-rm.html>. Prior-year NRC reports summarizing the FFD program performance of the industry also can be viewed on the NRC's FFD Web site at <http://www.nrc.gov/reactors/operating/ops-experience/fitness-for-duty-programs/performance-reports.html>.

DISCUSSION

1. Uses

This report informs the public on an annual basis about the performance of the commercial nuclear power industry in detecting and deterring illicit drug use and alcohol misuse at licensed facilities. This use is consistent with the Commission's Operational Excellence objective¹ to appropriately inform and involve stakeholders and the public in the regulatory process.

Licensees and other affected entities may use the information in this report, and the enclosed "[Detailed Data Analysis](#)," to make process improvements and/or take corrective actions, as appropriate, and to enhance FFD program effectiveness. Suggestions contained in this report are not NRC requirements, and no specific action or written response is required to address this report.

The NRC staff uses this report to inform the inspection process conducted under NRC Inspection Manual Chapter (IMC) 2201, "Security Inspection Program for Commercial Nuclear Power Reactors"; IMC 2681, "Physical Protection and Transport of SNM and Irradiated Fuel Inspection of Fuel Facilities"; and IMC 2504, "Construction Inspection Program - Inspection of Construction and Operational Programs." Of these chapters, only IMC 2504 is publicly available (as ADAMS Accession No. ML12298A106).

2. Public Comment

The NRC welcomes comments on this report, which may be provided in written form to the NRC at the following address:

U.S. Nuclear Regulatory Commission
ATTN: Melissa Ralph, Security Specialist
Mail Stop: 3WFN-08C64
Washington, DC 20555-0001

3. Electronic Reporting of FFD Performance Information

In 2009, the NRC staff coordinated with representatives from licensees and other affected entities to implement an electronic reporting (e-reporting) method to simplify reporting of FFD data and enable reporting of additional voluntary information to the NRC. The e-reporting system aids in the evaluation of D&A testing performance. The detailed observations presented in the enclosed "[Detailed Data Analysis](#)" are possible only because of the NRC-industry initiative to electronically report FFD performance information. The NRC continues to work with industry representatives to enable use of the e-reporting system by all affected entities.

¹ See NRC "Strategic Plan, Fiscal Years 2008–2013 (Updated)," NUREG-1614, Vol. 5, February 2012.

The FFD electronic forms (e-forms) used by licensees and other entities subject to Part 26 to report FFD performance data to the NRC are publicly available on the NRC website <http://www.nrc.gov/reactors/operating/ops-experience/fitness-for-duty-programs/submit-ffd-reports.html>. The NRC periodically updates the Annual Reporting Form and Single Positive Test Form to incorporate user feedback, recommendations, and lessons learned; to improve form instructions, function, and logic; to simplify the reporting process; and to improve the accuracy and clarity of information provided. Updated forms are posted to the NRC website when they are finalized.

The use of e-reporting has steadily increased from the first year of system use in CY 2009. In CY 2012, 88 percent of FFD programs (67 of 76) used the voluntary FFD e-reporting system. The table below displays the use of the e-reporting system in CY 2012.

E-Reporting System Use (CYs 2009–2012)

Calendar Year	2009	2010	2011	2012
Number of Tests	46,162	111,248	141,234	157,528
Number Positive	290	684	918	1,003
Percent of FFD Programs Using System	25%	69%	80%	88%
Number of FFD Programs Using System	19	51	61	67

Licensees and other entities that do not use the NRC’s FFD e-reporting system submit a hardcopy performance report to meet the annual information reporting requirements in 10 CFR 26.717. This report and the enclosed [“Detailed Data Analysis”](#) were developed using both hard copy and e-reported FFD data.

4. Licensee FFD Performance in CY 2012

In CY 2012, the NRC received FFD program performance information from a total of 76 licensees and other affected entities (also referred to as “FFD programs,” “facilities,” or “sites” in this report), listed below:

- 64 operating reactor sites
- 2 reactor construction sites (V.C. Summer Units 2 and 3; Vogtle Units 3 and 4)
- 1 formerly operating reactor site (Zion²)
- 6 corporate FFD program offices (some utilities with multiple reactor sites administer their FFD programs at locations other than the reactor sites and report data for these administrative FFD personnel separately)
- 3 Contractor/Vendor (C/V) and strategic special nuclear material transporter FFD programs (Babcock & Wilcox Nuclear Operations Group; Institute of Nuclear Power Operations; Nuclear Fuel Services, Inc.)

² The Zion facility is in SAFESTOR. SAFESTOR is a method of decommissioning in which a nuclear facility is placed and kept in a condition that allows the facility to be safely stored and subsequently decontaminated (deferred decontamination) to levels that permit release for unrestricted use.

The total number of tests conducted in CY 2012 was the largest since 1993. In CY 2012, industry conducted 179,135 D&A tests, resulting in an industry positive rate of 0.62 percent for illicit drug use, alcohol misuse, and testing refusals. In comparison to CY 2011, random tests increased by 3 percent (2,165), post-event tests by 10 percent (81), and followup tests by 12 percent (845). Pre-access tests and for-cause³ tests decreased by 2 percent (-2,410) and 15 percent (-131), respectively.

In all test categories, C/Vs continue to test positive at a higher rate than licensee employees (see [Chart 5](#), [Chart 6](#), and [Chart 7](#) in the enclosure). C/Vs tested positive at a rate of 0.79 percent and licensee employees at a rate of 0.23 percent; this 3-to-1 ratio has been consistent since 1993.

Marijuana, alcohol, and cocaine continued to be the abused substances of choice and accounted for 82 percent of positive test results in CY 2012, a decline from 90 percent in CY 2011 and 95% in CY 2009.

Abuse Substances of Choice

Substance	2009	2012	Change
Marijuana	52%	49%	- 3%
Alcohol	27%	22%	- 5%
Cocaine	16%	12%	- 4%
Total	95%	82%	- 13%

A significant observation in CY 2011 was the increasing share of amphetamine positive test results. In CY 2011, amphetamines accounted for 7.56 percent of all positive test results, up from 5.28 percent in CY 2010, and 3.62 percent in CY 2009. In CY 2012, amphetamines comprised 5.48 percent of all positive test results. Although lower than the CY 2011 share, the CY 2012 share remains high compared to prior years (see [Table A-3](#) in the enclosure).

The pre-access testing positive rate for the industry was 0.76 percent. Pre-access testing continued to account for a large percentage of positive test results (69 percent of all positive test results in CY 2012). This trend is consistent with that observed in previous years. The random testing positive rate for the industry was 0.30 percent in CY 2012. This is approximately the same positive rate as in CY 2011 and CY 2010 (0.31 percent).

The for-cause testing positive rate for the industry was 11.88 percent in CY 2012; approximately 1 in every 8 persons tested for-cause was positive for an illicit drug or alcohol. While higher than the CY 2011 and CY 2010 rates (see [Table 8](#) and [Table A-2](#) in the enclosure), the CY 2012 for-cause positive rate remains lower than the average across all years of testing (15.34 percent). This lower-than-average positive rate can be partially attributed to a high number of for-cause tests with negative results. For example, Vogtle Units 3 and 4, conducted 204 for-cause tests in CY 2012, with 12 positive results. The facility with the next largest number of for-cause tests was E.I. Hatch, with 37 for-cause tests conducted and 2 positive results.

³ Although the term “for cause” is not hyphenated in 10 CFR Part 26, hyphens have been added in this report for clarity and grammatical accuracy.

Eight of the 76 FFD programs used more stringent cutoff levels for drugs, such as marijuana and cocaine, or expanded their drug testing panels to include other controlled substances, including barbiturates, benzodiazepines, buprenorphine, hydrocodone, hydromorphone, Ecstasy drugs (methylenedioxyamphetamine, methylenedioxymethamphetamine, and methylenedioxyethylamphetamine), meperidine, methadone, methaqualone, oxycodone, oxymorphone, propoxyphene, and tramadol.

Licensees and other entities reported six events associated with specimen testing at licensee testing facilities or laboratories certified by the U.S. Department of Health and Human Services. These events involved equipment malfunctions, human errors, and issues associated with blind performance test samples (BPTs). Four of the six events were associated with BPTs.

Licensees and other entities also reported 35 events requiring a 24-hour event report to the NRC Operations Center under 10 CFR 26.719(b), as a result of individual employee violations of FFD program requirements or other FFD programmatic deficiencies (see [Section 2](#) of the enclosure). Twenty-six of these events were associated with supervisors testing positive for an illicit drug or alcohol or with one person who subverted the FFD process and one person who intentionally failed to follow FFD procedures. Six events involved NRC-licensed operators.

CONCLUSION

The annual FFD program performance reports submitted to the NRC inform the agency, the public, and stakeholders of the industry's FFD performance and demonstrate a commitment to public health and safety and the common defense and security. The industry further demonstrates commitment by providing detailed descriptions of FFD-related events and issues. The majority of the industry also voluntarily uses the e-reporting system, which the NRC developed in coordination with the industry to meet the requirements of 10 CFR 26.11, "Communications," and 10 CFR 26.717. This openness and transparency contributes to the common goal of enhancing safety and security by sharing lessons learned and implementing corrective actions. These outcomes help provide reasonable assurance that persons who perform safety- or security-significant activities, or who have unescorted access to certain NRC-licensed facilities, information, or material, are fit for duty.

Enclosure: Detailed Data Analysis

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Enclosure: Detailed Data Analysis

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Detailed Data Analysis

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Section 1 Detailed Data Analysis Summary

Section 1 presents summary observations on the drug and alcohol testing information for calendar year (CY) 2012 that is contained in this report.¹ Please consult the cited table(s) and chart(s) associated with each observation for additional information.

- The industry performed a total of 179 tests, which included 135 drug and alcohol (D&A) tests. The total number of tests performed has steadily increased each year since 2003. ([Table 8](#))
- Approximately 69 percent of all positive test results occurred during pre-access testing (i.e., a significant percentage of illicit drug use and alcohol misuse is identified before a licensee ever allows a person unescorted access to a U.S. Nuclear Regulatory Commission (NRC)-licensed facility).
- The industry positive rate for all tests conducted is 0.62 percent. The industry positive rate has steadily declined since from a high of 1.09 percent in 2000. ([Table 4](#), [Table 8](#), and [Table A-2](#))
- The industry positive rate for random tests in CY 2012 was 0.30 percent. The random testing positive rate has remained low since required testing began in 1990 (fluctuating between a low of 0.23 percent as recently as 2008 and a high of 0.39 percent in 2000). ([Table 4](#), [Table 8](#), and [Table A-2](#))
- The industry positive rates for each employment category for all tests performed are provided in [Table 5](#).
 - licensee employees: 0.23 percent
 - contractor/vendors (C/Vs): 0.79 percent
- C/Vs continued to have higher positive test rates than licensee employees. This pattern is consistent across testing years and test types. Since 1993, C/Vs have had an overall positive test rate that is, on average, 3.7 times greater than that of licensee employees. ([Chart 5](#), [Chart 6](#), [Chart 7](#), [Table A-5](#), [Table A-6](#), and [Table A-7](#))
- Industry positive rates are relatively low (less than 1 percent) for pre-access and random testing, but the range of percent positive per site is rather large (see below). Again, the data indicate that C/Vs test positive at a much higher rate than licensee employees. ([Table 9](#))

¹ In SECY-04-0191, "Withholding Sensitive Unclassified Information Concerning Nuclear Power Reactors from Public Disclosure," issued October 2004 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML042310663), the NRC described guidance for designating sensitive unclassified non-safeguards information relating to nuclear power reactors. The NRC applied this guidance to information in this report, in part, to prevent persons from subverting the effectiveness of the D&A testing provisions in Title 10 of the *Code of Federal Regulations* (10 CFR) Part 26, "Fitness for Duty Programs."

- Pre-access testing positive rates ([Chart 18](#)):
 - licensee employees: 0.27 percent
The positive-rate range² for the industry was from 0 to 4 percent.
 - C/Vs: 0.81 percent
The positive-rate range for the industry was from 0 to 3.57 percent.
- Random testing positive rates ([Chart 9](#)):
 - licensee employees: 0.16 percent
The positive-rate range for the industry was from 0 to 0.75 percent.
 - C/Vs: 0.50 percent
The positive-rate range for the industry was from 0 to 1.67 percent.
- Marijuana³, alcohol, and cocaine⁴ accounted for a significant percentage of positive test results in each employment category. ([Table 6](#))
 - licensee employees: marijuana, 26 percent; alcohol, 55 percent; cocaine, 10 percent
 - C/Vs: marijuana, 51 percent; alcohol, 18 percent; cocaine, 12 percent
- Three substances (marijuana, alcohol, and cocaine) continued to account for more than 80 percent of substances identified in each testing year. ([Chart 4](#) and [Table A-3](#))
 - marijuana, 47 percent of substances in 1990; 49 percent in 2012
 - alcohol, 19 percent of substances in 1990; 22 percent in 2012
 - cocaine, 29 percent of substances in 1990; 12 percent in 2012.
- In CY 2012, amphetamines⁵ comprised 5.48 percent of all positive test results. Although lower than the CY 2011 share, the CY 2012 share remains high compared to prior years ([Table A-3](#)).
- For-cause⁶ testing accounted for the highest industry positive rate at 11.88 percent ([Table 4](#)), which is expected because this test type is only conducted when signs of impairment are observed or information about illicit drug use or alcohol misuse

² The positive-rate range is across all facilities and indicates the lowest and the highest positive rates reported in CY 2012. These values do not directly correlate to performance.

³ Regulations in 10 CFR Part 26 require that licensees and other entities test for marijuana metabolites for initial testing and delta-9-tetrahydrocannabinol-9-carboxylic acid (THCA) for confirmatory testing.

⁴ Part 26 requires that licensees and other entities test for cocaine metabolites for initial testing and the cocaine metabolite benzoylecgonine for confirmatory testing.

⁵ Part 26 tests for amphetamines on initial testing and adds methamphetamines on confirmatory testing.

⁶ Although the term “for cause” is not hyphenated in 10 CFR Part 26, hyphens have been added in this report for clarity and grammatical accuracy.

is received. Beginning with use of the e-reporting system by some licensees and other entities in CY 2009, it became clear that some facilities incorrectly reported tests associated with subversion attempts; this presents a challenge to year-to-year trend analysis for years before e-reporting began. With improvements in the single positive test form (SPTF) in CY 2010 on subversion reporting and guidance issued to industry by the NRC, the uniformity of data collected for for-cause testing continues to improve. ([Chart 7](#) and [Table A-7](#))

- In 2012, a relatively high number of for-cause tests were conducted with negative results. The NRC staff acknowledges that human performance assessments are intrinsically very difficult and recognizes the uncertainty in assessing human behavior to determine whether or not an individual should be subjected to a for-cause drug or alcohol test. An individual's behavior can either be qualitatively assessed (such as by observation or information review) or quantitatively assessed (such as by expert analysis of drug or alcohol test results) to make this determination. The NRC staff notes that to achieve an effective for-cause testing program, the for-cause positive testing rate should not be:
 - too low, which might increase the possibility of individual harassment or an adverse impact on the work environment (e.g., testing of individuals that do not exhibit signs of impairment or where credible information has not been received on current substance abuse)
 - too high, such that random and post-event tests are overly relied on to identify persons unfit for duty, reducing the defense in depth afforded by the NRC's fitness for duty (FFD) requirements
- Subversion attempts accounted for 15.9 percent of the 1,003 positive test events, including testing refusals, reported through the e-reporting system in CY 2012. According to the e-reported data, subversion attempts (159) were the third most common outcome of a testing event in CY 2012, following marijuana positives (518) and alcohol positives (226). The subversion map in [Figure 1](#) presents a detailed evaluation of when and how individuals attempted to subvert the FFD testing process and when and how licensees and other entities determined that a subversion attempt had occurred. This year is the first time that the NRC has been able to present this sophisticated analysis of subversion attempt events and is only possible as a result of voluntary e-reporting by industry.
- According to e-reported data, twenty-eight (28) percent of alcohol positives in CY 2012 were associated with a blood alcohol content (BAC) level below 0.04 (i.e., the 2008 FFD final rule change regarding time dependent alcohol cutoff level resulted in a significant increase in alcohol detection). A change to the e-reporting form permitted the NRC to collect data on the BAC level of each alcohol testing violation. ([Chart 23](#) and [Chart 24](#))

- Sixty-six (66) of the 76 facilities⁷ reported implementing the NRC’s optional drug testing policy to conduct “limit-of-detection”⁸ (LOD) testing of “dilute”⁹ specimens.
 - In CY 2012, 14 facilities reported conducting LOD testing on 548 dilute specimens, with 10 positive results (i.e., a 1.8-percent positive rate for LOD testing, which is 2.9 times higher than the overall industry positive rate for all tests conducted in CY 2012).

⁷ The following licensees and other entities either did not report information on an LOD testing policy or reported that they did not conduct LOD testing: Duke Energy (Catawba, Corporate Office, McGuire, Oconee); NextEra Energy (Point Beach, Seabrook, St. Lucie, Turkey Point), NFS, and Zion.

⁸ “Limit of detection” is the lowest concentration of an analyte that a laboratory analytical procedure can reliably detect (see 10 CFR 26.5, “Definitions”). The LOD depends on specimen preparation, test equipment, procedures, and technician expertise.

⁹ “Dilute,” as used in this sentence, is a laboratory determination based on creatinine and specific gravity concentrations that are lower than expected for human urine (see 10 CFR 26.5).

Section 2 Licensee or Other Entity Reportable Events

Licensees or other entities reported 35 events related to FFD involving individual employee violations or other programmatic issues to the NRC Operations Center under Title 10 of the *Code of Federal Regulations* (10 CFR) 26.719, “Reporting Requirements” (i.e., 24-hour event reports). [Table 1](#) presents information collected from a variety of sources (i.e., FFD program performance reports—hardcopy, SPTF, and annual reporting form (ARF)—and 24-hour event reports available at the NRC Event Notification Report Web site, <http://www.nrc.gov/reading-rm/doc-collections/event-status/event/>).

**Table 1
Reportable Events Resulting from Individual Employee Violations**

Test Type	Facility	Employment Type	Labor Category	Substance
Pre-Access	Babcock & Wilcox	Employee	Supervisor	Alcohol
	Palo Verde	C/V	Supervisor	Cocaine
Random	Browns Ferry	Employee	Licensed Operator	Alcohol
	Calvert Cliffs	Employee	Supervisor	Alcohol
	Dresden	C/V	Supervisor	Cocaine
	Fort Calhoun	Employee	Supervisor	Cocaine
	Kewaunee	Employee	Licensed Operator	Alcohol
	Limerick	Employee	Licensed Operator	Alcohol
	Nine Mile Point	C/V	FFD Program Personnel	Refusal to Test
	St. Lucie	C/V	Supervisor	Alcohol
	Sequoyah	C/V	Supervisor	Alcohol
	Turkey Point	C/V	Supervisor	Alcohol
		C/V	Supervisor	Amphetamines
		C/V	Supervisor	Cocaine
		C/V	Supervisor	Cocaine
	Waterford	Employee	Licensed Operator	Alcohol
Employee		Supervisor	Alcohol	
For Cause	Browns Ferry	C/V	Supervisor	Alcohol
	Byron	Employee	Engineering ¹¹	Alcohol
	Fermi 2	Employee	Supervisor	Alcohol
	Nine Mile Point	C/V	Supervisor	Alcohol
	Point Beach	Employee	Licensed Operator (Supervisor)	Alcohol
	V.C. Summer 2&3	C/V	Supervisor	Alcohol
	Vermont Yankee	Employee	Supervisor	Alcohol

¹¹ The licensee reported as 24-hour event because of the high BAC level for the individual, which strongly suggested consumption of alcohol within the protected area (PA). Alcohol was identified in the individual’s automobile, but not in the PA.

