

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

Program Updates

U.S. Nuclear Regulatory Commission
Fitness for Duty Programs – 10 CFR Part 26

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Discussion Topics

- FFD Program Performance Trends and Operating Experience
- HHS-Certified Laboratory Performance
- Rulemaking Updates



FFD Performance and Trends - Background



- This presentation reflects the drug and alcohol test results for individuals subject to 10 CFR Part 26, "Fitness For Duty Programs." These individuals work at:
 - Commercial nuclear power reactors (operating and under construction)
 - Formerly operating power reactors
 - Category I special nuclear material facilities
 - Corporate FFD program offices (e.g., a utility with multiple operating power reactor sites may administer the fleet FFD program at a central location)
- Test result information is reported to the NRC on an annual basis under 10 CFR 26.717 and 26.417(b)(2).
- All drug test results are medical review officer (MRO)-verified.
- All results for 2023 are draft, as the NRC continues to perform data quality reviews on the information.

FFD Program Performance Results, 2019-2023



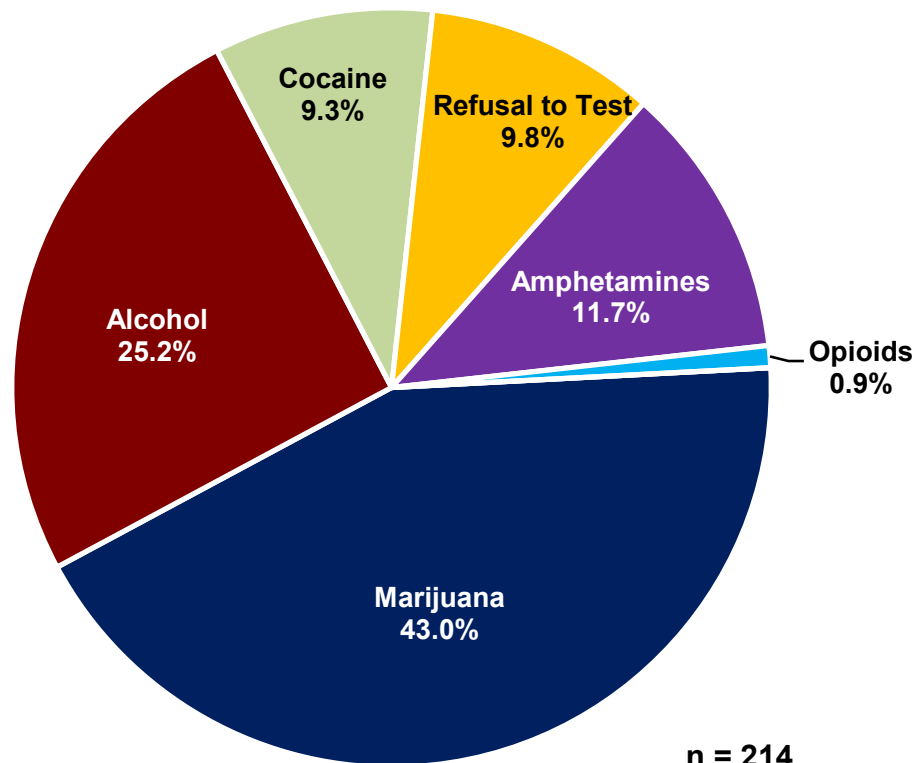
Metric	2019	2020	2021	2022	2023
Number of Facilities Reporting	70	70	69	65	63
Individuals Tested	131,417	124,678	114,150	112,611	106,985
Individuals Testing Positive*	1,085	1,048	1,112	1,083	1,080
Identified at Pre-access Testing	67.3%	67.4%	66.5%	70.5%	72.5%
Identified at Random Testing	21.8%	22.7%	24.8%	20.3%	18.3%
Pre-Access Testing Positive Rates	1.03%	1.01%	1.17%	1.20%	1.33%
Licensee Employee	0.44%	0.38%	0.64%	0.84%	0.97%
Contractors/Vendors	1.10%	1.08%	1.17%	1.27%	1.40%
Random Testing Positive Rates	0.45%	0.49%	0.61%	0.51%	0.47%
Licensee Employees	0.19%	0.23%	0.28%	0.30%	0.31%
Contractors/Vendors	0.86%	0.92%	1.15%	0.87%	0.81%
Average Worker Population	91,954	89,205	82,512	78,472	75,782
Licensee Employees	56,152	54,190	50,094	48,103	49,434
Contractors/Vendors	35,802	35,015	31,608	30,349	26,348

