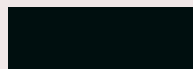
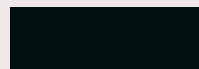
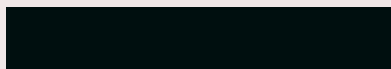
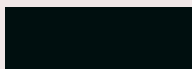
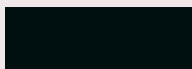


Fitness For Duty

FFD 010/000

TVA NPG

MEDICAL



NUCLEAR TRAINING
TRAINING MATERIALS COVERSHEET

General Employee Training

PROGRAM

Fitness for Duty

FFD010

COURSE

COURSE NO.

Fitness for Duty

FFD010

LESSON TITLE

LESSON PLAN NO.

INPO ACCREDITED

YES

_____ NO

_____ **X** _____

MULTIPLE SITES AFFECTED

YES

_____ NO

_____ **X** _____

PREPARED BY S. Gale Blount	Original signed by S. Gale Blount on 5/19/09 ----- Signature / Date
PROCESS REVIEW	----- Signature / Date
LEAD INSTRUCTOR/PROGRAM MGR. REVIEW Sarah S. Reed	Original signed by S. Reed on 5/20/09 ----- Signature / Date
LINE OWNER APPROVAL	----- Signature / Date
TVA NPG CONCURRENCE (If applicable) Rebecca A. Stanfield	Original signed by Rebecca Stanfield on 5/21/09 ----- Signature / Date

Receipt Inspection and Distribution:

Training Materials Coordinator / Date

Standardized Training Material
Copies to:

SQN Technical Training Manager, STC 2T-SQN
WBN Technical Training Manager, WTC 1D-WBN
BFN Technical Training Manager, BFT 2A-BFN

NUCLEAR TRAINING REVISION/USAGE LOG

Rev. #	Description of Changes	Date	Pages Affected	Reviewed By
0	New lesson plan to coincide with implementation of CBT GET and ACAD 93-009.	4/1/95	All	NES
	Added references.	4/12/96	2, 3, 32a	N. E. Scott
1	General revision to update policy.	Effective 11/1/96	All	N. E. Scott
2	General revision to update policy.	Effective 04/20/98	All	N. E. Scott
3	General revision	Effective 3/29/99	All rgg 3/12/99	Randy Waldrep
4	General revision to incorporate changes to SPP 1.2 and to clarify policy.	6/26/02	All	Tom Shirley
5	Changes made to address PER 03-000063-000 and 02-000366-000	Effective 6/15/03	All	Tom Shirley
6	Changes made to implement revision 7 of SPP 1.2 and to add workplace violence information.	Effective 7/1/04	All	Tom Shirley
7	Changes made to add applicable NEI 03-01, Revision 1 related updates.	Effective 10/25/04	All	Tom Shirley
8	Clarified the process for the timely removal of a potentially untrustworthy or unreliable person from protected area. Revised the contact number for the Employee Assistance Program.	Effective 1/20/06	All	Tom Shirley
9	Clarifications and changes made regarding for-cause/post accident alcohol and drug testing-coinciding with related SPP-1.2 revisions; clarified reporting requirements for individuals with program integrity clearance; clarified review requirements for 0.01 – 0.019 blood alcohol results TVA	Effective 7/31/06	All	Tom Shirley

NUCLEAR TRAINING
REVISION/USAGE LOG

Rev. #	Description of Changes	Date	Pages Affected	Reviewed By
10	Added objectives 15 through 22 to match the objective requirements of NEI 03-04. Added NEI 03-04 to references list. Updated references list to reflect current revision levels. This, along with minor formatting changes increased total pages from 33 to 36.	7/30/07	All	P. D. Prichard
11	Incorporated pen and ink changes. Changed "NPG" to "TVA Nuclear Power Group (NPG)". Updated references. Included employees with Program Integrity clearances, revised 'Personnel Affected or Exempted', revised 'FFD Policy', in particular BAC levels, reporting of legal actions, reporting actions that threaten company, added "Post-event testing", expanded detection of odor of alcohol, added 'outside protected area' when discovering alcohol, revised conditions for 'for-cause' testing, revised drugs tested from samples, revised penalty chart, added objectives concerning worker fatigue. Renumbered and revised objectives to correspond with 10 CFR 26 objectives and NEI 03-04.	Effective 3/31/09	All	P. D. Prichard
12	Revised objectives FFD-NEI-08, FFD-NEI-09, and FFD-NEI-10 in Policy and Program to correspond to revised NEI-03-04 objectives.	Effective 6/12/09	3,5,7,22	S. Reed

REFERENCES:

Nuclear Energy Institute, NEI 03-01, Revision 2, Nuclear Power Plant Access Authorization Program (October, 2008)

Compensatory Measures for Access Authorization in Current Threat Environment (January, 2003)

NPG Standard Programs and Processes, SPP-1.2, Fitness for Duty, Rev. 12 (March, 2009)

10 CFR 26, Fitness for Duty Programs (2008)

Nuclear Energy Institute, NEI 03-04, Revision 5 "Guideline for Plant Access Training" (December, 2008)

10 CFR 73.56, Physical Protection of Plants and Materials (2007)

NPG Standard Programs and Processes, SPP-1.3, Plant Access and Nuclear Security, Rev. 13 (March 2009)

INTRODUCTION

Fitness For Duty (FFD) training is mandatory for all personnel who require unescorted access to Tennessee Valley Authority Nuclear Power Group (TVA NPG) plants and must be completed prior to receiving a picture badge. The purpose of FFD training is to inform and familiarize personnel with polices being used. An examination with a score of greater than or equal to 80 percent is required in order to obtain credit for this course. The guidelines provided in NEI 03-04, "Guideline for General Access Training," have been used to develop course content. TVA NPG requirements for FFD are contained in SPP-1.2, "Fitness for Duty."

Section 1

POLICY AND PROGRAM

LEARNING OBJECTIVES (An examination with a score of 80% or greater is required in order to obtain credit for this course.)

- FFD-NEI-01** State the Access Authorization (AA) and Fitness for Duty (FFD) policy.
- FFD-NEI-02** State the methods used to implement the basic AA and FFD requirements for all individuals who have unescorted access to the protected area, have Program Integrity Clearance (PI) or are assigned duties at an emergency response center in support of the Emergency Plan.
- FFD-NEI-03** State the TVA policy regarding violations.
- FFD-NEI-04** State the NRC-mandated sanctions with regard to FFD program violations.
- FFD-NEI-05** State the individual roles and responsibilities under AA and FFD.
- FFD-NEI-06** State the role of the Medical Review Officer (MRO), human resources and the FFD staff in the FFD program.
- FFD-NEI-07** State the purpose of the Employee Assistance Program (EAP) and the services provided.
- FFD-NEI-08** Recognize the personal, public health, and safety hazards associated with the use/abuse of drugs (including prescription, over-the-counter drugs, and dietary conditions) and alcohol.
- FFD-NEI-09** State the effects of prescription drugs, over-the-counter drugs, dietary conditions, (e.g., food products such as poppy seeds or hemp oil, etc.) may have on test results.
- FFD-NEI-10** State the effects of prescription drugs, over-the-counter drugs, dietary conditions (e.g., food products such as poppy seeds or hemp oil, etc.), illness, mental stress and fatigue may have on job performance.
- FFD-NEI-11** State the individual rights regarding AA and FFD.

Federal law, 10CFR Part 26, requires each utility licensee operating a commercial nuclear facility to:

Provide REASONABLE ASSURANCE that station personnel are **reliable and trustworthy** and are neither under the influence of any substance (legal or illegal) nor mentally or physically impaired from any cause that may adversely affect their ability to safely and competently perform their duties.

Establish a FFD Program to create an environment free of drugs, alcohol, and their effects, and to provide employees with assistance for fitness for duty related problems.

◆ **Personnel affected by our FFD Program**

- ◆ All persons who are applying for or granted Unescorted Access (UA) or maintaining Unescorted Access Authorization (UAA).
- ◆ Persons required to report to the emergency response centers
- ◆ All FFD Program personnel who are involved in the day-to-day operations of the program and as defined in SPP 1.2, Fitness for Duty. These personnel have Program Integrity (PI) clearance.

◆ **Personnel exempt from our FFD Program**

While the following individuals are exempt from specific NPG FFD program elements such as random alcohol and drug (A&D) testing, FFD training, etc., they must still adhere to the overall program requirements to be fit for duty.

- ◇ NRC Employees, law enforcement personnel, and non-TVA off-site emergency response personnel while responding on-site
- ◇ Any escorted individuals who have not applied for UA/UAA.
- ◇ Individuals who are not employed by TVA, who do not routinely provide FFD program services to TVA and whose normal workplace is not at a TVA facility, but who may be called on to provide FFD Program service, including but not limited to collecting specimens for drug and alcohol testing, performing behavioral observations or providing input to Determination of Fitness. Such individuals may include, but are not limited to, hospital, Employee Assistance Program (EAP) or substance abuse treatment facility personnel or other medical professionals.
- ◇ Contractors or vendors who will be at a TVA NPG work location on short-term assignment and do not require entry to the protected area.

Additional exemptions which do not affect regulatory requirements and commitments may be granted on a case-by-case basis by the Manager, Nuclear Access Services, or his/her designee.

**FFD-
NEI-08** **NEGATIVE IMPACT OF SUBSTANCE ABUSE**

Substance abusers have the following impact on business and the public:

- ◇ four times as many accidents
- ◇ five times as many worker compensation claims
- ◇ about three times as many sick benefits
- ◇ are absent about twice as often
- ◇ make about twice as many mistakes
- ◇ cause 50 percent of all vehicular accident deaths; and
- ◇ cause 500,000 serious injuries in vehicular accidents each year

**FFD-
NEI-01** **FFD POLICY**

TVA NPG's FFD policy dictates that you **SHALL**:

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10**

- ◆ Report to work fit for duty unimpaired by alcohol, drugs or fatigue. An individual is fit for duty when he/she is neither mentally nor physically impaired from any cause that could adversely affect safe, competent job performance. These impairments could be the result of:

- ◇ Over-the-counter medications
- ◇ Physical illness
- ◇ Mental illness
- ◇ Substance abuse
- ◇ Mental stress, and/or
- ◇ Fatigue and contributing factors to decreased mental alertness
 - Fatigue affects everybody
 - Fatigue affects everything we do, physically and cognitively, and
 - Often when we are fatigued, we are quite unaware of how badly we are performing.

