PALO VERDE NUCLEAR GENERATING STATION



EMERGENCY PLAN IMPLEMENTING PROCEDURES

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VOLUME I

ARIZONA PUBLIC SERVICE COMPANY PROJECT MANAGER AND OPERATING AGENT

Revision 4	PALO VERDE NUCLEAR GENERATING STA		STATION	S	STATION MANUAL		
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EMERGENCY PLAN

IMPLEMENTING PROCEDURES

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1. 1. 1. 1.

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1.0 OBJECTIVE

1.1 To detail the functions and responsibilities of personnel in the PVNGS Emergency Organization both Onshift and Onsite including interface with the Offsite Emergency Organization.

This procedure sets forth the authority and responsibilities of the Emergency Organization positions. Furthermore it describes how various roles will be transferred to different personnel according to the level of emergency staffing required to respond to specific emergency classifications from the following emergency centers:

Control Room (CR) Satellite Technical Support Center (STSC) Technical Support Center (TSC) Operational Support Center (OSC) Emergency Operations Facility (EOF) Emergency News Center (ENC) Service Building (Alternate OSC)

2.0 REFERENCES

2.1 Implementing References

2.1.1 EPIP-02, "PVNGS Emergency Classification"

2.1.2 EPIP-11, "TSC/STSC Activation"

- 2.2 Developmental References
 - 2.2.1 NUREG-0654, Rev. 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants"
 - 2.2.2 NUREG-0696, "Functional Criteria for Emergency Response Facilities"
 - 2.2.3 PVNGS Emergency Plan, Rev. 2
 - 2.2.4 PVNGS Physical Security Plan

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3.0 LIMITATIONS AND PRECAUTIONS

3.1 Operations personnel will perform their duties to place the plant in a safe condition as prescribed by Recovery Operations Procedures. If conflicts in personnel assignments or sequence of actions arise, first priority will be given to preserving the health and safety of the public.

4.0 DETAILED PROCEDURE

- 4.1 Personnel Indoctrination
 - The PVNGS Emergency Organization operates from five onsite 4.1.1 emergency centers (CR, STSC, TSC, OSC, and Service Building) and is supported by three offsite centers (EOF, Corporate Emergency Center (CEC), and INC). It is the responsibility of the Shift Supervisor to initially assess and classify the emergency and notify plant staff personnel. For an UNUSUAL EVENT the emergency is directed from the affected unit Control Room/STSC and command of the situation remains there with the onshift Emergency Coordinator until either deescalation/close-out or reclassification to a more severe emer ency level occurs. In the event of an ALERT or more sever: classification the TSC, EOF, ENC and OSC are activated. The onsite emergency corrective actions will be directed by the onsite Emergency Coordinator normally located at the TSC. The Emergency Operations Director who will be located at the EOF will provide overall direction of both the onsite and offsite emergency response organizations. The Corporate Emergency Center will be activated and fully operational for a SITE or GENERAL EMERGENCY classification and will provide the Emergency Operations Director and his staff with the resources (i.e., engineering, legal, financial, etc.) available within the APS organization.

4.2 Prerequisites

4.2.1 An incident has occurred and has been classified per the provisions of EPIP-02 which requires activation of one of the following Emergency Organizations:

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4.2.1.1 NOTIFICATION OF UNUSUAL EVENT

o Onshift Emergency Organization (Appendix A)

OR

4.2.1.2 ALERT, SITE EMERGENCY and GENERAL EMERGENCY

 Initially Onshift Emergency Organization (Appendix A)

 Subsequently, Onsite and Offsite Emergency Organization (Appendices B and C)

4.3 Instructions

4.3.1 Onshift Emergency Organization

The <u>onshift</u> Emergency Organization as depicted in Appendix A will be the first to be activated in response to an emergency situation at PVNGS. If an ALERT or more severe emergency classification is declared the <u>onsite</u> Emergency Organization will be activated. Until such time that the <u>onsite</u> Emergency Organization is fully staffed, the <u>onshift</u> Emergency Organization shall respond to the emergency as delineated in this section and in accordance with appropriate EPIP's.

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NOTE

In an ALERT or more severe classification, the <u>onshift</u> response organization is supplemented by the <u>onsite</u> response organization. Thus, the Emergency Coordinator role will be transferred from the Duty Manager to the Maintenance and Operations Manager or his alternate, the Technical Support Manager. Once the Emergency Coordinator role transfer has been completed, the Duty Manager shall * assume his "normal" emergency response

assignment.

4.3.1.1 Emergency Coordinator

The Duty Manager shall be the first individual within the Emergency Organization to assume the <u>onshift</u> Emergency Coordinator role. He will be notified by the affected unit Shift Supervisor to report to the Control Room when an emergency condition exists. If the Duty Manager is incapacitated, the Shift Supervisor shall assume the responsibilities of the Emergency Coordinator. The Emergency Coordinator shall direct the utilization of APS resources during an emergency. As director of the <u>onshift</u> Emergency Organization he will normally be stationed in the Control Room or the STSC. The responsibilities and functions of the Emergency Coordinator include:

**a. Notifying:

- 1. Company emergency response personnel;
- 2. Local noncompany emergency support groups;
- 3. Nuclear Regulatory Commission;
- 4. County and state agencies.
- **b. Activating the <u>onsite</u> Emergency Organization for an ALERT or more severe classification.
- * The Duty Manager role can be assumed by various PVNGS management personnel. These individuals may be assigned to a "normal" emergency response role (e.g., Radiation Protection Supervisor -Radiological Protection Coordinator.
- ** The responsibility for the decision to perform these items cannot be delegated.

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	**c. De	eclaring changes evel.	in the emergency (classification
	**d. Pr of er ma	roviding protecti ffsite emergency vacuation, shelte easures (EPIP-15)	ve action recomment management agencie ring or similar pr •	ndatio:3 to es regarding rotective
	**e. An m	uthorizing emerge rem/year whole bo	ncy workers to ex dy exposure limit	ceed 4000 s (EPIP-18).
	**f. Di ni fi	etermining the ne onessential perso or evacuating per enters.	nnel from the sit sonnel from onsit	ation of e (EPIP-19) and e emergency
	g. C	oordinating and d erformed by compa oundary.	lirecting emergenc ny personnel with	y operations in the site
	h. M	aintaining commur upport groups.	nication with offs	ite emergency
	1. A w r	uthorizing overti ith establishing esponse.	lme and other expe and maintaining e	uses associated margency
	j. I n F	nitiating the dep eeded (i.e., Sear ield Monitoring).	ch and Rescue, Em	ncy teams as ergency Repair,
4.3.1.2	Shift	Supervisor		
	The S initi emerg and d respo	hift Supervisor w al assessment and ency conditions a eclaration of the nsibilities inclu	will be responsible i evaluation of an and for initial cl e emergency. Addited ude the following:	e for the y abnormal or assification tionally, his

delegated.

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	a. Promptly notifying abnormal or emerge	the Duty Manager on the condition.	of any
	 Maintaining contro mitigating acciden Room. 	l of unit operation t conditions from t	ns and the Control
	c. Assuming the response Coordinator in the incapacitated or of	nsibilities of Emer event the Duty Mar cherwise unavailab	rgency mager is Le.
	The Shift Supervisor w and actions to the Eme	fill report signific rgency Coordinator	ant events
4.3.1.3	Assistant Shift Superv	isor	
	Supervisor will mainta directing the Nuclear Shift Supervisor. He Shift Supervisor. In as Fire Team Leader.	in his normal dutie Operators and assis will continue to re the event of a fire	es of sting the eport to the e he will act
4.3.1.4	Shift Technical Adviso	or (STA)	
	The STA will report to His responsibilities i	the STSC of the af nclude:	ffected unit.
	 Advising the Shift are occurring, or impact the safe an 	Supervisor on acti are being planned, d proper operation	vities that that may of the plant.
	b. Monitoring the Saf (SPDS) in the STSC Control Room person	ety Parameter Displ and developing tre nnel use/information	lay System end data for on.
	. The STA reports to the	Shift Supervisor.	
4.3.1.5	Operations Shift Perso	onnel	
	Operations Shift Perso II) are responsible for of the unit and will r conditions as necessar	nnel (Nuclear Opera or the safe and prop espond to abnormal ry to mitigate such	ators III and per operation and emergency situations.
	Operations Shift Perso Room and act under the	nnel will contact t direction of the S	the Control Shift

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Supervisor.

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4.3.1.6 Radiation Protection Monitor

This position will be filled by a Radiation Protection <u>Technician</u> from the affected unit's shift complement. The Radiation Protection Monitor is stationed at the STSC and reports to the Emergency Coordinator. His responsibilities include:

- a. Initial onsite and offsite dose projections.
- b. Initial direction of onsite and offsite Field Monitoring Teams.
- Provision of technical advice (i.e., onsite radiation levels, radiation exposure criteria, etc.) to the Emergency Coordinator.

In an ALERT or more severe classification, the Radiation Protection Monitor will be relieved of the responsibility for directing Field Monitoring Teams and projecting doses by the Radiological Protection Coordinator (on arrival at the TSC). He will remain in the STSC and monitor the radiological assessment activities being performed in the TSC and keep the Operations Advisor apprised of the situation.

4.3.1.7 Operational Support Center (OSC) Coordinator

This position will be initially assumed by the Shift Maintenance Foreman who will report directly to the Emergency Coordinator. The OSC Coordinator is stationed at the OSC where his responsibilities and functions include:

- Coordination of manpower resources available at the OSC.
- b. Deployment of emergency teams (i.e., Search and Rescue, Emergency Repair, Field Monitoring) on direction from the Emergency Coordinator.

In the event of an ALERT or more severe classification, the Shift Maintenance Foreman will be relieved by the designated OSC Coordinator of the <u>onsite</u> Emergency Organization. He will then remain in the OSC and act as Repair Coordinator.

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4.3.1.8 Technical Engineering Coordinator

This position will be initially assumed by the Shift Systems Engineer whose normal work station is in the Maintenance Control Center (located in the TSC). The Technical Engineering Coordinator reports directly to the Emergency Coordinator and is responsible for:

- Providing technical input to the Control Room staff.
- b. Physically activating the TSC in accordance with EPIP-11 when an ALERT or more severe emergency classification is declared.

In the event of an ALERT or more severe classification level, the Shift Systems Engineer will be relieved by the designated Technical Engineering Coordinator of the <u>onsite</u> Emergency Organization. Once the Shift Systems Engineer has been relieved of the Technical Engineering Coordinator function, he and the onshift Analysts (see Section 4.3.1.9) will fill the position of Systems Engineers assisting the Emergency Maintenance Coordinator in the TSC.

4.3.1.9 Analysts

These positions will be filled by Maintenance Planner - Coordinators. The Analysts will report to the TSC and assist the Shift Systems Engineer in carrying out his function as Technical Engineering Coordinator. When the <u>onsite</u> Emergency Organization is activated, these individuals will assume the roles of Systems Engineers and report to the Emergency Maintenance Coordinator at the TSC.

4.3.1.10 Security Director

This position will be initially assumed by the Security Shift Captain. To ensure that PVNGS security is maintained the Security Shift Captain will assign a Security Shift Sergeant to the responsibilities of the Security Shift Captain at the Security Building. The Security Director is stationed at the TSC where his responsibilities and functions include:

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- Directing the onsite security force in the functions of personnel accountability and site access control.
- b. Maintaining station security and implementing security contingency measures as appropriate per the PVNGS Physical Security Plan.
- c. Calling out station emergency response personnel at the direction of the Emergency Coordinator in accordance with EPIP-07 and EPIP-08, as appropriate to the emergency classification.

The Security Shift Captain acting as the Security Director reports directly to the Emergency Coordinator and will be relieved by the designated Security Director of the <u>onsite</u> Emergency Organization. Upon transferring this function, the Security Shift Captain will assume his emergency duties in the Security Building.

4.3.1.11 Security Force

Security personnel located at the Central Alarm Station, Secondary Alarm Station, and other fixed posts shall maintain their positions unless otherwise directed by the Security Director. Other Security Force members will report to the Security Director for further instructions.

4.3.1.12 Maintenance Technicians

Maintenance Technicians (mechanical, electrical and I&C) will report to the OSC and are responsible for performing emergency maintenance repair and/or corrective actions as coordinated by the OSC . Coordinator. They will be members of emergency teams as specified in Section 4.3.1.16.

4.3.1.13 Chemistry Technician

The Chemistry Technician will report to the OSC and is responsible for performing post-accident chemistry samples and analyses and other plant chemistry supporting operations as coordinated by the OSC Coordinator.

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4.3.1.14 Radiation Protection Technician

Radiation Protection Technicians in the <u>onshift</u> Emergency Organization, with the exception of the Radiation Protection Monitor (see Section 4.3.1.6), will report to the OSC and are responsible for radiological controls support such as access control, personnel monitoring, and radiological monitoring. Additionally, Radiological Protection Technicians may be assigned as members of emergency teams as specified in Section 4.3.1.16.

4.3.1.15 Satellite TSC Communicator

The Emergency Coordinator shall designate a Nuclear Operator to act as STSC Communicator. The responsibilities of the STSC Communicator are:

- a. Upon direction from the Emergency Coordinator, commence initial notifications in accordance with EPIP-07 and EPIP-08, as appropriate to the emergency classification.
- b. Maintain records of communications received from or transmitted offsite.

In the event the <u>onsite</u> Emergency Organization is activated (e.g., ALERT or more severe classification), the Nuclear Operator filling this role will be relieved by the designated STSC Communicator.

4.3.1.16 Emergency Teams

Emergency teams (Search and Rescue, Emergency Repair, First-Aid, Field Monitoring) will be formed from Emergency Response Shift Personnel assembled at the OSC. At a minimum, personnel assembled at the OSC include:

1 Radiation Protection Technician

- 1 Chemistry Technician
- 2 Mechanical Maintenance Technicians
- 1 Electrical Maintenance Technician
- 1 I&C Maintenance Technician

Emergency teams are formed by the OSC Coordinator at the direction of the Emergency Coordinator and will perform duties as follows:

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a. Search and Rescue Team

A Search and Rescue Team will consist of at least two members, with at least one member being a Radiation Protection Technician. Members of a Search and Rescue Team will, as a minimum, be first-aid trained and Radiation Exposure Permit (REP) qualified and will constitute the First Aid Team when required. Search and Rescue Team members will report to the OSC Coordinator when the <u>onshift</u> Emergency Organization exists. Upon activation of the <u>onsite</u> Emergency Organization, the Search and Rescue Team will report to the Hazards Control Coordinator, who is located in the TSC.

b. Emergency Repair Team

The Emergency Repair Team will consist of at least two Maintenance Technicians. If radiological conditions necessitate, a Radiation Protection Technician will also be assigned to the team. The Emergency Repair Team will initially report to the OSC Coordinator. When the <u>onsite</u> Emergency Organization is activated, the Emergency Repair Team will report to the Repair Coordinator, who is located in the OSC.

c. Field Monitoring Team

A Field Monitoring Team will be formed by the OSC Coordinator upon request from the Radiation Protection Monitor or Radiological Protecton Coordinator. This Team will perform onsite and/or offsite monitoring activities. The Team will consist of at least two members, with at least one member being a Radiation Protection Technician. The Field Monitoring Team will report to and take direction from the Radiation Protection Monitor until he is relieved of this responsibility by the Radiological Protection Coordinator in the <u>onsite</u> Emergency Organization.

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4.3.1.17 Fire Team

The Fire Team will consist of assigned shift personnel (the Assistant Shift Supervisor, two Nuclear Operators, one Radiation Protection Technician, and one Chemistry Technician). The Fire Team will report to the Assistant Shift Supervisor who will be the Fire Team Leader. The Fire Team will respond to fire alarms and will respond at the location of the fire with assigned equipment to combat the fire and to assess the need for offsite assistance.

4.3.2 Onsite Emergency Organization

The Emergency Coordinator of the <u>onshift</u> Emergency Organization will order the activation of the <u>onsite</u> Emergency Organization (as depicted in Appendix B) when an ALERT or more severe classification level is declared. The <u>onsite</u> Emergency Organization positions will be manned as soon as possible (generally within 90 minutes) following such a declaration. The activation of the <u>onsite</u> Emergency Organization substantially enhances the station's ability to deal with emergencies by focussing greater manpower resources on the situation.

The primary function of the <u>onsite</u> Emergency Organization will be to manage the emergency by:

- a. Diagnosing plant conditions.
- b. Identifying and implementing corrective actions.
- c. Coordinating onsite emergency activities.
- d. Directing protective action for station personnel.
- e. Communicating with offsite agencies until the Emergency Operations Facility (EOF) is activated.

Specific functional assignments within the <u>onsite</u> Emergency Organization are listed in the following sections.

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4.3.2.1 Emergency Coordinator

After being notified and following arrival onsite, the Operations and Maintenance Manager or his alternate (Technical Support Manager) will be briefed on plant conditions and the status of the emergency by the <u>onshift</u> Emergency Coordinator (Duty Manager). Following this briefing the Operations Maintenance Manager will relieve the Duty Manager of his duties* as Emergency Coordinator and will assume management control of the <u>onsite</u> Emergency Organization. The functions and responsibilities of the <u>onsite</u> Emergency Coordinator in addition to those assumed from the <u>onshift</u> Emergency Coordinator (see Section 4.3.1.1) are:

- a. Manage operations in the TSC. This includes collecting and analyzing the technical information necessary for assessment of plant operational aspects, providing technical counsel to support the Control Room, assessing radiological release potential, monitoring onsite exposure and contamination control, repairing plant components or systems as required by the emergency and/or consequences, and maintaining onsite personnel accountability.
- b. Provide management direction to the Control Room through the Operations Advisor.
- Provide management direction to the Operational Support Center through the Operational Support
 Center Coordinator.
- Assign plant staff personnel to positions in the onsite Emergency Organization as appropriate.
- e. Request assistance as necessary for onsite radiation monitoring from federal agencies, either directly or through the county/state emergency response organization once established.
- * When the EOF is activated the Emergency Operations Director assumes the following nondelegable "esponsibilities: (1) communicating plant status updates and radiological release data to NRC/FEMA, county/state, EOC personnel and (2) making protective action recommendations to offsite emergency management authorities.

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4.3.2.2	Radiological Protectio	on Coordinator	
	This position will be Protection Supervisor, Radiological Engineer. Coordinator is station responsibilities and f	filled by the Radia his alternate will The Radiological hed at the TSC, when functions include:	ation 1 be a Protection re his
	 Relieving the Radii responsibility for of onsite and offs plant radiological 	ation Protection M overall control a site field monitori controls.	onitor of the nd direction ng, and for
	b. Providing direction Support Staff at the plant radiological	on to the Radiologi the OSC in matters l controls.	cal Protection pertaining to
	 Providing technica Coordinator on rad emergency activit; 	al advice to the Em diological aspects ies.	ergency of onsite
	d. Supervising dose : TSC.	rate projection act	ivities at the
	e. Providing technic: Coordinator and/o: Coordinator conce protective action: projections.	al advice to the Em r the Radiological rning recommendatio s based on the resu	ergency Assessment ns for offsite lts of dose
	f. Evaluating the new Potassium Iodide	ed for the administ to PVNGS personnel	ration of per EPIP-26.
	g. Evaluating condit radiation exposur	ions requiring emer e.	gency ,
	h. Directing the dec and equipment.	ontamination of PVN	GS personnel
	 Providing radiolo Radiological Asse 	gical update status ssment Coordinator	to the in the EOF.
	The Radiological Prot Emergency Coordinator Radiological Protecti	ection Coordinator • Support provided on Coordinator incl	reports to the for the udes:

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1. Field Team Communicator

The Field Team Communicator, located in the TSC, will handle direct radio communications with PVNGS onsite and offsite Field Monitoring Teams. He will assist the Radiological Protection Coordinator by performing onsite and offsite radiological dose rate projections. He will report to and take direction from the Radiological Protection Coordinator.

2. Field Monitoring Team(s)

(Perform as described in Section 4.3.1.16.c).

4.3.2.3 Technical Engineering Coordinator

This position will be filled by the Engineering Manager, his alternate will be the Operations Engineering Supervisor. The Technical Engineering Coordinator is stationed at the TSC where his functions and responsibilities include:

- Relieving the <u>onshift</u> Technical Engineering Coordinator following a briefing concerning plant status and conditions.
- b. Directing engineering, system analyses, procedures development, and related licensing efforts concerning the emergency.
- c. Providing updated status of the reactor and the unit to the Technical Analysis Coordinator in the EOF.
- Maintaining liaison with offsite technical support, such as NSSS supplier, A-E, NSAC, EPRI, and INPO.

The Technical Engineering Coordinator reports to the Emergency Coordinator. His support staff in the TSC will consist of the following:

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1. Computer Support Coordinator

Provides continuous operations (hardware and software) for support of analyses related to plant conditions and dose assessment. This position will be filled by the Computer Supervisor. His alternate will be a Computer Engineer.

2. Chemistry Coordinator

Provides evaluation of coolant samples to aid in diagnosing reactor core conditions and release potentials and interprets results of chemical analyses for evaluation of plant systems. This position will be filled by the Chemistry Supervisor. His alternate will be a Chemist.

3. Reactor Analyst

Performs detailed analyses of core physics and heat transfer parameters to assess reactor core status and to evaluate the integrity of reactor coolant pressure boundary and fuel cladding. This position will be filled by the Nuclear Supervisor.

4.3.2.4 Emergency Maintenance Coordinator

This position will be filled by the Maintenance Superintendent. His alternate will be the Maintenance Control Center Supervisor. The Emergency Maintenance Coordinator is stationed at the TSC, where his functions and responsibilities include:

- Relieving the <u>onshift</u> OSC Coordinator of overall responsibility for emergency plant repair.
- b. Coordinating repair and damage control for plant systems including mechanical, electrical, and instrument and control equipment,
- c. Advising the Emergency Coordinator on matters which deal with repair, maintenance, and deployment of Emergency Repair Teams.
- Directing the OSC Coordinator to assemble and dispatch Emergency Repair Teams.

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- Assessing mechanical operation of various plant systems and equipment.
- f. Maintaining liaison with the Administrative and Logistics Coordinator in the EOF in matters pertaining to manpower support.

The Emergency Maintenance Coordinator reports to the Emergency Coordinator. His support staff will consist of the following:

1. Systems Engineers

These positions will be filled by Maintenance Planner-Coordinators. The Systems Engineers will recommend courses of action for emergency repairs and provide possible alternatives for maintenance operations. The Systems Engineers will be stationed in the TSC to enhance the level of direct support available to the Emergency Maintenance Coordinator.

2. Mechanical Coordinator

This position will be filled by the Mechanical Maintenance Supervisor. His alternate will be a Mechanical Systems Engineer. The Mechanical Coordinator will determine and recommend repair/damage control and corrective actions for plant mechanical, HVAC and piping systems. He will report directly to the Emergency Maintenance Coordinator and will be stationed with a Mechanical Technician at the Service Building to facilitate access to tools and plant system schematics.

3. Electrical Coordinator

This position will be filled by the Electrical Maintenance Supervisor. His alternate will be an Electrical Systems Engineer. The Electrical Coordinator will determine and recommend repair/damage control and corrective actions for plant electrical systems. He will report directly to the Emergency Maintenance Coordinator and will be stationed with an Electrical Technician at the Service Building.

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4. Instrument and Control Coordinator

This position will be filled by the I&C Supervisor. His alternate will be an I&C Systems Engineer. The I&C Coordinator will determine alternative I&C capabilities or configurations, and direct the repair/installation/modification of instrument and control equipment. The I&C Maintenance Supervisor will report to the Emergency Maintenance Coordinator and will be stationed with an I&C Technician at the Service Building.

In the event the Service Building becomes uninhabitable, personnel ordinarily stationed there shall report to the TSC.

4.3.2.5 Hazards Control Coordinator

This position will be filled by the Safety Administrator. His alternate will be a Safety Engineer. The Hazards Control Coordinator is stationed at the TSC, where his functions and responsibilities include:

- Advising the Emergency Coordinator on matters concerning the safety of plant personnel during the emergency.
- b. Directing the OSC Coordinator in the assembly and dispatch of Search and Rescue Teams.
- c. Evaluating the hazards of toxic material release and/or chemical spills, should such an event occur or appear imminent.
- d. Providing technical advice to the Fire Team Leader should a fire be the cause of, or occur, during an emergency.

The Hazards Control Coordinator reports to the Emergency Coordinator.

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4.3.2.6 Personnel Resources Coordinator

This position will be filled by the Administrative Services Manager. His alternate will be the Office Supervisor. The Personnel Resources Coordinator will be stationed in the TSC where his functions and responsibilities include:

- Relieving the Security Director of the function of calling out additional emergency response personnel (at the direction of the Emergency Coordinator).
- b. Planning for 24 hour emergency response organization staffing throughout the course of the emergency.
- c. Assessing the need for, and assisting the OSC Coordinator in meeting the manning requirements of the OSC.

The Personnel Resources Coordinator reports to the Emergency Coordinator.

4.3.2.7 OSC Coordinator

This position will be filled by the Day Shift Supervisor. The OSC Coordinator is stationed in the OSC where his functions and responsibilities include:

- a. Relieving the Shift Maintenance Foreman of his responsibilities as onshift OSC Coordinator.
- b. Functionally supervising the OSC.
- Coordinating manpower resources available at the OSC.
- d. Assembling and dispatching emergency teams (i.e., Search and Rescue, First-Aid, Emergency Repair, or Field Monitoring) at the direction of the Hazards Control, Emergency Maintenance, or Radiological Protection Coordinator respectively.

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The OSC Coordinator reports to the Personnel Resources Coordinator and is assisted by the:

1. Repair Coordinator

This position will be filled by a Shift Maintenance Foreman. The Repair Coordinator will be responsible for ensuring that maintenance technicians and Emergency Repair Teams are dispatched at the direction of the Emergency Maintenance Coordinator. The Repair Coordinator will be stationed at the OSC with Maintenance Technicians and will report to the OSC Coordinator.

Additional personnel resources available at the OSC and coordinated by the OSC Coordinator include:

1. Chemistry Support Staff

The Chemistry Support Staff will be responsible for taking and analyzing post-accident samples according to procedures and providing chemistry support as directed by the Chemistry Coordinator.

2. Radiological Protection Support Staff

The Radiological Protection Support Staff will be dispatched at the direction of the Radiological Protection Coordinator to conduct onsite/offsite radiation surveys. The Radiological Protection Support Staff will also be available for dispatch with Search and Rescue, Emergency Repair Teams and the Fire Team (as required).

3. Emergency Teams

Emergency teams will be assembled and act in accordance with Section 4.3.1.16 of this procedure.

4.3.2.8 Security Director

This position will be filled by the Manager of Operations Security. His alternate will be the Operations Security Supervisor. The Security Director will be stationed at the TSC, where his responsibilities include:

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	c, #	nalyzing condit nd Radiological nd developing g coordinator and	ions (via the SPDS Analysis Computer uidance for the Eme Operations personne	and Chemical System (CRACS)) ergency el.
	d. 4	Assisting in the operating and ot	development of eme her procedures, as	ergency necessary for

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The Operations Advisor reports to the Emergency Coordinator. His support staff consists of the following:

1. Radiation Protection Monitor

This position will be filled by a Radiation Protection Technician. The Radiation Protection Monitor will monitor onsite and offsite radiation dose projections in the Satellite TSC. He will maintain communication with the Radiological Protection Coordinator at the TSC and will keep the Operations Advisor apprised of the onsite and offsite radiological conditions. The Radiation Protection Monitor will be stationed in the Satellite TSC and will report directly to the Operations Advisor.

2. Satellite TSC Communicator

This position will be filled by a Nuclear Operator II. The <u>onsite</u> Satellite TSC Communicator will maintain the communications link for the Operations Advisor with the Emergency Coordinator in the TSC. He will relieve the Nuclear Operator II in the <u>onshift</u> emergency organization. He will be stationed in the Satellite TSC, reporting directly to the Operations Advisor.

4.3.2.10 Shift Supervisor

The Shift Supervisor will continue to be responsible for control of unit operations, assessing unit operational aspects, and implementing corrective actions to mitigate the consequences of an emergency, as described in Section 4.3.1.2 . The Shift Supervisor reports to the Emergency Coordinator and will direct the activities of shift operating personnel as listed below:

1. Assistant Shift Supervisor

Functions and responsibilities as described in Section 4.3.1.3.

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2. Shift Technical Advisor

Functions and responsibilities as described in Section 4.3.1.4.

 Operations Shift Personnel (Nuclear Operators III and II).

Functions and responsibilities as described in Section 4.3.1.5.

4. Fire Team

Functions and responsibilities as described in Section 4.3.1.17.







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- . PVNGS SM 8-9P

APPROVED BY: L.E. Brown	DATE 12-7-82
	DATE EFFECTIVE 12-10-82

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1.0 OBJECTIVE

1.1 To provide a means of classifying an event at PVNGS into one of the four emergency classifications as described in PVNGS Emergency Plan.

2.0 REFERENCES

- 2.1 Implementing References
 - 2.1.1 Recovery Operations Procedures
 - 2.1.2 PVNGS Emergency Plan, Rev. 2, Section 5 "Emergency Conditions."
 - 2.1.3 EPIP-31, "Recovery"
- 2.2 Developmental References
 - 2.2.1 NUREG-0654, Rev. 1, Appendix 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants"

3.0 LIMITATIONS AND PRECAUTIONS

- 3.1 This procedure will not take priority over the measures required to maintain or restore the plant to a safe condition. Prompt notification of offsite authorities should be given within 15 minutes of declaration of a particular emergency classification. This time is measured from when the Shift Supervisor declares a particular emergency class and notifies the Duty Manager.
- 3.2 Continued surveillance and assessment of plant conditions is necessary to ensure that the emergency classification is appropriately revised as conditions change, or as more information is obtained.
- 3.3 This emergency procedure does not replace any plant operating procedures. During an emergency condition continue to use the appropriate plant procedure in parallel to this and other Emergency Plan Implementing Procedures (EPIP's).

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4.0 DETAILED PROCEDURE

4.1 Personnel Indoctrination

4.1.1 Introduction to the Modular Concept

4.1.1.1 The Basic Module

- Four emergency classifications have been established. The classes are:
 - 1. NOTIFICATION OF AN UNUSUAL EVENT
 - 2. ALERT
 - 3. SITE EMERGENCY
 - 4. GENERAL EMERGENCY
- b. The rationale for these classes is to provide early and prompt notification of minor events (the "Basic Module Events") which could lead to more serious consequences, or which might be indicative of more serious conditions which are not yet fully realized. A system of "modules" has been provided to ensure more effective response preparation for more serious indicators.
- c. The Basic Modules are abnormal conditions considered to be the initiating events upon which emergencies discussed within the Emergency Action Levels are based.
- d. Prompt recognition of the occurrence of one or more of the initiating events of the Basic Module may prevent the situation from progressing to either a NOTIFICATION OF UNUSUAL EVENT category or an emergency classification of greater severity.
- The 13 Basic Module events as depicted in Appendix A are:
 - Unplanned or unanticipated change in radiation levels, or release of gaseous effluent.
 - 2. Fuel handling accident.
 - Indications leading to or actual loss of fission product barrier.

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	 Primary reactor secondary leaks relief valve for 	r coolant leak, pr age, or pressurize ailure.	imary to r safety or
	6. Loss of power of	or alarms.	
	7. Loss of feedwar	ter.	
	8. Other limiting	conditions for ope	erations.
	9. Reactor Protect	tion System failure	e.
	10. Control Room et	vacuation.	
	11. Fire.		
	12. Jatural phenome	ena and other hazar	ds.
	13. Security threat	•	
f.	As shown in Appendit condition) may prog classification as a or more of the Basi instances, these el advance to the cate UNUSUAL EVENT, and, could escalate to t ALERT, SITE EMERGEN	tx A, an emergency gress to a particul result of a combi- to Module events. ements of the Basi- gory of a NOTIFICA with continued de the more severe cla MCY, or GENERAL EME	(initiating ar emergency Ination of one In most In Module will ATION OF egradation, asses of RGENCY.
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h.	The events within e to, or are slight m exist in Section 5 What the "modulariz reproduction of Tab module format yield	ach class are eith odifications of, t of the PVNGS Emerg ed" system denotes les 5.1-1 through s three important	er identical hose that ency Plan. is a graphic 5.1-4. This advantages.

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- It affords prompt recognition of an emergency condition and an indication of its severity as defined by the Emergency Action Levels.
- Prompt recognition leads to prompt action as well as an accelerated process of initial notification and activation of onsite and offsite agencies.
- It enables reactor operations personnel to effectively move through the recovery procedures and into the EPIP's.
- The utilization of the "modular" approach in assessing a radiological accident, affords greater probability of responding to a potentially hazardous occurrence in a more timely manner.

4.1.2 Responsibility

- 4.1.2.1 The Shift Supervisor has the responsibility to initially classify an event into one of the four emergency classifications and to notify the Duty Manager.
- 4.1.2.2 The Emergency Coordinator (initially the Duty Manager or Shift Supervisor, if Duty Manager is unavailable or incapacitated) has the responsibility to implement the Emergency Plan and for subsequent reclassification of "he emergency.

4.2 Prerequisites

- 4.2.1 A Recovery Operations Procedure has been initiated which warrants activation of the Emergency Plan.
- 4.2.2 An unusual condition exists at or near PVNGS which appears to warrant activation of the Emergency Plan.

4.3 Instructions

- 4.3.1 Off Normal Plant Condition
 - 4.3.1.1 At any time the plant condition is off normal, the Shift Supervisor will perform the following:

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- Notify the Duty Manager to report to the affected unit Control Room.
- b. Evaluate the situation and determine if corrective actions are required to place the plant in a stable and safe condition.
- c. Organize the onshift staff to take actions to maintain or return to a safe plant condition.
- d. Classify the event in accordance with Section 4.3.2. If an Emergency Plan classification is not immediately evident, notify unaffected units and shift personnel that an off normal plant condition exists.

4.3.2 Classification

NOTE

If conditions are established such that it is difficult to determine specific classification, classify the incident at the most conservative (i.e., more severe) level.

- 4.3.2.1 Normally the classification guidance contained in the appropriate Recovery Operations Procedure will be used to determine the initial emergency classification. In the event none of the Recovery Operations Procedures are appropriate to the situation, the Shift Supervisor/Emergency Coordinator shall classify the incident in accordance with the following steps.
- 4.3.2.2 Shift Supervisor/Emergency Coordinator select affected module(s) on Emergency Classification Flowchart (Appendix A) and then follow horizontally across to
 the actual event to recognize the appropriate emergency classification.
- 4.3.2.3 If Appendix A proves to be inadequate for determining a particular emergency classification, the Shift Supervisor/Emergency Coordinator shall refer to the Emergency Action Levels (Appendix D) and select the appropriate emergency classification based on this review.

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4.3.2.4 Shift Supervisor/Emergency Coordinator record the date/time of initial classification, as determined from 4.3.2.1, 4.3.2.2, or 4.3.2.3 above, on the Emergency Classification Check List (Appendix B).

NOTE

If there is an uncontrolled release occurring, the Chemical and Radiological Analysis Computer System (CRACS) will project an emergency classification based on release data and dose rate projections.

- 4.3.2.5 Based on the classification of the emergency, the Emergency Coordinator shall initiate the appropriate Emergency Plan Implementing Procedure (EPIP) as follows:
 - a. NOTIFICATION OF UNUSUAL EVENT Implementing Actions - EPIP-03
 - b. ALERT Implementing Actions EPIP-04
 - c. SITE EMERGENCY Implementing Actions EPIP-05
 - d. GENERAL EMERGENCY Implementing Actions EPIP-06

4.3.3 Reclassification

- 4.3.3.1 An emergency may escalate to a higher classification as station conditions worsen or additional abnormal station conditions arise. This could also happen as a result of a combination of two or more of the Basic Module events.
- 4.3.3.2 An emergency may be initially classified at one level and, upon further investigation or after corrective actions, may be reclassified to a less severe class of emergency.
- 4.3.3.3 If the Emergency Coordinator determines that reclassification is necessary he shall perform the following:
 - a. Repeat the classification steps of 4.3.2 above, recording information in the appropriate reclassification column of Appendix B.

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	b. Dis fol: cla	cuss plant status lowing individual ss:	and reclassifica s depending upon	tion with the the emergency
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	2.	ALERT - Radiation Operations Advise Coordinator.	n Protection Coor or, and Technical	dinator, Engineering
	3.	UNUSUAL EVENT - S Protection Monito	Shift Supervisor or.	and Radiation
	c. If t down stat insu Sect	the event is reclanward) direct a pl tus of the emergent ture the appropriation 4.3.2.5.	assified (either lant operator to ncy over the PA s te EPIP is implem	upward or announce the ystem and ented per
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IMPLEMENTING PVNGS EMERGENCY EP1P-02 Appendix B Rev 0 Page 1 of 1 Page 11 of 30 CLASSIFICATION CHECK LIST INITIAL CLASSIFICATION m UE, ALERT, SITE, GENERAL MERG RECLASSIFICATION CATEGORY RECLASSIFICATION DATE/TIME RECLASSIFICATION CLASSIFICATION DATE/TIME DATE/TIME 1. Unplanned or unanticipated change DATE/TIME in radiation levels, or release of radiolog cal liquid or gaseous eifluent. PROC ENC 1 2. fuel handling accident. 1 3. Indications leading to or actual ~ loss of fission product barrier. EDURE PLAN 4. Steam line break or main steam safety or relief valve failure. 5. Primary reactor coolant leak, primary to secondary lealage, or pressurizer safety or relief valve failure. 1 1 1 6. Loss of power or alarms. . / / 1 1 7. Loss of feedwater. PROCEDURE NO. REVISION 8. Other limiting conditions for operations. EPIP 9. Reactor Protection System failure. 10. Control Room evacuation. -02 0 11. Fire. 12. Natural phenomena and other hazarda. 13. Lecurity threat. APPENDIX I Page 1 of Page 11

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CRITERIA FOR EMERGENCY CLASSIFICATION

NOTIFICATION OF UNUSUAL EVENT

Unusual events are in progress or have occurred which indicate a potential degradation of the level of safety of the plant. No releases of radioactive material requiring offsite response or montioring are expected unless further degradation of safety systems occurs.

Purpose of offsite notification is to (1) assure that the first step in any response later found to be necessary has been carried out, (2) bring the operating staff to a state of readiness, and (3) provide systematic handling of unusual events information and decisionmaking.

ALERT

Events are in progress or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant. Any releases expected to be limited to small fractions of the EPA Protective Action Guideline exposure levels.

Purpose of offsite alert is to (1) assure that emergency personnel are readily available to respond if situation becomes more serious or to perform confirmatory radiation monitoring if required, and (2) provide offsite authorities current status information.

SITE EMERGENCY

Events are in progress or have occurred which involve actual or likely major failures of plant functions needed for protection of the public. Any releases not expected to exceed EPA Protective Action Guidelines exposure levels except near site boundary.

Purpose of the site area emergency declaration is to (1) assure that response centers are manned, (2) assure that monitoring teams are dispatched, (3) assure that personnel required for evacuation of near-site areas are at duty stations if situation becomes more serious, (4) provide consultation with offsite authorities, and (5) provide updates for the public through offsite authorities.

GENERAL EMERGENCY

Events are in progress or have occurred which involve actual or imminent substantial core degradation or melting with potential for loss of containment integrity. Releases can be reasonably expected to exceed EPA Protective Action Guideline exposure levels offsite for more than the immediate site area.

Purpose of the general emergency declaration is to (1) initiate predetermined protective actions for the public, (2) provide continuous assessment of information from licensee and offsite organization measurements, (3) initiate additional measures as indicated by actual or potential releases, (4) provide consultation with offsite authorities and (5) provide updates for the public through offsite authorities.

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NOTIFICATION OF UNUSUAL EVENT

PALO VERDE NUCLEAR GENERATING STATION

4.

Initiating Events

- Safety Injection System actuation.
- Radiological effluent technical specification limits exceeded.
- Fuel Damage Indication

 a. High coolant activity
 sample (e.g., exceeding
 coolant technical spec ification for iodine
 spike).
 - b. Failed fuel monitor indicates increase greater than 0.1% equivalant fuel failures with 30 minutes.
- Abnormal coolant temperatures and/or pressure or abnormal fuel temperatures outside technical specification limits.

- HPSI pump running annunciator; various safety equipment status system panel indications.
- In accordance with Technical Specification Section 3/4.3.3, Radiological Effluent Process Monitors SQN-RU-141, SQB-RU-145, SQN-RU-143 in valid alarm mode.
- Process radiation monitor alarms and reactor coolant sample indicates either:
 - a. I-131 dose equivalent exceeds fig. 3.4-1 of Technical Specifications Section 3/4.4, or
 - b. Coolant specific activity exceeds $100/\overline{E}$ uci/gm.
 - Reactor power exceeds Technical Specification limits-Section 2.1;
 - b. High T avg and pressurizer low pressure alarms occur; or
 - c. Subcooling margin monitor indicates less than 5°F margin to saturation when at power; or
 - d. RCS pressure greater than 2350 psia;
 - e. 10% of the operarable core exit thermocouples exceed 650°F.

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EMERGENCY ACTION LEVELS (EAL'S)

NOTIFICATION OF UNUSUAL EVENT

PALO VERDE NUCLEAR GENERATING STATION

Initiating Events

- 6. Exceeding either primary/ secondary leak rate technical specification or primary system leak rate technical specification.
- Unidentified primary system leak rate exceeding technical specification.
- Failure of a safety or relief 8. in a related system to close following reduction of applicable pressure.

EAL (Alarm, Instrument Reading, etc.)

- 6. Primary to secondary leak rate greater than 1 gpm total through both steam generators as identified by RCS water inventory balance.
- 7. Unidentified primary system leakage greater than 1 gpm as determined by monitoring containment sump inventory and discharge and by RCS water inventory balance.
 - Pressurizer safety valve opens and fails to reset as indicated by:
 - a. Pressurizer TRBL alarm at window 4A01A, and
 - b. Increasing reactor drain tank level, temperature and pressure indicated on CHN-LI-268, CHN-TI-268 and CHN-PI-268 on panel B03, and
 - c. Relief line temperature indicator(s) reading greater than alarm set points on one or more of the following indicators on panel B04:

Safety Valve	Temp, Ind.
RC-PSV-200	RCN-TI-107
RC-PSV-201	RCN-TI-107
RC-PSV-202	RCN-TI-106 -
RC-PSV-203	RCN-TI-106

 Loss of offsite power or loss of onsite AC power capability. 9. AC bus failure annunciators.

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NOTIFICATION OF UNUSUAL EVENT

PALO VERDE NUCLEAR GENERATING STATION

Initiating Events

 Loss of containment integrity requiring shutdown by technical specification.

- a. Any containment automatic isolation valve found to be inoperable, or
 - b. Any penetration found open that is not capable of being closed by an operable containment automatic isolation valve but required to be closed during accident conditions and normally closed by a valve, blind flange or deactivated automatic valve, or
 - c. Either air lock inoperable, or
 - d. Penetration(s) fail type B and C leak test requirements (as specified by Technical Specificatons Section 3/4.6.1).
- a. LCOs for engineered safety features exceeded per tech specs.
 - LCOs for Fire Protection System exceeded.
- 12. a. Any of various fire protection alarms.b. Verbal report.
- a. ESF process or effluent monitor(s) inop.
 - b. Meteorological instrumentation inop.
 - c. Unit Computer inop.

- Loss of engineered safety feature or fire protection system to the extent requiring shutdown by technical specifications.
- Fire at the plant that cannot be controlled by the PVNGS Fire Team.
- 13. Indications or alarms on process or effluent parameters not functional in the control room to the extent requiring unit shutdown; or other significant loss of assessment or communication capability.

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NOTIFICATION OF UNUSUAL EVENT

PALO VERDE NUCLEAR GENERATING STATION

Initiating Events

- 14. Security threat attempted entry or attempted sabotage.
- 15. Natural phenomenon being experienced or projected beyond usual levels: a. any earthquake: b. 50 year flood; c. tornado on site.
- a. aircraft crash onsite:b. onsite explosions;
 - c. onsite or nearsite related accidents that could result in the release of toxic material or spills of flammable materials.
- 17. Turbine rotating component failure causing rapid plant shutdown.
- 18. Other plant conditions exist that warrant increased awareness on the part of state/local offsite authorities or require plant shutdown due to technical specification requirements or require other than normal controlled shutdown.

- 14. As reported or observed.
- 15. a. Seismic trigger annunciator; b. as visually observed by or reported to, station personnel; c. as visually observed by or
 - reported to, station personnel.
- 16. Unusual hazards experienced 16. As visually observed by or reported to, station personnel.

- 17. Turbine trip as evaluated.
- 18. As situations occur.

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NOTIFICATION OF UNUSUAL EVENT

PALO VERDE NUCLEAR GENERATING STATION

Initiating Events EAL (Alarm, Instrument Reading, etc.)

19. Any serious radiological 19. As situations occur. exposure of plant personnel or the transportation to offsite facilities of contaminated injured personnel.

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ALERT

PALO VERDE NUCLEAR GENERATING STATION

Initiating Events

- Severe loss of fuel cladding.
- Rapid gross failure of one steam generator tube with loss of offsite power.
- a. Very high primary coolant activity (300 uCi/gram of I-131 dose equivalent.
 - b. Letdown monitor indicates an increase of greater than 1% fuel failures within a 30 minute period, or 5% total fuel failures.
- a. Shift Supervisor's opinion based on observation of one or more of the following:
 - Decrease in feedwater flow to the damaged steam generator indicated at SGN-FR-1112 (S/G-1) or SGN-FR-1122 (S/G-2) on panel B06, or
 - Decreasing pressurizer pressure indicated at RCN-PR-100 on panel B04, or
 - Decreasing pressurizer level indicated at RCN-LR-110 on panel B04, or
 - Volume control tank level decreasing indicated at CHN-LI-226 on panel B03, or
 - 5) Charging pump flow increasing indicated at CHB-FI-212 on panel B03, or
 - 6) Condenser vacuum pump/gland seal exhaust monitor high alarm from SQN-RU-141 and SQN-RU-142 indicated at cabinet J-SQN-CO3, or

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EMERGENCY CLASSIFICATION

EMERGENCY ACTION LEVELS (EAL'S)

ALERT

PALO VERDE NUCLEAR GENERATING STATION

Initiating Events

- 7. Steam generator blowdown monitor high alarm from SQN-RU-4 (S/G-1) or SQN-RU-5 (S/G-2) indicated at cabinet J-SQN-C03, and
- b. Offsite power loss to 13.8 kv intermediate buses NAN-S05 and NAN-S06 and momentary loss of 4.16 kv buses NBN-S01 and NBN-S02 indicated by:
 - 13.8 kv Unit 1 SWGR-S05-TRBL alarm at window 1A15A and low voltage indication at NAN-EI-S05 on panel B01, and
 - 2) 13.8 kv Unit 1 SWGR-S06-TRBL alarm at window 1A15A and low voltage indication at NAN-EI-S06 on panel B91, and
 - 3) Momentary LOP/load shed A alarm at window 1A3C, and
 - Momentary LOP/load shed B alarm at window 1C18C.
- Rapid failure of steam gener- 3. ator tubes (e.g., several hundred gpm primary to secondary leak rate).
- By the following indicators:
 - a. Pressurizer pressure decreasing uncontrollably at RCA-PI-102A, RCB-PI-102B, RCC-PI-102C, RCD-PI-102D on panel B05, or Reactor trip on low pressure indicated by SNSR Lo alarm at window 4C01D and/or PZR PRESS LOW also at window 4C02A, and

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ALERT

PALO VERDE NUCLEAR GENERATING STATION

 Steam line break with significant (e.g., greater than 10 gpm) primary to secondary leak rate.

- b. Condenser vacuum pump/gland seal exhaust monitor high alarm from SQN-RU-141 and SQN-RU-142 indicated at cabinet J-SQN-CO3, or Steam generator blowdown monitor high alarm from SQN-RU-4 (S/G-1) or SQN-RU-5 (S/G-2) indicated at cabinet J-SQN-CO3, and
- c. No significant increase in containment building pressure indicated at: HCA-PI-351A HCA-PI-352A
 - HCB-PI-351B HCB-PI-352B HCC-PI-351C HCC-PI-352C HCD-PI-351D HCD-PI-352D, and
- d. No significant increase in containment building recirculation sump levels indicated at SIN-LI-10 and SIN-LI-11 on panel B02, and
- e. No containment atmosphere monitor Ch. B high alarm from SQB-RU-1 indicated at cabinet J-SQN-CO3 and by HI CNTMT RAD CH TRIP alarm at window 5A01C.

