Summary of Fitness for Duty Program Performance Reports for Calendar Year 2009

Purpose

The U.S. Nuclear Regulatory Commission (NRC) provides the following fitness for duty (FFD) program performance summary to inform interested stakeholders of the drug and alcohol (D&A) testing performance of the commercial nuclear industry for calendar year (CY) 2009. The information provided is aggregated from licensee and other affected entity submission of performance data and information reports made pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR), Part 26, "Fitness for Duty Programs."

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Uses

The NRC expects licensees to review and consider the information contained in this report for applicability to their facilities and take corrective actions, as appropriate, to improve the future performance of their FFD programs. Suggestions contained in this report are not NRC requirements and therefore no specific actions or written response is required.

The information in this report also informs members of the public of commercial nuclear power industry's FFD performance. This use is consistent with the Commission's Operational Excellence objective[1] to appropriately inform and involve stakeholders in the regulatory process.

Disclaimer

The information in this Performance Report is provided as a public service and solely for informational purposes and is not, nor should be deemed as, an official NRC position, opinion or guidance, or "a written interpretation by the General Counsel" under 10 CFR 26.7, on any matter to which the information may relate. The opinions, representations, positions, interpretations, best practices, or recommendations which may be expressed by the NRC technical staff in this document are solely the NRC technical staff's and do not necessarily represent the same for 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. Stakeholder should take care in reaching conclusions based on individual interpretation of the illustrated or tabulated data, because site- or event-specific information may not be provided in the report to help inform a conclusion.

[1] NUREG-1614, Vol. 4, *Strategic Plan, Fiscal Years 2008-2012*, U.S. Nuclear Regulatory Commission, February 2008.

The performance information contained in this report is shared with NRC offices and regions. This supports inspection preparation pursuant to NRC Inspection Manual Chapter (IMC) 2201, "Security Inspection Program for Commercial Nuclear Power Reactors," and IMC 2681, "Physical Protection and Transport of SNM and Irradiated Fuel Inspection of Fuel Facilities."

Public Comment

The NRC welcomes comments concerning the content of this report. Written comments should be provided by accessing the NRC's FFD website at http://www.nrc.gov/reactors/operating/ops-experience/fitness-for-duty-programs/contact-us.html. Written comments can also be provided in hardcopy addressed to:

U.S. Nuclear Regulatory Commission
ATTN: Mr. Paul W. Harris, Senior Program Manager
Mail Stop: T4F25M
Washington, DC 20555-0001

Licensees and Affected Entities

The 10 CFR Part 26, "Fitness for Duty Programs," (Part 26) prescribes requirements and standards for the establishment, implementation, and maintenance of FFD programs. These requirements and standards are applicable to:

- All holders of operating licenses for nuclear power reactors and licensees authorized to possess, use, or transport formula quantities of strategic special nuclear material (SSNM).
- All current and potential applicants for a combined license, manufacturing license, standard design certification, or standard design approval for a nuclear power plant under the provisions of 10 CFR Part 52, "Licenses, Certifications, and Approvals for Nuclear Power Plants."
- All applicants for nuclear power plant construction permits and operating licenses under the provisions of 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities."
- Contractors/vendors (C/Vs) who implement fitness for duty (FFD) programs or program elements to the extent that the licensees and other affected entities implement C/V FFD programs or program elements.

FFD program performance information was received from 76 licensees, as listed below.

- 65 Operating Reactor Sites
- 1 Reactor Construction Site
- 6 Corporate FFD Program Offices. Some utilities with multiple reactor sites administer their FFD programs at locations different from the reactor sites and therefore report data for these administrative FFD personnel separately.
- 4 Contractor/Vendors and SSNM Transporters. Includes Babcock & Wilcox Nuclear Operations Group; Institute of Nuclear Power Operations (INPO); Nuclear Fuel Services (NFS), Inc.; and Westinghouse Electric Company, LLC.

Description of Circumstances

On March 31, 2008, the Commission published a final rule for Part 26 that updated FFD requirements and enhanced consistency with other relevant federal rules and guidelines. This final rule (73 FR 16966) became effective on April 30, 2008; however, licensees and other affected entities (heretofore, licensees) were allowed to defer implementation of the requirements related to D&A testing until March 31, 2009. Under the previous rule (54 FR 24494; June 7, 1989), licensees were required to submit their FFD program performance reports to the NRC within 60 days of the end of each 6-month reporting period (January - June and July - December). Section § 26.717, FFD Program Performance Data, of the current rule requires licensees to submit FFD program performance data annually before March 1 of the following year.

As a result of the 2008 rulemaking, the 2009 reporting year was subject to a change in regulatory requirements. Therefore, care should be taken when forming performance-based conclusions based on the data provided in this performance report. Historical FFD performance information can be reviewed NRC website http://www.nrc.gov/reactors/operating/ops-experience/fitness-for-duty-programs/performance-reports.html.

The March 2008 final rule implemented significant changes that updated and enhanced the Commission's D&A testing and evaluation regulations. The revisions: (1) enhanced consistency with advances in other relevant federal rules and guidelines, including the U.S. Department of Health and Human Services' Mandatory Guidelines for Federal Workplace Drug Testing Programs (HHS Guidelines); (2) strengthened the effectiveness of FFD programs; (2) improved consistency between the FFD requirements and 10 CFR Part 73 access authorization requirements; and (4) incorporated requirements to help ensure that persons are fit for duty to safely and competently perform assigned activities.

Changes between the previous and the current rule were: initial test cutoff levels for marijuana metabolites was decreased from 100 nanograms per milliliter (ng/mL) to 50 ng/mL and the opiate cutoff was increased from 300 ng/mL to 2000 ng/mL; confirmatory test cutoff levels for both morphine and codeine were increased from 300 ng/mL to 2000 ng/mL and blood alcohol concentration (BAC) at which a person is considered unfit for duty was changed from a 0.04 percent (%) BAC cutoff to a time-dependent BAC cutoff limit. Other significant changes included, but were not limited to enhancements in: assays, reagents, and lab equipment technical requirements; personnel qualifications and training; quality control and verification testing; reporting and recordkeeping; training, policies, and procedures; and, fitness determinations.

In making their CY 2009 annual submittals, licensees either submitted a hardcopy performance report or an electronic version of an annual report to meet the annual § 26.717 reporting requirement. Electronic reporting is described on page 6 of this report.

Executive Summary

This section provides a summary of the test results and reports submitted by licensees. Detailed results, associated site- and event-specific descriptions, NRC staff data analysis presented in graphical and tabular formats and are provided in the "Detailed Data Analysis and Descriptions" section of this report, page 8.

For CY 2009, approximately 164,450 D&A tests were conducted resulting in an overall industry positive rate of 0.61 percent for drug abuse or illicit alcohol consumption. By work category, licensee employees had a 0.28 percent positive rate and contractor/vendors (C/V or contractors) tested positive at a rate of 0.77 percent; this 1-to-3 ratio has been consistent for years.

Marijuana and alcohol continue to be the abuse substances of choice (Table a), accounting for the significant percentage (79 percent) of positive test results for each work category. And three substances (marijuana, alcohol, and cocaine) continue to account for more than 90 percent of substances identified in each testing year; these trends have been consistent for more than a decade. In 2009, alcohol positives were the highest since 1997 and reflected an increase of 47 percent from the 2008 level.

Table a – Abuse Substances of Choice

Substance	1990	2009
Marijuana	47 %	52 %
Alcohol	19 %	27 %
Cocaine	29 %	16 %

Regarding positive rates by test category (such as tests conducted for pre-access, for-cause, post-event, and follow up), pre-access testing accounted for two-thirds of all positive test results; this trend is consistent with previous years. The CY 2009 annual random testing positive rate for the industry is about 0.25 percent and continues to decrease. One of every 5 persons being tested for-cause (i.e., a person being tested because of adverse performance, observed behavior, and other factor) are found unfit for duty. In all test categories, contractors continue to test positive at a much higher rate than licensee employees. Lastly, the number of reportable FFD-related events (see § 26.719(b)) involving supervisors and NRC-licensed operators continued on a downward trend.

Withholding of Sensitive Information

In SECY-04-0191, the NRC described guidance for designating sensitive unclassified non-safeguards information relating to nuclear power reactors. This guidance was applied to information in this report, in part, to prevent persons from subverting the effectiveness of the Commission's D&A testing provisions in 10 CFR Part 26.

The FFD performance data on D&A testing cutoff levels indicates that:

- Forty-two (42) licensees reported implementing the NRC-optional drug testing policy to conduct *limit of detection* (LOD) testing of dilute specimens. By lowering a cutoff limit to LOD, more cases of illicit drug use are expected because the range of detection increases. Some licensees also conducted LOD testing for retests, suspected subversion attempts, for-cause, post-event, and follow-up testing. Qualitative data supports the effectiveness of licensee's conducting LOD testing and electronic reporting (e-reporting or e-reports) significantly improves the quality of information communicated in describing LOD test events.

- Two (2) licensees used more stringent cutoff levels than required by rule for the testing of some drugs, until these licensees implemented the current rule cutoff levels. A few licensees continued to test at more stringent cutoff levels for marijuana, opiates, and amphetamines.

- Six licensees tested for additional substances (e.g., barbiturates, benzodiazepines, methaqualone, methadone, propoxyphene); however, one licensee elected to re-impose the NRC minimum cutoffs levels.

- A few licensees did not contain a summary of management actions taken in response to identified FFD program occurrences or deficiencies, as required by § 26.71(d) in the former rule and § 26.717(b)(8) in the current rule.

- Two licenses implemented lower cutoffs for alcohol, noting that with implementation of the March 30, 2008, amended rule, licensees are now precluded by regulation to lower their alcohol cutoffs.

Licensees reported 20 events associated with their licensee testing facility (LTF) or their contracted HHS-certified laboratory. These events involved equipment malfunctions, human errors, and issues associated with incorrectly formulated blind performance test samples. A significant number of these events were associated with blind performance test samples.

Regarding HHS-certified laboratories, licensees continue to identify problems at these labs and a number of reportable events were made to the NRC Operations Center this reporting period. For example, 12 licensees reported issues associated with the formulation or laboratory testing of blind performance test samples and 8 licensees reported problems associated with laboratory performance involving equipment malfunctions and/or potential weaknesses related to human error.

As for 24-hour event reports made to the NRC Operations Center per § 26.719(b), licensees reported 15 events meeting the reporting criteria, of which the majority of these events were based on supervisors testing positive for a drug or alcohol and 2 events involved the identification of controlled substances within the protected area of the power plant. The NRC staff noted 4 cases where the particular licensee did not specify the type of violation that occurred.

In the area of program and system management, licensee identification and timely effective correction of FFD performance issues remains a hallmark of excellent licensee performance. This year, Excel Energy Corporation reported implementing an improved data validation process for FFD program performance reporting which resulted in identifying several inconsistencies in its CY 2008 performance report submitted to the NRC. Inconsistencies identified included failing to report two positive tests, one refusal to test, and incorrectly reporting the cutoff level of marijuana positive tests (50 nanograms/milliliter, ng/mL). The licensee submitted an updated FFD program performance report to the NRC and made process enhancements including a pre-job brief for individuals performing data validation. And to close out an older issue, Southern Company, the licensee for the Joseph M. Farley site, reported on a FFD incident that had occurred in CY 2008 that resulted in a NRC investigation and enforcement actions. The licensee for the Copper power plant reported that it had raised its random testing rate to approximately 100 percent after detecting an increasing trend in its alcohol positive at the site. Lastly, the enclosure to this information notice describes additional FFD-related events and occurrences identified by licensees and reported to the NRC in which corrective actions have been implemented.

Reporting of FFD Performance Information

The submission of FFD performance reports is a requirement to inform the NRC and public of FFD performance within the commercial power reactor community. Submission of performance information demonstrates the industry's commitment to public health and safety and the common defense and security in the conduct of licensed activities, in part, because the industry goes above and beyond that required by the regulations by describing in-detail FFD-related events and issues affecting their programs. This commitment is demonstrated by the industry's voluntary use of the e-reporting system develop in coordination with the industry to meet the requirements of §§ 26.11, "Communications," and 26.717. This openness and transparency enhances safety and security since lessons are shared and corrective actions are implemented to provide reasonable assurance that persons who perform certain safety- or security-significant activities or have unescorted access to certain NRC-licensed facilities, information, or material, are fit for duty. The quality of data assessment and evaluation as a result of e-reporting is demonstrated by the illustrations in section "Evaluation of e-Reported FFD Performance Data," page 36.

The FFD e-forms used by licensees and other entities subject to 10 CFR Part 26 are publicly available at http://www.nrc.gov/reactors/operating/ops-experience/fitness-for-duty-programs/submit-ffd-reports.html. These e-forms utilize the Adobe Systems Incorporated ("Adobe") information technology architecture.[2] Licensees may submit FFD performance data by one of two methods:

1. Electronic Information Exchange (EIE) using the NRC's General Submission Portal. This is the preferred and easiest method of e-reporting and consists of licensees completing the forms listed below. The completed forms can then be submitted electronically to the NRC using the NRC's General Submission Portal. All forms are digitally signed utilizing NRC-issued authentication signatures to ensure secure transmission.
2. Hard Copy. Although this is the least desirable method, licensees may submit hard copy FFD performance reports. This is the least desirable method because these reports are in site-specific formats, nomenclature, and level-of-detail. This makes it difficult for the NRC staff to understand and evaluate site-specific corrective actions and testing results. Furthermore, the data contained within the hard copy reports needs manual data extraction methods to facilitate industry-wide trending and evaluation.

The following is a summary analysis of the NRC's FFD e-reporting system:

- Calendar year 2009 marked the first year that e-reporting was fully available for use.[3]
- E-reporting implements a simple-to-read and fill-in-the blank format to efficiently and effectively communicate FFD performance information to the NRC.

[2] Additional information about Adobe and its permissions and trademark guidelines can be read at http://www.adobe.com/misc/agreement.html.

[3] The NRC staff and industry representatives agreed that CYs 2009 and 2010 would be identified as beta-test years for the e-reporting of FFD performance data. This trail period afforded the NRC staff and industry time to develop lessons learned to improve the e-reporting process, simplify the forms, and completion of the NRC staff's back-end data evaluation process to generate the illustrations provided in section "Details Data Analysis and Descriptions," on page 8. This period also afforded time to licensees to complete training and process revisions to facilitate e-reporting. As a result, in CY 2009, a mix of hard copy and e-reports were submitted by licensees.

- E-reporting of D&A performance information consists of two reporting forms, an annual test form (ATF) and a single positive test form (SPTF), both of which must be used and submitted to the NRC to satisfy the § 26.717 reporting requirement.
    - Annual Test Form. The information on the ATF is analogous to what industry has provided historically in hard copy format, but it does not contain event-specific information which is contained on the single positive test form.
    - Single Positive Test Form. The SPTF is used to report information on each positive test result and subversion event (e.g., refusal to test, adulterations, substitutions, etc.). This form lists, in part, the employment type (e.g., licensee employee or contractor vendor) and work status (e.g., what job function the person was assigned) of the individual, particular substances identified (drug and/or alcohol), and conditions under which the test was performed (e.g., pre-access, random, etc).

- E-reporting significantly improves data descriptions and submission controls:
    - provides uniformity in reporting of subversion attempts;
    - identifies management sanctions and FFD policy violations;
    - describes whether the licensee implemented lower cutoff levels, limit of detection testing, or more restrictive management actions; and,0
    - enables the use of unique identification numbers to aid in tracking licensee corrective actions and NRC inspection.

- E-reporting enables the NRC staff to perform a more in-depth analysis of the FFD program performance information to better inform its inspections and to assist in the identification of industry trends through enhanced summary graphs and illustrations.

- E-reporting enhances consistency within the nuclear industry because the forms normalized the information gathering for all licensees resulting in reduced burden, improved qualitative analysis, and consistent performance descriptions. This helps inform licensee self-assessments that enhance program performance.