* Positive = Positive drug and alcohol tests, adulterated and substituted validity test results, and refusals to test

Results by Employment Category, 2023

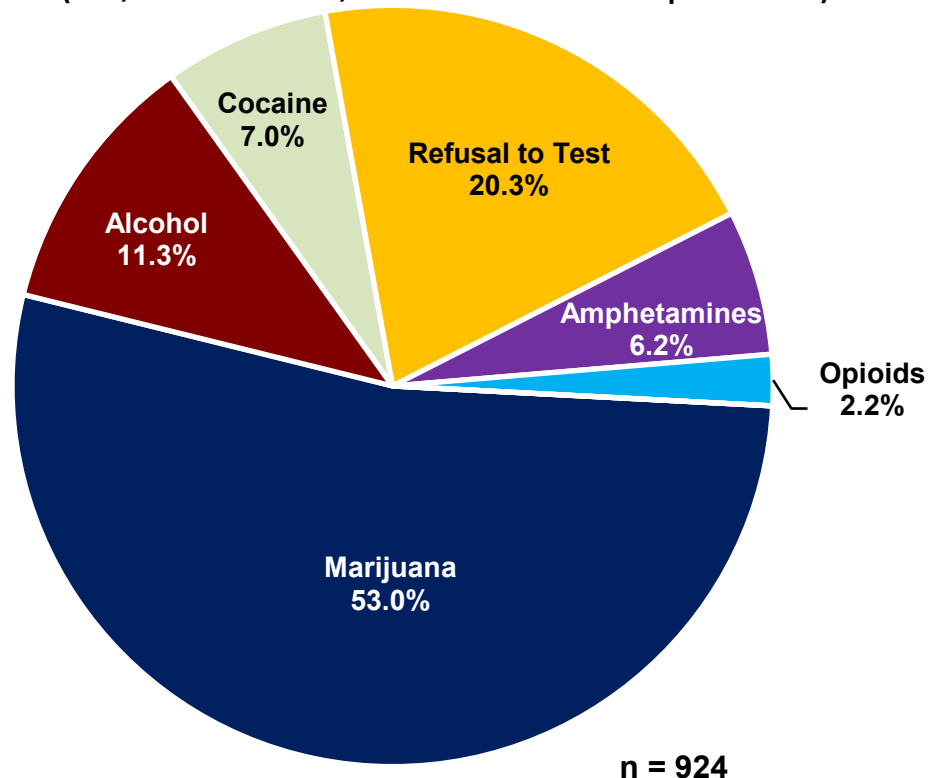
Licensee Employees

(40,726 tested, 207 individuals positive)