Indicated by:

a. Steam generator differential pressure AFAS indication signal indicated on panels B02 and B05 and high containment building pressure indicated by HI CONTMT PRESS PRE-TRIP alarm at window 5A06D and containment atmosphere monitor Ch. B high alarm from SQB-RU-1 indicated at cabinet J-SQN-C03 and by HI CNTMT RAD CH TRIP alarm at window 5A01C, or

4.

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ALERT

PALO VERDE NUCLEAR GENERATING STATION

- b. High steam flow indicated at SGN-FR-1112 (S/G-1) or SGN-FR-1122 (S/G-2) on panel B06 and low T avg indicated at RCN-TR-100 on panel B04 and T avg-T ref. HI-L0 alarm at window 4A08B, or
- c. Low steam generator pressure MSIS indication signal indicated at panels B02 and B05, and
- d. 1) Condenser vacuum pump/gland seal exhaust monitor high alarm from SQN-RU-141 and SQN-RU-142 indicated at cabinet J-SQN-C03, or
 - 2) Steam generator blowdown monitor high alarm from SQN-RU-4 (S/G-1) or SQN-RU-5 (S/G-2) indicated at cabinet J-SQN-C03.
- Unidentified primary coolant leakage rate greater than 50 gpm.
- High radiation levels or high airborne contamination which indicates a severe

degradation in the control of radioactive materials (sudden increase by a factor of 1000 over normal radiation readings).

- Loss of offsite power and loss of vital onsite AC power.
- 8. Loss of vital DC power.

 Containment sump level alarm, area monitor alarm and measured or calculated leakage> 50 gpm.

 Corresponding alarms and indications on appropriate Area Monitoring System monitors.

 Loss of lighting, alarms, and annunciator functions.

8. DC bus failure annunciators.

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	PALO VERDE NUC	LEAR	GENERATING STATION		
	Initiating Events	EAL	(Alarm, Instrument Reading, etc.)		
9.	Loss of coolant flow which has led to fuel failure.	9.	Indication of no coolant flow accompanied by activity levels as determined in item ALERT 1.		
10.	Loss of any engineered safety feature system function.	10.	ESF LCOs exceeded, accompanied by inability to take compensating action		
11.	Failure of the reactor protec- tion system to initiate and complete a scram placing the reactor in a subcritical condition.	11.	Indication of Rx trip without corresponding decrease in power level		
12.	Fuel handling accident in Fuel Building. (FSAR-15.7.3.1)	12.	Area radiation alarm, or XJ-SQA-RU-31 or XJ-SQB-RU-32		
13.	Fuel handling accident in Containment. (FSAR-15.7.3.2)	13.	Area radiation alarm, or XJ-SQA-RU-33 or XJ-SQB-RU-34		
14.	Serious fire with potential to cause degradation of plant safety systems.	14.	 a. Any of various Fire Protection System alarms b. Verbal reports; c. Fire pump automatic start annunciator. 		
15.	Most or all alarms (annunciators). nonfunctional and reactor is not in shutdown.	15.	Control room observation.		
16.	Radiological effluents greater than 10 times technical speci- fications instantaneous limits (an instantaneous rate which,	16.	Any radiological effluent monitor (e.g., J-SQN-RU-141, J-SQB-RU-145 or SQN-RU-143) confirmed reading 10 times above alarm set point.		

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ALERT

PALO VERDE NUCLEAR GENERATING STATION

Initiating Events

EAL (Alarm, Instrument Reading, etc.)

if continued over 2 hours, would result in about 1 mr at the site boundary under average meteorolological conditions).

- 17. Ongoing security compromise.
- 18. Severe natural phenomenon being experienced or projected, such as:
 - Earthquake exceeding Operating Basis Earthquake levels;
 - b. Tornado striking facility; or
 - c. Winds near design level
- 19. Other hazards being experienced or projected such as:
 - a. aircraft crash on facility;
 - b. missle impact on facility;
 - explosion damage affecting plant operation;
 - entry into facility environs of uncontrolled toxic or flammable gas; or
 - e. turbine failure causing casing penetration.
 - (Some effect on facility experienced or anticipated.)

- As observed and reported by security personnel.
- 18. a. Seismic Trigger Annunciator, followed by Seismic Switch Annunciator, with indication of ground motion greater than 0.18g horizontal, or greater than 0.17g vertical.
 - b. As reported;
 - Anemometer reading approaching 90 mph.
- As reported by, or to, station personnel.

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ALERT

PALO VERDE NUCLEAR GENERATING STATION

Initiating Events

EAL (Alarm, Instrument Reading, etc.)

- 20. Evacuation of control room required or anticipated with control of shutdown systems established from local stations.
 - 20. As deemed necessary by Shift Supervisor.
- 21. Other plant conditions exist 21. As deemed necessary by Emergency warranting precautionary activation of the TSC and EOF.

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Coordinator.

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SITE EMERGENCY

PALO VERDE NUCLEAR GENERATING STATION

Initiating Events

- EAL (Alarm, Instrument Reading, etc.)
- 1. Known loss of coolant accident greater than make-up pump capacity.
- 2. Degraded core with possible loss of coolable geometry.
- 3. Rapid failure of steam generator tubes (several hundred gpm leakage) accompanied by loss of offsite power.
- 4. Steam line break with greater than 50 gpm primary to secondary leakage and indication of fuel damage.
- Loss of offsite power and loss 5. Alert #7 for > 15 minutes. 5. of onsite AC power for more than 15 minutes.
- Loss of all vital onsite DC 6. 6. power for more than 15 minutes.
- Complete loss of any function 7. 7. needed for plant hot shutdown.
- 8. Transient requiring operation 8. of shutdown systems with failure to scram (continued power generation with no core damage immediately evident).

Decreasing pzr level with 3 charging 1. pumps operating.

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- 2. Gross fuel clad failures (extremely high coolant activity).
- 3. AC vital bus failure accompanied by 1 above, (and Main Steam radiation monitor alarms).
- 4. (Alert #1, plus Alert #4 but leakage 50 gpm).

 - Alert #8 for > 15 minutes.
 - Shutdown margin cannot be made > 1% .
 - LSSS exceeded w/o reactor trip but no indication of fuel damage.

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SITE EMERGENCY

PALO VERDE NUCLEAR GENERATING STATION

Initiating Events

- EAL (Alarm, Instrument Reading, etc.)
- 9. Major damage to spent fuel Building. (FSAR-15.7.3.1)
- 10. Major damage to spent fuel in containment. (FSAR-15.7.3.2)
- 11. Fire compromising the function 11. a. Fire pump automatic start of safety systems.
- Alarm XJ-SQB-RU-32 or XJ-SQA-RU-31 and 9. as reported.
- 10. Alarm XJ-SQB-RU-34 or XJ-SQA-RU-33 and as reported.
 - annunciator:
 - b. Various Fire Protection System alarms;
 - c. Various alarms according to affected safety system;
 - d. Shift Supervisor determines fire to be beyond capability of PVNGS Fire Team.
- 12. Most or all alarms (annunciators) lost and plant transient initiated
- 13. a. Effluent monitors detect levels corresponding to greater than 50 mrem/hour whole body for 1/2 hour or greater than 500 mrem/hour whole body for two minutes (or five times these levels to the thyroid) at the site boundary for adverse meteorology.

or in progress.

- b. These dose rates are projected based on other plant parameters or are measured in the environs.
- c. EPA PAGs are projected to be exceeded outside the site boundary,

13. Stack monitor alarm with corresponding indications per Station Manual procedures on:

> XJ-SQN-RU-13 XJ-SQN-RU-11 or XJ-SQN-RU-32

12. As observed.

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SITE EMERGENCY

PALO VERDE NUCLEAR GENERATING STATION

Initiating Events

- 14. Imminent loss of physical control of the plant.
- 15. Severe natural phenomenon being experienced or projected with plant not in cold shutdown, such as:
 - a. earthquake greater than Safe Shutdown Earthquake;
 - b. tornado in excess of design levels:
 - c. winds in excess of design levels.
- 16. Other hazards being experi- 16. As observed by, or reported to, enced or projected with . reactor not in cold shutdown, such as;
 - a. aircraft crash affecting vital structures by impact · or fire;
 - b. severe damage to Safe Shutdown equipment from missiles or explosion;
 - c. entry of uncontrolled flammable gas into vital areas; entry of uncontrolled toxic into vital areas where lack of access to the area constitutes a safety problem.

EAL (Alarm, Instrument Reading, etc.)

14. Situation evident.

15.

- a. Seismic Trigger Annunciator followed by Seismic Switch Annunciator with indication of ground motion greater than 0.31g horizontal or greater than 0.34g vertical;
- b. Rotational Velocity greater than 240mph, translational velocity greater than 60 mph;
- c. Average wind velocity greater than 90 mph or gusts greater than 105 mph.
- station personnel.

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SITE EMERGENCY

PALO VERDE NUCLEAR GENERATING STATION

Initiating Events

- 17. Evacuation of control room accompanied by the inability to locally control shutdown systems within 15 minutes.
- 18. Other plant conditions exist warranting activiation of emergency centers and radiation protection teams, or issuance of a precautionary notification to the public near the site.
- 17. Control room evacuation accompanied by lack of access to local shutdown system controls.
- As determined by Emergency Coordinator.

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EMERGENCY ACTION LEVELS (EAL'S)

GENERAL EMERGENCY

PALO VERDE NUCLEAR GENERATING STATION

Initiating Events

- a. Effluent monitors detect levels corresponding to l rem/hour Whole Body (or 5 rem/hour thyroid) at the site boundary under <u>actual</u> meteorological conditions.
 - b. These dose rates are projected based on other parameters (e.g., radiation level in containment with leak rate appropriate for existing containment pressure with some confirmation from effluent monitors) or are measured in the environs.
- 2. Loss of two of three fission 2. product barriers with a potential loss of third barrier (e.g., loss of primary coolant boundary, cladding failure, and a high potential for breach of containment).
- Loss of physical control of the facility.
- 4. Small or large break LOCA, accompanied by failure of ECCS initiation, leading to severe core melt in from minutes to hours. Breach of containment likely.

- 1. a. Stack monitor alarms with corresponding indications per Station Manual procedures: XJ-SQN-RU-13 XJ-SQN-RU-11 XJ-SQN-RU-32
 - b. (See Appendix 10.F).

- As evaluated-based upon consideration of coolant activity, coolant inventory and makeup rate, and containment pressure.
- 3. Situation evident.
- As evaluated-based upon consideration of coolant activity, coolant inventory and makeup rate, and containment pressure.

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GENERAL EMERGENCY

PALO VERDE NUCLEAR GENERATING STATION

Initiating Events

- 5. Transient initiated by loss of 5. As evaluated. feedwater and condensate systems, followed by failure of emergency feedwater system for extended period. Core melt possible in several hours. Breach of containment expected to follow core melt.
- 6. Transient requiring operation 6. of shutdown systems with failure to scram resulting in core damage or inability of core cooling and makeup systems to meet load. (Could result in core melt.)
- 7. Failure of offsite and onsite 7. AC power accompanied by total loss of emergency feedwater makeup capability for several hours. Would lead to eventual core melt and likely breach of containment.
- 8. Small break LOCA with 8 initially successful ECCS. Subsequent failure of ECCS and containment heat removal systems extended over several hours which could lead to core melt and containment breach.

- Site Emergency #8 with indication of fuel damage or loss of ECCS.
- Loss of lighting, alarms, and annunciator functions, coupled with loss of steam-driven auxiliary feedwater pump.
- Site Emergency #1 followed by loss of ECCS and containment spray.

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-03	
UNUSUAL EVENT IMPLEMENTING ACTIONS	REVISION 0	Page 1 of 6

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PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIE-03	
INTISUAL EVENT THELEMENTING ACTIONS	REVISION	
UNUSUAL EVENT INFLEMENTING ACTIONS	0 rage 2 01	

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Appendix A - Unusual Event Implementing Procedure Check List

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-03	
UNUSUAL EVENT IMPLEMENTING ACTIONS	Fievision 0	Page 3 of 6

1.0 OBJECTIVE

- 1.1 The objective of this procedure is to provide a series of implementing actions to be taken upon declaration of a NOTIFICATION OF UNUSUAL EVENT. This procedure also directs personnel to the use of additional procedures to adequately respond to those conditions classified as an UNUSUAL EVENT.
- 1.2 This procedure may be considered as a type of <u>immediate action</u> procedure for the timely implementation of pertinent portions of the overall PVNGS Emergency Plan.

2.0 REFERENCES

- 2.1 Implementing References
 - 2.1.1 EPIP-01, "PVNGS Emergency Organization"
 - 2.1.2 EPIP-02, "PVNGS Emergency Classification"
 - 2.1.3 EPIP-07, "Notification Process UNUSUAL EVENT"
 - 2.1.4 EPIP-11, "TSC/STSC Activation"
- 2.2 Developmental References
 - 2.2.1 NUREG-0654, Rev. 1, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants
 - 2.2.2 PVNGS Emergency Plan, Rev. 2

3.0 LIMITATIONS AND PRECAUTIONS

3.1 Continued surveillance and assessment of plant conditions is necessary to ensure that the emergency classification is appropriately revised as conditions change, or more definitive information is obtained.

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-03	
UNUSUAL EVENT IMPLEMENTING ACTIONS	REVISION	Page 4 of 6

4.0 DETAILED PROCEDURE

- 4.1 Personnel Indoctrination
 - 4.1.1 In an UNUSUAL EVENT situation, time is available to take precautionary and constructive steps to prevent a more serious event and/or to mitigate any consequences that may occur. This event status places the plant in a readiness position for possible cessation of routine activities and/or augmentation of onshift resources. No releases of radioactive material requiring offsite response are expected. Appropriate notification of state/county authorities is made.
 - 4.1.2 The Shift Supervisor shall be responsible for initiating this procedure. The Duty Manager, upon assuming the role of Emergency Coordinator, shall be responsible for completing the implementing actions of this procedure.
- 4.2 Prerequisites
 - 4.2.1 A NOTIFICATION OF UNUSUAL EVENT has been declared per the provisions of EPIP-02.
- 4.3 Instructions
 - 4.3.1 The affected unit Shift Supervisor shall perform the following:
 - 4.3.1.1 Initially classify the emergency per EPIP-02.
 - 4.3.1.2 Notify the Duty Manager. If the Duty Manager is incapacitated, the Shift Supervisor shall assume the role of Emergency Coordinator.
 - 4.3.1.3 Announce the following over the public address system:

"ATTENTION ALL PERSONNEL - AN UNUSUAL EVENT HAS BEEN DECLARED. PERSONNEL ASSIGNED TO THE ONSHIFT EMERGENCY ORGANIZATION, REPORT TO YOUR EMERGENCY STATIONS. ALL OTHER PERSONNEL CONTINUE WITH NORMAL ROUTINE UNTIL FURTHER NOTICE".

(Give a brief description of the event, if appropriate, and repeat the announcement).

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UNUSUAL EVENT IMPLEMENTING ACTIONS 0 Page 5 of 6 4.3.1.4 Ensure the actions of the appropriate recovery or casualty procedures have been implemented. 4.3.2 The Emergency Coordinator shall perform the following: 4.3.2.1 Implement EPIP-07 and activate the Satellite TSC in accordance with EPIP-11. 4.3.2.2 Implement additional Emergency Plan Implementing Procedures according to the situation that resulted in the emergency being classified as an UNUSUAL EVENT. Complete the check list as indicated in Appendix A. 4.3.2.3 Determine the need for any additional personnel. Direct the Security Shift Captain to call in additional personnel as needed by utilizing the computer call-out listing. 4.3.2.4 Reevaluate the emergency classification as conditions change by implementing procedure EPIP-02.	INFLEMENT	NG PHOCEDORE	LFIF=03	
 4.3.1.4 Ensure the actions of the appropriate recovery or casualty procedures have been implemented. 4.3.2 The Emergency Coordinator shall perform the following: 4.3.2.1 Implement EPIP-07 and activate the Satellite TSC in accordance with EPIP-11. 4.3.2.2 Implement additional Emergency Plan Implementing Procedures according to the situation that resulted in the emergency being classified as an UNUSUAL EVENT. Complete the check list as indicated in Appendix A. 4.3.2.3 Determine the need for any additional personnel. Direct the Security Shift Captain to call in additional personnel as needed by utilizing the computer call-out listing. 4.3.2.4 Reevaluate the emergency classification as conditions change by implementing procedure EPIP-02. 	UNUSUAL EVENT L	MPLEMENTING ACTIONS	REVISION	Page 5 of 6
 4.3.1.4 Ensure the actions of the appropriate recovery or casualty procedures have been implemented. 4.3.2 The Emergency Coordinator shall perform the following: 4.3.2.1 Implement EPIP-07 and activate the Satellite TSC in accordance with EPIP-11. 4.3.2.2 Implement additional Emergency Plan Implementing Procedures according to the situation that resulted in the emergency being classified as an UNUSUAL EVENT. Complete the check list as indicated in Appendix A. 4.3.2.3 Determine the need for any additional personnel. Direct the Security Shift Captain to call in additional personnel as needed by utilizing the computer call-out listing. 4.3.2.4 Reevaluate the emergency classification as conditions change by implementing procedure EPIP-02. 				
 4.3.2 The Emergency Coordinator shall perform the following: 4.3.2.1 Implement EPIP-07 and activate the Satellite TSC in accordance with EPIP-11. 4.3.2.2 Implement additional Emergency Plan Implementing Procedures according to the situation that resulted in the emergency being classified as an UNUSUAL EVENT. Complete the check list as indicated in Appendix A. 4.3.2.3 Determine the need for any additional personnel. Direct the Security Shift Captain to call in additional personnel as needed by utilizing the computer call-out listing. 4.3.2.4 Reevaluate the emergency classification as conditions change by implementing procedure EPIP-02. 	4.3.1.4	Ensure the actions of casualty procedures ha	the appropriate re ave been implemente	ecovery or ed.
 4.3.2.1 Implement EPIP-07 and activate the Satellite TSC in accordance with EPIP-11. 4.3.2.2 Implement additional Emergency Plan Implementing Procedures according to the situation that resulted in the emergency being classified as an UNUSUAL EVENT. Complete the check list as indicated in Appendix A. 4.3.2.3 Determine the need for any additional personnel. Direct the Security Shift Captain to call in additional personnel as needed by utilizing the computer call-out listing. 4.3.2.4 Reevaluate the emergency classification as conditions change by implementing procedure EPIP-02. 	4.3.2 Th	e Emergency Coordinator	shall perform the	following:
 4.3.2.2 Implement additional Emergency Plan Implementing Procedures according to the situation that resulted in the emergency being classified as an UNUSUAL EVENT. Complete the check list as indicated in Appendix A. 4.3.2.3 Determine the need for any additional personnel. Direct the Security Shift Captain to call in additional personnel as needed by utilizing the computer call-out listing. 4.3.2.4 Reevaluate the emergency classification as conditions change by implementing procedure EPIP-02. 	4.3.2.1	Implement EPIP-07 and accordance with EPIP-	activate the Satel	llite TSC in
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 4.3.2.4 Reevaluate the emergency classification as conditions change by implementing procedure EPIP-02. 4.3.3 Emergency response percented shall accure their emergency. 	4.3.2.3	Determine the need for Direct the Security S additional personnel a computer call-out list	r any additional pendift Captain to cal as needed by utiliz ting.	ersonnel. 11 in zing the
4.3.3 Emergency response personnel shall accume their emergency	4.3.2.4	Reevaluate the emerger change by implementing	ncy classification g procedure EPIP-02	as conditions 2.
roles in accordance with EPIP-01.		ergency response person	nel shall assume th	teir emergency

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PVNGS EMERGENCY PLAN	PROCEDURE	
IMPLEMENTING PROCEDURE	NU.	APPENDIX A
IMPLEMENTING PROCEDORE	EPIP-03	rage 1 of 1
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UNUSUAL EVENT IMPLEMENTING ACTIONS	0	Page 6 of 6
NOTIFICATION OF UNU	SUAL EVENT	
IMPLEMENTING PROCEDUR	E CHECK LIST	
	IMPLEMENTED(1)	INITIALS/TIME(2
	YES/NO	
EPIP-01 APS Emergency Organization	x /	1
EPIP-02 PVNGS Emergency Classification	x /	1
EPIP-07 Notification Process - Unusual Event	x /	/
EPIP-11 TSC/STSC Activation	X /	/
EPIP-12 Operational Support Center Activiation	/	1
EPIP-32 Public Information/Media	x /	·
	/	/
	/	/
	1	/
	/	/
	/	/
REMARKS:		
Emergency Coordinator Signa	ature	
Emergency Coordinator Signa	ature Date	

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PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-04		
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1. Sparties

Appendix A - Alert Implementing Procedure Check List

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PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-04	
	REVISION	
ALERT IMPLEMENTING ACTIONS	0	Page 3 of 7
1.0 OBJECTIVE		
1.1 The objective of this procedur implementing actions to be tak ALERT. This procedure also di additional procedures to adequ conditions classified as an AL	e is to provide a sen upon declaration rects personnel to ately respond to the ERT.	series of n of an the use of hose
This procedure may be consider procedure for the timely imple of the overall PVNGS Emergency	ed as a type of <u>im</u> mentation of perti- Plan.	mediate actio nent portions
2.0 <u>REFERENCES</u>		
2.1 Implementing References		
2.1.1 EPIP-01, "PVNGS Emergency	Organization"	
2.1.2 EPIP-02, "PVNGS Emergency	Classification"	
2.1.3 EPIP-08, "Notification Pro GENERAL EMERGENCY"	cess - ALERT, SITE	EMERGENCY, o
2.1.4 EPIP-11, "TSC/STSC Activat	ion"	
2.1.5 EPIP-12, "Operations Suppo	ort Center Activatio	on"
2.1.6 EPIP-13, "Emergency Operat	ions Facility Activ	vation"
2.1.7 EPIP-20, "Personnel Assemb	ly and Accountabil	ity"
2.2 Developmental References		
2.2.1 NUREG-0654, Rev. 1, "Crite Evaluation of Radiological Preparedness in Support of	ria for Preparation Emergency Response Nuclear Power Plan	n and e Plans and nts"
2.2.2 PVNGS Emergency Plan, Rev.	2	
3.0 LIMITATIONS AND PRECAUTIONS		
3.1 Continued surveillance and ass necessary to ensure that the e appropriately revised as condi information is obtained.	essment of plant comergency classifications change, or mo	onditions is ation is ore definitiv

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EPIP-04	
REVISION	Page 4 of 7
	EPIP-04 REVISION 0

4.0 DETAILED PROCEDURE

4.1 Personnel Indoctrination

- 4.1.1 In an ALERT situation, limited releases of radioactive material may occur and radiological/meteorological information may have to be obtained for assessment of onsite and offsite consequences. The emergency response for an ALERT includes activation of onsite and offsite emergency centers. An ALERT calls for prompt initial and follow-up notification to offsite emergency management organizations. The ALERT status is maintained until the event is terminated or reclassified.
- 4.1.2 The Shift Supervisor shall be responsible for initiating this procedure. The Duty Manager, upon assuming the role of Emergency Coordinator, shall be responsible for completing the implementing actions of this procedure.
- 4.2 Prerequisites

4.2.1 An ALERT has been declared per the provisions of EPIP-02.

- 4.3 Instructions
 - 4.3.1 The affected unit Shift Supervisor shall perform the following:
 - 4.3.1.1 Initially classify the emergency per EPIP-02.
 - 4.3.1.2 Notify the Duty Manager. If the Duty Manager is incapacitated, the Shift Supervisor shall assume the role of Emergency Coordinator.
 - 4.3.1.3 Announce the following over the public address system:

"ATTENTION ALL PERSONNEL - AN ALERT HAS BEEN DECLARED. PERSONNEL ASSIGNED SPECIFIC RESPONSIBILITIES IN THE EMERGENCY ORGANIZATION, REPORT TO YOUR EMERGENCY STATIONS. ALL OTHER PERSONNEL REPORT TO YOUR ASSIGNED ASSEMBLY AREAS".

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(Give a brief description of the event, if appropriate, and repeat the announcement).

4.3.1.4 Ensure that the actions of the appropriate recovery or casualty procedures have been implemented.

IMPLEMEN	TING PROCEDURE	EPIP-04	
		REVISION	
ALERT IM	PLEMENTING ACTIONS	0	Page 5 of 7
4.3.2	The Emergency Coordinator	shall perform the	following:
4.3.2.	I Implement EPIP-08 and protected area is bein EPIP-20.	ensure accountabil g performed by imp	ity within the lementing
4.3.2.2	2 Implement additional E Procedures according to the emergency being cl. the check list as indic	mergency Plan Impl o the situation th assified as an ALE cated in Appendix	ementing at resulted in RT. Complete A.
4.3.2.3	3 Direct the Security Sh Onsite and Offsite Eme utilizing the appropri-	ift Captain to cal rgency Organizatio ate computer call-	l in the n personnel by out listing.
4.3.2.	Determine the need for offsite assistance. If assistance is necessary, direct a Communicator to contact the required agency per EPIP-33.		
4.3.2.	5 Reevaluate the emergen change by implementing	cy classification procedure EPIP-02	as conditions •
4.3.2.0	5 Transfer the Emergency accordance with EPIP-0	Coordinator funct 1.	ion in
4.3.3	Emergency response personn roles in accordance with E	el shall assume th PIP-01.	eir emergency
4.3.4	Technical Support Center/Sa Center (TSC/STSC) Activation	atellite Technical on	Support
4.3.4.1	1 The Emergency Coordina activate the TSC and S	tor shall implemen TSC.	t EPIP-11 to
4.3.5 (Operations Support Center	(OSC) Activation	
4.3.5.1	The OSC Coordinator sha	all implement EPIP	-12.
4.3.6	Emergency Operations Facil	ity (EOF) Activati	on
4.3.6.1	The Emergency Operation EPIP-13.	ns Director shall	implement

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PV	NGS EMERGENCY PLAN	PROCEDURE NO. EPIP-04	APPENDIX A Page 1 of 2
		REVISION	
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	ALERT IMPLEMENTING ACTIONS	0	Page 6 of 7
	IMPLEMENTING PROCEDURE	CHECK LIST	
		IMPLEMENTED(1) YES/NO	INITIALS/TIME
EPIP-01	PVNGS Emergency Organization	x /	1
EPIP-02	PVNGS Emergency Classification	X /	/
EPIP-08	Notification Process - ALERT,		
	SITE EMERGENCY, or GENERAL EMERGENCY	x /	1
EPIP-11	TSC/STSC Activation	X /	/
EPIP-12	Operational Support Center		
	Activation	X /	/
EPIP-13	Emergency Operations Facility		
	Activation	X /	/
EPIP-14A	Release Rate Determination	/	/
EPIP-14B	Dose Assessment	/	/
EPIP-15	Protective Action Guidelines	/	
EPIP-16	Unsite Surveys and Sampling	/	
EPIP-1/	Offsite Surveys and Sampling		/
EPIP 10	Emergency Exposure Guidelines	/	/
EPIP-19	Unsite Evacuation	/	/
EPIP-20	Accountability	v /	,
PDTD_21	Accountability	X /	/
EPIP-21	Search and Kescue		
EPIP-22	Fire Fichting		
EPIP-24	Courity		
EFIF-24	Postry for Emorroy Operations		
EPIP-26	Potageium Iodine (VI) Administration		
EPIP-27	Sample Analysis at the Station	1	/
FPIP-28	Personnel Monitoring and	1	1
DI 11-20	Decontamination	1	1
EPTP-29	Area / Fauinment Monitoring and		/
DI 11 27	Decontamination	1	1
EPIP-31	Recovery		
EPIP-32	Public Information/Media	x /	///////////////////////////////////////
EPID-33	Offeite Assistance	~/	
	orrarec usarardille		

NOTE: (1) X indicates that this procedure is required to be implemented. (2) Time indicates when procedure in initiated.

PROCEDURE NO. EPIP-04	APPENDIX A Page 2 of 2
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I CHECK LIST (CONT'D)	
	PROCEDURE NO. EPIP-04 REVISION 0 <u>CHECK LIST (CONT'D)</u>

Emergency Coordinator Signature

Date _____

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-05	
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SI IMPLE	TE EMERGENCY MENTING ACTIONS	REVISION 0	Page 3 of 8
1.0 <u>OBJE</u>	CTIVE	the states	
1.1 Th im EM cf co Th pr of	e objective of this procedur plementing actions to be tak ERGENCY. This procedure als additional procedures to ad nditions classified as a SIT is procedure may be consider ocedure for the timely imple the overall PVNGS Emergency	te is to provide a s ten upon declaration so directs personnel dequately respond to TE EMERGENCY. ted as a type of <u>imm</u> ementation of pertin y Plan.	eries of of a SITE to the use those ediate actio ent portions
2.0 <u>REFE</u>	RENCES		
2.1 Im	plementing References		
2.1.1	EPIP-01, "PVNGS Emerger_y	Organization"	
2.1.2	EPIP-02, "PVNGS Emergency Classification"		
2.1.3	EPIP-08, "Notification Pro GENERAL EMERGENCY"	ocess - ALERT, SITE	EMERGENCY, o
2.1.4	EPIP-11, "TSC/STSC Activat	ion"	
2.1.5	EPIP-12, "Operations Suppo	ort Center Activatio	a"
2.1.6	EPIP-13, "Emergency Operat	ions Facility Activ	ation"
2.1.7	EPIP-15, "Protective Actio	n Guidelines"	
2.1.8	EPIP-19, "Onsite Evacuatio	n"	
2.1.9	EPIP-20, "Personnel Assemb	ly and Accountabili	ty"
2.1.10	EPIP-32, "Public Informati	on/Media"	
2.2 Der	velopmental References		
2.2.1	NUREG-0654, Rev. 1, "Crite Evaluation of Radiological Preparedness in Support of	ria for Preparation Emergency Response Nuclear Power Plan	and Plans and ts"

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PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-05	
SITE EMERGENCY IMPLEMENTING ACTIONS	REVISION 0	Page 4 of 8

3.0 LIMITATIONS AND PRECAUTIONS

3.1 Continued surveillance and assessment of plant conditions is necessary to ensure that the emergency classification is appropriately revised as conditions change, or more definitive information is obtained.

4.0 DETAILED PROCEDURE

- 4.1 Personnel Indoctrination
 - 4.1.1 In a SITE EMERGENCY, substantial releases of radioactive material may occur. Consideration of appropriate protective actions, based on actual or projected data, is warranted. All onsite and offsite emergency centers are activated. Onsite evacuation will be initiated if appropriate. The station will provide updated radiological/meteorological information to offsite emergency management organizations. The SITE EMERGENCY status will be maintained until the event is terminated or reclassification takes place.
 - 4.1.2 The Shift Supervisor shall be responsible for initiating this procedure. The Duty Manager, upon assuming the role of Emergency Coordinator, shall be responsible for completing the implementing actions of this procedure.
- 4.2 Prerequisites
 - 4.2.1 A SITE EMERGENCY has been declared per the provisions of EPIP-02.
- 4.3 Instructions
 - 4.3.1 The affected unit Shift Supervisor shall perform the following:
 - 4.3.1.1 Initially classify the emergency per EPIP-02.
 - 4.3.1.2 Notify the Duty Manager. If the Duty Manager is incapacitated, the Shift Supervisor shall assume the role of Emergency Coordinator.

PVNGS EME	RGENCY PLAN	PROCEDURE NO. EPIP-05	
SITE EN IMPLEMENTI	SITE EMERGENCY IMPLEMENTING ACTIONS 0 Page 5 of		Page 5 of 8
4.3.1.3	Sound the Emergency <u>Si</u> over the public addres "ATTENTION ALL PERSONN DECLARED. PERSONNEL A IN THE EMERGENCY ORGAN EMERGENCY STATIONS. A YOUR ASSIGNED ASSEMBLY (Give a brief descript	ren and announce t s system: NEL - A <u>SITE EMERGE</u> SSIGNED SPECIFIC R NIZATION, REPORT TO LL OTHER PERSONNEL AREAS".	he following NCY HAS BEEN ESPONSIBIITIES YOUR REPORT TO
4.3.1.4	Notify each unit's Con Supervisor to activate Accountability Signal.	trol Room and inst the unit's Emerge	ruct the Shift
4.3.1.5	Ensure that the action casualty procedures ha	s of the appropria we been implemente	te recovery or
4.3.2 The	Emergency Coordinator	shall perform the	following:
4.3.2.1	Implement EPIP-08 and protected area is bein EPIP-20.	ensure accountabil g performed by imp	ity within the lementing
4.3.2.2	If conditions warrant, in accordance with EPI	initiate an onsit P-19.	e evacuation
4.3.2.3	Implement additional E Procedures according t the emergency being cl Complete the check lis	Emergency Plan Impl to the situation th assified as a SITE at as indicated in	ementing at resulted in EMERGENCY. Appendix A.
4.3.2.4	Direct the Security Sh and Offsite Emergency utilizing the appropri	nift Captain to cal Organization perso Late computer call-	l in Onsite onnel by out listing.
4.3.2.5	Determine the need for assistance is necessar contact the required a	y, direct a Commun gency per EPIP-33.	• If icator to
4.3.2.6	Reevaluate the emerger change by implementing	ncy classification g procedure EPIP-02	as conditions
4.3.2.7	Transfer the Emergency accordance with proced	v Coordinator funct lure EPIP-01.	ion in

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-05	
SITE EMERGENCY IMPLEMENTING ACTIONS	REVISION	Page 6 of 8
4.3.3 Emergency response person roles in accordance with	nnel shall assume th EPIP-01.	neir emergency
4.3.4 Technical Support Center Center (TSC/STSC) Activa	/Satellite Technical tion	Support
4.3.4.1 The Emergency Coordi EPIP-11	nator shall implemen	nt procedure
4.3.5 Operations Support Cente	r (OSC) Activation	
4.3.5.1 The OSC Coordinator	shall implement proc	edure EPIP-12.
4.3.6 Emergency Operations Fac	ility (EOF) Activati	lon
4.3.6.1 The Emergency Operat procedure EPIP-13.	ions Director shall	implement

P IMI	VNGS EMERGENCY PLAN PLEMENTING PROCEDURE	PROCEDURE NO. EPIP-05	APPENDIX A Page 1 of 2
	SITE EMERGENCY IMPLEMENTING ACTIONS	REVISION 0	Page 7 of 8
	SITE EMERGENO IMPLEMENTING PROCEDURE	CHECK LIST	
		IMPLEMENTED ⁽¹⁾ YES/NO	INITIALS/TIME(2)
EPIP-01	PVNGS Emergency Organization	x /	1
EPIP-02	PVNGS Emergency Classification	x/	
EPIP-08	Notification Process - ALERT, SITE EMERGENCY, or GENERAL EMERGENCY	x /	/
EPIP-11	TSC/STSC Activation	x /	
EPIP-12	Operational Support Center		
	Activation	x /	1
EPIP-13	Emergency Operations Facility Activation	x /	1
EPIP-14A	Release Rate Determination		
EPIP-14B	Dose Assessment	/	
EPIP-15	Protective Action Guidelines	1	·····
EPIP-16	Onsite Surveys and Sampling	1	
EPIP-17	Offsite Surveys and Sampling	1	
EPIP-18	Emergency Exposure Guidelines	1	
EPIP-19	Onsite Evacuation	1	1
EPIP-20	Personnel Assembly and		
	Accountability	x /	1
EPIP-21	Search and Rescue	/	/
EPIP-22	Personnel Injury	1	/
EPIP-23	Fire Fighting	1	/
EPIP-24	Security	/	
EPIP-25	Rentry for Emergency Operations	1	1
EPIP-26	Potassium Iodine (KI) Administration	1	
EPIP-27	Sample Analysis at the Station	/	/
EPIP-28	Personnel Monitoring and		
	Decontamination	1	1
EPIP-29	Area/Equipment Monitoring and		
	Decontamination	1	1
EPIP-31	Recovery	/	1
EPIP-32	Public Information/Media	X /	/
EPIP-33	Offsite Assistance	/	/
EPIP-34	Transportation Accidents	/	/

NOTE: (1) X indicates that this procedure is required to be implemented. (2) Time indicates when procedure in initiated.

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-05	APPENDIX A Page 2 of 2
SITE EMERGENCY IMPLEMENTING ACTIONS	REVISION 0	Page 8 of 8
SITE EMERC IMPLEMENTING PROCEDURE (GENCY CHECK LIST (CONT'D)	<u>></u>
EMARKS:		
Emergency Coordinator Sig	gnature Date	

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-06	
GENERAL EMERGENCY IMPLEMENTING ACTIONS	REVISION 0	Page 1 of 8

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Hearl Anderen DATE 9/29/82 DATE EFFECTIVE 10-6-82 APPROVED BY:

DN-1601A/0180A

PV216-00DA (8/82)

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-06	
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APPENDICES

Appendix A - General Emergency Implementing Procedure Check List 7

IMPLEME	EMERGENCY PLAN NTING PROCEDURE	PROCEDURE NO. EPIP-06	
GENE IMPLE	RAL EMERGENCY MENTING ACTIONS	REVISION 0	Page 3 of 8
1.0 <u>OBJE</u>	CTIVE		
1.1 Th im EM of co	e objective of this procedur plementing actions to be tak ERGENCY. This procedure als additional procedures to ad nditions classified as a GEN	re is to provide a s ten upon declaration so directs personnel dequately respond to NERAL EMERGENCY.	eries of of a GENERA to the use those
Th pr of	is procedute may be consider ocedure for the timely imple the overall PVNGS Emergency	end as a type of <u>imm</u> ementation of pertine v Plan.	ediate actio ent portions
2.0 <u>REFE</u>	RENCES		
2.1 Im	plementing References		
2.1.1	EPIP-01, "PVNGS Emergency	Organization"	
2.1.2	EPIP-02, "PVNGS Emergency	Classification"	
2.1.3	EPIP-08, "Notification Pro GENERAL EMERGENCY"	cess - ALERT, SITE 1	EMERGENCY, o
2.1.4	EPIP-11, "TSC/STSC Activat	ion"	
2.1.5	EPIP-12, "Operations Suppo	ort Center Activation	1"
2.1.6	EPIP-13, "Emergency Operat	ions Facility Activa	tion"
2.1.7	EPIP-15, "Protective Actio	n Guidelines"	
2.1.8	EPIP-19, "Onsite Evacuatio	n"	
2.1.9	EPIP-20, "Personnel Assemb.	ly and Accountabilit	y"
2.1.9 2.1.10	EPIP-20, "Personnel Assemb EPIP-32, "Public Information	ly and Accountabilit on/Media"	y"
2.1.9 2.1.10 2.2 Dev	EPIP-20, "Personnel Assemb EPIP-32, "Public Information relopmental References	ly and Accountabilit on/Media"	y"
2.1.9 2.1.10 2.2 Dev 2.2.1	EPIP-20, "Personnel Assemb EPIP-32, "Public Information velopmental References NUREG-0654, Rev. 1, "Criter Evaluation of Radiological Preparedness in Support of	ly and Accountabilit on/Media" ria for Preparation Emergency Response Nuclear Power Plans	and Plans and

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-06	
GENERAL EMERGENCY IMPLEMENTING ACTIONS	REVISION 0	Page 4 of 8

3.0 LIMITATIONS AND PRECAUTIONS

3.1 Continued surveillance and assessment of plant conditions is necessary to ensure that the emergency classification is appropriately revised as conditions change, or more definitive information is obtained.

4.0 DETAILED PROCEDURE

- 4.1 Personnel Indoctrination
 - 4.1.1 In a GENERAL EMERGENCY, substantial core degradation, with potential loss of containment integrity may occur. Under these conditions, substantial radioactive releases may occur, accordingly prompt consideration of appropriate protective actions, based on actual or projected data, is warranted. Consideration of predetermined protective action recommendations (in the event of potential loss of fission product barriers) may also be warranted. Onsite and offsite emergency centers are activated. Onsite evacuation will be initiated if appropriate. The station will provide updated radiological/meteorological information to offsite emergency management organizations as necessary. The GENERAL EMERGENCY status will be maintained until the event is terminated, or reclassification takes place.
 - 4.1.2 The Shift Supervisor shall be responsible for initiating this procedure. The Duty Manager, upon assuming the role of Emergency Coordinator, shall be responsible for completing the implementing actions of this procedure.
- 4.2 Prerequisites
 - 4.2.1 A GENERAL EMERGENCY has been declared per the provisions of EPIP-02.
- 4.3 Instructions
 - 4.3.1 The affected unit Shift Supervisor shall perform the following:
 - 4.3.1.1 Initially classify the emergency per EPIP-02.
 - 4.3.1.2 Notify the Duty Manager. If the Duty Manager is incapacitated, the Shift Supervisor shall assume the role of Emergency Coordinator.

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PVNGS EME	RGENCY PLAN	PROCEDURE NO.	
IMPLEMENTIN	IG PROCEDURE	EPIP-06	
GENERAL E IMPLEMENTI	MERGENCY NG ACTIONS	REVISION 0	Page 5 of 8
4.3.1.3	Sound the Emergency Si over the public address "ATTENTION ALL PERSON BEEN DECLARED. PERSON RESPONSIBILITIES IN THI TO YOUR EMERGENCY STAT REPORT TO YOUR ASSIGNT	iren and announce t ss system: NEL - A <u>GENERAL EME</u> NNEL ASSIGNED SPECI E EMERGENCY ORGANIZ TIONS. ALL OTHER P ED ASSEMBLY AREAS".	THE FOLLOWING RGENCY HAS FIC ATION, REPORT PERSONNEL
	(Give a brief descript appropriate, and repea	tion of the event, at the announcement	if).
4.3.1.4	Notify each unit's Con Supervisor to activate Accountability Signal	ntrol Room and inst e the unit's Emerge •	ruct the Shift ncy
4.3.1.5	Ensure that the action casualty procedures ha	ns of the appropria ave been implemente	te recovery or d.
4.3.2 The	Emergency Coordinator	shall perform the	following:
4.3.2.1	Promptly determine the appropriate government predetermined protects specific guidance for protective actions.	e need for recommen t agencies implemen ive actions. EPIP- this determination	ding that t the 15 provides and related
4.3.2.2	Implement EPIP-08 and protected area is bein EPIP-20.	ensure accountabil ng performed by imp	ity within the lementing
4.3.2.3	If conditions warrant,	, implement EPIP-19	
4.3.2.4	Implement additional H Procedures according t the emergency being cl EMERGENCY. Complete t Appendix A.	Emergency Plan Impl to the situation th Lassified as a GENE the check list as i	ementing at resulted in RAL ndicated in
4.3.2.5	Direct the Security Sh and Offstie Emergency utilizing the appropri	nift Captain to cal Organization perso ate computer call-	l in Onsite nnel by out listing.
4.3.2.6	Determine the need for assistance is necessar contact the required a	offsite assistanc y, direct a Commun gency per EPIP-33.	e. If icator to

PVNGS EM	ERGENCY PLAN	PROCEDURE NO. EPIP-06	
GENERAL IMPLEMEN	EMERGENCY TING ACTIONS	REVISION	Page 6 of 8
4.3.2.7	Reevaluate the emergent change by implementing	cy classification procedure EPIP-0:	as conditions
4.3.2.8	Transfer the Emergency accordance with procedu	Coordinator functure EPIP-01.	tion in
4.3.3 E	mergency response personne oles in accordance with EM	el shall assume th PIP-01.	neir emergency
4.3.4 Te	echnical Support Center/Sa enter (TSC/STSC) Activatio	atellite Technical on	Support
4.3.4.1	The Emergency Coordinat	or shall implemen	it procedure
4.3.5 01	perations Support Center ((OSC) Activation	
4.3.5.1	The OSC Coordinator sha	all implement proc	edure EPIP-12.
4.3.6 En	ergency Operations Facili	ty (EOF) Activati	on
4.3.6.1	The Emergency Operation procedure EPIP-13.	s Director shall	implement

P\ IMF	VNGS EMERGENCY PLAN PLEMENTING PROCEDURE	PROCEDURE NO. EPIP-06	APPENDIX A Page 1 of 2
	GENERAL EMERGENCY IMPLEMENTING ACTIONS	REVISION 0	Page 7 of 8
	GENERAL EMERGE	NCY CHECK LIST	
		IMPLEMENTED(1) YES/NO	INITIALS/TIME(2
EPIP-01	PVNGS Emergency Organization	× /	
EPIP-02	PVNGS Emergency Classification	× /	/
EPIP-08	Notification Process - ALERT, SITE EMERGENCY, or GENERAL EMERGENCY	x /	
EPIP-11	TSC/STSC Activation	X /	
EPIP-12	Operational Support Center Activation	x /	1
EPIP-13	Emergency Operations Facility Activation	x /	
EPIP-14A	Release Rate Determination		/
EPIP-14B	Dose Assessment	'j	
EPIP-15	Protective Action Guidelines		
EPIP-16	Onsite Surveys and Sampling		
EPIP-17	Offsite Surveys and Sampling	/	1
EPIP-18	Emergency Exposure Guidelines	/	
EPIP-19	Onsite Evacuation	1	/
EPIP-20	Personnel Assembly and Accountability	x /	,
EPIP-21	Search and Rescue	/	1
EPIP-22	Personnel Injury	1	1
EPIP-23	Fire Fighting	/	1
EPIP-24	Security	/	1
EPIP-25	Rentry for Emergency Operations	/ ·	/
EPIP-26	Potassium Iodine (KI) Administration	/	
EPIP-27	Sample Analysis at the Station	/	/
EPIP-28	Personnel Monitoring and		
EDID-20	Decontamination	/	/
CF1F-29	Decontamination	,	
FPTP-31	Recovery		/
EPIP-32	Public Information (Modia	/	/
EPIP-33	Offsite Accietance	X /	/
	m norte nostorance	1	/

NOTE: (1) X indicates that this procedure is required to be implemented. (2) Time indicates when procedure is initiated.

IMPLEMENT	ERGENCY PLAN	NO. EPIP-06	APPENDIX A Page 2 of 2
CENERAL IMPLEMEN	EMERGENCY TING ACTIONS	REVISION 0	Page 8 of 8
REMARKS:	GENERAL EME IMPLEMENTING PROCEDURE	ERGENCY CHECK LIST (CONT'D))
•			
· · · · · · · · · · · · · · · · · · ·			
	Emergency Coordinator Si	znature	

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PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-07	
NOTIFICATION PROCESS - NOTIFICATION OF UNUSUAL EVENT	REVISION -	Page 1 of 18

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APPROVED BY: L.E. Brown

DATE 12-7-82

DATE EFFECTIVE 12-10-82

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PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-07	
NOTIFICATION PROCESS - NOTIFICATION OF UNUSUAL EVENT	REVISION	Page 4 of 18

4.0 DETAILED PROCEDURE

4.1 Personnel Indoctrination

Upon declaration of a NOTIFICATION OF UNUSUAL EVENT, offsite notification will consist of three primary telephone contacts: the NRC, State/County government, and APS corporate personnel. The NRC will be notified via the Emergency Notification System (ENS) dedicated line; State/County government via the Notification and Alert Net (NAN); and corporate personnel via dedicated telephone fanout, through the Manager, Nuclear Operations and the Vice President, Electric Operations. The National Warning System (NAWAS) will provide a back-up means of notification to State/County government and the Health Physics Network (HPN) will provide a back-up means of notification to the NRC. Primary and alcernate communications links for offsite notifications are shown in Appendix F of this procedure. The Notification and Alert Net, NAN Notification Flow and APS Emergency Notification Fanout are illustrated in Appendices A through C.

The Notification Systems User's Guide (Appendix G) provides the instructions necessary to ensure adequate operations of the primary and alternate systems available for offsite notification. The equipment addressed includes: the NAN, ENS, HPN, and PVNGS dedicated telephones; NAWAS, mobile radiotelephone, micro-wave, and pager systems. Callers shall refer to this guide to ensure that successful contact is made in a minimal time period.

Notification of the NRC and State/County government should be completed within 15 minutes after declaration of a NOTIFICATION OF UNUSUAL EVENT. Although there is no time requirement for the notification of corporate personnel, it shall be expedited to allow sufficient time for any subsequent activation and staffing of the onsite and offsite emergency centers.

The Emergency Coordinator is responsible for implementing this procedure upon declaration of a NOTIFICATION OF UNUSUAL EVENT.

4.2 Prerequisites

4.2.1 A NOTIFICATION OF UNUSUAL EVENT has been declared, and procedure EPIP-03 is being implemented.

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Appendix D - Initial Message Content Form	11
Appendix E - Follow-up Emergency Message Form	12
Appendix F - Emergency Notification Call Check List, Emergency Coordinator	15
Appendix G - Notification Systems User's Guide	17

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-07	
NOTIFICATION PROCESS - NOTIFICATION OF UNUSUAL EVENT	REVISION 0	Page 3 of 18
1.0 OBJECTIVE		

- Initial and follow-up notification to Federal, State, County, and Corporate offsite emergency organizations.
- Notification of off-duty personnel to augment the <u>oushift</u> emergency organization.
- Notification of the PVNGS Visitors Center, APS Site Construction Office, and Bechtel Emergency Control Center.