- E-reporting aides in communication with the general public because the reporting forms are available for public review and guidance is provided automatically on the forms to assist in understanding the particular reporting requirement.

- In CY 2009, 25 percent of the industry used the e-reporting system. This represented 13 licensees reporting drug and alcohol performance information at 19 facilities, see Table b.

Table b: Licensees Using the Voluntary E-Reporting System in CY 2009

Licensee*	Facility*
Ameren UE	Callaway Plant
Arizona Public Service Co (APS)	Palo Verde
Constellation Energy	Calvert Cliffs
	Nine Mile Point
	R.E. Ginna

Licensee*	Facility*
Detroit Edison	Fermi 2
Luminant Generation Company, LLC	Comanche Peak
Nebraska Public Power District	Cooper
Omaha Public (OPPD)	Fort Calhoun
PPL Susquehanna	Susquehanna
PSEG Nuclear	Salem/Hope Creek
S. Carolina Electric (SCE&G)	V.C. Summer
South Texas Project (STP)	South Texas Project
Southern Nuclear Company	Corporate
	E.I. Hatch
	Joseph M. Farley
	Vogtle Units 1 and 2
	Vogtle Units 3 and 4
Wolf Creek (WCNOC)	Wolf Creek

* A description of these licensees and facilities is provided in the NRC's *Information Digest*, NUREG-1350, for CY 2008-2009.

DETAILED DATA ANLYSIS AND DESCRIPTIONS

The following sections are detailed below.

Section 1 – Detailed Data Analysis Summary

The following is a detailed summary of the information presented in this report.

- The total number of tests performed by the industry has increased from a low in 2001 of 117,203 to 164,447 in 2009. The last year that testing was conducted at a comparable level was in 1997 (163,241 tests, Tables 5A and 5B).

- Pre-access testing accounted for two-thirds of all positive test results (677 of 1,004, Table 1).

- The industry positive rate for all tests conducted is 0.61 percent (%, Table 1). For-cause testing had the highest industry positive test rate at 19.74 percent.

- The industry positive rates for each work category for all tests performed are low (Table 2).
  - Licensee employees: 0.28 %
  - Contractors: 0.77 %

- Marijuana and alcohol accounted for a significant percentage of positive test results for each work category (Table 3).
  - Licensee employees: alcohol (53 %), marijuana (31 %)
  - Contractors: alcohol (20 %), marijuana (51 %)

- Alcohol positives were the highest since 1997 and reflected an increase of 47 percent from the 2008 level (Table 5).

- Significant events for reactor operators and supervisors continued on a downward trend (Table 4).

- From 1990 through 2009, the annual random testing positive rate for industry has decreased from 0.37 percent to 0.25 percent (Tables 5A and 5B).

- Three substances (marijuana, cocaine, and alcohol) have accounted for more than 90 percent of substances identified in each testing year (Table 6).
  - Marijuana (47 % of substances in 1990, 52 % in 2009)
  - Cocaine (29 % of substances in 1990, 16 % in 2009)
  - Alcohol (19 % of substances in 1990, 27 % in 2009)

- Licensee employees have lower positive test rates than contractors. This pattern is consistent across all test types and over time (Tables 7 – 10).

- Table 11 presents the range of positive tests reported by licensees in CY 2009 by work category for pre-access and random testing. The information presented indicates that the overall positive rates are low (less than 1 %), with contractors testing positive at a much higher rate than licensee employees.

  Pre-access testing positive rates
  - Licensee employees: 0.39 %.
    The positive-rate range[4] for the industry was from 0 to 20 %.

[4] The "positive-rate range" is across all licensees and indicates the range between the lowest positive rate and the highest positive rate. These values do not directly correlate to performance.

- Contractors: 0.75 %.
  The positive-rate range for the industry was from 0 to 2.09 %.

Random testing positive rates

- Licensee employees: 0.16 %
  The positive-rate range for the industry was from 0 to 0.78 %.
- Contractors: 0.43 %
  The positive-rate range for the industry was from 0 to 1.64 %.

Section 2 – Certified Laboratories

This section summarizes licensee reports of testing errors or unsatisfactory performance discovered in drug performance testing at either a LTF or an U.S. Department of Health and Human Services' certified laboratory (HHS-certified laboratory or laboratory). The testing may have involved analysis of either a quality control sample or actual urine specimen. Typically, these errors have been self-identified by licensees or the laboratories and generally involve errors or matters that could adversely affect the integrity of the random selection or testing process. If meeting the reporting requirement of § 26.719(c), the licensee shall submit to the NRC a report (herein called a "30-day report") of the incident and corrective actions taken or planned.

Twelve (12) licensees reported issues associated with the formulation or laboratory testing of blind performance test samples[5] (BPTS).

- Fitzpatrick nuclear power plant (NPP) reported receiving an unexpected test result for a BPTS formulated to be invalid-dilute[6]. The laboratory only reported an invalid test result because of a low creatinine concentration (0.9 milligrams/deciliter, mg/dL). An investigation determined that the BPTS batch had an increase in pH[7] which was likely the result of bacterial contamination. A rise in pH is known to cause hydrolysis of creatinine and could explain the low creatinine level in the sample. The batch was removed from service by the supplier and "bacteria stat" was to be added by the supplier to future batches to prohibit growth of any bacteria introduced during the bottling process. (30-day report dated June 18, 2009; BPTS supplier not specified.)

- Perry NPP reported receiving unexpected test results for two BPTS (both from the same batch) formulated as dilute. The laboratory reported an invalid test result for each specimen tested. An investigation, including specimen retesting by the BPTS supplier confirming the invalid results, determined that the invalid results were due to bacterial contamination. The sample supplier reported that the two invalid test results were the only issues associated with the batch. (Information based upon FFD performance report; BPTS supplier not specified.)

- Perry NPP reported receiving unexpected test results for two BPTSs formulated to be positive for codeine/morphine. The laboratory reported negative results for both specimens. As part of the investigation, gas chromatography/mass spectrometry (GC/MS) testing was completed and identified the presence of both drugs. It was determined that the samples were prepared in accordance with the cutoff levels under the previous rule. Both results

[5] Blind performance testing is described in § 26.168.
[6] For definitions of laboratory-related words (e.g., "invalid" and "dilute") refer to § 26.5.
[7] pH is a measure of the acidity or basicity of an aqueous solution. It is the negative logarithm (base 10) of the molar concentration of dissolved hydronium atoms (H_3O^+).

were reported prior to licensee implementation of the March 31, 2008, amended requirements (i.e., the licensee had not implemented the new § 26.185(g) BPTS formulation requirements). (Information based on FFD performance report.)

- Limerick and Three Mile Island NPPs reported receiving invalid test results for a total of five BPTS formulated to be dilute and negative. The same laboratory (MedTox Scientific, Inc. (MedTox)) tested all samples and reported invalid results because of specific gravity[8] (SG) readings of 1.0009 or 1.0010 (outside the acceptable range of greater than 1.0010 and less than 1.0030). The sample supplier reported the SG of each specimen was verified in the range of 1.0011 to 1.0029. The laboratory that tested the specimens reported that if samples were formulated at the high or low end of the SG range and the provider did not account for equipment tolerance (in this case 0.0004) an invalid result could be reported instead of the intended dilute result. The laboratory recommended that the supplier take into account laboratory-to-laboratory variability and the accepted SG tolerance ranges. For example, a specimen with certified SG closer to 1.0020 (e.g., 1.0018 - 1.0022) would provide a reasonable expectation that results would be reported as dilute 100 percent of the time. The BPTS supplier committed to formulating samples closer to 1.0020 for the lower end of the SG range. (30-day reports both dated June 23, 2009; BPTS supplier - Professional Toxicology Services, Inc.)

- Waterford NPP reported receiving an invalid test result for a BPTS formulated to be dilute and negative. The laboratory reported an invalid test result because of a SG reading of 1.0009. The BPTS supplier committed to formulating samples closer to middle to upper end of the SG acceptable range (greater than 1.0010 and less than 1.0030) for dilute specimens. (30-day report dated July 15, 2009; the BPTS supplier not specified.)

- Tennessee Valley Authority (TVA) reported receiving an unexpected test result for a BPTS that was formulated to be dilute. The laboratory reported a test result of invalid due to pH. The BPTS manufacturer reported to the licensee's MRO and FFD staff that it had not monitored or controlled pH, as required by contract. The licensee required the manufacturer to provide confirmation on the pH levels for all remaining lots from which samples were provided to the licensee. Five additional dilute samples from the same lot were confirmed to be incorrectly prepared and were removed before use. The licensee instituted MRO review of all BPTS results to verify compliance. As part of the review performed, the MRO identified 8 additional samples incorrectly formulated (i.e., 8 positive samples supplied were either at or above the 200 percent cutoff level and deviated from § 26.168(g)(2) formulation requirements). The licensee discontinued its contract with the sample supplier. A contract with a new sample provider was established and the licensee instituted a new licensee procedure of MRO review of all positive, adulterated, substituted, and dilute blind performance test sample test results. (30-day report dated June 26, 2009; BPTS supplier - Quality Assurance Service Corporation, QAS.)

- Diablo Canyon NPP reported receiving two false negative test results for BPTSs formulated to be dilute and positive for marijuana. A different laboratory tested each sample. (30-day report dated September 2, 2009.)

    - The first laboratory (Quest Diagnostics, Inc.) failed to conduct LOD specimen testing as required by the licensee's contract. An investigation determined that the laboratory had not updated its database of testing parameters when the licensee's

[8] Specific gravity is the ratio of the density (mass per unit volume) of a substance to the density (mass of the same unit volume) of a reference substance.

contract was changed. The laboratory updated the database testing parameters and reviewed all specimens tested since the testing policy change. No additional specimens were affected.

- The second laboratory (Laboratory Corporation of America, LabCorp) reported to the licensee that the specimen was negative-dilute with LOD testing to follow for a marijuana metabolite. However, because Bottle A leaked in transit to the laboratory, Bottle B was used for initial drug testing. Due to a paperwork error, Bottle B was discarded after initial drug testing. Bottle A did not contain a sufficient quantity of urine for LOD testing. Therefore, LOD testing on the specimen was not possible. To address the error, the laboratory modified its internal paperwork to indicate whether a split specimen collection was performed to ensure that both bottles were retained when additional testing was required. The laboratory conducted a review of 14 additional negative-dilute samples received and identified that it had inadvertently discarded one other specimen prior to LOD testing.

- Beaver Valley NPP reported that an internal audit identified that one BPTS submitted for testing was outside the required range for a dilute specimen. The supplier incorrectly formulated the sample with a creatinine concentration of 3.500 mg/dL (i.e., outside the creating concentration range in § 26.186(g)(5) of equal to or greater than 5 mg/dL but less than 20 mg/dL). As of March 31, 2009, the licensee had procedurally aligned with the current rule, but the blind sample came from a lot formulated to meet the dilute criteria under the former rule. A license review of the remaining BPTSs submitted for testing confirmed that each met the criteria in the current rule. (30-day report dated June 11, 2009; BPTS supplier was not specified.)

- Vermont Yankee NPP reported receiving unexpected test results for several BPTSs (the specific number was not reported). The licensee's report did not describe the test results or the cause(s) of the unexpected results. The licensee's investigation determined the cause of the incident was the result of actions by the sample supplier. The sample supplier was replaced. (30-day report dated July 7, 2009; the BPTS supplier was not specified.)

- Seabook NPP reported receiving an unexpected test result for a BPTS formulated to be positive for phencyclidine (PCP). The initial HHS-certified laboratory reported an opiate positive result and testing at a second HHS-certified laboratory confirmed the initial laboratory result. An investigation determined that an administrative paperwork error by the sample supplier resulted in an incorrectly formulated specimen being provided to the licensee. All other samples submitting for testing yielded expected results. (The information presented was documented in the licensee's FFD performance report; laboratories were not specified.)

- TVA reported receiving a false negative result for a BPTS formulated to be positive for barbiturate analyte (the licensee tests for substances beyond the NRC minimum requirement). An aliquot of the sample was tested at a second laboratory (Quest Diagnostics, Inc.) that confirmed barbiturate analyte at 501 ng/mL with a testing cutoff of 300 ng/mL. The initial laboratory (Clinical Reference Laboratory, Inc.) conducted a second immunoassay on the specimen and again returned a negative result (it did detect barbiturate, but below the 300 ng/mL initial cutoff level). The licensee then directed the initial laboratory to conduct confirmatory testing on the specimen and Butabital was confirmed at 503 ng/mL. A report from the initial laboratory reported that the immunoassay used has a 66 percent cross-reactivity with Butabital with antibodies designed for Secobarbital (represented as a known limitation of such immunoassays). The laboratory

recommend two potential approaches to address this situation: (1) only challenge the laboratory testing with the analyte it was designed for Secobarbital; (2) determine the cross-reactivity for the spiked analyte and then add the corresponding amount of the target analyte to cause it to screen a minimum of 20 percent above the cutoff. The licensee's MRO reported that the recommendations would not conform to the testing requirements and therefore could not be implemented. (30-day report dated September 15, 2009.)

Eight (8) licensees reported problems associated with laboratory performance involving equipment malfunctions and/or potential weaknesses related to human error.

- Quad Cities NPP reported receiving an unexpected test result from its laboratory for a specimen that the licensee's LTF forwarded for additional testing (LTF testing determined the specimen to be dilute and positive for cocaine). The laboratory (Medtox) reported a test result of negative and dilute. Given that the specimen tested positive (at the LTF above 300 ng/mL), the MRO contacted the laboratory's certifying scientist for additional information to determine why LOD testing was not conducted (as required by contract). The screening results were sufficient to warrant LOD testing and an investigation determined that the laboratory's automated information system was not correctly configured to require LOD testing. The problem was isolated, the correct test code was established, and the specimen was re-tested to verify performance under the defined conditions. The issue was fully resolved prior to approving the test results for this pre-access test. The laboratory performed an audit of all specimens tested for the licensee for the three weeks prior to the challenged test (the time period since the licensee implemented LOD testing under contract) and concluded that no additional specimens were affected. (30-day report dated May 20, 2009.)

- Beaver Valley NPP reported that it was notified by its laboratory (MedTox) on April 24, 2009, that two dilute specimens reported as negative for illegal drugs had not been LOD tested, as required by the licensee's contract. The licensee's MRO immediately requested that LOD testing be performed. LOD testing confirmed an illegal substance in each specimen.

  - One specimen was collected for pre-access testing on April 2, 2009, and based on a negative drug test result, the individual was granted unescorted access on April 6, 2009. The MRO requested LOD testing on the donor's specimen on April 25, 2009. A marijuana positive (41 ng/mL) result was reported by the laboratory that day. The individual was denied unescorted access on April 25, 2009, after the result was confirmed by the MRO.

  - One specimen was collected on April 16, 2009, for testing unrelated to access authorization per the licensee's protocol for owner controlled area/cooling tower assignment. Upon LOD testing conducted on April 27, 2009, the individual's specimen tested positive for cocaine (464 ng/mL). The MRO confirmed the result and the individual's access was terminated.

  As a result of this incident, the laboratory (MedTox) conducted reviews of all dilute specimen results reported from January 1, 2009, through April 22, 2009, and confirmed that all specimens were tested in accordance with § 26.163(a)(2). Based upon NRC staff review, it appears that the laboratory discovered the LOD testing error based on another NRC licensee that contacted it regarding a dilute specimen that had not be tested to LOD. The laboratory's investigation of that instance determined that the

automated information system it used for testing was not configured correctly to require LOD testing. (30-day report dated June 11, 2009.)