Notify your supervisor immediately if there are any conditions that may affect your ability to safely and competently perform your duties.

- ◆ Stress

Individuals should be knowledgeable of causes of worker stress in the workplace.

- ◇ Daily stress is normal
- ◇ Stress is derived from events that occur throughout life, e.g., marriage and family life, job changes, job performance, etc.
- ◇ When daily stress turns into chronic stress the worker is at risk for adverse impact on day-to-day living, e.g., behavior changes.
- ◇ Contributors to worker stress may include:
 - Increased irritability
 - Feelings of depression
 - Chronic fatigue (fatigue that has set in over several weeks or months)
 - Overreacting to any single situation
 - Impulsiveness
 - Excessive use of alcohol or drugs, and
 - Constant sense of worry

- ◆ Abstain from alcohol for at least five (5) hours preceding regularly scheduled work. Failure to meet this requirement could result in violation of the TVA NPG FFD program. (Abstinence from alcohol for the 5 hours preceding any scheduled tour of duty is considered a minimum that is necessary, but may not be sufficient, to ensure that the individual is fit for duty.) It should be noted that excessive consumption of alcohol before the five hour abstinence period can cause a positive breath test. Food, sleep, or illness may prolong the metabolizing. Regardless of whether the alcohol was consumed prior to the five hours abstinence period, the tested individual will be held responsible for a positive alcohol test result.
- ◆ Blood alcohol content (BAC) levels of 0.02-0.039 levels are prohibited by TVA policies and procedures.
- ◆ BAC levels of 0.01 – 0.019 will be reviewed by Nuclear Security/Nuclear Access Services to determine if actions are necessary.
- ◆ An initial test result of 0.02 percent BAC or higher will require a confirmatory test.
- ◆ A confirmed positive test for alcohol must be declared under any of the following conditions:
 - * When the result of the confirmatory test for alcohol is 0.04% BAC or higher.
 - * When the result of the confirmatory test for alcohol is 0.03% BAC or higher and the donor had been in a work status for at least 1 hour at the time the initial test was concluded (including any breaks for rest, lunch, dental/doctor appointments, etc.)
 - * When the result of the confirmatory test for alcohol is 0.02% BAC or higher and the donor had been in a work status for at least 2 hours at the time the initial test was concluded (including any breaks for rest, lunch, dental/doctor appointments, etc.)
- ◆ When the result of the confirmatory test for alcohol is equal to or greater than 0.01% BAC but less than 0.02% BAC and the donor has been in a work status for 3 hours or more at the time the initial test was concluded (including any breaks for rest, lunch, dental/doctor appoints, etc.), the collector shall declare the test result as negative and inform FFD program management. The donor shall be prohibited from performing any duties that require the individual to be subject to 10 CFR Part 26 and may not return to performing such duties until a determination of fitness indicates that the donor is fit to safely and competently perform his or her duties.
- ◆ Understand that the consumption of alcohol during any tour of duty is prohibited.
- ◆ Cooperate fully with the chemical testing program and ensure individuals who are notified that they have been selected for random testing must report promptly (without delay) to the medical office/collections facility for testing. Once you know - you go!
- ◆ Cooperate fully with the requirements of the FFD program and do not subvert or attempt to subvert or refuse to provide a specimen for testing.
- ◆ Not use, sell, or possess illegal drugs on or off TVA property, abuse legal drugs and alcohol or misuse prescription and over-the-counter drugs.

- ◆ Report any legal actions to Nuclear Access Services (NAS) Plant Access or NAS corporate and your supervisor by the next business day. Legal actions include: formal action taken by a law enforcement authority or court of law, including being held, detained, taken into custody, charged, arrested, indicted, fined, forfeited bond, cited, or convicted for a violation of any law, regulation or ordinance (e.g. felony, misdemeanor, traffic or military criminal history, etc.), or the mandated implementation of a plan for treatment or mitigation in order to avoid a permanent record of an arrest or conviction in response to the following activities:
 - 1) the use, sale or possession of illegal drugs;
 - 2) the abuse of legal drugs or alcohol; or
 - 3) the refusal to take a drug or alcohol test

NOTE: Individuals do not have to report non-injury traffic or parking offenses of less than \$200, but must report any alcohol/drug related offenses regardless of amount of fine.

- ◆ Any changes to the status of the legal action(s) reported must be reported to NAS Plant Access or NAS Corporate and your supervisor by the next business day.
- ◆ Failure to report a legal action as required may result in the suspension, denial, or revocation (as applicable) of UA, UAA, emergency response clearance or program integrity clearance.
- ◆ Report to your supervisor AND to the Site NPG Medical Office/Nuclear Security (NS), Nuclear Access Services (NAS) Section FFD Staff, the use of prescription or over-the-counter medication (other than aspirin, aspirin substitute, anti-bacterial, and birth control) if the medication may adversely affect your fitness for duty or impair your ability to perform your job duties in a safe and reliable manner.

Verbally report use of such medications to your supervisor. You are not required to report to your supervisor the specific medication you are taking. Reporting of such medications to the Site NPG Medical Office/NS, NAS FFD Staff shall be specific and shall be by the use of the SPP-1.2-2, sample “Medication Reporting Form” or similar-type form which includes the same information. The preferable reporting method is by hand-carrying the completed form to the applicable medical office. If you are working at a remote (offsite) location, the completed form may be e-mailed or faxed to the medical office IF accompanied by a direct telephone call to medical office staff advising them of the e-mail/fax, in order to preclude the completed form not receiving prompt attention.

Failure to report the use of prescription or over-the-counter medication (other than aspirin, aspirin substitute, anti-bacterial, and birth control) which may adversely affect your fitness for duty or impair your ability to perform your job duties in a safe & reliable manner OR the untimely reporting of such medication usage may result in disciplinary action and/or denial of UA.

The abuse of legal drugs (e.g., prescription or over-the-counter medication) may result in disciplinary action and/or suspension or denial of UA.

- ◆ Do not use someone else’s prescription drugs!

- ◆ If you are unsure if/how medications will affect your work, contact your physician or pharmacist; read the label on the container, or contact the Site Medical Office/Nuclear Security, Nuclear Access Services FFD Staff.
- ◆ Offsite consumption of alcohol is prohibited:
 - * If a person leaves work with the intent to return that day, or shift.
 - * If a TVA vehicle will be driven following consumption of alcohol.
 - * If a person is scheduled to report to work within five hours.
 - * If a person will be attending an offsite business meeting.
- ◆ Notify your supervisor of any conditions/problems such as mental or emotional problems, stress, fatigue, or illness that may affect your fitness for duty.
- ◆ Seek assistance for any conditions/problems that may affect your ability to safely and competently perform your duties.
- ◆ Prevent and report to supervision/management and Nuclear Security and Nuclear Access Services any actions that threaten the company or coworkers (includes reporting personnel with symptoms of substance abuse).
- ◆ Report to Plant Access or Nuclear Security, Nuclear Access Services, any previous denial of unescorted access, positive chemical test, or involuntary participation in a substance abuse treatment program in accordance with TVA NPG SPP-1.3, "Plant Access and Nuclear Security."
- ◆ Additionally, the supervisor is to report to Nuclear Security, Plant Access and/or Nuclear Security, Nuclear Access Services, any untrustworthiness issues including any instances in which the employee is involved in drugs, violence or illegal weapons possession.

Nuclear Security, Nuclear Access Services may initiate an updated investigation and/or psychological evaluation based upon the seriousness and/or repetitive nature of the incidents. An unfavorable background investigation and/or psychological evaluation will result in unescorted access denial and may result in loss of employment.

- ◆ Cooperate with the chemical testing program. Refusal to fully cooperate in the testing process including refusal to provide a specimen or deliberately attempting to evade the detection of substance abuse (subversion) will result in immediate unfavorable termination (denial) of the individual's authorization and permanent restriction from NPG work at NPG work locations.
 - ◇ Failure to report promptly (without delay) for random alcohol/drug testing may result in suspension/denial of authorization.
- ◆ It remains a requirement that every individual is to immediately report persons on TVA NPG property that may not be fit for duty (odor of alcohol, aberrant behavior, etc.) to the appropriate management/supervisor and Nuclear Security and Nuclear Access Services.

The decision to report the detected odor of alcohol should not be based on whether the odor is slight or strong, old or fresh. When alcohol odor is detected, it is your responsibility to immediately get a supervisor/manager, Nuclear Security, and Nuclear Access Services involved to ensure for-cause testing is conducted, as required. Second party verification of the odor of alcohol is not reliable and should not be used as a means to rule out the need for testing.

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- ◆ **The use, sale, possession, distribution of illegal drugs or use of alcohol onsite on NPG property is forbidden and will result in immediate unfavorable termination (denial) of the individual's authorization and permanent restriction from NPG work at NPG work locations.**
- ◆ **Offsite and off duty use of illegal drugs is also forbidden.** Cases will be reviewed and adjudicated by Corporate NAS to determine actions required.
- ◆ **Policy Exception**
 - * Employees at the sites or projects when called in for unscheduled work must be asked if they are fit for duty **AND** if they have consumed alcohol within the past five hours.
 - * Emergency Response Center personnel who are called by automated electronic systems are responsible for advising the center if they believe they are unfit to report for duty **AND** if they have consumed alcohol within the last five hours.
 - * The section/department manager is responsible for ensuring these questions are asked and the answers are documented by the assigned caller on a form SPP-1.2-1 or similar type form. Documentation of responses in day timers (planners) is not acceptable.
 - * During emergencies, as defined by the responsible supervisor, the abstinence period may be waived provided a determination of fitness for duty is made using a saliva test by Nuclear Security or by other personnel trained to administer the test as approved by Nuclear Security.
 - * In most cases where an employee has consumed alcohol within five hours of reporting, but feels that he or she is fit for duty, the person should not be asked to report.
 - * After careful consideration, a manager may determine that there is a critical need for a specific individual who feels he/she is fit for duty even though alcohol has been consumed within 5 hours of the requested report time.
 - * Any individual indicating that he/she is not fit for duty when called shall not be requested to report for unscheduled work.
 - * No sanctions shall be applied for a positive breath analysis when an employee is called in for unscheduled work if the employee reported the alcohol use at the time he/she was called in.
 - * **An individual with a blood alcohol concentration of greater than or equal to 0.04% WOULD NOT be considered fit for duty.**

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NEI-02

IMPLEMENTATION OF FFD

The primary components of our FFD program are chemical testing, behavioral observation, and an employee assistance program.