2.0 REFERENCES

2.1 Implementing References

- 2.1.1 EPIP-03 "NOTIFICATION OF UNUSUAL EVENT Implementing Actions"
- 2.1.2 APS Emergency Response Facility Equipment Manual
- 2.2 Developmental References
 - 2.2.1 NUREG-0654, Rev. 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants"
 - 2.2.2 PVNGS Emergency Plan, Rev. 2
 - 2.2.3 10 CFR 50, Appendix E, "Domestic Liceusing of Production and Utilization Facilities"
- 3.0 LIMITATIONS AND PRECAUTIONS
 - 3.1 The notification of specific offsite agencies, such as .emergency medical services and fire departments, is detailed in EPIP-33 "Offsite Assistance".

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-07	
NOTIFICATION PROCESS - NOTIFICATION OF UNUSUAL EVENT	REVISION 0	Page 5 of 18

4.3 Instructions

4.3.2 Initial Notification

The Emergency Coordinator, or designee, shall perform the following:

- 4.3.1.1 Complete the Initial Message Form (Appendix D) and begin to fill in information as required on the Follow-up Emergency Mesage Form (Appendix E).
- 4.3.1.2 By means of a single call, on the Notification and Alert Net dedicated telephone, contact the following State/County agencies:

Duty Hours (8:00 a.m. to 5:00 p.m. Monday-Friday)

National Weather Service (NWS) Arizona Department of Public Safety (DPS) Arizona Radiation Regulatory Agency (ARRA) Arizona Department of Emergency Services (ADES) Maricopa County Department of Civil Defense and Emergency Services (MCCDES) Maricopa County Sheriff's Office (MCSO)

NOTE

Subsequent notification of affected agencies during off-duty hours shall be made per internal agency procedure.

Off-Duty Hours (5:00 p.m. to 8:00 a.m. All Day Saturday and Sunday)

NWS DPS MCSO

4.3.1.3

When contact is made, the caller shall identify himself and request that the individuals obtain a copy of the Initial Message Content Form (Appendix D).

When each individual has obtained a copy, read the 4.3.1.4 completed Initial Message Content form, verbatim.

PVNGS EME	RGENCY PLAN NG PROCEDURE	PROCEDURE NO. EPIP-07	
NOTIFICAT.	ION PROCESS - OF UNUSUAL EVENT	REVISION 0	Page 6 of 18
4.3.1.5	Offer to repeat infor	mation and reiterat	e as necessary.
4.3.1.6	Obtain the name of each the Emergency Notifica Coordinator (Appendix	ch person contacted ation Call Check Li F).	and record on st, Emergency
4.3.1.7	Via the Emergency Not: telephone, contact the	ification System (E e NRC.	NS) dedicated
4.3.1.8	When contact is made, himself and read the o form, verbatim.	the caller shall i completed Initial M	dentify essage Content
4.3.1.9	Offer to repeat inform	nation and reiterat	e as necessary.
4.3.1.10	Obtain the name of the Appendix F.	e person contacted	and record in
4.3.1.11	Notify the NRC Resider Appendix F if unable t	nt Inspector in acc to contact with the	ordance with ENS phone.
4.3.1.12	When contact is made, himself and read the I verbatim.	the caller shall i nitial Message Con	dentify tent Form,
4.3.1.13	Offer to repeat inform	ation and reiterate	e as necessary.
4.3.1.14	Obtain the name of the Appendix F.	person contacted,	and record in
4.3.1.15	Via the PVNGS emergence Maintenance and Operat Operations; and the Vi Operations. It is pre Coordinator personally and plant status to th NOTIFICATION OF UNUSUA will provide necessary corporate/station pers	y telephone, notify ions Manager; Manag ce President, Elect ferred that the Eme explain the emerge ese key individuals L EVENT class, thes additional notific onnel.	y the ger, Nuclear cric ergency ency situation s. For the se individuals cation of
4.3.1.16	Record the name of eac	h person contacted,	in

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-07	
NOTIFICATION PROCESS - NOTIFICATION OF UNUSUAL EVENT	REVISION 0	Page 7 of 18

- 4.3.1.17 If an individual requests information not contained in the Initial Message Content Form, make reasonable efforts to obtain and give the information only after all initial notifications have been made.
- 4.3.1.18 Determine the need for additional personnel. Direct the Security Director to call in additional personnel by utilizing the computer call out listing (Appendix G). The Security Director will use the updated (daily) computer print-out as an emergency telephone directory.
- 4.3.1.19 Notify additional locations as listed in Appendix F, obtain the name of the person contacted, and inform them of the situation.
- 4.3.2 Follow-up Notification

The Emergency Coordinator, or designee, shall perform the following:

- 4.3.2.1 Follow-up notification shall be performed at the discretion of the Emergency Coordinator for the NOTIFICATION OF UNUSUAL EVENT emergency classification utilizing Appendix E.
- 4.3.2.2 Follow-up notification is required if the event escalates to a more severe emergency classification level or the initial event is terminated.



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NOTIFICATION AND ALERT NET (NAN) PALO VERDE NUCLEAR GENERATING STATION (PVNGS)



MCCDES Is Maricopa County Department of Civil Defense & Emergency Services

- MCSO is Maricopa County Sheriff's Office ARRA
- ADES
- is Arizona Radiation Regulatory Agency is Arizona Division of Emergency Services
- DPS is Arizona Department of Public Safety

NWS is National Weather Service

The Primary notification points are: ADES and MCSO. The Alternate notification points are: DPS and MCCDES.

NAN NOTIFICATION FLOW PALO VERDE NUCLEAR GENERATING STATION-PVNGS



	PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO.	APPENDIX D
		REVISION	Page 1 of 1
•	NOTIFICATION PROCESS - NOTIFICATION OF UNUSUAL EVENT	0	Page 11 of 18
	INITIAL MESSAG NOTIFICATION OF U PALO VERDE NUCLEAR GI	GE CONTENT INUSUAL EVENT ENERATING STATION	
1.	This is	, at the Palo Ve	rde Nuclear
2.	At we experi	lenced:	
	(a) An operational incident consisting	oî	
	(provide description statement of NO releas	n of incident incluse, windspeed and b	uding earing)
	(provide description statement of NO releas <u>OR</u>	n of incident inclu e, windspeed and b	uding earing)
	(provide description statement of NO releas <u>OR</u> (b) A natural phenomenon consisting of	n of incident incluse, windspeed and b	uding earing)
	(provide description statement of NO releas <u>OR</u> (b) A natural phenomenon consisting of (description	n of incident incluse, windspeed and b	uding earing)
	(provide description statement of NO releas (b) A natural phenomenon consisting of (description <u>OR</u>	n of incident incluse, windspeed and b	uding earing)
	(provide description statement of NO releas OR (b) A natural phenomenon consisting of (description OR (c) An unusual hazard consisting of	n of incident incluse, windspeed and b	uding earing)
	(provide description statement of NO releas (b) A natural phenomenon consisting of (description <u>OR</u> (c) An unusual hazard consisting of (descripti	n of incident inclu- se, windspeed and b of phenomenon)	iding earing)
3.	(provide description statement of NO releas (b) A natural phenomenon consisting of (description <u>OR</u> (c) An unusual hazard consisting of (descripti Emergency conditions:	n of incident incluse, windspeed and b of phenomenon)	iding earing)
3.	(provide description statement of NO releas OR (b) A natural phenomenon consisting of (description OR (c) An unusual hazard consisting of (descripti Emergency conditions: (a) are under control (b) can be expected to terminate within (c) may require offsite assistance, wil	n of incident inclu- e, windspeed and b of phenomenon) on of hazard) hours 1 advise	iding earing)
3.	(provide description statement of NO releas (b) A natural phenomenon consisting of (description (description (c) An unusual hazard consisting of (descripti Emergency conditions: (a) are under control (b) can be expected to terminate within (c) may require offsite assistance, wil There is no need for offsite protective	n of incident inclu- e, windspeed and b of phenomenon) on of hazard) hours l advise action.	iding earing)
3.	(provide description statement of NO releas (b) A natural phenomenon consisting of (description <u>OR</u> (c) An unusual hazard consisting of <u>(descripti</u> Emergency conditions: (a) are under control (b) can be expected to terminate within (c) may require offsite assistance, wil There is no need for offsite protective This is Palo Verde Authenticator	n of incident inclu- be, windspeed and b of phenomenon) on of hazard) hours l advise action.	iding earing)

PVNGS EMERGENCY PLAN	PROCEDURE NO.	APPENDIX F
INFECTION FROCEDORE	EPIP-07	Page 1 of 3
NOTIFICATION PROCESS - NOTIFICATION OF UNUSUAL EVENT	REVISION	Page 12 of 18
FOLLOW-UP EMERGENCY	MESSAGE FORM	
1. Reactor Operations:		
Reactor System Status	Power Level	
Pressure Temp ECCS C	Flow (Pumps perating/Operable	On)
Containment Status		
Containment Isolated? Containment Press Conta:	Containment Temp. inment Radiation	
Reactivity Controls		
Control Rods Inserted Status	s of Emer. Boratio	n System
2. Steam Plant Status:		
S/G Levels Equ:	ip. Failures	
Feedwater Source/Flow	S/G Isolated?	
3. Flectrical Dist. Status:		
Normal Offsite Power Available?		
Major Busses/Loads Lost		
Safeguards Busses Power Source		
D/G Running?	Loaded?	
4. Radioactivity Released (or Increased Rel	.ease)?	
Liquid/Gas? Location/Source of	Release	Elevation
Release Monitored	mount of Release	ea:
% Tech. Specs.	modue of Merease "	
	Location(s)	
a. Increased Radiation Levels in Plant:		
a. Increased Radiation Levels in Plant: Radiation Level(s) Maximum Offsite Dose Rates	_ Areas Evacuated	

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IN	PVNGS EMERGENCY PLAN	PROCEDURE NO.	APPENDIX E
		EPIP-07	Page 2 of 3
	NOTIFICATION PROCESS -	REVISION	
	NOTIFICATION OF UNUSUAL EVENT	0	Day 12 6 10
			Page 13 of 18
	FOLLOW-UP EMERGENCY ME	ESSAGE FORM (CONT'D)	
b.	Meteorology		
	Wind Direction From		
	Wind Speed	(Met	er/Sec or Miles/Hn
	Stability Class A B C D E F	Raining (Yes/No)	(°C or °H
5. Pr	ojected Doses:	Dose Rates	Integrated Dos
	Site Boundary		
	2 miles		
	2 miles		
	10 -11-2		where the second s
	10 miles Sectors		
	10 miles Sectors		
Co	10 miles Sectors ntamination (Surface): Inplunt	Onsite	Offsite
Co	10 miles Sectors ntamination (Surface): Inplunt	Onsite	Offsite
Co	10 miles Sectors ntamination (Surface): Inplunt	Onsite	Offsite
Co	10 miles Sectors ntamination (Surface): Inplunt	Onsite	_ Offsite
Co	10 miles Sectors ntamination (Surface): Inp'int	Onsite	Offsite
Co	10 miles Sectors ntamination (Surface): Inplunt	Onsite	_ Offsite
Co	10 miles Sectors ntamination (Surface): Inp'int	Onsite	Offsite
Co 	10 miles Sectors ntamination (Surface): Inplant curity/Safeguards:	Onsite	_ Offsite
Co 	10 miles Sectors ntamination (Surface): Inplint curity/Safeguards:	Onsite	_ Offsite
Co 5. Sei a.	10 miles Sectors ntamination (Surface): Inp'int curity/Safeguards: <u>Bomb Threat</u> : Search Conducted?	Onsite	Offsite
Co 6. Sei a.	10 miles Sectors ntamination (Surface): Inp'int curity/Safeguards: <u>Bomb Threat</u> : Search Conducted?	Onsite	Offsite
Co 	10 miles Sectors ntamination (Surface): Inp! int curity/Safeguards: <u>Bomb Threat</u> : Search Conducted? Search Results Extortion: Source (Phone Letter	Onsite	_ Offsite
Co 5. Sec a. b.	10 miles Sectors ntamination (Surface): Inp'int curity/Safeguards: <u>Bomb Threat</u> : Search Conducted? <u>Search Results</u> <u>Extortion</u> : Source (Phone, Letter, Location of Letter	Onsite Site Evacuated? etc.)?	Offsite
Co 	10 miles Sectors ntamination (Surface): Inp! int curity/Safeguards: <u>Bomb Threat</u> : Search Conducted? Search Results <u>Extortion</u> : Source (Phone, Letter, Location of Letter	Onsite 	Offsite
Co 5. Sec a. b. c.	10 miles Sectors ntamination (Surface): Inp'int curity/Safeguards: <u>Bomb Threat</u> : Search Conducted? Search Results <u>Extortion</u> : Source (Phone, Letter, Location of Letter <u>Intrusion</u> : Insider?	Onsite Site Evacuated? etc.)? Outsider?	Offsite
Co 6. Sei a. b. c.	10 miles Sectors ntamination (Surface): Inp' int curity/Safeguards: <u>Bomb Threat</u> : Search Conducted? <u>Search Results</u> <u>Extortion</u> : Source (Phone, Letter, Location of Letter <u>Intrusion</u> : Insider? <u>Furthest Point of Intrusion</u>	Onsite Site Evacuated? Outsider?	0ffsite
Co a. b. c.	10 miles Sectors ntamination (Surface): Inp'int curity/Safeguards: <u>Bomb Threat</u> : Search Conducted? Search Results <u>Extortion</u> : Source (Phone, Letter, Location of Letter <u>Intrusion</u> : Insider? Furthest Point of Intrusion Fire Arms Related? St	Onsite Onsite Site Evacuated? etc.)? Outsider? tolen/Missing Materi	Offsite
Co 6. Sec a. b. c.	10 miles Sectors ntamination (Surface): Inp'int curity/Safeguards: <u>Bomb Threat</u> : Search Conducted? Search Results <u>Extortion</u> : Source (Phone, Letter, Location of Letter <u>Intrusion</u> : Insider? Furthest Point of Intrusion Fire Arms Related? Size of Constration:	Onsite Site Evacuated? Outsider? tolen/Missing Materi	0ffsite
Co 6. Sea a. b. c. d.	10 miles Sectors ntamination (Surface): Inp'int curity/Safeguards: <u>Bomb Threat</u> : Search Conducted? Search Results <u>Extortion</u> : Source (Phone, Letter, Location of Letter <u>Intrusion</u> : Insider? Furthest Point of Intrusion Fire Arms Related? Si <u>Rx Oper./Demonstration</u> : Size of Gr	Onsite Site Evacuated? 	0ffsite
Co a. b. c. d.	10 miles Sectors ntamination (Surface): Inp'int curity/Safeguards: <u>Bomb Threat</u> : Search Conducted? Search Results <u>Extortion</u> : Source (Phone, Letter, Location of Letter <u>Intrusion</u> : Insider? Furthest Point of Intrusion Fire Arms Related? Si <u>Rx Oper./Demonstration</u> : Size of Gi Violence? Fire	Onsite Onsite Site Evacuated? etc.)? Outsider? tolen/Missing Materi roupDe re Arms Related?	Offsite
Co 6. Se a. b. c. d.	10 miles Sectors ntamination (Surface): Inp'int curity/Safeguards: <u>Bomb Threat</u> : Search Conducted? Search Results <u>Extortion</u> : Source (Phone, Letter, Location of Letter <u>Intrusion</u> : Insider? <u>Furthest Point of Intrusion</u> Fire Arms Related? Si <u>Rx Oper./Demonstration</u> : Size of Gi Violence? Fin Sabotage/Vandalism: Radiological?	Onsite Site Evacuated? Outsider? Outsider? tolen/Missing Materi roupDe re Arms Related? Arson Ir	_ Offsite

	IMPLEMENTING PROCEDURE	PROCEDURE NO.	APPENDIX E
		EPIP-07	Page 3 of 3
	NOTIFICATION PROCESS -	REVISION	
	NOTIFICATION OF UNUSUAL EVENT		
	THE PARTY OF THE PARTY	0	Page 14 of 18
7.	FOLLOW-UP EMERGENCY MI	ESSAGE FORM (CONT'D)	
	Mode (Pond/Pod1/Marlana)		
	Exact Location	Carrier	
	Type of Material (UEU/Court Dul/C	TT (0.1	
	Description of Shinnert	11/Other)	
	Labels: (On Material Package)	10	
	Spillage	Con Vehicle	e)
	Physical Damage to Container	Surveys	
	Fire/Smoke Mie	sing Matorial 2	
	MIS	sing material?	
8.	The Following Emergency Response Actio	ns are Underway:	
			the second
9	The Following Protoction tot		
9.	The Following Protective Actions are R	ecommended:	
9.	The Following Protective Actions are R	ecommended:	
9.	The Following Protective Actions are R	ecommended:	
9.	The Following Protective Actions are R	ecommended:	
9.	The Following Protective Actions are R	ecommended:	
9.	The Following Protective Actions are R	ecommended:	
9.	The Following Protective Actions are Ro	ecommended: t and Assistance fro	m Offsite Source
9.	The Following Protective Actions are Ro	ecommended:	m Offsite Source
9.	The Following Protective Actions are Ro	ecommended: t and Assistance fro	m Offsite Source
9.	The Following Protective Actions are R	ecommended: t and Assistance fro	m Offsite Source
9.	The Following Protective Actions are R We Request the Following Onsite Support	ecommended: t and Assistance fro	m Offsite Source
9.	The Following Protective Actions are Ro	ecommended: t and Assistance fro	m Offsite Source
9.	The Following Protective Actions are R We Request the Following Onsite Support	ecommended: t and Assistance fro	m Offsite Source
9. 10.	The Following Protective Actions are R We Request the Following Onsite Support	ecommended: t and Assistance fro Conditions:	m Offsite Source
9. 10.	The Following Protective Actions are R We Request the Following Onsite Support Our Prognosis of the Emergency is that Are Under Control	ecommended: t and Assistance fro Conditions:	m Offsite Source
9.	The Following Protective Actions are R We Request the Following Onsite Support Our Prognosis of the Emergency is that Are Under Control Can be Expected to Terminate With	ecommended: t and Assistance fro Conditions:	m Offsite Source
9. 10.	The Following Protective Actions are R We Request the Following Onsite Support Our Prognosis of the Emergency is that Are Under Control Can be Expected to Terminate With Are Worsening	ecommended: t and Assistance fro Conditions:	m Offsite Source
9.	The Following Protective Actions are R We Request the Following Onsite Support Our Prognosis of the Emergency is that Are Under Control Can be Expected to Terminate With Are Worsening	ecommended: t and Assistance fro Conditions: nin Hours	m Offsite Source
9.	The Following Protective Actions are R We Request the Following Onsite Support Our Prognosis of the Emergency is that Are Under Control Can be Expected to Terminate With Are Worsening	ecommended: t and Assistance fro Conditions:	m Offsite Source
9.	The Following Protective Actions are R We Request the Following Onsite Support Our Prognosis of the Emergency is that Are Under Control Can be Expected to Terminate With Are Worsening STSC Communicator/Govt. Lia	ecommended: t and Assistance fro Conditions: hin Hours aison Eng	m Offsite Source
9.	The Following Protective Actions are R We Request the Following Onsite Support Our Prognosis of the Emergency is that Are Under Control Can be Expected to Terminate With Are Worsening STSC Communicator/Govt. Lia	ecommended: t and Assistance fro Conditions: nin Hours aison Eng Date/Time	m Offsite Source
9.	The Following Protective Actions are R We Request the Following Onsite Support Our Prognosis of the Emergency is that Are Under Control Can be Expected to Terminate With Are Worsening STSC Communicator/Govt. Lia	ecommended: t and Assistance fro Conditions: iin Hours iison Eng. Date/Time	m Offsite Source
9.	The Following Protective Actions are R We Request the Following Onsite Support Our Prognosis of the Emergency is that Are Under Control Can be Expected to Terminate With Are Worsening STSC Communicator/Govt. Lia	ecommended: t and Assistance fro Conditions: nin Hours Date/Time	m Offsite Source

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EMERGENCY NOTIFICATION CALL CHECK LIST IMPLEMENTING PROCEDURE **PVNGS EMERG** NOTIFICATION OF UNUSUAL EVENT EMERGENCY COORDINATOR (Sheet 1 of 2) PRIMARY ALTERNATE ALTERNATE AGENCY or INDIVIDUAL PERSON CONTACTED LINK LINK LINK DATE/TIME CALLER National Weather Service NAN NAWAS m NCY Arizona Dept. of Public Safety NAN NAWAS PLAN Arizona Radiation Regulatory Agency NAN NAWAS Arizona Dept. of Emergency Services NAN NAWAS Maricopa County Dept. of Civil Defense PROCEDURE NO. REVISION and Emergency Services NAN NAWAS EPIP-07 Maricopa County Sheriff's Office NAN NAWAS 0 PVNGS Mobile Maintenance and Emerg. Radio-Operations Manager Tele. Telephone Pager APPENDIX | Page 1 of Page PVNGS Mobile Manager, Nuclear Emerg. Radio-15 Operations Tele. Telephone Pager 05 mj N

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	EMERGENCY NOTI	FICATION C MERGENCY C (Sheet 2	ALL CHECK LI OORDINATOR of 2)	ST (CONT'D)			NOTI	IMPLI
AGENCY or INDIVIDUAL	PERSON CONTACTED	PRIMARY LINK	ALTERNATE LINK	ALTERNATE LIN ^P	DATE/TIME	CALLER	FICATI	EMEN
Vice President, Electric Operations NRC Headquarters		PVNGS Emer. Tele. ENS		Mobile Radio- Telephone HPN	/		ON OF UNUSUAL	MERGENC
NRC Resident Inspector		ENS	Pager	Commercial Telephone	/		SS - L EVENT	Y PLA
PVNGS Visitors Center			(none)	(none)		<u></u>		RE
APS Site Construction Office			(none)	(none)				2.7
Bechtel Emergency Control Center			2-way radio FM channel 3	(none)			EVISION	HOCEDURE
APS Corporate Relations			(none)	(none)		100	0	7
APS Risk Management			none	none				P A
Public Information			none	none			age	age age
INPO			(none)	.(none)			16 of 18	DIX F 2.of 2

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NOTIFICATION SYSTEMS USER'S GUIDE

1. Emergency Notification System

Operation at plant end of circuit.

- A. IDLE State All lamps on all ENS phones are extinguished.
- B. Outgoing call to NRC Operations Center.
 - Control Room or Shift Supervisor or Technical Support Center initiates call.
 - a. All phones in CR, SSO, and TSC have steady lamps.
 - b. Ringing tone is heard in handset of initiating phone.
 - c. EOF ENS phone lamp blinks.
 - d. Resident Inspector's office phone(s) rings and times out, lamp on phone(s) continues to blink until Resident Inspector answers, or call ends.
 - 2. EOF location initiates call.
 - a. All phones in CR, SSO, TSC and EOF have a steady lamp.
 - b. Initiating phone hears ringing tone in handset.
 - c. Resident Inspector's office phone(s) rings and times out, lamp on phone(s) continues to blink until Resident Inspector answers, or call ends.
 - 3. Resident Inspector's office initiates call.
 - Resident Inspector's office phone(s) steady lamp appears and ringing tone is heard in handset.
 - b. No indication at any plant location.

NOTE: The ENS circuit does not have privacy feature.

F	PVNGS	EMERGENCY PLAN INTING PROCEDURE	PROCEDURE NO.	APPENDIX G
	NOTI	FICATION PROCESS - TION OF UNUSUAL EVENT	REVISION	Page 2 of 2
		TTON OF CHOSONE EVENT		Page 18 of 18
		NOTIFICATION SYSTEMS US	SER'S GUIDE (CONT'D)
с.	Incomi	ng call to plant.		
	1. Al Re	1 ENS phones ring and lamps sident Inspector's office).	blink, until call :	is answered (exce
	2. Re	sident Inspector's office - r	not answered.	
	Ri un no	ng times out after 30 (to 90) til Resident Inspector answer t answer before time out.) seconds but lamp rs. A re-ring occu	continues to blin urs if plant does
	3. EN	S line answered at any plant	location (except R	lesident Inspector
	a.	All phones stop rining and phones in CR, SSO, and TSC.	a steady lamp appe Also EOF if answ	ears on all ENS vering location.
	b.	EOF ENS phone lamp will con location.	ntinue to blink if	not answering
	с.	Resident Inspector office p blink until answered, or ca	phone(s) - lamp wil 11 ends.	l continue to
	4. Lin	ne answered by Resident Inspe	ector.	
	a.	Phone(s) in Resident Inspec lamp appears on phone(s).	tor's office stop	ringing and stead
	b.	All plant ENS phones contin then see item C-3 above.	ue to ring and bli	nk until answered
D.	Trouble	s: A circuit trouble lite h Room area. Suggested label	as been installed : "ENS Line Failu	and labeled in th re When Lit."
	1. Nor	mal condition: Lamp is exti	nguished.	
	2. Tro by	uble condition: Lamp is ill commercial line.	uminated. Notify	NRCOC immediately
. Sit	e Packag	e Configuration		

- Shift Supervisor's Office (SSO) - Technical Support Center (TSC) - Emergency Operation Facility (EOF) Resident Package - Resident Inspector's Office (RI)

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-08	
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ASSIGNED COPY PVNGS SM <u># 8-9A</u>

APPROVED BY: L. E. Brown

4 1

DATE 12-7-82

DATE EFFECTIVE 12-10-82

DN-1985A/0196A

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-08	
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PV IMP	NGS EMERGENCY PLAN	PROCEDURE NO. EPIP-08	
NOTIFI EMERGE	REVISION 0	Page 3 of 20	
1.0	OJBECTIVE ~		
1.1	The objective of this procedure notification process required to SITE EMERGENCY, or GENERAL EMER the following:	e is to describe to upon declaration of RGENCY. This proc	the of an ALERT, cess includes

- Notification of the PVNGS Visitor's Center, APS Site Construction Office and Bechtel Emergency Control Center.

2.0 REFERENCES

- 2.1 Implementing References
 - 2.1.1 EPIP-04, "ALERT Implementing Actions"
 - 2.1.2 EPIP-05, "SITE EMERGENCY Implementing Actions"
 - 2.1.3 EPIP-06, "GENERAL EMERGENCY Implementing Actions"
 - 2.1.4 EPIP-07, "Notification Process NOTIFICATION OF UNUSUAL EVENT"
 - 2.1.5 EPIP-33, "Offsite Assistance"
 - 2.1.6 APS Emergency Response Facility Equipment Manual
- 2.2 Developmental References
 - 2.2.1 NUREG-0654, Rev. 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants"
 - 2.2.2 PVNGS Emergency Plan, Rev. 2
 - 2.2.3 10 CFR 50, Appendix E, "Domestic Licensing of Production and Utilization Facilities"

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-08	
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- 3.0 LIMITATIONS AND PRECAUTIONS
 - 3.1 The notification of specific offsite agencies, such as emergency medical services and fire departments, is detailed in EPIP-33, "Offsite Assistance".
- 4.0 DETAILED PROCEDURE
 - 4.1 Personnel Indoctrination
 - 4.1.1 Upon declaration of an ALERT, SITE EMERGENCY, or GENERAL EMERGENCY offsite notification will consist of three primary telephone contacts: the NRC, State/County government, and APS corporate personnel. The NRC will be notified via the Emergency Notification System (ENS) dedicated line; State/County government via the Notification and Alert Net (NAN); and corporate personnel via dedicated telephone fanout, through the Manager. Nuclear Operations and the Vice President, Electric Operations. The National Warning System (NAWAS) will provide a back-up means of notification of State/County government and the Health Physics Network (HPN) will provide a back-up means of notification to the NRC. Primary and alternate communications links for offsite notification are shown in Appendices F and G of this procedure. The Notification and Alert Net, NAN Notification Flow and APS Emergency Notification Fanout are illustrated in Appendices A through C.
 - 4.1.2 The Notification Systems User's Guide (Appendix H) provides the instructions necessary to ensure adequate operations of the primary and alternate systems available for offsite notification. The equipment addressed includes the ZNS. Callers shall refer to this guide to ensure that successful contact is made in a minimal time period.
 - 4.1.3 Notification of the NRC and State/County government should be completed within 15 minutes, after declaration of the emergency class. Although there is no time requirement for the notification of corporate personnel, it shall be expedited to allow sufficient time for any subsequent activation and staffing of the onsite and offsite emergency centers.

PVNGS EME	RGENCY PLAN	PROCEDURE NO.	
		BEVISION	
NOTIFICATION PE EMERGENCY, OR (COCESS ALERT, SITE SENERAL EMERGENCY	0	Page 5 of 20
4.2 Prerec	uisites		
4.2.1 Ar de in	ALERT, SITE EMERGENCY, clared, and procedure E plemented.	or GENERAL EMERGEN PIP-04, 05, or 06 i	CY has been s being
4.3 Instru	ctions		
4.3.1 In	itial Notification		
Th Co	e Emergency Coordinator mmunicator), shall perf	, or designee (STSC orm the following:	
4.3.1.1	Complete the Initial (Appendix D), and beg as is available, on t Form (Appendix E).	Emergency Message C in to fill in as mu he Follow-up Emerge	ontent Form ch information ncy Message
4.3.1.2	By means of a single Alert Net dedicated t State/County agencies	call, on the Notifi elephone, contact t	cation and he following
	Duty Hours (8:00 a.m.	to 5:00 p.m. Monda	y-Friday)
	National Weather Serv Arizona Department of Arizona Radiation Regu Arizona Department of Maricopa County Depart Emergency Services (Mu Maricopa County Sherit	ice (NWS) Public Safety (DPS ulatory Agency (ARRA Emergency Services tment of Civil Defer CCDES) Ef's Office (MCSO)) (ADES) ise and
		NOTE	
	Subsequent notifi agencies during o made per internal	lcation of affected off-duty hours shall l agency procedures.	be
	Off-Duty Hours (5:00 g Saturd	o.m. to 8:00 a.m. al lay and Sunday)	l day
	NWS DPS MCSO		•
4.3.1.3	When contact is made	the caller shall id	ant: fu

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When contact is made, the caller shall identify himself and request that the individuals obtain a copy of the Initial Emergency Message Form (Appendix D).

PVNGS EME	RGENCY PLAN	PROCEDURE NO.	
NOTIFICATION PR EMERGENCY, OR G	OCESS ALERT, SITE ENERAL EMERGENCY	REVISION	Page 6 of 20
4.3.1.4	When each individual completed Initial Eme verbatim.	has obtained a copy rgency Message Cont	, read the cent Form,
4.3.1.5	Offer to repeat infor	mation and reiterat	e as necessary.
4.3.1.6	Obtain the name of ea the Emergency Notific Coordinator (Appendix	ch person contacted ation Call Check Li F).	and record on st, Emergency
4.3.1.7	Contact the NRC via the (ENS) dedicated telepi	he Emergency Notifi hone.	cation System
4.3.1.8	The caller shall identify himself and read the completed Initial Emergency Message Content Form, verbatim.		
4.3.1.9	Offer to repeat inform	nation and reiterat	e as necessary.
4.3.1.10	Obtain the name of the Appendix F.	e persons contacted	and record in
4.3.1.11	Notify the NRC Resider Appendix F if unable t	nt Inspector in acc to contact with the	ordance with ENS phone.
4.3.1.12	When contact is made, himself and read the J Form, verbatim.	the caller shall i Initial Emergency M	dentify essage Content
4.3.1.13	Offer to repeat inform	ation and reiterat	e as necessary.
4.3.1.14	Obtain the name of the Appendix F.	e person contacted a	and record in
4.3.1.15	Via the PVNGS emergence Maintenance and Operat Operations; and the Vi Operations. It is pre Coordinator personally and plant status, to t	y telephone, notify tions Manager; Manager ce President, Elect ferred that the Emerge rexplain the emerge these key individual	y the ger, Nuclear tric ergency ency situation Ls.
4.3.1.16	Record the name of eac Appendix F.	h person contacted	, in
4.3.1.17	Notify additional pers obtain the name of the them of the situation.	onnel as listed in person contacted,	Appendix F, and inform

PVNGS EM	ERGENCY PLAN	PROCEDURE NO. EPIP-08		
NOTIFICATION PRO	OCESS ALERT, SITE ENERAL EMERGENCY	REVISION 0	Page 7 of 20	
4.3.1.18	Determine the need for the Security Director t by utilizing the comput Security Director will computer print-out as a	additional personn to call in addition ter callout listing use the updated (d the emergency teleph	nel. Direct nal personnel . The laily) none directory.	
4.3.1.19	If an individual requests information not contained in the Initial Emergency Message Content Form, make reasonable efforts to obtain and give the information only after all initial notifications have been made.			
4.3.1.20	Contact the APS Dispate	her via the micro-	wave system.	
4.3.1.21	When contact is made, the caller shall identify himself and request that the individual obtain a copy of the Initial Emergency Message Form.			
4.3.1.22	When the individual has obtained a copy, read the completed Initial Emergency Message Form, verbatim.			
4.3.1.23	Offer to repeat information and reiterate as necessary.			
4.3.1.24	Obtain the name of the person contacted and record in Appendix F.			
4.3.2 The	APS Dispatcher shall pe	rform the following	g :	
4.3.2.1	Via commercial telephone corporate personnel:	e, contact the foll	lowing	
	a. Vice President, Nucl (Alternate: VP, 1	lear Project Manage Engineering and Cor	ement nstruction)	
	b. Vice President, Corr (Alternate: VP, I	porate Finance Plar Economic Planning a	and Control	
	c. Manager, Legal Servi (Alternate: Manag	lces ger, Contract Servi	lces)	
4.3.2.2	When contact is made, th and read the following m	ne caller shall ide message:	entify himself	
• •	"THERE IS AN (ALERT, SIT EMERGENCY) IN PROGRESS A GENERATING STATION. YOU ORGANIZATION IS REQUESTED	TE EMERGENCY, or GE AT THE PALO VERDE N UR ASSISTANCE IN TH CD. PLEASE RESPOND	INERAL NUCLEAR E EMERGENCY ACCORDINGLY".	

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PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-08	
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- 4.3.2.3 Obtain the name of each person contacted and record on the Emergency Notification Call Check List, APS Dispatcher (Appendix G).
- 4.3.3 Follow-up Nctification

The Emergency Coordinator, or designee, shall perform the following:

- 4.3.3.1 Complete filling out the Follow-up Emergency Message Form (Appendix E).
- 4.3.3.2 Disseminate the information recorded on the Follow-up Emergency Message Form as requested by the offsite emergency management organization (i.e., NRC, ARRA, ADES, MCCDES) or as significant changes occur.
- 4.3.4 Additional Notification
 - 4.7.4.1 If notification of additional offsite agencies (i.e., 'INPO, NSSS supplies, Bechtel, ambulance, hospital) is required, such notification shall be performed in accordance with EPIP-33.
- 4.3.5 When an emergency is reclassified, the appropriate notification processes (EPIP-07 or EPIP-08) will be initiated.



NOTIFICATION AND ALERT NET (NAN) PALO VERDE NUCLEAR GENERATING STATION (PVNGS)



MCCDES Is Maricopa County Department of Civil Defense & Emergency Services MCSO

- is Maricopa County Sheriff's Office ARRA
- is Arizona Radiation Regulatory Agency
- is Arizona Division of Emergency Services ADES DPS
- is Arizona Department of Public Safety NWS
- is National Weather Service

The Primary notification points are: ADES and MCSO. The Alternate notification points are: DPS and MCCDES.

NAN NOTIFICATION FLOW PALO VERDE NUCLEAR GENERATING STATION-PVNGS



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	PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-08	APPENDIX D
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	INITIAL EMERGENC ALERT, SITE EMERGENCY, O PALO VERDE NUCLEAR GEN	Y MESSAGE GENERAL EMERGENCY FERATING STATION	
1.	This is(name/title) Generating Station.	_, at the Palo Ve	rde Nuclear
2.	At We ex (time/date) (ALERT, SITE EMERGENCY, GENERAL EMERGENC (circle one)	perienced an Y) Class incident	
	(describe i	ncident)	
3.	Based on plant conditions, provide one of	f the following.	
	 (a) There is <u>NO</u>, repeat <u>NO</u>, radioactive protective actions are recommended at 	release taking pl t this time.	ace and no specia.
	(a) There is <u>NO</u> , repeat <u>NO</u> , radioactive is protective actions are recommended at <u>OR</u>	release taking pl t this time.	ace and no specia.
	 (a) There is <u>NO</u>, repeat <u>NO</u>, radioactive is protective actions are recommended at <u>OR</u> (b) A radioactive release <u>IS</u>, repeat <u>IS</u>, from <u>at</u> mph. We sectors remain indoors with 	release taking pl t this time. taking place. W e recommend that th windows and dow	ace and no specia ind is people in ors closed.
	 (a) There is <u>NO</u>, repeat <u>NO</u>, radioactive is protective actions are recommended at <u>OR</u> (b) A radioactive release <u>IS</u>, repeat <u>IS</u>, from <u>at mph. We sectors remain indoors with <u>OR</u></u> 	release taking pl t this time. taking place. W e recommend that th windows and do	ace and no specia. ind is people in ors closed.
	 (a) There is <u>NO</u>, repeat <u>NO</u>, radioactive is protective actions are recommended at <u>OR</u> (b) A radioactive release <u>IS</u>, repeat <u>IS</u>, from <u>at</u> mph. We sectors <u>CR</u> (c) A radioactive release <u>IS</u>, repeat <u>IS</u>, evacuation of sectors <u>be conserved</u> 	release taking pl t this time. taking place. W e recommend that th windows and do taking place and considered.	ace and no specia ind is people in ors closed. we recommend that
	 (a) There is <u>NO</u>, repeat <u>NO</u>, radioactive is protective actions are recommended at <u>OR</u> (b) A radioactive release <u>IS</u>, repeat <u>IS</u>, from <u>at mph. We sectors remain indoors with <u>OR</u></u> (c) A radioactive release <u>IS</u>, repeat <u>IS</u>, evacuation of sectors <u>be concert</u> 	release taking pl t this time. taking place. W e recommend that th windows and dow taking place and considered.	ace and no specia ind is people in ors closed. we recommend that
	 (a) There is <u>NO</u>, repeat <u>NO</u>, radioactive is protective actions are recommended at <u>OR</u> (b) A radioactive release <u>IS</u>, repeat <u>IS</u>, from <u>at mph.</u> We sectors remain indoors with sectors <u>OR</u> (c) A radioactive release <u>IS</u>, repeat <u>IS</u>, evacuation of sectors <u>OR</u> (d) Plant conditions are degrading with p breach of containment integrity. Evafor <u>in a two mile radius a downwind from the plant site</u>. 	release taking pl t this time. taking place. W e recommend that th windows and do taking place and considered. potential for fuel acuation is recommend sectors	ace and no specia. ind is people in ors closed. we recommend that damage and mended five miles
	 (a) There is NO, repeat NO, radioactive is protective actions are recommended at <u>OR</u> (b) A radioactive release IS, repeat IS, from <u>at mph. We</u> sectors remain indoors with sectors <u>OR</u> (c) A radioactive release IS, repeat IS, evacuation of sectors <u>DR</u> (d) Plant conditions are degrading with p breach of containment integrity. Evafor <u>in a two mile radius a downwind from the plant site</u>. Further information on incident condition messages. 	release taking pl t this time. taking place. W e recommend that th windows and do taking place and considered. potential for fuel acuation is recommend sectors	ace and no special ind is people in ors closed. we recommend that damage and mended five miles ed in followup
4.	 (a) There is <u>NO</u>, repeat <u>NO</u>, radioactive is protective actions are recommended at <u>OR</u> (b) A radioactive release <u>IS</u>, repeat <u>IS</u>, fromatmph. We sectorsremain indoors with sectorsremain indoors with <u>OR</u> (c) A radioactive release <u>IS</u>, repeat <u>IS</u>, evacuation of sectors<u>DR</u> (c) A radioactive release <u>IS</u>, repeat <u>IS</u>, evacuation of sectors<u>DR</u> (d) Plant conditions are degrading with p breach of containment integrity. Eva forin a two mile radius a downwind from the plant site. Further information on incident condition messages. This is Palo Verde AuthenticatorOut. 	release taking pl t this time. taking place. W e recommend that th windows and do taking place and considered. potential for fuel acuation is recommend sectors	ace and no specia. ind is people in ors closed. we recommend that damage and hended five miles ed in followup

IMPLEMENTING PROCEDURE	PROCEDURE NO.	APPENDIX E
	REVISION	rage 1 OF 3
NOTIFICATION PROCESS ALERT, SITE EMERGENCY, OR GENERAL EMERGENCY	0	Page 13 of 20
FOLLOW-UP EMERGE	NCY MESSAGE FORM	
1. Reactor Operations:		
Reactor System Status	Power Level	
Pressure Temp Cooling Mode ECCS	Flow (Pumps (Operating/Operable	Dn)
Containment Status		
Containment Isolated? Containment Press Con	Containment Temp. tainment Radiation	
Reactivity Controls		
Control Rods Inserted Stat	tus of Emer. Boration	System
2. Steam Plant Status:		
S/G Levels Ec	uip. Failures	
Feedwater Source/Flow	S/G Isolated?	
3. Electrical Dist. Status:		
Normal Offsite Power Available?		
Normal Offsite Power Available? Major Busses/Loads Lost Safeguards Busses Power Source		
Normal Offsite Power Available? Major Busses/Loads Lost Safeguards Busses Power Source D/G Running?	Loaded?	
Normal Offsite Power Available? Major Busses/Loads Lost Safeguards Busses Power Source D/G Running? A. Radioactivity Released (or Increased F	Loaded?	
Normal Offsite Power Available? Major Busses/Loads Lost Safeguards Busses Power Source D/G Running? A. Radioactivity Released (or Increased F Liquid/Gas?	Loaded? Release)?	
Normal Offsite Power Available? Major Busses/Loads Lost Safeguards Busses Power Source D/G Running? 4. Radioactivity Released (or Increased F Liquid/Gas? Location/Source of Release Rate	Loaded? Release)?E	levation
Normal Offsite Power Available? Major Busses/Loads Lost Safeguards Busses Power Source D/G Running? A. Radioactivity Released (or Increased F Liquid/Gas? Location/Source of Release Rate Duration Release Monitored	Loaded? Release)? of ReleaseE Stoppe	levation
Normal Offsite Power Available? Major Busses/Loads Lost Safeguards Busses Power Source D/G Running? A. Radioactivity Released (or Increased F Liquid/Gas? Location/Source of Release Rate Duration Release Monitored % Tech. Specs.	Loaded? Release)? of ReleaseE Stoppe Amount of Release	levation
Normal Offsite Power Available? Major Busses/Loads Lost Safeguards Busses Power Source D/G Running? 4. Radioactivity Released (or Increased H Liquid/Gas? Location/Source of Release Rate Duration Release Monitored % Tech. Specs. a. Increased Radiation Levels in Plan	Loaded? Release)? of ReleaseE Stoppe Amount of Release t: Location(s)	levation
Normal Offsite Power Available? Major Busses/Loads Lost Safeguards Busses Power Source D/G Running? 4. Radioactivity Released (or Increased F Liquid/Gas? Location/Source of Release Rate Duration Release Monitored % Tech. Specs. a. Increased Radiation Levels in Plan Radiation Level(s) Maximum Offsite Dose Rates	Loaded? Release)? of ReleaseE Stoppe Amount of Release t: Location(s) Areas Evacuated	levation

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	PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO.	APPENDIX E
		EPTP-08	Page 2 of 3
NO	TIFICATION PROCESS ALERT SITE	REVISION	
EN	ERGENCY. OR GENERAL EMERCENCY		
	ENGINE IN SEMERAL ENERGENCI	0	Page 14 of 20
b. . Pr	FOLLOW-UP EMERGENCY M <u>Meteorology</u> Wind Direction From Wind Speed T (°C or °F) Sigma Theta Stability Class A B C D E F ojected Doses: Site Boundary 2 miles 5 miles	ESSAGE FORM (CONT'D) (Met Temperature Raining (Yes/No) Dose Rates	er/Sec or Miles/Hr (°C or °F Integrated Dose
	10 miles		
	Sectors		
. Sec	urity/Safeguards: <u>Eomb Threat</u> : Search Conducted? Search Results	Site Evacuated?	•
. Sec a. b.	Every/Safeguards: <u>Bomb Threat</u> : Search Conducted? Search Results <u>Extortion</u> : Source (Phone, Letter, Location of Letter	Site Evacuated? etc.)?	
. Sec a. b.	Eurity/Safeguards: Eomb Threat: Search Conducted? Search Results Extortion: Source (Phone, Letter, Location of Letter Intrusion: Insider? Furthest Point of Intrusion Fire Arms Related?	Site Evacuated? etc.)? Outsider?	
. Sec a. b. c.	Everity/Safeguards: Eomb Threat: Search Conducted? Search Results Extortion: Source (Phone, Letter, Location of Letter Intrusion: Insider? Furthest Point of Intrusion Fire Arms Related?S	Site Evacuated? etc.)? Outsider? tolen/Missing Materi	al?
. Sec a. b. c.	Extortion: Source (Phone, Letter, Location of Letter Intrusion: Insider? Furthest Point of Intrusion Fire Arms Related?	Site Evacuated? etc.)? Outsider? tolen/Missing Materi	al?
. Sec a. b. c.	Extortion: Source (Phone, Letter, Location of Letter Intrusion: Insider? Furthest Point of Intrusion Fire Arms Related? Sarch Conducted? Sarch	Site Evacuated? etc.)? Outsider? tolen/Missing Materi roupDe re Arms Related?	al?
. Sec a. b. c. d.	Everity/Safeguards: Eomb Threat: Search Conducted? Search Results Extortion: Source (Phone, Letter, Location of Letter Intrusion: Insider? Furthest Point of Intrusion Fire Arms Related? Rx Oper./Demonstration: Size of G Violence? Sabotage/Vandalism: Radiological?	Site Evacuated? etc.)? Outsider? tolen/Missing Materi roupDe re Arms Related? Arson In	al?

	NO.	
IMPLEMENTING PROCEDURE	EDTD.00	APPENDIX E
	REVISION	Page 3 of 3
NOTIFICATION PROCESS ALERT, SITE		
EMERGENCY, OR GENERAL EMERGENCY	0	Page 15 of 20
		1486 19 01 20
FOLLOW-UP EMERGENCY MESS	AGE FORM (CONT'D)	
Management of A		
. Iransportation:		
Mode (Road/Rail/Air/etc.) Exact Location	Carrier	
Type of Material (HEU/Spent Fuel/Cat III Description of Shipment	/Other)	
Labels: (On Material Package)	(On Vehicl	e)
Spillage Si Physical Damage to Container	urveys	
Fire/Smoke Missing	ng Material?	
. The Following Emergency Response Actions	are Underson	
	are underway:	
mL . n. 11		
. The Following Protective Actions are Reco	ommended:	
. The Following Protective Actions are Reco	mmended:	
. The Following Protective Actions are Reco	mmended:	
. The Following Protective Actions are Reco	ommended:	
The Following Protective Actions are Reco	ommended:	
. The Following Protective Actions are Reco	nd Assistance fro	om Offsite Sources
The Following Protective Actions are Reco	ommended:	om Offsite Sources
The Following Protective Actions are Reco	ommended: 	om Offsite Sources
The Following Protective Actions are Reco	ommended: nd Assistance fro	om Offsite Sources
The Following Protective Actions are Reco	nd Assistance fro	om Offsite Sources
The Following Protective Actions are Reco	nd Assistance fro	om Offsite Sources
The Following Protective Actions are Reco	nd Assistance fro	om Offsite Sources
The Following Protective Actions are Reco	nd Assistance fro	om Offsite Sources
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The Following Protective Actions are Reco	nd Assistance fro	om Offsite Sources
The Following Protective Actions are Reco	nd Assistance fro	om Offsite Sources
The Following Protective Actions are Reco	nd Assistance fro	om Offsite Sources
The Following Protective Actions are Reco	nd Assistance fro	om Offsite Sources

NOTIFICATION PROCESS / EMERGENCY, OR GENERAL EMERGENCY NOTIFICATION CALL CHECK LIST IMPLEMENTING PVNGS EMERGENCY COORDINATOR (Sheet 1 of 2) PRIMARY ALTERNATE ALTERNATE EMERG AGENCY or INDIVIDUAL PERSON CONTACTED LINK. LINK LINK DATE/TIME CALLER National Weather Service NAN NAWAS ALERT, SITE L EMERGENCY PRO ENC Arizona Dept. of Public Safety NAN NAWAS ō ~ PLAN EDURE Arizona Radiation Regulatory Agency NAN NAWAS Arizona Dept. of Emergency Services NAN NAWAS Maricopa County Dept. of Civil Defense PROCEDURE NO. REVISION and Emergency Services NAN NAWAS EPIP Maricopa County -08 Sheriff's Office NAN NAWAS 0 PVNGS Mobile Maintenance and Emerg. Radio-Operations Manager Tele. Pager Telephone Page APPENDIX Page 1 of . . PVNGS Mobile Manager, Nuclear 16 Emerg. Radioof Operations Tele. Pager Telephone of -N 20 Dispatch APS Dispatcher Tele.

