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Presentation for the American Association of Medical Review Officers (AAMRO)

10 CFR Part 26
Fitness for Duty Programs

"A Direct Contribution to Safety and Security"

Introduction

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Organization

Security Programs and Support Branch
Division of Security Policy
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Discussion Topics

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- The Nuclear Regulatory Commission – Who we are
- 10 CFR Part 26, Fitness for Duty (FFD) Programs
  - The Defense-in-Depth FFD Strategy
  - Being “fit for duty”
  - MRO Special Items
  - Sanctions
  - Time-dependent alcohol limits
- Announced Medications and Conditions
- Trends and Reportable Events
- Urine Temperature Profile
- Subversions

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Mission

The mission of the NRC is to license and regulate the Nation's civilian use of byproduct, source, and special nuclear materials to ensure the adequate protection of public health and safety, promote the common defense and security, and protect the environment.

We do this by:

1. Establishing standards, regulations, and requirements
2. Licensing facilities and possession, use, and disposal of nuclear materials
3. Inspecting facilities and of users to ensure compliance
4. Providing emergency response and assessment
5. Assessing security threat conditions
6. Providing liaison with Federal, State, and Local partners

NRC Regional Offices

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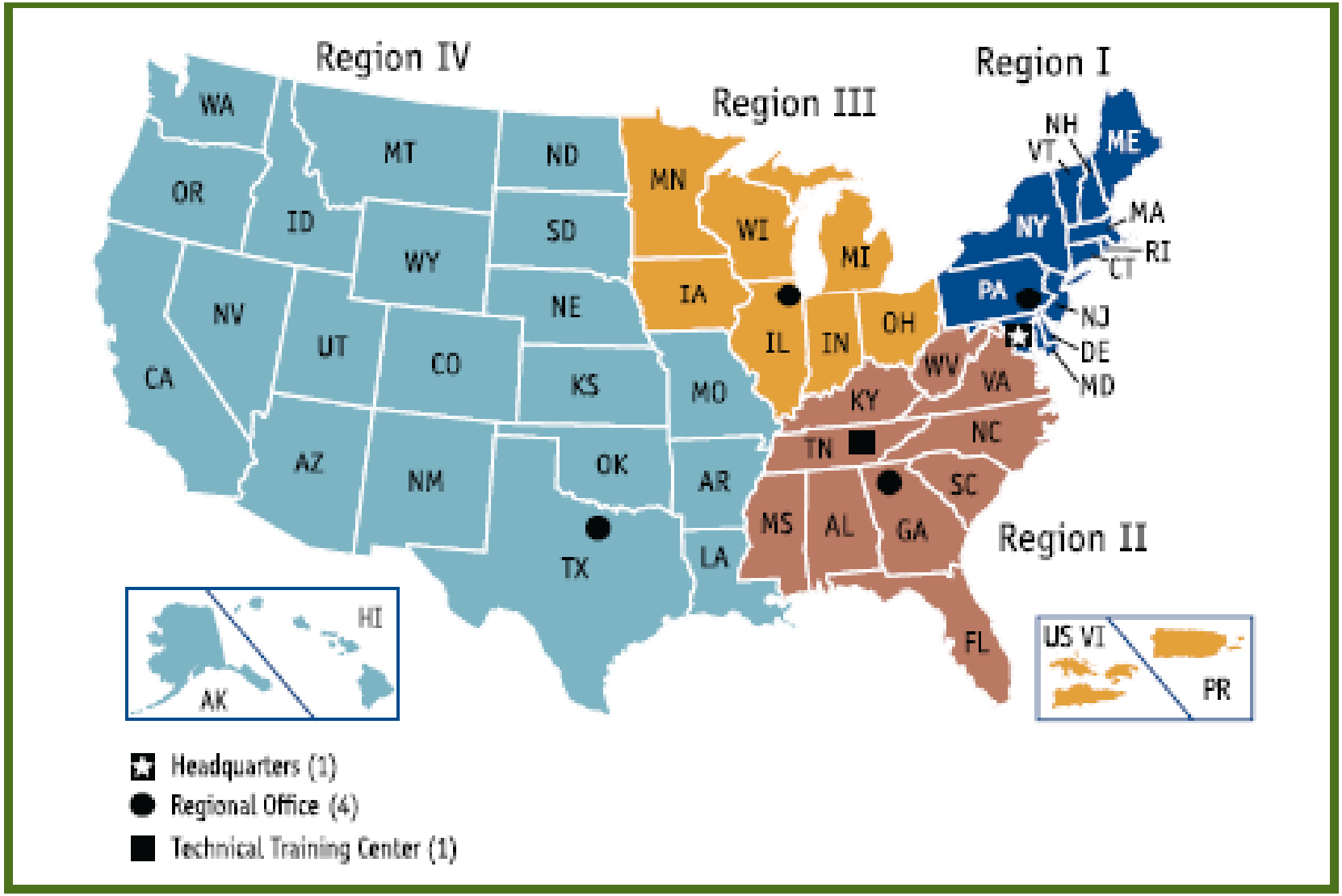