Test Type	Facility	Employment Type	Labor Category	Substance
Followup	Grand Gulf	Employee	Supervisor	Cocaine
	Quad Cities	Employee	Supervisor	Alcohol
	Vogle 3&4	Employee	Supervisor	Alcohol
N/A*	Braidwood	N/A	N/A	Contraband concealed above locker room ceiling tiles discovered during renovations)
	Crystal River	C/V	Supervisor	Prohibited substance (methadone) identified during random search performed before entry into the protected area (PA) ¹²
	Dresden	Not specified	Licensed Operator	Undisclosed in 24-hour report
N/A (continued)	Shearon Harris	C/V	Supervisor	Use of another individual's prescription controlled substances, failure to report medication use to supervisor, and controlled substances in the PA not in properly labeled containers
		Employee	Supervisor	Possession of narcotics in the PA not prescribed to the individual and not in properly labeled containers; failure to report medication use to supervisor
	V.C. Summer 2&3	C/V	Supervisor	Undisclosed in 24-hour report
	Vogle 3&4	C/V	Supervisor	Construction site C/V program manager intentionally failed to implement a procedure change as instructed by management and was determined not to be trustworthy and reliable
N/A		N/A	The construction site C/V identified anomalies in the random testing pool (i.e., some personnel with active badges were not included in the testing pool). Inconsistencies were noted for an extended period of time.	

*"N/A" = "Not applicable."

¹² See 10 CFR 26.5 for a definition.

Section 3 Reportable Occurrences Regarding Certified Laboratories

Section 3 summarizes, in [Table 2](#), licensee and other entity reports on the performance of licensee testing facilities (LTFs) and U.S. Department of Health and Human Services (HHS)-certified laboratories. Performance issues might involve errors in technique, methodologies, quality control (QC), or urine specimen processing. To meet the reporting requirement of 10 CFR 26.719(c), the licensee or other entity submits a report to the NRC (called a “30-day report”) describing the issue and corrective actions taken or planned. If applicable, the Agencywide Documents Access and Management System (ADAMS) accession number (beginning with “ML”) of the 30-day report is cited in [Table 2](#).

Four of six errors reported in CY 2012 were associated with the preparation or laboratory testing of blind performance test samples (BPTSs).

Table 2
Laboratory Testing Performance Issues¹³

Facility	Issue	Performance Issue Summary	Cause(s) of Issue	Corrective Action
Callaway	BPTS: Incorrect result	<p>A BPTS formulated by Protox Services did not yield the expected result.</p> <p>The specimen was formulated to return a “substituted” test result.</p> <p>The HHS-certified laboratory (Quest Diagnostics, Lenexa) reported the result as “substituted” and as “invalid” because the specimen had a pH greater than 9.</p> <p>ADAMS Accession NO. ML12265A030 (letter: 09/20/2012)</p>	<p>The BPTS supplier used tap water to create the substituted specimen. The low ionic content of the specimen appeared to be subject to labile pH readings depending on the instrument used to measure pH (i.e., an analyzer (colorimetric) or pH meter).</p> <p>The HHS-certified laboratory, Clinical Reference Laboratory (CRL), that certified the BPTS lot used a colorimetric screening method to measure pH and verified it at 7. Based on the unexpected result, the BPTS supplier requested that CRL use a pH meter to test a sample with a pH of 7 using the colorimetric test. The pH meter result was 9. Through additional testing the BPTS supplier confirmed that the pH of tap water in area was 9.</p> <p>Another HHS-certified laboratory tested a sample from the same BPTS lot and reported the pH readings of 6.5 (colorimeter) and 8.6 (pH meter).</p>	<ol style="list-style-type: none"> 1. The BPTS supplier will continue to work with the HHS-certified laboratory (CRL) to determine why the colorimetric and pH meter measurements were producing different results. 2. Quest Laboratories confirmed through additional testing that its colorimetric analyzer was providing consistent and accurate readings. 3. Quest Laboratories recommended that the BPTS supplier consider adding buffer salt to improve the stability of BPTS pH.

¹³ The licensee or other entity determined the “cause(s) of issue” and “corrective actions” presented in this table. This report does not evaluate the effectiveness or accuracy of these determinations.

Facility	Issue	Performance Issue Summary	Cause(s) of Issue	Corrective Action
Diablo Canyon	BPTS: Incorrect result	<p>A BPTS tested by the HHS-certified laboratory (LabCorp) did not yield the expected result.</p> <p>The specimen was formulated to be positive for the marijuana metabolite THCA.</p> <p>The laboratory reported the result as “negative.”</p> <p>ADAMS Accession No. ML123200436 (letter:11/15/2012)</p>	<p>The licensee informed LabCorp of the incorrect result and the specimen was retested. The retest confirmed that the specimen was positive for THCA at a concentration of 101 nanograms per milliliter.</p> <p>The responsible person at the laboratory stated that, because the initial sample was the only specimen in the THCA batch, an aliquotting issue is a possibility as the source of the initial negative result.</p>	<p>No specific corrective actions were included in the 30-day report. The report included the statement that “appropriate corrective action is being taken by the laboratory.”</p>
Joseph Farley	BPTS: Incorrect result	<p>A BPTS formulated by EISohly Laboratories did not yield the expected results.</p> <p>The specimen was formulated to return an “adulterated” test result for nitrates.</p> <p>The LTF reported the specimen with an initial abnormal (positive) nitrate validity test result.</p> <p>The HHS-certified laboratory (ALERE Toxicology Services) reported the specimen as drug negative and valid.</p> <p>ADAMS Accession No. ML12117A016 (letter:04/25/2012)</p>	<p>The licensee notified ALERE of the inconsistent test results. The laboratory reanalyzed the specimen obtained the correct “adulterated” test result for nitrates.</p> <p>The cause was determined to be a human performance error at the HHS-certified laboratory. The testing technician and certifying scientist failed to apply a dilution factor to the test results. Had the correct process been followed, a very high nitrates level would have been reported.</p>	<ol style="list-style-type: none"> 1. The testing technician and certifying scientist were counseled on the “severity” of the testing error. Each was required to sign an internal memorandum that was reviewed by the laboratory Quality Assurance/Quality Control Officer, supervisor of the individuals, production manager, laboratory-responsible person, and laboratory director. 2. ALERE retrained all testing technicians and certifying scientists on performance of dilutions on the initial/confirmatory test results. The instruments do not automatically calculate results and these calculations are required. 3. For 30 days, the licensee submitted an increased number of BPTs to ALERE for testing. No problems were identified. 4. The licensee’s toxicologist reviewed the laboratory investigation and visited the laboratory to confirm the corrective actions implemented were sufficient to prevent recurrence of the issue.

Facility	Issue	Performance Issue Summary	Cause(s) of Issue	Corrective Action
Salem/ Hope Creek	BPTS: Incorrect result	<p>A BPTS formulated as “negative” and “dilute” did not yield the expected result.</p> <p>The HHS-certified laboratory (DRUGSCAN) reported the specimen test result as “negative.”</p> <p>ADAMS Accession No. ML12339A005 (letter:11/30/2012)</p>	<p>The laboratory investigation determined that the incorrect result was caused by a human performance error.</p> <p>Specific-gravity results are routinely transmitted by electronic means to the laboratory computer system and the results are automatically interpreted and reviewed by the certifying scientist. Because of Hurricane Sandy, the laboratory had been operating on generator power. When the power was returned to the laboratory, the specific-gravity results did not automatically transmit to the computer system and manual entry was necessary.</p> <p>The certifying scientist entered an incorrect specific-gravity value into the system and violated the laboratory standard operating procedure by reviewing her own manual entry. The established procedure is for a second person to review any manual entries.</p>	<ol style="list-style-type: none"> 1. An Investigation/Corrective Action/Preventive Action Plan was documented by the HHS-certified laboratory. 2. The certifying scientist was retrained in applicable laboratory protocols. 3. Four additional “negative” and “dilute” BPTSs were submitted to DRUGSCAN. All results were reported correctly.
South Texas Project	Medical Review Officer (MRO) Error	<p>The MRO misinterpreted an opiate drug test result and unescorted access was granted for three days before the issue was corrected. (Note: The individual did not enter the protected or vital areas during the period.)</p> <p>Three days after the original result determination, the MRO consulted an MRO handbook and determined that the donor’s prescribed medication could not have explained the opiate test result. The result was changed to a confirmed positive and access was revoked.</p> <p>ADAMS Accession No. ML123380431</p>	<p>The MRO made the initial result determination while working from home and did not have available the necessary resources to evaluate the prescription medication the individual indicated reported taking.</p> <p>The MRO consulted additional resources on returning to the office and determined the semi-synthetic opiate prescription could not have resulted in the positive test result.</p> <p>The licensee did not provide the MRO with the necessary resources to consult for decisionmaking when working from home.</p>	<ol style="list-style-type: none"> 1. The MRO was counseled on communicating concerns in a timely manner regarding test-result decisionmaking. 2. The MRO was provided with an MRO handbook for home use. 3. The MRO received training on use of the licensee’s human performance error reduction tools, which included questioning attitude, self-checking, and peer-checking.

Facility	Issue	Performance Issue Summary	Cause(s) of Issue	Corrective Action
		(letter:11/07/2012)		
Vogtle Units 1 & 2	Error in Test Result Reporting	<p>In April 2012, the HHS-certified laboratory (LabCorp) reported incorrect confirmatory test results for a specific opiate drug.</p> <p>The laboratory reported a confirmatory test result for morphine at a very high concentration (greater than 20,000 ng/mL).</p> <p>The site MRO identified the possibility of an error during the donor interview process because the test result was not consistent with the individual's prescription medication history (Tylenol #3).</p> <p>The laboratory reanalyzed the specimen and issued a revised test result report. The revised result correlated with the individual's valid prescription medication use.</p>	<p>LabCorp initiated an investigation and determined that a human performance error by the extraction technologist caused the incorrect result to be reported.</p> <p>According to LabCorp, "Records indicated that an error occurred during the extraction process; specifically, the extraction technologist failed to positively identify some of the samples during one of the transfer steps of the extraction procedure."</p> <p>The LabCorp Responsible Person indicated that the procedure required multiple steps to ensure that specimens are positively identified with the donor. The extraction technologist failed to follow the correct specimen processing procedures.</p>	<ol style="list-style-type: none"> 1. As an immediate corrective action, for a 30-day period, additional blind specimens were sent with every shipment submitted by each Southern Nuclear facility using this HHS-certified laboratory. 2. At the end of the 30-day period, a forensic toxicologist reviewed all corrective actions, the error event documentation, and the investigation report. Approval to resume regular operations and processes with the HHS-Certified laboratory was authorized. 3. LabCorp took steps to re-educate all extraction technologists "stressing the importance of maintaining positive identification throughout the extraction process."

Section 4 Program and System Management

The drug testing cutoff levels are provided in 10 CFR 26.133 and 26.163, both entitled “Cutoff Levels for Drugs and Drug Metabolites.” Some licensees or other entities elected to use lower drug testing cutoff levels during the reporting period, as authorized by 10 CFR 26.31(d). The confirmatory BAC percentage considered a positive test result is provided in 10 CFR 26.103, “Determining a Confirmed Positive Test Result for Alcohol.” The current rule also includes time-dependent alcohol testing cutoff levels and does not allow licensees or other entities to lower the cutoffs when conducting NRC-required alcohol tests or applying NRC-required sanctions under 10 CFR 26.75, “Sanctions”; however, for followup testing, licensees and other entities are required to determine whether the affected individual has abstained¹⁴ from D&A use. Furthermore, some licensees or other entities have established “corporate” or “employment” D&A limits to screen applicants before employment or for use during followup testing. The lowering of D&A cutoff levels, LOD testing, or testing for additional substances are powerful means to identify illicit D&A use and enhance deterrence.

Alcohol Testing

In CY 2012, one facility used a lower alcohol testing cutoff level than permitted by rule for pre-access and followup testing (BAC of 0.02). It appears that the facility sanctions under its own authority if an individual tests positive at a BAC below the NRC cutoff level.

Drug Testing (lowering drug cutoff levels, LOD testing, and testing for additional substances)

Lowering Drug Cutoffs

In CY 2012, four facilities used lower marijuana testing cutoff levels and two facilities used lower opiate¹⁵ testing cutoff levels.

LOD Testing, 10 CFR 26.163(a)(2)

In CY 2012, 89 percent of facilities (68 of 76) reported implementing an LOD testing policy, as permitted by 10 CFR 26.163(a)(2). Although not required, the majority of licensees and other entities have implemented an LOD testing policy. This demonstrates a strong commitment to identifying illicit drug use, which, in turn, increases the likelihood that authorized personnel are fit for duty and that persons determined to be unfit for duty are subject to the sanctions and actions prescribed in 10 CFR 26.75, “Sanctions,” and 10 CFR 26.77, “Management Actions Regarding Possible Impairment,” respectively, and are afforded employee assistance, if applicable.

¹⁴ As described in 10 CFR 26.31(c)(4), a followup test verifies an individual’s continued abstinence from substance abuse. This type of testing, required by 10 CFR 26.69, “Authorization with Potentially Disqualifying Fitness-for-Duty Information,” is one of several criteria that licensees are required to use to determine whether to grant or maintain authorization.

¹⁵ Regulations in 10 CFR Part 26 require initial drug testing for opiate metabolites and confirmatory drug testing for codeine, morphine, and 6-acetylmorphine (a metabolite of heroin).

In CY 2012, 14 facilities reported conducting LOD testing on 548 dilute specimens, with 10 positive results (i.e., a 1.8-percent positive rate, which is 2.9 times higher than the overall industry positive rate for all tests conducted in CY 2012).

Testing for Additional Substances, 10 CFR 26.31(d)(1)(i)

Licensees and other entities may consult with local law enforcement authorities, hospitals, and drug counseling services to determine whether the local workforce might be using drugs that are not included in the drug testing panel specified by NRC regulations. If so, licensees and other entities might add drugs to their drug testing panels and establish cutoff levels for these additional substances, based on established forensic toxicology science and review. Licensees and other entities are not required to test for additional drugs or drug metabolites; however, a number did voluntarily reach out to their communities to inform their programs.

In CY 2012, seven facilities tested for additional drugs or drug metabolites. The additional substances included barbiturates, benzodiazepines, buprenorphine, hydrocodone, hydromorphone, Ecstasy drugs (methylenedioxyamphetamine, methylenedioxymethamphetamine, and methylenedioxyethylamphetamine), meperidine, methadone, methaqualone, oxycodone, oxymorphone, propoxyphene, and tramadol.

Section 5 Other Program and System Management Issues¹⁶

Section 5 presents in [Table 3](#) a variety of Program and System Management Issues reported by licensees and other entities in CY 2012. The table includes a wide variety of information, including computer system upgrades, expanded drug testing panels, internal audit results, procedural changes for specimen collection, and program policy improvements.

**Table 3
Other Program and System Management Issues**

Issue Topic	Program and System Management Issue Description	Licensee/ Facility
Computer Systems - Access Authorization and FFD Program	Implemented a new computer database/system (EmPACT 3.0) for Access- and FFD-related functions. The system was upgraded to reduce human performance errors and improve efficiency through activity automation.	Southern Nuclear (entire fleet)
Computer Systems - Followup Testing Program	<ul style="list-style-type: none"> • A review of the followup testing program discovered a problem with the computer program used to track individuals in the followup testing program. Because of the system problem, the licensee did not meet 10 CFR 26.69(b)(6). • An extent-of-condition analysis was performed and identified all personnel in the followup testing program subject to testing in the quarter. All personnel were immediately tested. • The licensee manually tracked followup testing to ensure compliance with company and regulatory policies. 	Indian Point
Drug and Alcohol Education	The licensee added an online drug and alcohol education tool to facilitate Substance Abuse Expert (SAE)-mandated education. As a result, facilities may now log on to the site, proctor the education, solicit the certification of course completion, and submit the certification to the SAE and FFD Program Manager.	Dominion Generation (entire fleet)
Expanded Drug Testing Panel - For-Cause Testing	<p>The license used an expanded opiate drug testing panel for two for-cause testing events:</p> <ul style="list-style-type: none"> • Both events were based on credible reports of substance use. • One individual tested positive for oxycodone and oxymorphone. • One individual tested negative for drugs. 	E.I. Hatch
Expanded Drug Testing Panel - Followup Testing	<ul style="list-style-type: none"> • The licensee expanded its followup drug testing panel to include semi-synthetic opiates and benzodiazepine for instances in which an individual self-reports or when the Employee Assistance Program reports certain abuse under 10 CFR 26.35, "Employee Assistance Programs." • The licensee is also considering expanding its drug testing panel for for-cause and post-event tests. 	Dominion Generation (entire fleet)

¹⁶ In this section, NRC staff used the descriptive terminology provided by the licensee in its report; however, in some cases, the staff clarified the description to aid understanding.

Issue Topic	Program and System Management Issue Description	Licensee/ Facility
Employment Category	<ul style="list-style-type: none"> • In 2011, Duke Energy Corporation and Progress Energy Company announced plans to merge. As part of the planning activities, licensee employees from both legacy companies were entered in both legacy company random testing pools. • Because of software application limitations, licensee employees were frequently, but not always, coded as C/Vs in the opposite legacy company FFD programs. • The merger was approved and became effective on July 2, 2012. After July 2, 2012, badged employees of Duke Energy and Progress Energy were classified as licensee employees in both companies' FFD programs. • For the CY 2012 FFD program performance reports, both the C/V and licensee employee populations include some legacy Duke Energy Corporation personnel. 	Duke Energy (fleet) Progress Energy (fleet)
FFD Program Policies and Procedures	Updated and revised FFD program operating procedures to use a fleetwide approach to FFD operations at all sites in order to improve efficiency and cross-utilization of FFD staff.	Southern Nuclear (entire fleet)
Internal Audit Results	An internal audit identified three FFD program deficiencies: <ol style="list-style-type: none"> 1) Several instances of "Recipients of Access Denial Notification Have Been Incorrectly Informed to Direct their Appeal to the Director - Nuclear Assessment"; 2) "FFD Program Lacks Requirement/Guidance for Verifying that Specimen Retests are Forwarded to the Alternate HHS Laboratory as Required by 10 CFR 26"; and 3) "Review of Background Investigation and FFD Records" identified "Three Individual Documentation Errors." The audit also recommended that the licensee obtain a "back up" MRO/SAE for instances in which the primary staff were unavailable. This recommendation had previously been a policy at Fermi 2 but had lapsed when a contract agreement could not be reached.	Fermi 2
Internal Audit Results	<ul style="list-style-type: none"> • An internal quality audit identified that FFD forms did not include a retention statement and procedures were not consistently updated when forms were revised. • The licensee revised the FFD procedures to correct the issues. 	South Texas Project
Internal Audit Results	Internal quality assurance audits continued to identify administrative errors rated as "low risk" and "low significance." To reduce administrative errors, the licensee planned to implement the following internal monitoring process: <ol style="list-style-type: none"> 1) Establish resource sharing within the Human Resources (HR) team; 2) Identify major HR activities that have or need tools; 3) Conduct and develop independent oversight for procedure review; and 4) Develop process for corrective action follow-through. 	Wolf Creek

Issue Topic	Program and System Management Issue Description	Licensee/ Facility
Internal Audit Results	<ul style="list-style-type: none"> • The licensee provides oversight and guidance to the construction C/V's FFD program. During CY 2012, the licensee performed two audits of the construction C/V's FFD program. A third audit was conducted by a combined team of licensee staff and an internal C/V audit team. • Audit findings included the following: <ul style="list-style-type: none"> ○ Outdated verbiage in procedures and procedures; ○ Deficient collector actions during the collection process; and ○ NRC-reportable events. • The construction C/V was also inspected twice by the NRC. • The construction C/V addressed all audit findings in the Corrective Action Program. The licensee and the C/V Quality Assurance accepted and implemented all corrective actions. 	Vogle 3 & 4
Licensee Testing Facilities - Administrative Actions for Positive Initial Drug Test Results of Cocaine and Marijuana	<p>The licensee administratively withdraws an authorization pending the HHS-certified laboratory test result for any individual with an LTF positive initial result for marijuana or cocaine (as permitted by 10 CFR 26.75(i)).</p> <p>In CY 2012, the licensee reported that it could not continue to withdraw authorization because less than 85 percent of the LTF test results in the CY were confirmed positive by the HHS-certified laboratory.</p> <ul style="list-style-type: none"> • Cocaine: 4 of 9 LTF positives confirmed (44 percent) • Marijuana: 50 of 60 LTF positives confirmed (83 percent). 	Exelon (entire fleet)
Licensee Testing Facility - Testing Equipment	<ul style="list-style-type: none"> • Upgraded the initial drug and validity testing equipment at each LTF to Siemens V-Twin analyzers and WinTox laboratory information management systems. • A Siemens technical representative performed correlation and validation studies using 90 specimens prepared specifically for the studies by a BPTS supplier and multiple known Siemens standards. The study results demonstrated acceptable technical performance in precision, sensitivity, specificity, and coefficient of variation. • The correlation and validation study results were reviewed and graded for acceptability by the Siemens technical representative (a certified Medical Technologist), the licensee FFD Coordinator (a certified Medical Technologist and Clinical Laboratory Scientist), and a toxicologist. • The V-Twin analyzer operators at each LTF attended the Siemens Certified Training course and also received onsite training by a certified WinTox technical representative. 	Southern Nuclear (entire fleet)
Licensee Testing Facilities - Validity and Drug Testing Quality Control	<p>The licensee enhanced its onsite FFD drug and validity testing procedure by incorporating two technical processes:</p> <ol style="list-style-type: none"> 1) Calculation and use of LTF fleet ranges for all validity test quality controls. Calculation of user-specific ranges allows for narrower and stricter control ranges than the broader manufacturer-defined ranges for each lot of controls. 2) Using Westgard QC rules, plotting calculated cutoff values from the calibration of each drug assay using graphs to define the acceptable cutoff value. The operator reviews and evaluates the plots on the graph for the development of shifts and trends in testing and the calculated cutoff values. 	Southern Nuclear (entire fleet)