- Nine Mile Point NPP reported for two BPTSs that its laboratory (Quest Diagnostics) incorrectly reported the SG result to 3 decimal places instead of the required 4 decimal places per § 26.167(c)(2)(i). Both specimens were retested by the laboratory using a refractometer displaying results to 4 decimal places. Correct results were reported. (30-day reports dated March 26, 2009, and September 2, 2009.)

- Wolf Creek NPP reported a laboratory process error that occurred when a donor requested specimen retesting, as permitted by § 26.165(b), at a second laboratory. The initial laboratory shipped the entire single specimen to the second laboratory for testing instead of only sending an aliquot from the specimen, as required by § 26.165(b)(5). The test result was cancelled and a second specimen was collected under direct observation. The laboratory investigated the incident and made process improvements that included revisions to an internal laboratory process document (*Request for Retest of Confirmed Positive* form) to include an additional check by the accessioner. Laboratory procedures also were revised to more clearly describe the steps to take before shipping a retest sample to a second laboratory. The procedure was circulated for review and sign off and staff received retraining. (30-day report dated November 10, 2009; laboratories were not specified.)

- Calvert Cliffs NPP reported that its laboratory failed to report test results within 5 business days of receiving specimens, as required by § 26.169(a). A second specimen was collected from each individual and testing returned negative results. (Information provided by the FFD performance report.)

- Arkansas Nuclear One (ANO) NPP reported receiving unexpected test results for three BPTSs formulated to be positive for phencyclidine (PCP, certified at a target level of 45 ng/mL and all from the same lot) were reported as “Invalid – GC/MS Interference”. Each specimen was tested on five separate occasions and at two different laboratories. On four occasions, the specimens were found to be valid and positive for PCP and on one occasion the results quantified PCP at 40-41 ng/mL for the samples, but the QA validation values were outside the acceptable range to report the results. Since expected results were obtained in four of the five instances, ANO determined that it appeared to be a low probability of irregularity in the formulation of the specimens. It appears that the cause of the discrepancy is an unexplained anomaly in the laboratory’s QA validation process. (30-day report dated October 13, 2009; initial laboratory: Quest Diagnostics (Lenexa, KS); second laboratory: Quest Diagnostics (Atlanta, GA); BPTS supplier - Professional Toxicology Inc.)

- Waterford NPP reported receiving unexpected test results for four BPTS formulated to be positive for PCP. Two of the samples (from the same batch) were formulated at a lower PCP concentration as false negative challenges and two samples (same batch) were formulated at higher PCP concentrations. One of the specimens was sent to the licensee’s primary testing laboratory which returned the expected positive result. Three of the samples were sent to the licensee’s secondary confirmatory laboratory and invalid results were reported for each sample based on “GC/MS interference”. The exact cause of the discrepancy has not been determined and is still under investigation. The licensee decided to acquire PCP positive BPTSs from another supplier while investigating this situation. (30-day report date March 15, 2010. The primary and secondary laboratories are in the same company, but were not specified.)

- Susquehanna NPP reported that its LTF had not forwarded 80 urine specimens for additional testing at a laboratory when initial validity testing indicated a specimen pH of less than 4.5 or equal to or greater than 9. Between March 31, 2009, and September 4, 2009, the pH range used by the LTF was 3.1 to 10.9, instead of 4.5 to less than 9. The licensee determined that the LTF had tested 79 specimens with a pH reading of 9 or greater and1 specimen with a reading less than 4.5 with declared normal validity testing results and no further testing conducted. Eleven (11) additional specimens were outside the 4.5 to less than 9, but were forwarded for testing for other reasons. The licensee noted that the reagents used at the LTF identify any drugs at pH ranges between 3 and 11. The licensee adjusted the cutoff levels on its testing machines to the new pH range. (30-day report dated October 5, 2009; laboratory was not specified.)

Section 3 – Reportable Events Due To Positive Test Results

Licensees reported 15 FFD-related events to the NRC Operations Center pursuant to § 26.719, "Reporting requirements." The majority of these events were based on supervisors testing positive for a drug or alcohol.

Alcohol Testing

- Byron NPP reported a positive pre-access alcohol test result for a licensed operator.
- Vermont Yankee NPP reported a positive random alcohol test result for a licensee supervisor. The individual was not involved in any safety-related activities and was not licensed.
- Watts Bar NPP reported that a contract supervisor received a random positive alcohol test result.
- Quad Cities NPP reported a positive alcohol test result for a supervisor.
- ANO NPP reported a positive random alcohol test result for a licensee supervisor.
- Turkey Point NPP reported a positive for-cause alcohol test result for a contractor supervisor.

Drug Testing

- Columbia NPP reported that a contractor supervisor attempted to subvert the testing process during a random drug test through specimen substitution. The attempt was discovered as a result of high out-of-range specimen temperature.
- San Onofre (SONGS) NPP reported that a contractor employee was for-cause tested after credible information was obtained that indicated possible drug use in the protected area (PA). Unescorted access (UA) was suspended pending test results. The drug test result was positive and UA was permanently denied. Although no conclusive evidence was obtained on drug use in the PA, a 24-hour report was made to the NRC.
- Watts Bar NPP reported that a contract supervisor received a random positive drug test result.

- Xcel Energy Corporation, the owner/operator for Prairie Island and Monticello NPPs, reported a positive random drug test result for a contractor involved in the collection or onsite testing of specimens.

Type of Violation Not Specified

- Columbia NPP reported a for-cause positive test result for a licensee employee with supervisory duties. The specific test result was not reported.

- SONGS NPP reported two licensee supervisors received random positive test results. The specific test results were not reported.

- Point Beach NPP reported a 24-hour reportable event to the NRC as required by § 26.719(b)(2)(ii) but did not specify the reason.

Substances Discovered

- Watts Bar NPP reported that a contract employee was determined to be in possession of illegal drugs (Schedule IV[9] drugs) without a prescription inside the PA. Review of the individual's work by the licensee did not identify any discrepancies.

- Hatch NPP reported that workers discovered 4 bottles of *Powerade* and 3 vials half full of unknown liquid in the ceiling area of the men's restroom in the contractor and vendor building when performing air conditioning repair work. The restroom was used for specimen collections. The bottles and vials were covered with an immense amount of dust, suggesting that the contraband had been in the ceiling a long period of time. A security report was filed, interviews conducted and documented, and the contraband was confiscated for investigation. The liquid in the vials was tested and determined to be clean urine. A full security investigation and report was performed and issued. The licensee issued a memo to all FFD personnel regarding the incident and the need for emphasis in monitoring and detecting possible specimen tampering or subversion adulteration attempts during specimen collections.

Section 4 – Program and System Management

The current drug testing cutoff levels are found in §§ 26.133 and 26.163 and the current confirmatory blood alcohol concentration (BAC) percentage considered a positive test result is found in § 26.103. In the previous rule (54 FR 24468; June 7, 1989), the drug and BAC limits are described in § 26.24. Some licensees elected to lower their cutoff levels used during the reporting period for certain drugs as authorized by the current and previous rules.

Alcohol Testing – Licensees Who Lowered BAC Cutoff Levels

- Institute for Nuclear Power Operations reported testing at a lower BAC cutoff level (0.02 percent BAC).

[9] A Schedule IV drug is defined in U.S.C. Title 21, Chapter 13, Subchapter I, Subpart B, Section 812, "Schedule of Controlled Substances," as a drug or other substance that has a low potential for abuse relative to the drugs on Schedule III and that the drug or other substance has a currently accepted medical use as prescribed by a licensed physician or nurse practitioner.

- Salem/Hope Creek NPPs reported testing at a lower BAC cutoff level (0.02 percent BAC) until implementation of the current NRC alcohol cutoff levels in February 2009.

- Cooper NPP lowered its BAC cutoff level (0.02 percent BAC) for pre-access and follow-up testing.

- Ginna NPP reported a testing policy for individuals with an alcohol test result of equal to or greater than 0.01 percent BAC: (1) prohibit the individual from performing duties; (2) conduct additional testing until the BAC shows a downward trend; and (3) contact the sponsor or access requestor to determine if a continued need exists for unescorted access authorization or unescorted authorization.

Drug Testing – Licensees Who Lowered Drug Cutoff Levels

Limit of Detection Testing, § 26.163(a)(2)

- 42 licensees reported a policy of conducting LOD testing.

    - SONGS NPP reported that in addition to LOD testing permitted by § 26.163(a)(2), SONGS performed LOD testing for specimen retests (see § 26.165(b)) and for suspected subversion attempts.

    - Hatch, Farley, Vogtle units 1 and 2, Vogtle units 3 and 4, and Southern Nuclear Corporate Office reported that in addition to LOD testing as permitted by § 26.163(a)(2), these entities performed LOD testing on specimens collected under for cause, post-event, and follow-up testing, and for suspicious specimens.

Note	For the drug or drug metabolite cutoff levels listed below, the following format is used: (Initial Cutoff Level/Confirmatory Cutoff Level). For example, "(50/15 ng/mL)" means that the initial cutoff level is 50 ng/mL and the confirmatory cutoff level is 15 ng/mL.

Marijuana

- Westinghouse Inc. reported testing at lower cutoff levels (20/15 ng/mL) than required.

- Calloway NPP reported testing at lower cutoff levels (20/15 ng/mL) than required. This licensee began testing at the minimum cutoff levels on March 26, 2009.

- Diablo Canyon NPP reported testing at lower cutoff levels (20/10 ng/mL) than required until March 30, 2009. On March 31, 2009, this licensee began testing at the minimum cutoff levels.

- Browns Ferry, Sequoia, Watts Bar, and TVA Corporate Office reported testing dilute specimens at a lower initial cutoff level of 20 ng/mL and at LOD for confirmatory testing.

- V.C. Summer NPP reported testing at lower cutoff level (10 ng/mL) for

confirmatory testing than required.

Opiates

- Westinghouse Inc. reported testing at lowered its cutoff level (300/300 ng/mL).
- All nine Entergy facilities reported testing at lower confirmatory cutoff level (300 ng/mL).
- Diablo Canyon NPP reported testing at lower cutoff level (250 ng/mL) for confirmatory testing than required by rule. On March 31, 2009, this licensee began testing at the current cutoff levels.

Amphetamine

- Westinghouse Inc. reported testing at lower cutoff levels (300/300 ng/mL).
- Calloway and Diablo Canyon NPPs reported testing at lower cutoff levels (300/250 ng/mL). In March 2009, these licensees began testing at current cutoff levels.

Testing for Additional Drugs

- Browns Ferry, Sequoia, Watts Bar, and TVA Corporate Office reported testing for barbiturates (300/300 ng/mL), benzodiazepines (300/300 ng/mL), methadone (300/300 ng/mL), and propoxyphene (300/300 ng/mL).
- Westinghouse Inc. reported testing for barbiturates (300/300 ng/mL), benzodiazepines (300/300 ng/mL), methadone (300/300 ng/mL), and methaqualone (300/300 ng/mL).
- Diablo Canyon NPP reported testing for barbiturates (300/250 ng/mL) and benzodiazepines (300/250 ng/mL). On March 1, 2009, this licensee ceased testing for these substances.

Section 5 – Other Program and System Management Issues

- Xcel Energy Corporation (corporate entity for Monticello and Prairie Island NPPs) reported implementing an improved data validation process for FFD program performance reporting which resulted in identifying several inconsistencies in its CY 2008 FFD performance report submitted to the NRC. Inconsistencies identified included failing to report two positive tests, one refusal to test, and incorrectly reporting the cutoff level of marijuana positive tests (50 ng/mL). The licensee submitted an updated FFD program performance report to the NRC and made process enhancements including a pre-job brief for individuals performing data validation.
- Farley NPP reported on a FFD incident that had occurred in CY 2008 that resulted in a NRC investigation and a pre-decisional enforcement conference in CY 2009. Based on the results of the investigation and information obtained during the enforcement conference, the NRC determined that two Severity Level III violations had occurred. A civil penalty was not assessed.

- Copper NPP reported that it had raised the random testing rate to approximately 100 percent after detecting an increasing trend in its alcohol positive at the site.

Section 6 – Tables and Charts

The significant regulatory changes that affected FFD performance data were:

- In 1994, the NRC reduced the minimum annual random testing rate from 100 percent to 50 percent of the subject population.

- In 2009, licensees and other affected entities were subject to a change in FFD reporting requirements, by publication of the March 30, 2008, Final Rule.

Index of Tables and Charts

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

Table 1

2009 Test Results for Each Test Category

Test Category*	Number of Tests	Positive Tests	Percent Positive
Pre-Access	95,878	677	0.71%
Random	60,877	154	0.25%
For Cause	547	108	19.74%
Post-Event	893	1	0.11%
Followup	6,252	53	0.85%
Other**	1,297	11	0.85%
TOTAL	165,744	1,004	0.61%
TOTAL, without "Other" category	164,447	993	0.60%

* "Test Category" corresponds to the conditions requiring testing as listed in § 26.31(c), "Conditions for testing."

** Some licensees identified an "Other" test category to capture testing they characterize as not meeting the § 26.31(c) conditions, such as return-to-work testing. Most licensees did not provide clarifying information as to what type of conditions were represented in their "Other" testing category. The NRC issued electronic reporting forms to address this reporting inconsistency.

Table 2

Test Results by Test Category and Work Category

(January through December 2009)

Test Category	Licensee Employees	Contractors	Total
Pre-Access			
Number Tested	10,619	85,259	95,878
Number Positive	41	636	677
Percent Positive	0.39%	0.75%	0.71%
Random			
Number Tested	40,682	20,195	60,877
Number Positive	67	87	154
Percent Positive	0.16%	0.43%	0.25%
For Cause			
Number Tested	232	315	547
Number Positive	28	80	108
Percent Positive	12.07%	25.40%	19.74%
Post-Event			
Number Tested	432	461	893
Number Positive	0	1	1
Percent Positive	0.00%	0.22%	0.11%
Followup			
Number Tested	2,880	3,372	6,252
Number Positive	17	36	53
Percent Positive	0.59%	1.07%	0.85%
Other*			
Number Tested	422	875	1,297
Number Positive	2	9	11
Percent Positive	0.47%	1.03%	0.85%
TOTAL			
Number Tested	55,267	110,477	165,744
Number Positive	155	849	1,004
Percent Positive	0.28%	0.77%	0.61%
TOTAL(minus Other)			
Number Tested	54,845	109,602	164,447
Number Positive	153	840	993
Percent Positive	0.28%	0.77%	0.60%

* Please see Table 1 for a discussion regarding the “Other” test category.

Table 3

Positive Test Results by Substance and by Work Category

(All Test Types, including Testing Refusals)

(January through December 2009)

Positive Test Result	Licensee Employees		Contractors		Total	
	Number	Percent	Number	Percent	Number	Percent
Marijuana	50	31.06%	450	50.62%	500	47.62%
Alcohol	86	53.42%	175	19.69%	261	24.86%
Cocaine	14	8.70%	143	16.09%	157	14.95%
Refusal to Test*	5	3.11%	78	8.77%	83	7.90%
Amphetamines	4	2.48%	34	3.82%	38	3.62%
Opiates	2	1.24%	8	0.90%	10	0.95%
Phencyclidine	0	0.00%	1	0.11%	1	0.10%
TOTAL**	**161**	**100.00%**	**889**	**100.00%**	**1,050**	**100.00%**

* Includes adulterated and substituted validity test results and refusal to test actions.

** The totals in this table may be higher than those reported in Tables 1 and 2 due to instances where an individual tested positive for more than one substance.