Power Plant Features

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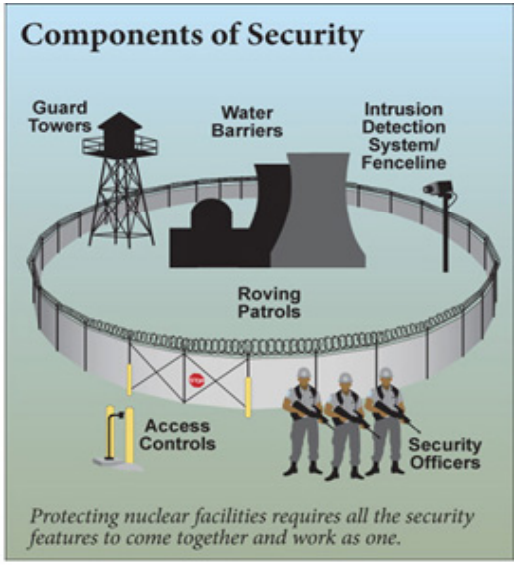

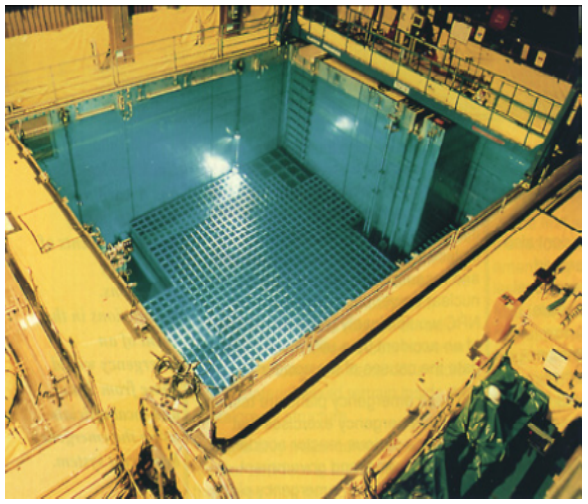

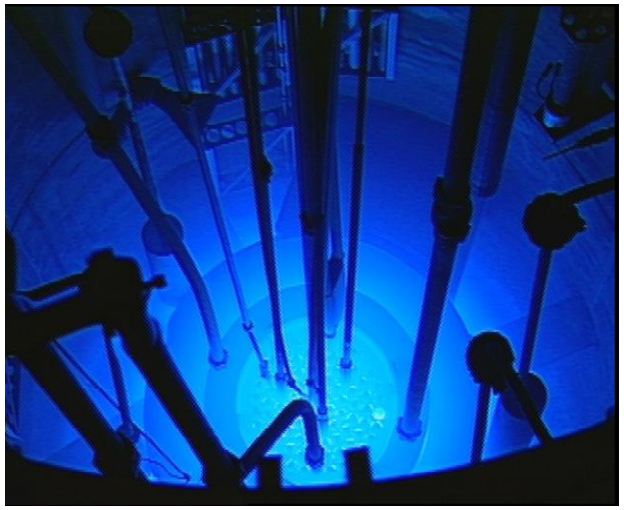

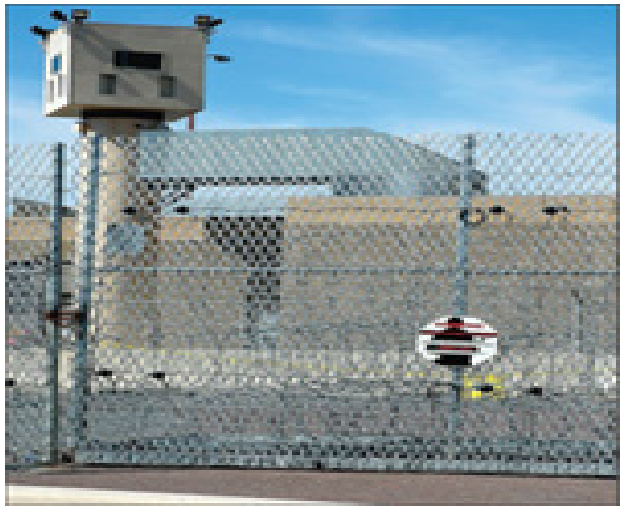

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FFD Mission

The mission of the FFD Program is to provide a direct contribution to safety and security through the effective regulatory oversight (policy development in support of licensing, rulemaking, and inspection) of licensees and other affected entities that implement the drug and alcohol provisions of 10 CFR Part 26, Fitness for Duty Programs.

FFD Vision

Establish and maintain a regulatory framework that effectively and efficiently enables NRC-licensees to meet or exceed the FFD performance objectives listed in 10 CFR 26.23. In particular, FFD programs must provide reasonable assurance that:

- Persons are trustworthy and reliable;
- Persons are not under the influence of any legal or illegal substance or physically impaired from any cause;
- Licensees can provide for early detection of persons who are not fit for duty or indicate untrustworthiness or unreliability;
- Licensee facilities are free from the adverse effects of drugs, alcohol, and other substances; and,
- Persons are not fatigued or in a state of diminished mental or physical capacity.

The Defense-in-Depth FFD Strategy

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Authorization Requirements

Fatigue Management

Fit, Reliable, Trustworthy Workers

Drug and Alcohol Testing

Behavioral Observation

Being Fit for Duty

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Being fit for duty is part of the NRC's defense-in-depth regulatory framework that helps provide assurance that persons who have unescorted access to the protected areas at commercial nuclear power reactors and Category I fuel cycle facilities, or who conduct certain activities, can safely and competently perform assigned duties and do not cause conditions adverse to safety or security.