Chemical Testing

Drug testing is defined as obtaining a sample from an individual at a collection site and analyzing the sample following guidelines established by the NRC.

Chemical drug testing is a required part of the FFD Program and is designed to both detect and deter the use of illegal drugs and the misuse of alcohol and other legal drugs.

◆ Types of Chemical Tests:

There are five test categories in chemical testing:

1. **Pre-access/pre-badging** is conducted within 30 days prior to:
 - ◇ Granting of unescorted access authorization
 - ◇ Assignment to any emergency response centers and
 - ◇ Granting of Program Integrity (PI) clearance (FFD program administration).

2. **Random**

Random Alcohol and Drug Testing is unannounced testing conducted in a statistically random manner at any time, including days, nights, weekends, and holidays. Random testing is conducted at an annual rate equal to at least 50 % of the population that is subject to the FFD program.

- ◇ There are three key elements of the random test:
 - * Notification & Processing
 - * Chemical Drug Testing
 - * Breath-Alcohol Testing
- Notification and Processing
 - The list of persons selected for random drug testing is generated by a computer.
 - Notification will normally be made by the Site Medical Office/Nuclear Security, Nuclear Access Services Section FFD Staff through the individual's supervisor or designee. There is no advance notice. Individuals who are notified will promptly report (without delay) to the medical office/collection facility for testing. Remember, once you know – you go! Photo I.D. will be checked when the chosen individual reports for testing at the collection site.

- Some flexibility exists regarding notifying the individual of his/her selection if the selected individual is involved in critical activities (e.g., inside containment or involved in Technical Specification testing/action, etc.) Delayed notification must be coordinated with and approved by the site Medical Office/Nuclear Security, Nuclear Access Services FFD staff.
 - In the rare emergency situation in which an individual has already been notified to report for random testing but is unable to do so because of emergent plant or personal safety concerns, testing may be delayed. However, this must be coordinated with site Medical by the supervisor or site management. Testing should take place as soon as possible. This situation may be avoided by delaying notification as previously stated.
- Chemical Drug Testing
 - You will be given a container to collect the urine specimen and asked to provide a sample for analysis. Follow the directions of the collection personnel.
 - Once the urine is collected, it will be poured into two bottles and both will be sealed with a tamper-evident tape. Both bottles are then placed in a bag and sealed again. The bag is then placed in a locked container until picked up by the laboratory for analysis.
 - Breath-Alcohol Testing
 - While at the collection site, you will be asked to provide a breath sample for alcohol analysis.
 - When directed, you will provide a sample for analysis by blowing into the collection tube of the breathalyzer until told to stop.

3. Post-event

4. For-cause

All Post-event and For-cause testing must be approved by the Vice President, General Manager, or his/her designee.

Rationale for post-event and for-cause testing and/or rationale for not performing such testing, as applicable, must be verified to be in compliance with TVA NPG Standard Programs and Processes 1.2, "Fitness for Duty" requirements and must be thoroughly documented by the appropriate supervisor/manager on a Post-event/For-cause Evaluation Form (reference SPP-1.2). In addition, the supervisor/manager will provide a copy of the completed Post-event/For-cause Test Evaluation Form to the Nuclear Security, Nuclear Access Services FFD staff as soon as possible following the evaluation.

NOTE: Saliva tests shall not be utilized in conducting post-event or for-cause tests. The NPG medical/collection staff will utilize evidential-grade breath alcohol devices(s) when performing these tests.

Post-event testing will be performed as soon as practical after an event involving a human error that was committed by an individual subject to 10 CFR Part 26 where the human error may have caused or contributed to the event. Individuals(s) who were affected by the event whose action likely did not cause or contribute to the event need not be tested. The individuals(s) who committed the human error(s) shall be tested if the event results in:

- ◇ A significant illness or personal injury to the individual being tested or another individual, which within 4 hours after the event is recordable under Department of Labor standards contained within 29 CFR 1904.7 “General Recording Criteria” and results in:
 - Death
 - Days away from work
 - Restricted work
 - Transfer to another job
 - Medical treatment beyond first aid
 - Loss of consciousness or
 - Other significant illness or injury as diagnosed by a physician or other license health care professional even if it does not result in the above

- ◇ A radiation exposure or release of radioactivity in excess of regulatory limits, or

- ◇ An actual or potential substantial degradation of the level of safety of the plant.

- * TVA Safety/Medical will normally make the determination if an injury/illness is recordable.

- * In cases where post-event testing would interfere with needed medical treatment (due to blood loss, broken bones, signs/symptoms of serious illness, or other similar potential medical situations), the alcohol and drug (A&D) test will be administered when the individual returns to work on the next scheduled work shift and prior to the end of that shift. In the event the individual is unable to work for two or more days, the A&D test will be administered the first day the individual is allowed to return to work.

- * Remember: the injured individual may or may not be the person required to be tested Post-event. If a coworker, foreman, or supervisor contributed to and/or caused the injury by violating safety rules, the individuals in error would be tested rather than, or in addition to, as applicable, the injured individual.

- * For human errors resulting in death within four hours of the event, post-event testing of the deceased individual(s) will not be performed by TVA NPG, but rather, by appropriate hospital or non-TVA NPG medical personnel as ordered by the appropriate coroner or legal entity.

- ◇ significant damage (equal to or greater than an estimated \$5,000) to TVA property or equipment.

- ◇ a "near miss" which could have resulted in significant personal injury or illness, death, or significant damage (equal to or greater than an estimated \$5,000) to TVA property or equipment. See NPG SPP-1.2 for more examples of human performance errors.

- ◇ a plant trip/scram and/or down power of greater than 25%.
- ◇ A driver-controllable accident within the Protected or Owner-controlled areas.

For-cause testing SHALL be conducted:

- ◇ As soon as possible following any observed behavior or physical conditions indicating possible substance abuse; Examples of such behavior or physical conditions include, but are not limited to:
 - Detected odor of alcohol. For-cause testing shall be performed any time there is a report of a detected odor of alcohol (other than anonymous reports, which shall be investigated but may or may not result in testing, depending on subsequent information derived). The decision to report the detected odor of alcohol should not be based on whether the odor is either slight or strong, old or fresh. When alcohol odor is detected, it is your responsibility to immediately get a supervisor/manager, and Nuclear Security and Nuclear Access Services involved to ensure for-cause testing is conducted, as required. Second party verification of the odor of alcohol is not reliable and should not be used as a means to rule out the need for testing;
 - Inattentiveness/sleeping while on duty
 - Confirmed aberrant behavior, such as that involving physical contact with another worker in anger, verbally threatening another worker with physical harm, etc. If the suspected aberrant behavior is not quite as obvious as the previous examples, the individual's immediate supervisor may be consulted in order to ensure an informed decision is made regarding the need for testing. Supervisors and managers are in frequent contact with their personnel and are most familiar with normal behavior patterns.

BE AWARE: In December, 2003, Kewaunee Nuclear Plant received a Notice of Violation and Proposed Imposition of Civil Penalty of \$60,000 for a Severity Level III Violation. This incident was characterized by the NRC as a willful violation of the FFD program involving a supervisor's failure, after having detected what he believed was the possible odor of alcohol on the employee, to report the matter to security, take other action to ensure the incident was investigated, or have the employee for-cause tested.

- ◇ after receiving credible information that an individual is engaging in substance abuse.

- * NOTE: “Credible information is from a source or sources determined to be reliable. Anonymous allegations will not normally be considered credible, unless additional corroborating information or evidence is present or obtained. All such information regarding individuals at TVA NPG work locations shall be immediately communicated by the recipient to Nuclear Security, Nuclear Access Services.

If the information is determined to be credible, a for-cause A&D test will be performed on the individual as soon as possible, prior to the end of the work shift. If the individual is not on duty, the for-cause test will be performed as soon as possible, prior to the end of the work shift upon return to work on the next scheduled shift. If the credible information warrants immediate testing, management may require the employee to report to work to complete for-cause testing.

- ◆ When alcohol (including empty alcohol bottles/cans), illegal drugs, or drug paraphernalia are discovered in the vehicle or on the person of individuals with unescorted access (or who have applied for unescorted access) to a TVA nuclear plant's protected area. Individuals without such authorization and/or requests for authorization will be directed to leave the site and denied site access for that day if alcohol or a alcoholic beverage container is found outside the protected area. Discovery of illegal drugs/substances will be handled in accordance with SPP-1.2, “Fitness for Duty” requirements (reference Discovery of Suspected Controlled Substance or Illegal Drugs).

For-cause testing may be conducted under the following conditions:

- ◆ When an individual is reasonably suspected of having recently engaged in illegal drug activities. Example: Newspaper article is published regarding the individual recently being arrested for manufacturing/ or selling illegal drugs.
- ◆ After receiving credible information of drug/alcohol abuse against a work unit determined to be a critical nuclear employment area when:
 - ◇ the number or proportion of confirmed positive test results found to be significant; and,
 - ◇ when activities are confirmed by testing or otherwise (for example, OIG's investigations) for a number of employees/contractors/vendors.
- ◆ When an excessively high accident rate is observed in a particular location.

Impaired workers, or those whose fitness may be questionable, shall be removed from activities within the scope of 10 CFR Part 26, and may be reinstated only after determined to be fit to safely and competently perform such activities.

The applicable SSM/designee will immediately notify the Manager, Nuclear Access Services, or designee regarding any FFD-related (to include Post-event/for-cause testing related) site-based requests to suspend an individual's UA or actions taken to disable/deactivate an individual's UA badge card.

The applicable site medical office will immediately notify the Program Manager, NPG FFD/designee or the Manager, Nuclear Access Services/designee of any Post-event or for-cause tests conducted.

The medical office will ensure, with the help of Nuclear Security if necessary, that the individual being for-cause tested does not leave the medical office until a determination can be made regarding the individual's eligibility to maintain UA/UAA clearance, as applicable.