Issue Topic	Program and System Management Issue Description	Licensee/ Facility
Random Testing Pool Management	<p>On March 9, 2012, the construction C/V FFD manager notified the licensee FFD manager of anomalies identified when preparing to generate the weekly random testing selection list. The discovery occurred when the C/V FFD program manager took over the random testing pool responsibility because of a staffing change.</p> <ul style="list-style-type: none"> • The C/V observed that the number of individuals included in the random testing pool was higher than the number of individuals with active badges. A 1:1 comparison of the two lists identified 23 currently badged individuals who were not included in the random testing pool. An additional 357 individuals in the random testing pool were not currently badged. At the time of the analysis, 2,066 individuals had active badges. • On March 10, 2012, an extent-of-condition investigation was initiated that reviewed an additional 5 weeks of random testing pool selections (one in each month from October 2011 through February 2012). The investigation determined that 145 currently badged individuals had not received pre-access drug and alcohol tests. At this time, the C/V FFD program manager concluded that “it is possible that errors in the random pool generation process have been present since the inception of Shaw’s FFD Program.” The licensee FFD management submitted a 24-hour event notification report to the NRC [EN# 47765, 03/22/12]. • Prior to the discovery of the random testing program irregularities, the C/V FFD manager was solely responsible for adding and removing individuals from the random testing pool. The pool list was maintained in an Excel spreadsheet. <p><u>Corrective actions:</u></p> <ul style="list-style-type: none"> • On March 9, 2012, placed on hold the access for each of the 23 individuals identified with current badges, but not in the random testing pool, and resolved discrepancies. • On March 10, 2012, implemented a double-verification process of the random testing pool generation (all changes to the random testing pool were reviewed by two FFD personnel to confirm the accuracy of the lists). • C/V implemented new FFD/Access Program databases with the associated random pool modules, plus generator (EmPACT). This is the same system used by the licensee FFD program. • C/V FFD procedural changes were planned to require: <ul style="list-style-type: none"> ○ The C/V FFD manager/designee to perform a weekly comparison of the Badge Classification report and the EmPACT random pool list prior to generating a random selection list. ○ Clarify the communication process between the C/V FFD, payroll, human resources, and security regarding activation and deactivation/termination of individuals. • The licensee FFD program implemented monthly spot audits to monitor and provide oversight to the C/V FFD program. <p>[30-day report: ML12144A359 (letter: 05/21/2012)]</p>	Vogtle 3 & 4
Sanctions	Revised the sanction for C/Vs with a first drug or alcohol positive from a 1-year denial of access to a 3-year denial.	Calvert Cliffs

Issue Topic	Program and System Management Issue Description	Licensee/ Facility
Substance Discovered (Marijuana)	<ul style="list-style-type: none"> • A search of a C/V's bag was conducted after site security detected an odor of marijuana when the individual was entering the Owner-Controlled area (OCA). Marijuana was discovered in the bag. • The individual was turned over to local law enforcement. • The licensee immediately terminated the individual's access and issued a permanent denial sanction. 	Joseph M. Farley
Substance Discovered (unknown)	<ul style="list-style-type: none"> • A C/V subcontractor discovered an unknown substance (suspected to be marijuana) in the construction area of an administration building for Vogtle Units 1 through 4. This construction area was not in the protected area or the Construction-Controlled Area. • The construction C/V is responsible for this construction area and reported the incident to licensee FFD program and site security. • The construction C/V investigated the event, interviewed the 35 individuals working in the area, and for-cause tested each individual. All individuals tested negative. • Local law enforcement tested the substance and determined it to be a tobacco product. 	Vogtle 1–4
Subversion Attempts	<ul style="list-style-type: none"> • CY 2011 marked the highest number of subversion attempts for any year of testing at the facility. • In January 2012, two pre-access C/V tests were confirmed as subversion attempts (initial specimens were less than 90°F in temperature and second specimens collected under direct observation tested positive). The licensee FFD Program Manager requested a security investigation because both subversion attempts occurred within 15 minutes of each other and both C/Vs worked for the same company. • The investigation did not yield remarkable results. 	Joseph M. Farley
Subversion Attempts	<ul style="list-style-type: none"> • In June 2012, the FFD Coordinator determined the number of confirmed positives from C/V pre-access tests was higher than normal for routine facility operations (i.e., 25 pre-access positive tests for C/Vs, of which 16 (64 percent) were associated with one C/V firm). The mid-year pre-access testing positive total had already surpassed the total for the entire previous CY. • The licensee held a meeting with the contractor and implemented immediate corrective actions. [Note: The FFD program performance report did not include information on the corrective actions taken.] • It was also during this time period that an increased number of incidents involving subversion attempts, refusals, and detection of subversion devices and paraphernalia were identified during the collection process. 	Vogtle 1 & 2

Issue Topic	Program and System Management Issue Description	Licensee/ Facility
Subversion Attempts Subpart K Construction	<p>Multiple subversion attempts reported for two C/V subcontractors in the Subpart K testing program.</p> <ul style="list-style-type: none"> Staff for Sub-Contractor 1 (SC1) and Sub-Contractor 2 (SC2) worked together on the Unit 4 cooling tower construction. On October 30, 2012, two SC2 workers attempted to subvert the random testing process (provided specimens with temperatures below 90°F). On November 1, 2012, one SC1 worker attempted to subvert the random testing process (provided a specimen with a temperature above 100°F). The C/V FFD Program Manager interviewed the individuals. Each admitted to using drugs, subverting the testing process, and indicated that several co-workers might be using drugs and attempting to subvert the testing process. On November 1, 2012, the construction C/V FFD management decided to perform for-cause tests on all SC1 and SC2 crews working on the Unit 4 cooling tower. Fifty-three individuals were informed to report for testing (five refused to submit to testing; one attempted to subvert the testing process by providing a synthetic urine specimen; 45 tested negative; and two tested positive for a drug). On November 9, 2012, the C/V FFD management decided to expand for-cause testing to all SC1 and SC2 employees (including A-H, N, & O and Subpart K) based on the discovery that the work crews had been assigned jobs interchangeably with other crews. Seventy-nine individuals underwent for-cause testing (76 tested negative, 1 tested positive for a drug; and 2 were to be collected upon return from medical leave). 	Vogle 3 & 4
Urine Specimen Collections - Temperature Measurement Devices	Began using noncontact certified temperature guns as an additional method to verify specimen temperature during the collection process.	First Energy Nuclear (fleetwide)
Urine Specimen Collections - Temperature Measurement Devices	<ul style="list-style-type: none"> The licensee requested that the manufacturer of urine temperature measurement strips provide a certificate containing shelf life and storage requirements for each shipment. The licensee now orders strips every 6 months and discards any remaining strips from the prior shipment once the new order is received. This practice ensures that the temperature strips are not used beyond the 1-year shelf life. 	Cooper
Urine Specimen Collections - Temperature Measurement Devices	<ul style="list-style-type: none"> Implemented use of temperature strips in lieu of thermometers to measure urine temperature. A licensee audit identified that the temperature strips did not include shelf life information or an expiration date. Although the manufacturer stated that the strips did not expire, the licensee requested that the manufacturer provide a "certificate of conformance" for each shipment of strips. The certificate includes a 1-year product guarantee from the date of shipment, the customer order number, and a product lot/batch code. The certificate is kept with the temperature strips for verification before use and the strips are used or discarded by the guarantee date. 	Fort Calhoun
Urine Specimen Collections – Donor pat-downs	Because of an increased number of subversion attempts during the refueling outage in CY 2012, the licensee instituted a pat-down to detect individuals who might try to subvert the specimen collection process and to deter them from doing so.	Cooper

Issue Topic	Program and System Management Issue Description	Licensee/ Facility
Urine Specimen Collections - Specimens lost in transit	The licensee reported two instances of specimens being lost in transit from the collection site to the testing laboratory: <ul style="list-style-type: none"> • On June 5, 2012, five specimens were lost in transit. The licensee re-collected specimens from each donor and each tested negative. • On August 28, 2012, five specimens were lost in transit. The licensee re-collected the specimens from four of the five individuals. The fifth individual had been terminated prior to retesting. The licensee FFD program performance report did not provide additional information regarding the potential cause(s) of the specimen transportation problems.	St. Lucie
Urine Specimen Collections - Specimens lost in transit	Twenty urine specimens were left in a courier vehicle sent for maintenance. The HHS-certified laboratory notified the licensee that the specimens had not arrived for testing and the licensee re-collected a specimen from each individual. All specimens tested negative.	Seabrook
Other FFD Program Violation	Two cases of FFD program violations not associated with a drug or alcohol test result: <ul style="list-style-type: none"> • An individual self-reported off-duty drug use to his supervisor. The licensee sanctioned the individual for a first time FFD program violation and required the individual to complete a treatment plan. • An individual's access was revoked for trustworthiness and reliability concerns. After the individual left the site, a vial containing urine was found in the individual's work station. Based on the discovery, the licensee assigned an FFD program violation to the individual for subverting the testing process. 	Diablo Canyon
Other FFD Program Violation (Synthetic Marijuana)	<ul style="list-style-type: none"> • Law enforcement encountered an OCA contractor in possession of several packages of "synthetic marijuana." The individual was away from the licensee facility when the event occurred. A field sobriety test was performed at the scene based on observed behavior. • Although the individual was not charged by local law enforcement, it is illegal to use or possess "synthetic marijuana" in the state of Georgia. Based on this information, the licensee terminated the individual's access to the OCA (the individual only had access to the OCA switchyard). 	Vogtle 1 & 2

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**Table 4
Test Results by Test Category**

Test Category*	Number Tested	Number Tested Positive	Percent Positive
Pre-Access	101,438	766	0.76%
Random	67,943	205	0.30%
For-Cause	724	86	11.88%
Post-Event	883	7	0.79%
Followup	8,147	50	0.61%
Total	179,135	1,114	0.62%

* "Test Category" corresponds to the conditions requiring testing listed in 10 CFR 26.31(c).

**Table 5
Test Results by Test and Employment Categories**

Test Category	Licensee Employees			C/Vs		
	Number Tested	Number Positive	Percent Positive	Number Tested	Number Positive	Percent Positive
Pre-Access	10,529	28	0.27%	90,909	738	0.81%
Random	39,951	65	0.16%	27,992	140	0.50%
For-Cause	218	17	7.80%	506	69	13.64%
Post-Event	315	0	0.00%	568	7	1.23%
Followup	3,511	15	0.43%	4,636	35	0.75%
Total	54,524	125	0.23%	124,611	989	0.79%

Table 6
Positive Test Results by Substance and Employment Category
(All Test Types, Including Testing Refusals)

Positive Test Result	Licensee Employees		C/Vs		Total	
	Number	Percent	Number	Percent	Number	Percent
Marijuana	33	26.0%	535	51.4%	568	48.6%
Alcohol	70	55.1%	186	17.9%	256	21.9%
Cocaine	13	10.2%	121	11.6%	134	11.5%
Refusal to Test*	4	3.1%	117	11.2%	121	10.4%
Amphetamines	5	3.9%	59	5.7%	64	5.5%
Opiates	1	0.8%	18	1.7%	19	1.6%
Phencyclidine	0	0.0%	0	0.0%	0	0.0%
Other [‡]	1	0.8%	5	0.5%	6	0.5%
Total[†]	127	100.0%	1,041	100.0%	1,168	100.0%

* This category includes adulterated and substituted specimen validity test results and refusal-to-test actions (only those events without a positive test result). Subversion attempts that involved a positive test result are reported in [Table 6](#) under the associated substance category. [Section 8](#) presents additional information on subversion attempts, including refusal-to-test actions.

‡ In CY 2012, two facilities reported positives for “other” drugs, including oxycodone (1), oxycodone (1), buprenorphine (1), benzodiazepines (2), and methadone (1), in addition to the drugs on the NRC-minimum testing panel.

† The totals in this table might be higher than those reported in [Table 4](#) and [Table 5](#), because some individuals tested positive for more than one substance.

Chart 1
2012 Positive Test Results by Substance for Licensee Employees

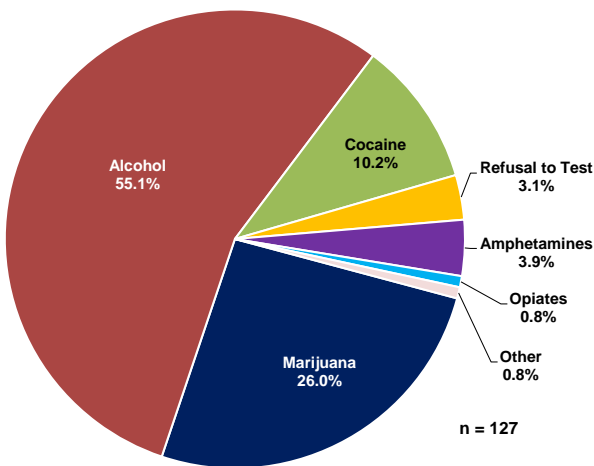
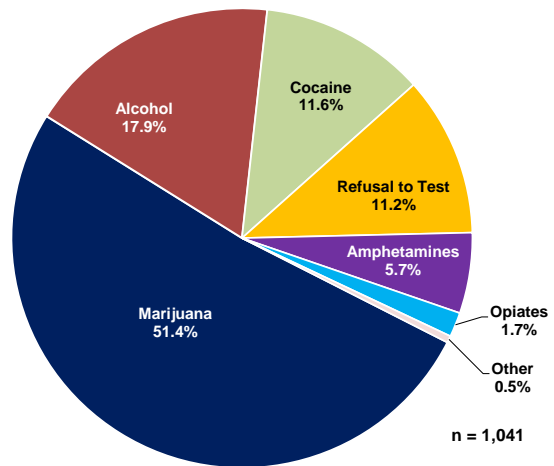


Chart 2
2012 Positive Test Results by Substance for Contractors/Vendors



**Table 7
Significant Fitness for Duty Events***

Year	Reactor Operators	Licensee Supervisors	C/V Supervisors	FFD Program Personnel	Substances Found	Total
2003	6	3	8	0	2	19
2004	9	7	4	0	9	29
2005	5	13	14	1	9	42
2006	3	6	6	0	2	17
2007	3	7	1	1	0	12
2008	2	8	6	1	0	17
2009	1	5	4	1	2	13
2010	4	7	3	2	3	19
2011	2	10	14	2	3	31[‡]
2012	6	9	13	1	4	35[†]

* [Table 7](#) presents 24-hour reportable events per 10 CFR 26.719(b). Refer to [Table A-1](#) in the appendix for data from 1990 through 2002.

‡ An additional six 24-hour reports were made in CY 2011, but the licensee or other entity provided insufficient information to categorize the event in [Table 7](#).

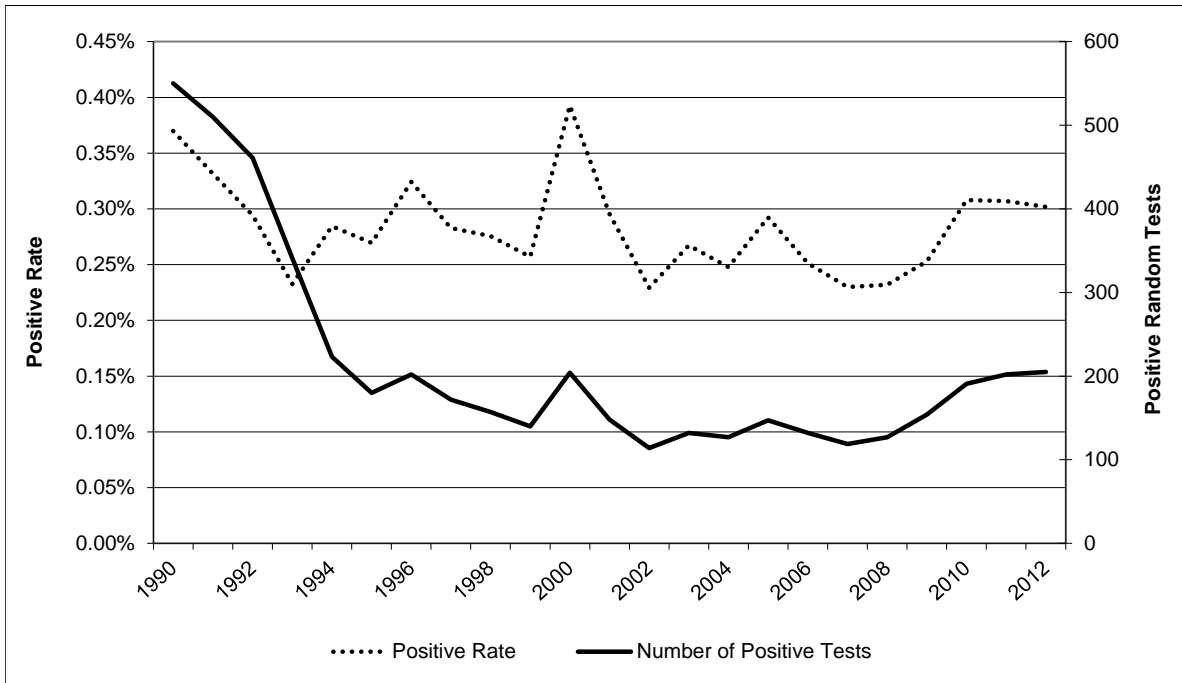
† In CY 2012, there was also one reportable event involving a licensee engineering employee and one involving a programmatic deficiency; these are captured in the total value in [Table 7](#) but not in the labor category columns.