	E	MERGENCY CO (Sheet 2	OORDINATOR of 2)				TIFICAT	MPLEN
AGENCY or INDIVIDUAL	PERSON CONTACTED	PRIMARY LINK	ALTERNATE LINK	ALTERNATE LINK	DATE/TIME	CALLER	, OR O	S EM
Vice-President,		PVNGS Emer.		Mobile Radio-			ENERA	ING
Electric Operations		Tele.		Telephone	/		LAL	PR
NRC Headquarters		ENS		HPN	1		ERT, MERC	OCY
NRC Resident Inspector		ENS	Pager	Commercial Telephone	,		SITE	EDU
PVNGS Visitors Center			(m
			(none)	(none)				
APS Site Construction Office			(none)	(none)			REV	NO
Sechtel Emergency Control Center			2-way radio FM channel 3	(none)	/		ISION 0	EPIP-08
PS Corporate								~
icia cions			(none)	(none)				
PS Risk Management			none	none			age	age
ublic Information			none	none			17 0	INDIX 2 of
NPO			(none)	(none)	1		E 2	NT

PV218-0004 (8,82) NOTIFICATION PROCESS ALERT, SITE EMERGENCY, OR GENERAL EMERGENCY IMPLEMENTING PROCEDURE PVNGS EMERGENCY PLAN EMERGENCY NOTIFICATION CALL CHECK LIST APS DISPATCHER (Sheet 1 of 1) PRIMARY ALTERNATE ALTERNATE AGENCY or INDIVIDUAL PERSON CONTACTED LINK LINK LINK DATE/TIME CALLER VP, Nuclear Project Management (none) VP, Corporate Finance Planning and Control . (none) Manager, Legal Services (none) PROCEDURE NO. REVISION EPIP-08 0 APPENDIX C Page 1 of Page 18 01 9

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	P	VNO	SEMERGENCY PLAN MENTING PROCEDURE	PROCEDURE NO. EPIP-08-	APPENDIX H Page 1 of 2
	NOT	RGEN	ATION PROCESS ALERT, SITE CY, OR GENERAL EMERGENCY	· REVISION · 0	Page 19 of 20
			NOTIFICATION SYS	TEMS USER'S GUIDE	19. A.S.
1.	One	rgen	on at plant and of circuit		
	A.	TDI	E State = All lamps on all EN	C phones are outined	abad
	в.	Out	going call to NRC Operations	Center	.sned.
		1.	Control Room or Shift Superv: initiates call.	isor or Technical Sup	oport Center
			a. All phones in CR, SSO, and	nd TSC have steady la	mps.
			b. Ringi 3 tone is heard in	handset of initiatir	ng phone.
			c. EOF ENS phone lamp blink:	s.	
			 Resident Inspector's office on phone(s) continues to answers, or call ends. 	ice phone(s) rings an blink until Resident	d times out, lam Inspector
		2.	EOF location initiates call.		
			a. All phones in CR, SSO, T	SC and EOF have a ste	ady lamp.
			b. Initiating phone hears ri	inging tone in handse	t.
			c. Resident Inspector's officient on phone(s) continues to answers, or call ends.	ice phone(s) rings an blink until Resident	d times out, lam Inspector
		3.	Resident Inspector's office :	initiates call.	
			a. Resident Inspector's officient ringing tors is heard in	ice phone(s) - steady handset.	lamp appears and
			b. No indication at any plan	nt location.	
			NOTE: The FNS circuit do	oes not have privacy	feature.

	PVN	NGS EMERGENCY PLAN	PROCEDURE NO.	APPENDIX H
			EPIP-08	Page 2 of 2
NOT	RGEN	ATION PROCESS ALERT, SITE CY, OR GENERAL EMERGENCY	REVISION 0	Page 20 of 20
		NOTIFICATION SYSTEMS USED	IS CUIDE (CONTIN	
с.	Inc	oming call to plant	S GOIDE (CONI'D	,
		in prant.		
	1.	All ENS phones ring and lamps bli Resident Inspector's office).	ink, until call i	s answered (excep
	2.	Resident Inspector's office - not	answered.	
		Ring times out after 30 (to 90) s until Resident Inspector answers. not answer before time out.	econds but lamp A re-ring occu	continues to blin rs if plant does
	3.	ENS line answered at any plant lo	ocation (except R	esident Inspector
		a. All phones stop rining and a phones in CR, SSO, and TSC.	steady lamp appe Also EOF if answ	ars on all ENS ering location.
		 EOF ENS phone lamp will conti location. 	nue to blink if	not answering
		c. Resident Inspector office pho blink until answered, or call	ne(s) - lamp wil. ends.	l continue to
	4.	Line answered by Resident Inspect	or.	
		a. Phone(s) in Resident Inspecto lamp appears on phone(s).	r's office stop :	ringing and steady
		b. All plant ENS phones continue then see item C-3 above.	to ring and blir	nk until answered
D.	Trou Cont	ables: A circuit trouble lite has rol Room area. Suggested label:	been installed a "ENS Line Failur	and labeled in the re When Lit."
	1.	Normal condition: Lamp is excing	uished.	
	2.	Trouble condition: Lamp is illum: by commercial line.	inated. Notify N	RCOC immediately
Site	Pac	kage Configuration		
Main	Pac	Lage - Control Room (CR) - Shift Supervisor's (Office (SSO)	4
EOF	Pack	age - Emergency Operation	Facility (EOF)	

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...... ASSIGNED COPY PVNGS SM - 8-9A

APPROVED BY: _______ DATE ______ DATE ______ DATE _______ DATE _______ DATE _______ DATE _______

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1.0 OBJECTIVE

- 1.1 The objective of this procedure is to provide instructions for the activation of the Technical Support Center (TSC) and the Satellite TSC (STSC). This procedure addresses the following:
 - o Activation of the affected unit Satellite TSC.
 - Preliminary activation of the Technical Support Center by available onshift personnel.
 - Complete activation of the Technical Support Center by those onsite emergency response personnel assigned to this emergency response facility.

2.0 REFERENCES

- 2.1 Implementing References
 - 2.1.1 EPIP-01, "PVNGS Emergency Organization"
 - 2.1.2 EPIP-04, "ALERT Implementing Actions"
 - 2.1.3 EPIP-05, "SITE EMERGENCY Implementing Actions"
 - 2.1.4 EPIP-06, "GENERAL EMERGENCY Implementing Actions"
 - 2.1.5 APS Emergency Response Facility Equipment Manual
- 2.2 Developmental References
 - 2.2.1 NUREG 0654, Rev. 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants"
 - 2.2.2 NUREG 0696, Feb. 1981, "Functional Criteria for Emergency Response Facilities"
 - 2.2.3 PVNGS Emergency Plan, Rev. 2

3.0 LIMITATIONS AND PRECAUTIONS

3.1 The Satellite TSC and the TSC may be used by designated personnel for normal daily activities as well as for training and emergency drills. Use of these facilities shall be limited to activities that will not degrade preparedness to react to abnormal conditions or reduce system(s) reliability.

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4.0 DETAILED PROCEDURE

4.1 Personnel Indoctrination

- 4.1.1 During a NOTIFICATION OF UNUSUAL EVENT, direction and coordination of <u>onshift</u> emergency operations will be provided by the Emergency Coordinator at the Satellite TSC. During an ALERT, or more severe classification, emergency assessment and control will initially be directed from the Satellite TSC and transferred to the TSC once it has been activated.
 - 4.1.1.1 Prior to activation of the <u>onsite</u> Emergency Organization, the following activities will take place in the Satellite TSC:
 - Environmental assessment (offsite dose projections).
 - Field Monitoring Team direction by the Radiation Protection Monitor.
 - Technical analysis by the Shift Technical Advisor (STA).
 - Emergency management by the Emergency Coordinator (EC).
 - Initial notifications including information regarding protective actions (if required) by the Satellite TSC Communicator.
- 4.1.2 When the <u>onsite</u> Emergency Organization has been activated, the responsibility for the above listed functions will be transferred to the TSC and/or the Emergency Operations Facility (EOF).
 - 4.1.2.1 The Satellite TSC will then function as an extension of the TSC to provide direct technical support to the Control Room personnel in the areas of:
 - o Engineering and technical analytical support.
 - o Reactor analytical support.
 - o Unit operations support.
 - o Radiological analytical support.

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4.1.3	The functions which will be follows:	e performed in the	TSC are as	
	o Manage onsite emergency	y response.		
	o Direct onsite radiologi	ical protection ac	tivities.	
	o Direct emergency mainte	enance.		
	o Direct personnel accour	ntability and site	security.	
	o Direct safety and hazar	rds control.		
	 Perform engineering and Room support. 	l technical analys:	is for Control	
	o Perform reactor analysi	ls.	S.	
	o Provide emergency I&C s	support.		
	o Provide computer and ch	emistry technical	support.	
	o Provide dose rate proje	ections.		
	o Direct field monitoring	; activities.		
4.1.4	The TSC emergency supply st calibrated radiological mon clothing, communications eq additional supplies as list	orage area contain itoring equipment, uipment, portable ed in EPIP-38.	ns a supply of protective lighting, and	
4.2 Pre	requisites			
4.2.1	Activation of the Satellite declaration of a NOTIFICATI	TSC shail take pl ON OF UNUSUAL EVEN	ace upon T.	
4.2.2	Activation of the TSC and a TSC staff by the <u>onsite</u> Eme place upon declaration of a emergency.	ugmentation of the rgency Organizatio n ALERT or more se	Satellite n shall take vere	
4.3 Ins	tructions			
4.3.1	Activation of the Satellite	TSC		
4.3.1	.1 The following onshift Er shall report to the affection of the signature of the signat	mergency Organizat ected unit Satelli	ion personnel te TSC and	

PVNGS EMERGENCY PLAN		NO.	
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TECHNICAL SUPPORT CENTER/SATELLITE TSC ACTIVATION		REVISION 0	Page 7 of 28
	1. Emergency Coordina	tor (Duty Manager)	- Appendix A.
	2. Shift Technical Ad	lvisor - Appendix B	
3. Designated Radiation (Radiation Protect:		on Protection Techn tion Monitor) - Appe	nician endix C.
	 Designated Nuclear Appendix D. 	Operator (STSC Cor	nmunicator) -
4.3.1.2	The following <u>onsite</u> E shall report to the af required), relieve the counterpart, and compl necessary.	mergency Organizati fected unit Satelli ir respective onshi ete their check lis	ion personnel ite TSC (if ift sts as
	1. Satellite TSC Comm	unicator - Appendix D. on Monitor - Appendix C.	
	2. Radiation Protecti		
4.3.1.3	The Operations Advisor provide technical and Supervisor. He will e maintained between the	shall report to th operational advice nsure that informat TSC and the Contro	to the Shift to the Shift ion flow is 1 Room.
4.3.2 Pre	liminary Activation of	he Technical Support Center	
4.3.2.1	The Emergency Coordina Systems Engineer and d preliminary activation	tor shall contact t irect him to perfor of the TSC per App	he Shift m the endix E.
4.3.2.2 The Shift Analysts sha the Shift Systems Engine function as Technical		ll report to the TSC and as neer in carrying out his Engineering Coordinator.	C and assist t his ator.
4.2.3.3	The Security Shift Capt assume the duties of Se the check list in Apper	tain shall report t ecurity Director, a ndix I.	o the TSC, nd complete
4.3.3 Com	plete Activation of the	Technical Support	Certer
4.3.3.1	The Technical Engineeri Emergency Organization	ing Coordinator of shall report to the	the <u>onsite</u> e TSC,

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE		NO. • EPIP-11	
ECHNICAL SUPPORT ACTIV	CHNICAL SUPPORT CENTER/SATELLITE TSC - REVISION 0 Page 8 o		Page 8 of 28
4.3.3.2	The Security Director of Organization shall repor Security Shift Captain, Appendix I (as necessary	f the <u>onsite</u> Emer rt to the TSC, re and complete the y).	gency lieve the check list in
4.3.3.3	The following onsite Eme shall report to the TSC check lists:	ergency Organizat and complete the	ion personnel ir designated
	 Emergency Coordinator (Manager, Nuclear Operations) - Appendix F. 		
	2. Radiological Protect	ion Coordinator -	- Appendix H.
	3. Emergency Maintenanc	e Coordinator - Appendix J.	
 Hazards Control Coords Fersonnel Resources Control 		dinator - Appendix K. Coordinator - Appendix L.	
	7. Reactor Analyst - Ap		
	8. Computer Support Coordinator - Appendix 0.		
	9. Field Team Communica	tor - Appendix P.	
4.3.4 De	claration of TSC Readiness		
4.3.4.1	Upon completion of TSC per Manager, Nuclear Operation Readiness Check List of A onsite emergency response	ersonnel check li ons shall complet Appendix 0 and no e facilities.	sts, the e the TSC tify affected

	PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-11	APPENDIX A Page 1 of 2
TE	ECHNICAL SUPPORT CENTER/SATELLITE TSC ACTIVATION	REVISION 0	Page 9 of 28
	DUTY MANAGER CH (Satellite	HECK LIST TSC)	
ACT	TION ITEMS		TIME/INITIALS
1.	Contact Shift Supervisor and review:		
	 The logic used to establish the class event. 	sification of the	/
	b. Status of plant conditions.		1
	c. Corrective actions that are being ta	ken.	/
 Appoint Nuclear Operator to act as Satellite TSC Communicator and commence notification per EPIP-07 and EPIP-08 (as appropriate). 			/
3.	If an ALERT or more severe emergency is the Security Director to commence notifi Onsite and Offsite Emergency Organizatio	declared, instruct cation of the n.	/
4.	Ensure that the following check lists ar the appropriate personnel:	e completed by	
	Check List B - Shift Technical Advisor Check List C - Radiation Protection Moni Check List D - STSC Communicator(1)	tor	
5.	As necessary:(2)		
	 Determine necessity to evacuate onsi (EPIP-19). 	te personnel	/
	 Authorize emergency workers to exceed administrative exposure limits (EPIP- 	1 PVNGS -18).	/
	c. Provide protective action recommendat offsite emergency management agencies	tions to s (EPIP-15).	/

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DUTY MANAGER CHECK LIST (CONT'D) (Satellite TSC)

NOT'ES :

- When this individual arrives at the STSC he will relieve the Nuclear Operator of notification duties.
- (2) These action items would normally be necessary during a high level emergency situation (i.e., SITE and/or GENERAL EMERGENCY) and would normally be the responsibility of the onsite Emergency Coordinator. If this position has not been assumed you must take the appropriate actions. These responsibilities cannot be delegated.

Signature _____

Date _____

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-11	APPENDIX B Page 1 of 1
TECHNICAL SUPPORT CENTER/SATELLITE TSC ACTIVATION	REVISION 0	Page 11 of 28

SHIFT TECHNICAL ADVISOR (STA) CHECK LIST (Satellite TSC)

ACTION ITEMS

- 1. Activate the SPDS.
- 2. Monitor SPDS information and develop trend data.
- Provide the Shift Supervisor with trend data and assist in determining which corrective actions should be taken to mitigate the event.

Signature _____

TIME/INITIALS

1

1

Date _____

	IN	PVNGS EMERGENCY PLAN	PRCCEDURE NO. EPIP-11	APPENDIX C Page 1 of 1
TE	CHN	ICAL SUPPORT CENTER/SATELLITE TSC ACTIVATION	REVISION 0	Page 12 of 28
		RADIATION PROTECTION MG (Satellite	ONITOR CHECK LIST TSC)	
ACT	ION	ITEMS		TIME/INITIAL
1.	As	necessary:		
	a.	Perform initial offsite dose rate pr (EPIP-14A and 14B).	rojection	/
	b.	Inform Duty Manager of dose rate pro assist in determining what type of p recommendations are necessary (EPIP-	ojection results an protective action -15).	d/
	с.	Direct activities of onsite and offs Teams (EPIP-16 and 17).	site Field Monitori	ng/
	d.	Evaluate the need to administer Pota (EPIP-26).	assium Iodide (KI)	/
2.	Con	ntact OSC Coordinator and ensure that:		
	a.	Sufficient radiological protection e to OSC personnel.	equipment is availab	ble/
	b.	That the OSC continuous air monitors monitors are functioning and determi levels at OSC.	s and area alarm ine initial radiatio	/
3.	Whe pro	n the <u>onsite</u> Emergency Organization i vide the following information:	s activated	
	a.	Contact the Radiological Protection provide him with (1) OSC radiation p (i.e., equipment, "background" level appropriate, the status of dose proj action recommendations, onsite and o Monitoring Teams.	Coordinator and rotection status s, etc.); (2) as ections, protective ifsite Field	/
	b.	Monitor radiological assessment acti Emergency Organization and provide Co with appropriate information.	vities of the <u>onsit</u> ontrol Room personn	e/
		Sig	nature	
		Date	e	
P IM	VNGS EMERGENCY PLAN PLEMENTING PROCEDURE	PROCEDURE NO. EPIP-11	APPENDIX D Page 1 of 1	
-----------------	-----------------------------------------------------------------------------	-------------------------------------	---------------------------	
TECHNIC	CAL SUPPORT CENTER/SATELLITE TSC ACTIVATION	REVISION	Page 13 of 28	
	SATELLITE TSC COMMUNI	ICATOR CHECK LIST		
ACTION 1	TEMS		TIME/INITIALS	
1. As d proc	lirected by the Emergency Coordinato ess per EPIP-07 and EPIP-08 (as app	or initiate notifica propriate).	ation/	
2. When him	relieved by designated onsite STSC with status of notification process	C Communicator provi	ide	
3. When Coor	notification process is completed dinator.	inform the Emergenc		
4. Ensu	re STSC communications equipment is	operable.	/	
5. Main	tain Communication Togbook.		/	
	Si	gnature		
	Da	te		

	IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-11	APPENDIX E Page 1 of 1
TE	CHNICAL SUPPORT CENTER/SATELLITE TSC ACTIVATION	REVISION	Page 14 of 28
	SHIFT SYSTEMS ENGI (Preliminary TS)	INEER CHECK LIST C Activation)	
ACT	ION ITEMS		TIME/INITIAL
1.	Ensure communication devices are opera accordance with the APS Emergency Resp Equipment Manual.	able in the TSC in bonse Facility	/
	EC/EOD Hotline Plant & Security Radio Environmental Assessment Line Technical Line Maintenance Control Line	Radiological Line CR Lines EOF Dedicated Line OSC Dedicated Line STSC Dedicated Line	
2.	Ensure SPDS is operational.		/
3.	Ensure CRACS is operational.		1
4.	Ensure TSC computer terminals are oper.	able.	1
5.	 Break out manual dose projection maps and overlays from emergency lockers. 		/
6.	Break out onsite/offsite environmental	sampling location ma	ps. /
7.	Report TSC readiness to Emergency Coord	dinator.	
	S	ignature	
	- Da	ate	

	PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-11	APPENDIX F Page 1 of 2
TE	ECHNICAL SUPPORT CENTER/SATELLITE TS ACTIVATION	C REVISION	Page 15 of 28
ACT	EMERGENCY COORDINATOR (MANAGE	R, NUCLEAR OPERATIONS) CI	HECK LIST
1.	Contact the Duty Manager and revie	ew:	
	 The logic used to establish the event. 	ne classification of the	/
	b. Status of plant conditions.		/
	 Status of notification of Fede emergency management agencies. 	ral, State, and County	/
	 d. Status of onsite/offsite PVNGS notification process. 	Emergency Organization	
	 Protective action recommendati knowledge of state's action(s) 	ons made to date and his (if necessary).	/
2.	Review Personnel Accountability Re	port (EPIP-20).	/
3.	 Determine need to evacuate nonessential personnel (required for SITE and/or GENETAL EMERGENCY, EPIP-19). 		/
4.*	Make protective action recommendate sidering existing plant conditions (EPIP-15).	ions, as appropriate, con and potential degradatio	/
5.*	As the situation warrants reclassif	y the event per EPIP-02.	/
6.	Review the results of dose projecti	ons.	1
7.	Authorize emergency exposure limits	as necessary (EFIP-18).	/
8.	Authorize dispatch of onsite and of necessary (EPIP-16 and 17).	fsite Survey Teams as	/
9.	Authorize dispatch of Search and Re (EPIP-21).	scue Teams as necessary.	
	Complete the TSC Readiness Check Lis	st, Appendix P of this	1

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-11	APPENDIX F Page 2 of 2
TECHNICAL SUPPORT CENTER/SATELLITE TSC ACTIVATION	REVISION	Page 16 of 28

EMERGENCY COURDINATOR (MANAGER, NUCLEAR OPERATIONS) CHECK LIST (CONT'D)

NOTE:

* These items cannot be delegated; however when the EOF is activated and the Emergency Operations Director assumes control, the responsibility for these items will be transferred to him.

Signature _____

Date _____

TECH	ICAL SUPPORT CENTER/SATEL ACTIVATION	REVI	EPIP-11	APPENDIX G Page 1 of 1
		LITE TSC -	SION 0	Page 17 of 28
	TECHNICAL ENG	INEERING COORDINAT	OR CHECK LIS	T
ACTION	ITEMS			TIME/INITIALS
L. Ad	cess records management as cuments, procedures, blue	nd obtain needed te prints.	chnical	/
l. Er ap	sure that the following cl propriate personnel:	neck lists are comp	leted by the	e
Ch Ch Ch	eck List J - Emergency Max eck List K - Hazards Contr eck List M - Chemistry Coo eck List N - Reactor Analy eck List O - Computer Supp	Intenance Coordinat rol Coordinator ordinator yst port Coordinator	or	
B. De	termine the need for addit pport personnel. Contact	ional engineering such personnel as	and technica necessary.	1 /
		Signature		
		Date		

	PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-11	APPENDIX H Page 1 of 1
TE	CCHNICAL SUPPORT CENTER/SATELLITE TSC ACTIVATION	REVISION .	Page 18 of 28
	RADIOLOGICAL PROTECTION COC	ORDINATOR CHECK LIS	r .
ACT	TION ITEMS		TIME/INITIALS
1.	Check that all materials needed to perfo available.	rm assessments are	
	a. Meteorological overlays and base map	S•	
	b. Proceduzes and forms.		
 Access the Rad/Met computer per the provisions of the APS Emergency Response Facility Equipment Manual. 		/	
3.	Contact the affected unit's STSC and det	ercine:	
	a. Extert of radiological releases and	plant conditions.	
	 b. Location of onsite and offsite monito dispatched). 	oring teams (if	
4.	Determine the need for additional personnel to assist in performing dose assessment.		
5.	When sufficient personnel and materials the Emergency Coordinator that the TSC is responsibility for dose assessments.	are available, info s ready to assume t	rm/ he
	Sig	nature	
	. Date	e	×

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PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-11	APPENDIX I Page 1 of 1
TECHNICAL SUPPORT CENTER/SATELLITE TSC ACTIVATION	REVISION 0	Page 19 of 28
SECURITY DIRECTOR	CHECK LIST	
ACTION ITEMS		TIME/INITIALS
 Check station security by contacting the Station Operator. 	Central Alarm	
2. Confer with the Security Shift Captain of area personnel accountability and securi station access by offsite assistance per	oncerning protected ty measures for sonnel.	
 Contact personnel at the Firing Range, inform them of the situation and provide instructions as appropriate. 		/
 Determine the need for additional securi Contact such personnel as necessary. 	ty force personnel.	
Sig	sature	
Dat	e	

PVNGS EMERGE	NCY PLAN ROCEDURE	PROCEDURE NO. EPIP-11	APPENDIX J Page 1 of 1
TECHNICAL SUPPORT CENTER ACTIVATION	SATELLITE TSC	REVISION 0	Page 20 of 28
EMERGE.	NCY MAINTENANCE CO	ORDINATOR CHECK LI	ST .
ACTION ITEMS			TIME/INITIALS
 Access records management and obtain needed technical documents, procedures, blueprints. 			
 Determine the need for personnel. Contact s 	or additional macha such personnel as r	anical support necessary.	/

Date ____

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	PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-11	APPENDIX K Page 1 of 1
TH	ECHNICAL SUPPORT CENTER/SATELLITE TSC ACTIVATION	REVISION 0	Page 21 of 28
	HAZARDS CONTROL COORDI	NATOR CHECK LIST	
ACT	TION ITEMS		TIME/INITIALS
1.	Determine areas that may pose a hazard the Emergency Coordinator, OSC Coordina	to personnel and in tor of the areas.	oform/
2.	Assist the Radiological Protection Coord	iinator with ALARA	/
3.	Direct the formation of Search and Rescu	ue Teams as require	ed. /
	Sig	gnature	
	Dat	e	

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-11	APPENDIX L Page 1 of 1
TECHNICAL SUPPORT CENTER/SATELLITE TSC ACTIVATION	REVISION 0	Page 22 of 28
PERSONNEL RESOURCES COO	RDINATOR CHECK LIS	T _
ACTION ITEMS		TIME/INITIALS
ACTION ITEMS 1. Assist the Security Director with accou	mtability per EPII	TIME/INITIALS

Signature _____

Date _____

	PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-11	APPENDIX M Page 1 of 1
TE	CHNICAL SUPPORT CENTER/SATELLITE TSC ACTIVATION	REVISION 0	Page 23 of 28
	CHEMISTRY COORDINAT	FOR CHECK LIST	
ACT	ION ITEMS		TIME/INITIA
1.	Assist the Radiological Protection Coor in the set-up of dose assessment materi	dinator, as necess als.	ary,/
2.	. Contact the onshift Chemistry Technician (via station / /		
3.	Determine the need for additional chemin	stry support perso	nnel. /
4.	Confer with the Technical Engineering C determine needs concerning plant chemis assessment of core conditions and releas	oordinator to try data for se potentials.	/
	St	anature	
	Det		
	김 가슴 집에 다 있는 것이 있는 것이 잘 들었다. 것이 같은 것이 없는 것이 같은 것이 없다.		

	PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-11	APPENDIX N Page 1 of 1
TE	CCHNICAL SUPPORT CENTER/SATELLITE TSC ACTIVATION	REVISION 0	Page 24 of 28
	REACTOR ANALYST	CHECK LIST	
ACT	TION ITEMS		TIME/INITIALS
 Assess core parameters in order to determine current core conditions. 		<u> </u>	
2.	Inform the Technical Engineering Coordin recommendations for operation that would safer core conditions.	ator of result in	/
 Access records management and obtain needed technical documents, procedures, systems, diagrams. 			
4.	Determine the need for additional reacto	er support personn	el. /
	Sig	nature	
	Dat	A	

	PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	APPENDIX 0 Page 1 of 1	
TH	ECHNICAL SUPPORT CENTER/SATELLITE TSC ACTIVATION	REVISION	Page 25 of 28
	COMPUTER SUPPORT COORD	DINATOR CHECK LIST	
ACT	TION ITEMS		TIME/INITIALS
1.	Access computers (CRACS, SPDS) in accor Emergercy Response Facility Equipment M plant parameters.	dance with the APS anual and determine	· <u> </u>
1.	Access computers (CRACS, SPDS) in accor Emergercy Response Facility Equipment M plant parameters. Provide requested data to the Emergency situation warrants.	dance with the APS anual and determine Coordintor, as the	<u> </u>
1. 2.	Access computers (CRACS, SPDS) in accor Emergercy Response Facility Equipment M plant parameters. Provide requested data to the Emergency situation warrants. Determine the need for additional compu	dance with the APS anual and determine Coordintor, as the ter support personnel	· _ /

Date

PVNGS EMERGENCY PLAN		PROCEDURE NO. EPIP-11	APPENDIX P Page 1 of 1	
TH	ECHNICAL SUPPORT CENTER/SATELLITE TSC ACTIVATION	REVISION 0	Page 26 of 28	
ACT	FIELD TEAM COMMUNICA	TOR CHECK LIST	TIME/INITIAL	
			TIME/ INTITAL	
1.	Report to the Radiological Protection Co information on the deployment of Field N	ordinator and obtain onitoring Teams.		
2.	Ensure Field Team communications equipme	nt is operable.	/	
3.	Assist the Radiological Protection Coord performance of dose assessment calculati	inator in the ons as necessary.		
	Ste	nature		

Date

	F IM	PVNGS EMERGENCY PLAN	PROCEDURE NO. EPIP-11	APPENDIX Q Page 1 of 1				
TECHNICAL SUPPORT CENTER/SATELLITE TSC ACTIVATION			REVISION	Page 27 of 28				
		TSC READINESS C	HECK LIST					
ACTI	ION	ITEMS		TIME/INITIALS				
1.	Conthe	duct briefing with available TSC pers following items shall be discussed:	sonnel. As a minim	um,				
	a.	Adequacy of activation.		/				
	b.	Ability of assigned personnel to ass duty roles.	sume their emergency	y/				
	c.	Operability of equipment (installed emergency).	as well as portable	a				
2.	The	ne Maintenance and Operations Manager or alternate shall:						
	a.	Assume the role of Emergency Coordin	ator.	/				
	ь.	Declare the TSC fully operational an following onsite emergency response	d inform the facilities:					
		(1) STSC (affected unit)		/				
		(2) Each unit's Control Room		1				
		(3) EOF		1				
		(4) APS Site Construction Office		1				
		(5) Bechtel Emergency Control Center						
		Emergency Coordinater Sign	nature	建的现在。				
		Date	2					

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	NO. EPIP-11 REVISION



Figure 7.1-1

FLOORPLAN - TECHNICAL SUPPORT CENTER (TSC) PALO VERDE NUCLEAR GENERATING STATION (PVNGS)

Source: Bechtel Power Corporation NOTE: Details Dependent on Finalization of Plant Design

April, 1981

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PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-12	
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PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-12	
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3.0	LIMITATIONS AND PRECAUTIONS	3
4.0	DETAILED PROCEDURE	4
	4.1 Personnel Indoctrination4.2 Prerequisites4.3 Instructions	4 5 5

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Appendix	В	-	OSC	Habitability Criteria	8

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-12	
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1.0 OBJECTIVE

- 1.1 The objective of this procedure is to provide instructions for the activation of the Operations Support Centers (OSC's). This procedure addresses the following:
 - Activation of the unit OSC
 - o Activation of the alternate OSC (Service Building)

2.0 REFERENCES

- 2.1 Implementing References
 - 2.1.1 EPIP-01, "PVNGS Emergency Organization"
 - 2.1.2 EPIP-04, "ALERT Implementing Actions"
 - 2.1.3 EPIP-05, "SITE EMERGENCY Implementing Actions"
 - 2.1.4 EPIP-06, "GENERAL EMERGENCY Implementing Actions"
- 2.2 Developmental References
 - 2.2.1 NUREG 0654, Rev. 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants"
 - 2.2.2 NUREG 0696, Feb. 1981, "Functional Criteria for Emergency Response Facilities"
 - 2.2.3 PVNGS Emergency Plan, Rev. 2

3.0 LIMITATIONS AND PRECAUTIONS

3.1 Since no habitability criteria are established for the OSC's, evacuation of OSC personnel may be required as dictated by radiological/environmental emergency conditions. If the area alarm monitor and/or the continuous air monitor alarms, an area habitability survey should be conducted. The results of the survey should be transmitted to the Radiological Protection Coordinator who will determine the need to relocate personnel to the Service Building (alternate OSC).

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-12	
OPERATIONS SUPPORT CENTER ACTIVATION	REVISION 0	Page 4 of 8

4.0 DETAILED PROCEDURE

4.1 Personnel Indoctrination

4.1.1 The OSC is the assembly and staging area for unit/station personnel pooled for emergency response assignments. Designated emergency response personnel will report to the OSC if not specifically assigned to a particular emergency position.

The OSC Coordinator is responsible for:

- 1. Activating the OSC.
- 2. Organizing emergency personnel who report to the OSC.
- Ensuring emergency personnel are available for dispatch.
- 4.1.2 The function of the OSC remains the same for an ALERT, SITE EMERGENCY and CENERAL EMERGENCY classifications. Personnel/equipment augmentation may vary according to specific circumstances.

The functions and personnel responsible for them include:

- 1. OSC Coordinator Shift Maintenance Foreman
- 2. Operating Staff Support Off-duty Operations Personnel
- Radiological Surveys (in plant/onsite/offsite) -Radiation Protection Personnel
- Radiation Protection Teams (Personnel Monitoring/ Dosimetry/Decontamination/Access Control/Reentry Control) - Radiation Protection Personnel
- 5. Repair Teams (Maintenance/Repair/Damage Control) -Maintenance Staff
- 6. Chemistry Sampling/Analysis Chemistry Personnel
- Search and Rescue Teams/First-Aid Teams Designated personnel from the above list.
- 8. Fire Team Designated personnel from the above list.

PVNGS I	EMERGENCY PLAN	PROCEDURE NO. EPIP-12	
OPERATION A	NS SUPPORT CENTER CTIVATION	REVISION	Page 5 of 8
4.1.3	The primary OSC is located affected units' Auxiliary the units' Radiation Prote decontamination facility, facility, and access to the evaluate, control, and min	d in the lunchroom Building. It is l ection Area to prov a fixed radiologic he station's RE&M s mimize personnel ex	of the ocated near ide for a al counting ystem to posure.
4.1.4	The OSC is connected with telephone lines for commun Room.	the inplant and co mication with the T	mmercial SC and Control
4.1.5	The alternate onsite OSC is Building. OSC personnel w Emergency Coordinator, on Protection Coordinator, de necessary.	is located in the S will relocate to th the advice of the etermines that this	ervice is area if the Radiological action is
4.1.6	Emergency radiological mor supplies, decontamination protective breathing appar equipment, and portable 11 kits located adjacent to t	nitoring equipment, supplies, protecti ratus, field commun ighting are stored the OSC.	first aid ve clothing, ications in emergency
4.2 Pre	erequisites		
4.2.1	An ALERT or more severe emprocedure EPIP-04, 05, or	nergency has been d O6 is being implem	eclared and ented.
4.3 Ins	structions		
4.3.1	Activation of the Primary	osc	
4.3.1	.1 The Shift Maintenance affected unit OSC and Appendix A.	Foreman shall repo complete the check	rt to the list in
4.3.1	.2 The following personne follow the directions	el shall report to of the OSC Coordina	the OSC and ator:
	1. Designated Off-dut	y Operations Person	nnel
	2. Maintenance Staff		
	3. Radiation Protecti	on Personnel	
	4. Chemistry Personne	1	

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-12	
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4.3.2 Activation of the Alternate OSC

- 4.3.2.1 In the event the primary OSC becomes uninhabitable (see Appendix B for habitability criteria), the Emergency Coordinator will direct OSC personnel to evacuate/report to the alternate onsite OSC (i.e., Service Building).
- 4.3.2.2 The primary OSC personnel will report/relocate to the alternate OSC and perform steps 4.3.1.1 and 4.3.1.2.
- 4.3.2.3 The OSC Coordinator shall ensure the transport of emergency equipment, including decontamination supplies, necessary to establish the offsite OSC.
- 4.3.2.4 In the event the alternate OSC becomes uninhabitable (see Appendix B for habitability criteria), OSC personnel will report to the TSC.

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	OPERATIONS SUPPORT CENTER . ACTIVATION	REVISION 0	Page 7 of 8
	OSC COORDINATOR	CHECX LIST	
ACT	CION ITEMS		TIME/INITIALS
1.	Activate the continuous air monitor.		/
2.	Ensure all communication devices operat	e.	/
 If any visitors, contractors, or nonessential personnel report to OSC, dispatch them to the Administration Annex Building First Floor for accountability. 			
4.	Conduct personnel accountability per EP results to Personnel Resources Cocruira	IP-20, and report tor.	/
5.	Ensure that all emergency equipment and state of readiness.	personnel are in a	/
6.	Ensure radiation protection support is surveys, and other assessment functions	available to perform as required.	/
7.	Report OSC readiness to Personnel Resou	rces Coordinator.	/
8.	Maintain an Emergency Action Log.		/
	OS Si	C Coordinator gnature	
	Da	te	

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-12	APPENDIX B Page 1 of 1
OPERATIONS SUPPORT CENTER ACTIVATION	REVISION	Page 8 of 8

OSC HABITABILITY CRITERIA

The following limits should be considered upper limit habitability criteria.

	, ACTIVITY CONCENTRATION-	WITHIN
2-10 mrem/hour	1-4 x MPC	48 hours
10-50 mrem/hour	4-20 x MPC	10 hours
50-100 mrem/hour	26-40 x MPC	5 hours
100-500 mrem/hour	40-206 x MPC	1 hour
500 mrem/hour	200 x MPC	Immediately

Where MPC is the maximum permissible concentration for areas as defined in Column 1, Table I, Appendix B to 10 CFR 20. This calculation will allow 200 MPC hours which conservatively limits internal exposure. This criteria is based on personnel not wearing respiratory equipment.

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PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-13	
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EMER FACI	GENCY OPERATIONS LITY ACTIVATION	REVISION 0	Page 3 of 23
1.0 <u>OBJE</u>	CTIVE		
1.1 Th th Th	e objective of this procedur e activation of the Emergenc is procedure addresses the f	e is to provide in y Operations Facil collowing:	structions for ity (EOF).
-	Complete activation of the by assigned personnel as t	Emergency Operati hey arrive at the	ons Facility EOF.
-	Functions of the EOF as an	emergency center.	
	Coordination between the E emergency organization.	OF and other divis	ions of the
-	EOF staffing requirements.		
2.0 <u>REFE</u>	RENCES		
2.1 Im	plementing References		
2-1.1	EPIP-01, "APS Emergency Or	ganization"	
2.1.2	EPIP-04, "ALERT Implementi	ng Action"	
2.1.3	EPIP-05, "SITE EMERGENCY I	mplementing Action:	5"
2.1.4	EPIP-06, "GENERAL EMERGENC	Y Implementing Act:	lons"
2.1.5	APS Emergency Response Fac	ility Equipment Mar	nual
2.2 Dev	velopmental References		
2.2.1	NUREG-0654, Rev. 1, "Crite: Evaluation of Radiological Preparedness in Support of	ria for Preparation Emergency Response Nuclear Power Plan	n and Plans and hts"
2.2.2	NUREG 0696, Feb. 1981, "Fun Response Facilities"	nctional Criteria f	for Emergency
2.2.3	PVNGS Emergency Plan, Rev.	2	-

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3.0 LIMITATIONS AND PRECAUTIONS

3.1 Upon activation of the EOF, designated personnel shall report directly to the EOF and achieve full functional operation as soon as possible (generally within 90 minutes).

4.0 DETAILED PROCEDURE

- 4.1 Personnel Indoctrigation
 - 4.1.1 The EOF is the focal point for coordination of onsite and offsite emergency assponse activities. Management and technical personnel assigned to the EOF are responsible for protective action recommendations, liaison with offsite governmental organizations and response facilities, and overall management of the PVNGS emergency organization. The EOF is the central location for the receipt and analysis of field monitoring data and the coordination of further offsite monitoring/sampling by APS Field Survey Teams.
 - 4.1.2 During an ALERT, or more severe accident, overall command of AFS emergency operations will be exercised by the Emergency Operations Director (Vice President, Electric Operations) at the EOF. He will provide direction and support for inplant emergency response actions to the Emergency Coordinator (Manager, Nuclear Operations), and coordinate APS headquarters support through the CEC. In addition, he will communicate plant status updates and information for media release to the ENC and the CEC.
 - 4.1.3 Functional assignments at the EOF, in addition to the Emergency Operations Director are:

4.1.3.1 Radiological Analysis

Analyze source term, release, and meteorological information to determine anticipated, or actual, impact on areas of concern. Interface with ARRA representatives in recommending protective action(s) for the population-at-risk.

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4.1.3.2 Technical Liaison

Function as a primary interface with NRC/state/county personnel stationed in the EOF to provide updates on the status of the reactor and unit. Assist APS Corporate Relations personnel at the Emergency News Center by participating in media briefings and interpreting technical aspects of the emergency.

4.1.3.3 Administrative and Logistics Support

Provide needed technical documents, communications and analytical equipment, clerical assistance, transportation/housing support and security for EOF.

4.1.3.4 Public Affairs Support

Gather necessary information for subsequent release to the media from the ENC.

- 4.1.4 The EOF will be activated and manued for an ALERT or more severe incident classification.
- 4.1.5 The EOF emergency supply storage area contains a supply of calibrated radiological monitoring equipment, dosimetry, protective clothing, protective breathing apparatus, first aid supplies, communications equipment, cameras, and portable lighting. In addition to the foregoing, the EOF is equipped with a sleeping area, lounge, food preparation facilities, and emergency food and drinking water supplies. A backup Emergency News Center, which may be used to communicate information to the media, is located above the EOF.

4.2 Prerequisites

4.2.1 An ALERT or more severe level emergency has been declared and procedure EPIP-04, 05, or 06 is being implemented.

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4.3 Instructions

4.3.1 Activation of the EOF

- 4.3.1.1 The Administration Annex Building Security Officer will request assignment of an additional Security Officer to the Administration Annex Building from the Security Shift Captain. When the additional Security Officer acrives, he shall relieve the Administration Annex Building Security Officer of his security related duties. The relieved Security Officer shall then proceed to the EOF and perform the following:
 - a. Break out tables stored in the Emergency Command Center and install them in accordance with Appendix M.
 - b. Connect telephones stored in the Emergency Command Center in accordance with the communications layout of Appendix M.
 - c. Break out additional office supplies (nameplates, in-out boxes).
 - Report completion of above to Security Shift Captain.
 - Lock door to restrict entrance to EOF by stairs #2 (see Appendix N).
- 4.3.1.2 The following Offsite Emergency Organization personnel shall report to the EOF and complete their designated check lists:
 - o Vice President, Electric Operations Appendix A
 - o Radiological Assessment Coordinator Appendix B
 - Technical Analysis Coordinator Appendix C
 - EOF Contact Appendix D
 - Administration and Logistics Coordinator -Appendix E
 - Radiological Assessment Communicator Appendix F

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- o Government Liaison Engineer Appendix G
- o TSC Liaison Engineer Appendix H
- o Legistics Communicator Appendix I
- o Dusimetry Clerk Appendix J
- o Security Coordinator Appendix K
- 4.3.2 Declaration of EOF Readiness
 - 4.3.2.1 Upon completion of EOF personnel check lists, the Emergency Operations Director shall complete the EOF Beadiness Check List of Appendix L.
 - 4.3.2.2 The Emergency Operations Director will then contact the Emergency Coordinator, the Corporate Emergency Center (if activated) and the Emergency News Center and inform them that the EOF is operational.

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EMERGENCY OPERATIONS FACILITY ACTIVATION -	REVISION 0	Page 8 of 21
EMERGENCY OPERATIONS D	DIRECTOR CHECK LIST	
ACTION ITEMS		TIME/INITIAL
1. Contact Emergency Coordinator and revi	ew:	
a. The logic used to establish the ev	ent classification.	/
b. Status of plant conditions.		
c. Corrective actions that are being taken.		
2. Ensure that the following positions ar	e staffed:	
a. Radiological Assessment Coordinato	r	/
b. Technical Analysis Coordinator		/
c. EOF Contact		/
d. Administrative and Logistics Coord	inator	
 Notify the TSC and CEC when the EOF is operational and nomplete the EOF Readiness Check List, Appendix L. 		/
 Pased on presentations from the Rediological Assessment Coordinator, recommend protective actions to state and county agencies. 		/
 As necessary, communicate plant status radiological release data to NRC/FEMA, CEC, and ENC personnel. 	updates and state/county, EOC,	
EOD Sig	nature	
. Date		

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	PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-13	APPENDIX B Page 1 of 1
	EMERGENCY OPERATIONS FACILITY ACTIVATION	REVISION - 0	Page 9 of 21
	RADIOLOGICAL ASSESSMENT CO	OCRDINATOR CHECK LIS	ST .
ACT	CION ITEMS		TIME/INITIAL
1.	Ensure Radiological Assessment Communicator's position is /		· <u> </u>
2.	Access CRACS to receive current dose projection data. /		
3.	Contact the Radiological Protection Coo	ine:	
	a. Extent and consequences of radiolog plant conditions.	ical releases and	/
	b. Protective action recommendations m	ade to date.	/
	c. Location of onsite and offsite fiel if dispatched.	d monitoring teams,	
4.	Ensure that materials needed to perform assessments are available.	manual dose	
	a. EPIP-14A and 14B		/
	b. Isopleths		/
	c. Base Map		/
5.	Make recommendations to the Emergency Operations Director as to the need for protective actions.		as <u>/</u>
6.	Ensure Radiological Status Boards are updated as information becomes available.		on <u>/</u> .
7.	Make recommendations to ARRA officials a should be deployed and what to monitor.	as to where REAT's	/
	Radiolog: Coordinat	ical Assessment tor Signature	
	Date		

PVNGS EMERC	PROCEDURE	PROCEDURE NO. EPIF-13	APPENDIX C Page 1 of 1
EMERGENCY OF FACILITY ACT	PERATIONS TIVATION	REVISION	Page 10 of 21
TEC	HNICAL ANALYSIS COO	DRDINATOR CHECK LIST	
ACTION ITEMS			TIME/INITIALS
1. Obtain plant status from the TSC.		/	
 Provide updates on the status of the reactor and unit to NRC, state, and county personnel as necessary. 		/	
 Provide the Emergency Operations Director with technical guidance as to how plant status may impact offsite emergency response actions. 			
 Verify the technical accuracy and adequacy of all public information releases prior to dissemination to the media. 			
. Ensure the following positions are staffed:			
a. Government Liaison Engineer		/	
b. TSC Liaison Eng	ineer		/
	Technic Coordin	al Analysis ator Signature	
	Date		

	PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-13	APPENDIX D Page 1 of 1
	EMERGENCY OPERATIONS FACILITY ACTIVATION	REVISION 0	Page 11 of 21
	ECF CONTA	ACT CHECK LIST	
ACT	ION ITEMS		TIME/INITIALS
1.	Establish and maintain communication at the ENC.	ons with the ENC Director	r/
 Inform the ENC Director of significant changes in plant status for subsequent release to the news media. 			
3.	Prepare preliminary press releases EPIP-32.	in accordance with	
	EOF Sig	Contact nature	
	Dat	e	

	PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-13	APPENDIX E Page 1 of 1	
	EMERGENCY OPERATIONS FACILITY ACTIVATION	REVISION 0	Page 12 of 21	
	ADMINISTRATIVE AND LOGISTIC	CS COORDINATOR CHEC	K LIST .	
ACT	TION ITEMS		TIME/INITI	
1.	Ensure the following equipment is oper	rational:		
	a. SPDS		/	
	b. CRACS			
	c. EOF Computer Terminals (RE&M, SIM	S, RMS, CRACS)		
2.	Ensure support organizations such as Bechtel, CE, INPO are / /			
3.	Check that facilities available to emergency response /			
4.	As necessary provide for additional ma	anpower support by	1	
	contacting organizations per EPIP-33.	anyoner brypore by		
5.	As necessary obtain required:			
	a. Technical documents		/	
	b. Communication equipment		1	
	c. Analytical equipment		/	
	d. Transportation support			
	e. Housing and food for emergency res	sponse personnel	/	
6.	Contact American Nuclear Insurers and situation.	inform them of	/	
7.	Ensure the following positions are staffed:			
	a. Logistics Communicator		1	
	b. Dosimetry Clerk			
	c. Security Coordinator		/	
	Adminis Coordin	strative and Logisti nator Signature	cs	
	Date			
IMPLEMENTING PROCEDURE	NO. EPIP-13	APPENDIX F		
--------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------		
EMERGENCY OPERATIONS FACILITY ACTIVATION	REVISICN 0	Page 13 of 21		
RADIOLOGICAL ASSESSMENT COM	MUNICATOR CHECK L	IST		
ION ITEMS		TIME/INITIAL		
Establish and maintain communications wi Assessment personnel.	th ISC Radiologic	al/		
Keep the Radiological Assessment Coordin changes in radiological status.	ator informed of	/		
Maintain records of communications conce assessment.	rning radiological	1/		
Maintain the Radiological Status Board i direction of the Radiological Assessment	n the EOF at the Coordinator.	/		
Radiologi Communica	cal Assessment tor Signature			
	IMPLEMENTING PROCEDURE EMERGENCY OPERATIONS FACILITY ACTIVATION RADIOLOGICAL ASSESSMENT CON ION ITEMS Establish and maintain communications wi Assessment personnel. Keep the Radiological Assessment Coordin changes in radiological status. Maintain records of communications conce assessment. Maintain the Radiological Status Board i direction of the Radiological Assessment Radiological Assessment	IMPLEMENTING PROCEDURE EPIP-13 EMERGENCY OPERATIONS FACILITY ACTIVATION REVISION O RADIOLOGICAL ASSESSMENT COMMUNICATOR CHECK L ION ITEMS Establish and maintain communications with TSC Radiological Assessment personnel. Keep the Radiological Assessment Coordinator informed of changes in radiological status. Maintain records of communications concerning radiological assessment. Maintain the Radiological Status Board in the EOF at the direction of the Radiological Assessment Coordinator. Radiological Assessment Coordinator.		