5. Follow-up testing

Testing performed at unannounced intervals if unescorted access is reinstated following an employee's testing positive for drugs or alcohol. Follow-up testing may be implemented at the request of an assigned Medical Review Officer (MRO) or psychologist. Follow-up testing is conducted in addition to random testing.

◆ Insuring the Validity of Drug Tests

There are at least five steps taken to insure that all drug tests administered through NPG FFD are valid and accurate.

◆ Chain Of Custody

- ◇ Chain of custody means a procedure is in effect to assure the integrity of each specimen by tracking its handling and storage from the point the specimen is collected to final disposal.
- ◇ Confirmed positive samples will be retained for a period of twelve months.

◆ The Laboratory's Role

- ◇ NPG uses a Department of Health and Human Services certified laboratory to confirm all positive test analyses. In addition, NPG submits blind performance test specimens which contain known negative and positive quantities of drugs to insure continued quality control is maintained by the laboratory.

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◆ The Medical Review Officer's role

- ◇ A physician is designated as the Medical Review Officer (MRO) and is responsible for receiving the laboratory results generated from the employee's drug test.
- ◇ The MRO interprets and evaluates the employee's POSITIVE test results together with his or her medical history and any other relevant biomedical information.
- ◇ The MRO's job is to determine why a person's drug test was positive. In some instances, a positive drug test may not be a "problem" if the person is under a doctor's care for some legitimate medical condition. However, although some states allow for the medicinal use of marijuana based on a physician's recommendation, a physician's recommendation is not considered a legitimate explanation for a positive marijuana test result.
- ◇ The MRO may recommend TVA employees to the EAP.
- ◇ Human Resource staff is responsible for:
 - Serving as the confidential communication link between NAS Corporate and TVA employees for access and fitness for duty issues.
 - Promptly reporting any access and fitness for duty concerns or program violations to Manager, NAS or designee.
 - Notifying NAS Site Plant Access when an employee has been terminated 'for-cause' so NAS Corporate can make an evaluation concerning the individual's trustworthiness and reliability. This includes situations when an employee is allowed to resign prior to termination.

- ◇ The Fitness for Duty Program Staff is responsible for overseeing the FFD program to ensure implementation and compliance with federal rules and regulations. Additionally, the staff:
 - Is responsible for providing information to NAS Corporate for the adjudication of potentially disqualifying information to determine if an individual is trustworthy and reliable.
 - Oversees and assures satisfactory quality performance of the laboratory contracted to conduct specimen testing
 - Maintains confidentiality of the FFD records
 - Assists in coordinating appeals to the appeal reviewer

- ◆ The Validity of Breath-Alcohol Test

- ◇ Strict quality control, including external calibration checks, is required for breath alcohol test instruments.

- ◆ The Validity of Chemical Drug Test

To “confirm” a chemical drug test positive, two steps are initiated:

- ◇ The first step involves a “drug screen”. A drug screen is performed on ALL urine samples. The urine sample is analyzed initially for the drugs of concern.

The chemical testing process screens for drugs listed in 10CFR26:

- Marijuana
 - Cocaine
 - Opiates
 - Phencyclidine
 - Amphetamines
- ◇ Negative specimens are eliminated from further testing. The drug screen simply indicates the absence or presence of drugs.
 - ◇ The second step involves a “confirmatory test” using gas chromatography/ mass spectrometry (GC/MS). GC/MS, a sophisticated analytical technique, is performed ONLY when a drug screen indicates drugs in a person’s urine. This test accurately identifies substances and amounts.
 - ◇ Samples collected for Post-event, Follow-up, or For-Cause testing may be tested for any drugs listed on Schedules I through V of Section 202 of the Controlled Substances Act (21USC.812) that an individual is suspected of having abused, and may consider any drugs or metabolites so detected when determining appropriate sanctions and actions for NPG SPP-1.2, “Fitness for Duty.”
 - ◇ NPG uses preliminary initial test cut-off levels and confirmatory test cut-off levels described in 10 CFR 26, with the following exception, which is more stringent.

- * If the creatinine level for a specimen is below 20 mg/dl and the marijuana is negative at a cut-off of 50 ng/ml, the contract laboratory will test the specimen for marijuana using a 20 ng/ml cut-off. If the specimen is positive on the initial screen at or above 20 ng/ml and up to 50 ng/ml, the confirmation test will be at the quantitative limit which the GC/MS technology supports.

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- ◇ Since certain prescription drugs and over-the-counter preparations may cause a positive test result, you must be aware of your medications and keep your supervisor and the Site Medical Office/Nuclear Security, Nuclear Access Services FFD Staff informed as part of the FFD Program. In addition, some foods may affect the results of the drug test. For instance, poppy seeds found on various baked products may show positive for opiates. Confirmation tests are able to distinguish the differences between these substances and the use of the illegal drugs they resemble. Hemp food products or drinks may cause a positive test for marijuana. However, consumption of hemp food products or drinks is NOT a legitimate medical explanation for a positive drug test. Coca leaf teas, such as “Health Inca Tea”, can cause a cocaine positive drug test result. This type of tea is now illegal and will NOT be considered a valid explanation for a positive drug test.
- ◇ Prescription drugs taken into the station should be in a properly labeled container. Non-prescription drugs (for example, aspirin) should be in the original containers.

FFD-07 PENALTIES

Depending upon the circumstances, the penalties imposed for positive alcohol and/or drug tests could be quite severe. The following table is a list of minimum penalties.

Table of Minimum Penalties for Violation(s) of the FFD Program

*(Other penalties may apply)

FFD-NEI-04	<u>ISSUE</u>	<u>TVA EMPLOYEE</u>	<u>CONTRACTOR/VENDOR OTHER WORKER</u>
	<u>Alcohol & Drug (A&D) Test</u>		
	First confirmed positive test result: Pre-access/Badging; Random; Follow-up; For-cause; Post-event NOT involving serious injury/death/significant TVA property damage.	Immediate unfavorable termination and/or denial, as applicable, of the individual's authorization for a minimum 14 days AND mandatory referral to EAP. **Return subject to conditions	Immediate unfavorable termination and/or denial, as applicable, of the individual's authorization for 3 years; minimum 3-year restriction from NPG work at NPG work locations.
	Individual resigns or withdraws application for authorization BEFORE authorization is terminated or denied for a first confirmed positive a/d test.	Immediate unfavorable termination and/or denial, as applicable, of the individual's authorization for 5 years.	Immediate unfavorable termination and/or denial, as applicable, of the individual's authorization for 5 years.
	Second Confirmed Positive Test Result; Post-event involving serious injury/death/significant property damage; Refusal to cooperate; Actual or attempted subversion.	Immediate unfavorable permanent termination (denial) of the individual's authorization; permanent restriction from NPG work at NPG work locations.	Immediate unfavorable permanent termination (denial) of the individual's authorization; permanent restriction from NPG work at NPG work locations.
	<u>Use, Sale, Possession of Illegal Drugs or use of Alcohol</u> Onsite	(NPG will support criminal prosecution by law enforcement agencies for all USP violations) Immediate unfavorable permanent termination (denial) of the individual's authorization; permanent restriction from NPG work at NPG work locations.	(NPG will support criminal prosecution by law enforcement agencies for all USP violations) Immediate unfavorable permanent termination (denial) of the individual's authorization; permanent restriction from NPG work at NPG work locations.
	<u>Use, Sale, Possession of Illegal Drugs</u> Offsite	Reviewed and adjudicated by Corporate NAS to determine actions required.	Reviewed and adjudicated by Corporate NAS to determine actions required.
	<u>0.02-0.039% BAC that does NOT extrapolate to a confirmed positive test result</u>	Removed from work for remainder of shift; referral to EAP. Authorization will be suspended or withheld pending successful completion of determination of fitness IF other issues are present.	Removed from work for remainder of shift; referred to contract company for action. Authorization will be suspended or withheld pending successful completion of determination of fitness IF other issues are present.
	<u>BAC equal to or greater than 0.01% but less than 0.02% on confirmatory test and in work status for 3 hours or more from the time of initial test.</u>	Removed from work for remainder of shift and authorization suspended or withheld pending successful completion of determination of fitness.	Removed from work for remainder of shift and authorization suspended or withheld pending successful completion of determination of fitness.
	<u>0.01-0.019 confirmatory BAC AND in work status for less than 3 hrs.; or, 0.01-0.019 initial BAC</u>	NAS will review security file & available alcohol and drug testing history to determine if further actions are necessary.	

*Reference "Other Actions or Penalties for Violations of the FFD Program."

**Excludes temporary employees – temporary employees will be terminated. New employees under probationary period may also be terminated

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◇ Other Actions or Penalties for Violations of the FFD Program

- * Following a confirmed positive alcohol or drug test for an individual with UA, the individual's supervisor will normally perform a review of the individual's work in accordance with SPP-1.2 requirements.
- * Current employees testing positive for the first time, with the exception of Post-event involving serious injury or significant property damage, must complete any rehabilitation program deemed appropriate.
- * Restoration or obtaining of individual's authorization will be determined by Nuclear Security, Nuclear Access Services Section following recommendation for approval of medical and psychological eligibility for special security clearances.
- * Failure to report promptly (without delay) for random alcohol/drug test may result in suspension/denial of UA/UAA or other activities within the scope of SPP-1.2, Fitness for Duty.
- * Management actions for any violation of SPP-1.2 other than confirmed positive tests shall be based on all the circumstances of the particular violation and shall be consistent with the purpose of SPP-1.2.
- * Penalties for possession of alcohol on-site will be determined on a case-by-case basis but may include termination and permanent restriction from NPG work at NPG work locations.
- * The decision to suspend unescorted access pending the return of Post-event drug test results is made on a case-by-case basis.