**Table 8
Trends in Testing by Test Type**

Type of Test	2001	2002	2003	2004	2005	2006	2007	2008	2009*	2010	2011	2012
Pre-Access												
Number Tested	63,744	73,155	72,988	76,119	79,005	79,980	81,932	87,468	95,878	96,543	103,848	101,438
Number Positive	720	805	757	737	648	747	668	664	677	677	741	766
Percent Positive	1.13%	1.10%	1.04%	0.97%	0.82%	0.93%	0.82%	0.76%	0.71%	0.70%	0.71%	0.76%
Random												
Number Tested	50,080	49,741	49,402	51,239	50,286	52,557	51,665	54,759	60,877	62,008	65,778	67,943
Number Positive	148	114	132	127	147	132	117	127	154	191	202	205
Percent Positive	0.30%	0.23%	0.27%	0.25%	0.29%	0.25%	0.23%	0.23%	0.25%	0.31%	0.31%	0.30%
For-Cause												
Number Tested	506	617	637	701	671	716	720	797	547	549	856	724
Number Positive	99	110	123	134	105	104	81	94	108	47	73	86
Percent Positive	19.57%	17.83%	19.31%	19.12%	15.65%	14.53%	11.25%	11.79%	19.74%	8.56%	8.53%	11.88%
Post-Event												
Number Tested	224	455	415	458	490	905	895	986	893	884	802	883
Number Positive	2	2	3	5	1	5	10	7	1	6	7	7
Percent Positive	0.89%	0.44%	0.72%	1.09%	0.20%	0.55%	1.12%	0.71%	0.11%	0.68%	0.87%	0.79%
Followup												
Number Tested	2,649	2,892	3,142	3,752	4,057	4,766	4,991	5,756	6,252	6,657	7,302	8,147
Number Positive	35	21	42	31	31	37	31	44	53	60	57	50
Percent Positive	1.32%	0.73%	1.34%	0.83%	0.76%	0.78%	0.62%	0.76%	0.85%	0.90%	0.78%	0.61%
TOTAL												
Number Tested	117,203	126,860	126,584	132,269	134,509	138,924	140,203	149,766	164,447	166,641	178,586	179,135
Number Positive	1,004	1,052	1,057	1,034	932	1,025	907	936	993	981	1,080	1,114
Percent Positive	0.86%	0.83%	0.84%	0.78%	0.69%	0.74%	0.65%	0.62%	0.60%	0.59%	0.60%	0.62%

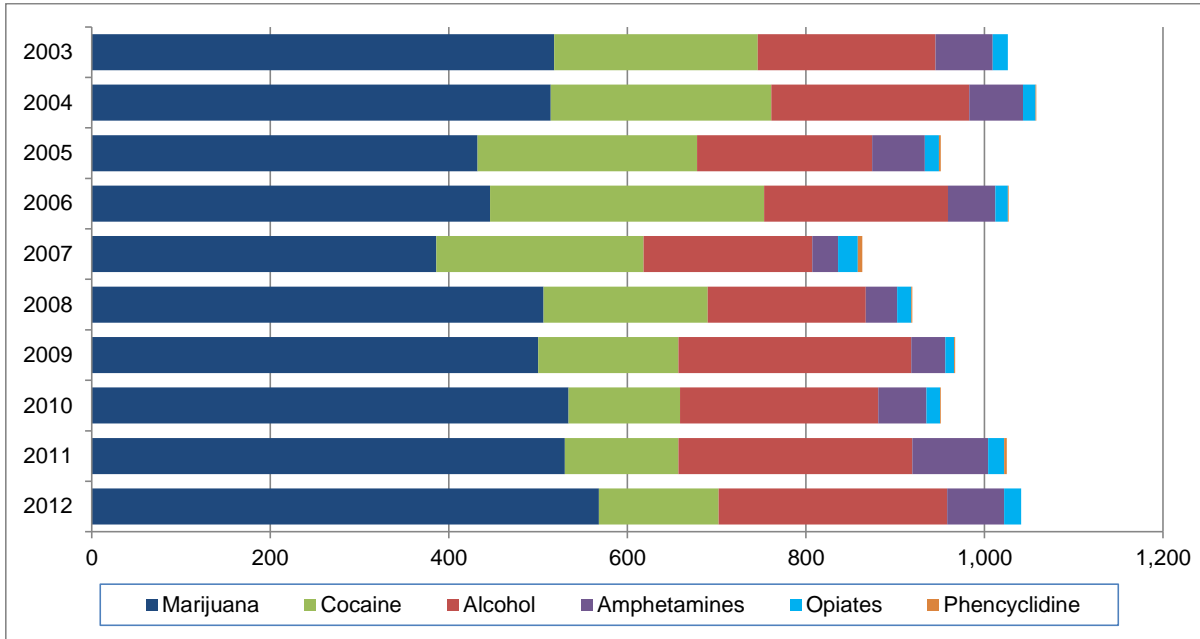
* On March 31, 2009, the NRC required all licensees and other affected entities to implement the March 31, 2008, final rule. Refer to [Table A-2](#) in the appendix for data from 1990 through 2000.

**Chart 3
Trends in Positive Random Testing Rates***



* Beginning in 1994, the NRC reduced the minimum annual random testing rate from 100 percent to 50 percent of the subject population.

Chart 4
Trends in Substances* Identified



* [Chart 4](#) only includes positive test results for substances for which licensees and other entities must test in each urine test per 10 CFR 26.31(d). Refer to [Table A-3](#) in the appendix for the data used to create this chart, as well as historical data for all years since NRC-required testing began in 1990.

Chart 5 - Trends in Positive Pre-Access Testing Rates by Employment Category*

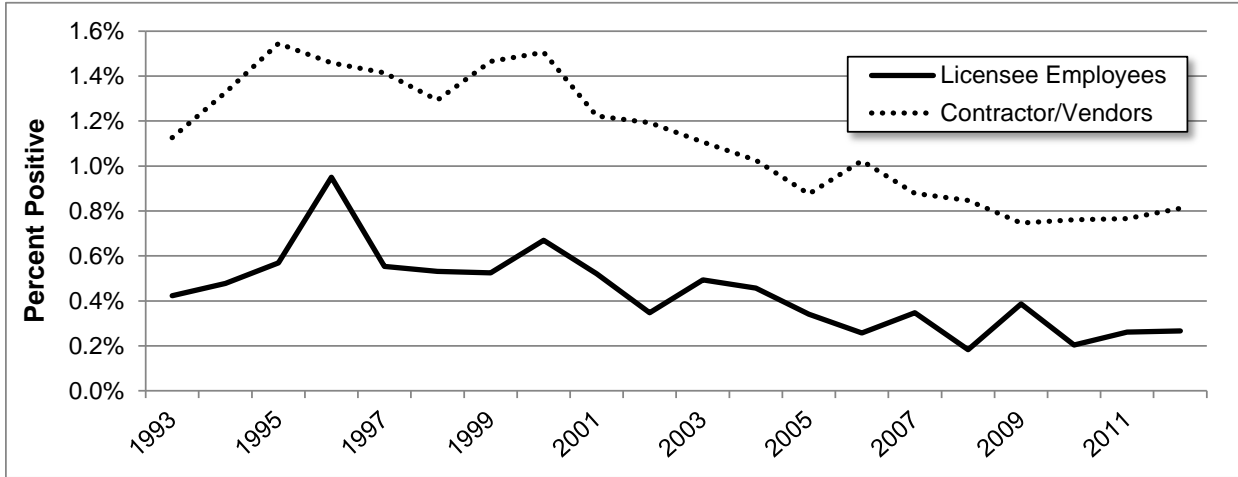


Chart 6 - Trends in Positive Random Test Rates by Employment Category*

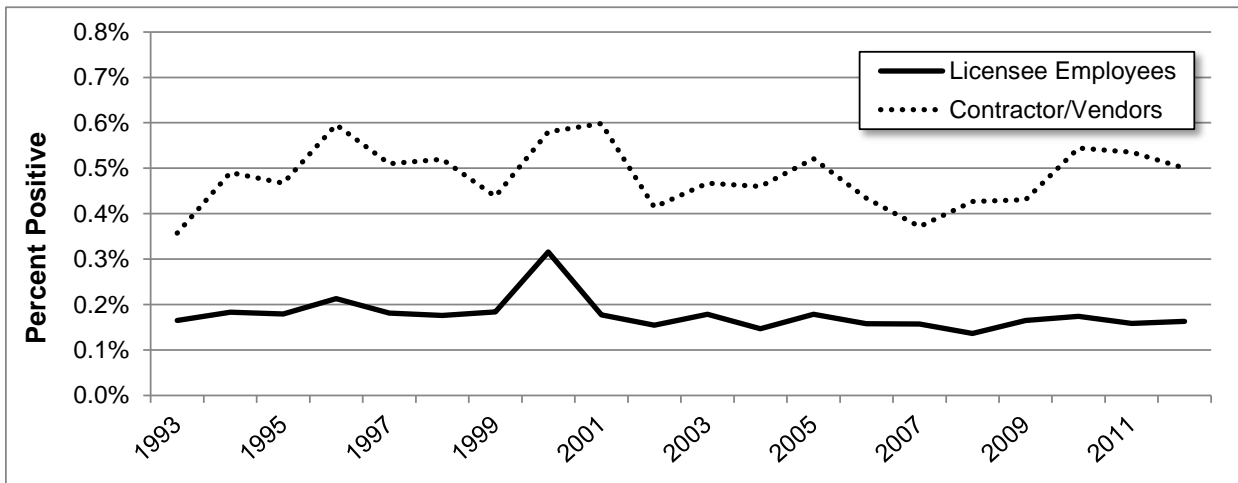
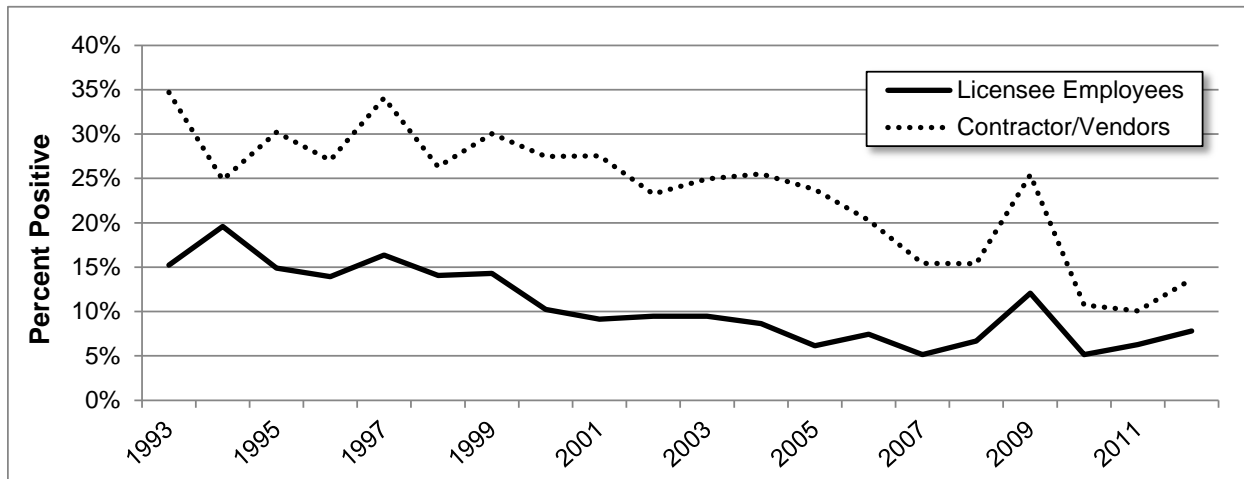


Chart 7 - Trends in Positive For-Cause Testing Rates by Employment Category*



* Refer to [Table A-5](#), [Table A-6](#), and [Table A-7](#) in the report appendix for the data used to create these charts. The peak in [Chart 7](#) in 2009 was probably caused by the initial use of the e-reporting system.

Observations on Chart 5, Chart 6, and Chart 7

- Pre-access testing positive rates for licensee employees and C/Vs have stabilized from CYs 2010 through 2012. ([Chart 5](#))
- Random testing positive rates for licensee employees have remained very remarkably consistent from 1990 through 2012, with the exception of a peak in 2001. ([Chart 6](#))
- For-cause testing positive rates for licensee employees and C/Vs have converged, beginning in CY 2010. The NRC staff believes this trend is associated, in part, with improved information collection from the e-reporting system. ([Chart 7](#))

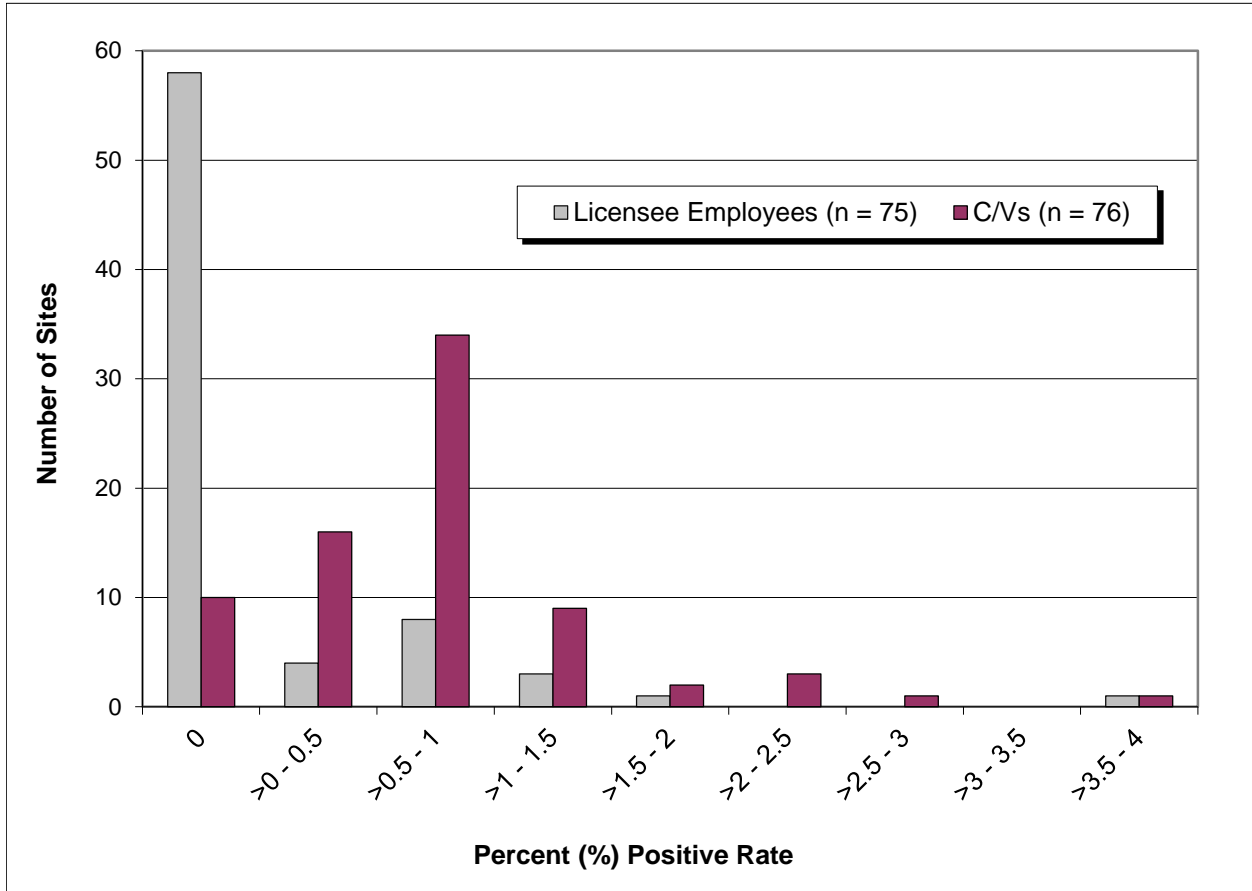
FFD Performance Testing Results by Positive Rate Ranges and Number of Sites

This section presents distributional information by site for pre-access, random, and for-cause testing to provide licensees and other entities with additional information to evaluate site-specific performance against industry testing performance.

Table 9
Industry Positive Test Results for Pre-Access, Random, and For-Cause Testing
by Employment Category

Employment Category	Sites Reporting Test Results	Industry % Positive	Range of % Positive (by Site)
Pre-Access Testing			
Licensee Employees	75	0.27	0 to 4
Contractors/Vendors	76	0.81	0 to 3.57
Random Testing			
Licensee Employees	76	0.16	0 to 0.75
Contractors/Vendors	75	0.50	0 to 1.67
For-Cause Testing			
Licensee Employees	56	7.80	0 to 100
Contractors/Vendors	63	13.64	0 to 100

Chart 8
Comparison of Pre-Access Testing Positive Rate Ranges
by Employment Category and Number of Sites

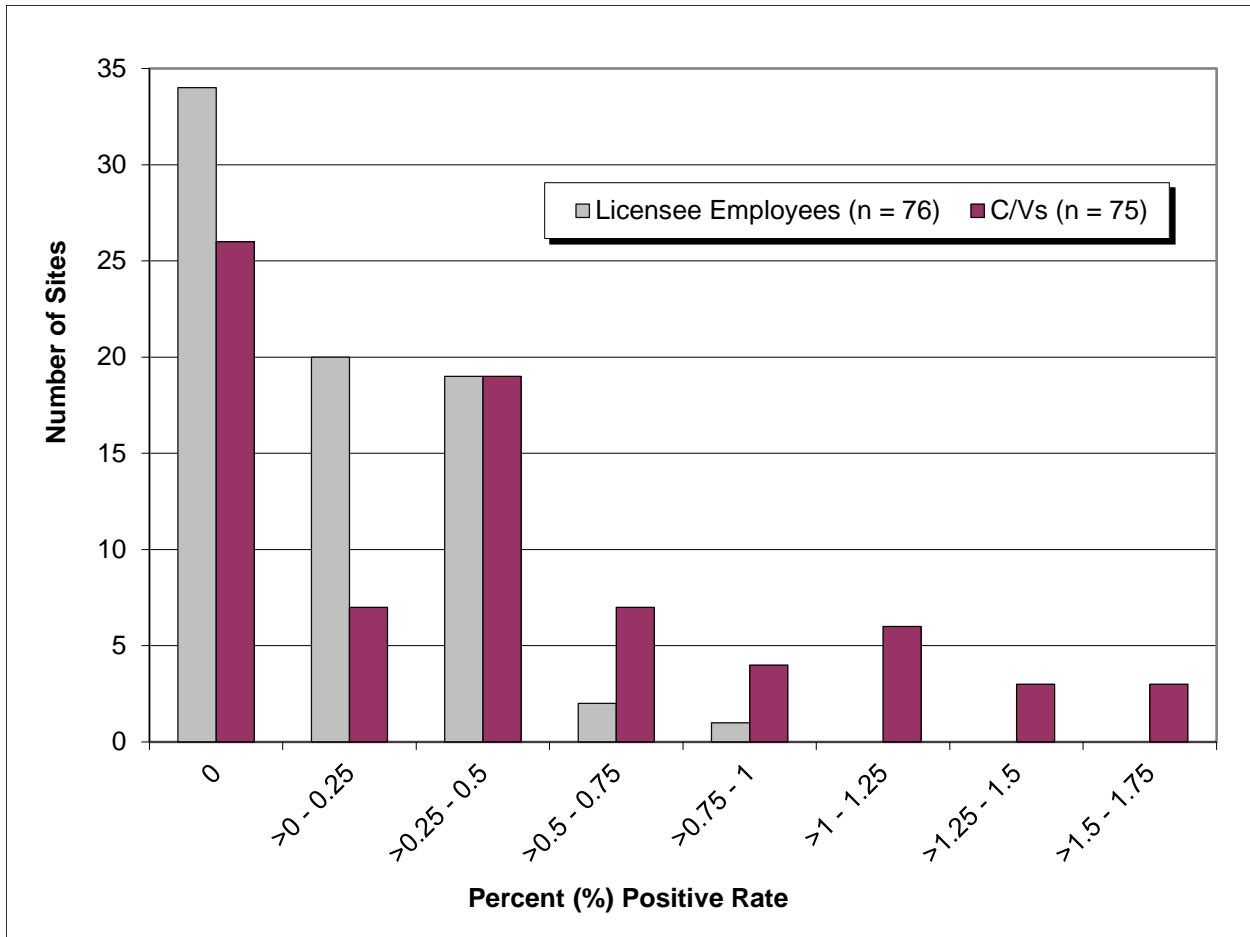


* Refer to [Table A-8](#) in the report appendix for the data used to create this chart.

Observations on Chart 8

- C/Vs test positive during pre-access testing more often than licensee employees.
- Fifty-eight (58) sites (77 percent of sites that conducted pre-access testing for licensee employees) had no licensee employee pre-access positives. By contrast, 66 sites (87 percent of sites that conducted C/V pre-access testing) did report C/V pre-access positives, with 50 sites (66 percent) reporting C/V pre-access positive rates greater than 0.5 percent.