Chart 1

2009 Positive Test Results by Substance — Licensee Employees

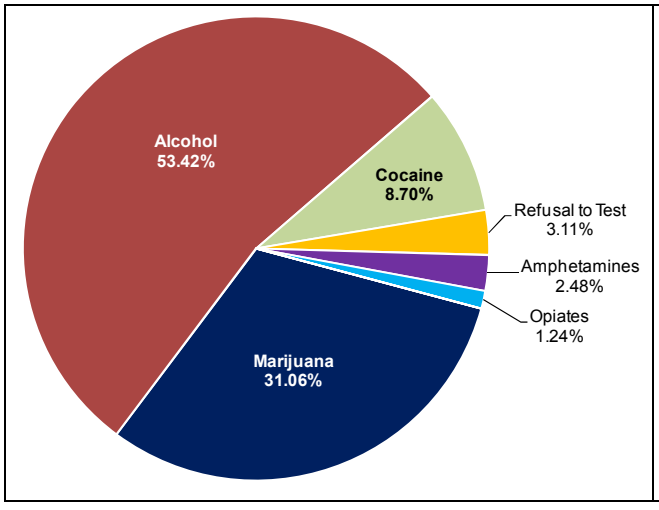


Chart 2

2009 Positive Test Results by Substance — Contractors

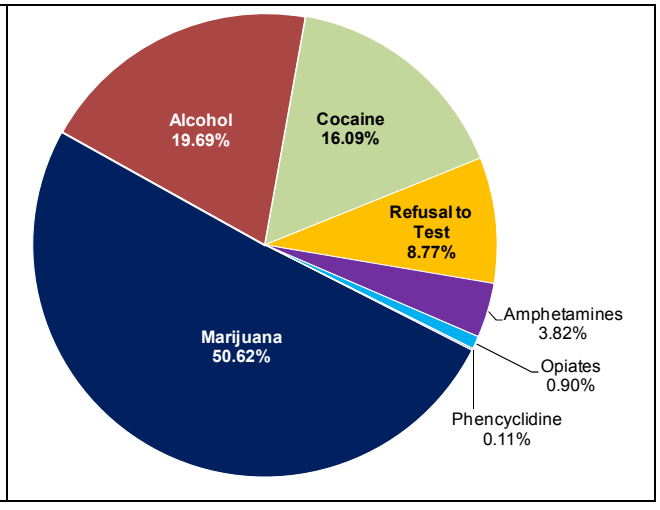


Table 4

Significant Fitness-for-Duty Events* (1990 – 2009)

Year	Reactor Operators	Licensee Supervisors	Contract Supervisors	FFD Program Personnel	Substances Found	Adulterated Specimen*	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**
2003	6	3	8	0	2	9	**28**
2004	9	7	4	0	9	23	**52**
2005	5	13	14	1	9	29	**71**
2006	3	6	6	0	2	60	**77**
2007	3	7	1	1	0	47	**59**
2008	2	8	6	1	0	51	**68**
2009	1	5	4	1	2	83**	**96**

* For this report, an adulterated specimen is reported if the original specimen was determined to be adulterated, dilute, or possessed unusually low/high temperature, specific gravity, or creatinine levels and the individual either refused to provide a second specimen or the specimen collected under observed collection resulted in a positive test result. The NRC staff notes that some inconsistencies were identified in licensee reporting of adulterated specimens. The reporting of adulterated specimens was not required by the prior rule (54 FR 24494; June 7, 1989); however, some licensees voluntarily provided this information for CYs 2003 – 2008.

** In 2009, the number of adulterated specimens actually reflects the total number of refusal to test events. The majority of these instances related donor subversion attempts consistent with specimen adulteration, but also includes circumstances where donor actions precluded the provision of a specimen for testing.

Table 5A

Trends in Testing by Test Type (1990 – 1999)

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

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

† Does not include results from the “Other” test category.

Table 5B

Trends in Testing by Test Type (2000 – 2009)

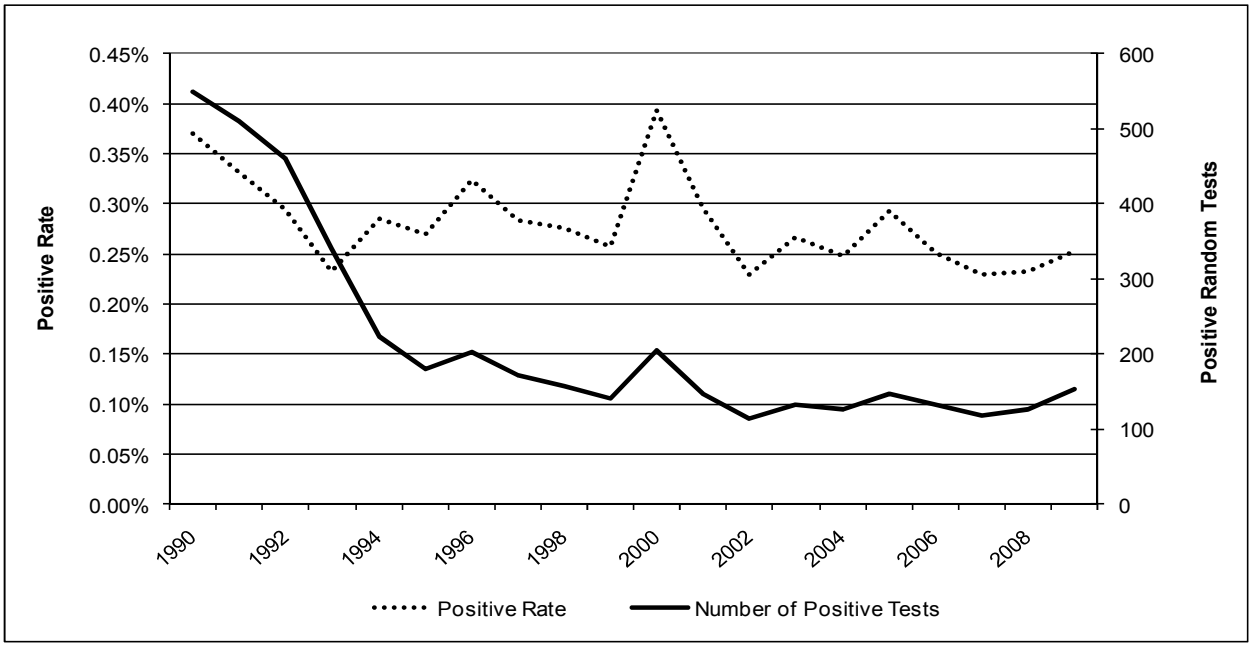
Type of Test	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009†
Pre-Access										
Number Tested	68,333	63,744	73,155	72,988	76,119	79,005	79,980	81,932	87,468	95,878
Number Positive	965	720	805	757	737	648	747	668	664	677
Percent Positive	1.41%	1.13%	1.10%	1.04%	0.97%	0.82%	0.93%	0.82%	0.76%	0.71%
Random										
Number Tested	51,955	50,080	49,741	49,402	51,239	50,286	52,557	51,665	54,759	60,877
Number Positive	204	148	114	132	127	147	132	117	127	154
Percent Positive	0.39%	0.30%	0.23%	0.27%	0.25%	0.29%	0.25%	0.23%	0.23%	0.25%
For Cause										
Number Tested	609	506	617	637	701	671	716	720	797	547
Number Positive	132	99	110	123	134	105	104	81	94	108
Percent Positive	21.67%	19.57%	17.83%	19.31%	19.12%	15.65%	14.53%	11.25%	11.79%	19.74%
Post-Event										
Number Tested	274	224	455	415	458	490	905	895	986	893
Number Positive	6	2	2	3	5	1	5	10	7	1
Percent Positive	2.19%	0.89%	0.44%	0.72%	1.09%	0.20%	0.55%	1.12%	0.71%	0.11%
Followup										
Number Tested	2,861	2,649	2,892	3,142	3,752	4,057	4,766	4,991	5,756	6,252
Number Positive	49	35	21	42	31	31	37	31	44	53
Percent Positive	1.71%	1.32%	0.73%	1.34%	0.83%	0.76%	0.78%	0.62%	0.76%	0.85%
TOTAL*										
Number Tested	**124,032**	**117,203**	**126,860**	**126,584**	**132,269**	**134,509**	**138,924**	**140,203**	**149,766**	**164,447**
Number Positive	**1,356**	**1,004**	**1,052**	**1,057**	**1,034**	**932**	**1,025**	**907**	**936**	**993**
Percent Positive	**1.09%**	**0.86%**	**0.83%**	**0.84%**	**0.78%**	**0.69%**	**0.74%**	**0.65%**	**0.62%**	**0.60%**

† On March 31, 2009, all licensees and affected entities were required to implement the March 31, 2008, Final Rule.

* Does not include results from the "Other" test category.

Chart 3

Trends in Positive Random Testing Rates (1990 – 2009)



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

Table 6
Trends in Substances Identified (1990 – 2009)

Year	Marijuana	Cocaine	Alcohol	Amphet-amines	Opiates	Phen-cyclidine	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**

Table 7

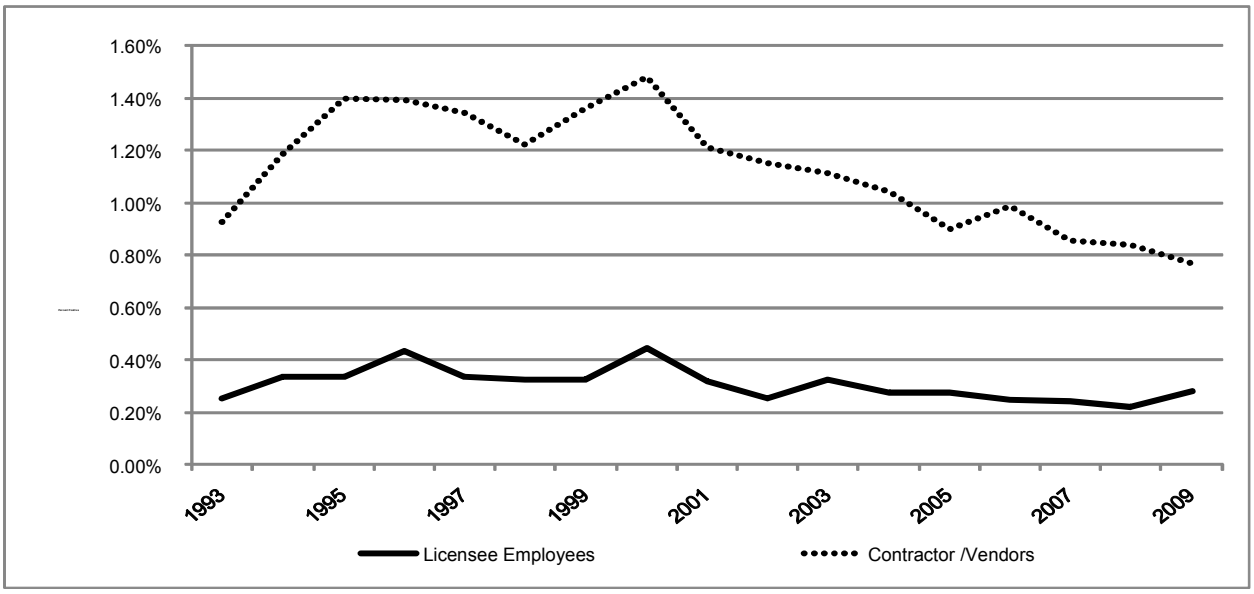
Trends in Positive Test Rates (All Test Types)* by Work Category (1993 – 2009)

Year	Licensee Employees			Contractor / 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%

* Includes all test categories with the exception of the “Other” test category.

Chart 4

Trends in Positive Test Rates (All Test Types)* by Work Category (1993 – 2009)



* Includes all test categories with the exception of the “Other” test category.

Table 8

Trends in Positive Pre-Access Testing Rates by Work Category (1993 – 2009)

Year	Licensee Employees			Contractor /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%

Chart 5

Trends in Positive Pre-Access Testing Rates by Work Category (1993 – 2009)

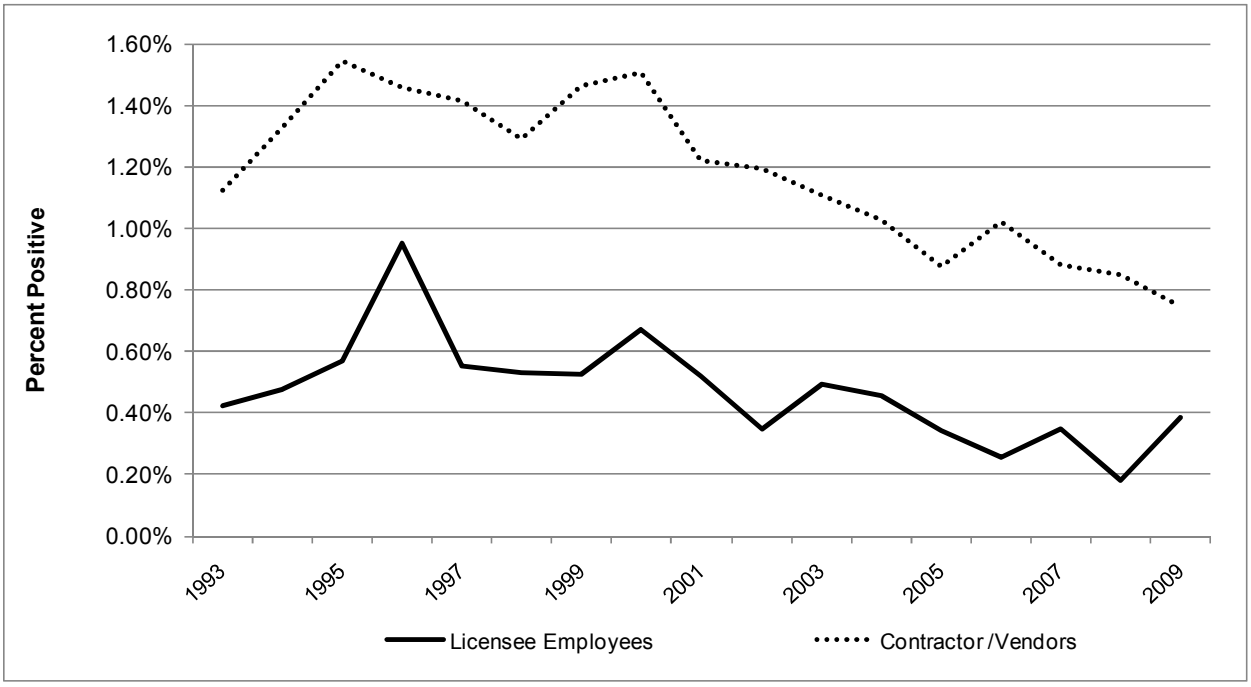


Table 9

Trends in Positive Random Test Rates by Work Category (1993 – 2009)

Year	Licensee Employees			Contractor /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%

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

Chart 6

Trends in Positive Random Test Rates by Work Category (1993 – 2009)