From the requirements in 10 CFR Part 26, being fit for duty means that a person is:

a) not under the influence of any legal or illegal drug or substance as defined by testing cutoffs and MRO determination;
b) not adversely impaired or potentially impaired by any announced medication;
c) mentally & physically capable of safely & competently performing assigned duties;
d) not impaired by acute or cumulative fatigue; and,
e) trustworthy and reliable as determined by a licensee Reviewing Official.

MRO Special Items

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1. Single or split specimens
2. Expanded drug panels
3. Testing at lower cutoffs
4. Onsite immunoassay screening
5. Modified stand-down provision on initial testing
6. NRC-required minimum sanctions
7. MRO program utilization and involvement
8. *Limit of Detection* testing on all* dilute specimens
9. Use of LOQ instead of LOD*
10. If testing for additional drugs, upon a positive test, the MRO is required to identify clinical evidence of abuse when there is no alternative medical explanation

* Staff-proposed rulemaking

NRC-required Minimum Sanctions – for alcohol or drug test results

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Three Strikes	Minimum Sanction	Other Sanctionable Events
1st Offense	14-day denial	- -
2nd Offense	5-year denial	Withdraw employment application Use of drugs/alcohol in the Protected Area
3rd Offense	Permanent denial	Subversion/adulteration/Refuse-to-test

Special Considerations

1. On or offsite applicability
2. Licensee-administered sanctions

Time-Dependent Alcohol Limits

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Initial Test

< 0.02 BAC	negative test result

Confirmatory Test

≥ 0.04 BAC	positive test result
≥ 0.03 BAC	at work for at least 1 hour at the initial test
≥ 0.02 BAC	at work for at least 2 hours at the initial test

Administrative Actions

≥ 0.01 to < 0 .02 BAC	at work for at least 3 hours at the initial test
	no sanctions applied
	SAE fitness determination required

Fitness Screening of Announced Medications and Conditions

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Options are still being assessed by the staff

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Option 1 Require the licensee to ask all individuals to announce medications

- This question will only be asked during annual training and random testing
- All individuals will be trained that they can voluntarily announce anytime

Option 2 Require the licensee to ask all individuals and require the individual to announce

- Precedent is already set for NRC-licensed operators and security officers
- Add a provision in the existing requirement associated with consent

A fitness screening is the process when an MRO or nurse practitioner performs a literature review of the announced medications and conducts a face-to-face discussion with the individual to ascertain whether the medications could result in the person being unfit for duty or whether the individual should be considered unfit for duty at that moment.

Although the individual announces and a fitness screening is conducted, it is the individual's sole responsibility to safely and competently perform assigned duties while taking medications.

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Overall Industry Test Results (CY 2013)

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Test Category*	Number Tested	Number Tested Positive	Percent Positive
Pre-Access	89,187	654	0.73%
Random	63,678	194	0.30%
For Cause	627	84	13.40%
Post-Event	718	5	0.70%
Followup	7,487	70	0.93%
Total	**161,697**	**1,007**	**0.62%**

Test Category	Licensee Employees			C/Vs		
	Number Tested	Number Positive	Percent Positive	Number Tested	Number Positive	Percent Positive
Pre-Access	10,143	36	0.35%	79,044	618	0.78%
Random	39,140	53	0.14%	24,538	141	0.57%
For Cause	187	21	11.23%	440	63	14.32%
Post-Event	226	0	0.00%	492	5	1.02%
Followup	3,781	25	0.66%	3,706	45	1.21%
Total	**53,477**	**135**	**0.25%**	**108,220**	**872**	**0.81%**

Industry Testing Trend (CY 2013)

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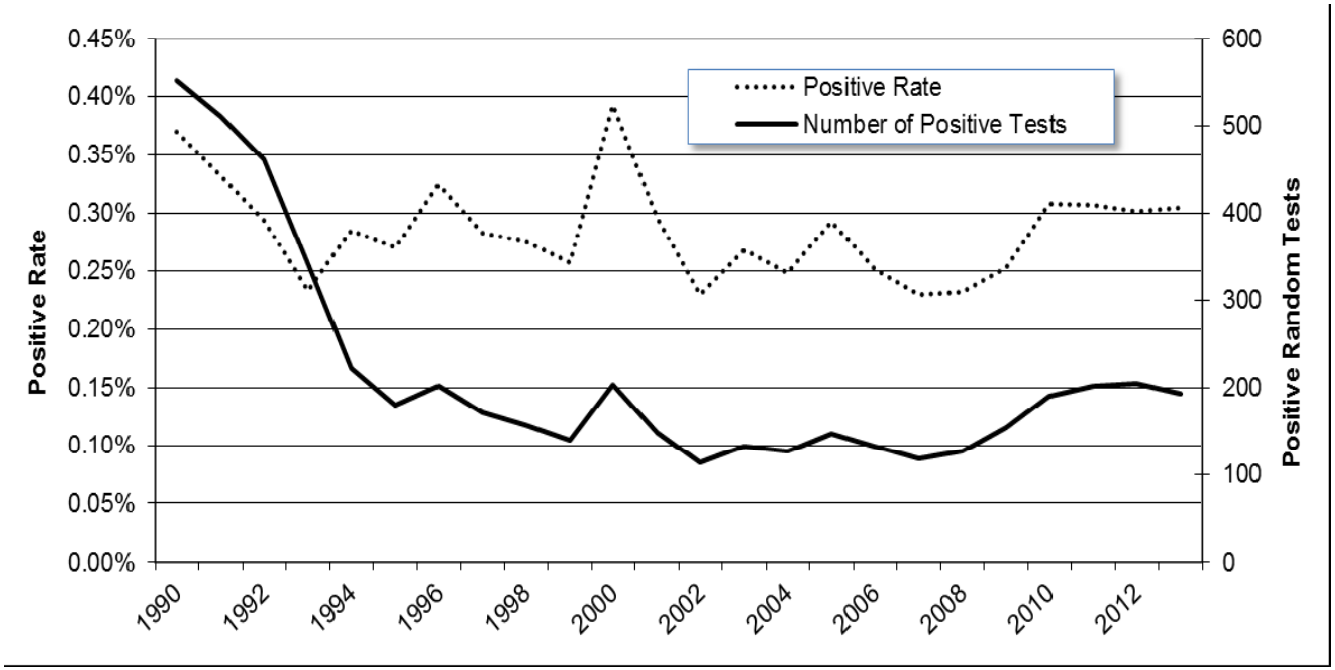
Random Testing