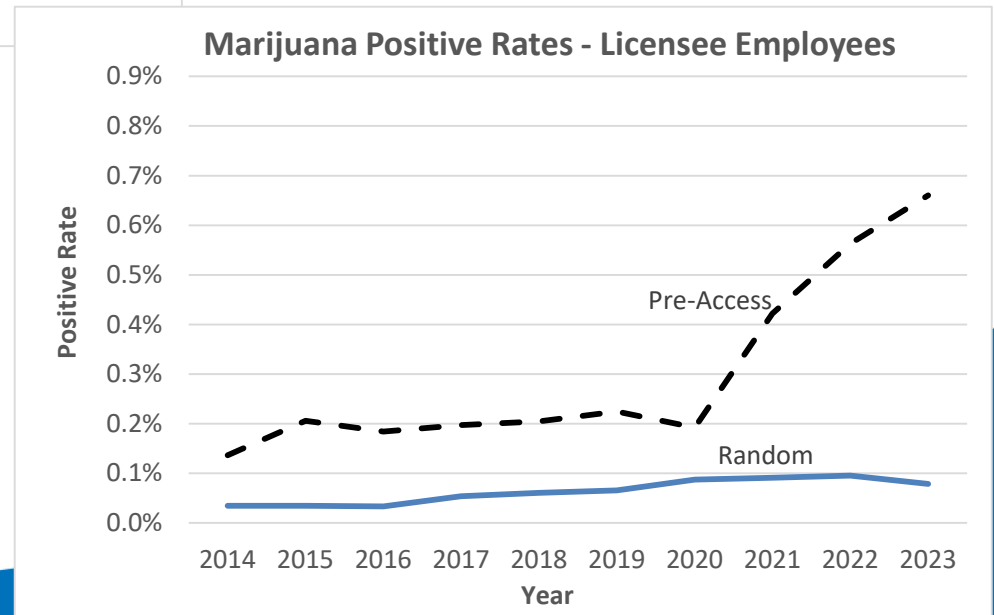
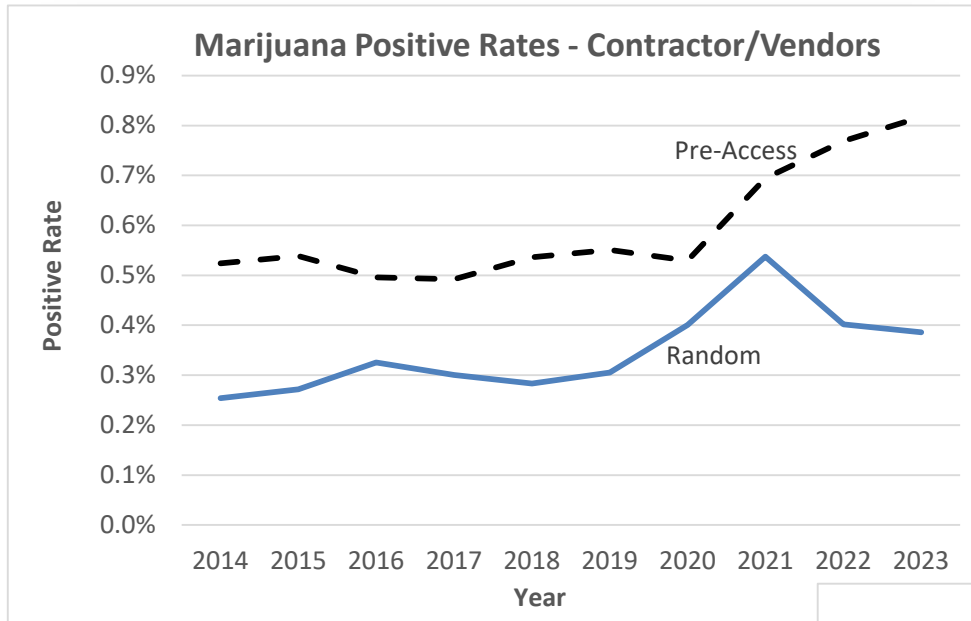


Contractor/Vendors

(66,259 tested, 873 individuals positive)



Pre-Access and Random Positive Rates - Marijuana



Subversion Attempt Trends (2018-2023)

Subversion attempt: Any willful act or attempted act to cheat on a required test (e.g., refuse to provide a specimen, alter a specimen with an adulterant, provide a specimen that is not from the donor's body)