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EAP

- ◆ TVA has a contract EAP to provide ASSESSMENT, short-term COUNSELING, REFERRAL services, and treatment MONITORING, for problems that could adversely affect performance of job duties.
- ◆ Only company employees and their families are eligible for the EAP. Employees may request assistance from the EAP (self-referral) or can be referred by their supervisor or by the company medical staff. EAP counselors will perform an assessment and if necessary, make referral for more definitive treatment.
- * Supervisors should encourage employees to use the services of the EAP if they feel there is a problem.
- * Supervisors may want to refer an employee to the EAP. In this case, the supervisor can call a representative of EAP to discuss how to refer an employee or what steps to take in dealing with the problem employee.
- ◆ When a supervisor refers an employee to the EAP because of a work problem, it is appropriate to document what was provided with availability and referral information.
- ◆ It is not mandatory that an employee pursue such supervisory referral. A supervisor will be informed that an employee has contacted the EAP only with the employee's written authorization.
- ◆ However, the EAP will notify TVA management at any time the EAP staff becomes aware that an individual's condition constitutes a hazard to self, others or the safe operation of the TVA NPG facilities, even if the employee was self-referred.

- ◆ If there is a traumatic incident that impacts the workforce and the supervisor would like counseling from the EAP staff for his or her workers, the supervisor should contact Human Resources.
- ◆ EAP is administered by Horizon Health and provides employees with confidential access to trained counselors. Confidentiality is assured except in cases where: a person's condition constitutes a hazard to himself, herself or others, or has been impaired as a result of using drugs or alcohol while in a work status and have a continuing substance abuse disorder as required by 10 CFR 26.
- ◆ Any TVA employee who has a drug or alcohol related problem may voluntarily contact an EAP counselor for assistance.
- ◆ Contractors should contact their management personnel for information related to their company's EAP.
- ◆ For additional information on the company's EAP, see your supervisor or call Medical/Nuclear Security, Nuclear Access Services FFD Staff.
- ◆ To obtain information or get help, contact the EAP staff directly by telephone 24 hours a day at: 1-888-482-2733.

CONSEQUENCES, RIGHTS, AND RESPONSIBILITIES

**FFD-
NEI-05**

- ◆ If you test positive, you have the right to appeal the test results.

**FFD-
NEI-11**

- ◆ Requests for appeals must be in writing. Contact the Nuclear Security, Nuclear Access Services FFD Staff for applicable addresses.
- ◆ Individuals have the right to privacy at the collection site unless:
 - ◇ there are indications that the person was or is attempting to subvert the testing process; or
 - ◇ on return to work after evaluation and/or treatment for a confirmed positive test result.
- ◆ TVA protects personnel information collected for the FFD program in accordance with 10CFR Part 26 and SPP-1.2 requirements. If such information is disclosed to you, you are responsible for protecting the information in accordance with these requirements.
- ◆ You are responsible for keeping your supervisor **AND** the Site Medical Office/Nuclear Security, Nuclear Access Services FFD Staff informed of any medication, other substances, or conditions/problems that could affect your performance and/or fitness for duty.

**BOP-
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- ◆ You should talk to your supervisor and Nuclear Security and Nuclear Access Services if you notice unusual behavior or suspect drug use by any of your co-workers. This could have a negative impact on plant performance and must be reported immediately.
- ◆ Finally, some administrative items:
 - ◇ Training
 - ◇ Inquiries
 - ◇ Searches
 - ◇ Questions

◆ Training

- * Training - Initial FFD training MUST be completed prior to being granted unescorted access, prior to assignment to emergency response duties, prior to being granted program integrity clearance.
- * Training expires annually at the end of the quarter in which it comes due. If it is allowed to expire, one or more of the following will occur until training is completed:
 - UA/UAA will be suspended
 - Program Integrity clearance will be suspended
 - Restriction from Emergency Response Center participation

◆ Inquiries

- * Inquiries - NPG is required to respond to inquiries from other utilities about a person's FFD.
- * In addition, a self-disclosure will be obtained from each individual regarding activities under the FFD rule, 10CFR26, and prior to granting unescorted access to our nuclear plants.

◇ Everyone is to notify Nuclear Security Plant Access and/or Nuclear Security/Nuclear Access Services and their supervisor of untrustworthiness issues, including any instances in which TVA employees/ contractors are involved in:

- * Violence
- * Drugs
- * Illegal Weapons Possession.

◆ Searches - All employees, employee vehicles, personal belongings, offices, lockers, and company property are subject to search.

- ◇ Refusal to submit to a search will subject that employee to immediate disciplinary action.
- ◇ In addition to provide a means to detect or deter drug activity on-site, each NPG station may utilize canines to facilitate searches.

◆ Questions - Any questions regarding NPG's FFD Program should be directed to the FFD Program Staff at 423-751-8822 or 423-751-4554.

SUMMARY

- ◆ You are expected to be fit for duty by being neither mentally nor physically impaired from any cause that could adversely affect safe, competent job performance.
- ◆ Many impacts are felt by society and in the workplace as a result of substance abuse.
- ◆ Workers shall abstain from consuming alcohol for at least five hours before scheduled work.
- ◆ Random chemical testing is conducted in an unannounced fashion at various times during the day, night, weekends, and holidays.

- ◆ As a minimum, chemical testing process screens for the following substances: alcohol, marijuana, cocaine, opiates, phencyclidine, and amphetamines. Urinalysis will be used for all substances except alcohol.
- ◆ Prescription drugs taken into the plant should be in a properly labeled container. Non-prescription drugs should be in the original containers.
- ◆ TVA has a contract EAP to provide assessment, short-term counseling, and treatment monitoring for FFD related issues.
- ◆ For additional information on the company's EAP, see your supervisor or call Site Medical/Nuclear Security, Nuclear Access Services FFD Staff. To obtain information or get help, contact the EAP staff directly by phone 24 hours a day at 1-888-482-2733.
- ◆ The use of drugs or other chemicals can result in impaired judgment, impaired vision, changes in reflexes, and/or reduced analytical ability.
- ◆ The MRO is responsible for reviewing all positive test results.
- ◆ Confirmed positive post-event alcohol or drug tests involving serious injury, death and/or significant property damage will result in immediate unfavorable termination (denial) of the individual's authorization and permanent restriction from NPG work at NPG work locations for employees and contractors.
- ◆ The penalties imposed for confirmed positive alcohol tests depend on whether the individual is a TVA employee or contractor; if it is a first, or second offense, and if plant or worker safety is involved.
- ◆ When intervening in job performance problems, supervisors should never accuse or state that an employee is using or abusing drugs or alcohol.
- ◆ Individuals have rights and responsibilities under the FFD Program.
- ◆ Everyone is to notify Nuclear Security, Plant Access and/or Nuclear Security, Nuclear Access Services and their supervisor of trustworthiness issues, including any instances in which TVA employees/contractors are involved in drugs, violence, or illegal weapons possession.

Section 2

BEHAVIORAL OBSERVATION

OBJECTIVES

- BOP-NEI-01** State TVA NPG's policy on addressing and documenting suspect behavior.
- BOP-NEI-02** Recognize indicators of or potential precursors to aberrant behavior and that behavior may change quickly.
- BOP-NEI-03** Recognize drugs and know indicators of the illegal use or possession of drugs including the possibility of intent to sell.
- BOP-NEI-04** Describe techniques for recognizing behavior, which may result from using/abusing drugs and/or alcohol in work performance, social interactions and personal health.
- BOP-NEI-05** Describe behavioral observation techniques for detecting deterioration, impairment, or changes in individual behavior.
- BOP-NEI-06** State individual responsibility and process for handling and reporting behavioral problems and FFD concerns.
- BOP-NEI-07** State the responsibility and process for referral to the Employee Assistance Program (EAP).
- BOP-NEI-08** State the individuals or the person(s) designated by TVA to receive FFD concerns.
- BOP-NEI-09** State the symptoms of worker fatigue and decreased alertness in the workplace
- BOP-NEI-10** State the contributors to worker fatigue.
- BOP-NEI-11** State the contributors to circadian variations in alertness.
- BOP-NEI-12** State the indications and risk factors for common sleep disorders.
- BOP-NEI-13** State the shift work strategies for obtaining adequate rest.
- BOP-NEI-14** State the effective use of fatigue countermeasures.
- BOP-NEI-15** Recognize behaviors adverse to the safe operation and security of the facility, including an unusual interest in or predisposition towards security and/or involvement in operations activities outside the normal work activities' scope.
- BOP-NEI-16** Explain the supervisor's role in the FFD program including the steps for initiating appropriate corrective action and recognizing individual behavioral changes which, if left unattended, could lead to acts detrimental to public health and safety.
- BOP-NEI-17** State the role of others in maintaining TVA NPG's AA & FFD program.
- BOP-NEI-18** Describe the process for the timely removal of a potentially untrustworthy or unreliable person from the protected area.

BOP-
NEI-03

RECOGNIZING DRUGS - CLASSIFICATIONS AND SIGNS OF USE

Drug Classifications

- ◆ Cannabis
- ◆ Stimulants
- ◆ Depressants
- ◆ Narcotics
- ◆ Hallucinogens

◇ CANNABIS

Cannabis is a plant which grows wild throughout most of the tropic and temperate regions of the world. The plant is brilliant green with an odd number of saw-tooth edged leaves. Some examples of cannabis include: hashish, hashish oil, and MARIJUANA.

The methods of use include smoking or taking orally. Slang terms include pot, weed, lid, joint, Mary Jane, honey oil, blunts (cigars stuffed with marijuana) and black oil. The active ingredient is THC (delta-9-tetrahydrocannabinol) which has strong residual effects.

Marijuana may decrease user's IQ by as much as 10% to 15%. Chronic use by pregnant women can cause fetal changes.

Some signs of cannabis use include:

- * bloodshot eyes
- * appearance of intoxication or disorientation
- * euphoria
- * odor of burnt marijuana
- * relaxed inhibitions

◇ STIMULANTS

Stimulates the central nervous system and excites functional activity in the body. Used medically for the treatment of narcolepsy, obesity, and hyperactivity in children. Some examples of stimulants include: caffeine, nicotine, amphetamines, methamphetamines, some over-the-counter diet pills, and COCAINE.

Stimulants may be sniffed, smoked, injected, or taken orally. Slang terms include: speed, uppers, eye openers, meth, crystal meth, crystal, crank, coke, blow, nose candy, and snow.

Cocaine powder is white crystalline in appearance and is usually inhaled (snorted) but may be smoked on marijuana cigarettes. Crack, or rock, is a variation of cocaine which is smoked. It is very addictive and is the most popular form of cocaine.