Industry Testing Trends

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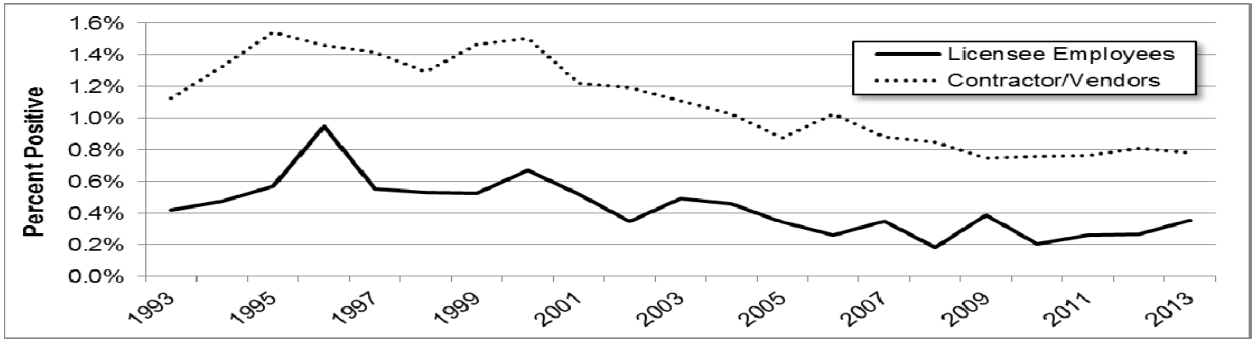
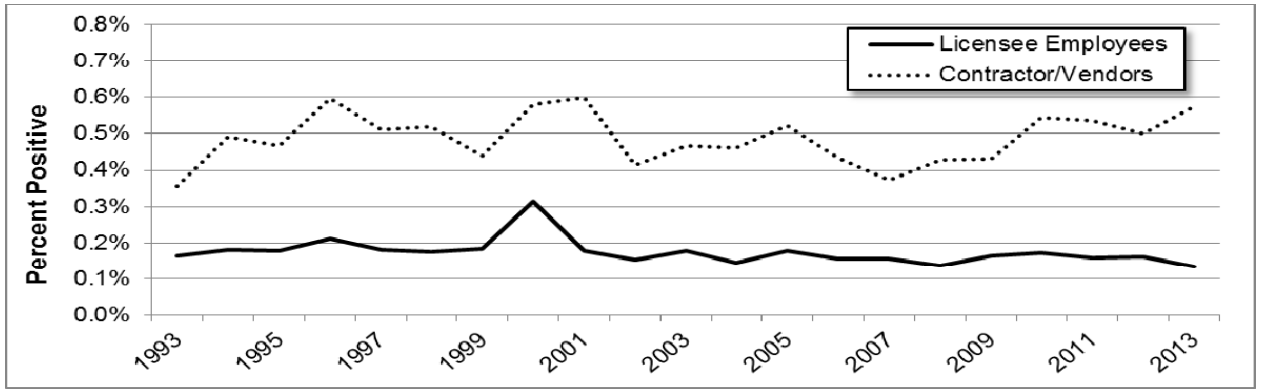
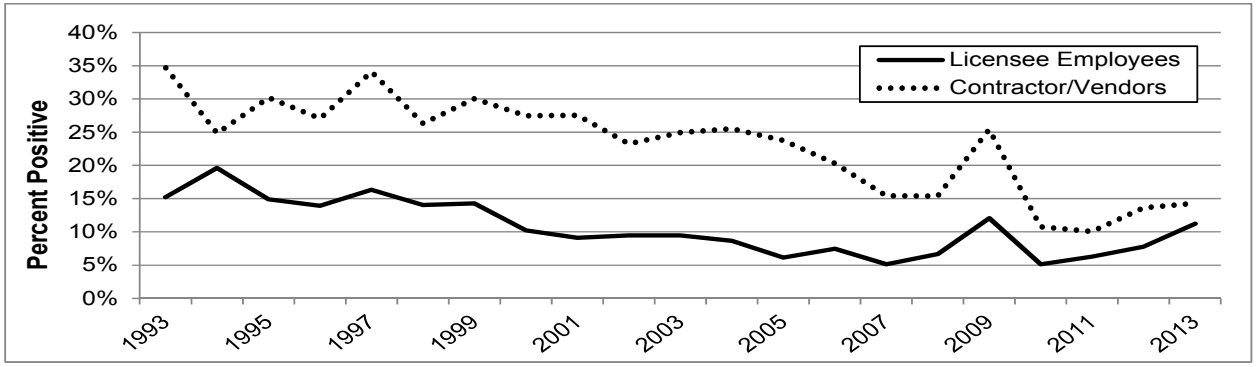
Pre-access Testing