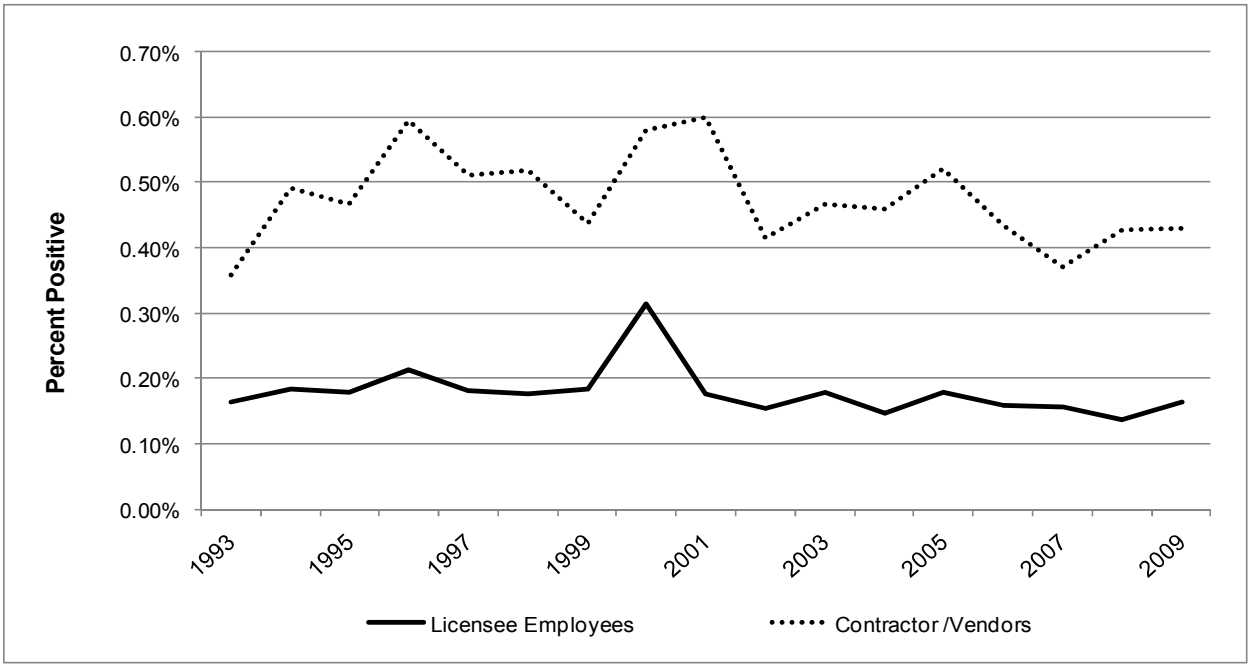


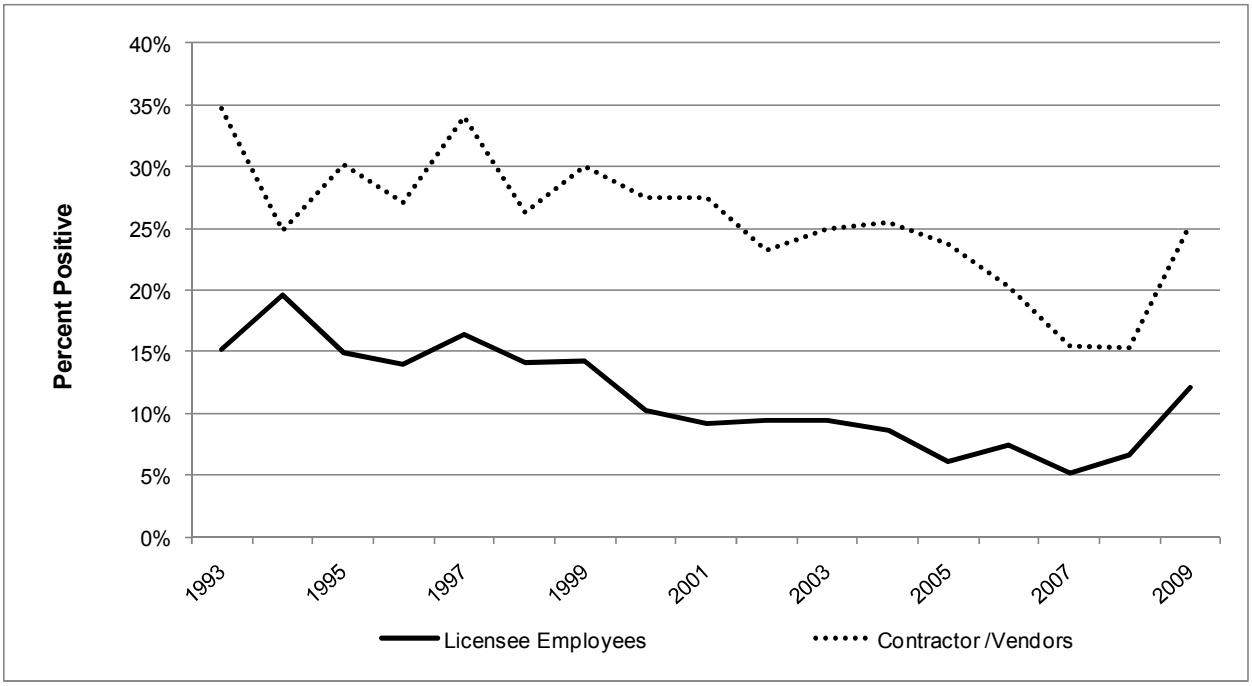
Table 10

Trends in Positive For-Cause Testing Rates by Work Category (1993 – 2009)

Year	Licensee Employees			Contractor /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%

Chart 7

Trends in Positive For-Cause Testing Rates by Work Category (1993 – 2009)



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. Distributional information is presented to provide licensees with additional information to evaluate their FFD program performance against the industry rate. NRC-developed reports presenting FFD program performance testing data on a site-specific basis started with CY 2008 results.

Table 11

Industry Positive Test Results for Pre-Access, Random, and For-Cause Testing, by Work Category, 2009

Pre-Access Testing		
Work Category	**Industry % Positive**	**Range of % Positive (by Site)**
Licensee Employees	0.39	0 – 20
Contractors	0.75	0 – 2.09

Random Testing		
Work Category	**Industry % Positive**	**Range of % Positive (by Site)**
Licensee Employees	0.16	0 – 0.78
Contractors	0.43	0 – 1.64

For-Cause Testing		
Work Category	**Industry % Positive**	**Range of % Positive (by Site)**
Licensee Employees	12.07	0 – 75
Contractors	25.40	0 – 100

Table 12

Distribution of Pre-Access Testing Positive Rate Ranges by Work Category and Number of Sites, 2009

Positive Rate Range (%)	Licensee Employees	Contractor/ Vendors
0	54	10
>0.0 – 0.25	0	4
>0.25 – 0.5	0	12
>0.5 – 0.75	6	16
>0.75 – 1.0	5	14
>1.0 – 1.25	2	9
>1.25 – 1.5	5	4
>1.5 – 1.75	0	2
>1.75 – 2.0	0	1
>2.0 – 2.25	1	1
>2.25	1	0
Total Sites	**74**	**73**

* The total site counts differ (74 verses 73) because a site did not test any individuals in the contractor/vendor work category this reporting period.

Chart 8

Comparison of Pre-Access Testing Positive Rate Ranges by Work Category and Number of Sites, 2009

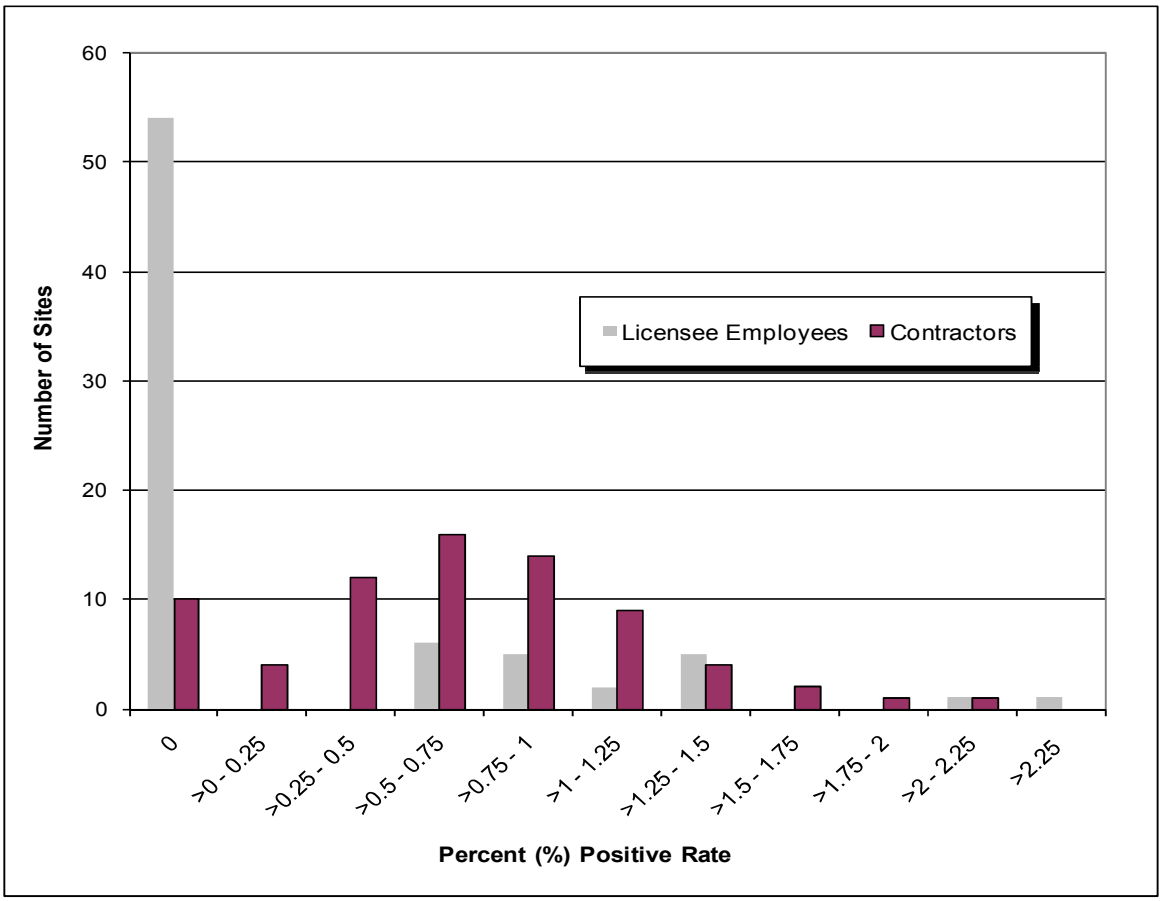


Table 13

Distribution of Random Testing Positive Rate Ranges by Work Category and Number of Sites, 2009

Positive Rate Range (%)	Licensee Employees	Contractor/ Vendors
0	34	29
>0.0 – 0.2	14	0
>0.2 – 0.4	20	12
>0.4 – 0.6	5	13
>0.6 – 0.8	1	7
>0.8 – 1.0	0	6
>1.0 – 1.2	0	4
>1.2 – 1.4	0	1
>1.4 – 1.6	0	0
>1.6 – 1.8	0	1
Total Sites	**74**	**73**

* The total site counts differ (74 verses 73) because a site did not test any individuals in the contractor/vendor work category this reporting period

Chart 9

Comparison Random Testing Positive Rate Ranges by Work Category and Number of Sites, 2009

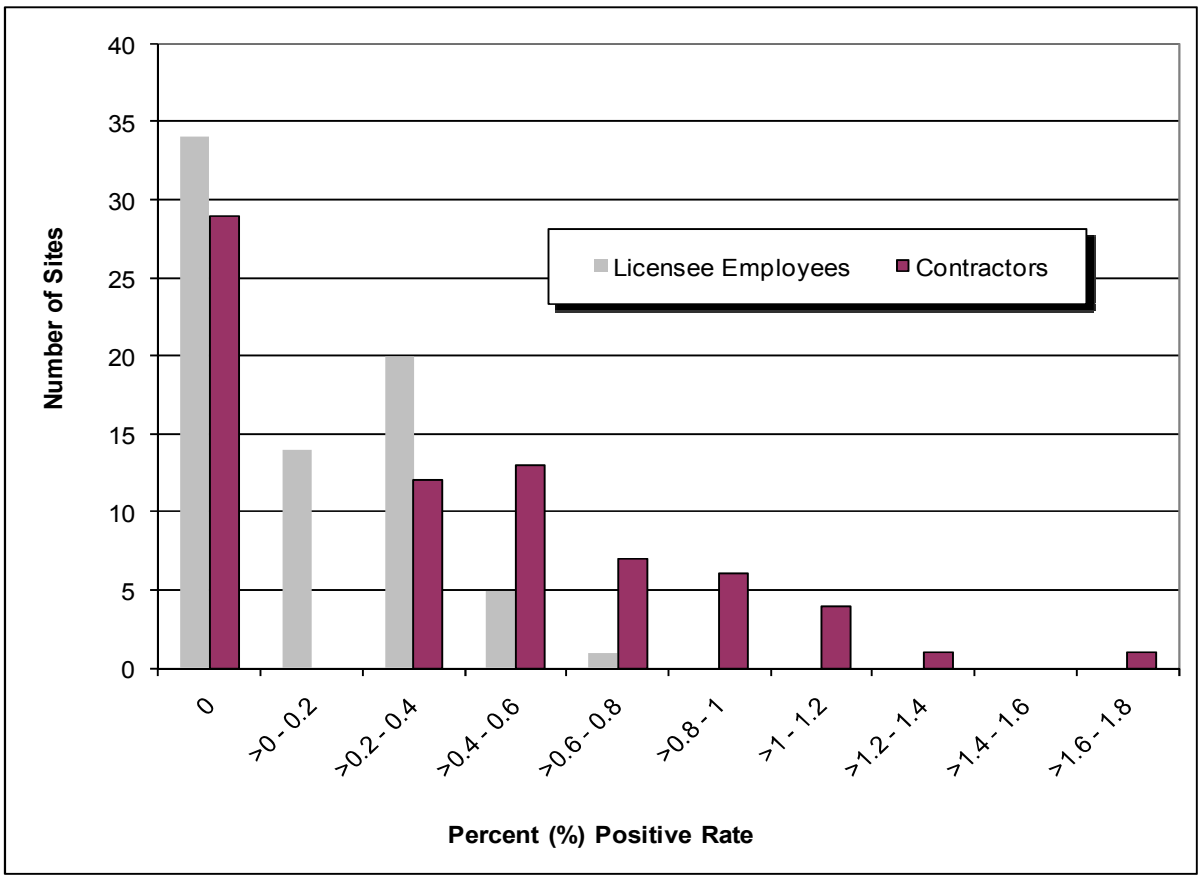


Table 14

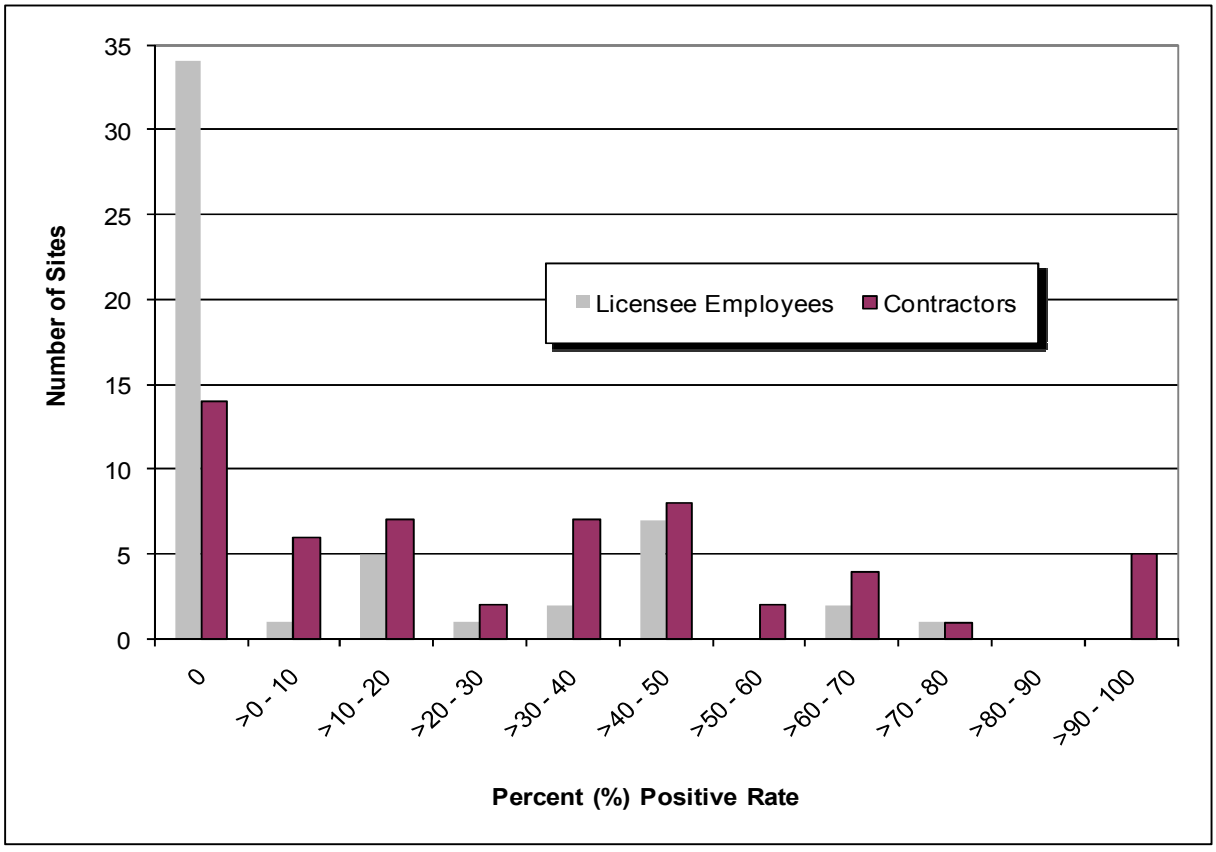
Distribution of For Cause Testing Positive Rate Ranges by Work Category and Number of Sites, 2009

Positive Rate Range (%)	Licensee Employees	Contractor/ Vendors
0	34	14
>0.0 – 10	1	6
>10 – 20	5	7
>20 – 30	1	2
>30 – 40	2	7
>40 – 50	7	8
>50 – 60	0	2
>60 – 70	2	4
>70 – 80	1	1
>80 – 90	0	0
>90 – 100	0	5
Total Sites	**53**	**56**

* The total site counts differ (53 verses 56) because three sites did not have any for-cause tests conducted for licensee employees this reporting period.