Some signs of stimulant use include:

- * increased alertness or excitation
- * euphoria

- * irritability
- * mood swings
- * dilated pupils
- * risk taking due to overconfidence

◇ DEPRESSANTS

Depresses the central nervous system, resulting in sedation and a decrease in body activity. Used medically for the relief of anxiety, irritability, tension, and insomnia. Some examples of depressants include: barbiturates, Valium, Quaaludes, and over-the-counter preparations such as Benadryl, Dramamine or ALCOHOL.

Depressants are usually taken orally. Slang terms include: downers, barbs, reds, blues, ludes, booze, juice, and sauce.

Alcohol is the most commonly used depressant. It is also the most abused drug in the nation, contributing to many auto accidents and fire deaths.

Some signs of DEPRESSANT use include:

- * slurred speech
- * disorientation
- * lowered inhibitions
- * bloodshot - watery eyes (alcohol)
- * odor on breath (alcohol)

◇ NARCOTICS

Used medically to relieve pain and to treat diarrhea. Some examples include: opium, heroin, codeine, morphine, and paregoric.

Narcotics may be smoked, injected, sniffed, and taken orally. Slang terms used are horse, H, M, smack, dope, brown sugar, tar, black tar, and mud.

Some signs of narcotic use include:

- * constricted or narrow pupils of the eyes
- * droopy eyelids
- * euphoria
- * drowsiness
- * nausea

◇ HALLUCINOGENS

Synthetic or natural drugs that distort the perception of objective reality. Users may speak of “seeing sounds” and “hearing colors”. Use may lead to delusions and visual hallucinations. Some examples of hallucinogens include: psilocybin, LSD, and phencyclidine (PCP), mescaline.

Ecstasy is a combination of a hallucinogen, and an amphetamine with effects similar to LSD but without the hallucinations. Alcohol and marijuana may also produce hallucinations in some cases.

Hallucinogens are usually smoked, injected, sniffed, taken orally, or absorbed through the skin. Slang terms are: mesc, buttons, cactus, magic mushroom, acid, microdot, Lucy in the sky, angel dust, rocket fuel, dummy dust, sherms, and love.

Some signs of hallucinogen use include:

- * blank stare or rapid eye movement
- * delusions and visual hallucinations
- * poor coordination or perception of time and distance
- * flashbacks or "trips"

**BOP-
NEI-03**

INDICATIONS OF DRUG SALE AND POSSESSION

- ◇ Drug dealers CANNOT be stereotyped! Drug dealers come from all classes and walks of life.
- ◇ Drug sales most often occur in parking lots and may take as little time as it takes for a handshake.
- ◇ Escorts and ALL plant workers need to be aware of the various locations in which people can conceal drugs on themselves.
- ◇ You should suspect persons who appear nervous, as if they are hiding something.
- ◇ Some common drug concealment locations include:
 - * Clothing - shoes, socks, pockets and underwear
 - * pens and flashlights
 - * cigarette and chewing tobacco packs
 - * headbands of caps and hardhats
 - * purses, briefcases, and lunch boxes
- ◇ If the sale, use, or possession of drugs is observed in the plant or on company property, report this IMMEDIATELY to Nuclear Security and Nuclear Access Services and your supervisor.

BEHAVIOR

- ◇ Escorts may have many different people from all walks of life placed in their care.
- ◇ Therefore, for the safety of the plant and plant personnel, ESCORTS should pay attention to the visitor and be aware of any unusual behavior patterns and breaches of security. In addition, this may help employees avoid incidents of workplace violence.
- ◇ According to the U. S. Department of Justice, there are over 2 million acts of violence while at work or on duty. These acts range from simple assault, the most common act, to homicide.
- ◇ TVA does not want to assign blame for violence in the workplace or to encourage a hyper-vigilant environment, but all employees should recognize that the threat is real. TVA is committed to preventing workplace violence and has developed a prevention policy statement.

**BOP-
NEI-06** **Workplace Violence Prevention Policy Statement**

Preventing workplace violence is a growing concern in the United States. The Tennessee Valley Authority is committed to working with our employees to maintain a violence free workplace. It is our intent to prevent workplace violence by creating a workplace environment free of behavior that leads to violence.

Consistent with our Employee Discipline Policy, violence, threats, harassment, intimidation and other disruptive behavior in our workplace will not be tolerated. All reports of incidents will be taken seriously and will be dealt with appropriately. Such behavior can include direct or indirect oral or written statements, gestures or expressions that communicate a direct or indirect threat of physical harm. Individuals who commit such acts may be removed from the premises and will be subject to disciplinary action up to and including termination, criminal penalties, or both.

Employee cooperation is expected. Each individual is expected to treat coworkers and the public with courtesy and respect. If you experience or observe violent, threatening, or other disruptive behaviors in the workplace, report it to a supervisor or manager. If the situation demands immediate attention, Nuclear Security and Nuclear Access Services and your supervisor should be notified. If you observe such behavior being exhibited away from the workplace and you believe it raises serious concerns about the potential for violence in a TVA workplace, you should report the incident as described above.

TVA executives will support these efforts to keep our environment safe and free from violence or threats of violence. Appropriate disciplinary actions for violence in the workplace are outlined in TVA's Employee Discipline Policy.

**BOP-
NEI-05** **BEHAVIORAL OBSERVATION**

TVA's behavioral observation program (BOP) is the primary means for determining continued trustworthiness and reliability of covered individuals. The objective of the BOP is, in part, to detect illegal drug use, alcohol/legal drug abuse, and other behavior that may constitute an unreasonable risk to the health and safety of the public, including a potential threat to commit radiological sabotage.

- ◇ Escorts may have many different people from all walks of life placed in their care.
- ◇ Therefore, for the safety of the plant and plant personnel, ESCORTS should pay attention to the visitor and be aware of any unusual behavior patterns and breaches of security.

**BOP-
NEI-16**

- ◇ In addition, SUPERVISORS are responsible for implementing portions of the Behavioral Observation Program (BOP).
- ◇ This includes:
 - * Awareness of normal and abnormal behavior patterns of employees.
 - * Documentation of any incident(s) indicating possible aberrant behavior.
 - * Verification of the reliability of employees under them.

One aspect of a supervisor's verification of the reliability of employees under him/her entails completion of an annual supervisory review for each of his/her employees with UAA/UA. The supervisory review is to be conducted in accordance with requirements contained in SPP-1.3.

- ◇ Because of this requirement, supervisors must develop and refine their OBSERVATION SKILLS AND TECHNIQUES to detect physiological signs or indications of aberrant behavior. This is especially applicable in the case of new employees and visitors.

**BOP-
NEI-02**

- ◇ **ABERRANT BEHAVIOR**

**BOP-
NEI-4**

- * Aberrant Behavior is defined as behavior which varies from or deviates from normal behavior. Behavior may change quickly, depending on the cause.
- * Behavior is not considered normal just because they “act that way all the time.” It still may be considered aberrant and unacceptable.
- * An escort is not necessarily familiar with their visitor’s normal behavior. Escorts, as well as supervisors, must rely on signs that indicate their visitor is exhibiting aberrant behavior.

- ◇ Techniques for Recognizing Aberrant Behavior

Most people behave in a consistent manner. Changes in this pattern can occur quickly and may result from many possible causes, including health, family and work difficulties. Usually short lived, all of us experience such changes at one time or another. On occasion the difficulties continue and even intensify.

We identify changes in behavior by observing, through what we hear, see, smell and touch, around us. There are general indicators of degraded behavior that must be watched for:

- Personal Health Behavior
 - Are you aware of signs of NERVES or EMOTIONAL UPSET (MENTAL STRESS)?
 - * Headaches
 - * Startles easily
 - * Cries easily
 - * Shaky voice
 - Does the worker use ALCOHOL or DRUGS differently?
 - * Drinks too much
 - * Smells of alcohol
 - * Preoccupied with drinking or drugs
 - * Gulps drinks, especially first couple
 - * Encourages others to use
 - Does the worker show or report signs of FATIGUE?
 - * Sleepiness – yawning, tired eyes, legs
 - * Decreased energy level
 - * Feeling of malaise or lack of motivation, verbalizes or shows no desire and/or lack of interest in activity
 - * Restlessness/fidgeting
 - * Lethargic, listless or disinterested in surroundings
 - * Poor pallor (color), bluish/gray around mouth and lips
 - * Shortness of breath/dizziness/pain/signs of extreme stress with exertion
 - * Increased irritability or anxiety or impatience

- Are you aware of changes in DAILY LIVING ROUTINE?
 - * Sleep difficulties
 - * Change in amount/pattern of eating
 - * Rigidly follows same pattern without reason
- Changes in worker's general APPEARANCE?
 - * Appears better/more poorly groomed
 - * Walks differently (slower/stumble)
 - * Change in posture
- Have you noticed changes in the worker's BODY or LIMBS?
 - * Shaky hands or twitching
 - * Weight loss/gain
 - * Nail biting
 - * Cold, sweaty hands
 - * Sweating, especially non-seasonal
- Has the worker had any GASTROINTESTINAL changes (ILLNESS)?
 - * Nausea/vomiting
 - * Stomachaches
 - * Frequent trips to bathroom
 - * Excessive use of antacids, coffee/tea or other liquids, aspirin, cigarettes
- Does the worker have any CARDIOVASCULAR difficulties?
 - * Dizziness/fainting
 - * Breathing irregularities
- Have you noticed any changes in worker's THINKING PATTERNS?
 - * Hallucinations (see things that aren't there)
 - * Delusions (false beliefs)
 - * Bizarre or unusual ideas
- Social Interaction Behavior
 - Does the worker appear LESS SOCIABLE?
 - * Isolated/withdrawn
 - * Smiles and talk to self
 - * Refuses social contact
 - * Lacks a sense of humor
 - * Overly suspicious of others
 - * Holds grudges/sulks
 - Has the worker become TOO SOCIABLE?
 - * Talks too much with co-workers
 - * Plays pranks/jokes
 - * Monopolizes conversations
 - * Inappropriate sex behavior
 - * Flashes money

- Are there CHANGES IN the worker's choice of FRIENDS?
 - * Especially for breaks/lunch or transportation
 - * Only those younger or easily dominated
 - * Has separate set of friends just for drinking or gambling