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	EMERGENCY OPERATIONS FACILITY ACTIVATION	REVISION 0	Page 14 of 21
	GOVERNMENT LIAISON H	ENGINEER CHECK LIST	
ACT	TION ITEMS		TIME/INITIALS
1.	Inform the Satellite TSC Communicator station and assume the responsibility notifications.	that you are on for offsite	
2.	Establish and maintain communications relieved by a designated NRC represen	with the NRC until tative.	/
3.	Report the completion of offsite noti Technical Analysis Coordinator.	fications to the	/
	Govern Engine	ment Liaison er Signature	
	Date		

	PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-13	APPENDIX F Page 1 of 1
	EMERGENCY OPERATIONS FACILITY ACTIVATION	REVISION 0	Page 15 of 21
	TSC LIAISON ENGINE	ER CHECK LIST	
ACT	TION ITEMS		TIME/INITIALS
1.	Monitor the SPDS terminal in the EOF.		/
2.	Contact the CR and TSC to obtain operat the unit,	ional status of	/
3.	Maintain communication with Bechtel and EOF concerning plant status and recomme corrective action.	CE personnel at t ndations for	he <u>/</u>
4.	Inform the Technical Analysis Coordinat recommendations and of significant chan	or of proposed ges in plant statu	s. /
5.	Ensure the Status Board Keeper position provide status board updates as necessa	is manned and ry.	/
	TSC Liai Engineer	son Signature	
	Date		

	PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-13	APPENDIX I Page 1 of 1
	EMERGENCY OPERATIONS FACILITY ACTIVATION	REVISION	Page 16 of 21
	LOGISTICS COMMUNIC	ATOR CHECK LIST	
ACT	ION ITEMS		TIME/INITIALS
1.	With the assistance of the Radiologica Communicator, ensure <u>all</u> EOF communica is operable.	al Assessment ations equipment	/
2.	Contact support organizations at the d Administrative and Logistics Coordinat	lirection of the cor per EPIP-33.	/
	Logisti Signatu	ics Communicator	
	Data		

	PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-13	APP	ENDIX J e 1 of 1
	EMERGENCY OPERATIONS FACILITY ACTIVATION	REVISION 0	Pag	e 17 of 21
	DOSIMETRY CLERK	CHECK LIST		
ACT	TION ITEMS			TIME/INITIALS
1.	Obtain emergency dosimetry from the EOH in preparation for its distribution.	f emergency locker		/
2.	As necessary, provide dosimetry and TLI support personnel reporting to site ass personnel.	D's to EOF personne signment, and site	1,	/
3.	Report the need for additional dosimetrand Logistics Coordinator.	ry to the Administr	ative	/
	Dosimet Signatu	ry Clerk		

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	PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-13	APPENDIX K Page 1 of 1
	EMERGENCY OPERATIONS FACILITY ACTIVATION	REVISION	Page 18 of 21
	SECURITY COORDINATO	OR CHECK LIST	
ACT	TION ITEMS		TIME/INITIALS
1.	Contact the Securicy Director at the TSO present site access conditions.	C to determine	
2.	Inform the Security Director of offsite required onsite to expedite the badging	personnel that are process.	
3.	Keep the Administrative and Logistics Co of site security conditions.	oordinator informed	/
	Security	Coordinator	
	Date		

- 11 A

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EMERGENCY OPERATIONS FACILITY ACTIVATION	REVISION	Page 19 of 21
EOF READI	NESS CHECK LIST	
ACTION ITEMS		TIME/INITIAL
 Conduct briefing with available Ed the following items shall be discu 	OF personnel. As a minimum ussed:	n, <u>/</u>
a. Adequacy of activation.		/
b. Ability of assigned personnel emergency duty roles.	to assume their	<u> </u>
c. Operability of equipment (inst portable emergency).	talled as well as	/
2. The Vice President, Electric Operations Direction of Emergency Operations Directional and inform the Direction of Executive Officer at the Chief Executi	ations shall assume the ctor, declare the EOF Emergency Coordinator and e Corporate Emergency	/

Emergency Operations Director Signature

Date _____

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Center.

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Table

Personnel Locations

- Emergency Operations Director Α.
- Administrative and Logistics Β. Coordinator
- C. Logistics Communicator
- Government Liason Engineer D.
- EOF Contact Ε.
- Security Coordinator F.
- Technical Analysis Coordinator G.
- Status Board Keeper н.
- Radiological Assissment I. Coordinator
- TSC Liason Engineer J.
- Radiological Assessment K. & L. Communicator
 - State of Arizona Μ.

- Voice Circuit (411, ARRA, ADES) 6.
- 7. Facsimile & Backup (411, ARRA, ADES)
- Technical Line 8.
- 9. TSC Line
- 10. Environmental Line
- 11. C.R.A.C.S. Terminal
- 12. Base Station Radio
- 13. CR Line
- 14. S.P D.S. Terminal
- STSC Line 15.
- * Normal Phone Line
- Table

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EOF FLOORPLAN



A. . . .

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RELEAS	E RATE DETERMINATION	REVISION 0	Page 2 of 19
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4.1 Por	connel Indoctrination		5
4.2 Pre	requisites		5
	APPENDIC	ES	
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Appendix C - F	Release Rate Determination fr Ventilation Exhaust	om the Fuel Building	13
Appendix D - F	Release Rate Determination fr	om Main Steam System	14
Appendix E - F U	Release Rate Determination fr Utilizing Containment Area Mo Instruments	com Containment onitors or Hand-Held	15
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RELEASE	RATE DETERMINATION	0	Page 3 of 1
1.0 <u>OBJE</u>	CTIVE		
1.1 Thi def tur fue mon be han act do: Asi	is procedure describes method termination of airborne radi rbine building (plant vent a el building and the main ste nitor readings. If this is inferred indirectly from ar ad-held monitors. Upon dete tual or projected plume expo ses may be calculated in acc sessment".	odology for the man loactive release ra and condenser air r am lines utilizing not possible, rele rea radiation monit ermination of relea osure dose rates, a cordance with EPIP-	ual tes from the emoval), the effluent ase rates will ors or se rates, nd integrated 14B, "Dose
2.0 <u>REFE</u>	RENCES		
2.1 Imp	plementing References		
2.1.1	EPIP-08, "Notification Pro GENERAL EMERGENCY	ocess - ALERT, SITE	EMERGENCY, or
2.1.2	EPIP-11, "Technical Suppor	t Center Activatio	n"
2.1.3	EPIP-12, "Operations Suppo	rt Center Activati	on"
2.1.4	EPIP-13, "Emergency Operat	ions Facility Acti	vation"
2.2 Dev	velopmental References		
2.2.1	PVNGS Emergency Plan, Rev.	2	
2.2.2	FSAR, Chapter 11, "Process Monitoring and Sampling Sy	and Effluent Radi	ological
2.2.3	NUREG-0737, "Clarification	of TMI Action Plan	n Requirements
3.0 <u>LIMI</u>	CATIONS AND PRECAUTIONS		
3.1 If eme rel amo sys	an airborne radioactive mat rgency conditions, the majo eased through the plant ven bunts being released through tem, the fuel building exha	erial release occur rity of material w t with the possibil the condenser air ust or the main sto	rs under ill be lity of minor removal eam lines.
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PVNGSE	MERGENCY PLAN	NO.			
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RELEASE	RATE DETERMINATION	0	Page 4 of 1		
3.1.1	Activity release rate cal removal system, fuel buil system and the turbine bu conducted only if the app elevated activities, and are expected to occur.	culations for the condenser air ding exhaust system, main steam hilding plant vent should be propriate monitors indicate actual releases have occurred or			
3.2 Dep mon	pending upon release sites, nitors must be properly fun	one or more of the ctioning;	following		
3.2.1	AN-143; Low Range Plant V Ru-143; Intermediate Rang Ru-144; High Range Plant	ent Monitor e Plant Vent Monito Vent Monitor	r		
3.2.2	AN-145; Low Range Fuel Bu Ru-145; Intermediate Rang Ru-146; High Range Fuel B	ilding Exhaust Moni e Fuel Building Exh building Exhaust Mon	tor aust Monitor itor		
3.2.3	AN-141; Low Range Turbine Monitor Ru-141; Intermediate Rang Removal Monitor Ru-142; High Range Turbin Monitor	e Building Condenser e Turbine Building ne Building Condense	Air Removal Condenser Air r Air Removal		
3.2.4	Ru-139A,B; 140A,B; Main S	Steam Line Monitors			
3.2.5	Ru-148 or Ru-149; Contain	ment Area Monitors			
3.3 Mo co pr	nitor readings must be obtansole in the Control Room office.	nined from the communication of the console in the	nication e radiation		
3.4 De co in no	termination of containment ntainment area monitors Ru- struments should be used or nfunctional.	release rates utili -148 or Ru-149 or ha hly if effluent moni	zing nd-held tors are		
3.4.1	Plant vent releases may b actual containment exposu exposure rates and releas release rates were calcul	be calculated by con are rates to project se rates. Projected lated assuming a des	relating ed containment exposure and ign basis loss		

3.5 "Effective age" refers to the time after core shutdown. Release rates will vary as a function of "effective age".

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PVNGS E	MERGENCY PLAN	PROCEDURE NO. EPIP-14A	
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RELEASE	RATE DETERMINATION	0	Page 5 of 19
4.0 DETAI	LED PROCEDURE		
4.1 Per	sonnel Indoctrination		
4.1.1	As delineated in EPIP-01, Technician (affected unit offsite dose calculations	the Radiation Prot) will be responsib and/or projections	ection le for initial
4.1.2	At an ALERT or more sever Protection Coordinator (a for dose calculations and	e level, the Radiol t the TSC) will be /or projections.	ogical responsible
4.2 Pre	erequisites		
4.2.1	An Alert or higher level the provisions of EPIP-02	emergency has been .	classified per
4.2.2	An actual or projected re material has occurred or	lease of airborne : will occur.	radioactive
4.2.:	2.1 Additionally, release significant changes i minimum of every two hours and every 10 ho hours.	rates shall be de n monitor readings hours for effective ours for effective a	termined upon and at a e ages 0-10 ages 10-100
4.3 In:	structions		
4.3.1	Determine release point(s reading(s). Proceed to t	a) from effluent mo the appropriate sec	nitor tion.
	o Plant Vent Section Ut	ilizing Effluent M	onitor, 4.3.2.
	o Condenser Air Removal	System, 4.3.3.	
	o Fuel Building Ventila	ation Exhaust, 4.3.	4.
	o Main Steam Lines, 4.3	3.5.	은 방법과
	o Plant Vent or Contain Monitors or Hand-Held	nment Utilizing Con I Instruments, 4.3.	tainment Area 6.
4.3.2	Determination of activity (Appendix A).	y release rate from	the plant vent

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	REVISION			
Page 6 of 19	. 0	ATION	DETERMIN	RELEASE RATE
n units of nel B) of rmediate nis value on	air concentration in beta channel (Chann ange), Ru-143 (inter h range). Record th Section A.	he noble gas rom the gros AN-143 (low r Ru-144 (in A, Column 2	Obtain t uCi/cc f monitor range) o Appendix	4.3.2.1
nits of uCi/cc , Ru-143 or , Column 2,	concentration, in un 1 of monitor AN-143, value on Appendix A,	ha I-131 ain I-131 chann Record this B.	Obtain t from the Ru-144. Section	4.3.2.2
the vent flow o obtain the Ci/sec.	reading (uci/cc) by c, default value) to l release rate in uC	the monitor 64 E+07 cc/s s and/or I-1	Multiply rate (6. noble ga	4.3.2.3
ersion	utilizing the conve	ert to Ci/se -06Ci/uCi.	o Conv 1.0E	
ltiply the e conversion e release ection C).	is nonfunctional mul e by the appropriate and G) to obtain the odines and I-131 (Se	-131 channel s release ra Appendices H total radio ion	If the I noble ga factor (rates of Calculat	4.3.2.4
/sec x 1.0E-06 Ci/uci	A _{NG} x Flow Rate cc/		RR _{NG}	
	RR _{NG} x C ₁		RRTI	
	RR _{TI} x C ₂		RR1-131	
rate (Ci/sec)	noble gas release r	RR _{NG}	Where:	
releas rate (Ci/sec)	total radioiodine r	RRTI		
rate (Ci/sec)	iodine 131 release	RR1-131		
entration (uCi/cc) 3 or Ru-144	noble gas air conce from monitor Ru-143	A _{NG}		
olant vent flow rate = efault valve) or flow rates)	flow rate cc/sec; p 6.64E+07 cc/sec (de (operating vents x	Flow Rate		
(uCi/cc)	noble gas activity	A _{NG}		
I I I E	e by the appropriat and G) to obtain th odines and I-131 (S ANG x Flow Rate cc RR _{NG} x C ₁ RR _{TI} x C ₂ noble gas release total radioiodine iodine 131 release noble gas air conc from monitor Ru-14 flow rate cc/sec; 6.64E+07 cc/sec (d (operating vents x noble gas activity	s release ra Appendices H total radio ion RR _{NG} RR _{TI} RR _{I-131} A _{NG} Flow Rate A _{NG}	noble ga factor (rates of Calculat RR _{NG} RR _{TI} RR _{I-131} Where:	

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RELEASE RATE	DETERMINATION	REVISION 0	Page 7 of 19
	1.0E-06 Ci/uCi = co	nversion from uCi	to Ci
	C ₁ = ra re	tic of total iodin lease rates (Appen	e/noble gas dix F)
	C ₂ = ra re	tio of I-131/total lease rates (Appen	iodine dix G)
4.3.3 Det air	ermination of activity removal system (Append	release rate from ix B).	the condenser
4.3.3.1	Obtain the noble gas a of uCi/cc from the gro monitor AN-141 (low ra range) or Ru-142 (high Appendix B, Column 2,	dir concentration A oss B channel (Chan ange), Ru-141 (inten range). Record t Section A.	(NG), in units unel B) of rmediate this value on
4.3.3.2	Obtain the I-131 air of from the I-131 channel Ru-142. Record this w Section B.	concentration in ur L of monitor AN-141 value on Appendix E	hits of uCi/cc , Ru-141 or 3, Column 2,
4.3.3.3	Multiply the monitor m flow rate (1.39E + 06 the noble gas and/or 1	reading (uCi/cc) by cc/sec, default va I-131 release rate	y the condenser alue) to obtain (uCi/sec).
	 Convert to Ci/sec Ci/uci. 	utilizing the conv	version 1.0E-06
4.3.3.4	If the I-131 channel is noble gas release rate factor (Appendices F a rates of total radioid	is nonfunctional mu by the appropriat and G) to obtain th odines and I-131 (S	ultiply the te conversion . ne release Section C).
	Calculation		
	RR _{NG} = A _{NG} x 1.39	9E+06 cc/sec x 1.01	E-06 Ci/uci
	$RR_{TI} = RR_{NG} \times C_1$		
	$RR_{I-131} = R_{TI} \times C_2$		
	(Refer to Section 4.3.	.2.4 for parameter	descriptions).
4.3.4 Det	ermination of activity Iding ventilation exhau	release rate from ust (Appendix C).	the fuel

IMPLEMENT	NG PROCEDURE	PROCEDURE NO. EPIP-14A	
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RELEASE RAT	E DETERMINATION	0	Page 8 of 19
4.3.4.1	Obtain the noble gas a in units of uCi/cc fro AN-145, Ru-145 or Ru-1 Appendix C, Column 2,	ir concentration, on the gross B chann 46. Record this va Section A.	Channel B), nel of monitor alue on
4.3.4.2	Obtain the I-131 air of from the I-131 channel Ru-146. Record this v Section B.	concentration in un of monitor AN-145 value on Appendix C	ts of uCi/cc Ru-145 or Column 2,
4.3.4.3	Multiply the monitor r ventilation exhaust ra monitor Ru-145 or 2.83 Ru-146) to obtain the rate (uCi/sec).	eading (uCi/cc) by te (2.17E + 07 cc/s E + 06 cc/sec for m noble gas and/or I-	the ec for nonitor 131 release
	 Convert to Ci/sec Ci/uci. 	utilizing the conve	rsion 1.0E-06
4.3.4.4	If the I-131 channel i noble gas release rate factor (Appendices F a rates of total radioio	s nonfunctional mul by the appropriate nd G) to obtain the dines and I-131 (Se	tiply the conversion release ction C).
	Calculation		
	$RR_{NG} = A(NG) \times 1.$	39E+06 cc/sec x 1.0	E-06 Ci/uci
	RR _{TI} = RR _{NG} x C ₁		
	RRI-131 = RR _{TI} x C ₂		
	(Refer to section 4.3.)	2.4 for parameter d	escriptions)
4.3.5 Det Lin	ermination of Activity Hes (Appendix D).	Release Rate from t	he Main Steam
4.3.5.1	Obtain the exposure rat line monitor(s) Ru-1394	te (R/hr) from the A,B or Ru-140A,B.	main steam
4.3.5.2	Multiple this number (F	(hr) by the approp	riate

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RELEASE RAT	E DETERMINATION	0	Page 9 of 1
	Effective Age (hr)	Co	rrection Factor
	0 - 0.08		6.2
	0 09 - 0.5		6.6
	0.00 - 0.5		6.7
	1.0 - 2.0		6.0
	1.0 - 8.0		0.9
	8.0 - 24.0		0.4
	24.0 - 96.0		8.4
	96.0 - 192.0		22.0
	192 - 720		21.0
	720 - 00		14
4.3.5.3	Complete calculations	in Appendix D.	
4.3.6.2	Obtain the actual exp range area monitor Ru- sum of both divided by containment. Record Column 2. If these mu- radiological condition rate measurement at of contact dose rate meas beta/gamma (shield clu- containment door pyres) the appropriate correct Appendix E, Column 2.	osure rate, F(act -148 and/or Ru-14 y two for an aver this value on App onitors are nonfu ns allow, as dete uter containment surement (R/hr) w osed) instrument x viewing window. ction factor belo	c) from the high 9 in R/hr or the rage over the bendix E, inctional and ermined by dose door, obtain a with a hand-held at the inner Multiply by ow. Record on
	Effective Age (hr)	Co	rrection Factor
	0 - 0.08		1.40
	0.08 - 0.5		1.42
	0.5 - 1.0		1.43
	1.0 - 8.0		1.53
	8.0 - 24.0		- 1.57
	24.0 - 96.0		1.79
	96.0 - 192.0		3.4
	192 - 720		1.6
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4.3.6.3

Determine the projected containment exposure rate (LOCA), E(pro) as a function of "effective age" from Appendix H. Record this value on Appendix E, Column 3.

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PVNGS EME	RGENC	CEDURE	PROCEDURE NO. EPIP-14A		
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RELEASE RATE	DETERMI	NATION		0	Page 10 of 19
4.3.6.4	Determi R _{NGpro} Appendi	ne the proj from Append x E, Column	ected ix I. 4.	noble gas relea Record this va	ase rate (LOCA), alue on
4.3.6.5	Calcula	ite, release	rates	as follows:	
	RRNG AC	T	= E(act) - E(pro) ;	K R _{NGpro}
	RRTI .		= R.R.	NG ACT × C1	
	RRI-131		= RR	TI x C ₂	
	Where:	RRNG ACT	= no	ble gas release	e rate (Ci/sec)
		RRTI	= to (C	tal radioiodine i/sec)	e release rate
		RR1-131	= I-	131 release rat	te (Ci/sec)
		E _{ACT}	= ac re Ru ha	tual high range ading from Ru-1 u-149 in R/hr of and-held instrum	e monitor 148 and/or r corrected ment reading
		E(pro)	= pr ra fr	ojected contain te (LOCA) at " om Appendix H	nment exposure effective age"
		R _{NG} pro	= pr (1 Ap	ojected Noble (OCA) at "effect opendix I	Gas release rate tive age" j from
		c ₁	= ra re	atio of total i elease rates (A	odines/noble gas ppendix F)
		c ₂	= ra re	atio of I-131/t lease rates (A	otal iodine ppendix G)

1.5. 3. 5. 5. 6.

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		RELEA	SE RATE DETERM Moni	INATION FROM THE tors AN-143, Ru-	TURBINE BUILDIN 143 or Ru-144	IG, PLANT VENT			RELEAS	IMPLEME
Effective Age (hr) Section A	Noble Gas Air Conc (uC1/cc) x x x x x x x x x x x x x x x x	Plant Vent Flow Rate (cc/sec)*	Conversion Factor (uC1 to C1) x 1.0E-6 - x 1.0E-6 - x 1.0E-6 - i 1.0E-6 - x 1.0E-6 - x 1.0E-6 - x 1.0E-6 -	Noble Gas Release Rate (C1/sec)		NOTE: If I-131 complete complete	monitor is inc Section C only only Sections	perable, , otherwise A and B.	E RATE DETERMINATION	EMERGENCY PL
Effective Age (hr) Section B	I-131 Air Conc (uCi/cc)	Plant Vent Flow Rate (cc/sec)*	Conversion Factor (uC1 to C1) x 1.0E-6 = x 1.0E-6 =	I-131 Release Rate (C1/sec)					4	URE
	, ,		x 1.0E-6 = x 1.0E-6 = x 1.0E-6 = x 1.0E-6 =			Tot Indine		1-131	REVISION	NO. EPIP-
Effective Age (hr) Section C	Noble Gas Air Conc (uCi/cc)	Ploat Vent Flow Rate (cc/sec)*	Conversion Factol (uCi to Ci) x 1.0E-6 =	Noble Gas Release Rate) (C1/sec)	Tot I/NG App F	Release Rate (C1/sec)	I-131/Tot I App G	Release Rate (C1/sec)	0	те -14А
		x x x	x 1.0E-6 x 1.0E-6 x 1.0E-6 x 1.0E-6 x 1.0E-6 x 1.0E-6		x *				Page 11	APPENDI Page 1
*6.64E+7	• default value				Preparer Reviewer Date		_Time	(signature) (signature)	of 19	X A of 1

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		RELEA	SE RATE DETERM Mon	MINATION FROM TH itors AN-141, R	HE CONDENSER u-141 or Ru-1	AIR REMOVAL SYST 442	ЕМ		RELEA		IMPLEN
Effective	Noble Gas	Vacuum Vent	Conversion	Noble Gas					SE		AE
(hr)	(uC1/cc)	(cc/sec)*	(uCi to Ci)	(Ci/sec)					RA		NTM
Section A		x x x x	1.0E-6 = 1.0E-6 = 1.0E-6 =			NOTE: If I-1: complet complet	31 monitor is ind te Section C only te only Sections	operable, y, otherwise A and B.	TE DETI		ING P
<u></u> }		x x	1.0E-6 -						ERM		RU
		x x	1.0E-6 =						INA		YO O
		Condenser					전송을 가지 않		TI		σm
Effective	I-131	Vacuum Vent	Conversion	I-131 Release Bate					NC		U L
(hr)	(uCi/cc)	(cc/sec)*	(uCi to Ci)	(C1/sec)							REZ
Section B		x x	1.0E-6 -								
		x x	1.0E-6 =								
		× ×	1.05-6 -								
		x x	1.0E-6 -							RE	NOR
		Condenser							1	/ISI0	E
Effective	Nobie Gas	Vacuum Vent	Conversion	Noble Gas		Tot I		1-131		2 Z	PIP
Age (hr)	(uC1/cc)	(cc/sec)*	(uC1 to C1)	(C1/sec)	App F	(C1/sec)	App G	(CI/sec)			-14
Section C		× ,	1.0E-6 =	1440. J 1 - 1				de la contraction de			à
		x x	1.0E-6 =	>	·		x ;				
			1.05-0						-	-	-
		x x	1.0E-6 =		k		x ;		80.		ag
		x x	1.0E-6 -	3	·	· 1	· ·	· · · ·	e 1		e 1
*1.39E+6 c	c/sec = defau	lt value			Preparer			(signature)	2 0		IX
					Reviewer Date		Time	(signature)	H H		B
									0		

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Effective Age (hr) Section A	Noble Gas Afr Conc (uC1/cc)	RELE Plant Vent Flow Rate * (cc/sec) * *	ASE RATE DETER Conversion Factor (uCi to Ci) x 1.0E-6 x 1.0E-6 x 1.0E-6	MINATION FROM Monitors AN-14 Noble Gas Release Rate (C1/sec)	THE FUEL BUILD. 5, Ru-145 or Ru	ING VENTILATION EX u-146 NOTE: If I-13 complet complet	CHAUST I monitor is inc e Section C only e only Sections i	perable, , otherwise A and B.	RELEASE RATE DE		APLEMENTING
Effective Age (hr) Section B	I-131 Air Conc (uCi/cc)	Plant Vent Flow Rete (cc/sec)	x 1.0E-6 x 1.0E-6 x 1.0E-6 Conversion Factor (uCi to Ci) x 1.0E-6 x 1.0E-6 x 1.0E-6 x J.0E-6	I-131 Release Rate (C1/sec)					TERMINATION		ENCY PLAN PROCEDURE
Effective Age (hr) Section C	Noble Gas Air Conc (uCi/cc)	Plant Vent Flow Rate * (cc/sec)	x 1.0E-6 = x 1.0E-6 = x 1.0E-6 = Factor (uC1 to C1) x 1.0E-6 = x 1.0E-6 = x 1.0E-6 =	Noble Gas Release Rate (Ç1/sec)	Tot I/NG App F x	Tot I Release Rate (C1/sec)	I-131/Tot I App G	I-131 Release Rate (C1/sec)	0	REVISION	PROCEDURE NO. EPIP-14A
*Monitor Ru Monitor Ru	-145 ventilat -146 ventilat	ion exhaust = ion exhaust =	x 1.0E-6 = x 1.0E-6 = x 1.0E-6 = 2.17E + 7 (cc 2.83E + 6 (cc	/sec) /sec)	x x preparer Reviewer Date		=	(signature) (signature)	Page 13 of 1		APPENDIX C Page 1 of 1

PVNGS EMERGENCY PLAN MPLEMENTING PROCEDURE					PRONO	EPIP-	14A	APPE Page	NDIX D
RELEAS	E RATE DET	- ERMINAT	NOI		HEV	REVISION 0		Page	14 of 19
(Sawa	I asse Rate I-131/Tot I Release Rate sec) App G (C1/Sec)			 	 * * *			(signature) (signature)	Time
MINATION FROM MAIN STEAM (FEEDWATER I fonitors Ru-139 or Ru-140	Noble Gas Release Rate: Tot I/NG Rels (C1/sec) App F (C1/	x	<u>x</u>		<u> </u>		x b x x x x	Preparer Reviewer	Date
RELFASE RATE DETERN	on Flow Rate /hr (cc/sec)	 ***	 * * *		 ×××	×××	 × × ×		
	Corrected Monitor Conversi Reading Factor (R/hr) uC1/cc/R	× × ×	 * * *	м ж ж	н н н 	× × ×	××× 		
	Effective Age (hr)								

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RELEA	SE RATE DETERMINATION	0	Page 15 of 19
	t I Release Release Rate (Cl/sec)		(signature) (signature)
NHENT AREA MONITORS	Tot I Release Pate (Cl/sec) App G		Time
LANT VENT UTILIZING CONTAI	Actual NG Release Rate Tot I/ND (Cl/sec) App F x x		Preparer Revlewer Date
TERMINATION FROM THE I MONITOR	R(NG pro) Projected NG Reiease Rate (Appendix I) (C1/sec) x x x x x x x x x x x x x		
RELEASE RAIE DE	E(pro) Projected Rate R/hr R/hr		
	E (ACT) Actual Monito Reading (R/hr)		
-00DA (8/82)	Effective (hr)		





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K+E LOGARITHMIC 3 × 5 CYCLES





APPENDIX

CONTAINMENT NOSLE GAS, IUTAL IUDINES, AND 1-131 DELEASE DATES (Ci/sec) AS A FUNCTION OF EFFECTIVE AGE (hr), PVNGS



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DATE EFFECTIVE 12-23-82 APPROVED BY:

DN-1614A/0180A

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Appendix A - Determination of X/Q Values for Receptor Site	each	9
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1.0 OBJECTIVE

This procedure provides instructions and calculations necessary to determine actual or projected offsite whole body gamma and thyroid inhalation dose commitments based upon actual meterological data, and noble gas and I-131 release rates (Ci/sec). Actual or projected dose calculations provide a basis for decision making concerning recommendations of appropriate protective actions to county or state authorities.

2.0 REFERENCES

- 2.1 Implementing References
 - 2.1.1 EPIP-08, "Notification Process, ALERT, SITE EMERGENCY, GENERAL EMERGENCY"
 - 2.1.2 EPIP-11, "Technical Support Center Activation"
 - 2.1.3 EPIP-12, "Operational Support Center Activation"
 - 2.1.4 EPIP-13, "Emergency Operations Facility Activation"
 - 2.1.5 EPIP-14A, "Release Rate Determination"
 - 2.1.6 EPIP-15, "Protective Action Guides"
- 2.2 Developmental References
 - 2.2.1 PVNGS Emergency Plan, Rev. 2
 - 2.2.2 NRC Reg Guide 1.145, August 1979; "Atmospheric Dispersion Models for Potential Accident Consequence Assessments at Nuclear Power Plants"
 - 2.2.3 NRC Reg Guide 1.111, July 1, 1977, Rev 1; "Methods for Estimating Atmospheric Transport and Dispersion of Gaseous Effluent in Routine Releases from Light-Water-Cooled Reactors
 - 2.2.4 Introduction to Nuclear Engineering, John R. LaMarsh, Addison Wesley Publishing Company, December 1977
 - 2.2.5 Health Physics Journal, November 1981, Volume 41 No. 5, page 759

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2.2.6	NRC Reg Guide 1.109 "Calcul from Routine Releases of Re of Evaluating Compliance wi	lation of Annual De eactor Effluents fo ith 10CFR50, Append	oses to Man or the Purpose Hix I"
2.2.7	.7 EPA "Manual of Protective Action Guides and Protective Actions for Nuclear Accidents" Appendix D, May 1980		
2.2.8	PVNGS FSAR Section 2.0 Mete Factors Site Boundary X/Q V	orology "Terrain A Values"	djustment
3.0 LIMIT	TATIONS AND PRECAUTIONS		
3.1 Rel wit	lease rate determinations mus th EPIP-14A, Release Rate Det	t be conducted in ermination.	accordance
3.2 Act of:	tual dose rates and integrate	d doses will vary	as a function
0	the duration of the release	;	
°.	the release rates (dependen	t upon effective a	ge);
o	the isotopic mixture of the effective age);	release (dependen	t upon
0	existing meterological cond	itions.	
3.3 The bet acc and	accuracy of atmospheric disp ween a factor of 2 and a fact uracy of dose calculations with 10.	persion calculation tor of 10. Therefo ill be between a fa	ns'will be ore, the actor of 2
.0 DETAI	LED FROCEDURE		
4.1 Per	sonnel Indoctrination		
4.1.1	As delineated in EPIP-01, th Technician (affected unit) w offsite dose calculations an	e Radiation Protection be responsible ad/or projections.	tion for initial
4.1.2	At an ALERT or more severe 1	evel, the Radiolog	ical

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4.2 Prere	quisites		
4.2.1 A	n ALERT or more severe lev lassified per the provisio	el emergency has b ns of EPIP-02.	een
4.2.2 A	n actual or projected rele aterial has occurred or wi	ase of airborne ra 11 occur.	dioactive
4.3 Instr	uctions		
4.3.1 C	alculation of "plume arrive oble gases at the receptor	al time" and "effective site (Appendix E).	ctive age" of
4.3.1.1	Calculate "transit time" receptor location as fol	' from the release	point to the
	 a. Determine downwind of receptor site and re worksheet. 	distance (in miles) acord in column 2 c	to the f Appendix E
	b. Obtain the 35 ft. le meteorological tower the value in column	evel windspeed (mph computer printout 3 of the Appendix) from the and record E worksheet.
	c. Divide the downwind indicated on the App the resulting "trans Appendix F worksheet	distance by the wi endix E worksheet) it time" in column	ndspeed (as and record 4 of the
4.3.1.2	Caluclate the "effective follows:	age at the recept	or site as
	 a. Record the "effectiv column 5 of th∈ Appe "effective age at re after core shutdown 	e age at release" ndix E worksheet. lease' is the numb that the release be	(hr) in The er of hours egan.
	b. Add the "transit time "effective age at rel record the resulting site" (hr) in column	e" (hr) in column lease" (hr) in colu "effective age at 6.	4 and the umn 5 and receptor
4.3.1.3	Add "transit time" (hr) to began to get "plume arriv column 1 of Appendix P	to time at which th val time" and record	ne release d in

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DOSE A	SSESSMENT	1	Page 6 of 15
4.3.1.4	Record "effective age Appendix B.	at receptor site" i	n column 2 of
4.3.2 0 f	btain release rates (Ci/s rom EPIP-14A and record i	sec) of noble gases In column 3 of Appen	and I-131 dix B.
4.3.3 D	etermine the atomspheric	stability category.	
4.3.3.1	Obtain the delta F° (2 meteorological tower c ERFDADS. Stability ca	00ft-35ft) from the computer printout su tegories are define	pplied by d as follows:
	Stability Category	Delta F° (200ft-35ft)	
	A	-1.72	
	В	-1.72 to -1.54	
	с	-1.54 to -1.36	
	D	-1.36 to -0.45	
	Е	-0.45 to 1.34	
	F	1,34 to 3.62	
	G	3.62	
		NOTE	
	For alternate stab determinations, us	oility class se Appendix F.	
4.3.4 De (A)	termine the X/Q values fo ppeudix A).	or key receptor site	s
4.3.4.1	From the appropriate stability category in Appendix G, obtain Xu/Q values for site boundary; 2, 5 and 10 mile plume centerline locations and record in Appendix A, column 2. Only one sheet (Appendix A) should be used for a given date and time.		
4.3.4.2	.2 Obtain the wind speed (mph) at 35ft from the meteorological computer printout and record in		

IMPLEMENT	ING PROCEDURE	NO. EPIP-14B	
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DOSE ASS	SESSMENT	1	Page 7 of 15
4.3.4.3	Complete calculations o resultant X/Q value on	n Appendix A and Appendix B, Sectio	record the ons A and B.
4.3.4.4	If necessary, Xu/Q valu can be obtained from th Appendix A.	es for specific re e overlay and reco	eceptor sites orded on
	 Select the appropri the determined stab overlay with the re 	ate overlay that o ility category and lease point on the	corresponds to i match the e map.
	 Rotate the overlay oriented in the direction 	until the plume co ection of the comp	enterline is bass heading.
	 Identify key receptor dispersing plume and column 1. 	or locations in th d record on Append	ne path of the lix A,
	 4. Xu/Q values on the olines printed direct isopleth line is lal indicate its relative value corresponding far, lower right concenterline values and directly along the occorresponds to the of the (+) mark. The M centerline distance right corner of the of the Xu/Q value as lines (capital letter values, it is possib for any area bounded each overlay. Record the appropriate of the values of the second the values of the values. 	overlay are shown thy upon the overla beled with a capit ve strength. The to the letter is oner of the overla te marked by plus tenterline. Each downwind distance Ku/Q associated wi is indicated in t overlay, directly sociated with the tr values). Utili ble to interpolate by the outermost te Xu/Q for each	as isopleth ay. Each al letter to numerical shown in the y. Plume marks (+) plus mark adjacent to th each he lower to the left isopleth zing these Xu/Q values isopleth of
	 Obtain the wind spee wind blows from the printout (angular de record on Appendix A 	d (mph) at 35ft F meteorological co grees from due no , column 3.	ROM which the mputer rth) and
	 Complete calculation the appropriate rece 	s and record X/Q	values for

PVNGS EMERGENCY PLAN MPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-14B	
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4.3.5 Calculate the Whole bo gases for each key rec Only one receptor site (Appendix B).	dy Gamma Dose Commitment eptor site, Appendix B, should be used for calc	from noble Section A. ulation sheet
4.3.5.1 Obtain the average utilizing the effe receptor site from Section A.	gamma decay energy (MeV ctive age of the noble g Appendix C and record o	/dis) <u>as at the</u> n Appendix B,
4.3.5.2 Complete calculati	ons to determine the dos	e rate.
4.3.5.3 Determine the expo release and record	sure time based upon dur in column B.	ation of the
4.3.5.4 Complete calculati	ons in Section A to dete	rmine the dose
4.3.6 Calculate the thyroid radioiodines, Appendix	inhalation dose commitme B, Section B.	nt from all
4.3.6.1 Complete calculati Rate, column 6.	ons in Section B to I-13	l Int. Dose
4.3.6.2 Obtain the ratio o iodines to integra effective age at r record in column 7	f integrated thyroid dos ted dose from I-131 as a eceptor site from Append	e from all function of ix D and
4.3.6.3 Complete calculati	ons of Section B.	
4.3.7 Update and refine dose significant (as indicate the following parameter	calculations every hour ted below) changes in on rs using Appendix B, Sect	and upon e or more of tions A and B.
o Release Rates (<u>+</u> 20)% change)	
a Duration of the Da	lease (<u>+</u> 20%)	
o buración or the ke.		
 o Existing Meteorolog (WD - 25° chang (WS - + 20% charg 	gical Conditions ge Stability - <u>+</u> 1 unge)	category)
o Existing Meteorolog (WD - 25° chang (WS - ± 20% cha 4.3.8 Sum previous exposures	gical Conditions ge Stability - + 1 inge) using Appendix B, Sectio	category) ons A and B.
 o Existing Meteorolog (WD - 25° chang (WS - ± 20% chang) 4.3.8 Sum previous exposures 4.3.9 Compare the dose commit action guidelines (EPIF) 	gical Conditions ge Stability - + 1 inge) using Appendix B, Section ments in Appendix B to to -15) to make offsite pro- to the State	category) ons A and B. the protective otective

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DETERMINATION OF X/Q

Receptor Site Location	Xu/Q (Overlay)	Windspeed at 35ft (mph) Met Computer	(1	Factor m/sec/mp	h)	X/Q sec/m3
	/		1	0.447	=	
	/		1	0.447	=	
	/		1	0.447	-	
	/		1	0.447	-	
	/		1	0.447	=	
	/		1	0.447	-	
	/		1	0.447	-	
	/		1	0.447	=	
	/		1	0.447	-	
	/		1	0.447	=	
Vind Direction	(angul	lar degrees from	n d	ue north		
Stability Category					-	
		Preparer				
		Reviewer				

Date/Time /

1.1

CALCULATION OF WHOLE BODY AND THYROID DOSE COMMITMENTS

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APPENDIX B

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1 1

Reactor Shutdown Date/Time ______ Receptor Location _____

Plume Arrival Time	Effective*(1) Age at Receptor Site (hr) App F	Noble Gas Release Rate (Ci/sec)	X/Q (sec/cu.m) Appendix A	Gamma Decay Energy (Mev/dis) App C	Dose Conversion Factor <u>rem-dis-cu.m.</u> Mev-Ci-hr	Dose Rate (rem/hr)	Exposure Time (hr)	Dose (rem)
		and the second se	the design of the second		the second s	And in case of the local division of the loc		in the second
			x x		x 9.5 E + 02			
			x x		x 9.5 E + 02 x 9.5 E + 02	:	x	
			x x x x		x 9.5 E + 02 x 9.5 E + 02 x 9.5 E + 02	:	x	:
			x x x x x x x x		x 9.5 E + 02 x 9.5 E + 02 x 9.5 E + 02 x 9.5 E + 02 x 9.5 E + 02	: <u> </u>	x 	:

*NOTE (1): From Appendix F

Plume Arrival Time	Effective*(1) Age (hr)	I-131 Release Rate (Ci/sec)	X/Q sec/m(3)	Dose Commitment Conversion Factor I-131*(3) <u>rem-cu.m.</u> hr-Ci) I-131 Int Dose Rate (rem/hr)	Dose Commitment Ratio All Iodines/ I-131 App D	Exposure Time (hr)	Dose Commitment Adult*(2) (rem)	Dose Commitment Child (rem)
			x	x 1.86E + 06	-				
			x	x 1.86E + 06	-	x x	c	•	x2 =
			x :	x 1.86E + 06		x	(-	x2 =
			x :	x 1.86E + 06		x	c		x2 =
-			x	x 1.86E + 06		x			*2 *

.

1. 1. 2.

*NOTE (1): From Appendix F

EPIP-14B

APPENDIX C

AVERAGE GAMMA DECAY ENERGY FOR NOBLE GAS MIXTURES, of 15 Page 1 of 1 PALO VERDE NUCLEAR GENERATING STATION



A0382080



-+ Page 13 of 15 APPENDIX E Page 1 of 1 at Receptor Site (hr) Effective (5) Age Effective Age at Release (hr) EPIP-148 "EFFECTIVE AGE" DETERMINATION OF NOBLE CASES AS A FUNCTION OF TRANSIT TIME AND THE EFFECTIVE AGE AT RELEASE TIME Rev. 1 Time Transit (4) Time (hr) + + + + + + + + + + + + 8 Windspeed at 35ft (mph) ï 1 --Downwind Distance of Date Receptor Site (miles) (4) Record on Appendix B(5) Record on Appendix B Location of Receptor Name

* * *

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TANK A

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-14B	APPENDIX F Page 1 of 1
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ALTERNATE STABILITY CATEGORY DETERMINATION

Visually observe the windspeed (m/sec) at 35ft. Utilize the following key to determine the atmospheric stability category.

Day	Time Insul	ation	Thin Overcast	
Strong	Moderate	Slight	or 4/8 Cloudiness	3/8 Cloudiness
A	A-B	В		
A-B	В	с	7	
В	B-C	C	D	r P
С	C-D	D	D	D
С	D	D	D	D
	Day Strong A A-B B C C C	<u>Day Time Insul</u> <u>Strong Moderate</u> <u>A</u> A-B <u>A-B</u> B <u>B</u> B-C <u>C</u> C-D <u>C</u> D	Day Time InsulationStrongModerateSlightAA-BBA-BBCBB-CCCC-DDCDD	Day Time InsulationThin Overcast or 4/8StrongModerateSlightCloudinessAA-BBA-BBCBB-CCCC-DDCDDCDD

The neutral class, D, should be assumed for overcast conditions during day or night.

- o Sampling time of ten minutes.
- Night refers to the period from one hour before sunset to one hour after sunrise.
- Class D may be assumed for overcast condition during day or night, regardless of windspeed.
- "Strong" incoming solar radiation; solar altitude greater than 60° with clear skies.
- "Slight" incoming solar radiation; solar altitude from 15° to 35° with clear skies.

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SITE BOUNDARY Xu/Q VALUES

					Xu/Q			
Wind Direction	Distance				Stability Categ	ory		
FROM (a)	(mi)	۸	В	C	D	E	F	G
S (168.75 - 191.25)	0.64	1.1 (E-6)	8.8 (E-5)	2.8 (E-5)	8.1 (E-5)	1.4 (F-4)	2.8 (5-4)	4.6 (F-4)
SSW (191.25 - 213.75)	0.66	1.1 (E-6)	8.8 (E-6)	2.8(E-5)	8.1 (E-5)	1.5 (E-5)	2 8 (5-4)	4.6 (5-4)
SW (213.75 - 236.25)	1.37	2.1 (E-7)	3.1 (E-6)	1.4 (E-5)	4.5 (F-5)	8 5 (E-5)	1.7 (8-4)	3.3 (5-4)
WSW (236.75 - 258.75)	1.22	2.1 (E-7)	3.1 (E-6)	1.4 (E-5)	4.5 (E-5)	8 5 (6-5)	1.7 (E-4)	3.3 (5-4)
W (258.75 - 281.75)	1.20	2.1 (E-7)	3.1(E-6)	1.4 (E-5)	4.5 (5-5)	8 5 (8-5)	1.7 (5-4)	3.3 (E-4)
WNW (281.75 - 303.75)	1.22	2.1 (E-7)	3.1 (E-6)	1.4 (E-5)	4.5 (5-5)	0.5 (E-5)	1.7 (8-4)	3.3 (E-4)
NW (303.75 - 326.25)	1.27	2.1 (E-7)	3.1(E-6)	1.4 (E-5)	4.5 (5-5)	0.5 (E-5)	1.7(E-4)	3.3 (E-4)
NNW (326.25 - 348.75)	1.70	6.6 (E-8)	1.4 (E-6)	8.4 (E-6)	2.9 (5-5)	0.3 (E-3) 5 7 (E-5)	1.7(E-4)	3.3 (E-4)
N (348.75 - 11.25)	1.46	6.6 (E-8)	1.4 (E-6)	8 4 (5-6)	2.9 (E-5)	5.7 (6-5)	1.2 (E-4)	2.3 (8-4)
NNE (11.25 - 33.75)	1.00	1.1 (E-6)	8.8 (F-6)	2 3 (F-5)	8 1 (E-5)	J.7 (E-J)	1.2 (E-4)	2.3 (E-4)
NE (33.75 - 56.25)	0.66	1.1 (E-6)	8 8 (5-6)	2.0 (5-5)	0.1 (E-5)	1.5 (8-5)	2.8 (1-4)	4.0 (E-4)
ENE (56.25 - 78.75)	0.55	1.2 (E-5)	4.3 (E-5)	2.0 (E-5) 8.0 (E-5)	0.1 (E-3)	1.5 (E-5)	2.8 (E-4)	4.6 (E-4)
E (78.75 - 101.25)	0.54	1.2 (E-5)	4.3 (E-5)	8.0 (5-5)	2.1 (E-4)	3.3 (E-4)	5.1 (E-4)	1.1 (E-3)
ESE (101.25 - 123.75)	0.55	1.2 (E-5)	4 3 (E-5)	8 0 (F-5)	2.1 (E-4)	3.3 (E-4)	5.1 (E-4)	1.1 (E-3)
SE (123.75 - 146.25)	0.65	1.1(F-6)	8 8 (5-6)	2 8 (8-5)	2.1 (E-4)	3.3 (E-4)	5.1 (E-4)	1.1 (E-3)
SSE (146.25 - 168.75)	0.66	1.1 (E-0)	8.8 (E-6)	2.8 (E-5)	0.1 (E-5) 3.1 (E-5)	1.5 (E-5)	2.8 (E-4)	4.6 (E-4)

(a) Based on 22 1/2° sectors.

PLUME CENTERLINE Xu/Q VALUES

Stability		Xu/Q Values		
Category	2 mi	5 mi	10 mi	
Α	5.5 (E-8)	2.6 (E-8)	1.4 (E-8)	
В	7.8 (E-7)	3.6 (E-8)	1.8 (E-8)	
С	5.8 (E-6)	1.5 (E-6)	3.9 (E-7)	
D	2.1 (E-5)	5.8 (E-6)	2.0 (E-6)	
E	4.2 (E-5)	1.3 (E-5)	5.0 (E-6)	
F	9.5 (E-5)	3.2 (E-5)	1.4(E-5)	
G	2.0 (E-4)	7.4 (E-5)	3.3 (E-5)	

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1.0 OBJECTIVE

1.1 The objective of this procedure is to provide a basis for relating actual or projected plume exposure doses to the Environmental Protection Agencies (EPA) Protective Action Guides (PAG's). With this relationship defined, APS personnel can more effectively recommend appropriate protective actions to county and state agencies.

2.0 REFERENCES

- 2.1 Implementing References
 - 2.1.1 EPIP-02, "PVNGS Emergency Classification"
 - 2.1.2 EPIP-14A, "Release Rate Determination"
 - 2.1.3 EPIP-14B, "Manual Offsite Dose Projection"
 - 2.1.4 EPIP-17, "Offsite and Site Boundary Monitoring"
- 2.2 Developmental References
 - 2.2.1 NUREG 0654, Rev. 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants"
 - 2.2.2 Manual of Protective Action Guides and Protective Actions for Nuclear Incidents; as revised May, 1980; EPA-520/3-75-001

3.0 LIMITATIONS AND PRECAUTIONS

- 3.1 The protective actions determined by this procedure are to be presented to appropriate state/county agencies as recommendations. Only these agencies are authorized to implement the protective actions.
- 3.2 A protection action guide under no circumstances implies an acceptable dose.
- 3.3 PAG's for the general public are given in ranges. The lowest values should be used if there are no major local constraints in providing protection at this level. Local constraints may, however, make the lower values impractical to use, but in no case should the higher value be exceeded in determining a need for protective action.