Random Testing



For-cause Testing



Positive Test Results (CY2013)

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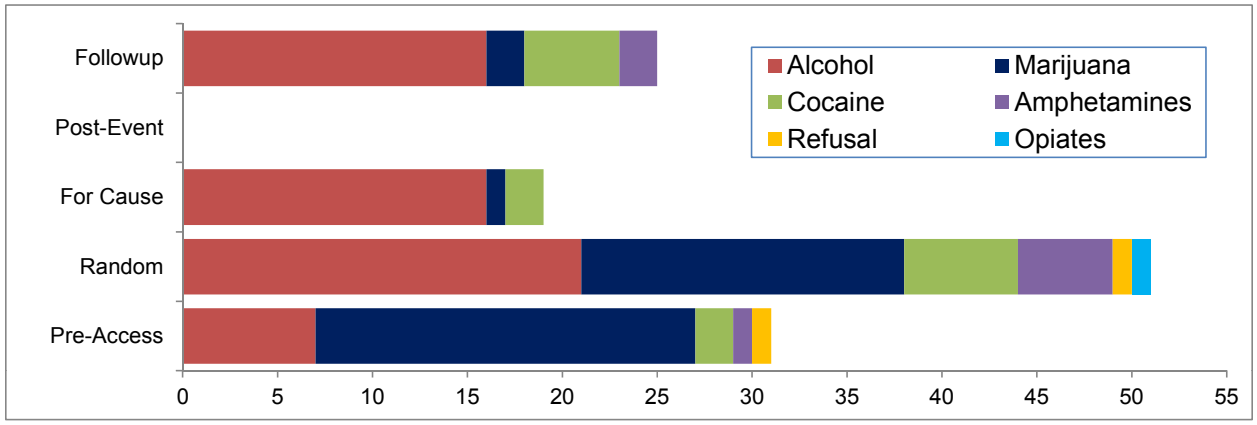
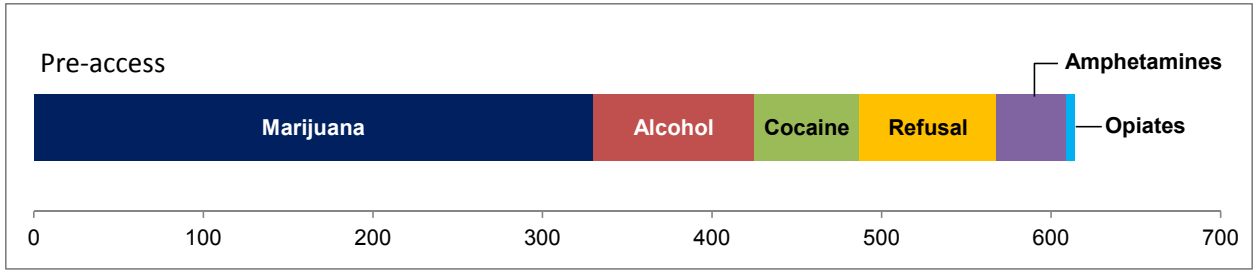
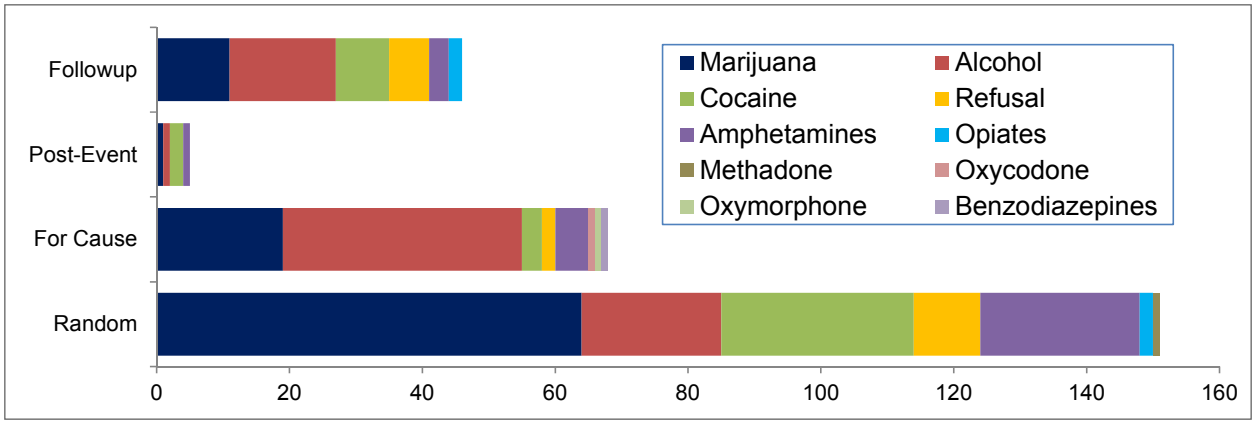
Licensee Employees