- Are there changes in the way OTHER WORKERS REACT to the worker?
 - * Ignore or avoid
 - * Get angry with
 - * Become condescending
 - * Complain about
 - * Mistrust

- Does the worker show more ANGER?
 - * Impatient
 - * Overreacts to real/imagined criticism
 - * Irritable/argumentative
 - * Physical fights
 - * Temper outbursts

- Does the worker try to MANIPULATE OTHERS?
 - * Brags/exaggerates/shows off
 - * Acts naïve or innocent
 - * Lies
 - * Borrows money

- Have you noticed changes in the work SPEECH BEHAVIOR AND CONTENT?
 - * Talks slower/faster
 - * Talks more/less
 - * Stammers
 - * Jumps from topic to topic
 - * Talks about hopeless future
 - * Preoccupied with suicide, disasters, destruction
 - * Never chats about family/interests

- Does the WORKER have more COMPLAINTS about:
 - * Physical ailments
 - * Back pain/muscle aches
 - * Co-workers or superiors
 - * Being ignored/left out
 - * Family/money problems
 - * Lack of privileges
 - * Filling out required forms
 - * Or, has stopped complaining

- Work Performance Behavior
 - Work Performance Behavior
 - * Is the worker ABSENT from work more than normal?
 - * Unexplained or vague reasons given for the absence
 - * Reports absence due to depression, anxiety or psychological treatment

- Has the work QUALITY or QUANTITY changed?
 - * Greatly changed speed of working
 - * Changed level of work involvement

- Has the worker made more MISTAKES or BAD JUDGEMENTS?
 - * Has numerous accidents
 - * Laughs off errors or reprimands
 - * Denies mistakes
 - * Unnecessarily condemns self for mistakes

- Does the worker have more difficulty CONCENTRATING or remaining ATTENTIVE?
 - * Forgets important or obvious things
 - * Acts without thinking
 - * Daydreams too much
 - * Sign of dozing off
 - * Difficulty following procedures
 - * Startle response when addressed or with sudden noise
 - * Slow or confused verbal or behavioral responding

- Is the worker ABSENT “ON THE JOB”?
 - * Wanders around the plant a lot
 - * Takes excessively long breaks and lunches
 - * Avoids a part of the plant because of fear
 - * Gets sick while at work

- Does the worker adhere to COMPANY POLICY?
 - * Steals or damages property
 - * Disregards rules
 - * Bends rules

- Have you noticed the worker becoming OVERZEALOUS?
 - * Never takes breaks
 - * Comes to work early
 - * Hangs around after shift
 - * Volunteers for excessive amounts of overtime

- Have you noticed the worker becoming OVERCAUTIOUS?
 - * Overreacts to normal conditions
 - * Freezes or disappears in an emergency
 - * Overly concerned about details/accuracy
 - * Double-checks work too much

- Does the worker engage in a lot of RISK-TAKING?
 - * Drives recklessly
 - * Operated equipment carelessly on or off the job
 - * Shows poor judgment in dangerous physical activities
 - * Gambles a lot

- Has the worker’s COOPERATION with CO-WORKERS changed?
 - * Refuses to share equipment/information
 - * Refuses to take directions
 - * Refuses to accept help from others

- ◇ If a visitor under your control behaves in an aberrant fashion, escort the visitor out of the PROTECTED AREA and notify NUCLEAR SECURITY and your supervisor.

- ◆ BEHAVIORAL OBSERVATION

- ◇ Behavioral observation is something we do every day. We all observe others and, in doing so, we are able to tell what kind of mood they are in or whether they are feeling good or not. We can do this because most of us are fairly predictable from day to day in the way we act.
- BOP-NEI-02**
- ◇ The key to behavioral observation is to be aware of the individuals who work with you and, more importantly, the individuals who work FOR you if you are a supervisor. Remember, it is important to recognize that changes in an individual's behavior pattern and/or emotional state can occur quickly!
 - ◇ Typical conditions or situations which can trigger changes (anomalies) in an individual's behavior pattern and/or emotional state include health issues, family problems, and work difficulties.
 - ◇ Behavioral observation also includes an increased awareness of anyone that might be intentionally or unintentionally taking actions that could damage equipment or cause harm to others.
- BOP-NEI-15**
- ◇ Workers should recognize behaviors adverse to the safe operation and security of the plant such as: unusual interest in or predisposition towards security or operations activities outside the scope of ones normal work assignments, or frequent unexplained absence from work assignments.
- BOP-NEI-17**
- ◇ All workers should be alert for indications of tampering or suspicious activities and promptly report these to supervision and Nuclear Security and Nuclear Access Services.
- BOP-NEI-18**
- ◇ In cases where potential trustworthiness or reliability issues may necessitate suspension or denial of UA/UAA or other affected clearances, the individual in question must be removed from the protected area in a timely manner by the escort, supervisor, and/or site security as appropriate.
 - ◇ When such issues are discovered by the site, Plant Access (PAS) and Nuclear Access Services (Corporate) must be notified immediately by those involved. When issues are discovered by Nuclear Access Services, they will notify the appropriate site security manager/designee to insure collection, and deactivation of the badge. NAS will revoke/suspend or deny unescorted access in PADS. PAS and NAS will post restrictions as outlined in associated security procedures.
- BOP-NEI-16**
- ◇ Early intervention is needed after recognition of changes in behavior which typically indicate changes in emotional state. Act proactively to address behavior problems. A worker's responsibility is to report such conditions to the employee's assigned supervisor(s). In addition, such conditions may also be reported to the Nuclear Security, Nuclear Access Services FFD Staff. A supervisor's responsibility is to recognize declining job performance, caused by behavior problems, in its EARLY stages and to respond promptly and constructively.

**BOP-
NEI-08**

- ◇ Occasional instances of these behaviors may not necessarily reflect a problem. It is a PATTERN of these symptoms over time linked to PERFORMANCE PROBLEMS on the job that supervisors should note, document, and take action on.
- ◇ When a behavioral problem is detected immediate reporting to a supervisor, Nuclear Security and NAS Corporate is required. The primary concern is to preclude actions that could be detrimental to the individual, other workers, or plant safety. It is imperative that the issue is immediately reported so NAS Corporate can make an informed decision regarding the individual's eligibility to maintain UA clearance.
- ◇ Individuals shall report any observed behavior indicating degradation in performance, impairment or change in behavior to a supervisor. Some examples of observed questionable behavior include:
 - * The taking of medications, use of drugs, signs of fatigue, mental stress, or illness observed in themselves or others
 - * Individuals exhibiting unusual or aberrant behavior that may constitute an unreasonable risk to the health and safety of the public, including a potential threat to commit radiological sabotage.
 - * An individual having an unusual interest in or predisposition towards security or operations activities outside the scope of one's normal work assignments, or frequent unexplained absences from work assignments.

**BOP-
NEI-01**

DOCUMENTATION

Documentation is a SUPERVISORY tool used to identify patterns, including performance decline or other work related problems.

- ◆ Documentation Rules
 - ◇ There are some basic RULES that must be followed when documenting patterns:
 - * Any information collected about the individual must be JOB RELATED.
 - * To ensure fairness, any information maintained about employees should be relevant, timely, accurate, and complete.
 - * The employee generally has the right to review and copy information collected about him or her. The employee also has the right to correct errors in that information.

CRITICAL INCIDENTS

- ◆ Critical incidents are defined as incidents that are of a significant and critical nature such that they cannot be ignored.
 - ◇ These include such acts as:
 - * a worker injuring a fellow worker deliberately.
 - * committing theft.
 - * purposely mistreating equipment.
 - ◇ The responsibility of any worker who observes a critical incident is to immediately report it to Nuclear Security and Nuclear Access Services and stay with the person being escorted, ensuring the person is escorted out of the protected area as soon as possible. Also, notify the appropriate supervisor.

**BOP-
NEI-16**

SUPERVISORY STEPS FOR CORRECTIVE ACTION

- ◆ Can you recall the purpose of the EAP?
- ◆ The purpose of the EAP is to resolve problems that may have impact on an employees' personal life or job performance. The EAP is designed to assist in overcoming a broad spectrum of problems that, if left unresolved, might affect the employees' health, personal life, and career.
- ◆ Situations may develop where a supervisor has no choice but to take corrective action with employees under his or her control.
- ◆ Ideally, supervisors should encourage employees to seek assistance through the EAP BEFORE problems occur. This may prevent a major deterioration of performance plus it will demonstrate the supervisor's commitment to the well-being of his or her workers.
- ◆ Supervisors may have to "step-in" and correct a situation via an intervention interview, making a referral to the EAP, or taking action on FFD violations.

Supervisory Steps For Corrective Action:

- ◇ Intervention
- ◇ EAP Referral
- ◇ Determination of Fitness (FFD Evaluations)

◆ Intervention Techniques

The following are some recommended steps to consider when intervening in behavioral-related performance problems:

- * Pre-plan the intervention session with a review of the employee's records. This includes reviewing detailed documentation of the pattern of job performance problems.
- * Review the company policies and procedures concerning your employee's job performance. You may want to contact Human Resources or an EAP representative for additional guidance in dealing with the employee.
- * Consult with your manager about job performance problems. Be prepared to show the documentation of these problems and describe what you hope to accomplish by confronting the employee. NEVER accuse or state that an employee is using or abusing drugs or alcohol.
- * Make a formal appointment to discuss your concerns about job performance with the employee.
- * Anticipate defensiveness during the session. This defensiveness can take a number of forms, such as minimizing or intellectualizing the problem, denial, intimidation, seeking sympathy, and bargaining.
- * Give specific instances of behavioral-related job performance problems.
- * Try to show genuine empathy rather than sympathy. Listen carefully and show a helping attitude without seeming to justify the employee's defensiveness.
- * Make specific suggestions about changes to the employee's behavior which will positively affect job performance.
- * Do not expect the employee to agree with your analysis of the problem or to cooperate with your suggestions. Maintain control of the session regardless of the employee's reaction.
- * Do not diagnose, moralize, cover for a friend, or be taken in by sympathy-seeking tactics. Also, don't discuss drug use unless it occurs on the job or is brought up by the employee.