Chart 9
Comparison of Random Testing Positive Rate Ranges
by Employment Category and Number of Sites

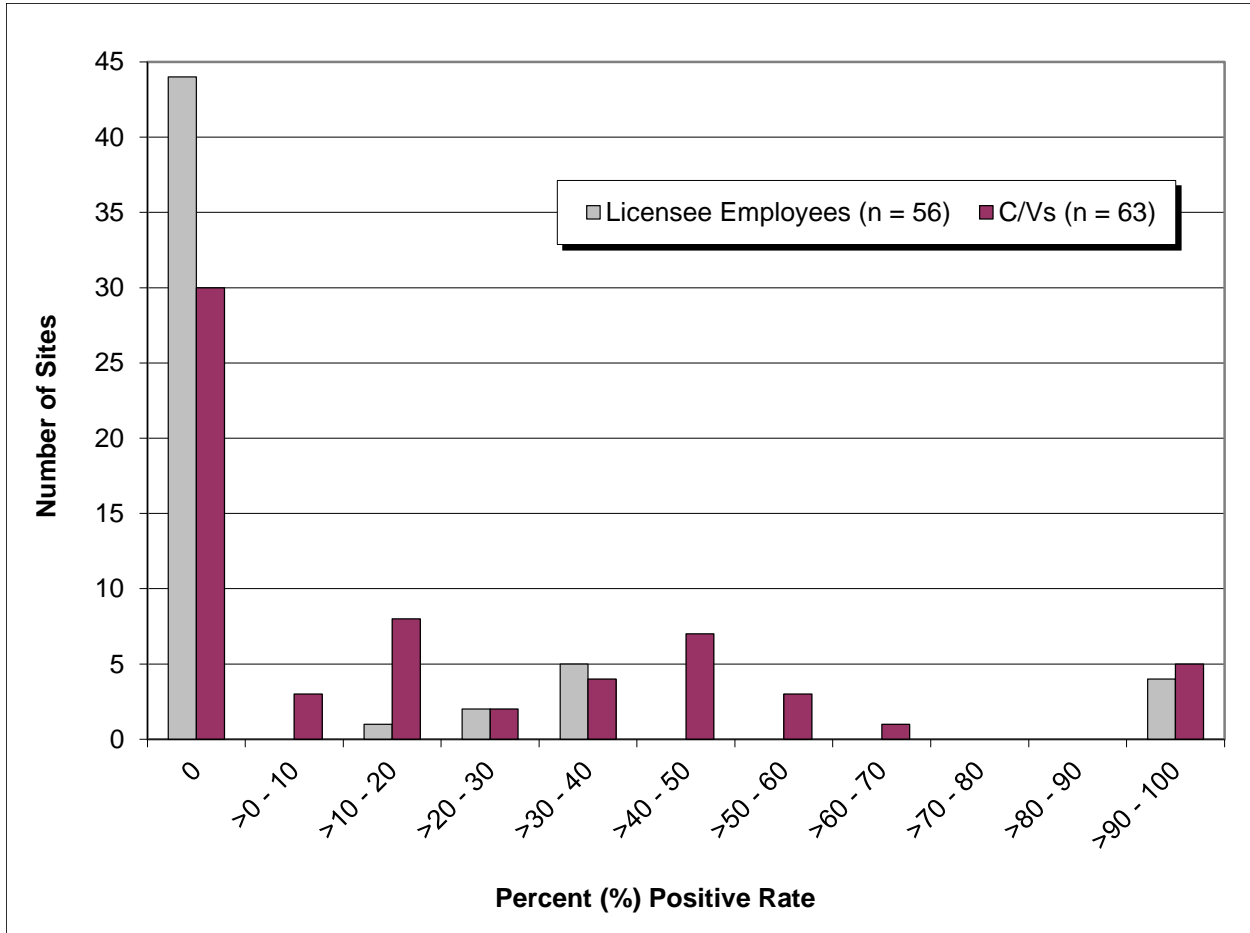


* Refer to [Table A-9](#) in the report appendix for the data used to create this chart.

Observations on Chart 9

- C/V random positive rates span a greater range than licensee employee random positive rates.
- C/V random positive rates ranged from 0 to 1.75 percent, whereas licensee random positive rates ranged from 0 to 1 percent, with 73 sites (96 percent of sites that conducted licensee employee random testing) reporting rates of 0.5 percent or lower.
- C/Vs tend to test positive at a higher rate during random testing than licensee employees. Of the sites that conducted C/V random testing, 23 sites (31 percent) reported C/V random positive rates greater than 0.5 percent. By comparison, only three sites (4 percent of those that conducted licensee employee random testing) reported licensee employee random positive rates greater than 0.5 percent.

Chart 10
Comparison of Site For-Cause Testing Positive Rate Ranges
by Employment Category and Number of Sites



* Refer to [Table A-10](#) in the report appendix for the data used to create this chart.

Observations on Chart 10

- For-cause testing does not consistently yield positive results.
- Some sites reported no positives during for-cause testing, including 44 sites that conducted for-cause testing for licensee employees (79 percent) and 30 sites that conducted for-cause testing for C/Vs (48 percent).
- Approximately 12 sites reported for-cause positive rates greater than 50 percent, including four sites that conducted for-cause testing for licensee employees (seven percent) and nine sites that conducted for-cause testing for C/Vs (14 percent).

Section 7 Evaluation of Electronically Reported Data

This section provides a more detailed analysis of FFD program performance data provided by licensees and other entities that chose to use the voluntary e-reporting system. Increased industry use of the e-reporting system will enable trends analyses across years and inclusion of new exhibits to further enhance the communication of FFD program performance.

The FFD e-reporting system for D&A consists of two reporting forms, an Annual Report Form (ARF) and a Single Positive Test Form (SPTF). Both forms must be used to satisfy the 10 CFR 26.717 reporting requirement.

Annual Reporting Form—An e-form used to report information on an annual basis. The information reported is analogous to that which industry has historically provided in hardcopy paper reports; however, the ARF significantly improves the clarity, consistency, and accuracy of information reported.

Single Positive Test Form—An e-form used to report information on a positive test result or subversion attempt (e.g., refusal to test or an adulterated or substituted specimen test result). One SPTF is submitted for each positive result or subversion attempt. Information provided in the SPTFs allows the NRC to conduct a more sophisticated analysis of FFD policy violations and enables the industry to target corrective actions at specific areas of concern (e.g., pre-access testing or testing of certain substances).

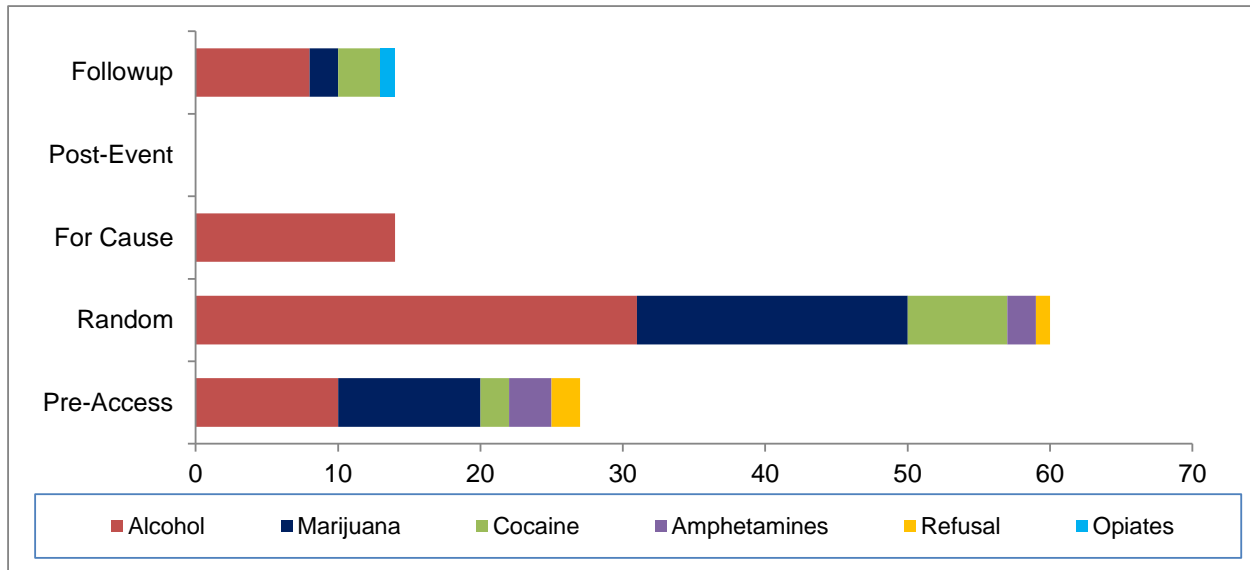
Table 10
Test Results for Each Test Category (E-Reported Data)

Test Category	Number of Tests	Positive Tests	Percent Positive
Pre-Access	89,831	703	0.78%
Random	58,748	181	0.31%
For-Cause	645	65	10.08%
Post-Event	761	7	0.92%
Followup	7,543	47	0.62%
Total	157,528	1,003	0.64%

Observations on Table 10

- Licensees and other entities reported information on 157,528 D&A tests using the e-reporting system. The e-reported data covers a significant percentage (approximately 88 percent) of the 179,135 total D&A tests conducted by industry in CY 2012. ([Table 4](#))
- The analysis includes 1,003 positive results, including testing refusals. The data cover 90 percent of the 1,114 total positives and testing refusal results in CY 2012. ([Table 4](#))

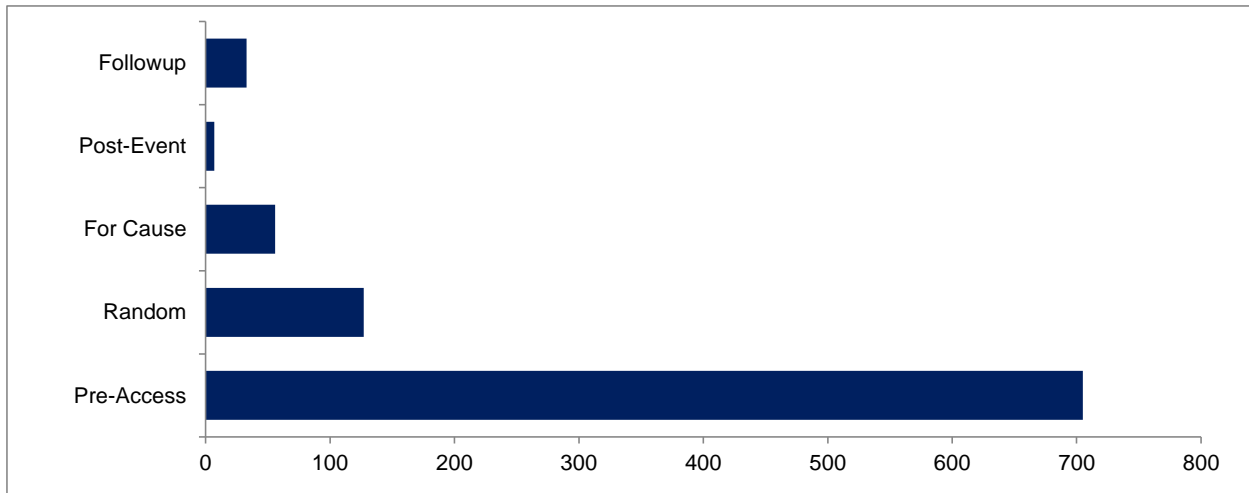
Chart 11
Licensee Employees, Positive Results by Substance and Reason for Test
(E-Reported Data)



Observations on Chart 11

- Licensee employee testing resulted in 115 positives. By comparison, C/V testing resulted in 928 positives. ([Chart 12](#))
- Random testing accounted for 52 percent of positive test results (60). A smaller number of positive results were reported for pre-access (27), for-cause (14), and followup (14) testing. No post-event positives were reported for licensee employees.
- Alcohol was the predominant drug detected for licensee employees (63 positives, or 55 percent of the 115 total positives). A smaller number of positive tests were reported for marijuana (31), cocaine (12), testing refusals (5), amphetamines (3), and opiates (1).
- Alcohol accounted for 100 percent of for-cause positives.
- Testing refusals occurred during pre-access and random testing.

Chart 12
Contractors/Vendors, Substances Detected (Including Testing Refusals)
by Reason for Test (E-Reported Data)



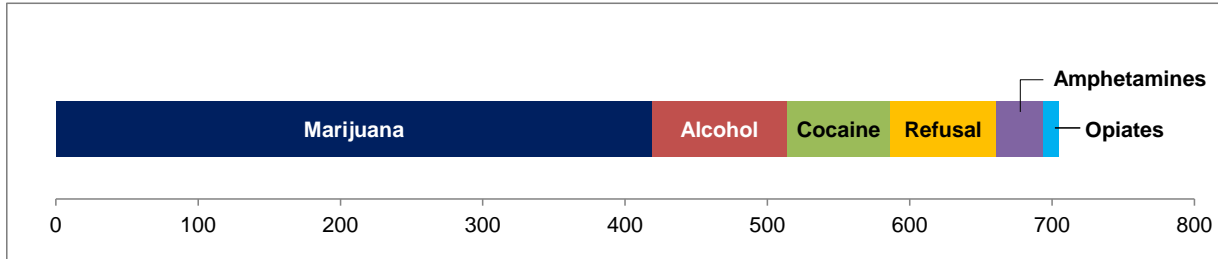
Observations on Chart 12

- C/V testing resulted in 928 positives, including testing refusals.
- Seventy-six (76) percent of positive test results occurred during pre-access testing (705). A smaller number of positive results were reported for random (127), for-cause (56), post-event (7), and followup (33) testing.

[See next page for substance breakout by reason for test]

The breakout of substances for C/Vs by reason for the test is divided into two charts (Charts [13](#) and [14](#)), because the vast majority of positive test results occur during pre-access testing ([Chart 12](#)). To improve the clarity of this illustration, pre-access testing results are reported separately.

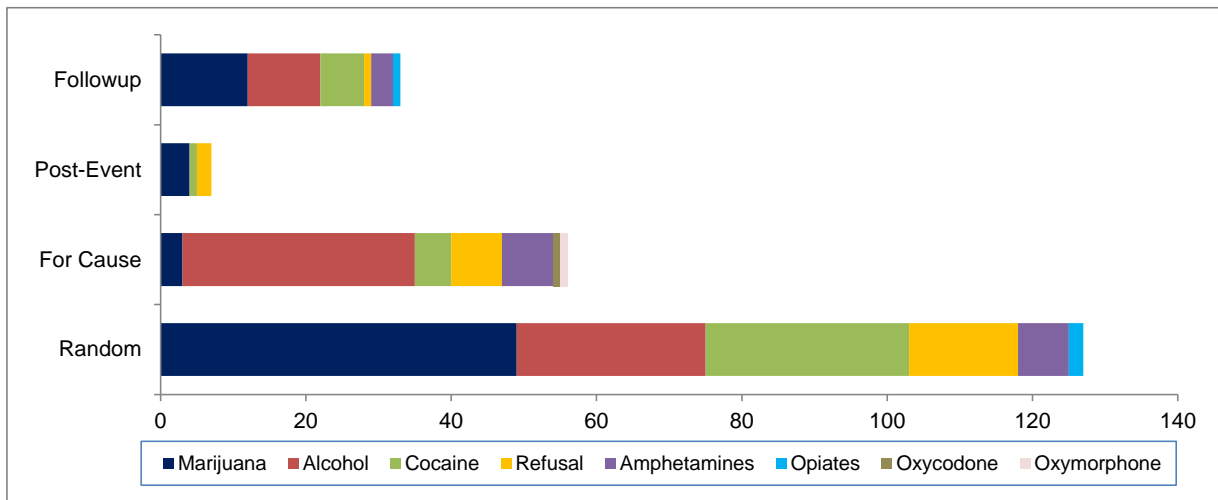
Chart 13
Contractors/Vendors, Pre-Access Positive Results by Substance (E-Reported Data)



Observations on Chart 13

- Seventy-three (73) percent of the pre-access positives were associated with two substances: marijuana (419) and alcohol (95). Marijuana accounted for 52 percent of pre-access positives.
- Fewer positive tests were reported for testing refusals (75), cocaine (72), amphetamines (33), and opiates (11).

Chart 14
Contractors/Vendors, Positive Results by Substance and Reason for Test (E-Reported Data)*



* [Chart 14](#) includes all test categories, except for “Pre-Access” testing. ([Chart 13](#))

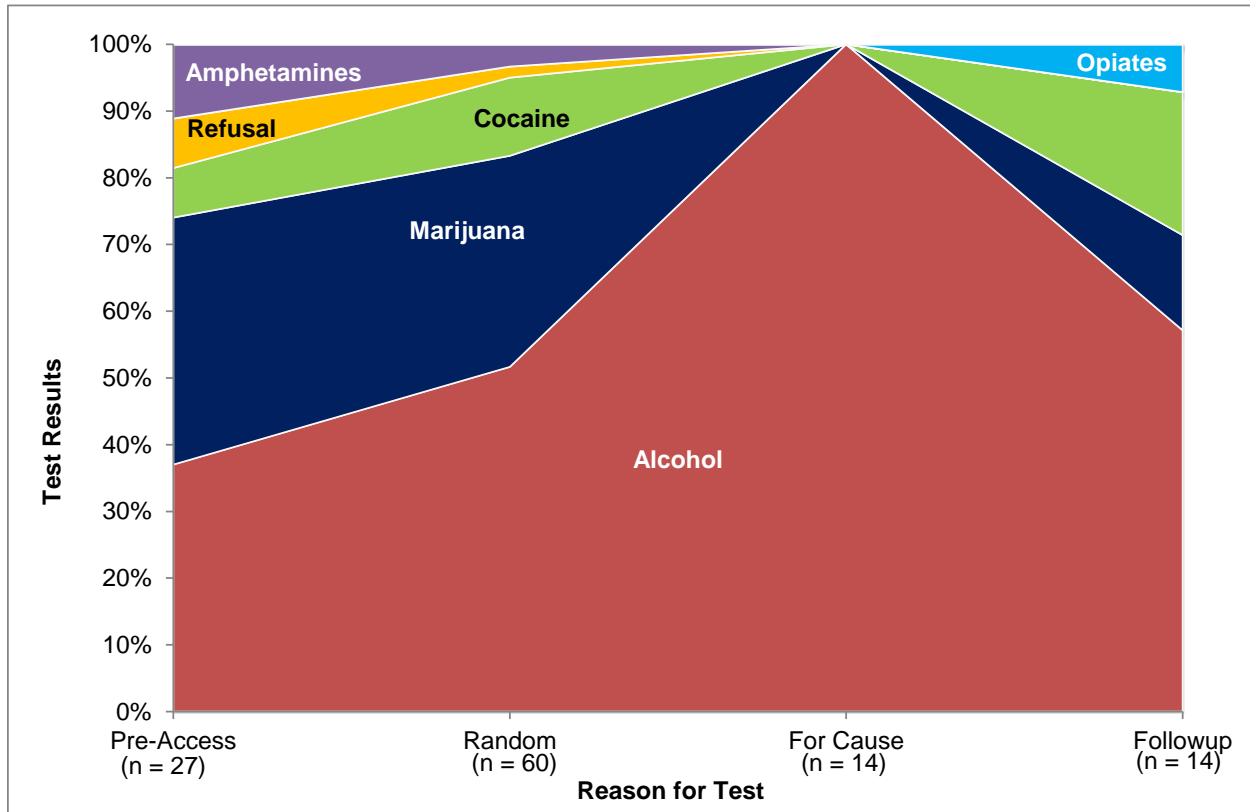
Observations on Chart 14

- Most of the random, for-cause, post-event, and followup positives (61 percent) were associated with two substances: marijuana (68) and alcohol (68).
- Testing also identified cocaine (40), testing refusals (25), amphetamines (17), opiates (3), oxycodone (1), and oxymorphone (1).
- Alcohol was the most-detected substance during for-cause testing for C/Vs, accounting for 57 percent of for-cause positives.
- Testing refusals occurred in all reasons for testing. Testing refusals, which includes some subversion attempts¹⁷, accounted for 13 percent of for-cause positives.

¹⁷ Licensees report a testing refusal for subversions with no drug or validity test result (e.g., donor refused to provide a specimen or a collector stopped the process after observing a subversion attempt). For more information on subversion attempts, see [Section 8](#).

Charts 15 and 16 highlight the percentage of positive results associated with each substance by reason for test and employment category. The charts provide an easy way to identify the relative percentage of positive results by substance for each category.