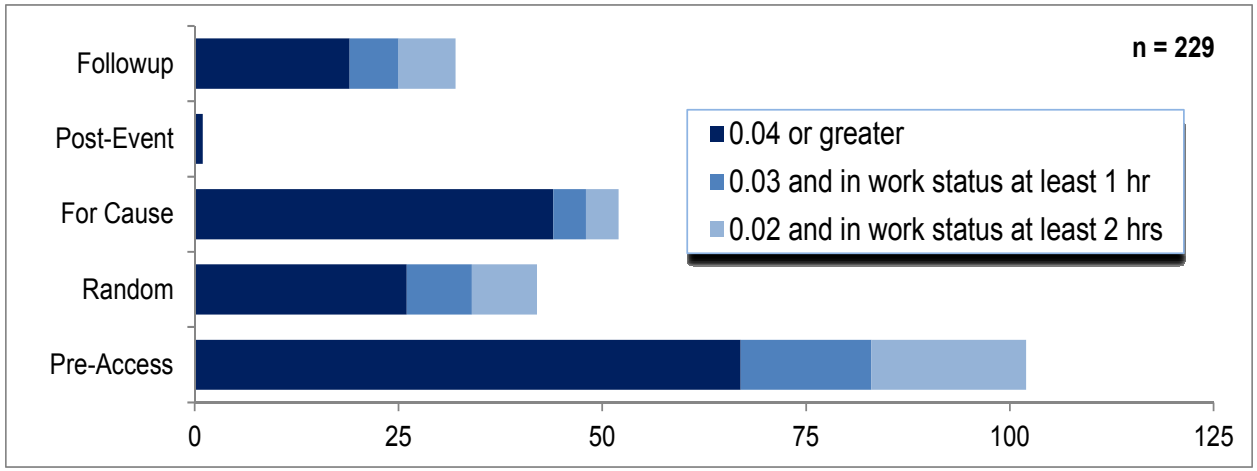


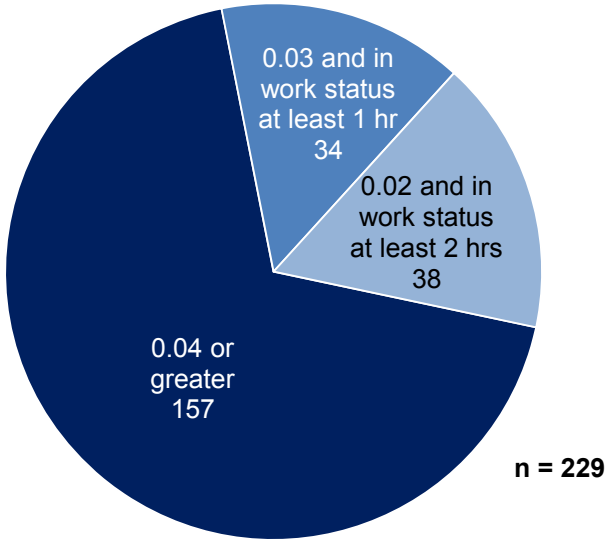
Contractor/Vendors





Alcohol Positives (CY 2013)





Reportable Events (CY 2013)

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Event Type	Facility	Employment Type	Labor Category	Substance	NRC Event Number
Random Test	Calvert Cliffs	C/V	Supervisor	Alcohol	49463
	Clinton	Employee	Supervisor	Alcohol	48740
	Fort Calhoun	C/V	Supervisor	Marijuana	49056
		C/V	Supervisor	Cocaine	48668
	Grand Gulf	Employee	Licensed Operator	Marijuana	48973
		Employee	Supervisor	Cocaine	49210
		Employee	Licensed Operator/ Supervisor	Cocaine	49625
	Limerick	Employee	Supervisor	Alcohol	48963
		Employee	Supervisor	Alcohol	49024
		Employee	Licensed Operator	Alcohol	49644
	Nine Mile Point	Employee	Licensed Operator/ Supervisor	Alcohol	48883
	Oconee	Employee	Licensed Operator	Alcohol	49468
	Oyster Creek	Employee	Supervisor	Alcohol	49221
	Palisades	Employee	Licensed Operator	Alcohol	49298
	Pilgrim	Employee	Supervisor	Marijuana	49187
	Quad Cities	Employee	Licensed Operator	Marijuana	49321
	Wolf Creek	Employee	Supervisor	Alcohol	49065
For-Cause Test	Grand Gulf	Employee	Licensed Operator	Alcohol	49030
	Harris	C/V	Supervisor	Marijuana	49518
	Millstone	Employee	Licensed Operator	Alcohol	48934
	Nine Mile Point	Employee	Supervisor	Alcohol	49596
	Nuclear Fuel Services	Employee	Supervisor	Alcohol	49368
	V.C. Summer 1	C/V	Supervisor	Alcohol	49336
	Surry	Employee	Licensed Operator	Alcohol	49456
Followup Test	V.C. Summer 2&3	C/V	Supervisor	Alcohol	49253