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3.4 Th th is an	e projected dose and affecte e curies released, release r otopic mixture of the releas d meteorological conditions.	ed offsite areas wi rate, duration of t se (varies with eff	ll depend upon he release, ective age)
3.5 At su ex	times, selection of protect bjectively as conditions bey ist.	tive actions must b yond the scope of t	e considered his procedure
4.0 <u>DETA</u>	ILED PROCEDURE		
4.1 Pe	rsonnel Indoctrination		
	receive, are calculated in dose estimate is referred protective action is an ac this projected dose when t action are sufficient to c of the protective action. The Protective Action Guid	h accordance with E to as the projecte ction taken to avoi the benefits derive offset any undesira de (PAG) is the pro	PIP-14B. This d dose. A d or reduce d from such ble features jected dose to
	individuals in the populat protective action. It is effort to minimize the ris occurring or has already o	tion which warrants used only in an ex sk from an event wh occurred.	taking post facto ich is
4.1.2	The authority and response notify and recommend prote authorities belongs to the is relieved of this respon Operations Director.	ibility for the dec ective actions to t e Emergency Coordin nsibility by the Em	ision to he appropriate ator until he mergency
4.1.3	The Radiation Protection (for updating and refining receptor site locations an protective actions.	Coordinator will be dose assessments f nd evaluating appro	responsible or critical priate
4.1.4	The Radiation Protection (for relaying dose assessme evaluations to the Emerger	Coordinator will be ent and protective ncy Coordinator.	responsible action
4.2 Pr	erequisites		
4.2.1	An ALERT, SITE EMERGENCY, declared in accordance with	or a GENERAL EMERG	ENCY has been

and the start

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4.2.2	Project dose fo calcula warrant protect	ed whole body and t r critical receptor ted in accordance w evaluating, and if ive actions.	hyroid dose rates site locations ha ith EPIP-14B, and recessary, recomm	and integrated ve been such doses ending
4.3 Inst	ruction	S		
4.3.1	Radiolo Monitor	gical Protection Co	ordinator/Radiatio	n Protection
4.3.1.	l Upd sit of	ate and refine dose e locations upon si the following param	estimates for cri gnificant changes eters:	tical receptor in one or more
	0 0 0	Release rates. Duration of the re Isotopic mixture o function of effect Meteorological con	leases. f the release (var ive age). ditions.	ies as a
4.3.1.	2 Sho eva eff bel	uld the projected d cuation should be c ectiveness of these ow.	oses indicate that onsidered, determi protective action	sheltering or ne the s as described
			NOTE	
		PAG's for the gen contained in Appe thyroid guidance charts are summar	eral population ar ndix A. Associate charts and whole b ized in Appendix B	e d ody
	a.	Evacuation Effecti evacuation in limi function of the ti present. This is to evacuate. The expressed as:	veness - The effec ting radiation dos me of exposure if dependent upon the evacuation time T(tiveness of e is a a plume is time required EV) is
		$T(EV) = T_D + T_N +$	$T_M + T_T$	
		Where:		
		T _D = Time delay	after occurrence o	f the incident

ID = Time delay after occurrence of the incident associated with notification of responsible officials, interpretation of data, and the decision to evacuate as a protective action.

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	T _N = Time requir to evacuate	red by officials to	notify people
	T _M = Time requir get under w	ced for people to m way.	obilize and
	T _T = Travel time areas.	e required to leave	the affected
	If evacuation is of arrives, then evace effective. To det the plume, it is n arrival time T(PA) is expressed as:	completed before th cuation is 100 perc termine the time of necessary to calcul). The plume arriv	e plume ent exposure to ate the plume al time, T(PA)
	$T(PA) = T_B + T_T$		
	Where:		
	T _B = Time project	ted before release	begins.
	T _T = Time project windspeed a start of re to procedur	ated for plume trav and downwind distan elease. To calcula re EPIP-14B.	el for given ces from the te T _T refer
	Evaluate constrain the estimated evac estimated plume ar following condition sheltering vs. the	ets against evacuat cuation time T(EV) crival time, T(PA). ons evaluate the be e benefits of evacu	ion. Compare with the Under the nefits of ation.
	 In cases where prior to the a 	e there is no time arrival of the plum	to evacuate e.
	 The projected plume arrival 	evacuation time an are nearly equal.	d time before
	If evacuation appereduction in dose	ears to offer a sig (greater than shel	nificant tering)

PVNGS EMERGI	ENCY PLAN PROCEDURE	PROCEDURE NO. EPIP-15	
		ION	
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b.	Sheltering Effection	veness	
	 If evacuation of avoidance or is evacuation reconstructed affected population 	does not offer sig f local constraint ommend that offici ation to:	nificant dose s prevent als warn the
	1. Seek shelt	er.	
	2. Close wind	ows.	
	3. Turn off v	entilation systems	s.
	4. Seal crack	s in doors with we	et rags.
	o Control access	to the affected a	rea.
	o Evaluate the p the plume has	ossibility of evac passed:	cuation after
	 After the significan accordance 	plume has passed, ce of ground depos with EPIP-17.	evaluate the sition in
	a. Determ to war	ine if dose rates rant subsequent ev	are sufficient vacuation.
	 Multiply t external s Compare th whole body 	he projected dose hielding factor, 4 e projected dose to gamma dose.	by the Appendix C). to the PAG for
	o Evaluate the s (Shielding fac presented in A are for a seal	ignificance of inh tors for inhalatio ppendix D). Shiel ed, wood-frame how	nalation dose. on doses are lding factors use.
	 Multiply t inhalation the reduct plume. Co PAG for th 	he projected dose shielding factor ion in inhalation mpare the projectory roid dose.	by the to determine dose from the ed dose to the
	 Determine the whole body or for the critic organ. 	critical organ of the thyroid. Comp al organ to the Pa	concern, the pare the PAG AG for that

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RECOMMENDED	PROTECTIVE ACTIONS TO REDUCE WHOLE BO FROM EXPOSURE TO A GASEOUS PLU	ODY AND THYROID DOSE ME		_
Projected Dose (rem) to the Population	Recommended Actions(a)	Comments	PROT	PVN
Whole Body - less than 1.0 Thyroid - less than 5	No planned protective actions (b). Offsite authorities may issue an advisory to seek shelter and await further instructions. Monitor environmental radiation levels.	Previously recommended protective actions may be reconsidered or terminated.	ECTIVE ACTION C	GS EMERGEN
Whole Body - 1.0 to 5 Thyroid - 5 to 25	Seek shelter as a minimum. Consider evacuation/unless constraints make it impractical. Monitor environmental radiation levels. Control access to affected areas.	If constraints exist to prevent full-scale evacuation, special consideration should be given for evacuation of children and pregnant women.	JUIDELINES	NCY PLAN
Whole body - 5 and above Thyroid - 25 and above	Conduct mandatory evacuation. Monitor environmental radiation levels and adjust area for mandatory evacuation based on these levels. Control access to affected areas.	Sheltering is an alternative if evacuation can not be promptly accomplished.	REVISION	NO. EPIJ
(a) These actions are record time of the incident more plume arrival time).	mmended for planning purposes. Prote ist take existing conditions into con	ective action decisions at the nsideration (e.g., weather,	0	P-15
(b) At the time of the inc: keeping with the princ: achievable (ALARA).	Ident, officials may implement low-in Iple of maintaining radiation exposur	npact protective actions in res as low as reasonably	Page 8 of 11	APPENDIX A Page 1 of 1
		같은 사실 것은 그들이 많이 한 것이 없는 것이다.	L	

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	WHOLE BODY GUI	DANCE CHART	
	TP		THEN
	Projected dose less than 1 rem		No Action
	Shelter dose less than 5 rem.		Shelter*
	Shelter dose equal to or greater the	han 5 rem	
	and evacuation dose equal to or gro shelter dose.	eater than	Shelter*
	Shelter dose equal to or greater the	han 5 rem	Fucenate
	Shelter dose		Evacuate
	Director and/or Emergency Coordination this procedure.	judgement of the tor override the	Emergency Operation criteria contained
	The following guidance Charts summa conditions dictating each type of a	judgement of the tor override the arize protective action.	Emergency Operation criteria contained actions and the
	procedure may exist which, in the Director and/or Emergency Coordinatin in this procedure. The following guidance Charts summ conditions dictating each type of a THYROID GUIDANC	judgement of the tor override the arize protective action. CE CHART	Emergency Operation criteria contained actions and the
	procedure may exist which, in the Director and/or Emergency Coordination in this procedure. The following guidance Charts summa conditions dictating each type of a THYROID GUIDANC	judgement of the tor override the arize protective action. XE CHART	Emergency Operation criteria contained actions and the THEN
	procedure may exist which, in the Director and/or Emergency Coordination in this procedure. The following guidance Charts summa conditions dictating each type of a THYROID GUIDANC IF Projected dose is less than 5 rem	judgement of the tor override the arize protective action. CE CHART	Emergency Operation criteria contained actions and the <u>THEN</u> No action
	procedure may exist which, in the Director and/or Emergency Coordination in this procedure. The following guidance Charts summa conditions dictating each type of a THYROID GUIDANCE IF Projected dose is less than 5 rem Shelter dose is less than 25 rem	judgement of the tor override the arize protective action. CE CHART	Emergency Operation criteria contained actions and the <u>THEN</u> No action Shelter * for children & women of child bearing age.
	procedure may exist which, in the Director and/or Emergency Coordination in this procedure. The following guidance Charts summa conditions dictating each type of a THYROID GUIDANCE IF Projected dose is less than 5 rem Shelter dose is less than 25 rem Shelter dose is less than 25 rem	judgement of the tor override the arize protective action. CE CHART	Emergency Operation criteria contained actions and the <u>THEN</u> No action Shelter * for children & women of child bearing age. Shelter*
	<pre>procedure may exist which, in the Director and/or Emergency Coordination in this procedure. The following guidance Charts summa conditions dictating each type of a THYROID GUIDANCE IF Projected dose is less than 5 rem Shelter dose is less than 5 rem Shelter dose is less than 25 rem Shelter dose equal to or greater th 25 rem and evacuation dose equal to greater than shelter dose. Shelter dose equal to or greater th 25 rem and evacuation dose equal to or less than shelter dose.</pre>	judgement of the tor override the arize protective action. CE CHART han o or	Emergency Operation criteria contained actions and the <u>THEN</u> No action Shelter * for children & women of child bearing age. Shelter* Evacuate

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REDUCTION IN EXTERNAL GAMMA DOSE FROM PASSING CLOUD

STRUC	TUR	E OR LOCATION	SHIELDING AVERAGE	FACTOR	LANGE
	a.	Outside	1.0		
	ь.	Vehicles	1.0		
	c.	Wood frame house (no basement)(b)	0.9		
	d.	Basement of wood house	0.6	0.1 to	0.7(c)
	e.	Masonry house (no basement)	0.6	0.4 to	0.7(c)
	f.	Basement of masonry house	0.4	0.1 to	0.5(c)
	g.	Large office or industrial building	0.2	0.1 to	0.3(c,d)

NOTES:

- (a) The ratio of the interior dose to the exterior dose
- (b) A wood frame house with brick or stone veneer is approximately equivalent to a masonry house for shielding purposes.
- (c) This range is mainly due to different wall materials and different geometries.
- (d) The reduction factor depends on where the personnel are located within the building (e.g., the basement or an inside room).

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EXPOSURE TIME (HRS)

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1.0 OBJECTIVE

To provide a procedure for emergency onsite radiological monitoring and surveys to be undertaken in the event of a release of radionuclides from PVNGS. Instructions for the implementation of the program, collecting samples, and performing surveys are provided. Onsite emergency monitoring should be be performed by PVNGS personnel.

2.0 REFERENCES

- 2.1 Implementing References
 - 2.1.1 EPIP-17, "Offsite Surveys and Sampling"
 - 2.1.2 EPIP-18, "Emergency Exposure Guidelines"
 - 2.1.3 EPIP-38, "Emergency Equipment and Supplies Inventory"
- 2.2 Developmental References
 - 2.2.1 NUREG-0654, Rev. 1 "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants" USNRC, 11/80
 - 2.2.2 NUREG-0737, "Clarification of TMI Action Plan Requirements" USNRC, 11/80
 - 2.2.3 75RP-9ZZ48, Airborne Radioactivity Sampling and Measurement
 - 2.2.4 75RP-92217, Radioactive Contamination Survey Procedure

3.0 LIMITATIONS AND PRECAUTIONS

- 3.1 Emergency radiation exposures in excess of PVNGS administrative limits must be authorized by the Emergency Coordinator in accordance with EPIP-18.
- 3.2 Under the following conditions monitoring personnel should withdraw from the area immediately and relay this information to the Radiological Protection Coordinator.
 - 3.2.1 If the area beta/gamma dose rate is equal to or greater than 10R/hr.

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3.2.2	If airborne activity is so and the monitoring team is clothing and respirators. indicate airborne radioact	uspected at the sur s not wearing full The following con tivity:	vey location protective ditions may
3.2.2	.1 A continuous air monit	tor is in alarm con	dition.
3.2.2	.2 Observation of steam.		
3.3 Use res	appropriate protective clo pirators (EPIP-38).	othing, equipment,	and
3.4 Cle fro	early label contaminated are om the area.	eas and control acc	ess and egress
3.5 Che ins	ck batteries and perform setruments to be used.	ource check test on	survey
3.5.1	Allow warm up time for his	gh range survey equ	ipment.
3.6 White on, new	le in route to the survey with the meter set on the essary.	location keep the s high scale and swi	urvey meter tching down as
3.7 Che	eck fuel level in vehicles	to be used.	
4.0 DETAL	LED PROCEDURE		
4.1 Per	sonnel Indoctrination		
4.1.1	As delineated in EPIP-01, until relieved by the Rad is responsible for the im	the Radiation Prot iological Protectic plementation of thi	ection Monitor n Coordinator s procedure.
4.1.2	Persons involved in air a beta sampling should be f samplers, cartridges, fil	nd environmental gr amiliar with operat ters, and survey in	oss gamma and tion of the air astruments.
4.1.3	Members of Survey Teams s Support Center for instru Protection Coordinator sh	hould proceed to th ctions. The Radiol all:	e Operations .ogical
4.1.	3.1 Supervise the formati	on of Monitoring Te	ams.
	o The Monitoring Te the Radiological half hour via han	am Leader will comm Protection Coordina d held radio.	nunicate with ator every one

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PVNGS EME	RGENCY PLAN	NO. EPIP-16				
		REVISION				
ONSITE SURVEYS AND SAMPLING 0 Page 5 o						
4.1.3.2	Brief and dispatch Mor	nitoring Teams.				
4.2 Prerequ	isites					
4.2.1 An the	ALERT or more severe en provisions of EPIP-02.	mergency has been o •	lassified per			
4.2.2 Dor nec	n protective clothing an cessary.	nd respiratory appa	ratus if			
4.2.3 Obt	ain appropriate samplin	ng equipment.				
4.2.3.1	Equipment located in t in EPIP-38. As a mini assemble the following appropriate type of sa	the emergency locke imum, each Survey T g types of equipmen ample collection:	rs is listed eam should t for the			
	a. All Survey Teams:					
	- Legal TLD, Job 7	TLD and Alarm Dosim	eter			
	- Low and High Ran	nge B/ Survey Mete	r			
	- Portable Radio					
	- (10) Plastic Bag	gs (small)				
	- Labels					
	- Tape					
	- (2) Pens					
	- Site Area Survey	Map (Appendix D)				
	b. Air Sampling Surve	y Teams:				
	- CPM Survey Meter					
	- Portable Sampler Samples	for Particulate a	nd Radioiodine			
	- (5) Silver Zeoli Environmenta	te (AgX) Cartridge 1 Samples	s for			
	- Box of Particula	te Filters				

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PVNGS EME	RGENCY PLAN	PROCEDURE NO. EPIP-16	
ONSITE SURVEYS AND SAMPLING		REVISION 0	Page 6 of 1
	- Manual Air Pump Rubber Bulb)	for Noble Gas Samp	les (i.e.,
	- Noble Gas Collec	tion Chamber	
	- Watch (with Seco	and Hand)	
	c. Soil, Vegetation, Monitoring Samplin	and Water Samples, g Teams:	and TLD
	- Shovel		
	- Tape Measure		
	- Scissors or Knif	e	
	- Liter Bottle		
	- Pipette with Rub	ber Bulb	
	- (6) TLD's		
	d. Surface Contaminat	ion Survey Teams:	
	- Smear Papers		
	- Tape Measure		
4.2.3.2	In addition, it is sug be considered:	gested that the fo	ollowing items
	o Protective clothin	ng and/or respirato	ors
	Coveralls, hoods,	shoe covers	
	Respiratory equipm mask)	ment (self containe	ed or filter
	c Plastic Sheeting		
	o Rope		
	o Caution, Radiation	n Area Sign	
	o Inverter (if a ver sampler)	nicle is the power	source for ai
	o 100 ft. Extension	Cord (for air sam	oler)

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ONSITE SUF	VEYS AND	SAMPLING	0	Page 7 of 18
4.2.4	Record s and air	erial numbers of samplers in Apper	dosimeters, surv ndices A and B.	ey instruments
4.2.5	Check ba instrume equipmen	tteries and performers. Allow warm	orm source check up time for high	tests on survey range survey
4.2.6	Obtain h open and	background readin window closed,	gs from survey in if appropriate). endices A and B.	struments (window Record
4.2.7	Complete	Appendices A. B	. and C headings.	
4.2. 7-0	truction		,	
4.5 Ins	LIUCCION.	•		
4.3.1	General	Instructions		
4.3.1	l Air gam dir Rad	(radioicdine, pa ma/beta, soil, ve ected by the Radi iological Protect	rticulates, and regetation should hation Protection fion Coordinator.	noble gases), de sampled as Monitor or
4.3.1	.2 Tim by	e and locations of the Radiological	of TLD changes sha Protection Coord:	all be determined inator.
4.3.1	L.3 Sur inp abo Pro	vey meters should lant readings abo ve 0.2mR/hr shoul tection Coordinat	d be left on while ove 10R/hr and out ld be reported to tor.	e in transit. All tside readings the Radiological
4.3.2	Gross R	adioactivity Meas	surement	
	2.1 Use	one of the follo	owing instrument	types (in order o
4.3.	pre	ference):		
4.3.	a. b. c.	Extended probe 0-5 R/hr survey 0-50 R/hr surve	meter y meter	
4.3.	a. b. c. 2.2 Whit met	Extended probe 0-5 R/hr survey 0-50 R/hr surve the in route to t ter on, with the litching down as n	mete y meter he survey locatio meter set on the ecessary.	n keep the survey high scale,
4.3.	a. b. c. 2.2 Whit met swit 2.3 Upo rac	Extended probe 0-5 R/hr survey 0-50 R/hr surve the in route to t ter on, with the tching down as n on arrival at the diological condit	meter y meter he survey locatio meter set on the ecessary. survey location ions:	n keep the survey high scale, evaluate

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ONSITE SURVEY	S AND SAMPLING	REVISION 0	Page 8 of 1
	 Visual observation piping or equipment surface contaminat: relay this informat Protection Coordina Appendix A. 	of presence of st t, external radiat ion, airborne cont tion to the Radiol ator. Record find	eam, failed ion levels, amination; ogical ings on
	b. mR/hr at 3 feet abo	ove ground level:	
	- Determine the gro beta shield close window closed" va the net mR/hr val	oss mR/hr at 3 fee ed. Subtract the alue (from Appendi lue in Appendix A.	t with the "Background: x A). Record
	- Determine the gro beta shield open window open" valu the net mR/hr val	oss mR/hr at 3 fee • Subtract the "b ue (from Appendix lue in Appendix A.	t with the ackground: A). Record
	c. mR/hr at 3 inches a b above with the ma	above ground level eter at three inch	(repeat step es).
	d. Net beta dose rate:	s:	
	The net beta dose a (window open) minus closed). Record va Appendix A.	rate is the net ga s the net gamma va alues for beta dos	mma/beta value lue (window e rate in
4.3.3 Par	ticulate and Radioioding	e Air Samples (App	endix B)
	NOT	E - 1	하고 걸렸다
	For environmental radio silver zeolite (AgX) ca used, and counted in th	oiodine air sample artridges will be he field.	s,
	NOT	<u>E - 2</u>	
	Air sample volumes show (35.3ft ³).	uld be 1 m ³	
4.3.3.1	Connect the air samples	r to a 120V AC pow	er source or:
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ONSTTE SIRVES	ONSITE SUBVEYS AND SAMPLING						
UNSITE SURVE	5 AND SATELING						
4.3.3.3	Assemble the sample he should be upstream fro the sample head to the	ead. The particula om che iodine cartr e air sampler.	te filter idge. Attach				
4.3.3.4	Start the sampler in t	the variable positi	.on.				
4.3.3.5	Adjust the flow rate. 4 CFM. It is suggeste	The maximum flow ed that the flow ra	rate should be te be 3 CFM.				
4.3.3.6	Determine the sampling sample volume of 36ft (in minutes) on Append	time necessary to Record the samp lix B.	o collect a oling time				
4.3.3.7	Calculate the flow rate method:	te in CFM using the	e following				
	CFM (Initial) + CFM (1 2	Final) = CFM (Samp	le Collection)				
	Where: (CFM (Initial) Collection) an flow rate, and in CFM. Recon Appendix C.), (CFM Final) and te the initial flow i mean flow rate, n rd the mean flow ra	CFM (Sample v rate, final respectively, ate value on				
4.3.3.8	Calculate the sample v Appendix C.	volume as follows a	and record in				
	V(ft ³) = CFM (Sample Time (Minut	e Collection) x San tes)	ple Collection				
4.3.3.9	Disassemble the sample filter in a plastic ba date, time, location,	e head. Place the ag, and label the h and sample volume.	particulate bag with the				
4.3.3.10	For non-environmental cartridges in a plast time, location, and sa	samples, place the ic bag, and label wample volume.	e charcoal with the date,				
4.3.3.11	Environmental samples,	, Radioicdine Air (Conc (uCi/cc).				
	 a. Hold the meter procontact or within minimum (1) minute immediately after gross iodine CPM. 	obe with an open wi one (1) inch and p count on the AgX sampling, to obtain Record the value	Indow in Derform a filter In a value of of gross				

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install in a solution

PVNGS EM	RGENCY PLAN	PROCEDURE NO. EPIP-16	
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	b. Record the backgro Appendix B. If NC then report MDA.	ound count rate (CP) PM is less than ca	M) on lculated MDA
	c. Utilizing the info the gross particul concentrations. I calculate the air readings (CPM) and Appendix B and the	rmation on Appendix ate and gross radio f Appendix E canno concentrations from sample volume (ft following equation	x E determine piodine air t be utilized, m the survey 3) utilizing n.
	d. Complete calculati	ons in Appendix B.	Calculation:
	AL		uCi-ft3
Α -	$\frac{1C1}{CC} = \frac{\text{Net CPM}}{CFM (Sample Coll)}$	x (1.6E-11)	dpm cc
Wh	ere:	A GOLLECCION TIME	(intro x Le (cpm)
A	= Iodine Activ	ity uCi/cc	
Ne	t CPM = Net Count Ra	te	
Con Fac	nversion = (4.7E-07uCi/ tor Utilizing a	dpm) - 2.83E+04cc/f Filter Efficiency o	ft ³ of 0.96
CFI	a = Sample Colle	ction Rate	
Ec	= Counting Eff	iciency (cpm/dpm)	
	e. Place the AgX filt with the date, time	er in a plastic bag e, location, and sa	, label the bag
	f. Submit samples to a fter completion of	the Chemistry Lab f f survey.	or analysis
4.3.4 No.	le Gas Air Samples		
4.3.4.1	Assemble the filter hold	lder assembly as fo	llows:
	 Insert AgX cartridg cartridges may be a period. 	ge into AgX holder. ised repeatedly dur	AgX ing a one day
	b. Flace filter paper in the holder.	upstream of the Ag	X cartridge

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	c. Attach holder to t chamber.	the manual gaseous	collection		
	d. Attach rubber bulk chamber.	b to petcock of gas	collection		
4.3.4.2	Collect noble gas air	sample as follows:			
	 With both petcocks slowly at least to representative same 	s cpen, compress th en (10) times to co mple.	e rubber bulb llect a		
	b. Close both petcock	ts on the gas colle	ction chamber.		
	c. Disconnect the gas rubber bulb and Ag	s collection chambe gX holder.	r from the		
	 d. Place the gas coll bag. Label the ba date, and time. 	lection chamber in a ag with the sample	a plastic location,		
4.3.4.3	Disassemble the AgX ho material.	older and contents a	as radioactive		
4.3.5 So	il Samples (Appendix C)				
4.3.5.1	Measure an area of 1 m	n ² on the ground (1	f possible).		
4.3.5.2	Collect soil from that 1/4 inch. Record the the sample on Appendix	ollect soil from that area to a depth of less than /4 inch. Record the area and approximate depth of he sample on Appendix C.			
4.3.5.3	Place the soil sample the location, date and	ace the soil sample in a bag. Label the sample with e location, date and time of collection.			
4.3.6 Ve	getation Samples (Append	lix C)			
4.3.6.1	Measure an area of 1 m	² .			
4.3.6.2	Cut the vegetation to not to contaminate the	a height of 1-2 cm vegetation sample	being careful with soil.		
4.3.6.3	Place the vegetation s sample with the locati	ample in a bag. La ion, date, and time	abel the of collection.		

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4.3.7 Wa	ter Samples (Appendix C)		
4.3.7.1	If surface water is ava water with a pipet, and bottle.	ailable, collect l d place in a l lit	liter of er sample
4.3.7.2	Seal bottle, and label time.	with the location	, date, and
4.3.8 Su	rface Contamination Samp	les	
4.3.8.1	Obtain survey map of an	rea to be surveyed	
4.3.8.2	Number plastic bag and number for each locatio	survey map with co	orresponding
4.3.8.3	Smear an area (100 cm ²) curve about 12 inches 1 100cm ² smear all access be taken not to cross-) by making an "S" long. If the area sible surfaces. Ca contaminate smears.	shaped is less than are should
4.3.8.4	Place smear paper in pl time, location, and are	lastic bag. Label a of smear.	with date,
4.3.9 Tak	e samples to the Chemist	ry Laboratory for	counting.
999 - Port - P			

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			Beta Shield Open (Camma/Beta)										•	
tE MEASUREMENTS Ceam Member	Serial	e Rate mR/hrAT 3"	Beta Shield Closed (Gamma)											
r: Beta/Gantia Dose Rat	strument Type	Net Dos	Beta Shield Open (Gamma/Beta)								-			
E MONITORING DATA SHEE	In	AT 3	Beta Shield Closed (Gamma)									mR/hr	mR/hr	
EMERGENCY ONSIT	Time Started		Time									feld open (Gamma/Beta)	ield closed (Gamma)	
	Date		Monitoring Location									Background shi	Background sh	

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IMPLEMENTING PROCEDURE PVNGS EMERGENCY PLAN ONSITE SURVEYS EMERGENCY ONSITE MONITORING DATA SHEET: PARTICULATE AND RADIOIODINE AIR SAMPLES Team# Team Leader _____ Team Member _____ Time Started Instrument Type Serial Date . RADIOIODINE SAMPLES AND SAMPLING Conversion ' Net Gross Counting Factor uCi - ft³ Sample Flow Radioactive Bkgd Monitoring Iodine Iodine Time Rate Efficiency Activity (CPM) Location (CPM) (CPM) (min) CFM (cpm/dpm) dpm-cc (uC1/cc) 1.6E-11 1.6E-11 1.6E-11 1.6E-11 1.6E-11 1.6E-11 1.6E-11 1.6E-11 PARTICULATE SAMPLES PROCEDURE NO. 1.2 REVISION Sample Flow Sample Gross Gross Gross Monitoring Time Time Time Rate Volume Gamma/Beta Gamma Beta EPIP-16 Location Started (min) Completed (CFM) ft(3) (cpm) (cpm) (cpm) 0 APPENDIX B Page 1 of 1 Page x Counter eff X cpm/dpm 14 AgX filter eff X (fraction) Counter background cpm of 18

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: SOIL, WATER, VEGETATION AND SURFACE CONTAMINATION SAMPLES Team Leader Time Started Type of Sample	(Veg., Soil, Water, Contamination)		
CY ONSITE SAMPLING DATA SHEET:			
Team ^f EMERGENN DateSampling Location			

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PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-16	APPENDIX D Page 1 of 2
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SITE AREA SURVEY MAP



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PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE ONSITE SURVEYS AND SAMPLING			PROCEDURE NO. EPIP-16 REVISION 0	APPENDIX E Page 1 of 1 Page 18 of 1
	1	LE VOLUME		
NCPM	10ft ³	20ft ³	30ft ³	40ft ³
	uCi/cc	uCi/cc	uCi/cc	uCi/cc
300	4.80E - 8	2.40E - 8	1.60E - 8	1.20E - 8
400	.6.40E - 8	3.20E - 8	2.13E - 8	1.60E - 8
500	8.00E - 8	4.00E - 8	2.67E - 8	2.00E - 8
600	9.60E - 8	4.80E - 8	3.20E - 8	2.40E - 8
700	1.12E - 7	5.60E - 8	3.73E - 8	2.80E - 8
800	1.28E - 7	6.40E - 8	4.27E - 8	3.20E - 8
900	1.44E - 7	7.20E - 8	4.80E - 8	3.60E - 8
1000	1.60E - 7	8.00E - 8	5.33E - 8	4.00E - 8
1500	2.40E - 7	1.20E - 7	8.00E - 8	6.00E - 8
2000	3.20E - 7	1.60E - 7	1.07E - 7	8.00E - 8
3000	4.80E - 7	2.40E - 7	1.60E - 7	1.20E - 7
5000	8.00E - 7	4.00E - 7	2.67E - 7	2.00E - 7
7000	1.12E - 6	5.60E - 7	3.73E - 7	2.80E - 7
10000	1.60E - 6	8.00E - 7	5.33E - 7	4.00E - 7
20000	3.20E - 7	1.60E - 6	1.07E - 6	8.00E - 7
30000	4.80E - 6	2.40E - 6	1.60E - 6	1.20E - 6
40000	6.40E - 6	3.20E - 6	2.13E - 6	1.60E - 6
50000	8.00E - 6	4.00E - 6	2.67E - 6	2.00E - 6

*Assumes a counter efficiency of 0.01 (cpm/dpm). *Refer to Section 4.3.3.13 for equations and parameter descriptions. *uCi/cc = Ci/M3
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1.0 OBJECTIVES

To provide a procedure for emergency offsite radiological monitoring and field surveys to be undertaken in the event of airborne release of radioactive gases and particulates from PVNGS. Instructions for implementing the program, locating sampling points, collecting samples, and performing field surveys are provided. Offsite emergency sampling will be performed by PVNGS personnel until appropriate state authorities assume responsibility for conducting surveys.

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2.0 REFERENCES

2.1 Implementing References

2.1.1 EPIP-01, "PVNGS Emergency Organization"

2.1.2 EPIP-02, "Emergency Classification"

2.1.3 EPIP-14B, "Dose Assessment"

2.1.4 Daily Performance Check List (with Counter Efficiencies)

2.1.5 EPIP-38, "Emergency Equipment and Supplies Inventory"

2.2 Developmental References

2.2.1 NUREG-0654, Rev 1 "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants" USNRC, 11/80

2.2.2 75 RP-9ZZ48, Airborne Radioactivity Sampling and Measurement

3.0 LIMITATIONS AND PRECAUTIONS

- 3.1 Use appropriate protective clothing, equipment, and respirators (EPIP-38).
- 3.2 Clearly label contaminated areas and material, control access and egress from the area.
- 3.3 Methods of communication between field survey teams and onsite facilities consists of hand-held radios, and/or radio equipped vehicles.

Check fuel level in vehicles to be used.

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3.4

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4.0 DETAILED PROCEDURE

4.1 Personnel Indoctrination

- 4.1.1 As delineated in EPIP-01, the Radiation Protection Monitor until relieved by the Radiological Protection Coordinator is responsible for the implementation of this procedure.
- 4.1.2 Persons involved in air and gross gamma and beta sampling should be familiar with operation of the air samplers, cartridges and filters, noble gas chambers, and survey instruments.
- 4.1.3. Members of survey teams should proceed to the Operations Support Center for instructions. The Radiological Protection Coordinate: shall:
 - 4.1.3.1 Supervise the formation of Monitoring Teams.
 - The Monitoring Team Leader will communicate with the Radiological Protection Ccordinator every one half hour via portable radio.
 - 4.1.3.2 Brief and dispatch Monitoring Teams.
- 4.2 Prerequisites
 - 4.2.1 An ALERT or more severe emergency has been classified per the provisions of EPIP-02.
 - 4.2.2 Don protective clothing and respiratory apparatus if necessary.
 - 4.2.3 Obtain appropriate sampling equipment.
 - 4.2.3.1 Equipment located in the emergency lockers is listed in EPIP-38. As a minimum, each Survey Team should assemble the following types of equipment:
 - Appendix D and E Map and Locations of Offsite Sampling Locations
 - o Legal TLD, Job TLD and Alarm Dosimeters
 - o (2) B/ Survey Meters
 - o Portable Air Sampler
 - o (6) TLD's (Environmental)

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	o (6) Silver Zeolit	e (AgX) Filters	
	o Box of Particular	Filters	
	o (20) Plastic Bags	(small)	
	o (10) Radioactive M	Material Labels	
	o Tape		
	o Watch (with Second	d Hand)	
	o Inverter		
	o 100 ft. Extension	Cord	
	o Scissors or Knife		
	o Shovel		
	o Tape Measure		
	o (2) Liter Bottles		
	o Pipette with Rubbe	er Bulb	
	o Noble Gas Collecti	on Chamber	
	o Vehicle		
4.2.4	Record serial numbers of s samplers in Appendices A a	urvey instruments and B.	and air
4.2.5	Check batteries and perfor instruments.	m source check test	ts on survey
4.2.6	Complete Appendices A, B,	and C headings.	
4.3 Ins	tructions		
4.3.1	General Information		
4.3.1	.1 The sampling locations sector on either side otherwise directed by Coordinator. The wind recorded in EPIP-14B.	are those within a of the wind directi the Radiological Pr direction is deter Sampling locations	22.5 degree on, unless otection mined for and are

(Appendix D).

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4.3.1.2	Air (radioiodine, par gamma/beta, soil, veg available) should be a	iculates, and nobletation and surface sampled at each sam	e gases), water (if opling location.		
4.3.1.3	Change TLD's at each sampling location. Time and locations of future TLD changes shall be determined by the Radiological Protection Coordinator.				
4.3.1.4	Survey meters should be left on while in transit. All offsite readings above 0.2 mR/h should be relayed to the Radiological Protection Coordinator. These sites should be extensively surveyed.				
4.3.2 Gr	oss Radioactivity Measur	cement (Appendix A)			
4.3.2.1	mR/h at 3 feet above g	ground level:			
	a. Determine the gros shield closed. So closed" value (fro mR/h value in Appe	as mR/h at 3 feet w abtract the "Backgr om Appendix A). Re endix A.	ith the beta ound: window cord the net		
	b. Determine the gross shield open. Subst open" value (from mR/h value in Appe	ss mR/h at 3 feet w ract the "backgrou Appendix A). Reco endix A.	ith the beta nd: window rd the net		
4.3.2.2	mR/h at 3 inches above and b above with the m	e ground level (rep meter at three inch	eat steps a es).		
4.3.3 Par	rticulate and Radioiodin	e Air Samples (App	endix B)		
	TON	<u>E - 1</u>			
	For environmental radi silver zeolite (AgX) o used, and counted in t	oiodine air sample artridges should b he field.	s, e		
	TON	<u>E - 2</u>			
	Air sample volumes sho (35.3ft ³).	uld be 1 m^3			
4.3.3.1	Connect the air sample	r to a 120V AC pow	er source or:		
4.3.3.2	Connect inverter and e	xtension cord to c	ar battery.		
4.3.3.3	Connect air sampler to	cord, and turn on	car.		

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PVNGS EMER	RGENCY PLAN	PROCEDURE NO. EPIP-17			
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OFFSITE SURVEYS	S AND SAMFLING	0	Page 7 of 16		
4.3.3.4	Assemble the sample he should be upstream fro the sample head to the	ead. The particula om the iodine cartr e air sampler.	te filter idge. Attach		
4.3.3.5	Start the sampler in t	the variable positi	on.		
4.3.3.6	Adjust the flow rate. 4 CFM. It is suggested	The maximum flow ed that the flow ra	rate should be te be 3 CFM.		
4.3.3.7	Determine the sampling sample volume of 36ft (in minutes) on Append	g time necessary to 3. Record the samp dix B.	collect a ling time		
4.3.3.8	Calculate the flow ramethod:	te in CFM using the	following		
	CFM (Initial) + CFM (Final) = CFM (Samp	le Collection)		
	Where: (CFM (Initial Collection) a flow rate, an in CFM.), (CFM Final) and re the initial flow d mean flow rate, r	CFM (Sample rate, final espectively,		
4.3.3.9	Disassemble the sampl filter in a plastic b date, time, location,	e head。 Place the ag, and label the b and sample volume.	particulate bag with the		
4.3.3.10	Perform a minimum (1) minute count on the AgX filte immediately after sampling, to obtain a value of gr iodine CPM.				
4.3.3.11	Calculate the sample	volume as follows.			
	V(ft ³) = CFM (Sampl Time (Minu	e Collection) x San tes)	nple Collection		
4.3.3.12	Calculate the net cou sample by subtracting	nt rate from the ra the background cou	adioiodine unt rate.		
4.3.3.13	Utilizing the informa gross particulate and concentrations. If A calculate the air com readings (CPM) and sa Appendix B and the fo	tion on Appendix F gross radioiodine ppendix F cannot be centrations from th mple volume (ft ³) of llowing equation:	determine the air utilized, ne survey utilizing		

PVNGS EME	RGENCY PLAN	PROCEDURE NO. EPIP-17			
		REVISION			
OFFSITE SURVEY	S AND SAMPLING	0	Page 8 of 16		
			uCi-ft		
A 4	$\frac{1Ci}{cc} = \frac{Net CPM}{CFM (Sample Coll)}$	x (1.6E-11) x Collection Time	(Min) x E _c (cpm/d		
Whe	ere:				
A	= Iodine Activ	vity uCi/cc			
Net	t CPM . = Net Count Ra	ite			
Con Fac	tor = (4.7E-07uCi/ Utilizing a	'dpm) - 2.83E+04cc/ Filter Efficiency	ft ³ of 0.96		
CF	1 = Sample Colle	ection Volume			
Ec	= Counting Eff	ficiency (cpm/dpm)			
4.3.3.14	4.3.3.14 Place the AgX filter in a plastic bag, label the bag with the date, time, location, and sample volume.				
4.3.3.15	Count the particulate (cpm) on Appendix B.	filter. Record th	e gross counts		
4.3.4 Nol	ble Gas Air Samples				
4.3.4.1	Assemble the filter ho	older assembly as f	ollows:		
	 Insert AgX cartrid cartridges may be period. 	ige into AgX holder used repeatedly du	• AgX ring a one day		
	b. Place filter paper in the holder.	r upstream of the A	gX cartridge		
	c. Attach holder to t chamber.	the manual gaseous	collection		
	d. Attach rubber bulk chamber.	b to petcock of gas	collection		
4.3.4.2	Collect noble gas air	sample as follows:			
	 With both petcocks slowly at least to representative same 	s open, compress th en (10) times to co aple.	e rubber bulb llect a		
	b. Close both petcock	cs on the gas colle	ction chamber.		

PVNGS EME	RGENCY PLAN	PROCEDURE NO. EPIP-17	i din a			
OFFSITE SURVEY	'S AND SAMPLING	REVISION	Page 9 of 16			
	c. Disconnect the gas rubber bulb and Ag	collection chamber	from the			
	d. Place the gas coll bag. Label the ba date, and time.	ection chamber in a g with the sample 1	a plastic location,			
4.3.4.3	4.3.4.3 Disassemble the AgX holder and treat contents as radioactive material.					
4.3.5 So:	11 Samples (Appendix C)					
4.3.5.1	Measure an area of 1 m	² on the ground (i	f possible).			
4.3.5.2 Collect soil from that area to a depth of less than 1/4 inch. Record the area and approximate depth of the sample on Appendix C.						
4.3.5.3	Place the soil sample in a bag. Label the sample wit the location, date and time of collection.					
4.3.6 Ve	getation Samples (Append	iix C)				
4.3.6.1	Measure an area of 1 m	n ² .				
4.3.6.2	Cut the vegetation to not to contaminate the	a height of 1-2 cm vegetation sample	being careful with soil.			
4.3.6.3	Place the vegetation sample with the locat	Place the vegetation sample in a bag. Label the sample with the location, date, and time of collect				
4.3.7 Wa	ter Samples (Appendix C)				
4.3.7.1	If surface water is an water with a pipet, an bottle.	If surface water is available, collect 1 liter of water with a pipet, and place in a 1 liter sample bottle.				
4.3.7.2	Seal bottle, and labe	Seal bottle, and label with the location, date, and time.				
4.3.8 Mi	lk Samples (Appendix C)					
4.3.8.1	At milk sampling loca and place in a 1 lite	tions collect one 1 r sample bottle.	iter of milk			
4.3.8.2	Seal bottle, and labe time.	l with the location	, date, and			
4.3.9 Ta	ke samples to the Chemi	stry Laboratory for	counting.			

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PVNGS EI	PVNGS EMERGENCY PLAN				PROCEDURE NO. EPIP-17 REVISION	APPENDIX A Page 1 of 1
OFFSITE SUR	VEYS A	ND SA	MPLING		0	Page 10 of 16
			Beta Shield Open (Camma/Beta)			
TE MEASUREMENTS Feam Member	Serial	te Rate mR/hr	Peta Shield Closed (Gamma)			
I: BETA/GANNA DOSE RA	trument Type	Net Dos	Beta Shield Open (Gamma/Beta)			
MONITORING DATA SHEE	Ins	AT 3'	Beta Shield Closed (Gamma)			nR/hr nR/hr
ENERGENCY OFFSITE	Time Started					(Gamma/Beta) d (Gamma)
			Tine			ifeld open ifeld close
	fear® Date		Monitoring Location			Background sh Background sh

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PVNGS IMPLEME	PVNGS EMERGENCY PLAN MPLEMENTING PROCEDURE			APPENDIX B Page 1 of 1
OFFSITE S	SURVE	YS AND SAMPLING	REVISION 0 Page 11 of 16	
		Radioactive Activity (uCl/cc)	Cross Bera (cpm)	
IPLES	Serial	Conversion Factor ucl - ft ³ dpm-cc 1.6E-11 1.6E-11 1.6E-11 1.6E-11 1.6E-11 1.6E-11 1.6E-11 1.6E-11 1.6E-11	Gross Gamma (cpm)	
OIODINE AIR SAU Team Member	reau nember	Counting Efficiency (cpm/dpm) x x x x x x x x x x x x x x x x x x x	Cross Gamma/Beta (cpm)	
CULATE AND RADI	it Type	LES Rate CFM CFM CFM	LES Sample Volume ft(3)	
A SHEET: PARTI	Instrumer	ADIOIODINE SAMP Sample Time (min) x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x x	RTICULATE SAMPI Flow Rate (CFN)	
MONITORING DAT		Ret Iodine (CPM)	P/ Sample Time (min) x x x	dpm (ction)
ERGENCY GFFSITE	Time Started	Bk gd (CPN)	Time Completed	c pm/
B		Gross Iodine (CPM)	Time Started	puno-
Teamf	Date	Monitoring Location	Monitoring Location	ounter eff X gX filter eff counter backgr

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PVNGS	PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE					RE -17	APPENDIX C Page 1 of 1
OFFSITE :	SURVI	TYS AND	SAMPLING		REVISION	0	Page 12 of 16
ATION SAMPLES	Team Leeder	Time Started					
A SHEET: SOIL, WATER, MILK AND VEGET		Type of Sample (Veg., Soil, Wate Milk)					
EMERGENCY OFFSITE SAMPLING DAT		Tine					
	Team#	Sampling Location					

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IMPLEMENTING **PVNGS EMERGENCY** OFFSITE SAMPLE TYPES AND LOCATIONS Sample Sample Location Site # SURVEYS Type Designation (a) Location Description TLD, Air E30 APS Goodyear Office TLD ENE24 Scott-Libby School TLD AND E25 Liberty School TLD, Air E20 PROCEDURE **APS Buckeye Office** TLD ESE15 Palo Verde . TLD, Air SAMPLING SSE35 APS Gila Bend Substation TLD, Air SE8 Arlington School TLD SSE5 Corner of 363rd Ave. & SPP Rd. PLAN TLD \$5 Corner of 371st Ave. & SPP Rd. 10 TLD SE5 Corner of 355th Ave. & Ward Rd. 11 TLD. ESE5 Corner of 339th Ave. & Dobbins Rd. 12 TLD E5 Corner of 339th Ave. & B-S Rd. 13 TLD N1 N Site Boundary 14 TLD NNE 2 NNE Site Boundary 14A TLD NNE2 Buckeye-Salome Rd. & 371st Ave. 15 TLD, Air NE2 NE Site Boundary 16 TLD ENE2 ENE Site Boundary 17 TLD E2 E Site Boundary 17A Air E4 PROCEDURE NO. 351st Ave., 1 mi. S of B-S Rd. REVISION 18 TLD ESE2 ESE Site Boundary 19 TLD SE2 SE Site Boundary 20 TLD SSE2 EPIP-17 SSE Site Boundary 21 TLD, Air \$3 S Site Boundary 22 TLD SSW3 SSW Site Boundary 23 TLD W5 Benchmark at Baseline 24 1LD, Water 0 SW5 Ward Rd. @ Well 18bbb 25 TLD WSW5 Mard Rd. @ DF Well 2 Rd. 26 TLD, Water SSW5 Well 21 Cbb(2) 27 TLD SW2 SW Site Boundary 28 TLD WSW1 WSW Site Boundary 29 TLD, Air 11 APPENDIX I Page 1 of W Site Boundary rd. 30 TLD age WNW1 WNW Site Bolundary 31 TLD NW2 NW Site Boundary 32 TLD NNW1 NNW Site Boundary 33 14 TLD IN/S Yuma Rd., 1/2 m1. W of Belmoat Rd. of tri N

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SAMPLE TYPES AND LOCATIONS (CONT'D) Sample Sample Location Site # Type Designation (a) Location Description 34 TLD NNW5 Corner Belmont Rd. & Van Buren Rd. 35 TLD, Air NNW9 Tonopah, Palo Verde Inn Fire Station 36 TLD N5 Corner of Wintersburg Rd. & Van Buren 37 TLD NNE5 Corner of 363rd Ave. & Van Buren 38 TLD NE5 Corner or 355th Ave. & Yuma Rd. 39 TLD ENES. 343rd Ave., 1/2 mi. S of L. Buckeye 40 TLD, Air, Water N3 Trailer Park; Water at Red Quail Str. 41 TLD WNW20 Harquahala Valley School 42 TLD N8 Ruth Fisher School 43 TLD N45 Vulture Mine Rd. School, Wickenburg 44 TLD, Air ENE35 APS El Mirage Office (Sun City) 45 TLD ENE50 APS Deer Valley Office 46 Water, Beg. NNW9 McArthurs Farm, Tonopah 47 Water NNW6 Winters' Wells 48 Water SSE4 Well 14dbb 49 Water ESE4 Glover Residence, 351st Ave. & Dobbins Road 50 Milk NE7 Baisley Dairy, 331st Ave. & Van Buren 51 Milk, Veg. E15 Butler Dairy, Palo Verde Rd. & Southern 52 Vegetation E15 Cambron Farm, Miller Rd. & Broadway 53 Milk E20 Kerr Dairy, Dean & Buckeye Rds. 54 Milk E25 Hoffman Dairy, Atrport & Dobbins 55 Milk F25 Lucck Dairy, Jackrabbit & Hazen Rds. 56 Milk E50 Mineso Dairy, Kyrene & Guadalupe Rds.

(a) Table J-1, NUREG-0654; distances (in miles) are from centerline of Unit 2 containment.