Chart 10

Comparison of Site For-Cause Testing Positive Rate Ranges by Work Category and Number of Sites, 2009



Section 7 – Evaluation of e-Reported FFD Performance Data

This section provides a more detailed analysis of FFD program performance information provided by licensees and other entities that chose to use the voluntary e-reporting system described on page 6, "Reporting of FFD Performance Information." As industry use of e-reporting increases, additional analyses and exhibits can be provided to enhance the communication of FFD performance.

Table 16

Test Results for Each Test Category, 2009 (EIE results)

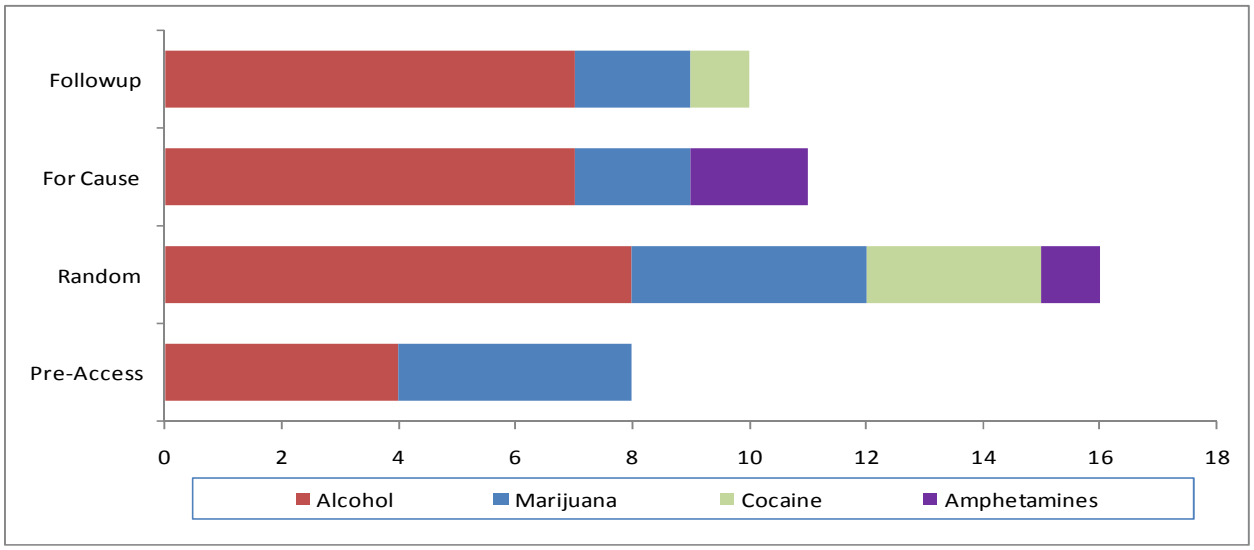
Test Category	Number of Tests	Positive Tests	Percent Positive
Pre-Access	25,498	187	0.73%
Random	18,015	40	0.22%
For Cause	224	35	15.63%
Post-Event	258	2	0.78%
Followup	2,043	25	1.22%
Other	124	1	0.81%
TOTAL	46,162	290	- -

Observations on Table 16

- Licensees using the e-reporting system reported information on 46,162 tests conducted. This data covers approximately 28 % of the 165,744 total tests performed by industry, see Table 1.
- The analysis includes 290 positive results (which includes testing refusals). This data covers 29 % of positives and testing refusal results in CY 2009, see Table 1.

- **Chart 11**

Licensee Employees, Positive Results by Substance and Reason for Test, 2009 (EIE results)

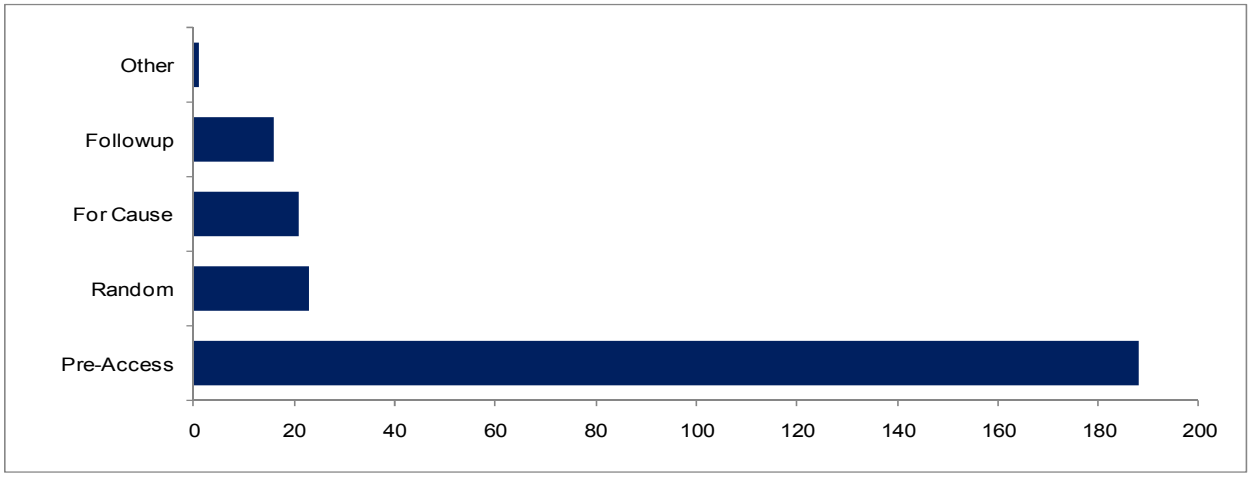


OObsservations on Chart 11

- Small number of substances detected (45) as compared to contractors, see Chart 12.
- Only four substances detected (alcohol, marijuana, cocaine, amphetamines).
  - Alcohol and marijuana -- predominant substances under each testing condition.
  - Amphetamines - only detected in random and for cause testing.
  - Cocaine -- only detected in random and followup testing.
- Pre-access testing resulted in the fewest positive test results for any reason for test.

Chart 12

Contractor/Vendor - Substances Detected (including Testing Refusals) by Reason for Test, 2009 (EIE results)

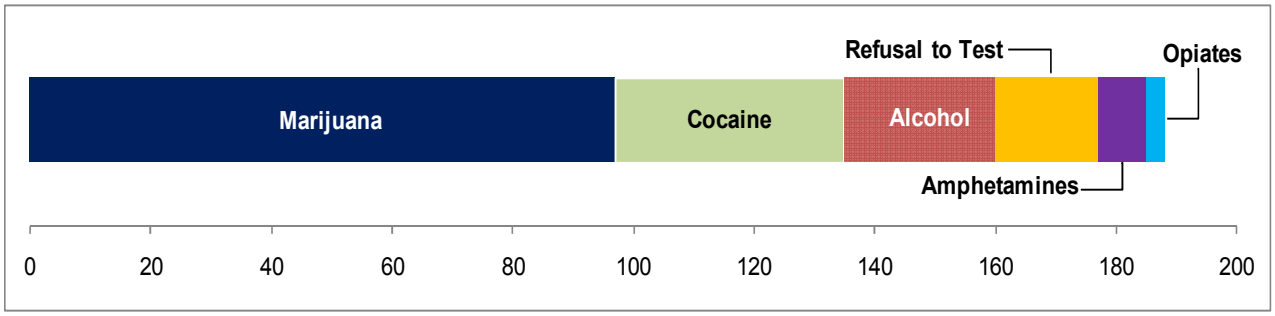


Observations on Chart 12

- Approximately 75 percent of positive test results (188) occurred at pre-access testing.
- A much smaller, but comparable number of positive results for random, for cause and followup testing is noted.

For contractor/vendors, the breakout of substances identified by "reason for test" is divided into two separate charts (Charts 13 and 14) because the vast majority of positive test results are associated with pre-access testing (as seen in Chart 12). To improve the clarity of this illustration, pre-access testing results are reported separately.

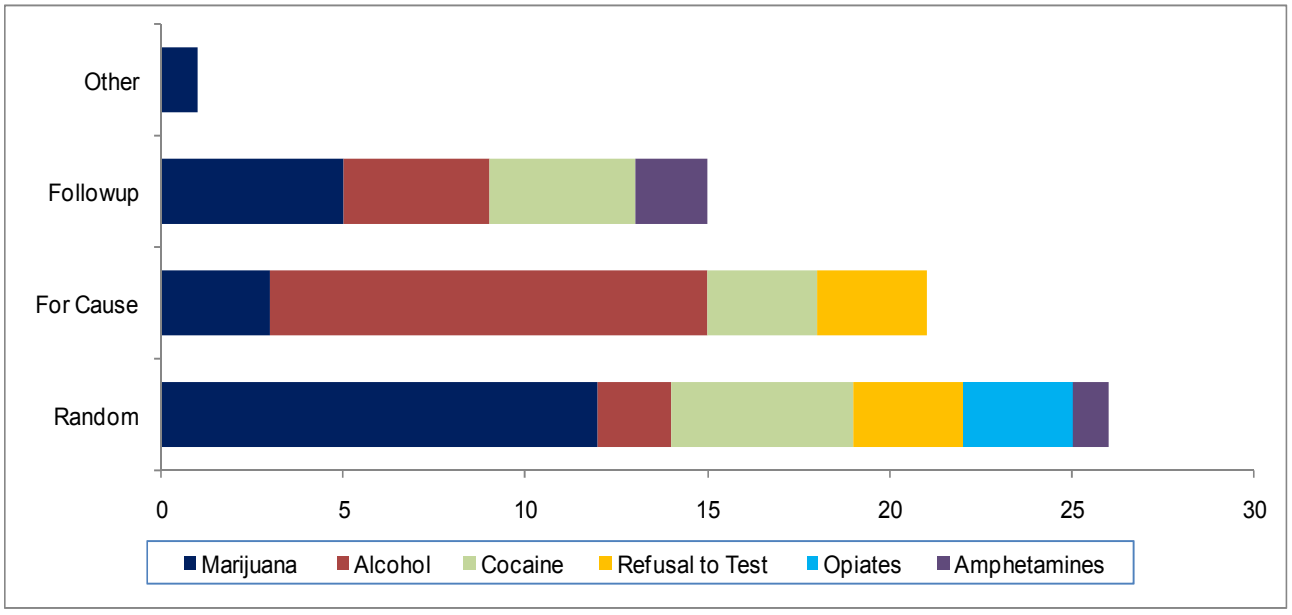
Chart 13: Contractor/Vendor – Pre-Access Positive Results by Substance 2009, (EIE results)



Observations on Chart 13

- 90 percent of the pre-access testing positives associated with three substances: marijuana, cocaine, and alcohol.
- Unlike CY 2009 results for licensee employees, refusal-to-test actions are noted.

Chart 14: Contractor/Vendor – Positive Results by Substance and Reason for Test, 2009 (EIE results)



Observations on Chart 14

- Opiates are only detected in random testing (and in pre-access tests, see Chart 13).
- Amphetamines are being detected in random and follow up testing.
- Consistent with employee results, alcohol is the most detected substance in for-cause testing.
- Refusal-to-test occurrences in random and for-cause testing (see Chart 13 for pre-access).

Tables 17 and 18 and associated charts 15 and 16 on the next two pages highlight the percentage of positive results associated with each substance by reason for test and work category. These data present the detection of substances under each testing condition. In particular, the area charts provide a way to easily identify the relative percentage of positive results by substance for each reason for test.

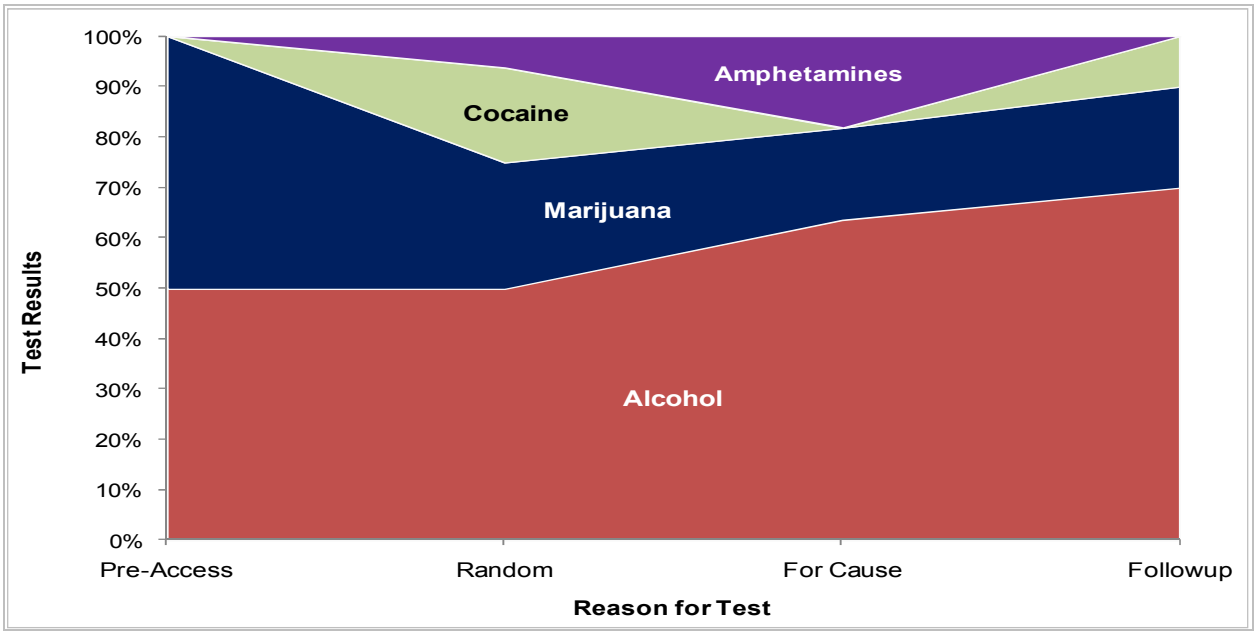
Table 17

Licensee Employees, Percentage of Positive Tests by Substance and Reason for Test, 2009 (EIE results)

Substance	Reason for Test				
	Pre-Access	Random	For Cause	Followup	Other
Alcohol	50%	50%	64%	70%	-
Marijuana	50%	25%	18%	20%	-
Cocaine	-	19%	-	10%	-
Amphetamines	-	6%	18%	-	-
Total	100%	100%	100%	100%	0%
	(Total = 8)	(Total = 16)	(Total = 11)	(Total = 10)	(Total = 0)

Chart 15

Licensee Employees, Percentage of Positive Results by Substance and Reason for Test, 2009 (EIE results)



Note: For presentation purposes the "Other" Reason for Test is not included in the chart.