Identifying Subversion Attempts

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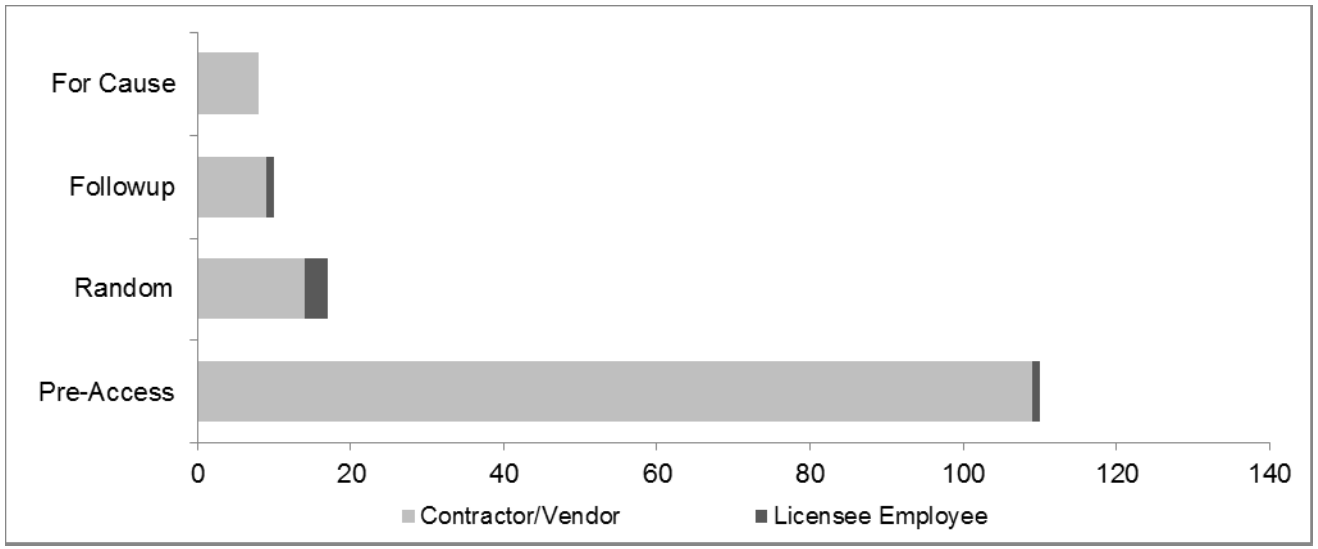
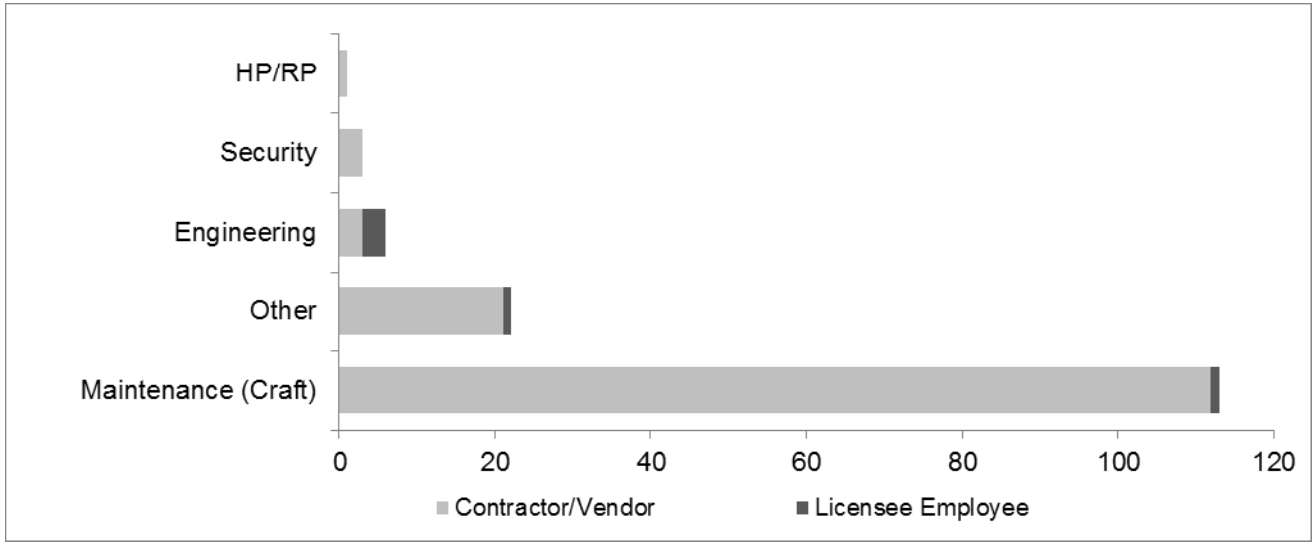
- Collector vigilance is most important
- Most subversions are temperature based
  - Some subversions are determined by hearing or seeing paraphernalia
  - Quick voiding
  - 2nd specimen discrepant color, frothing, and SVT results
- Securing non-essential items prior to collection
  - Security and maintenance personnel work uniforms and equipment
- Close evaluation of specimen characteristics (e.g., color, odor, precipitate, etc.)
- Refusing to following direction – intimidation, delay, etc
- A voluntary inability to provide an adequate volume?
- Synthetic urine detection?
- Leaving the collection site in an emergency?