Chart 15
Licensee Employees, Percentage of Positive Tests by Substance and Reason for Test (E-Reported Data)

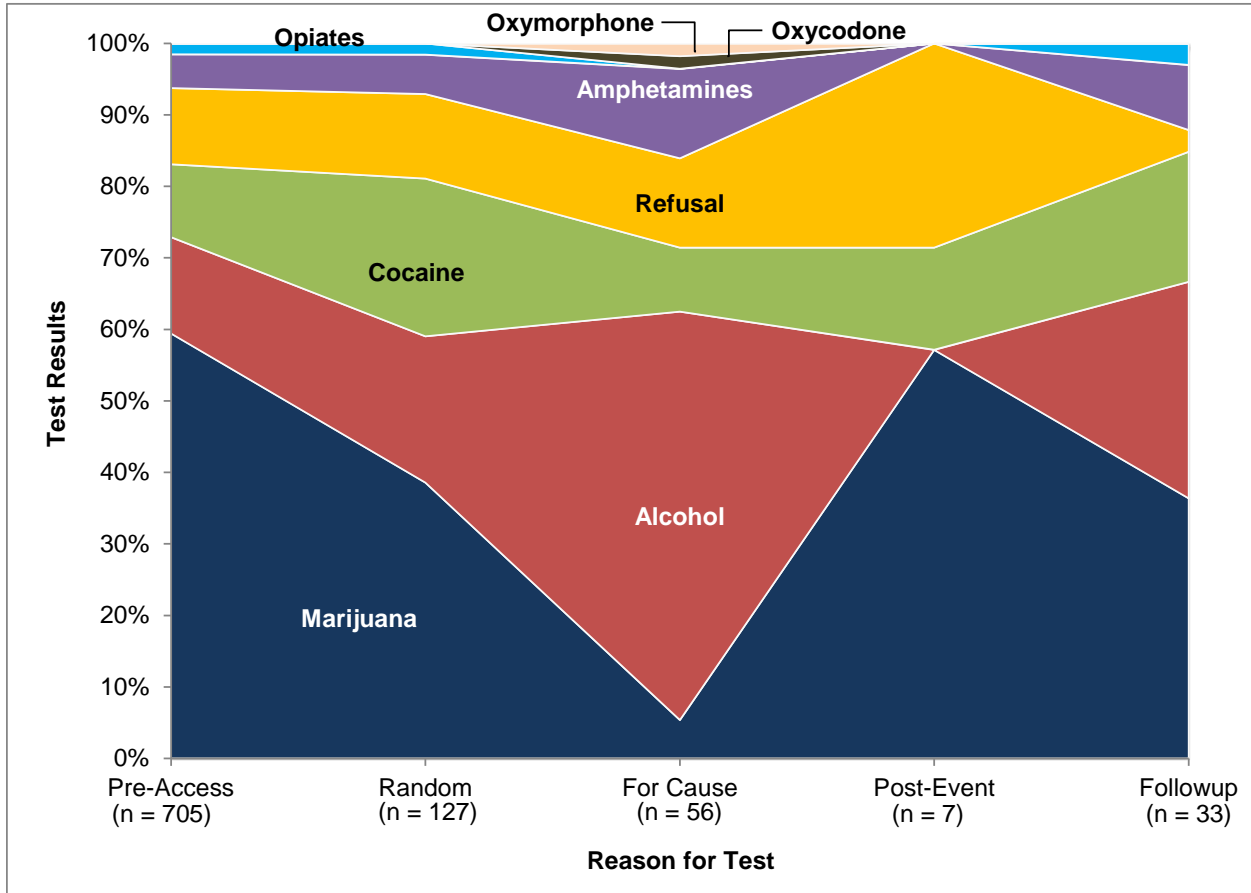


* [Chart 15](#) includes all test categories except the “Post-Event” and “Other” categories. No tests were reported for these categories in CY 2012. Refer to [Table A-11](#) in the report appendix for the data used to create this chart.

Observations on Chart 15

- Marijuana and alcohol accounted for at least 71 percent (and up to 100 percent) of substances detected, regardless of the reason for test.
- Alcohol constituted 100 percent of for-cause testing positives.
- Refusals only occurred during pre-access and random testing.

Chart 16
Contractors/Vendors, Percentage of Positive Results by Substance
and Reason for Test* (E-Reported Data)



* [Chart 16](#) includes all test types except the “Other” category. No tests were reported for this category in CY 2012. Refer to [Table A-12](#) in the report appendix for the data used to create this chart.

Observations on Chart 16

- Marijuana and alcohol accounted for at least 57 percent (and up to 73 percent) of substances detected, regardless of the reason for the test.
- Alcohol accounted for 57 percent of for-cause testing positives.
- Testing refusals constituted 3 to 29 percent of positives, including 13 percent of for-cause testing positives.

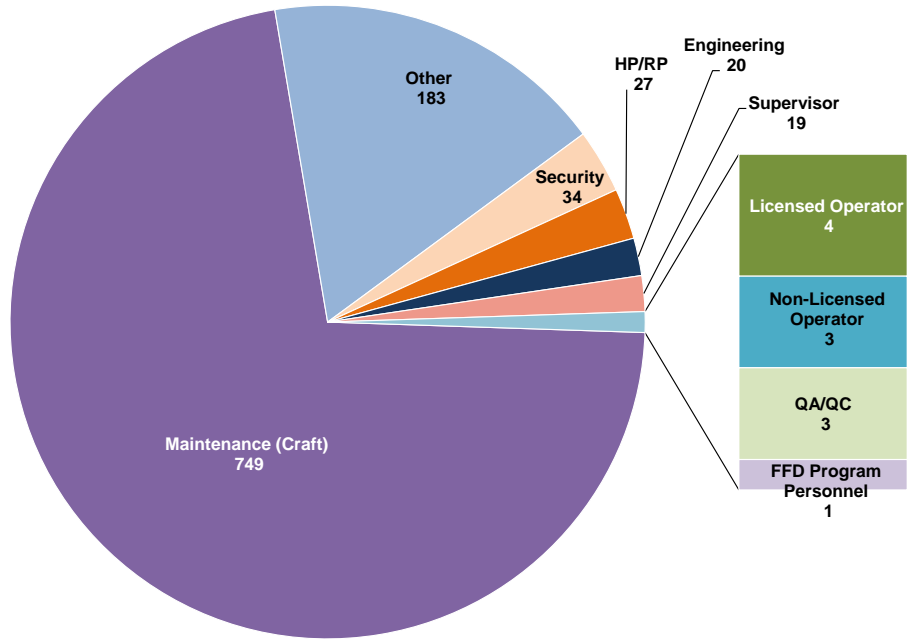
Chart 17
Positive Results by Substance and Employment Category (E-Reported Data)



Observations on Chart 17

- C/Vs accounted for the large majority of substances detected, including:
 - 97 percent of testing refusals,
 - 94 percent of marijuana positives,
 - 93 percent of opiates positives, and
 - 91 percent of amphetamines positives.
- Alcohol was the most-detected substance in licensee employee testing.

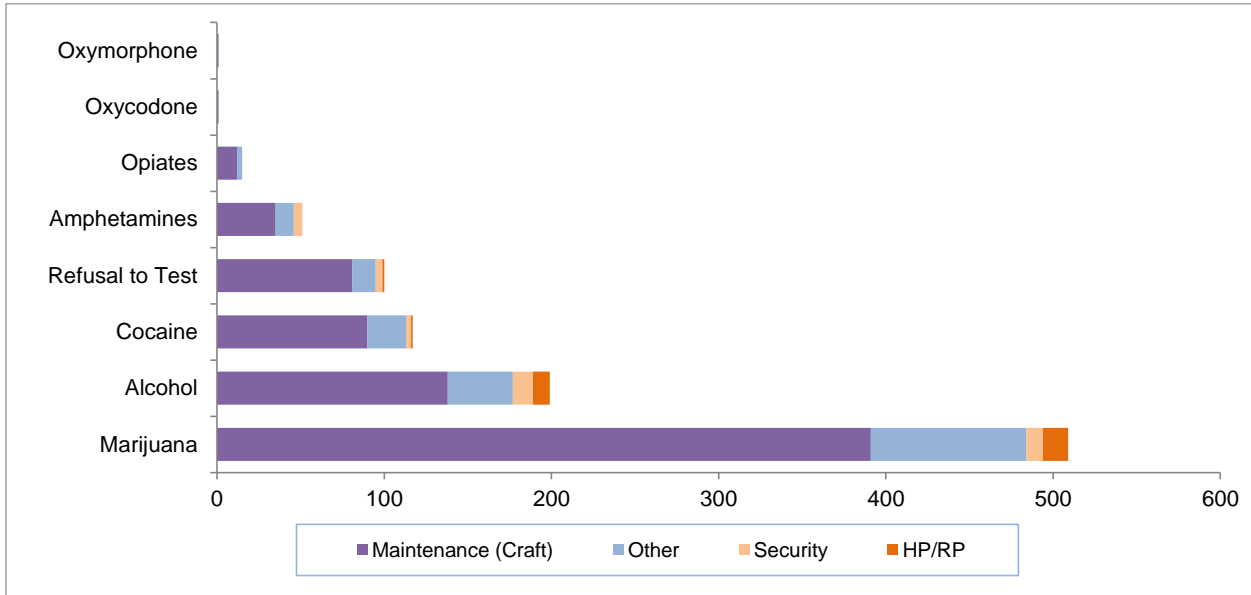
Chart 18
Positive Results by Labor Category (E-Reported Data)



Observation on Chart 18

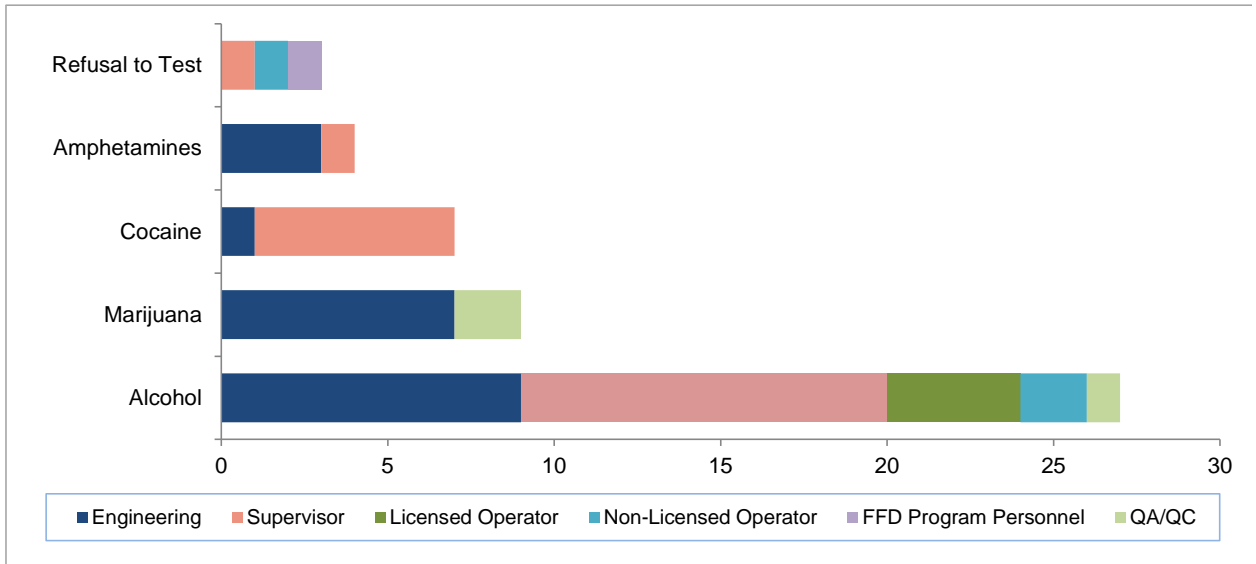
- Positives associated with the “Maintenance (Craft)” (749) and “Other” (183) labor categories comprised 89 percent of all substances detected (932 of 1,043). The top four labor categories (Maintenance (Craft), Other, Security, and HP/RP) accounted for 95 percent of all substances detected (993 of 1,043).

Chart 19
Positive Results by Substance* by Labor Category for Top Four Labor Categories
(E-Reported Data)



* [Chart 19](#) includes only substances for which positive tests were reported.

Chart 20
Positive Results by Substance* by Labor Category for Remaining Six Labor Categories
(E-Reported Data)

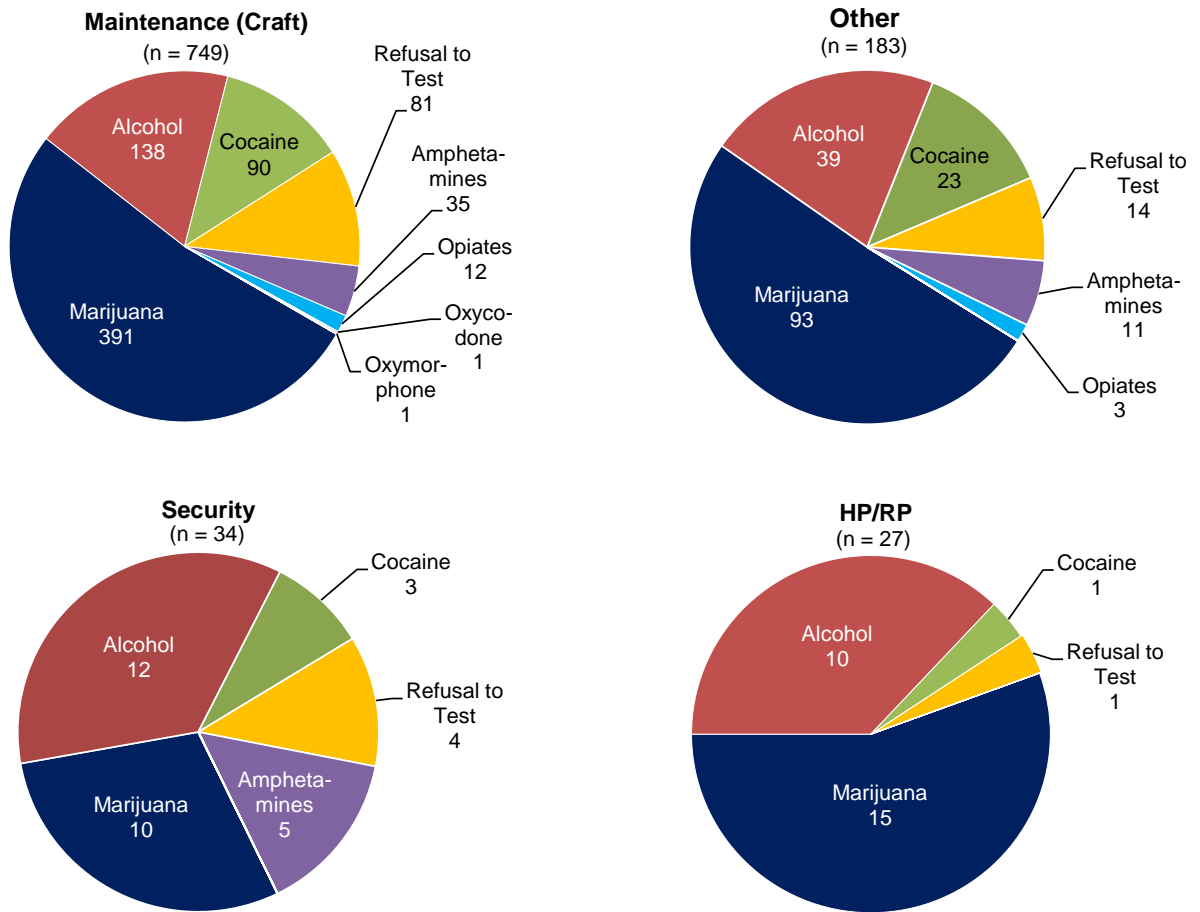


* [Chart 20](#) includes only substances for which positive tests were reported.

Observations on Chart 19 and Chart 20

- The “Maintenance (Craft)” labor category contributed the largest number of positives for each substance identified. This category accounted for 72 percent (749 of 1,043) of all substances detected ([Chart 19](#)).
- For the top four labor categories (maintenance (craft), other, security, and HP/RP), marijuana was the most commonly detected substance, accounting for 51 percent (509 of 993) of all substances detected ([Chart 19](#)).
- For the remaining six labor categories (engineering, supervisor, licensed operator, non-licensed operator, FFD program personnel, and QA/QC), alcohol positives made up 54 percent (27 of 50) of all substances detected.
- One person working in the FFD program refused to test.

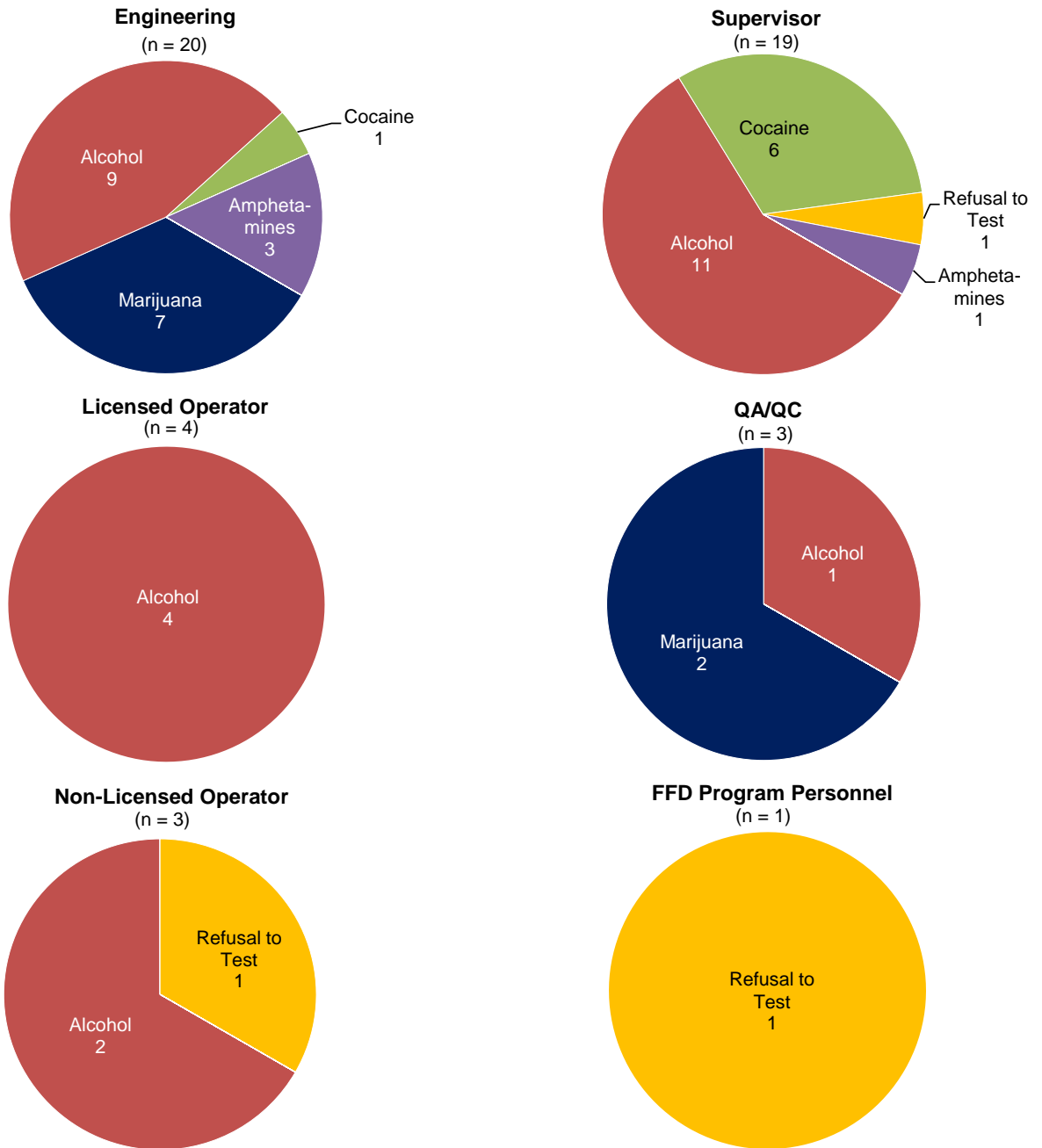
Chart 21
Individual Pie Charts Displaying Test Results for Top Four Labor Categories
(E-Reported Data)



Observations on Chart 21

- Two labor categories (maintenance (craft) and other) demonstrated substance use patterns (i.e., the proportions of substances detected were fairly consistent).
- Marijuana and alcohol make up the majority of substances detected for each of the top four labor categories.