Observations on Chart 15

- Smaller number of substances detected (45 total).
- Marijuana and alcohol account for at least 75 percent (up to 100%) of positive test results, regardless of reason for test.
  - Alcohol is detected in a higher percentage than any other substance (50 – 70% of substances detected depending on testing condition).
- Cocaine only detected under random and for cause testing conditions.
- Amphetamines only detected under random and followup testing conditions.

- No positive results were reported for the other reason for test.

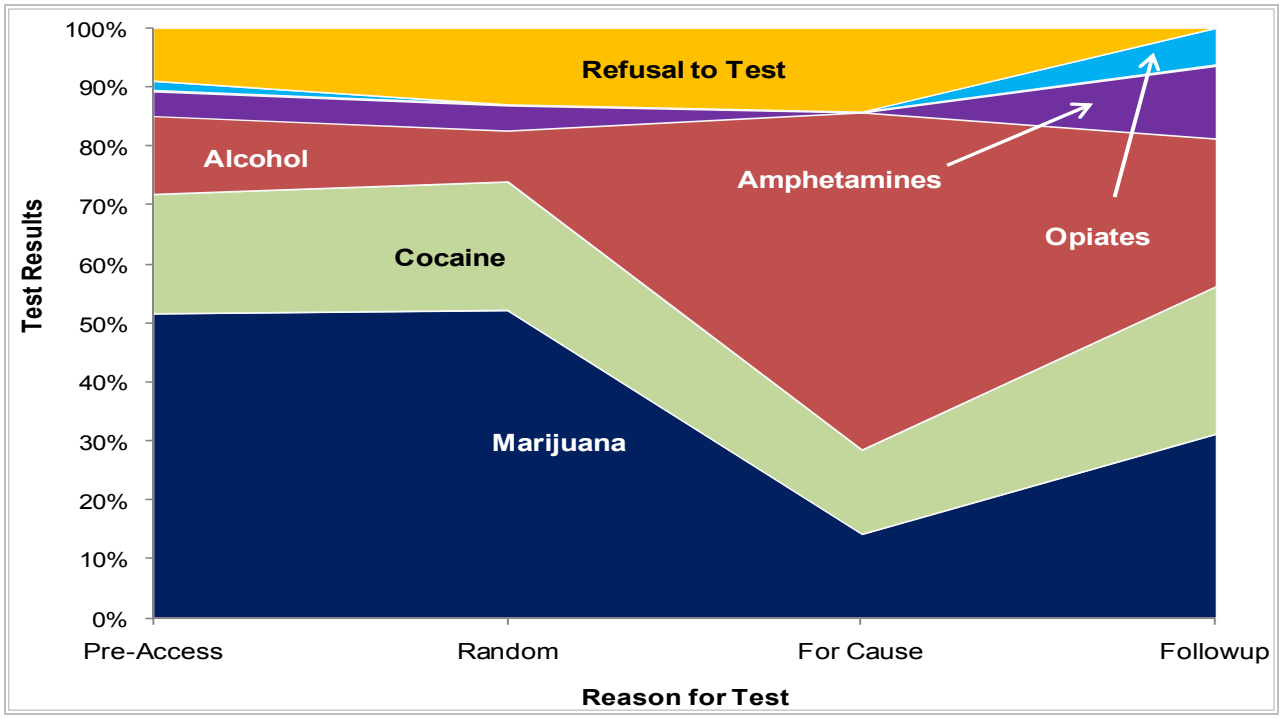
Table 18

Contractor/Vendors, Percentage of Positive Results by Substance and Reason for Test, 2009 (EIE results)

Substance	Reason for Test				
	Pre-Access	Random	For Cause	Followup	Other
Marijuana	52%	52%	14%	31%	100%
Cocaine	20%	22%	14%	25%	-
Alcohol	13%	9%	57%	25%	-
Amphetamines	4%	4%	-	13%	-
Opiates	2%	-	-	6%	-
Refusal to Test	9%	13%	14%	-	-
Total	100%	100%	100%	100%	100%
	(Total = 188)	(Total = 23)	(Total = 21)	(Total = 16)	(Total = 1)

Chart 16

Contractor/Vendors, Percentage of Positive Results by Substance and Reason for Test, 2009 (EIE results)



Note: For presentation purposes, the "Other" Reason for Test is not included in the chart.

Observations on Chart 16

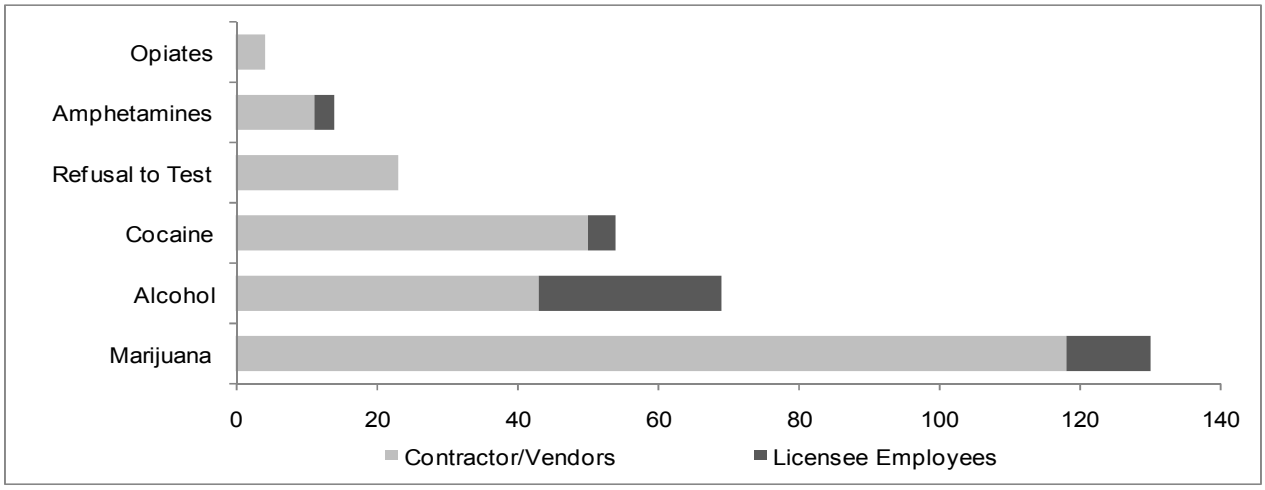
Much higher number of substances detected (249) as compared to licensee employees.

- Variability exists by reason for test in percentage of substances detected.
  - Marijuana and cocaine account for more than 70 percent of results under pre-access and random testing conditions.
  - Alcohol accounts for 57 percent of results under for cause testing (much higher than other reason for test types.

- Unlike licensee employees, refusal to test actions are fairly consistent between 9 and 14 percent of pre-access, random, and for cause tests performed.

Chart 17

Positive Results by Substance and Work Category, 2009 (EIE results)

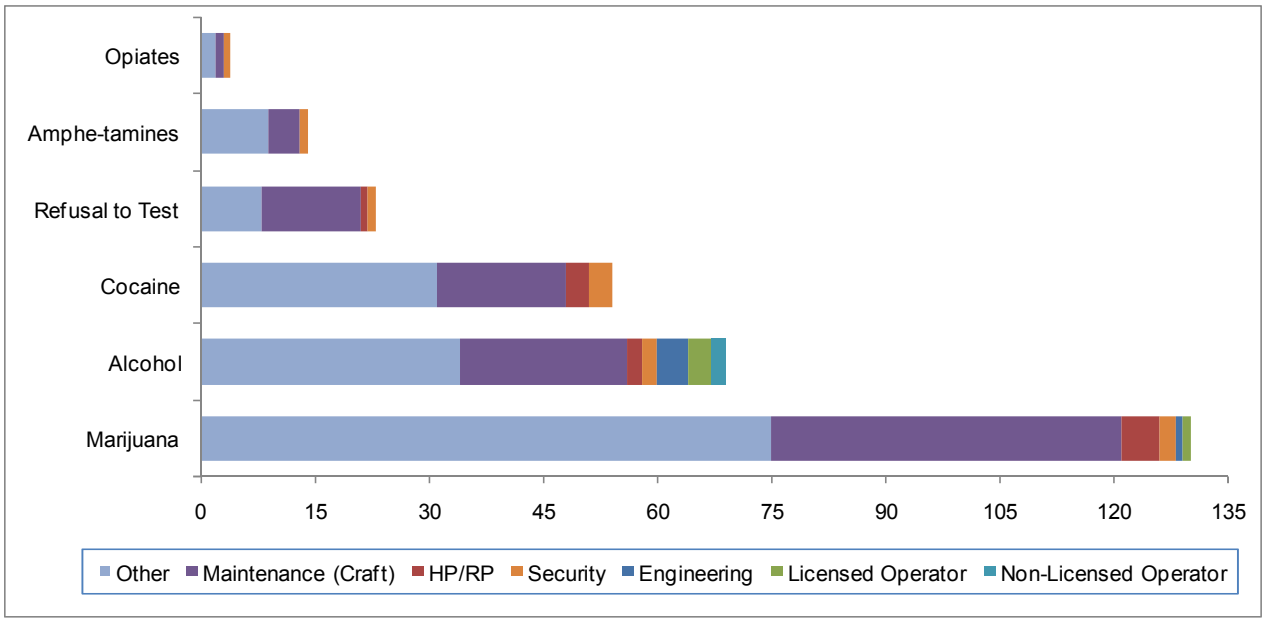


Observations on Chart 17

- The majority of substances detected and refusal to tests occurred with contractor/vendors.
- One exception is with alcohol, which is a highly detected substance in licensee employees.

Chart 18

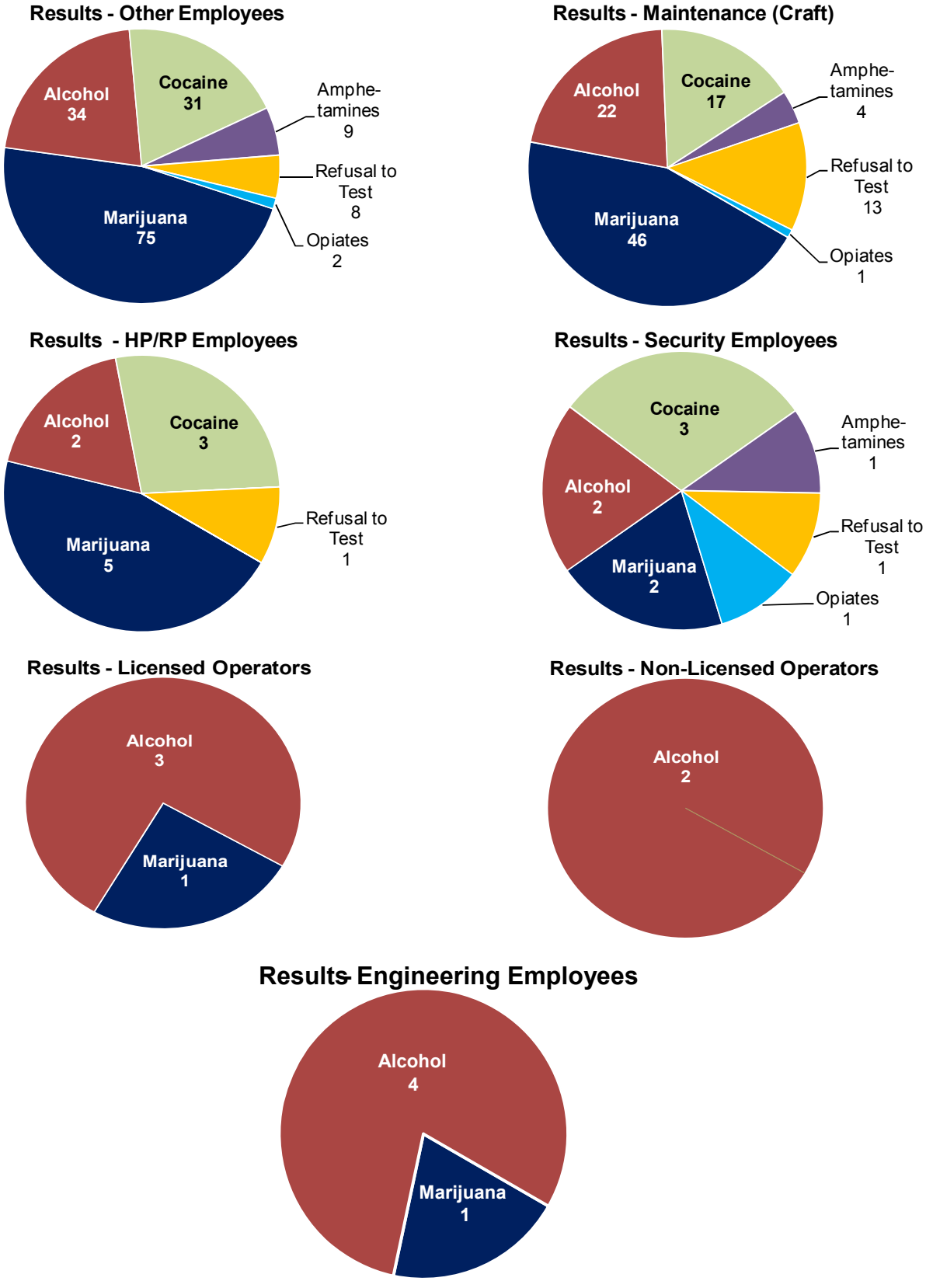
Positive Results by Substance by Labor Category, 2009 (EIE results)



Observations on Chart 18

- The Other (159) and Maintenance (103) labor categories comprised almost 90 percent of all reported violations (262 of 294 industry results). Substances detected were proportionate for these two labor categories – i.e., substance use appears similar (see Chart 19).
- In CY 2010, the NRC is requesting additional information be provided for the "Other" labor category as detail on this category was optional in CY 2009.
- Refer to Chart 19 on the next page for additional detail on test results by labor category.

Chart 19 – Individual Pie Charts Displaying Test Results for Each Labor Category, 2009 (EIE results)



Section 8 – Evaluation Subversion Attempts

Subversion attempt actions can be reported in terms of the following:

- Validity test results of adulterated or substituted (i.e., laboratory test results).
- Out-of-temperate range specimen collected on the initial specimen collection followed by an immediate second collection under direction observation. The initial specimen tests negative and the second specimen tests positive. This situation accounted for the majority of testing refusals where a specimen was provided.
- An outright refusal to cooperate with the testing process (e.g., refusing to provide a specimen).
- Identification during the collection process of materials to subvert the testing process (e.g., a heating pack, clean urine in a bag, adulterant to add to the specimen, etc).