Subversion Data (CY 2013)



HP – health physicist
RP – radiation physicist



The Subversion Matrix, CY2013

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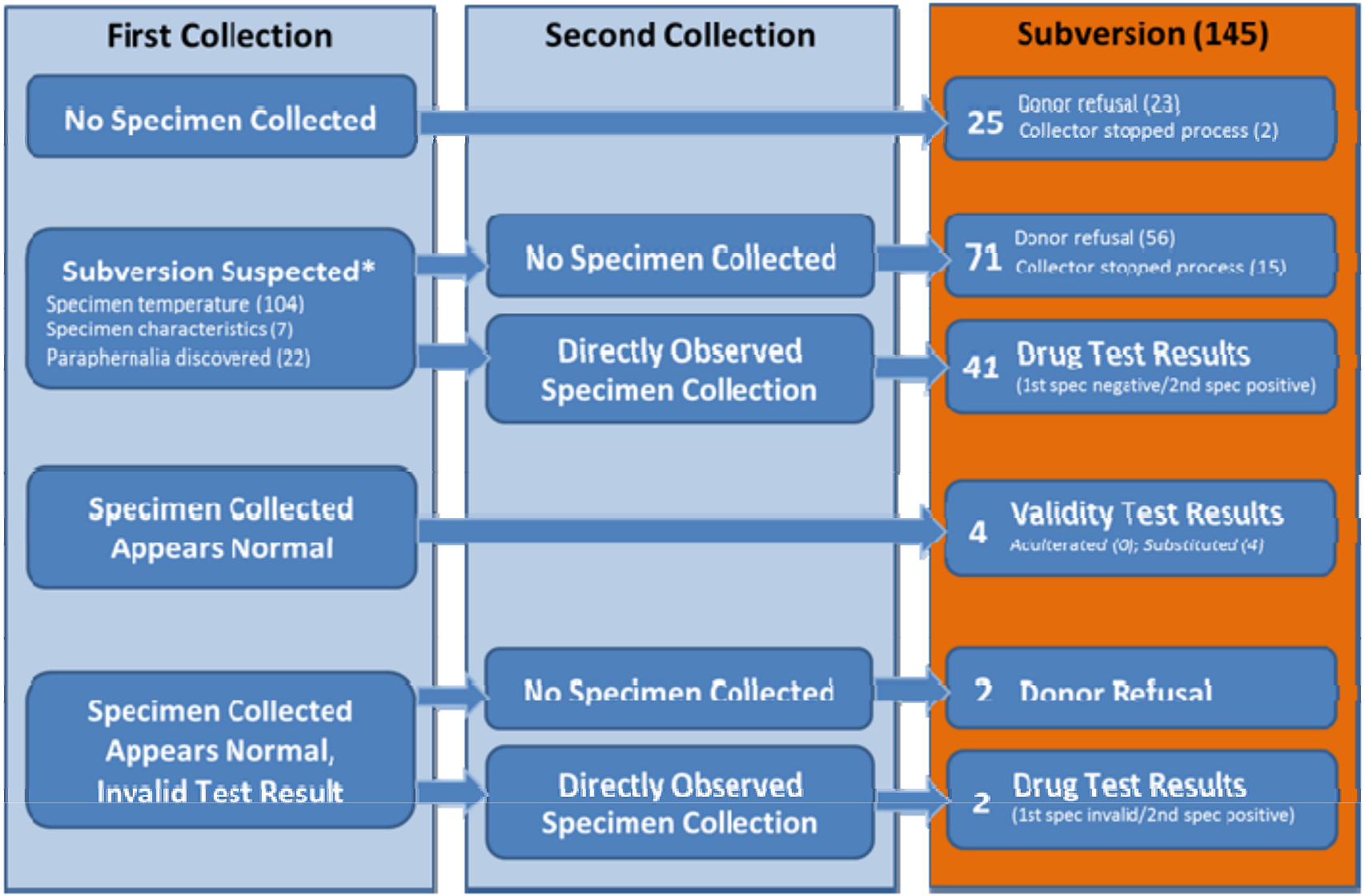

Urine Temperature Profile

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Room Temp	68 F	20 C
Body Temp	98.8 F	37.111 C
Sample Fill Line	30 ml	
Min Sample Temp	90 F	32.222 C
Urine Temp after Sample Supplied into Cup	98.80462035 F	37.114 C
LID Added (1=yes, 0=NO)	1	
NOTE: Assume Lid is same material and thickness as bottle		
Resting Surface Table (1=Metal, 0=Other)	0	
Time before Sample is no longer good For Testing	3.022607923	Mins

Sample Bottle Properties	
Material	HD Polyethylene
Size	100 ml
Thickness	1.3 mm
Height	75 mm
Width	53 mm
Density	0.93 g/cm^3
Specific Heat Cap	1.55 J/(gK)
k	0.465 W/(mK)
Thermal Diffusivity	3.23E-03 cm^2/s
k Table	0.25 W/(mK)
h Urine	500 W/(m^2K)
h Air	60 W/(m^2K)
k Urine	0.6 W/(mK)
k Air	0.025 W/(mK)
Specific Heat Cap Urine	4.18 J/(gK)
Density Urine	0.985 g/cm^3
Thermal Resistance Wall	8.984909712 K/W
Thermal Resistance Top	10.75787848 K/W
Thermal Resistance Bottom	40.13966359 K/W
Total Thermal Resistance	0.229165869 W/K
Energy Losses	11.6541046 W

Room Temp	20 C
Body Temp	37.11111111 C
Total Contact Area of sample	0.004375989 m^2
Min Sample Temp	32.22222222 C
Contact Area of Wall of Cup	0.002380952 m^2
Contact Area of Top and Bottom of Cup (rt angle cylinder)	0.001995037 m^2
Inner Radius Cup	0.0252 m
Volume of Fluid	0.00003 m^3
Height of Fluid	0.015037315 m
Outter Cup Radius	0.0265 m
Shape Factor (Disk)	0.106 m

Lump Capacitance Determination	
Bi(Wall)	0.103131898
Bi(Bottom)	0.049458545
Bi(top)	0.12

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Questions?