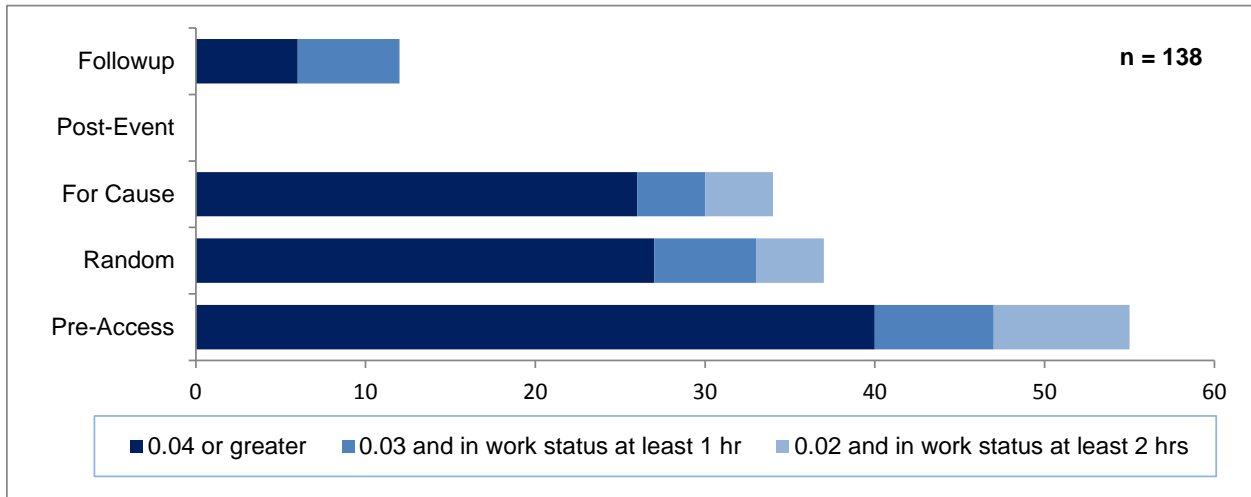
Chart 22
Individual Pie Charts Displaying Test Results for Remaining Six Labor Categories
(E-Reported Data)



Observations on Chart 22

- Alcohol positives made up 54 percent (27 of 50) of all substances detected for the the remaining six labor categories.
- One person working in the FFD program refused to test.

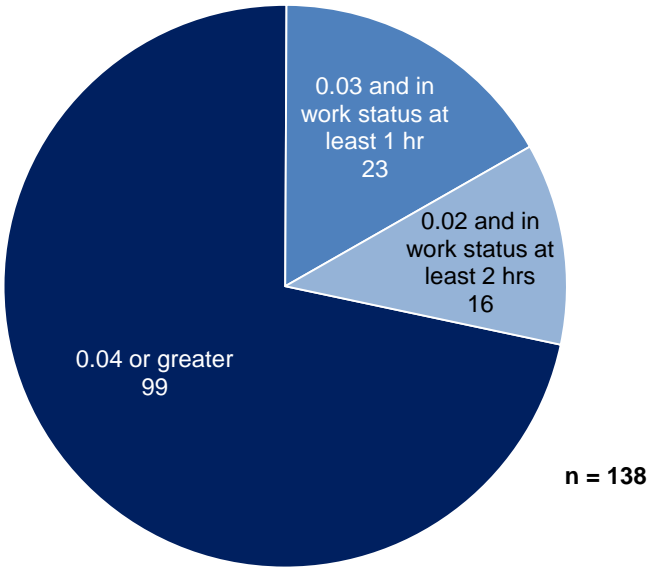
Chart 23
Alcohol Positives by BAC Level and Reason for Test (E-Reported Data)



Observation on Chart 23

- Facilities using the e-reporting system reported 226 alcohol positives. However, because of differences in the e-forms used by these facilities, not all facilities provided information on the BAC level associated with the alcohol positives. Information on BAC level was reported for sixty-one (61) percent of the alcohol positives (138).
- Fifty-five (55) alcohol positives (40 percent) occurred during pre-access testing, while 37 (27 percent) and 34 (25 percent) occurred during random and for-cause testing, respectively.

Chart 24
Alcohol Positives by BAC Level (E-Reported Data)



Observations on Chart 24

- Thirty-nine alcohol positives (28 percent) involved BAC levels below 0.04 (i.e., either 0.02 and in work status at least two hours or 0.03 and in work status at least 1 hour).

Section 8 Subversion Attempts

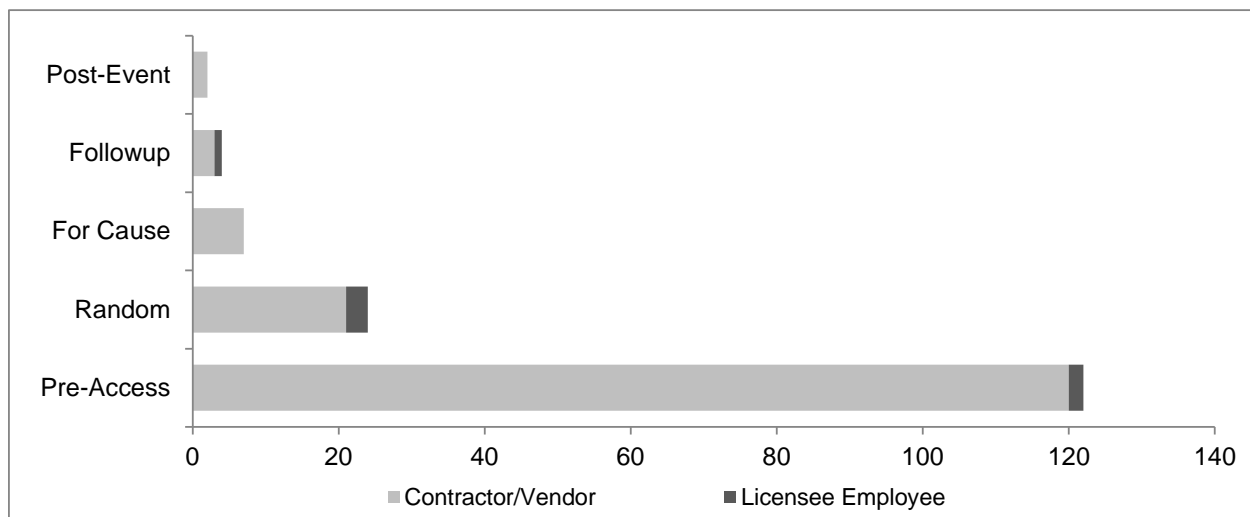
This section presents information on subversion attempts observed in CY 2012. Subversion attempts include efforts to avoid testing (e.g., refusing to provide a specimen), as well as efforts to cause an inaccurate test result (e.g., adulterating a specimen, using a specimen other than the donor's) to prevent detection of substance use or abuse.

E-reporting has enabled increasingly sophisticated analysis of data on subversion attempts. Major improvements to the SPTF in CY 2011 included the addition of descriptive checkboxes and improvements to the user interface, which have facilitated more accurate and precise reporting of subversion attempts. Particularly, e-reporting provides information on the following:

- When subversion attempts occur (e.g., during what type of testing and at what stage in the testing process);
- Who commits subversion attempts (e.g., which employment and labor categories); and
- How subversion attempts are detected (e.g., based on what indicators, such as specimen temperature).

[Chart 25](#) and [Chart 26](#) illustrate the relative contribution of licensee employees and C/Vs to the subversion attempt counts for each reason for each test and labor category.

Chart 25
Subversion Attempts by Reason for Test and Employment Category (EIE results)

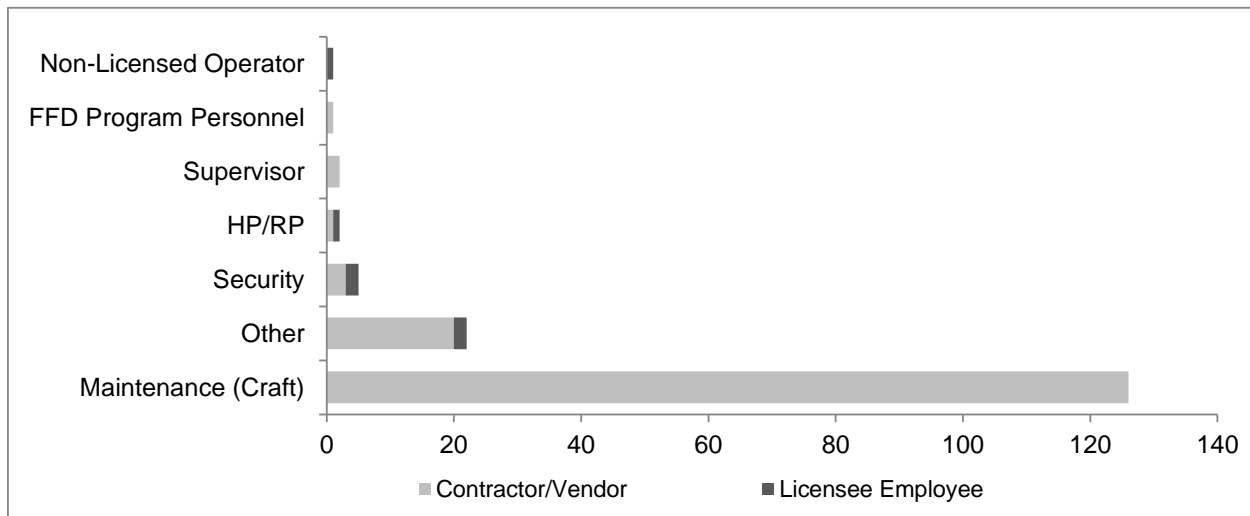


* Refer to [Table A-13](#) in the report appendix for the data used to create this chart.

Observations on Chart 25

- C/Vs were responsible for 96 percent of all subversion attempts, including 100 percent of subversion attempts during for-cause and post-event testing.
- The large majority (77 percent) of subversion attempts occurred during pre-access testing.

Chart 26
Subversion Attempts by Labor Category* and Employment Category (EIE results)



* [Chart 26](#) includes only the labor categories for which subversion attempts were reported. Refer to [Table A-14](#) in the report appendix for the data used to create this chart.

Observations on Chart 26

- C/Vs were responsible for 96 percent of all subversion attempts, including 100 percent of the subversion attempts in the “Maintenance (Craft)” labor category.
- Most subversion attempts (79 percent) were associated with the “Maintenance (Craft)” labor category.

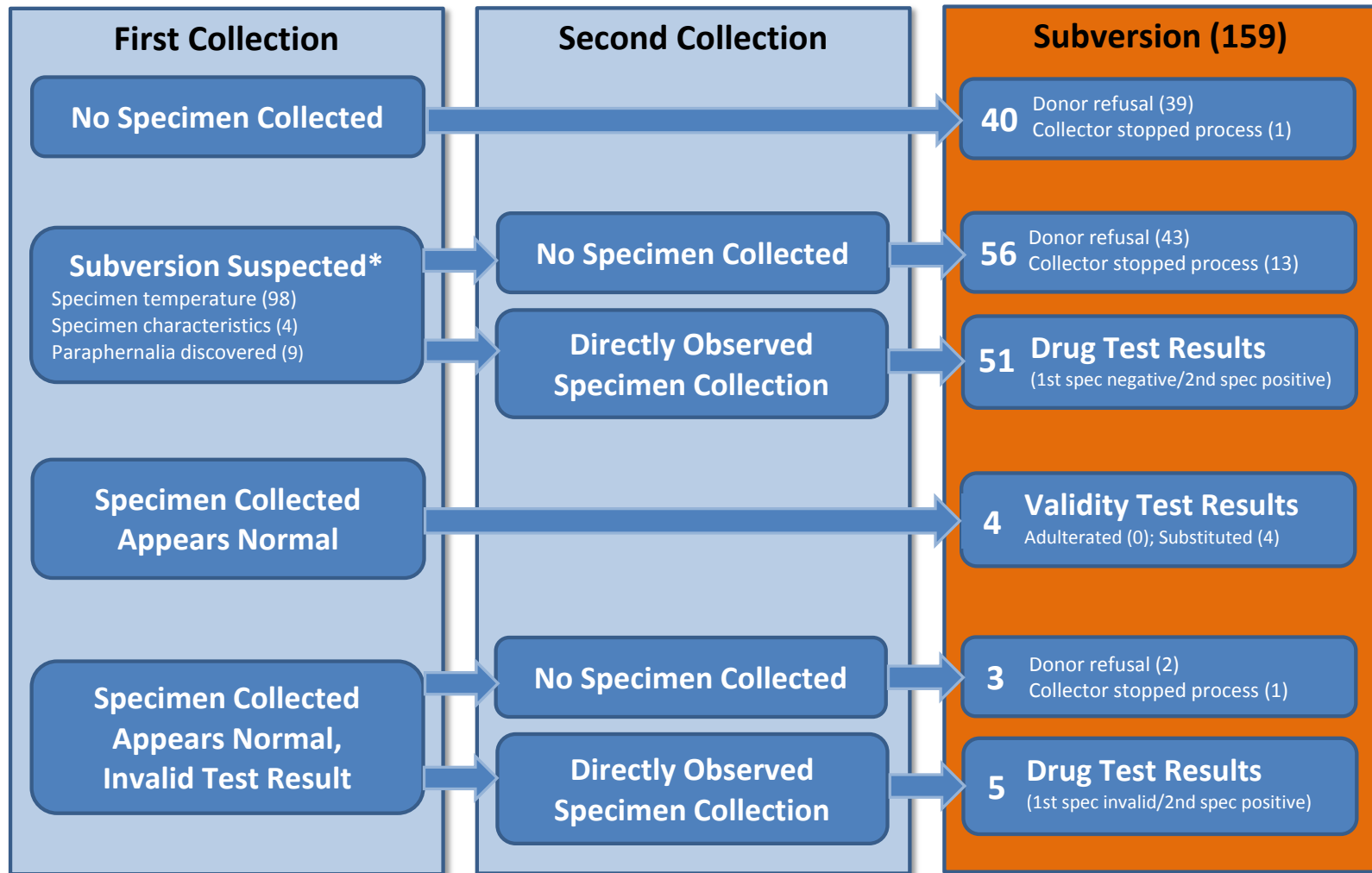
[Figure 1](#) maps the occurrences of subversion attempts in CY 2012. This “subversion map” includes three colored boxes, which represent three stages in the FFD testing process. Progressing from left to right, the three boxes represent (1) the first specimen collection; (2) the second specimen collection (if necessary); and (3) the resulting subversion attempt determination.

The subversion map identifies several paths to identifying a subversion attempt. Beginning in the “First Collection” box, the map presents a range of outcomes of the first collection, including no specimen collected, a specimen collected with an indication of a subversion attempt, and a seemingly normal specimen collected. The “Second Collection” box identifies outcomes of the second collection; either no specimen is collected or a specimen is collected under direct

observation. Finally, the third box shows the ways in which the subversion attempts are ultimately identified, including a donor refusal, a test result, or the collector's decision to terminate the process based on some other clear indicator of subversion.

The subversion map provides important information on the when and how of subversion attempts, which can guide efforts by licensees and other entities to detect and deter subversion attempts in their FFD programs. The subversion map is possible because of the combined reporting and analysis efforts of NRC and industry, resulting in a sophisticated analysis of subversion attempts that is unique among federal workplace testing programs.

Figure 1
Subversion Attempts - e-Reporting Road Map to Detection (EIE Results)



*For some subversion cases, more than one indicator of subversion was reported.

Observations on Figure 1

- Facilities that used the e-reporting system reported a large number of subversion attempts (159). An additional 18 subversion attempts were reported in the hardcopy reports but are not captured in [Chart 25](#), [Chart 26](#), and [Figure 1](#) because of insufficient information.
- Specimen temperature was a key indicator to detecting a subversion attempt, with “Temperature out of range” detected in 98 of the 159 subversion attempts (62 percent).
- Few subversion attempts were detected based on laboratory tests (12 subversion attempts, or eight percent). The majority of the subversion attempts were detected at the collection site.

Table of Changes

This table highlights changes made to the tables in this report compared to the NRC staff's CY 2011 report.

Report				Changes Made
CY 2011 results		CY 2012 results		
Table/ Chart No.	Table/ Chart Title	Table/ Chart No.	Table/ Chart Title	
Table d	Laboratory Testing Errors and Unsatisfactory Performance	Table 2	Laboratory Testing Performance Issues	<ul style="list-style-type: none"> Renumbered the table. Revised the title. Revised the column heading "Summary of Issue" to read "Performance Issue Summary."
Table e	Reportable Events due to Individual Employee Violations	Table 1	Reportable Events Resulting from Individual Employee Violations	<ul style="list-style-type: none"> Renumbered the table. Revised the title. Revised the row heading "For Cause" to read "For-Cause."
Table 1	Test Results by Test Category	Table 4	Test Results by Test Category	<ul style="list-style-type: none"> Renumbered the table. Revised the row heading "For Cause" to read "For-Cause."
Table 2	Test Results by Test and Employment Categories	Table 5	Test Results by Test and Employment Categories	<ul style="list-style-type: none"> Renumbered the table. Revised the row heading "For Cause" to read "For-Cause."
Table 3	Positive Test Results by Substance and Employment Category (All Test Types, including Testing Refusals)	Table 6	Positive Test Results by Substance and Employment Category (All Test Types, Including Testing Refusals)	<ul style="list-style-type: none"> Renumbered the table.
Table 4	Significant Fitness for Duty Events* (2002–2011)	Table 7	Significant Fitness for Duty Events*	<ul style="list-style-type: none"> Renumbered the table. Revised the title. Removed a row for 2002 data. Added a row for the current year's data.
Table 5	Trends in Testing by Test Type (2000–2011)	Table 8	Trends in Testing by Test Type	<ul style="list-style-type: none"> Renumbered the table. Revised the title. Removed a row for 2000 data. Added a column for the current year's data. Revised the row heading "For Cause" to read "For-Cause."
Chart 3	Trends in Positive Random Testing Rates (1990*–2011)	Chart 3	Trends in Positive Random Testing Rates*	<ul style="list-style-type: none"> Revised the title.
Table 6	Trends in Substances* Identified (1990–2011)	Table A-3	Trends in Substances* Identified	<ul style="list-style-type: none"> Moved tabular results to the Appendix. The reader can refer to the Appendix if the underlying data is needed for additional evaluation.

Report				Changes Made
CY 2011 results		CY 2012 results		
Table/ Chart No.	Table/ Chart Title	Table/ Chart No.	Table/ Chart Title	
Chart 4	Trends in Positive Test Rates (All Test Types)* by Employment Category (1993–2011)	-	-	<ul style="list-style-type: none"> Removed chart because subsequent tables provided more nuanced information by test type, rather than for all tests aggregated.
Chart 5	Trends in Positive Pre-Access Testing Rates by Employment Category* (1993–2011)	Chart 5	Trends in Positive Pre-Access Testing Rates by Employment Category*	<ul style="list-style-type: none"> Revised the title.
Chart 6	Trends in Positive Random Test Rates by Employment Category* (1993–2011)	Chart 6	Trends in Positive Random Test Rates by Employment Category*	<ul style="list-style-type: none"> Revised the title.
Chart 7	Trends in Positive For Cause Testing Rates by Employment Category* (1993–2011)	Chart 7	Trends in Positive For-Cause Testing Rates by Employment Category*	<ul style="list-style-type: none"> Revised the title.
Table 7	Industry Positive Test Results for Pre-Access, Random, and For Cause Testing by Employment Category	Table 9	Industry Positive Test Results for Pre-Access, Random, and For-Cause Testing by Employment Category	<ul style="list-style-type: none"> Renumbered the table. Revised “For Cause” to read “For-Cause” in the title and column heading. Added a column for the number of facilities reporting test results.
Table 8	Distribution of Pre-Access Testing Positive Rate Ranges by Employment Category and Number of Sites	Table A-8	Distribution of Pre-Access Testing Positive Rate Ranges by Employment Category and Number of Sites	<ul style="list-style-type: none"> Moved tabular results to the Appendix. The reader can refer to the Appendix if the underlying data is needed for additional evaluation.
Table 9	Distribution of Random Testing Positive Rate Ranges by Employment Category and Number of Sites	Table A-9	Distribution of Random Testing Positive Rate Ranges by Employment Category and Number of Sites	<ul style="list-style-type: none"> Moved tabular results to the Appendix. The reader can refer to the Appendix if the underlying data is needed for additional evaluation.
Table 10	Distribution of For Cause Testing Positive Rate Ranges by Employment Category and Number of Sites	Table A-10	Distribution of For-Cause Testing Positive Rate Ranges by Employment Category and Number of Sites	<ul style="list-style-type: none"> Renumbered the table. Revised “For Cause” to read “For-Cause” in the title.
Table 11	Test Results for Each Test Category (Electronic Information Exchange (EIE) results)	Table 10	Test Results for Each Test Category (E-Reported Data)	<ul style="list-style-type: none"> Renumbered the table. Revised the row heading “For Cause” to read “For-Cause.”