Metric	2018	2019	2020	2021	2022	2023
Number of Subversion Attempts	298	307	288	272	268	289
Percentage of Drug Testing Violations	31.0%	34.5%	34.3%	29.3%	29.7%	30.9%
Identified at Pre-access Testing	77.5%	73.3%	74.7%	72.4%	79.1%	80.3%
Committed by Contractor/Vendors	95.6%	97.4%	96.2%	94.5%	93.3%	90.7%
Percentage of Sites Reporting At Least One Subversion	70%	61%	70%	70%	74%	78%

* Draft data (2023 reporting cycle closed on February 29, 2024)

Subversion attempt sanction:

Permanent denial unescorted access, 10 CFR 26.75(b)

Subversion Attempt Trends by Labor Category (2018-2023)

Labor Category	2018	2019	2020	2021	2022	2023
Maintenance (general facility)	226	255	245	217	211	205
Facility Support	25	18	17	26	30	41
Maintenance (safety-significant)	14	10	10	2	5	12
Security	4	6	4	9	5	8
Supervisor	7	4	1	3	3	4
FFD Program Personnel						1
Engineering	2	3	4		3	5
HP/RP	2	2	1	6	6	2
Non-Licensed Operator	2			3		
Other	16	7	6	6	5	11
QA/QC		2				
Total	298	307	288	272	268	289

Substituted Specimen Test Results, 2023

- Operating experience demonstrates that 1-2 urine specimens per year are reported by an HHS-certified laboratory as substituted.
- In 2023, at least 10 substituted urine specimen test results were received.

Collection Date	Employment Type	Outage Worker?	Reason for Test	Reason for Test Explanation	Labor Category	Validity Testing Result
03/01/23	C/V	Yes	Pre-Access	Initial Authorization	Maintenance (general facility)	Substituted
03/22/23	C/V	Yes	Pre-Access	Initial Authorization	Maintenance (general facility)	Substituted
04/03/23	C/V	Yes	Pre-Access		Maintenance (general facility)	Substituted
05/01/23	C/V	Yes	Pre-Access	Initial Authorization	Maintenance (general facility)	Substituted
07/18/23	C/V	No	Random		Facility Support	Substituted
10/02/23	C/V	-	Pre-Access		Maintenance (general facility)	Substituted
10/02/23	C/V	Yes	Pre-Access		Maintenance (general facility)	Substituted
10/03/23	C/V	-	Pre-Access	Initial Authorization	Maintenance (general facility)	Substituted
10/10/23	C/V	Yes	Pre-Access		Facility Support	Substituted
12/11/23	C/V	No	Followup	Potentially disqualifying FFD information	Maintenance (general facility)	Substituted

HHS-Certified Laboratory Performance, 2023

10 CFR 26.719, 30-day event reports



1) False negative for a blind performance test sample (BPTS) formulated to test positive for marijuana (January 2023). When notified of the test result inconsistency, the HHS-certified laboratory:

- Reviewed the initial testing data and identified that the THC screening absorbance was abnormally depressed.
- Determined that a potential sampling issue occurred on the chemistry analyzer for the initial test.
- Reviewed all other specimens and analytes on the load (no other abnormally depressed results were identified).
- Updated its standard operating procedure to require all certifying scientists to look for abnormally depressed results. Any specimen exhibiting depressed results for any assay (≤ -1000) would be aliquoted for another initial test.

HHS-Certified Laboratory Performance, 2023

10 CFR 26.719, 30-day event reports



2) Test results for a donor's specimen were not received within 5-business days after the laboratory received the specimen for testing, as required by 10 CFR 26.169(a) (March 2023)

- The specimen was received for testing on March 22 and confirmatory positive test results were not returned until March 29.
- The laboratory determined that the delay was due to unacceptable quality controls resulting in batch failures.
- The specimen was tested on multiple confirmation batches before final results were obtained. Multiple batch failures do not occur routinely.
- An increase in the failure rate for the assay during that last two weeks in March was observed by the laboratory.
- A fresh bottle of reagent was placed in service on March 29 and no additional failures were observed for the assay.