**BOP-
NEI-07**

◆ EAP Referral

- ◇ If the employee continues to show signs of behavioral changes or problems, contact EAP staff to make a supervisor referral.
- ◇ If the employee's behavior continues to deteriorate, contact Nuclear Human Resources and Corporate NAS for advice on NPG policies and procedures.
- ◇ Advise your management of the steps you have taken and the documentation collected. With your management's support, determine the next course of action regarding further discipline or assistance for the employee.

BOP-
NEI-01

DETERMINATION OF FITNESS

- ◆ A determination of fitness is the process designed to evaluate an individual when there are indications he/she may be in violation of NPG's FFD policy or otherwise may be unable to safely and competently perform his/her duties. A determination of fitness must be made by a licensed or certified professional who is appropriately qualified and has the necessary clinical expertise to evaluate the specific fitness issues presented by the individual. Depending on the specific fitness issues presented, the determination of fitness (fitness for duty evaluation) will normally be performed by NPG's MRO and/or contract psychologist. Reference SPP-1.2 for detailed information regarding determinations of fitness.

- ◆ The following steps are guidelines that can be used if supervisors suspect that an employee may not be fit for duty. If supervisors have specific concerns or questions, contact Nuclear Security, Nuclear Access Services FFD Staff.
 - ◇ If the individual's action endangers himself or herself, or is a danger to other people, or risks the safety of the site, the supervisor should intervene immediately.
 - ◇ If safety is not threatened, try to have at least one other person, preferably a member of supervision, observe the individual's behavior.
 - ◇ An employee may become belligerent when confronted. This may lead to personnel injury or damage to plant components.
 - ◇ If you feel that the encounter may lead to physical problems, notify Nuclear Security that the individual is to be confronted and request that a Nuclear Security representative be sent to the scene. Wait until they arrive. Ask the employee to explain why his or her behavior is abnormal.
 - ◇ Escort the individual to the Site Medical office/collection facility. Site Medical Office will contact Corporate NAS to ensure appropriate actions are taken.
 - ◇ If the individual refuses to cooperate or displays threatening behavior, the security representative and supervisor should prevent the individual from gaining access back into the protected area by confiscating the individual's security badge.
 - ◇ The supervisor should instruct the individual that he or she is suspended pending further investigation.
 - ◇ Following alcohol and drug testing, as applicable, if the individual is emotionally upset/ appears not to be in condition to drive or requests assistance, arrangements should be made to transport him/her home at the first available opportunity. If the individual insists on driving after being advised not to drive by the site medical office/collection facility, advise the individual that local law enforcement will be contacted.
 - ◇ If the sale, use, or possession of illegal drugs or alcohol is suspected, or if drugs, drug paraphernalia, or alcoholic beverages are found on site, immediately notify Nuclear Security. Do not touch the suspect materials. If possible, try to get another individual involved to corroborate and assist in securing the area. Keep the suspected individual(s) under observation AT ALL TIMES until the searches and interviews are complete.

- ◇ Following any incident, prepare a detailed record of all actions. This includes documenting statements, dates, times, witnesses, and all pertinent facts. Management should be notified of the incident as soon as possible.

- ◇ There could be some instances when a situation affects a large group of individuals. A concerned supervisor should intervene and attempt to correct the situation. Remember, if a traumatic incident occurs which impacts the workforce and the supervisor would like counseling from the EAP staff for his or her workers, the supervisor should contact Nuclear Human Resources.

WORKER FATIGUE

BOP-
NEI-09

Recognizing and Detecting Worker Fatigue

- ◇ Individuals should be knowledgeable of causes and the impact of fatigue in the workplace as well as the effective use of counter measures. Knowledge of these topics is necessary to ensure that individuals are able to:
 - * Self-manage fatigue that is caused by shift work and factors other than work hours;
 - * Take actions to maintain their alertness at work; and
 - * Recognize and seek treatment for sleep disorders that might be creating fatigue or making their own fatigue more severe.
- ◇ Physical fatigue is present:
 - * When an individual's diminished physical capability is due to overexertion; or
 - * Excessive time of exertion; or
 - * A brief physical work load that is excessive and the resulting fatigue degrades physical task performance.

BOP-
NEI-10

- ◇ Principle factors that contribute to worker fatigue

BOP-
NEI-11

- * Circadian variations in alertness and performance:
 - The normal, inherent, unavoidable, 24-hour rhythms in human information processing and physical task performance.
 - Most of these circadian rhythms fluctuate between a high point late in the day to a low point in the pre-dawn hours and are mostly exemplified by night work and shift work.
- ◇ **Acute Fatigue** – can be either physical or mental and builds up normally and unavoidably within one waking period
- ◇ **Cumulative Fatigue** – can be either physical or mental and builds up across major waking periods when there is inadequate recovery (due to inadequate sleep) between the waking periods
- ◇ **Chronic Fatigue** – may set in after several weeks or months of cumulative fatigue. Its symptoms are similar to those of Chronic Fatigue Syndrome (CFS):
 - * The desire to sleep
 - * Apathy
 - * Substantial impairment in short-term memory or concentration
 - * Muscle pain
 - * Multi-joint pain without swelling or redness
 - * Headaches of a new type, pattern or severity;
 - * Un-refreshing sleep
 - * Post-exertion malaise lasting more than 24 hours

- ◇ Physiological changes that follow a daily pattern
 - * An individual's ability to perform and remain alert is influenced by physiological changes that follow a daily pattern.
 - * Humans are hard-wired with a genetically-determined biological need for sleep and with a circadian pacemaker that programs us to sleep at night and to be awake during the day, on a 24-hour schedule.
 - * Sleep is a complex, active physiological state that is vital to human survival.
 - * When an individual is deprived of sleep, the response is sleepiness, which is the brain's signal to prompt an individual to obtain sleep.
 - * When deprived of sleep (acutely or chronically), the human brain can spontaneously, in an uncontrolled fashion, shift from wakefulness to sleep in order to meet its physiological need for sleep.
 - * Twenty-four hour operations challenge these basic physiological principles.
 - * Individuals may be trying to work when the brain is programmed to be asleep, during the circadian low-point in alertness and performance capacity.
 - * Conversely, individuals may be trying to sleep when the brain is programmed to be awake; leading to sleep loss and poor sleep quality, which further degrades alertness and performance capacity.
 - * Shift work, altered and changing work schedules, crossing time zones, long hours of continuous wakefulness, and sleep loss can create sleep and circadian disruptions that degrade waking function.
 - * This results in fatigue and sleepiness while driving, monitoring equipment; degraded vigilance and decision making; and a wide range of other performance effects that can erode the safety margin in operational settings.

**BOP-
NEI-12**

- ◇ Two common sleep disorders
 - * Sleep Apnea – a temporary suspension of breathing occurring repeatedly during sleep that often affects overweight people or those having an obstruction in the breathing tract, and abnormally small throat opening, or a neurological disorder.
 - * Insomnia – Chronic inability to fall asleep or remain asleep for an adequate length of time.
 - * Indications and risk factors for common sleep disorders:
 - Extended work and/or commuting periods
 - Split-shift work schedules
 - Sleep/work periods conflicting with circadian rhythms
 - Changing or rotating work schedules
 - Lack of rest or nap periods
 - Sleep disruptions
 - Inadequate exercise opportunities
 - Poor diet
 - Environmental stressors

- BOP-NEI-13**
- ◇ Shift work strategies to optimize sleep periods to obtain adequate rest:
 - Minimize sleep loss. It is important NOT to begin a new work schedule with an existing sleep debt (normally requires 2 nights of unrestricted sleep)
 - Take naps. Minimize to 30 minutes (only allowed during non-paid work time in designed areas when in a work status).
 - Develop good sleep habits. A regular pre-sleep routine can condition relaxation in preparation for falling asleep (physical and mental relaxation techniques such as meditation, yoga, and progressive muscle relaxation can be used)
 - Understand the affects of food, alcohol and exercise. Being hungry or eating too much may interfere with falling asleep as well as the use of nicotine or caffeine. Alcohol produces easily disrupted, lighter sleep and suppresses REM (rapid eye movement). Regular exercise may enhance deep sleep but avoid strenuous exercise within 6 hours of going to bed.
- BOP-NEI-14**
- ◇ Countermeasures that can be used at home.
 - * Strategic caffeine can be used to help work through decreased alertness
 - * Social interaction and active involvement in conversation
 - * Physical activity such as stretching and isometric exercises
 - * Consume well-balanced meals and plan ahead for nutritious snack food (simple carbohydrates can cause ‘sugar highs’ followed by lows that cause decreased alertness).
- BOP-NEI-09**
- ◇ Symptoms of fatigue
 - * Yawning
 - * Red eyes
 - * Prolonged/excessive blinking
 - * Irritability
 - * Sleepiness
 - * Difficulty concentrating
 - * Apathy
 - * Feeling of isolation
 - * Annoyance
 - * Increased reaction time to stimulus
 - * Slowing of higher level mental functioning
 - * Decreased vigilance
 - * Memory problems
 - * Increased errors while performing tasks
- BOP-NEI-10**
- ◇ Contributors to decreased alertness and increased work fatigue.
 - * **Task demands** such as: Repetitiveness, high cognitive demands, high level of required attention, sedentary tasks, lack of social interaction.
 - * **Environmental conditions** such as: High heat and humidity, poor lighting, low frequency noise.

SUMMARY

- ◆ Narcotics are used medically to relieve pain and to treat diarrhea.
- ◆ Individuals under the influence of stimulants may experience increased alertness or excitement.
- ◆ Alcohol is an example of a depressant.
- ◆ Cocaine is an example of a stimulant.
- ◆ Drug sales may take as little time as it takes to shake hands.
- ◆ Behavior which varies from normal behavior is termed aberrant.
- ◆ If a visitor under your control behaves aberrantly, escort the visitor out of the protected area - notify Nuclear Security and your supervisor.
- ◆ Remember, ANYONE detecting a behavioral problem is responsible for immediately reporting the problem to a supervisor and to Nuclear Security, Nuclear Access Services.
- ◆ Questions related to FFD should be referred to the Nuclear Security, Nuclear Access Services FFD Staff.
- ◆ It is your responsibility to ensure you are fit for duty when you arrive at work by ensuring you are adequately rested.
- ◆ Understanding the causes and contributors to fatigue, and recognizing symptoms both in yourself and your co-workers is essential.