Report				Changes Made
CY 2011 results		CY 2012 results		
Table/ Chart No.	Table/ Chart Title	Table/ Chart No.	Table/ Chart Title	
Table 12	Licensee Employees, Percentage of Positive Tests by Substance and Reason for Test (EIE results)	Table A-11	Licensee Employees, Percentage of Positive Tests by Substance and Reason for Test	<ul style="list-style-type: none"> Moved tabular results to the Appendix. The reader can refer to the Appendix if the underlying data is needed for additional evaluation.
Chart 15	-	Chart 15	Licensee Employees, Percentage of Positive Tests by Substance and Reason for Test	<ul style="list-style-type: none"> Added text to chart title to provide context.
Table 13	Contractors/Vendors, Percentage of Positive Results by Substance and Reason for Test* (EIE results)	Table A-12	Contractors/Vendors, Percentage of Positive Results by Substance and Reason for Test*	<ul style="list-style-type: none"> Moved tabular results to the Appendix. The reader can refer to the Appendix if the underlying data is needed for additional evaluation.
Chart 16	-	Chart 16	Contractors/Vendors, Percentage of Positive Results by Substance and Reason for Test*	<ul style="list-style-type: none"> Added text to chart title to provide context.
Chart 23	Summary of Testing Refusals by Reason for Test and Refusal Category (EIE Results)	-	-	<ul style="list-style-type: none"> Removed chart because figure added later in report provides more nuanced information.
Chart 24	Summary of Testing Refusals by Labor Category* and Refusal Category (EIE results)	-	-	<ul style="list-style-type: none"> Removed chart because figure added later in report provides more nuanced information.
Chart 25	Testing Refusals by Reason for Test and Employment Category (EIE results)	Chart 25	Subversion Attempts by Reason for Test and Employment Category (EIE results)	<ul style="list-style-type: none"> Revised the title to be consistent with the description of preceding subversion attempts.
Chart 26	Testing Refusals by Labor Category* and Employment Category (EIE results)	Chart 26	Subversion Attempts by Labor Category* and Employment Category (EIE results)	<ul style="list-style-type: none"> Revised the title to be consistent with the description of preceding subversion attempts.
Table A-1	Significant Fitness for Duty Events (1990–2001)	Table A-1	Significant Fitness for Duty Events* (1990–2002)	<ul style="list-style-type: none"> Revised the title. Added a row for 2002 data.
Table A-2	Trends in Testing by Test Type (1990–1999)	Table A-2	Trends in Testing by Test Type (1990–2000)	<ul style="list-style-type: none"> Revised the title. Added a column for 2000 data.
Table A-3	Trends in Positive Test Rates (All Test Types)* by Employment Category (1993–2011)	Table A-4	Trends in Positive Test Rates (All Test Types)* by Employment Category (1993–2012)	<ul style="list-style-type: none"> Renumbered the table. Added a row for the current year's data.

Report				Changes Made
CY 2011 results		CY 2012 results		
Table/ Chart No.	Table/ Chart Title	Table/ Chart No.	Table/ Chart Title	
Table A-4	Trends in Positive Pre-Access Testing Rates by Employment Category (1993–2011)	Table A-5	Trends in Positive Pre-Access Testing Rates by Employment Category (1993–2012)	<ul style="list-style-type: none"> Renumbered the table. Added a row for the current year's data.
Table A-5	Trends in Positive Random Test Rates by Employment Category (1993–2011)	Table A-6	Trends in Positive Random Test Rates by Employment Category (1993–2012)	<ul style="list-style-type: none"> Renumbered the table. Added a row for the current year's data.
Table A-6	Trends in Positive For Cause Testing Rates by Employment Category (1993–2011)	Table A-7	Trends in Positive For-Cause Testing Rates by Employment Category (1993–2012)	<ul style="list-style-type: none"> Revised 'For Cause' to read "For-Cause" in the title. Renumbered the table. Added a row for the current year's data.

The following table presents information on new tables and charts included in the CY 2012 report. The presentation of each table or chart is consistent with the order of appearance in the report.

New Tables and Charts

Table/Chart	Title	Description
Table 3	Other Program and System Management Issues	Table of text describing program and system management issues by topic and reporting entity.
Chart 4	Trends in Substances* Identified	Bar chart of number of substances detected in testing visually presents trends more clearly than data presented in a tabular manner.
Chart 23	Alcohol Positives by BAC Level and Reason for Test	Bar chart of alcohol positives by BAC level and reason for test.
Chart 24	Alcohol Positives by BAC Level	Pie chart of the share of alcohol positives associated with each BAC level.
Figure 1	Subversion Attempts - e-Reporting Road Map to Detection (EIE Results)	Flow chart depicting where in the collection process subversion attempts occur.
Table A-13	Subversion Attempts by Reason for Test and Employment Category	Table presenting the number of subversion attempts by reason for test and employment category.
Table A-14	Subversion Attempts by Labor Category* and Employment Category	Table presenting the number of subversion attempts by labor category and employment category.

Appendix A
Historical Information

Table A-1
Significant Fitness for Duty Events* (1990–2002)

Year	Reactor Operators	Licensee Supervisors	C/V Supervisors	FFD Program Personnel	Substances Found	Total
1990	19	26	12	1	6	64
1991	16	18	24	5	8	71
1992	18	22	28	0	6	74
1993	8	25	16	0	2	51
1994	7	11	11	1	0	30
1995	8	16	10	0	5	39
1996	8	19	8	2	5	42
1997	9	16	10	0	4	39
1998	5	10	10	3	0	28
1999	5	2	12	2	2	23
2000	5	11	8	0	3	27
2001	4	9	12	0	0	25
2002	3	3	12	3	1	22

* [Table A-1](#) presents 24-hour reportable events per Title 10 of the *Code of Federal Regulations* (10 CFR) 26.719, "Reporting Requirements."

**Table A-2
Trends in Testing by Test Type (1990–2000)**

Type of Test	1990	1991	1992	1993	1994*	1995	1996	1997	1998	1999	2000
Pre-Access											
Number Tested	122,491	104,508	104,842	91,471	80,217	79,305	81,041	84,320	69,146	69,139	68,333
Number Positive	1,548	983	1,110	952	977	1,122	1,132	1,096	822	934	965
Percent Positive	1.26%	0.94%	1.06%	1.04%	1.22%	1.41%	1.40%	1.30%	1.19%	1.35%	1.41%
Random											
Number Tested	148,743	153,818	156,730	146,605	78,391	66,791	62,307	60,829	56,969	54,457	51,955
Number Positive	550	510	461	341	223	180	202	172	157	140	204
Percent Positive	0.37%	0.33%	0.29%	0.23%	0.28%	0.27%	0.32%	0.28%	0.28%	0.26%	0.39%
For-Cause											
Number Tested	664	572	552	599	521	576	621	531	455	506	609
Number Positive	212	167	175	163	119	138	136	144	97	120	132
Percent Positive	31.93%	29.20%	31.70%	27.21%	22.84%	23.96%	21.90%	27.12%	21.32%	23.72%	21.67%
Post-Event											
Number Tested	68	155	144	152	237	187	227	191	265	230	274
Number Positive	2	0	3	0	3	1	2	5	3	0	6
Percent Positive	2.94%	0.00%	2.08%	0.00%	1.27%	0.53%	0.88%	2.62%	1.13%	0.00%	2.19%
Followup											
Number Tested	2,633	3,544	4,283	4,139	3,875	3,262	3,262	3,296	2,863	3,008	2,861
Number Positive	65	62	69	56	50	35	40	31	43	30	49
Percent Positive	2.47%	1.75%	1.61%	1.35%	1.29%	1.07%	1.23%	0.94%	1.50%	1.00%	1.71%
TOTAL											
Number Tested	274,599	262,597	266,551	242,966	163,241	150,121	147,458	149,167	129,698	127,340	124,032
Number Positive	2,377	1,722	1,818	1,512	1,372	1,476	1,512	1,448	1,122	1,224	1,356
Percent Positive	0.87%	0.66%	0.68%	0.62%	0.84%	0.98%	1.03%	0.97%	0.87%	0.96%	1.09%

* Beginning in 1994, the U.S. Nuclear Regulatory Commission (NRC) reduced the minimum annual random testing rate from 100 percent to 50 percent of the subject population.

**Table A-3
Trends in Substances* Identified**

Year	Marijuana	Cocaine	Alcohol	Amphetamines	Opiates	Phencyclidine	Total
1990	1,153	706	452	69	45	8	2,433
1991	746	549	401	31	24	11	1,762
1992	953	470	427	31	8	4	1,893
1993	781	369	357	51	13	5	1,576
1994	739	344	251	54	11	1	1,400
1995	819	374	265	61	17	7	1,543
1996	868	352	281	53	14	2	1,570
1997	842	336	262	49	39	0	1,528
1998	606	269	212	46	19	1	1,153
1999	672	273	230	40	16	2	1,233
2000	620	251	211	50	32	1	1,165
2001	523	225	212	50	17	2	1,029
2002	560	228	214	47	21	3	1,073
2003	518	228	199	64	17	0	1,026
2004	514	247	222	60	14	1	1,058
2005	432	246	196	59	16	2	951
2006	446	307	206	53	14	1	1,027
2007	386	232	189	29	22	5	863
2008	506	184	177	35	16	1	919
2009	500	157	261	38	10	1	967
2010	534	125	222	54	15	1	951
2011	530	127	262	85	18	3	1,025
2012	568	134	256	64	19	0	1,041

* [Table A-3](#) only includes positive test results for the substances for which licensees and other entities are required to test per 10 CFR 26.31(d).

**Table A-4
Trends in Positive Test Rates (All Test Types)* by Employment Category (1993–2012)**

Year	Licensee Employees			Contractors/Vendors		
	Total Tests	Number Positive	Percent Positive	Total Tests	Number Positive	Percent Positive
1993	109,375	274	0.25%	133,591	1,238	0.93%
1994	65,850	219	0.33%	97,391	1,153	1.18%
1995	58,801	197	0.34%	91,320	1,279	1.40%
1996	56,387	244	0.43%	91,071	1,268	1.39%
1997	55,402	187	0.34%	93,765	1,261	1.34%
1998	51,926	169	0.33%	77,772	953	1.23%
1999	49,046	159	0.32%	78,294	1,065	1.36%
2000	46,385	206	0.44%	77,647	1,150	1.48%
2001	46,466	147	0.32%	70,737	857	1.21%
2002	45,905	117	0.25%	81,095	935	1.15%
2003	44,892	146	0.33%	81,692	911	1.12%
2004	44,900	123	0.27%	87,369	911	1.04%
2005	44,405	122	0.27%	90,104	810	0.90%
2006	47,219	118	0.25%	91,705	907	0.99%
2007	47,974	115	0.24%	92,229	792	0.86%
2008	51,852	113	0.22%	97,914	823	0.84%
2009	54,845	153	0.28%	109,602	840	0.77%
2010	53,287	119	0.22%	113,354	862	0.76%
2011	54,203	127	0.23%	124,383	953	0.77%
2012	54,524	125	0.23%	124,611	989	0.79%

* [Table A-4](#) includes all test categories except the “Other” category. The corresponding chart has been deleted from this report because other charts provide more nuanced information by test type. This report retains the aggregate data in [Table A-4](#) for consistency with prior years’ reports.

**Table A-5
Trends in Positive Pre-Access Testing Rates by Employment Category (1993–2012)**

Year	Licensee Employees			Contractors/Vendors		
	Total Tests	Number Positive	Percent Positive	Total Tests	Number Positive	Percent Positive
1993	11,119	47	0.42%	80,352	905	1.13%
1994	10,254	49	0.48%	69,963	928	1.33%
1995	10,534	60	0.57%	68,771	1,062	1.54%
1996	9,901	94	0.95%	71,140	1,038	1.46%
1997	11,195	62	0.55%	73,125	1,034	1.41%
1998	9,422	50	0.53%	59,724	772	1.29%
1999	8,386	44	0.52%	60,753	890	1.46%
2000	7,613	51	0.67%	60,720	914	1.51%
2001	8,442	44	0.52%	55,302	676	1.22%
2002	8,050	28	0.35%	65,138	777	1.19%
2003	8,309	41	0.49%	64,679	716	1.11%
2004	7,661	35	0.46%	68,458	702	1.03%
2005	8,210	28	0.34%	70,795	620	0.88%
2006	9,336	24	0.26%	70,644	723	1.02%
2007	9,783	34	0.35%	72,149	634	0.88%
2008	11,498	21	0.18%	75,970	643	0.85%
2009	10,619	41	0.39%	85,259	636	0.75%
2010	10,312	21	0.20%	86,231	656	0.76%
2011	10,729	28	0.26%	93,119	713	0.77%
2012	10,529	28	0.27%	90,909	738	0.81%

**Table A-6
Trends in Positive Random Test Rates by Employment Category (1993–2012)**

Year	Licensee Employees			Contractors/Vendors		
	Total Tests	Number Positive	Percent Positive	Total Tests	Number Positive	Percent Positive
1993	95,103	157	0.17%	51,502	184	0.36%
1994*	52,493	96	0.18%	25,898	127	0.49%
1995	45,815	82	0.18%	20,976	98	0.47%
1996	44,183	94	0.21%	18,124	108	0.60%
1997	42,011	76	0.18%	18,818	96	0.51%
1998	40,415	71	0.18%	16,554	86	0.52%
1999	38,692	71	0.18%	15,765	69	0.44%
2000	36,784	116	0.32%	15,171	88	0.58%
2001	36,048	64	0.18%	14,032	84	0.60%
2002	35,608	55	0.15%	14,240	59	0.41%
2003	34,202	61	0.18%	15,200	71	0.47%
2004	34,723	51	0.15%	16,516	76	0.46%
2005	33,587	60	0.18%	16,699	87	0.52%
2006	34,818	55	0.16%	17,739	77	0.43%
2007	34,984	55	0.16%	16,681	62	0.37%
2008	36,721	50	0.14%	18,038	77	0.43%
2009	40,682	67	0.16%	20,195	87	0.43%
2010	39,588	69	0.17%	22,420	122	0.54%
2011	39,817	63	0.16%	25,961	139	0.54%
2012	39,951	65	0.16%	27,992	140	0.50%

* Beginning in 1994, the NRC reduced the minimum annual random testing rate from 100 percent to 50 percent of the subject population.

Table A-7
Trends in Positive For-Cause Testing Rates by Employment Category (1993–2012)

Year	Licensee Employees			Contractors/Vendors		
	Total Tests	Number Positive	Percent Positive	Total Tests	Number Positive	Percent Positive
1993	230	35	15.22%	369	128	34.69%
1994	199	39	19.60%	322	80	24.84%
1995	235	35	14.89%	341	103	30.21%
1996	244	34	13.93%	377	102	27.06%
1997	208	34	16.35%	323	110	34.06%
1998	185	26	14.05%	270	71	26.30%
1999	203	29	14.29%	303	91	30.03%
2000	205	21	10.24%	404	111	27.48%
2001	219	20	9.13%	287	79	27.53%
2002	243	23	9.47%	374	87	23.26%
2003	232	22	9.48%	405	101	24.94%
2004	266	23	8.65%	435	111	25.52%
2005	309	19	6.15%	362	86	23.76%
2006	322	24	7.45%	394	80	20.30%
2007	292	15	5.14%	428	66	15.42%
2008	329	22	6.69%	468	72	15.38%
2009	232	28	12.07%	315	80	25.40%
2010	214	11	5.14%	335	36	10.75%
2011	350	22	6.29%	506	51	10.08%
2012	218	17	7.80%	506	69	13.64%

Table A-8
Distribution of Pre-Access Testing Positive Rate Ranges
by Employment Category and Number of Sites

Positive Rate Range (%)	Licensee Employees	Contractors/Vendors
0	58	10
>0 to 0.5	4	16
>0.5 to 1	8	34
>1 to 1.5	3	9
>1.5 to 2	1	2
>2 to 2.5	0	3
>2.5 to 3	0	1
>3 to 3.5	0	0
>3.5 to 4	1	1
Total Sites*	75	76

* Total site counts might differ if a site did not test any individuals in an employment category.

Table A-9
Distribution of Random Testing Positive Rate Ranges
by Employment Category and Number of Sites

Positive Rate Range (%)	Licensee Employees	Contractors/Vendors
0	34	26
>0 to 0.25	20	7
>0.25 to 0.5	19	19
>0.5 to 0.75	2	7
>0.75 to 1.0	1	4
>1.0 to 1.25	0	6
>1.25 to 1.5	0	3
>1.5 to 1.75	0	3
Total Sites*	76	75

* Total site counts might differ if a site did not test any individuals in an employment category.

Table A-10
Distribution of For-Cause Testing Positive Rate Ranges
by Employment Category and Number of Sites

Positive Rate Range (%)	Licensee Employees	Contractors/Vendors
0	44	30
>0 to 10	0	3
>10 to 20	1	8
>20 to 30	2	2
>30 to 40	5	4
>40 to 50	0	7
>50 to 60	0	3
>60 to 70	0	1
>70 to 80	0	0
>80 to 90	0	0
>90 to 100	4	5
Total Sites*	56	63

* Total site counts might differ if a site did not test any individuals in an employment category.

**Table A-11
Licensee Employees, Percentage of Positive Tests by Substance and
Reason for Test (E-Reported Data)**

Substance	Reason for Test				
	Pre-Access	Random	For-Cause	Post-Event	Followup
Alcohol	37%	52%	100%	-	57%
Marijuana	37%	32%	0%	-	14%
Cocaine	7%	12%	0%	-	21%
Refusal to Test	7%	2%	0%	-	0%
Amphetamines	11%	3%	0%	-	0%
Opiates	0%	0%	0%	-	7%
Total*	100%	100%	100%	-	100%
	(Total = 27)	(Total = 60)	(Total = 14)	(Total = 0)	(Total = 14)

* "Total" represents the number of occurrences. Percentages in this table have been rounded to the nearest wholenumber.

**Table A-12
Contractors/Vendors, Percentage of Positive Results by Substance
and Reason for Test* (E-Reported Data)**

Substance	Reason for Test				
	Pre-Access	Random	For-Cause	Post-event	Followup
Marijuana	59%	39%	5%	57%	36%
Alcohol	13%	20%	57%	0%	30%
Cocaine	10%	22%	9%	14%	18%
Refusal to Test	11%	12%	13%	29%	3%
Amphetamines	5%	6%	13%	0%	9%
Opiates	2%	2%	0%	0%	3%
Oxycodone	0%	0%	2%	0%	0%
Oxymorphone	0%	0%	2%	0%	0%
Total	100%	100%	100%	100%	100%
	(Total = 705)	(Total = 127)	(Total = 56)	(Total = 7)	(Total = 33)

* [Table A-12](#) includes all test categories except the "Other" category. No tests were reported for the "Other" category in CY 2012. Percentages in this table have been rounded to the nearest wholenumber.

Table A-13
Subversion Attempts by Reason for Test and Employment Category (E-Reported Data)

Reason for test	Contractor/Vendor	Licensee Employee	Total
Pre-Access	120	2	122
Random	21	3	24
For-Cause	7	0	7
Followup	3	1	4
Post-Event	2	0	2
Other	0	0	0
Total	153	6	159

Table A-14
Subversion Attempts by Labor Category* and Employment Category (E-Reported Data)

Labor Category	Contractor/Vendor	Licensee Employee	Total
Maintenance (Craft)	126	0	126
Other	20	2	22
Security	3	2	5
HP/RP	1	1	2
Supervisor	2	0	2
FFD Program Personnel	1	0	1
Non-Licensed Operator	0	1	1
Engineering	0	0	0
Licensed Operator	0	0	0
QA/QC	0	0	0
Total	153	6	159

* [Table A-14](#) includes only the labor categories for which subversion attempts were reported.