HHS-Certified Laboratory Performance, 2023

10 CFR 26.719, 30-day event reports



3) A BPTS formulated to return a “substituted” validity test result was reported as “negative, dilute” (June 2023)

- The BPTS was prepared to measure 1.0000 for specific gravity and the absence of creatinine. The laboratory reported a specific gravity of 1.0023 and a creatinine concentration of 7.9 mg/dL.
- The laboratory re-tested the specimen, and a substituted test result was reported (creatinine concentration <1.0 mg/dL, specific gravity of 1.0000).
- The laboratory investigation concluded that human error during specimen aliquoting was the most likely cause of the original test result error. Specifically, that the sample immediately preceding the sample in question may have splashed into the BPTS sample.
- The laboratory retested all other samples in the original batch using the original screening batch location. All results confirmed the accuracy of the original tests performed.
- Retraining was performed with all laboratory personnel involved in specimen aliquoting for screening batch preparation.

Part 26 Final Rule (November 2022)

(RIN 3150-AI67; Docket NRC-2009-0225)

Aligned Part 26 drug testing requirements more closely with the U.S. Department of Health and Human Services' 2008 and 2017 Mandatory Guidelines for Federal Workplace Drug Testing of urine specimens. Also incorporated lessons learned from implementing Part 26.

Published: November 22, 2022 ([87 FR 71422](#))

Compliance Required by: November 22, 2023



Substantive changes:

- ☐ Added testing for MDMA, MDA, hydrocodone, hydromorphone, oxycodone, oxymorphone
- ☐ Lowered drug testing cutoff levels for amphetamine, methamphetamine, cocaine
- ☐ Improved testing method to identify heroin metabolite (6-acetylmorphine)
- ☐ Strengthened methods to detect donor subversion attempts (special analyses testing)
- ☐ Included option to collect and drug test oral fluid for most observed collection conditions

2022 Part 26 Final Rule – Is it working?

Expanded Opioid Panel Results

Reason for Test	Collection Date	Employment Type	Outage Worker?	Reason for Test Explanation	Labor Category	Substance(s)	Reason for the Action
1	08/21/23	C/V	Yes	Reinstatement (31 to 365 days)	Maintenance (general facility)	Opioid: Oxycodone; Opioid: Oxymorphone	1st Positive
2	09/26/23	C/V	Yes	Reinstatement (31 to 365 days)	Maintenance (general facility)	Opioid: Hydrocodone; Opioid: Hydromorphone	1st Positive
3	10/02/23	C/V	Yes	Reinstatement (31 to 365 days)	Maintenance (general facility)	Opioid: Oxymorphone	1st Positive
4	10/17/23	C/V	Yes	Reinstatement (31 to 365 days)	Maintenance (general facility)	Opioid: Oxycodone; Opioid: Oxymorphone	1st Positive
5	10/18/23	C/V	Yes	Reinstatement (31 to 365 days)	Facility Support	Opioid: Hydrocodone; Opioid: Hydromorphone	1st Positive
6	10/23/23	C/V	No	Initial Authorization	Maintenance (general facility)	Opioid: Hydrocodone; Opioid: Hydromorphone	1st Positive
7	11/27/23	C/V	No	Update Authorization	Engineering	Opioid: Oxymorphone	1st Positive
8	08/17/23	C/V	No		Maintenance (general facility)	Opioid: Oxymorphone	1st Positive
9	10/16/23	C/V	No		Facility Support	Opioid: Oxycodone; Opioid: Oxymorphone	1st Positive
10	11/28/23	C/V	No		Maintenance (general facility)	Opioid: Oxymorphone	1st Positive
11	12/18/23	C/V	-		Facility Support	Opioid: Hydrocodone; Opioid: Hydromorphone	1st Positive

Questions?