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GROSS IODINE AND GROSS PARTICULATE AIR CONCENTRATION*

	SAMPLE VOLUME						
СРМ	10ft ³	20ft ³	30ft ³	40ft ³			
	uCi/cc	uCi/cc	uCi/cc	uCi/cc			
300	4.80 - 8 .	2.40 - 8	1.60 - 8	1.20 - 8			
400	6.40 - 8	3.20 - 8	2.13 - 8	1.60 - 8			
500	8.00 - 8	4.00 - 8	2.67 - 8	2.00 - 8			
600	9.60 - 8	4.80 - 8	3.20 - 8	2.40 - 8			
700	1.12 - 7	5.60 - 8	3.73 - 8	2.80 - 8			
800	1.28 - 7	6.40 - 8	4.27 - 8	3.20 - 8			
900	1.44 - 7	7.20 - 8	4.80 - 8	3.60 - 8			
1000	1.60 - 7	8.00 - 8	5.33 - 8	4.00 - 8			
1500	2.40 - 7	1.20 - 7	8.00 - 8	6.00 - 8			
2000	3.20 - 7	1.60 - 7	1.07 - 7	8.00 - 8			
3000	4.80 - 7	2.40 - 7	1.60 - 7	1.20 - 7			
5000	8.00 - 7	4.00 - 7	2.67 - 7	2.00 - 7			
7000	1.12 - 6	5.60 - 7	3.73 - 7	2.80 - 7			
10000	1.60 - 6	8.00 - 7	5.33 - 7	4.00 - 7			
20000	3.20 - 7	1.60 - 6	1.07 - 6	8.00 - 7			
30000	4.80 - 6	2.40 - 6	1.60 - 6	1.20 - 6			
40000	6.40 - 6	3.20 - 6	2.13 - 6	1.60 - 6			
50000	8.00 - 6	4.00 - 6	2.67 - 6	2.00 - 6			

*Assumes a counter efficiency of 0.01 (cpm/dpm).
*Refer to Section 4.3.3.13 for equations and parameter descriptions.
*uCi/cc = Ci/M3

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1.0 OBJECTIVE

1.1 This procedure addresses required authorization (Emergency Coordinator), guidance, and maximum exposure criteria in the event of a radiological emergency where it becomes necessary for emergency workers to exceed established PVNGS or 10CFR20 quarterly or annual exposure limits.

2.0 REFERENCES

2.1 Implementing References

2.1.1 EPIP-16, "Onsite Surveys and Sampling"

2.1.2 EPIP-26, "Potassium Iodide (KI) Administration"

2.2 Developmental References

2.2.1 NCRP Report #39, 1971 Basic Radiation Protection Criteria

2.2.2 EPA-520/1-75-001, Manual of Protective Action Guides and Protective Actions for Nuclear Incidents

2.2.3 10CFR20, Standards for Protection Against Radiation

2.2.4 PVNGS Quarterly and Annual Exposure Limits

3.0 LIMITATIONS AND PRECAUTIONS

3.1 The Emergency Coordinator must authorize doses in excess of PVNGS Administration and/or 10 CFR 20 Limits but not greater than 100 rem. Emergency exposure limits are contained in Appendix C.

3.2 Personnel authorized to receive exposures in excess of occupational limits established by PVNGS (Appendix B) should meet the following criteria:

3.2.1 Personnel shall be volunteers.

3.2.2 Women of child-bearing age and capability shall not be permitted to receive emergency exposures (i.e., exposure greater than PVNGS Administrative Limits).

3.2.3 Personnel shall be familiar with the hazards of exposure received under emergency conditions.

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3.2.4	Radiation exposure history	of volunteers sho	uld be known.
3.2.5	Use of volunteers above ag consideration.	e 45 should receiv	e first
3.2.6	Emergency exposures should a life time.	be limited to one	occurrence in
3.3 Ad AL ti	ministrative methods to mini ARA) should remain in force mely rescue, corrective and	mize personnel exp to the extent cons protective actions	osure (such as istent with •
3.4 Pe me in	ersonnel shall wear dosimeter asurement of anticipated exp cclude:	s appropriate for posure levels. The	the se shall
3.4.1	Thermoluminescent Dosimete	er (Legal).	
3.4.2	Thermoluminescent Dosimete	er (Job).	
3.4.3	Extremity Dosimeters, if a	appropriate (Append	ix B, Note 2).
3.4.4	Alarm Dosimeters (in high	radiation areas).	
3.5 If ad	necessary, potassium iodide ministered in accordance wit	e (KI) tablets shou th EPIP-26.	ld be
3.6 Pr ap	otective clothing and/or res propriate.	spirators should be	used as
4.0 <u>DETA</u>	ILED PROCEDURE		
4.1 Pe	rsonnel Indoctrination		
4.1.1	The Emergency Coordinator emergency exposures, up to specified in Appendix C.	is required to aut but not exceeding	horize the limits
4.1.2	During an emergency, radia occupational limits may be	tion exposures in e necessary.	excess of
4.1.3	Emergency dose limits (App categories: 1) lifesaving protective actions, and 3) conditions.	pendix C) are defin g actions, 2) corre sampling under em	ed for three ctive and/or ergency

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-18	
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4.1.4 Emergency exposures are justifiable only if the doses are commensurate with the significance of the objective and every reasonable effort is made to maintain emergency worker's doses as low as is reasonably achievable.

4.2 Prerequisites

4.2.1 An emergency condition has resulted in the need to conduct lifesaving actions, and/or corrective or protective actions and/or sampling activities which might result in doses exceeding PVNGS occupational limits.

4.3 Instructions

4.3.1 Authorization

NOTE

The following actions shall be performed to document emergency radiation exposures. Although it is preferable to perform these steps before the exposure is received, the Emergency Coordinator may, at his discretion, verbally authorize the emergency exposure with documentation to be completed at a later time.

- 4.3.1.1 The Radiological Protection Coordinator will provide the Emergency Coordinator with a radiological evaluation of the situations and conditions requiring emergency exposures.
- 4.3.1.2 The Radiological Protection Coordinator or his designee shall complete and sign a Radiation Exposure Permit (REP, Appendix A), detailing specific protective equipment, procedures and allowable emergency doses.
- 4.3.1.3 The Emergency Coordinator shall authorize the emergency exposure by: a) signing the REP, or b) through verbal authorization to the Radiological Protection Coordinator who will then initial the time of approval.

PVNGS EME	RGENCY PLAN	PROCEDURE NO. EPIP-18	
EMERGENCY EXPO	OSURE GUIDELINES	REVISION 0	Page 6 of 10
4.3.1.4	Individual(s) authoriz exposures shall sign t conditions contained i a. Individuals shall in the REP (Append	ed to receive emer he REP, thereby ag n the permit. obtain all equipme ix A).	gency reeing to all nt specified
4.3.2 Per	rsonnel Exposure Control		
4.3.2.1	Individuals shall abid the REP.	e to all condition	s specified in
4.3.2.2	Individuals shall not are unknown or unmeasu immediately available. radiation area:	enter any area whe reable with instru Prior to enterin	re dose rates ments g any
	a. Allow time for met	er warm up.	
	b. Check meter respon	se with a check so	urce.
	 Enter suspected ra on the high scale, necessary. 	diation areas with switching to lowe	the meter set r scales as
4.3.2.3	Personnel shall comple	te the assigned ta	sk.
4.3.2.4	Personnel unable to co allotted stay time or radiation area.	mplete the task wi allotted dose shal	thin the l exit the
. 4.3.3 Sul	bsequent Actions		
4.3.3.1	The Radiological Prote	ction Coordinator	shall:
	a. Obtain initial est exposed personnel	imates of the radi as quickly as poss	ation dose of ible.
	b. Update and refine	dose estimates at	a later time.
	c. Immediately report (Appendix B) to th who will then repo and 10CFR20.405.	exposures in exce e Manager of Nucle rt to the NRC per	ss of 10CFR20 ar Operations 10CFR20.403
and the second			

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	EMERGENCY EXPOSURE GUIDELINES	0	Page 7 of 10
	STANDARD RADIATION	EXPOSURE PERMIT	
PVNG	S Unit:	REP #:	
VALI	ID FROM: TO	JOB #:	
REP	STATUS	REP TYPE:	
TASK	COMPONENT:		
JOB	DESCRIPTION:		
MAP	#:LOCATION:		
REP	REQUIRED BY:		
PROC	CESSING PRIORITY:		
WET/	/DRY:		
RADI	LATION PROTECTION REQUIREMENTS:		
1.	P.C. Requirements		
	No Personal Outer Clothing	Rubbe	r Gloves (2 pr)
	Lab Coat	Surge	ons Cap
	Plastic Shoe Covers	Full I	lood
	Plastic Booties	P.C. (Coveralls (2 pr
	Rubber Shoe Covers (2 pr)	Plast	ic Suit
2.	Respiratory Requirements		
	Full Face w/Cannister	Bubbl	e Hood
	Full Face w/Supplied Air	Stay	Timemin/hr
	SCBA R.G. 1.16 Class		
2	Designatory Devices		
2.	Legal TID	Padia	tion Survey Inct
		ELDEN	crou survey mist.
	Job TLD	Speci	al Dosimetry
	Job TLD Self-Indicating Dosimeter	Speci	al Dosimetry

IM	PUNGS EMER	GENCY P	LAN DURE	PROC NO.	EPIP-18	APPE Page	NDIX A 2 of 2
E	MERGENCY EXPOSU	RE GUIDELI	NES	REVIS	BION 0	Page	8 of 10
4. Sp	STAN ecial Instructi	WDARD RADIA	TION EXPOS	SURE PERM	IIT (CONT')	D)	
5							
IGNOFF Lequest IP Prepa	S AND APPROVALS ed by:	:		SS/Unit H Withdrawn	Ready	by:	
	oval:		'	Completed	i by:		
PERSONN	EL ASSIGNED TO P	REP:	FIRST IN	Completed	i by:	TOUT	
C Appl PERSONNI	OVAI:EL ASSIGNED TO P	REP: DEPT	FIRST IN AVAIL WB (MR)	AVAIL MPC HR	l by: LAS' TOT RES TIME HR	T OUT TOTAL WB(R)	TOTAL MPC HR
CODE #	OVAI:EL ASSIGNED TO P	REP: DEPT	FIRST IN AVAIL WB (MR)	AVAIL MPC HR	l by: LAS' TOT RES TIME HR	T OUT TOTAL WB(R)	TOTAL MPC HR
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PVNGS ADMINISTRATIVE DOSE LIMITS AND MAXIMUM PERMISSIBLE DOSE EQUIVALENT FOR OCCUPATIONAL WORKERS (10CFR20)

		DOSE L	IMITS	
Critical Organ	PVNGS ADMINISTR	MATIVE LIMITS	10CRF20 mrem/quarter	LIMITS mrem/year
Whole Body, Head and Trunk, Active Blood-Forming Organs, Lens of the Eye or Gonads	1,000	4,000	1,2501	5,000
Hands, Forearms, Ankles, Feet	15,000	N/A	18,750 ²	
Skin of Whole Body	6,000	N/A	7,500 ²	
Other Organs (Thyroid), Tissues and Organ Systems			5,0004	
Pregnant Women (With Respect to the Fetus)	500mrem ³ 9 months		500mrem ³ 9 months	500mrem ³ 9 months

- 3,000 millirem is permitted in a calendar quarter or 12,000 millirem in a year as long as the accumulative occupational dose to the whole body does not exceed 5,000 millirem x (age - 18) and the individual's lifetime exposure history is recorded on the NRC's Form 4 or equivalent. Doses exceeding 1,250 mrem/quarter must be reported to the NRC per 10CFR20.403 and 10CFR20.405.
- 2. The licensee is required to supply appropriate personnel monitoring equipment and shall require the use of such equipment by each individual that receives or is likely to receive a dose in any calendar quarter in excess of 25% of the applicable 10CFR20 value.
- 3. NCRP, ICRP Guidance.
- 4. NUREG 0737.

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EMERGENCY EXPOSURE LIMITS

	Sampling Under Accident Conditions*	Corrective or Protective Actions	Lifesaving Actions***
Whole Body (rem)	5	25	100
Thyroid (rem)	25	125	NO LIMIT****
Extremities (rem)	75	100**	200**

* NUREG 0737, Nov. 1980

** NCRP Report #39, 1971

*** EPA Protective Action Guides, July 1980

**** Thyroid exposure should be minimized to the extent feasible by the use of respiratory protecticu and/or thyroid prophylaxis. However, no upper limit is specified for lifesaving action since complete loss of thyroid function may be considered an acceptable risk for saving life.

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APPROVED BY: L.E. Brow-

DATE 12-7-82

DATE EFFECTIVE 12-10-82

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1.0 OBJECTIVE

1.1 To provide guideline information pertinent to evacuation of onsite personnel including company, construction, contractors and visitors who are not engaged in emergency response activities.

2.0 REFERENCES

- 2.1 Implementing References
 - 2.1.1 EPIP-02, "PVNGS Emergency Classification"
 - 2.1.2 EPIP-15, "Protective Action Recommendations"
 - 2.1.3 EPIP-16, "Onsite Surveys and Sampling"
- 2.1.4 EPIP-20, "Personnel Accountability"
- 2.2 Developmental References
 - 2.2.1 NUREG-0654 Rev. 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants"
 - 2.2.2 PVNGS Emergency Plan, Rev. 2
 - 2.2.3 Bechtel/PVNGS Pre-Evacuation Assembly Plan
 - 2.2.4 APS Construction Personnel Accountability and Assembly Implementing Procedure

3.0 LIMITATIONS AND PRECAUTIONS

3.1 This procedure must be conducted in an orderly fashion to avoid personnel injury.

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4.0 DETAILED PROCEDURE

4.1 Personnel Indoctrination

- 4.1.1 In the event of an emergency at PVNGS, it may be desirable to minimize the number of nonessential personnel onsite. If the emergency involves a radiological release or the potential for a release then evacuation of nonessential personnel is desirable, or may be required, to minimize exposure. The Emergency Coordinator will have the responsibility for making this decision.
- 4.1.2 This procedure is intended to apply to evacuations where persons may receive abnormal external exposure and/or persons or automobiles/buses may be contaminated. It assumes a major event has occurred at Unit 1 and Unit 2 and/or Unit 3 is under construction. In the event of an emergency it may be desirable to send individuals home; cases of this nature would be handled as an early dismissal from work. An orderly sequence of dismissal should be given by the Emergency Coordinator and Security should provide traffic control in this event.

4.2 Prerequisites

- 4.2.1 The plant is in an emergency condition where the potential or actual levels of a major radiological release is evident or a SITE or GENERAL EMERGENCY has been declared. Personnel accountability has been completed per EPIP-20.
- 4.2.2 Personnel under the direction of the Bechtel Field Construction Manager have assembled at their assigned locations per the "Bechtel/PVNGS Pre-Evacuation Assembly Plan" (Appendix A) and are awaiting further instructions.
- 4.2.3 Personnel under the direction of the APS Nuclear Construction Manager have assembled at their assigned locations per "APS Construction Personnel Accountability and Assembly Implementing Procedure" (Appendix B) and are awaiting further instructions.
- 4.2.4 APS Nuclear Department Operations personnel are at their assigned emergency organization positions. All nonessential personnel are assembled at one of the following locations:

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- a. Operational Support Center/Access Control Point
- b. Service Building
- c. Administration Annex Building First Floor
- d. Water Reclamation Facility
- e. Visitors Center
- f. Security Firing Range
- 4.2.5 The Emergency Coordinator has determined per EPIP-15 that the emergency situation warrants evacuation of nonessential personnel.
- 4.3 Instructions
 - 4.3.1 The Emergency Coordinator will determine the deployment of emergency response personnel within the Operational Support Center and the Service Building. It may be necessary to direct emergency response personnel in the OSC and Service Building to hardened facilities, i.e., the Control Room, Technical Support Center and Emergency Operations Facility based upon radiological conditions.
 - 4.3.2 If the Emergency Coordinator determines that evacuation is warranted, the Security Director will monitor and supervise the evacuation process.
 - 4.3.3 The Security Director will:
 - a. Assess emergency conditions with the Emergency Coordinator to determine the expediency needed in evacuation and, if radiological conditions warrant, the evacuation route in which to take.
 - b. Arrange with the Bus Transportation Supervisor to deploy buses to the assembly areas where required.
 - c. Coordinate with the Bechtel Field Construction Manager and the APS Nuclear Construction Manager for evacuation of their personnel and inform them if offsite reassembly will take place and where.
 - d. Estimate on the number of vehicles and personnel involved in the evacuation and determine if any further personnel accountability is required at the site prior to the evacuation.

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e. Inform the Security Fo announce over the stat nonessential personnel route and if condition offsite reassembly loc	orce of the evacuat ion Public Address to evacuate, the s warrant, evacuat ation (give locati	ion and System for evacuation e to an on).
4.3.4 Nonessential personnel wil and orderly fashion and wi notification.	1 evacuate the sit 11 await return un	e in a safe til further
4.3.5 The Security Director will check APS trailers and bui area to ensure all nonesses premises.	have Security Gua ldings outside the ntial personnel ha	rds routinely protected ve left the
a. If nonessential person identify the individual to the Security Directo	nel are found on t l(s) and report th or.	he premises eir presence
b. Instruct and ensure that premises if evacuation report to their designation	at the personnel ends is/has taken place assembly area.	vacuate the e or have them
4.3.6 Reassemble at an offsite an	rea.	
4.3.6.1 The Emergency Coordinat Radiological Protection the evacuation route. warrant reassembly of e offsite assembly area m Tonopah). A suggested Figure 1. Ample water location to set up deco and equipment monitorin	for in conjunction a Coordinator, will If radiological co evacuating personne may be used (Palo W route to each is s and space is avail ontamination areas ag points.	with the determine onditions el, one Verde Inn in shown on able at each and personnel
4.3.6.2 The Security Director u and receiving instructi Coordinator as to evacu	pon organizing tra on from the Emerge ation route will:	insportation ency
 Contact the Radiolo and assure that qua dispatched for moni area. 	gical Protection C lified monitoring toring at the offs	cordinator personnel are ite assembly
b. Appoint an Evacuati assembly area. Bec assist for areas un	on Team Leader for htel and APS Const der their control	each major ruction will

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	 Send emergency support as required. 	plies to offsite a	ssembly areas
	 Inform the Evacuat: of the offsite asse follow. 	ion Team Leaders o embly area and the	f the location route to
4.3.6.3	The Security Director w Emergency Coordinator w required from the count evacuation route and/or will notify the offsite the arrival of the evac	will determine from whether assistance by and/or State, to the offsite assen assembly area in cuation group.	n the will be o clear the mbly area. He advance of
4.3.6.4	The Evacuation Team Lea evacuating to:	ders should instru	ict personnel
	a. Proceed in caravan route to the offsit	fashion along the e assembly area.	designated
	b. Personnel without t either obtain a rid assembly area or ri	heir own transport e with a driver in de the bus.	ation should their
4.3.6.5	At the offsite assembly area, each assembly area Evacuation Team Leader will assure that personnel are monitored and cleared before release and individuals names and social security numbers are recorded (on Appendix C).		
4.3.6.6	The names and addresses of evacuees suspected of having received a dose in excess of 250 mrem and those requiring any decontamination shall be obtained before the persons are allowed to leave the assembly area.		
4.3.6.7	The Evacuation Team Lead Director informed of the assembly area. The rest effort will be reported for his evaluation.	der shall keep the e activities at th ults of the decont to the Emergency	Security e offsite amination Coordinator

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BECHTEL'S PVNGS PRE-EVACUATION ASSEMBLY PLAN

Purpose

Alert, assemble and account for all Bechtel employees of Bechtel Subcontractors, and Bechtel visitors is the event of an emergency at PVNGS, and prior to a site evacuation.

Scope '

This plan describes the methods and procedures necessary to alert, assemble and account for employees should an evacuation be necessary.

General

A safe and orderly process is necessary to assemble and account for personnel in preparation for an emergency that may require site evacuation. The locations for assembly are outlined in this plan. Accountability of personnel at these assembly areas will be the responsibility of appointed supervisors. These supervisors will report their findings to the Emergency Control Center either by phone or radio. Phone numbers are ..., radio FM Channel 3 (general use) UHF . MHZ. Missing persons must be named. All personnel will remain in their appointed assembly areas until notification from the Emergency Control Center.

Search and rescue for unaccounted personnel within the protected area will be conducted by APS personnel. Outside the protected area, Bechtel will be responsible for accountability, search and rescue of Bechtel employees.

Alerting

Sirens will be used to alert personnel on the jobsite to proceed to their appointed assembly areas. A continuous tone (2 minutes or longer if necessary) will signal the start of the assembly process. Sirens will be used to give the "all clear" signal which is three (3) short blasts from the siren. Flashing lights or horns will be installed in areas where the sirens are not audible. All vehicle traffic will stop during assembly.

EMERGENCY CONTROL CENTER (ECC)

This center will coordinate all Bechtel site emergency operations excluding the protected area. The center is located at the Field Construction Managers office area. All accountability reporting from assembly areas will be directed to either the Project Superintendent or the Project Services Superintendent, who will record and report to the Field Construction Manager.

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BECHTEL'S PVNGS PRE-EVACUATION ASSEMBLY PLAN (CONT'D)

The Project Superintendent or the Project Services Superintendent will assume the responsibilities of the FCM in his absence. Shift Superintendents will assume the responsibilities of this plan on the off shifts. The ECC will then report personnel accountability status to the Security Director of the PVNGS Emergency Organization and will be relayed to the Bechtel ECC for action.

A. Assembly Areas and Procedures

- When the protected area (Unit 1) is established (a short period prior to fuel load), all personnel covered in the purpose and scope of this plan and working within the protected area will assemble as follows:
 - a. Bechtel manual employees will clear the Unit 1 security gate and report to their respective craft shacks and await additional instruction.
 - b. Bechtel non-manual personnel will clear the Unit 1 security gate and report to their discipline at the Unit 1 Field Office and await additional instruction.
 - c. Bechtel subcontractor manuals and non-manuals will clear the Unit 1 security gate and report to their respective offices or shacks and await additional instruction.
 - d. All other personnel will report to their respective disciplines.
 - e. Visitors will accompany their hosts.
- 2. Protected Area Procedures
 - a. The alerting procedure will be confined to the protected area only and will not be audible to other areas of the jobsite.
 - b. The process of removing personnel from the protected area (Unit 1) is merely an alert and does not mean that a site emergency has been established. The alert for a site pre-evacuation assemble is outlined under "Alerting" in this plan.
 - c. Personnel evacuated from the protected area (Unit 1) and assembled in their assigned areas, may then be subject to the site plan, and would proceed as the balance of this plan indicates.

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BECHTEL'S

PVNGS PRE-EVACUATION ASSEMBLY PLAN (CONT'D)

3. Manual Employees

All Bechtel and Bechtel Subcontractor manual employees will proceed to the parking lots by going through their regularly assigned badge alley. Employees must brass out and remain in the parking lots. The appointed supervisor will report "unaccounted badges" to the ECC by phone or radio.

4. Non-Manual Employees

a. Construction Office Personnel

These persons will report to their discipline assembly areas located around the perimeter of the building (see map for location). The supervisor will report accountability to the ECC by phone or radio.

b. Personnel Assigned in the Field

These persons will assemble at their assigned discipline field office. The supervisor will report accountability to ECC by phone or radio.

c. Bechtel Subcontractor Non-Manuals

These persons will assemble at the receiving dock area on the north side of the main warehouse. Members of the Bechtel Subcontractor group will be present and will be responsible for an accountability report to the ECC by phone or radio.

d. Procurement and Warehouse Personnel

All procurement and warehouse personnel will assemble directly north of the Procurement Office. The supervisor will report accountability to the ECC by phone or radio.

e. Safety and First Aid Personnel

These persons will assemble at the Safety Office. The supervisor will report accountability to the ECC by phone or radio.
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BECHTEL'S PVNGS FRE-EVACUATION ASSEMBLY PLAN (CONT'D)

f. Water Reclamation Personnel

These persons will assemble at the WRF Field Office. The supervisor will report to the ECC by phone or radio.

g. Timekeeping Personnel

All Timekeeping personnel will report to their assigned badge alley/timekeeping office. The supervisor will report accountability to the ECC by phone or radio. Timekeeping personnel will aid in manual personnel accountability.

h. Visitors

All visitors will be the responsibility of their hosts and must remain in their company. Supervisors will report all visitors in their assembly areas, by name, to the ECC, by phone or radio along with routine reports.

B. General Accountability

Unit and Area Superintendents, Lead Engineers and Craft Supervisors will be assigned reporting duties to provide coverage at the assembly areas, etc. Their responsibilities will be to report accountability and provide general supervision and coordination of activities. Accountability reports to the ECC will be accomplished by Unit or Area Superintendents.

C. Education and Training

- a. A pamphlet will be dispersed to all site personnel (including subcontractors) to inform them of the procedures established in this plan.
- b. An explanation of this plan will be incorporated into the manual and non-manual new hire orientations.
- c. The job-wide Safety Tool Box meetings will be used to present the plan to the jobsite. These meetings may be used to provide a refresher for the plan if needed.
- d. APS will train Bechtel employees who enter the protected area, concerning accountability response within the protected area.



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APS CONSTRUCTION

PVNGS

EMERGENCY PLAN

PERSONNEL ACCOUNTABILITY AND ASSEMBLY

IMPLEMENTING PROCEDURE

SCOPE

This procedure describes the immediate emergency personnel assembly and accountability actions to be taken by the following groups of onsite personnel:

- o APS Nuclear Construction Department employees
- o APS Site Quality Assurance employees
- o APS Visitor's Center employees
- o SRP Switchyard Construction employees
- o Construction Security Guards
- Visitors, vendors, APS contractors, tour guests under the jurisdiction of the above groups.

This procedure is based on the situation of a Unit 1 emergency while Unit 1 is operational and Units 2 and 3 are still in the construction stage.

ACCOUNTABILITY

1. Employees of the Muclear Construction and Site Quality Assurance Departments routinely log in and out of the Site Construction Office such that their whereabouts are known to the Nuclear Construction Manager or his designee at all times. The locations of visitors and contractor personnel who are the responsibility of these two groups are also included in the log. APS Visitor's Center employees and visitors are the responsibility of the Visitor's Center Director or his alternate. He is accountable to the Nuclear Construction Manager for purposes of accountability when this procedure is in effect. SRP Switchyard construction employees are also accountable to the Nuclear Construction Manager and are logged in and out of the construction area.

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- Employees and visitors who enter the Unit 1 controlled area or the Water Reclamation Plant become the responsibility of the Nuclear Operations Department and for purposes of this procedure, are considered visitors to that group.
- 3. Personnel located outside the chain-link construction fence are considered to be outside the owner-controlled area. Accountability is not required. Nuclear Construction personnel outside this area but onsite will carry a portable radio, however, for direction in the event of a site evacuation.
- Personnel such as SP Railroad employees who may not be escorted will be issued a card which advises them of actions required in the event of an emergency.
- The Nuclear Construction Manager will appoint a designee to act for him during his absence and outside of normal day-shift hours.

IMMEDIATE ACTIONS

- When Nuclear Construction, Site QA personnel and their visitors located in Unit 1 are directed to evacuate, they will do so either through the Security Building or the Security Trailer exit located at plant north of the Fuel Building.
 - Personnel exiting via the Security Building will assemble at Area #2 (see Figure 1).
 - b. Personnel exiting via the Security Trailer will proceed to Area #1 to assemble.
- 2. SRP and other personnel located in the switchyard will assemble in Area #3.
- Personnel located elsewhere within the chain-link fenced construction area will assemble in Area #1, which is the APS Nuclear Construction Office.
- 4. Visitor's Center personnel will assemble at the Visitor's Center parking lot, Area #4. Tour guests within the construction area will be escorted by their host/guide out to Area #4.
- 5. APS contractor personnel having site access badges will have received training in emergency procedures and will proceed to the appropriate area as though they were employees of Nuclear Construction.

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SUBSEQUENT ACTIONS

- Personnel accountability measures are the responsibility of the Nuclear Construction Manager. It is the responsibility of each supervisor to know the general location of his personnel, visitors and contractors at all times.
- 2. The Nuclear Construction Manager or his alternate will appoint a Nuclear Construction Department staff member for each assembly area to go to his area and identify the head count and personnel not accounted for by name and last known location. The results will be forwarded to the Nuclear Construction Manager or his designee.
- 3. The status of personnel accountability will be forwarded by the Nuclear Construction Manager to the Security Director or his alternate (located in the Security Building) for relay to the PVNGS Emergency Coordinator.
- 4. Unaccounted for personnel will then be subject to the action described in Emergency Plan Implementing Procedure No. 21.

J. R. Mann February 12, 1982



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	PERSONNEL MON	ITORING LIST	
Person Monitored	Social Security Number	Monitor Reading	Disposition

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	EMERGENCY COOL ONSITE EVACUATION (RDINATOR'S CHECK-OFF SHEET	
	Action		Initials/Time
1.	Personnel Assembly/Accountability has I (APS, APS Construction, Bechtel, Water protected area).	been completed Reclamation,	/
2.	Security check to ensure all personnel the Administration Building and trailer protected area.	have evacuated rs outside the	/
3.	SITE or GENERAL EMERGENCY has been decisituation, as determined by the Emergen warrants evacuation:	lared or the ncy Coordinator,	/
4.	Arrange for bus transportation offsite nonessential personnel.	for .	/
5.	Inform the Bechtel's Emergency Control 5051, 5056 of the evacuation and evacua conditions warrant.	Center . ation route in	/
6.	Inform APS Nuclear Construction Office	of the evacuation.	/
7.	Announce the evacuation of the Public A warranted, the evacuation route).	/	
8.	Activate the site siren for evacuation continuous tone).	/	
9.	If reassembly at an offsite location is inform the offsite location and ensure Kits are delivered.	s necessary, that Emergency	/



PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-19	FIGURE 1 Page 2 of 2	
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FIGURE 1 OFFSITE ASSEMBLY AREA

Palo Verde Inn

When exiting from the west side of the plant site, travel north on Wintersburg Road. Turn west on the Buckeye-Salome intersection. Follow the Buckeye-Salome Road to Tonopah, Arizona. Entrance to the Palo Verde Inn is located approximately 1/2 mile south of Interstate 10 at the south side of the Palo Verde Trailer Park.

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APPROVED BY: L.E. Brown

DATE 12-7-82

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DATE EFFECTIVE 12-10-82

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PERSONNEL ASSEMBLY AND ACCOUNTABILITY	REVISION 0	Page 3 of 21

1.0 OBJECTIVE

1.1 To provide for personnel accountability within 30 minutes from the time the emergency accountability signal is activated (i.e., ALERT or higher classification).

1.2 To maintain personnel accountability for the duration of the emergency condition.

2.0 REFERENCES

2.1 Implementing References

2.1.1 EPIP-02, "FVNGS Emergency Classification"

- 2.1.2 EPIP-04, "ALERT Implementing Actions"
- 2.1.3 EPIP-05, "SITE EMERGENCY Implementing Actions"
- 2.1.4 EPIP-06, "GENERAL EMERGENCY Implementing Actions"
- 2.1.5 EPIP-19, "Onsite Evacuation"
- 2.1.6 EPIP-21, "Search and Rescue"
- 2.2 Developmental References
 - 2.2.1 NUREG-0654, Rev. 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants"
 - 2.2.2 PVNGS Emergency Plan, Rev. 2
 - 2.2.3 Bechtel PVNGS Pre-Evacuation Plan
 - 2.2.4 APS Construction Personnel Accountability and Assembly Implementing Procedure

3.0 LIMITATIONS AND PRECAUTIONS

3.1. This procedure must be implemented in an orderly fashion to avoid confusion and personnel injury.

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3.2 Instructions for plant security personnel assumes that the emergency is not security related. If a breach of security exists, the appropriate PVNGS Security Plan Implementing Procedures shall be implemented.

3.3 If during this procedure an assembly area outside the protected area appears likely to exceed 2 mR/hr, a site evacuation in accordance with EPIP-19, "Onsite Evacuation", will be initiated.

3.4 Personnel performing critical operations such as fire fighting, giving aid to injured, performing work which could endanger the life or safety of personnel if left unattended, do not need to immediately report to their accountability area. However, they should do one of the following:

- a. Secure the operation to a safe condition and then proceed to their accountability area.
- b. If the operation will take more than five minutes to secure, notify the Security Shift Captain at ext. 4444.

4.0 DETAILED PROCEDURE

- 4.1 Personnel Indoctrination
 - 4.1.1 In the event of an emergency situation at an operating unit, it is imperative that personnel onsite are notified of the situation, their whereabouts identified for safety and security purposes, and that they respond in a coordinated effort to the emergency.
 - 4.1.2 An emergency accountability <u>signal</u> is provided to alert personnel within the protected area of the affected unit that an emergency exists.
 - 4.1.2.1 The accountability signal will be broadcast over the <u>affected unit's</u> Emergency Public Address system. A tone generator, activated from the Control Room, allows for the selection of a preset emergency signal through the PA system. A verbal announcement may follow, providing specific instructions.

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4.1.2.2 If there are two or more units within the protected area, and the situation does not necessitate activation of the emergency siren, the Emergency Coordinator will notify the unaffected unit(s) to initiate the emergency accountability signal for that/those unit. This will ensure that personnel accountability, within the protected area, is achieved.

4.1.2.3 Flashing red lights have been provided in containment and other areas where background noise levels may preclude auditory perception of the PA system.

4.1.2.4 Actuation of the emergency PA system requires specific approval of the Shift Supervisor or the Emergency Coordinator. It will be activated for an ALERT or more severe classification.

- 4.1.3 If the emergency condition is such that the entire plant site should initiate protective actions, the <u>emergency</u> <u>siren</u> will be used. Activation of the siren will result in the assembly and accountability of all site personnel. For an UNUSUAL EVENT or ALERT, this siren may be sounded from any of the unit Control Rooms at the discretion of the Shift Supervisor or Emergency Coordinator; activation of the siren is mandatory for a SITE EMERGENCY or more severe classification.
 - 4.1.3.1 When hearing the emergency siren each site employee, APS visitor, Bechtel Construction, contractors, APS Construction, and visitors will report to designated assembly areas. Each area will have an Assembly Area Supervisor, who eball notify the Security Shift Captain at ext. of personnel accountability results.

4.2 Prerequisites

The Shift Supervisor or Emergency Coordinator declares an ALERT, SITE EMERGENCY or GENERAL EMERGENCY per EPIP-02, or determines personnel accountability is desirable and activates the emergency accountability <u>sigual</u> and/or <u>emergency siren</u>, depending upon the scope of required response.

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4.3 Instructions

- 4.3.1 Upon activation of the <u>accountability signal</u>, plant security personnel shall respond as follows:
 - 4.3.1.1 Those assigned to the Central Alarm Station (CAS), the Secondary Alarm Station (SAS), the perimeter posts, and other fixed posts shall remain at their assigned areas and await further instructions.
 - 4.3.1.2 Those on routine patrol within the protected area shall report to the Security Building via portable radio for accountability and further instructions.
 - 4.3.1.3 Those on routine patrol <u>outside</u> the protected area shall call into the Security Building for instructions.
- 4.3.2 Upon activation of the <u>accountability signal</u>, other personnel within the protected area shall respond as follows:
 - 4.3.2.1 Personnel assigned emergency organization positions at the Control Room, Satellite Technical Support Center, Operational Support Center, Technical Support Center, Service Building, or Emergency Operations Facility will report to their respective emergency locations.
 - 4.3.2.2 Personnel within the radiation control area shall proceed through access control in a normal manner and report to the Operational Support Center Coordinator for accountability and further instructions.
 - 4.3.2.3 APS personnel and visitors within the protected area and not engaged in emergency recovery actions (i.e., non- essential personnel) shall proceed to the nearest security exit, "badge out", and proceed to the Administration Annex Building First Floor.

Figure 1 is a diagram of the Administration Annex Building First Floor showing designated assembly areas.

4.3.2.4 Bechtel and APS Construction, contractors, and visitors within the protected area, will proceed to the security exit and proceed to assigned locations per Attachments 1 and 2 of this procedure.

IMPL	IGS EME	RGENCY PLAN	PROCEDURE NO. EPIP-20	
	PERSONNEL ASSEMBLY AND ACCOUNTABILITY 0 Page 7 o		Page 7 of 21	
4	.3.3 Up	on activation of the eme rsonnel shall respond as	ergency siren, plan s follows:	t security
	4.3.3.1	Those assigned to the other fixed posts shal and await further inst	CAS, SAS, perimeter 1 remain at their a ructions.	r posts and assigned areas
	4.3.3.2	Other security force p Security Building via accountability and fur	personnel shall reportable radio for ther instructions.	ort to the
	4.3.3.3	Personnel at the Secur contacted by the Secur the situation, and pro	ity Firing Range wi ity Shift Captain, vided instructions	111 be informed of as necessary.
4.	.3.4 Upo ide man Per fo	on activation of the eme entified in Section 4.3. mmer as for "activation rsonnel outside the prot llows:	rgency siren, perso 2 shall respond in of the <u>accountabili</u> ected area shall re	onnel the same ity signal". espond as
	4.3.4.1	Nuclear Operations per visitors, outside the the following faciliti	sonnel including co protected area and es shall report to:	ntractors and near one of
		<pre>(1) Visitor's Information to 4:30 p.m., 7 day</pre>	ion Center Auditori ys a week)	um (8:00 a.m.
		(2) Water Reclamation	Facility	
		(3) First Floor, Admin.	istration Annex Bui	lding
		whichever is closest.		
	4.3.4.2	Nuclear Operations none outside the protected a Administration Annex Bu	essential personnel area will report to uilding First Floor	located the
	4.3.4.3	Bechtel and APS Constru- will proceed to their a Attachments 1 and 2.	uction, contactors, assigned locations	and visitors per
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IMPLEMENT	ING PROCEDURE	NO. EPIP-20	
PERSONNEL ACCOU	ASSEMBLY AND NTABILITY	REVISION 0	Page 8 of 21
4.3.5 Fe	rsonnel accountability w complished as follows:	ithin the protecte	d area will be
4.3.5.1	Each assembly area has responsible for determ within that area (see)	an Assembly Area ining personnel ac Appendix A).	Supervisor countability
4.3.5.2	The Security Director we computer printout of per protected area when the severe) was declared.	will obtain a copy ersonnel who were e emergency (ALERT	of the in the or more
4.3.5.3	The Assembly Area Super Room(s), TSC, OSC(s) Ma Services Building, and numbers of individuals by completing the Indiv (Appendix B). The AAS at ext. 4444 of the per that are accounted for.	rvisor (AAS) in the ain Access Control EOF obtains the na who have reported vidual Accountabilithen advises the connel and their i	e Control Point(s), ames and badge to the area ity Sheet Security S.C. badge numbers
4.3.5.4	If individuals are not S.C. has those individu unit's intercom system, there is a response, th report to one of the ac is no response, a Search	accounted for, the als' mames annound requesting a resp nat individual will countability areas th and Rescue Team	e Security ted over the bonse. If be told to s. If there will be
4.3.5.5	From these reports the Security Director who w accountability within t to the Emergency Coordi the emergency was decla	Security S.C. will vill determine over the protected area nator within 30 mi ared.	inform the call and report it nutes after
4.3.6 Per be	sonnel accountability ou accomplished as follows:	tside the protecte	d area will
4.3.6.1	The AAS at the Administ Visitor's Information C Facility will obtain an Accountability Sheets (the names and badge num	ration Annex Build enter and Water Re d have completed t Appendix B) which bers of individual	ing, clamation he Individual will contain s who have

PVNGS EM	ERGENCY PLAN	PROCEDURE NO. EPIP-20	
. PERSONNEL ACCOU	ASSEMBLY AND NTABILITY	REVISION 0	Page 9 of 2.
4.3.6.2	When accountability is the Security Director a accountability is compl	completed, the AAS and inform him that lete.	S will notify
4.3.6.3	The Security Director v Individual Accountabili	will arrange to pic ty Sheets for each	the up the area.
4.3.6.4	To ensure that personne have been accounted for have the APS controlled ensure that they are no occupied, the Security to report to the neares	el outside the prot c, the Security Dir d buildings routine ot occupied. If th Guard will inform st accountability a	ected area ector will by checked to be building is the personnel rea.
4.3.6.5	The Security Director, accountability within t the Bechtel Emergency O Construction Office to those organizations.	after determining the protected area, Control Center and determine accounta	the will contact APS bility for
4.3.6.6	The Security Director w accountability outside Emergency Coordinator a	the protected area s soon as practica	to the ble.

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PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-20	APPENDIX A	
PERSONNEL ASSEMBLY AND ACCOUNTABILITY	REVISION 0	Page 10 of 21	

PERSONNEL ACCOUNTABILITY RESPONSIBILITY

The first person listed in each group below is designated as the primary Assembly Area Supervisor (AAS) to determine the accountability of personnel at the respective assembly areas. Using a telephone or runner, he shall inform the Security Director of accountability status of his area as soon as practicable (but within 20 minutes of the initiation of the alarm). Other personnel listed are alternate AAS's at each location.

1. Control Room/Satellite TSC

a. Assistant Shift Supervisor

b. Nuclear Operator III

2. Technical Support Center

a. Personnel Resources Coordinator

b. Emergency Maintenance Coordinator

c. Hazard Control Coordinator

d. Field Team Communicator

3. Operations Support Center

a. OSC Coordinatorb. Repair Coordinator

4. Service Building

a. Mechanical Coordinator

b. I&C Coordinator

c. Electrical Coordinator

5. Emergency Operations Facility

a. Security Coordinatorb. Administrative and Logistics Coordinator

6. Administration Annex Building First Floor

Administration Annex Building Security Guard

7. Protected Area

a. Security Shift Captain

8. Water Reclamation Facility

a. WRF Shift Foreman

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PERSONNEL ASSEMBLY AND ACCOUNTABILITY	REVISION	Page 11 of 21
INDIVIDUAL ACCOUN	TABILITY SHEET	
Date		_
Area Accountability Supervisor		<u>-</u> 1388
Name	Badge No.	
	•	

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PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO.	ATTACHMENT I
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BECHTEL'S PVNGS PRE-EVACUATION ASSEMBLY PLAN

Purpose

Alert, assemble and account for all Bechtel employees of Bechtel Subcontractors, and Bechtel visitors in the event of an emergency at PVNGS, and prior to a site evacuation.

Scope

This plan describes the methods and procedures necessary to alert, assemble and account for employees should an evacuation be necessary.

General

A safe and orderly process is necessary to assemble and account for personnel in preparation for an emergency that may require site evacuation. The locations for assembly are outlined in this plan. Accountability of personnel at these assembly areas will be the responsibility of appointed supervisors. These supervisors will report their findings to the Emergency Control Center either by phone or radio. Phone numbers are , radio FM Channel 3 (general use) UHF MHZ. Missing persons must be named. All personnel will remain in their appointed assembly areas until notification from the Emergency Control Center.

Search and rescue for unaccounted personnel within the protected area will be conducted by APS personnel. Outside the protected area, Bechtel will be responsible for accountability, search and rescue of Bechtel employees.

Alerting

Sirens will be used to alert personnel on the jobsite to proceed to their appointed assembly areas. A continuous tone (2 minutes or longer if necessary) will signal the start of the assembly process. Sirens will be used to give the "all clear" signal which is three (3) short blasts from the siren. Flashing lights or horns will be installed in areas where the sirens are not audible. All vehicle traffic will stop during assembly.

EMERGENCY CONTROL CENTER (ECC)

This center will coordinate all Bechtel site emergency operations excluding the protected area. The center is located at the Field Construction Managers office area. All accountability reporting from assembly areas will be directed to either the Project Superintendent or the Project Services Superintendent, who will record and report to the Field Construction Manager.

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BECHTEL'S

PVNGS PRE-EVACUATION ASSEMBLY PLAN (CONT'D)

The Project Superintendent or the Project Services Superintendent will assume the responsibilities of the FCM in his absence. Shift Superintendents will assume the responsibilities of this plan on the off shifts. The ECC will then report personnel accountability status to the Security Director of the PVNGS Emergency Organization and will be relayed to the Bechtel ECC for action.

A. Assembly Areas and Procedures

- When the protected area (Unit 1) is established (a short period prior to fuel load), all personnel covered in the purpose and scope of this plan and working within the protected area will assemble as follows:
 - a. Bechtel manual employees will clear the Unit 1 security gate and report to their respective craft shacks and await additional instruction.
 - b. Bechtel non-manual personnel will clear the Unit 1 security gate and report to their discipline at the Unit 1 Field Office and await additional instruction.
 - c. Bechtel subcontractor manuals and non-manuals will clear the Unit 1 security gate and report to their respective offices or shacks and await additional instruction.
 - d. All other personnel will report to their respective disciplines.
 - e. Visitors will accompany their hosts.
- 2. Protected Area Procedures
 - a. The alerting procedure will be confined to the protected area only and will not be audible to other areas of the jobsite.
 - b. The process of removing personnel from the protected area (Unit 1) is merely an alert and does not mean that a site emergency has been established. The alert for a site pre-evacuation assembly is outlined under "Alerting" in this plan.
 - c. Personnel evacuated from the protected area (Unit 1) and assembled in their assigned areas, may then be subject to the site plan, and would proceed as the balance of this plan indicates.

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BECHTEL'S PVNGS PRE-EVACUATION ASSEMBLY PLAN (CONT'D)

3. Manual Employees

All Bechtel and Bechtel Subcontractor manual employees will proceed to the parking lots by going through their regularly assigned badge alley. Employees must brass out and remain in the parking lots. The appointed supervisor will report "unaccounted badges" to the ECC by phone or radio.

- 4. Non-Manual Employees
 - a. Construction Office Personnel

These persons will report to their discipline assembly areas located around the perimeter of the building (see map for location). The supervisor will report accountability to the ECC by phone or radio.

b. Personnel Assigned in the Field

These persons will assemble at their assigned discipline field office. The supervisor will report accountability to ECC by phone or radio.

c. Bechtel Subcontractor Non-Manuals

These persons will assemble at the receiving dock area on the north side of the main warehouse. Members of the Bechtel Subcontractor group will be present and will be responsible for an accountability report to the ECC by phone or radio.

d. Procurement and Warehouse Personnel

All procurement and warehouse personnel will assemble directly north of the Procurement Office. The supervisor will report accountability to the ECC by phone or radio.

e. Safety and First Aid Personnel

These persons will assemble at the Safety Office. The supervisor will report accountability to the ECC by phone or radio.

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BECHTEL'S PVNGS PRE-EVACUATION ASSEMBLY PLAN (CONT'D)

f. Water Reclamation Personnel

These persons will assemble at the WRF Field Office. The supervisor will report to the ECC by phone or radio.

g. Timekeeping Personnel

All Timekeeping personnel will report to their assigned badge alley/timekeeping office. The supervisor will report accountability to the ECC by phone or radio. Timekeeping personnel will aid in manual personnel accountability.

h. Visitors

All visitors will be the responsibility of their hosts and must remain in their company. Supervisors will report all visitors in their assembly areas, by name, to the ECC, by phone or radio along with routine reports.

B. General Accountability

Unit and Area Superintendents, Lead Engineers and Craft Supervisors will be assigned reporting duties to provide coverage at the assembly areas, etc. Their responsibilities will be to report accountability and provide general supervision and coordination of activities. Accountability reports to the ECC will be accomplished by Unit or Area Superintendents.

C. Education and Training

- a. A pamphlet will be dispersed to all site personnel (including subcontractors) to inform them of the procedures established in this plan.
- b. An explanation of this plan will be incorporated into the manual and non-manual new hire orientations.
- c. The job-wide Safety Tool Box meetings will be used to present the plan to the jobsite. These meetings may be used to provide a refresher for the plan if needed.
- d. APS will train Bechtel employees who enter the protected area, concerning accountability response within the protected area.



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APS CONSTRUCTION

PVNGS

EMERGENCY PLAN

PERSONNEL ACCOUNTABILITY AND ASSEMBLY

IMPLEMENTING PROCEDURE

SCOPE

This procedure describes the immediate emergency personnel assembly and accountability actions to be taken by the following groups of onsite personnel:

- o APS Nuclear Construction Department employees
- o APS Site Quality Assurance employees .
- o APS Visitor's Center employees
- o SRP Switchyard Construction employees
- o Construction Security Guards
- Visitors, vendors, APS contractors, tour guests under the jurisdiction of the above groups.

This procedure is based on the situation of a Unit 1 emergency while Unit 1 is operational and Units 2 and 3 are still in the construction stage.