Chart 20

Subversion Attempt Descriptions, by Reason for Test, 2009 (EIE results)

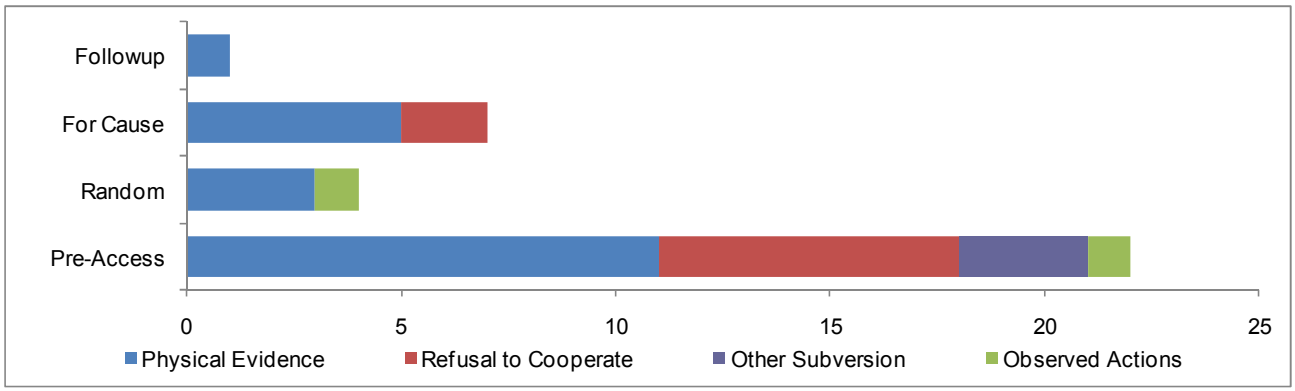
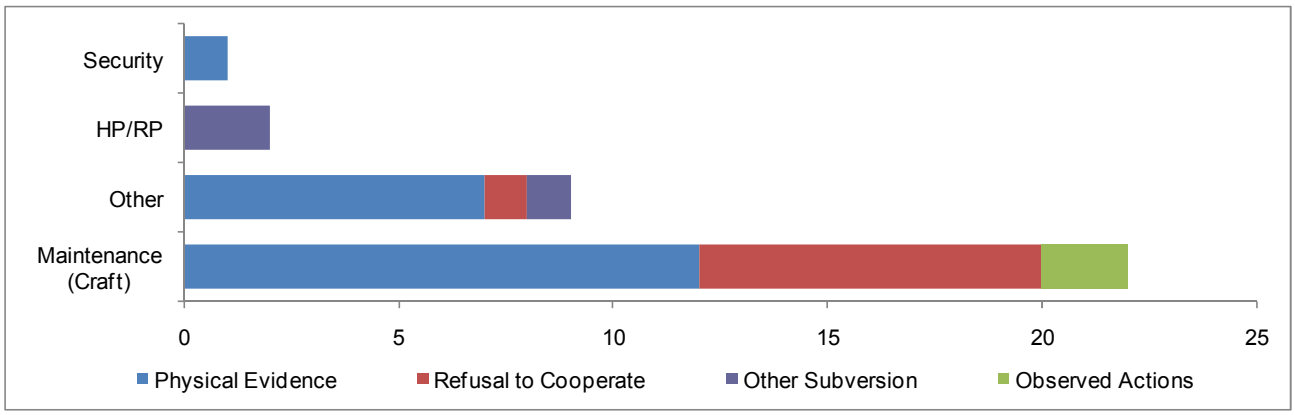


Chart 21

Subversion Attempt Descriptions, by Labor Category, 2009 (EIE results)



Observations on Charts 20 and 21:

- Since 4 descriptions can be reported for each subversion attempt, the data reflected in Charts 20 and 21 is greater than the number of subversion attempts reported (i.e., the number of individuals reported as refusing a test).
- The most subversion attempts occur during pre-access and for-cause testing.
- The most subversion attempts are associated with maintenance (craft) and other labor categories.

Table of Changes

This table highlights changes that have been made to the tables in this Information Notice (IN 2011) relative to the 2009 Information Notice.

2009 IN (CY 2008 results)		**2011 IN** (CY 2009 results)		**Changes Made**
Table/ Chart No.	Table/Chart Title	Table/ Chart No.	Table/Chart Title	
Table 1	2008 Test Results for Each Test Category	Table 1	2009 Test Results for Each Test Category	Updated the spelling or terminology used for the following Test Categories based on 2008 rule changes: • Revised the spelling of "For-Cause" to "For Cause" which is consistent with the spelling in §26.31(c)(2). • Replaced "Observed Behavior" under the Test Category "For-Cause" with the term "For Cause". For Cause is the term used in §26.31(c)(2) for testing conducted in response to an individual's "observed behavior." • Replaced "Post-Accident" appearing under "For-Cause" with the Test Category "Post-Event". This change is consistent with terminology in §26.31(c)(3) and does not change the data reported. • Revised the spelling of Follow-up to "Followup" which is consistent with the spelling in §26.31(c)(4).

2009 IN (CY 2008 results)		**2011 IN** (CY 2009 results)		**Changes Made**
Table/ Chart No.	Table/Chart Title	Table/ Chart No.	Table/Chart Title	
Table 2	Test Results by Test and Work Categories (2008)	Table 2	Test Results by Test and Work Categories (2009)	• 2008 rule changes eliminated the requirement to report test results by short-term and long-term contractors. Results are now presented as one work category (contractors). • Revised the spelling of "For-Cause" to "For Cause" which is consistent with the spelling in §26.31(c)(2). • Revised the spelling of "Follow-up" to "Followup" which is consistent with the spelling in §26.31(c)(4).
Table 3	Test Results by Test Category (2008)	-	-	• 2009 IN Table 3 presented results by test category (e.g., Pre-Access) by reporting period (i.e., first and second six months). • 2008 rule in §26.717 changed the reporting frequency of FFD performance data to once per year. • Deleted this table because annual results by test category already are presented in Table 2.
Table 4	Confirmed Positive Test Results by Substance and by Work Category (2008) (All test types, including Testing Refusals)	Table 3	Confirmed Positive Test Results by Substance and by Work Category (2009) (All test types, including Testing Refusals)	• Replaced the term "long-term/short-term" contractor with "Contractor". The distinction is no longer needed.
Table 5	Significant Fitness-for-Duty Events	Table 4	Significant Fitness-for-Duty Events (1990 – 2009)	• Updated table number.

2009 IN (CY 2008 results)		**2011 IN** (CY 2009 results)		**Changes Made**
Table/ Chart No.	Table/Chart Title	Table/ Chart No.	Table/Chart Title	
Table 6A and Table 6B	Trends in Testing by Test Type	Table 5A and Table 5B	Trends in Testing by Test Type	• Updated table number. • Broke out the "For-Cause" test results into "For Cause" and "Post Event" which represent the categories previously termed "Observed Behavior" and "Post-Accident", respectively. • This terminology change is consistent with the spelling in §26.31(c)(4). • The underlying results reported are not affected.
Table 8	Trends in Positive Test Rates for Workers with Unescorted Access	-	-	• Deleted table. The random and for cause testing data presented in the table are now reported in more detail in new Tables 9 and 10.
Table 9	Trends in Positive Test Rates (All Test Types) by Work Category	Table 7	Trends in Positive Test Rates (All Test Types) by Work Category (1993–2009)	• Added "(1993 – 2009)" to the title. • Combined the "Long-Term Contractors" and "Short-Term Contractors" results into "Contractor/Vendors" results. This distinction is no longer required by rule. • Added a "Total Tests" column for both Licensee Employees and Contractor/Vendors
Table 10	Trends in Positive Pre-Access Testing Rates by Work Category	Table 8	Trends in Positive Pre-Access Testing Rates by Work Category (1993–2009)	
Table 11	Trends in Positive Random Testing Rates by Work Category	Table 9	Trends in Positive Random Testing Rates by Work Category (1993–2009)	
Table 12	Trends in Positive Observed Behavior Testing Rates by Work Category	Table 10	Trends in Positive For Cause Testing Rates by Work Category (1993 – 2009)	• Replaced in the title the term "Observed Behavior" with "For Cause". The change is consistent with terminology in § 26.31(c)(2)." • Added "(1993–2009)" to the title. • Combined the "Long-Term Contractors" and "Short-Term Contractors" results into "Contractor/Vendors" results. This distinction is no longer required by rule. • Added a "Total Tests" column for both Licensee Employees and Contractor/Vendors

2009 IN (CY 2008 results)		**2011 IN** (CY 2009 results)		**Changes Made**
Table/ Chart No.	Table/Chart Title	Table/ Chart No.	Table/Chart Title	
Table 13	Industry Positive Test Results for Pre-Access, Random, and Observed Behavior Testing, by Work Category, 2008	Table 11	Industry Positive Test Results for Pre-Access, Random, and For Cause Testing, by Work Category, 2009	• Replaced in the title and in the table the term "Observed Behavior" with "For Cause". This change is consistent with terminology in § 26.31(c)(2).
Table 14	Distribution of Pre-Access Testing Positive Rates by Work Category by Site	Table 12	Distribution of Pre-Access Testing Positive Rates by Work Category by Site, 2009	• Added "2009" to the title. • Removed "All Employees" column. • Combined distribution bins so that Licensee Employees and Contractor/Vendors are classified using the same positive rate ranges.
Table 15	Distribution of Random Testing Positive Rates by Work Category by Site	Table 13	Distribution of Random Testing Positive Rates by Work Category by Site, 2009	• Added "2009" to the title. • Removed "All Employees" column. • Combined distribution bins so that Licensee Employees and Contractor/Vendors are classified using the same positive rate ranges.
Table 16	Distribution of For-Cause Testing Positive Rates by Work Category by Site	Table 14	Distribution of For Cause Testing Positive Rates by Work Category by Site,2009	• Added "2009" to the title. • Revised the spelling of For-Cause to "For Cause" in the title which is consistent with the spelling in § 26.31(c)(2). • Removed "All Employees" column. • Combined distribution bins so that Licensee Employees and Contractor/Vendors are classified using the same positive rate ranges.
Chart 4	Distribution of Pre-Access Testing Positive Rates (All Employees) by Site, 2008	-	-	• Deleted charts. The information presented in each chart is included in the multi-bar chart presenting the distribution of Pre-

2009 IN (CY 2008 results)		**2011 IN** (CY 2009 results)		**Changes Made**
Table/ Chart No.	Table/Chart Title	Table/ Chart No.	Table/Chart Title	
Chart 5	Distribution of Pre-Access Testing Positive Rates (Licensee Employees) by Site, 2008	-	-	Access Positive Rates by licensee and contractor employees (see Chart 8). • The underlying data presented in these charts is presented in Table 12.
Chart 6	Distribution of Pre-Access Testing Positive Rates (Contractors) by Site, 2008	-	-	
Chart 7	Distribution of Random Testing Positive Rates (All Employees) by Site, 2008	-	-	• Deleted charts. The information presented in each chart is included in the multi-bar chart presenting the distribution of Random Positive Rates by licensee and contractor employees (see Chart 9). • The underlying data presented in these charts is still presented in Table 13.
Chart 8	Distribution of Random Testing Positive Rates (Licensee Employees) by Site, 2008	-	-	
Chart 9	Distribution of Random Testing Positive Rates (Contractors) by Site, 2008	-	-	
Chart 10	Distribution of Observed Behavior Testing Positive Rates (All Employees) by Site, 2008	-	-	• Deleted charts. The information presented in each chart is included in the multi-bar chart presenting the distribution of For Cause Positive Rates by licensee and contractor employees (see Chart 10). • The underlying data presented in these charts is still presented in Table 14.
Chart 11	Distribution of Observed Behavior Testing Positive Rates (Licensee Employees) by Site, 2008	-	-	
Chart 12	Distribution of Observed Behavior Testing Positive Rates (Contractors) by Site, 2008	-	-	
Chart 13	Comparison of Site Pre-Access Testing Positive Rates by Work Category, 2008	Chart 8	Comparison of Pre-Access Testing Positive Rates by Work Category by Site, 2009	• Renumbered this chart as Chart 8. • Slightly modified title.
Chart 14	Comparison of Site Random Testing Positive Rates by Work Category, 2008	Chart 9	Comparison of Random Testing Positive Rates by Work Category by Site, 2009	• Renumbered this chart as Chart 9. • Slightly modified title.

2009 IN (CY 2008 results)		**2011 IN** (CY 2009 results)		**Changes Made**
Table/ Chart No.	Table/Chart Title	Table/ Chart No.	Table/Chart Title	
Chart 15	Comparison of Site Observed Behavior Testing Positive Rates by Work Category, 2008	Chart 10	Comparison of For Cause Positive Rates by Work Category by Site, 2009	• Renumbered this chart as Chart 10. • Slightly modified title. • Replaced the term “Observed Behavior Testing” with “For Cause Testing” in the chart title to be consistent with terminology in § 26.31(c)(2).

The following table presents information on new tables and charts included in the 20010 IN. The presentation of each table/chart is consistent with the order of appearance in the IN.

New Tables and Charts – 2010 IN		
Table/ Chart	Title	Description
Chart 4	Trends in Positive Test Rates (All Test Types)* by Work Category (1993 - 2009)	This line graph presents a visual comparison of annual positive test rates (All Test Types) for licensee employees and contractor/vendors.
Chart 5	Trends in Positive Pre-Access Testing Rates by Work Category (1993 - 2009)	This line graph presents a visual comparison of annual pre-access testing positive rates for licensee employees and contractor/vendors.
Chart 6	Trends in Positive Random Testing Rates by Work Category (1993 - 2009)	This line graph presents a visual comparison of annual random testing positive rates for licensee employees and contractor/vendors.
Chart 7	Trends in Positive For Cause Testing Rates by Work Category (1993 - 2009)	This line graph presents a visual comparison of annual for cause testing positive rates for licensee employees and contractor/vendors.
Table 15	Licensees Using the Voluntary E-Reporting System for CY 2009	Summary of industry participation (licensees and associated facilities) using the e-reporting system
Table 16	2009 Test Results for Each Test Category (EIE Results)	Presents information on the subset of testing data reflected in the EIE data analysis. These data are also reflected in the main body of the report.
Chart 11	Licensee Employees, Positive Results by Substance and Reason for Test (EIE Results), 2009	Bar chart that presents the breakout of substances identified licensee employees by each reason for testing
Chart 12	Contractor/Vendor – Substances Detected (including Testing Refusals) by Reason for Test (EIE Results), 2009	Bar chart that displays the magnitude of testing violations by reason for test.
Chart 13	Contractor/Vendor – Pre-Access Positive Results by Substance	Bar chart that presents substances identified in pre-access testing of contractors.
Chart 14	Contractor/Vendor – Positive Results by Substance and Reason for Test.	Bar chart that presents substances identified in random, for cause, followup, and other testing of contractors.
Table 17	Licensee Employees, Percentage of Positive Tests by Substance and Reason for Test (EIE Results), 2009	Table presenting the percentage of positive results for licensee employees associated with each substance by reason for test. These data are presented graphically in Chart 15.
Chart 15	Licensee Employees, Percentage of Positive Tests by Substance and Reason for Test (EIE Results), 2009	Graphical presentation of data reported in Table 17.
Table 18	Contractor/Vendors, Percentage of Positive Tests by Substance and Reason for Test (EIE Results), 2009	Table presenting the percentage of positive results for contractors associated with each substance by reason for test. These data are presented graphically in Chart 16.
Chart 16	Contractor/Vendors, Percentage of Positive Tests by Substance and Reason for Test (EIE Results), 2009	Graphical presentation of data reported in Table 17.

New Tables and Charts – 2010 IN		
Table/ Chart	Title	Description
Chart 17	Positive Results by Substance and Work Category (EIE Results), 2009	Bar chart displaying the relative proportion of positive results by contractor/vendors and licensee employees for each substance (including refusal actions).
Chart 18	Positive Results by Substance by Labor Category (EIE Results), 2009	Bar chart displaying by substance detected, the labor category of each employee with a reported violation.
Chart 19	Series of pie charts, one pie chart for each labor category for substance results.	Series of pie charts which present the number of proportion of positive results for each labor category.
Chart 20	Subversion Attempt Descriptions, by Reason for Test (EIE Results), 2009	Presents information on the four subversion attempt descriptions that can be reported for each violation reported using the Single Positive Test form. Data are presented by reason for test.
Chart 20	Subversion Attempt Descriptions, by Labor Category (EIE Results), 2009	Presents information on the four subversion attempt descriptions that can be reported for each violation reported using the Single Positive Test form. Data are presented by labor category.