ACCOUNTABILITY

1. Employees of the Nuclear Construction and Site Quality Assurance Departments routinely log in and out of the Site Construction Office such that their whereabouts are known to the Nuclear Construction Manager or his designee at all times. The locations of visitors and contractor personnel who are the responsibility of these two groups are also included in the log. APS Visitor's Center employees and visitors are the responsibility of the Visitor's Center Director or his alternate. He is accountable to the Nuclear Construction Manager for purposes of accountability when this procedure is in effect. SRP Switchyard construction employees are also accountable to the Nuclear Construction Manager and are logged in and out of the construction area.

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- Employees and visitors who enter the Unit 1 controlled area or the Water Reclamation Plant become the responsibility of the Nuclear Operations Department and for purposes of this procedure, are considered visitors to that group.
- 3. Personnel located outside the chain-link construction fence are considered to be outside the owner-controlled area. Accountability is not required. Nuclear Construction personnel outside this area but onsite will carry a portable radio, however, for direction in the event of a site evacuation.
- Personnel such as SP Railroad employees who may not be escorted will be issued a card which advises them of actions required in the event of an emergency.
- 5. The Nuclear Construction Manager will appoint a designee to act for him during his absence and outside of normal day-shift hours.

IMMEDIATE ACTIONS

- When Nuclear Construction, Site QA personnel and their visitors located in Unit 1 are directed to evacuate, they will do so either through the Security Building or the Security Trailer exit located at plant north of the Fuel Building.
 - Personnel exiting via the Security Building will assemble at Area #2 (see Figure 1)
 - b. Personnel exiting via the Security Trailer will proceed to Area #1 to assemble.
- 2. SRP and other personnel located in the switchyard will assemble in Area #3.
- Personnel located elsewhere within the chain-link fenced construction area will assemble in Area #1, which is the APS Nuclear Construction Office.
- 4. Visitor's Center personnel will assemble at the Visitor's Center parking lot, Area #4. Tour guests within the construction area will be escorted by their host/guide out to Area #4.
- 5. APS contractor personnel having site access badges will have received training in emergency procedures and will proceed to the appropriate area as though they were employees of Nuclear Construction.

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SUBSEQUENT ACTIONS

- Personnel accountability measures are the responsibility of the Nuclear Construction Manager. It is the responsibility of each supervisor to know the general location of his personnel, visitors and contractors at all times.
- 2. The Nuclear Construction Manager or his alternate will appoint a Nuclear Construction Department staff member for each assembly area to go to his area and identify the head count and personnel not accounted for by name and last known location. The results will be forwarded to the Nuclear Construction Manager or his designee.
- 3. The status of personnel accountability will be forwarded by the Nuclear Construction Manager to the Security Director or his alternate (located in the Security Building) for relay to the PVNGS Emergency Coordinator.
- Unaccounted for personnel will then be subject to the action described in Emergency Plan Implementing Procedure No. 21.

J. R. Mann February 12, 1982



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1.0	OBJECTIVE			
1.1	To provide instructions for the individuals who may be missing station.	e search and rescu or disabled in so	e of me part of the	
2.0	REFERENCES			
2.1	Implementing References			
2.	1.1 EPIP-18, "Emergency Exposur	re Guidelines"		
2.	1.2 EPIP-20, "Personnel Assemb	ly and Accountabil:	ity"	
2.	1.3 EPIP-22, "Personnel Injury"	•		
2.	1.4 EPIP-26, "Potassium Iodide	Administration"		
2.2	Developmental References			
2.	2.1 PVNGS Emergency Plan, Sect:	ion 6.0 "Emergency	Measures"	
3.0	LIMITATIONS AND PRECAUTIONS			
3.1	Proper radiological controls sh search and rescue operations.	nould be adhered to	during	
3.2	Personnel involved should be kr of exposure in excess of PVNGS limits.	nowledgeable of the administrative and	e consequences Nor 10 CFR 20	
	 Women of child bearing age part. 	and capability sho	ould not take	
	b. Use of personnel above age consideration.	45 should receive	first	
	 Best available respiratory necessary. 	protection should	be used when	
	d. Protective clothing should	be worn when neces	sary.	
3.3	3.3 Planned exposures in excess of PVNGS administrative limits (Appendix A) shall be approved by the Emergency Coordinator prior to receiving the exposures and in accordance with			

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PVNGS E	MERGENCY PLAN	PROCEDURE NO. EPIP-21	
		REVISION	
SEARC	H AND RESCUE	0	Page 4 of 1
3.4 A p Tea	ortable radio should be pro m.	ovided to the Searc	h and Rescue
3.5 Sea voi	rch and Rescue Team members ce range of each other.	s should keep withi	n sight or
4.0 DETAI	LED PROCEDURE		
4.1 Per	scanel Indoctrination		
4.1.1	If personnel are noted to the results of EPIP-20, th the Emergency Coordinator responsible for implements direct the OSC Coordinator Team.	be missing or disa ne Security Directo The Emergency Co ing this procedure t to form a Search	bled based on r shall notify ordinator is and shall and Rescue
4.2 Pre	requisites		
4.2.1	Personnel have been report known to be disabled and r	ed missing per EPI meed assistance.	P-20 or are
4.3 Ins	tructions		
4.3.1	The OSC Coordinator shall:		
4.3.1	 Assemble a Search and consisting of two memb be a Radiation Protect must be familiar with 	Rescue Team(s), ea bers. At least one tion Technician. B the plant.	ch team member shall oth members
4.3.1	.2 Appoint one team membe	er as the Team Lead	er.
4.3.1	.3 Within the limits allo situation, make every Search and Rescue Team information (if known)	wed by the urgency reasonable effort n(s) with the follo :	of the to provide the wing
	a. Identification of	missing individual	(s).
	b. Last known location if one is issued).	on of each individu.	al (check REP
	c. The job each indiv	idual was working	on.
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SEAR	CH AND	RESCUE	0	Page 5 of 12
	Ċ	 Any significant det may affect the sear 	ails of the plant ch and any special	status that instructions.
	e	 With the Radiation Radiological Protec radiation levels if approximate stay ti area. 	Protection Monitor tion Coordinator, possible, and det mes for team membe	or ascertain ermine the ers in the
	··· f	 Inform Search and R exposure limits if with EPIP-18. 	escue Team members deemed necessary i	of radiation n accordance
	g	. Instruct the team(s Coordinator, located location and/or remo hazardous area. The will notify the Emer results of the search) to notify the Ha d in the TSC, imme oval of personnel e Hazards Control rgency Coordinator ch and rescue effo	zards Control diately upon from the Coordinator of the rts.
4.3.1	1.4 C d e	oordinate all Search an uplication of effort an xposure does not occur.	nd Rescue Teams so nd unnecessary rad	that iation
4.3.1	1.5 R r d	ecall the Search and Re escue operations are no etermined by the Emerge issing personnel are ac	escue Team(s) when o longer necessary ency Coordinator o ccounted for.	search and as r when all
4.3.2	The Se and sl	earch and Rescue Team I hall:	leader is in charge	e of the team
4.3.2	2.1 En ut	nsure that the team is tilizing the check list	equipped as necess of Appendix B.	sary
4.3.2	2.2 Ke st ec th ev ap	eep the Hazards Control Ignificant actions via quipment. The Hazards ne OSC Coordinator info yents, and complete the opropriate.	Coordinator infor appropriate commun Control Coordinato rmed of all signif check list of App	rmed of nication or will keep ficant pendix C as
4.3.2	.3 Ir up	form the Hazards Contr oon locating any missin	ol Coordinator imm g and/or disabled	personnel.

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SEAR	CH AND	RESCUE	0	Page 6 of 12	
4.3.3	The R appro that than	adiation Protection To priate radiation measu team members do not ro those authorized.	echnician shall be uring instruments eceive whole body	equipped with and insure doses greater	
4.3.4	The S	earch and Rescue Team	members shall:		
4.3.4	4.1 P 1 a	roceed to the last kno ndividual(s) and if no djacent areas.	own location of the ecessary, expand the	e missing he search to	
4.3.4	4.2 K	eep within sight or vo	pice range of each	other.	
4.3.4	4.3 Ei e	Employ the following guidelines during the rescue effort:			
	a	 If the area is know massive escape of s in an area where it protective clothing shall be worn. 	on to be contamination team or explosion can be contamination and respiratory p	ted or if a is involved ted, protection	
	b	If the area is smok area is in disarray team members shall protection as neces	e or steam filled, because of fire of use lifelines and sary.	, or if the or explosion, respiratory	
	c	. If there is potenti radiation levels sh entered.	al radiation in th all be monitored a	ne area, as the area is	
	d.	On the basis of the rescue should be co complicated by the Search and Rescue T and plan the method	inspection of the mpleted or if the condition of the a eam will return to of rescue (see 4.	e area, the rescue is rea, the a safe area 3.5).	
		•			

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4.3.5 Special Situations

4.3.5.1 High Radiation

NOTE

The Emergency Coordinator's permission is required prior to Search and Rescue Team members exceeding PVNGS exposure limits except in immediate life or death situations. Such exposures are allowed provided the criteria of EPIP-18 are followed.

- a. If an individual is trapped or disabled in an area in which the dose received during rescue will exceed 300 mrem or dose rates exceed 100 mrem/hr., Search and Rescue Team members will wear selfalarming dosimetry and using a high range beta/gamma detector, enter the area and complete the rescue.
- b. If the individual's condition is known to be such that excessive time is required to remove him from the area, consider portable shielding or other steps to reduce the exposure of the personnel involved.

4.3.5.2 Fire

- a. Rescue of an individual shall take precedence over fire fighting unless the fire can be extinguished without detrimental effect on the victim, or if it is necessary to suppress the fire to perform the rescue.
- b. Consider obtaining rainsuits from fire fighting supplies and having one team member spray water (using a hose and spray nozzle) over the team member performing the rescue.

IMPLEMENTI	RGENCY PLAN	PROCEDURE NO. EPIP-21	
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SEARCH AND RESCUE		0	Page 8 of 12
4.3.5.3	Steam or Hot Water		
	a. Rescue of an indivi system isolation up	idual shall take pr nless:	ecedence over
	o To perform the required.	rescue system isol	ation is
	o Failure to isol affect reactor other personnel	late the system wil safety or place th l in immediate dang	l seriously ne lives of ger.
	b. Consider performing perform the rescue.	g the actions of 4.	.3.5.2.(b) to
4.3.5.4	Wreckage		
	a. Obtain the tools no	ecessary to perform	the rescue.
	b. Enter the area and	perform the rescue	••
4.3.6 Ac	tion Following Rescue		
4.3.6.1	Transport or escort the as soon as possible and	e victim(s) to a sa d perform any requi	afe location ared first aid
4.3.6.2	If the victim is injure Coordinator and perform	ed, advise the Haza n EPIP-22 as necess	ards Control sary.
4.3.6.3	The OSC Coordinator will Coordinator when the to rescue activities and	ll inform the Hazar eam has concluded f	ds Control its search and

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PVNGS ADMINISTRATIVE I DOSE EQUIVALENT FOR	OOSE LIMITS A OCCUPATIONA	ND MAXIMUM P L WORKERS (1	ERMISSIBLE OCFR20)	
Critical Organ	IGS ADMINISTR mrem/quarter	DOSE L ATIVE LIMITS ' mrem/year	IMITS <u>10CRF20</u> mrem/quarter) LIMITS mrem/yea
Whole Body, Head and Trunk, Active Blood-Forming Organs, Lens of the Eye or Gonads	1,000	4,000	1,2501	5,000
Hands, Forearms, Ankles, Fee:	15,000	N/A	18,750 ²	
Skin of Whole Body	6,000	N/A	7,5002	
Other Organs (Thyroid), Tissues and Organ Systems			5,0004	
Pregnant Women (With Respect to the Fetus)	500mrem ³ 9 months		500mrem ³ 9 months	500mrem 9 month
 3,000 millirem is permitted in year as long as the accumulation not exceed 5,000 millirem x (a exposure history is recorded of exceeding 1,250 mrem/quarter in 10CFR20.405. The licensee is required to sur- equipment and shall require that that receives or is likely to 	n a calendar ive occupatio age - 18) and on the NRC's must be report upply appropri- ne use of suc- receive a do	quarter or 1 onal dose to 1 the individ Form 4 or eq rted to the N riate personn th equipment ose in any ca	2,000 millire the whole boo ual's lifetin uivalent. Do RC per 10CFR2 el monitoring by each indiv lendar quarte	em in a ly does ne oses 20.403 and 3 vidual er in

- 3. NCRP, ICRP Guidance.
- 4. NUREG 0737 .

IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-21	APPENDIX B Page 1 of 1
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SEARCH AND RESCUE	0	Page 10 of 1
SEARCH AND RESCU	E TEAM CHECK LIST	
1. Obtain the following equipment	as required:	
a. Portable Radio		
b. Radiation Survey Instrumen	ts	
c. High Range Beta/Gamma Surv	ey Meter	
d. Dosimetry (Self-Alarming)		
e. Lifelines		
f. Protective Clothing		
g. SCBA	A series of the	
g. SCBA h. First Aid Kit		
g. SCBA h. First Aid Kit i. Flashlights		
g. SCBA h. First Aid Kit i. Flashlights j. Stretcher		

Signature:

(Team Leader)

Date:

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE		PROCEDURE NO. EPIP-21	APPENDIX C Page 1 of 2
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SEARCH AND RESCUE		0	Page 11 of 1
SEARCH AND RESCUE HAZAR	DS COOR	DINATOR CHECK I	IST -
1. Date		Time	
2. OSC Coordinator			
3. Team Members: a.			(Leader)
b			
4. Identity of Missing Individual	(s)	Probable	Location
5. Potential Conditions at Location	on (circ	:le):	
a. Contamination	f.	Steam Filled	
b. High Radiation	g.	Wreckage	
c. Fire	h.	Loss of Light:	,
c. Fire d. Smoke Filled	h. 1.	Loss of Light: Other (Specify)	•
c. Fired. Smoke Fillede. Steam Leak	h. i.	Loss of Light: Other (Specify)	
 c. Fire d. Smoke Filled e. Steam Leak 6. If required, emergency and exposure limits authorized	h. i.	Loss of Light: Other (Specify)	3
 c. Fire d. Smoke Filled e. Steam Leak 6. If required, emergency and exposure limits authorized 	h. i. (Haza	Loss of Lights Other (Specify)	ordinator)
 c. Fire d. Smoke Filled e. Steam Leak 6. If required, emergency and exposure limits authorized	h. i. (Haza	Loss of Light: Other (Specify)	ordinator)

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APPROVED BY: OR Bymen DATE 11/5/82 DATE EFFECTIVE 11-12-82

DN-1634A/0190A

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PERSONNEL INJURY 0 Page 3 1.0 OBJECTIVE 1.1 This procedure details actions necessary for the treatment injured or contaminated/injured personnel. The treatment contaminated open wounds, and the handling and transport contaminated personnel are also addressed in this procedu 2.0 REFERENCES 2.1 Implementing References 2.1.1 EPIP-01, "PVNGS Emergency Organization" 2.1.2 EPIP-02, "PVNGS Emergency Classification" 2.1.3 EPIP-18, "Emergency Exposure Guidelines" 2.1.4 EPIP-28, "Personnel Monitoring and Decontamination" 2.1.5 EPIP-16, "Onsite Surveys and Sampling" 2.1.6 EPIP-21, "Search and Rescue" 2.2 Developmental References 2.2.1 NUREG-0654, Rev. 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans a Preparedness in Support of Nuclear Power Plants" 2.2.2 NUREG-0696, Final Report, Feb. 1981, "Functional Criterior Emergency Response Facilities"	PVNGS E	MERGENCY PLAN	PROCEDURE NO. EPIP-22	
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2.2.3 PVNGS Emergency Plan, Rev. 2	2.2.3	PVNGS Emergency Plan, Rev.	2	
2.2.4 Maryvale Samaritan Hospital, "Plan for Determination Treatment of the Radioactivity Contaminated Patient (Verde Plan)"	2.2.4	Maryvale Samaritan Hospita Treatment of the Radioacti Verde Plan)"	l, "Plan for Deter vity Contaminated	mination and Patient (Palo

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3.0 LIMITATIONS AND PRECAUTIONS

CAUTION

MEDICAL ATTENTION TO SERIOUS INJURIES TAKES PRIORITY OVER THE REMOVAL OF CONTAMINATION OR RADIATION CONTROL.

3.1 Emergency radiation exposures in excess of PVNGS administrative limits or 10CFR20 occupational limits must be authorized by the Emergency Coordinator, in accordance with EPIP-18.

- 3.1.1 For lifesaving actions, the dose limits are 100 rem (whole body) and 200 rem (extremities), EPIP-18.
- 3.2 One member of each Search and Rescue Emergency Team should carry a radiation survey instrument during rescue/first aid operations in radiation areas.
- 3.3 If possible, prevent the spread of contamination.

4.0 DETAILED PROCEDURE

- 4.1 Personnel Indoctrination
 - 4.1.1 As delineated in EPIP-01, the Emergency Coordinator is responsible for the implementation of this procedure.
 - 4.1.2 A Radiological Support Staff member shall coordinate the rescue activities of volunteers if any of the following conditions are present: high area dose rates, surface contamination, airborne contamination or contaminated injured personnel.
- 4.2 Prerequisites
 - 4.2.1 An incident has occurred which has been classified per the provisions of EPIP-02.
 - 4.2.2 A personnel injury has occurred.

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4.2.3 Emergency exposures, if necessary, have been authorized by the Emergency Coordinator, in accordance with EPIP-18.

4.3 Instructions

- 4.3.1 At the scene person discovering the injured individual shall:
 - 4.3.1.1 Render first aid, if life or limb of an injured person(s) appears to be endangered.

NOTE

Medical attention to serious injuries should take priority over contamination control or personnel decontamination.

- 4.3.1.2 Promptly assess and report the following information to the Control Room:
 - a. Number of injured individual(s).
 - b. Injury description(s), type and severity.
 - c. Radiological conditions, if known (high external radiation levels, surface or airborne contamination, contamination of injured personnel).
 - Other emergency conditions and hazards (fire, chemical, etc.).
 - Estimate of time, skills, equipment and manpower necessary to treat and evacuate injured individual(s).
- 4.3.2 The Emergency Coodinator shall ensure the following are performed:
 - 4.3.2.1 If necessary, implement EPIP-18.
 - 4.3.2.2 If necessary, complete Radiation Exposure Permits (REP) per EPIP-18.
 - 4.3.2.3 Contact the First-Aid Station and inform on-duty personnel of situation.

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PERSONN	EL INJURY	0	Page 6 of 14
4.3.3 Em	ergency Team Action - Tr cordance with appropriat	ceat injured person te section.	nel in _.
0 0 0	Absence of radiologica Possibility of radiolo Transport and hospital injured individuals -	al aspects - 4.3.3. ogical aspects - 4. treatment of cont 4.3.4.1	1 3.3.2 aminated
4.3.3.1	Absence of radiologica personnel:	il aspects - treatm	ent of injured
	 a. Emergency Team - I procedures. 	mplement normal fi	rst aid
	b. Emergency Team - U Team Leader, move first aid station.	pon approval from the injured party	the Emergency to the nearest
	 Radiological Supponet hospitalization is of section 4.3.4.1 	rt Staff member required, perform	If the actions
4.3.3.2	Possibility of high ex contamination, or airb of injured personnel:	ternal radiation lo orne contamination	evels, surface - treatment
		CAUTION	
	IF THE INJURY IS MEDICAL TREATMENT PRIORITY AND RADI CONSIDERED SECOND	SEVERE, IMMEDIATE IS OF THE HIGHEST OLOGICAL CONTROLS A ARY.	RE

. a. Radiological Support Staff member (preferably the Radiological Protection Coordinator with the advice of the Plant Nurse) - Determine the order of priorities of treatment, evacuation, decontamination and the necessity of protective clothing/respiratory protection, etc., as dictated by existing radiological and/or other hazardous conditions.

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b.	Emergency Team - If clothing and equipme perform actions in a	necessary, don pr ent. If a REP was accordance with th	cotective completed, e permit.
с.	Emergency Team - Ree conditions. If any exist: high area do contamination, airbo the injured individu approval from the Em	evaluate radiologi of the following ose rates, surface orne contamination ual(s) from the ar mergency Team Lead	cal conditions , etc., move ea upon ler.
d.	Emergency Team - Sur beta/gamma survey in map (Appendix C).	rvey the injured p nstrument, and com	arty using a aplete a body
	 If the injury in wound area with probe. 	nvolves a wound, s a pancake detecto	survey the or or wound
	 If equipment can smear the equipment contaminated, and 	used the wound, su ment. If equipmer ssume the wound is	arvey and ht is s contaminated.
	 If the above standard wound contamination around the wound prevent the sprace contamination. 	eps indicate the p tion, gently smear d, taking precauti eading or imbeddir	presence of the area lons to ng of possible
e.	If patient condition individual in accord Monitoring and Decord	n warrants, decont dance with EPIP-28 ntamination.	aminaté the 3, Personnel
f.	If decontamination hospitalization is Leader shall direct	is not possible an required, the Emer the following act	nd gency Team tivities:
	o If time allows, a magic marker material. DO N	circle contaminat and cover with abs OT use plastic for	ted areas with sorbent r wrapping.
	 o If time allows, document known locations. The to the hospital 	complete Appendix wound and contamin se should accompan	k B and C to mation my the patient
	o If time allows, Contamination" following manage	place "Caution, I tags on the indivi	Radioactive Idual in the

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	<pre>magenta tag) co information: p external contam o Remove contamin injury will not o Notify the Radi member that the</pre>	ontaining the follo atient's name, par ination levels and ated clothing if be aggravated. cological Protections individual is res	owing tient's d locations. the wound or on Staff ady for
4.3.4 Hospita	 After transport surfaces and ar decontaminate i Area/Equipment Treatment of Conta 	t to the hospital, teas of patient co in accordance with Monitoring and De aminated Injured I	survey all ntact and EPIP-29, contamination. ndividual(s)
4.3.4.1 Tra	insport to Hospital		
a. b.	Transport the injur Samaritan Hospital ambulance or helico A Radiological Prot telephone the hosp: EPIP-33) and speak Supervisor or the I the hospital (compl	red individual(s) by onsite ambulan opter service. tection Staff memb ital, in accordanc directly to the E Floor Supervisor. lete Appendix D):	to Maryvale ce, offsite er shall e with mergency Room When calling
	 Identify yours PVNGS. 	elf by name and as	sociation to
	o State the nature contamination is	re of the injury a levels.	nd
	 State the estimation hospital (one light of the state of	mated time of arri hour and 15 minute ions).	val at the s under normal
с.	A Radiological Pro the Radiological P	tection Staff memb rotection Coordina	er (preferably tor) shall:
	Direct the use	at made a	

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	 If time permits ready the stati patient to the covering inside sheeting). 	s, designate one po ton ambulance to to hospital, i.e., po the ambulance (he	erson to make cansport the cotective erculite
	 If onsite emerg and offsite veh Security. Secu ambulance servi ambulance perso 	ency vehicle(s) and dicles are to be us rity shall call the ce and provide dos nnel.	e unavailable ed, notify e appropriate simetry to
	 Designate one p ambulance to th 	erson to meet and e patient's locati	accompany the on.
	 Determine the e entrance to be to ambulance pe accompanying th 	mergency route and used. Provide thi rsonnel and person e injured party (A	hospital s information nel ppendix A).
	 Designate one o patient to the l carry and be qua survey instrument procedures. 	r more persons to hospital. These p alified in the use nts and radiation	accompany the ersons shall of G-M control
d.	Radiological Protect	tion personnel sha	11:
	o If the patient : patient to the a	is ambulatory, esc ambulance.	ort the
	 If necessary, surplus removal. If time be placed on a set 	pervise the casua and allows, the structure of clean play	ity stretcher etcher should stic on the
	clean side of the boundary of the plastic should t stretcher to con spread along the	the control point at contamination zone then be brought up tain and prevent of path to the ambui	t the The around the contamination lance.
	If necessary, se	t up temporary shi	lelding in

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4.3.4.2	Hospital	l Procedures - H	Radiological Prote	ction Personnel
	o PVNO nece shie Hosp	GS personnel sha essary with surv alding, etc. (re pital Radiologic	all assist hospita Yeys, setting up to efer to Maryvale S cal Procedures).	l personnel as emporary amaritan
	o Deco PVNO	ontamination pro GS personnel as	ocedures will be c follows:	arried out by
	a.	Survey ambulanc (if necessary) Collect dosimet returning to PV	e attendants and o prior to leaving ers if personnel o VNGS.	decontaminate the hospital. are not
	b.	Survey the ambunecessary and i site, the ambul return to the p	lance. If deconta s not feasible at ance and attendan lant site for deco	amination is the hospital ts shall ontamination.
	с.	Survey the hosp and any areas, the treatment o Decontaminate a	ital entrance, emo supplies and equip of the contaminated s necessary.	ergency room pmeas used in d patient.
	đ.	Supervise and a hospital person	ssist in the decomel.	ntamination of
	e.	Collect hospita PVNGS.	l dosimeters and m	return to
	f.	Collect all rad containers and	ioactive waste in return to PVNGS.	sealed
	g.	Make arrangemen clothing, suppl	ts to replace all ies, and equipment	contaminated



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	REVISION	1.2
PERSONNEL INJURY	0	Page 12 of 14
FIRST AID INH	FORMATION	
NOTE		
This information should be sent with p centers or hospitals.	personnel to medica.	1
Name of Injured Party		
Address of Injured Party		
Phone Number of Injured Party		
Date of Accident Time	e of Accident	
Type of Injury		
		Sector Sec.
Cause of Injury		
	10.000	
Complicating Factors*		
Freatment Administered		
	the second second in the second se	
Time of Treatment		
Time of Treatment		
Time of Treatment Rescue/First Aid Personnel		
Time of Treatment Rescue/First Aid Personnel		
Time of Treatment Rescue/First Aid Personnel *i.e., high radiation levels (give R/h), co	entainment (type, a	nount), etc.
Time of Treatment Rescue/First Aid Personnel *i.e., high radiation levels (give R/h), co	ontainment (type, an	nount), etc.
Time of Treatment Rescue/First Aid Personnel *i.e., high radiation levels (give R/h), co	ontainment (type, an	nount), etc.

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MAP	
Rand	
Tim	
	PROCEDURE NO. EPIP-22 REVISION 0 MAP

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	REVISION	
· PERSONNEL INJURY	0	Page 14 of 14
MARYVALE SAMARIT HOSPITAL NOTIFIC	CAN HOSPITAL CATION FORM	
Date/Time of Call:		
Person Calling:		
Name:		
Address:		
Telephone Number:		
Accident Information:		
Location:		
Date and Time:		
Number of Injured Patients:		
Type of Radioisotope Involved:		
Number - 6 Contract - 1/7		
Aumber of Contaminated/injured Patients:	And a second s	
Description of Injured:		
Description of Injured:		
Description of Injured:		
EMARKS:		
Expected Time of Arrival at Hospital:		
Description of Injured:		

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1.0 OBJECTIVE

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3.0 LIMITATIONS AND PRECAUTIONS

4.0 DETAILED PROCEDURE

4.1 Personnel Indoctrination

4.2 Frerequisites4.3 Instructions

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2.0 REFERENCES

- 2.1 Implementing References
 - 2.1.1 EPIP-02, "PVNGS Emergency Classification"
 - 2.1.2 EPIP-18, "Emergency Exposure Guidelines"
 - 2.1.3 EPIP-24, "Security"
 - 2.1.4 PVNGS Prefire Strategies
- 2.2 Developmental References
 - 2.2.1 NUREG 0654, Rev. 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants"
 - 2.2.2 NUREG 0696 (Final Report), "Functional Criteria for Emergency Response Facilities"
 - 2.2.3 PVNGS Emergency Plan, Rev. 2
 - 2.2.4 NFPA 1975 Code Phamphlet 27
 - 2.2.5 83AC-0ZZ12, Fire Team Training

3.0 LIMITATIONS AND PRECAUTIONS

- 3.1 As this procedure deals with the handling of emergency situations it is intended to be used as a guide. The actual conditions at the station could alter emergency and subsequent actions.
- 3.2 This procedure assumes plant operators have successfully completed the PVNGS Fire Training Program.
- 3.3 SCBA must be worn at all times while fighting fires within any radiologically controlled and/or confined areas.

^{1.1} This procedure details actions necessary for the efficient, orderly, and expident treatment of a fire situation within the boundaries of PVNGS.

PVNGS I	EMERGENCY PLAN	PROCEDURE NO. EPIP-23	
		REVISION	
FIF	E FIGHTING	0	Page 4 of 7
3.4 Whi rad lim rec	le fighting any fire in a pliation exposure levels in end to the shall be approved by the serving the exposure and in	radiologically cont excess of PVNGS adm he Emergency Coordi accordance with EP	rolled area, inistrative nator prior to IP-18.
3.5 Con sta	ventional fire fighting clo ndard radiological protecti	othing can be used ive clothing.	in lieu of
4.0 DETAI	LED PROCEDURE	경험 소리가	
4.1 Per	sonnel Indoctrination		
4.1.1	The Emergency Coordinator overall responsibility for procedure.	ns delineated in E implementation of	PIP-01 has this
4.1.2	The Fire Team will be asse The Assistant Shift Superv Leader and is in charge of situations where local fir the Fire Team Leader shall the fire scene. Additional Fire Team as follows:	embled at the onset visor will act as t the fire fighting the departments may retain his leader l personnel are as	of any fire. he Fire Team effort. In be summoned, ship role at signed to the
	 a. 2 Nuclear Operators b. 1 Chemistry Technician c. 1 Radiation Protection 	Technician	
4.2 Pre	requisites		
4.2.1	A fire is in progress, tha Emergency Action Level per	t has reached or ex EPIP-02:	xceeded an
4.3 Ins	tructions		
4.3.1	At the scene of the fire:		
4.3.1	.1 Person discovering the and report the following	fire, go to the ne ng to the Control H	earest phone Room:
	 a. Type (if known) and b. Location, c. Any injuries, d. Any other pertinent fire, recommendation 	d size of fire, t information (e.g.	, source of

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE		PROCEDURE NO. EPIP-23	
		REVISION	
FIRE F	IGHTING -	0	Page 5 of 7
4,3.1.2	Person discovering fi the Control Room unle bodily harm is immine	re, maintain commun ss otherwise direct nt.	nication with ted, or if
4.3.1.3	Knowledgeable personn with available equipm Fire Team.	el, attempt to figh ent while awaiting	nt the fire arrival of the
4.3.1.4	Unnecessary personnel	, evacuate the area	a.
4.3.2 Co	ntrol Room		
4.3.2.1	Upon receipt of infor the following over th	mation of a fire of e station PA system	n site announce n.
	"THERE IS A CLASS (A, (LOCATION). FIRE TEA LOCKER AT (LOCATION)"	B, C) (IF KNOWN) I M RESPOND AND REPON •	FIRE AT RT TO FIRE
4.3.2.2	Take operational acti Strategies according and plant conditions.	ons cutlined in the to the fire location	e Prefire on, intensity,
4.3.2.3	The Emergency Coordin Control Coordinator (informed of the situa	ator shall ensure s Safety Administrate tion.	the Hazards or) is kept

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE		PROCEDURE NO. EPIP-23	
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FIRE F	IGHTING	0	Page 6 of 7
4.3.3.1	the fire to determine	e a preliminary inv	restigation of
	Elabe the Elma an 16	what equipment is	needed to
연양님으로	fight the fire, or if	offsite assistance	e is needed.
	fight the fire, or if a. Fire Team members locker, breakout directions from F	, report to the dir equipment, and star ire Team Leader.	e is needed. ected fire adby for

- b. Fire Team Leader, direct the Fire Team in the following:
 - Ensuring appropriate automatic fire protection systems have started.
 - Establishing a strategy for fighting the fire and ensuring that each member of the Fire Team knows his function.
 - o Establishing fire boundaries.
 - o De-energizing and isolating affected equipment.
- c. Fire Team Leader ensure the Control Room is informed of the status of the fire.

4.3.4 Security Director

- 4.3.4.1 At the direction of the Emergency Coordinator, the Security Director shall contact the Bechtel Fire Department and provide the following information.
 - a. Type and location of fire.
 - b. Extent of fire (if known).
 - c. Special precautions, if required.
 - d. Special equipment required.
- 4.3.4.2 The Security Director shall inform the security force that offsite fire fighting assistance is expected and designate personnel to escort the Bechtel Fire Department personnel and equipment to the scene of the fire in accordance with EPIP-24.

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE		PROCEDURE NO. EPIP-23	
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FIRE FIGHTING		0	Page 7 of
4.3.4 Rad	diological Protection Co	pordinator	
4.3.4.1	Upon notification by a Radiological Protection monitoring team to the with radiological aspe	the Emergency Coord on Coordinator shall scene of the fire ects of the emergence	inator, the l dispatch a , to assist cy.
4.3.4.2	If outside fire fights monitoring team shall equipment prior to the following termination	ing assistance was a survey all personne eir release from the of the emergency.	required the el and e site
4.3.4.3	The monitoring team sh decontamination evalua release of offsite per	hall supervise any ations that are required to require the second	ired prior t
4.3.5 Whe	en the fire has been ext	tinguished:	
4.3.5.1	Fire Team Leader, info station a reflash wate	orm the Emergency Co ch as necessary.	pordinator an
4.3.5.2	Plant Operator, annour	nce over the PA syst	cem:
	"SECURE FROM FIRE AT (EQUIPMENT".	(LOCATION), RESTORE	FIRE
4.3.5.3	Emergency Coordinator, after completion of ar monitoring and/or deco	, secure offsite res ny required radiolog ontamination.	sponse groups gical

PVNGS EMERGENCY P. IMPLEMENTING PROCED	AN	PROCEDURE NO. EPIP-24	
P.C		REVISION	
SECURITY		0	Page 1 of 9
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APPENDICES

Appendix A - Emergency Personnel Identification Badge

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IMPLE	S EMERGENCY PLAN MENTING PROCEDURE	PROCEDURE NO. EPIP-24	
	SECURITY	REVISION	Page 3 of 9
1.0. 01	BIECTIVE		1
1.1	To provide methods for evodit	ing accord of offe	
	response personnel (i.e., NRC etc.) and emergency vehicles t	representatives, v o PVNGS.	endors, A/E,
1.2	To provide methods for control Technical Support Center (TSC) Facility (EOF) during an emerg	ling access to the , and Emergency Op ency.	Control Room, perations
1.3	To provide a means for identif PVNGS Emergency Organization.	ying personnel ass	igned to the
2.0 <u>RI</u>	FERENCES		
2.1	Implementing References		
2.1.	1 PVNGS Security Plan		
2.1.	2 EPIP-28, "Personnel Monito	ring and Decontami	nation"
2.1.	3 EPIP-29, "Area/Equipment M	onitoring and Deco	ntamination"
2.1.	4 75RP-9ZZ01, "TLD Issue, Ex	change, and Termin	ation"
2.2	Developmental References		
2.2.	1 PVNGS Emergency Plan, Rev.	2	
3.0 <u>LI</u>	MITATIONS AND PRECAUTIONS		
No	ne		
4.0 DE	TATLED RECOONSE		
4.0 <u>DE</u>	Personnal Indestructure		
4.1	reisonner indoctrination		
4.1.	In the event of a radiolog security measures may have immediate station access by inductional station access by	ical emergency at 1 to be lessened to y offsite emergency	PVNGS, provide for y personnel

PVNGS IMPLEME	EMERGENCY PLAN	PROCEDURE NO. EPIP-24	
		REVISION	
	SECURITY	0	Page 4 of 9
4.1.2	The Security Director is r procedure and for insuring properly authorized access procedure and/or appropria permitted within the prote	esponsible for imp that only those p in accordance wit te security direct ected area.	lementing this ersonnel h this ives are
4.1.3	The cognizant supervisor i and controlling access to which he has authority.	s responsible for the emergency faci	authorizing lity over
	 a. Control Room/STSC - Sh b. Technical Support Cent c. PVNGS Protected Area - d. Emergency Operations F Director 	ift Supervisor er - Emergency Coo Security Director acility - Emergenc	rdinator y Operations
4.2 Pr	erequisites		
4.2.1	The PVNGS Emergency Plan h emergency response facilit	as been implemente ies have been acti	d, and vated.
4.2.2	Offsite emergency response been called to PVNGS.	vehicles and pers	onnel have
4.3 In	structions		
4.3.1	Emergency Vehicle Access (Fire, Ambulance, E	tc.)
4.3.	 1.1 The Security Director Emergency Coordinator emergency response veh fighting assistance, a such a call-out he sha about the vehicles to the information to the a. Type Vehicle(s) b. License Number or c. Color 	at the direction o shall make call-ou dicles/personnel (i mbulance, etc.). Il obtain as much be used as possibl Security Building Other Identifying	f the ts for .e., fire When making information e and report personnel. Number
4.3.	 under of Occupant Upon arrival at PVNGS vehicle(s) shall be pe verify that it is in f 	a cursory inspecti rformed by the Sec act the requested	on of the urity Force to vehicle, and

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-24		
SECURITY	REVISION	Page 5 of 9	

NOTE

Personal dosimetry shall be issued to individuals requiring access to radiation controlled areas in accordance with 75RP-92Z01.

4.3.1.3 The vehicle(s) shall then be admitted to the protected area. The emergency vehicle(s)/personnel shall be escorted at all times while within the protected area in accordance with normal security procedures.

NOTE

If contamination of vehicles or personnel is suspected monitoring and decontamination should be performed in accordance with EPIP-28 and EPIP-29 as necessary prior to vehicle/personnel departure.

- 4.3.1.4 Upon completion of required casualty actions the emergency vehicle(s) shall proceed to the gate requested, where the number of occupants shall be noted and compared to the number who entered the station.
- 4.3.1.5 If there is any discrepancy between the number of offsite assistance personnel admitted and those departing, Security Force personnel shall contact the Security Director for further action prior to releasing the vehicle(s).
- 4.3.2 Emergency Personnel Access
 - 4.3.2.1 The Emergency Coordinator may at any time direct the Security Director to limit access to the station.
 - 4.3.2.2 At the declaration of an ALERT, SITE or GENERAL EMERGENCY and/or the initiation of personnel assembly, the Security Shift Captain will take immediate steps -to limit access to the protected area.
 - a. The Security Building Search Officers will not admit anyone not named on the Emergency Personnel Access List to the protected area without authorization from the Security Director.

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C.F.	CIIPITY	REVISION	
55	COAIII	0	Page 6 of 9
4.3.2.3	Personnel who are assi Organziation and named expeditiously admitted Security Building Sear routine screening.	igned to the PVNGS d on the access lis d to the protected rch Officers after	Emergency t will be area by the undergoing
4.3.2.4	APS personnel who are have not been previous the Emergency Personne Security Building. Th Security Director will those personnel report may be admitted to the	called to the stat sly assigned and id al Access List will be Emergency Coordi I notify the Securi ting to the station protected area.	ion and who entified in report to the nator via the ty Building of so that they
4.3.2.5	Vendor, contractor, NF specified in the Emerg only be admitted to th routine visitor badgin escorted in accordance procedures.	RC, A-E and other p gency Personnel Acc ne protected area f ng procedures and m with established	ersonnel not ess List shall ollowing ust be security
4.3.2.6	If conditions warrant, direct the Security Di County Sheriff's Offic access to the PVNGS ar	the Emergency Coo rector to contact e for assistance in rea.	rdinator may the Maricopa n controlling
4.3.3 Tec	chnical Support Center A	access	
4.3.3.1	The TSC may be totally UNUSUAL EVENT, and wil ALERT, SITE EMERGENCY	or partially active 1 be totally active and GENERAL EMERGEN	vated at an ated at the NCY conditions.
4.3.3.2	Upon activation of the shall have the key-car designated individuals the TSC.	TSC, the Security d system reset so t will be able to d	Director that only irectly access
4.3.3.3	All other personnel re receive verbal authori Resources Coordinator Security Director to g	questing access to zation from the Per who will in turn no rant the access.	the TSC will rsonnel otify the
4.3.3.4	If the Emergency Coord Coordinator has reques TSC who have not previ Security Director shou that access can be arr	inator or Personnel ted personnel to re ously been granted ld be immediately r anged.	l Resources eport to the access, the notified so

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4.3.3.5 The TSC staff will obtain their Emergency Personnel Identification Badge (Appendix A) from its storage location in the TSC and wear it in addition to their security badge. This badge will be transferred whenever functional responsibility is transferred from one individual to another.

4.3.4 Control Room/STSC Access

4.3.4.1 Normal key-card Control Room access procedures will be in effect during emergency conditions with the following stipulations:

- The Shift Supervisor may at his discretion upon the declaration of an UNUSUAL EVENT limit access to the Control Room to those Operations personnel onshift and only those other personnel specifically authorized by him, or the Emergency Coordinator.
- b. During ALERT, SITE EMERGENCY and GENERAL EMERGENCY conditions access will be limited to assigned Emergency Organization personnel and only those other personnel specifically authorized by the Shift Supervisor, or the Emergency Coordinator.
- 4.3.5 Emergency Operations Facility Access
 - 4.3.5.1 The EOF will be activated for an ALERT or more severe level emergency.
 - 4.3.5.2 Upon activation of the EOF, the Security Officer assigned to the Administration Annex shall request assignment for additional Security Officer to restrict EOF access to those personnel named on the EOF Access List.
 - 4.3.5.3 A Security Officer will proceed to the EOF and lock the stairway door on the Plant northeast side to restrict entrance to the EOF.
 - 4.3.5.4 Additional actions to be performed by the EOF Security Officer are addressed in EPIP-13, "Emergency Operations Facility Activation".
 - 4.3.5.5 The Security Coordinator on arrival at the EOF shall assume responsibility for EOF access.

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SE	CURITY	0	Page 8 of 9
4.3.5.6	All other personnel req receive verbal authoriz and Logistics Coordinat Security Coordinator to	uesting access to ation from the Adr or who will in tu grant access.	the EOF will ministrative rn notify the
4.3.5.7	If the Emergency Operat Administrative and Logi personnel to report to previously granted acce should be immediately m arranged.	ions Director or stics Coordinator the EOF who have n ss, the Security (notified that acces	the requests not been Coordinator ss can be
4.3.5.8	The EOF staff will obta Identification Badge (A location in the EOF and security badge. This b whenever functional res one individual to anoth	in their Emergency ppendix A) from in wear it in addit adge will be trans ponsibility is tra-	y Personnel ts storage ion to their sferred ansferred from
4.3.6 Eme	ergency Personnel Identif	ication	
4.3.6-1	Each functional assignm Response Organization w	ent in the PVNGS I will have a badge.	Emergency
4.3.6.2	Emergency personnel ide and updated concurrentl Emergency Plan review.	ntification will N y with the annual	e reviewed PVNGS
4.3.6.3	Emergency Personnel Ide in station emergency re EOF, OSC and Service Bu	ntification Badges sponse facilities ilding (alternate	s will be worn : TSC, STSC, OSC).
4.3.6.4	The Emergency Personnel to be confused with the	Identification Ba PVNGS Security Ba	adges are not adge.
4.3.6.5	The Emergency Personnel be used to identify the the individual and to t	Identification Ba functional respon ransfer that response	adges are to nsibility of onsibility

PVINGS EMERGENCY PLAN	PROCEDURE	
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SECIPITY	I LEVISION	
JEGGATTI	0	Page 9 of 9
EMERGENCY PERSONNEL ID	ENTIFICATION BADGE	
Sample		
	(-	:
STATE OF		
ARIZONA	NR	C
REPRESENTATIVE		•
No. 708		No. 657
The second s		
a de la companya de l		
SECURITY	EMERG	
SECURITY COORDINATOR	EMERC	ENCY
SECURITY	EMERG	ENCY
SECURITY	EMERC	IENCY NATOR
SECURITY COORDINATOR No. 804	EMERG COORD	ENCY NATOR
SECURITY COORDINATOR No. 804	EMERG	ENCY MATOR Mator
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1.0 OBJECTIVE

1.1 This procedure addresses required authorization, guidance and maximum exposure criteria in the event it becomes necessary to enter high radiation or contaminated areas for the purpose of crew relief or emergency repair/operations.

2.0 REFERENCES

- 2.1 Implementing References
 - 2.1.1 EPIP-01, "PVNGS Emergency Organization"
 - 2.1.2 EPIP-02, "PVNGS Emergency Classification"
 - 2.1.3 EPIP-16, "Onsite Surveys and Sampling"
 - 2.1.4 EPIP-18, "Emergency Exposure Guidelines"
 - 2.1.5 EPIP-26, "Potassium Iodide (KI) Administration"
 - 2.1.6 EPIP-28, "Personnel Monitoring and Decontamination"
 - 2.1.5 EPIP-29, "Area, Equipment Monitoring and Decontamination"
- 2.2 Developmental References
 - 2.2.1 NCRP Report #39, 1971 Basic Radiation Protection Criteria
 - 2.2.2 EPA-520/1-75-001, Manual of Protective Action Guides and Protective Actions for Nuclear Incidents
 - 2.2.3 PVNGS Quarterly and Annual Exposure Limits and 10CFR20 Standards for Protection Against Radiation, "Occupational Exposure Limits"
 - 2.2.4 PVNGS Area and Equipment Contamination Limits

3.0 LIMITATIONS AND PRECAUTIONS

3.1 Emergency radiation exposures in excess of PVNGS administrative limits or 10CFR20 occupational limits, must be authorized by the Emergency Coordinator, in accordance with EPIP-18.

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3.2 Ad AL ti	ministrative methods to min ARA) should remain in force mely corrective or protectiv	imize personnel exp to the extent cons ve actions.	osure (such as istent with
3.3 Pe me in	rsonnel shall wear dosimeter asurement of anticipated exp clude:	rs appropriate for posure levels. The	the se shall
3.3.1	Thermoluminescent Dosimete	er (Legal)	
3.3.2	Thermoluminescent Dosimete	er (Job)	
3.3.3	Extremity Dosimeters, if a	appropriate (Append	ix B, Note 2)
3.3.4	Alarm Dosimeters		
3.4 Po ad	tassium Iodide (KI) tablets, ministered in accordance wit	, if necessary, sho th EPIP-26.	uld be
3.5 Pr ap	ctective clothing and/or res propriate.	spirators should be	used as
3.6 Em co	ergency exposures are justif mmensurate with the signific	fiable only if the cance of the object	doses are ive.
4.0 <u>DETA</u>	ILED PROCEDURE		
4.1 Pe	rsonnel Indoctrination		
4.1.1	The Emergency Coordinator emergency exposures, up to specified in Appendix A.	is required to aut but not exceeding	norize the limits
4.1.	1.1 Emergency dose limits	are defined for:	
	a. corrective and/or	protective actions	
	b. sampling under eme	rgency conditions.	
	The Operations Support Cen	ter Coordinator wi directed from the	11 deploy Control Room
4.1.2	emergency repair teams, as in the onshift organizatio organization.	on and/or the TSC in	n the onsite

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4.1.3.1	The Radiation Protect responsible for commu every one half hour v	ion Technician shal nicating with the O ia portable radios.	l be SC Coordinator
4.1.3.2	The Radiation Protect responsible for asses	ion Technician shal sing radiological c	l be onditions.
4.2 Prere	quisites		
4.2.1 A	n incident has occurred rovisions of EPIP-02.	which has been clas	sified per the
4.2.2 T M C c	he <u>onsite</u> Emergency Coor aintenance Coordinator o oordinator has determine rucial to the needs of t	dinator, the Emerge or the Radiation Pro d emergency repair/ the Emergency Organi	ency tection operations are lzation.
4.2.3 E	mergency exposures, if n he Emergency Coordinator	necessary, have been in accordance with	n authorized by n EPIP-18.
4.3 Instr	uctions		
4.3.1 A	uthorization		
4.3.1.1	The <u>onsite</u> Emergency Coordinator/Radiologi provide the OSC Coord	Coordinator/Emerger Ical Protection Coor linator with a descr	ncy Maintenance rdinator will ription of:
	a. The work to be pe	erformed;	
	b. How many people t	the work requires;	
	 What tools, spare needed; 	e parts, equipment,	etc. are
	d. Radiological cond	litions, if known.	
4.3.1.2	If emergency exposure Protection Coordinato Coordinator with a ra situation(s) requirin Radiation Exposure Pe authorizing emergency accordance with EPIP-	es are required, the or shall provide the adiological evaluat: ng emergency exposus ermit (REP) (Append y exposu e, shall be -18.	e Radiological e Emergency ion of the re(s). A ix C) e completed in
	a. The Emergency Tea in accordance wit	am shall conduct re th the REP.	pair activities

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4.3.1.3	If emergency exposures Radiological Protection shall complete the REP specific protective equipation of the specific protective equipation of the specific protective equipation of the specific process of the specific protection of the specific process of the specific protection of the speci	are not required, on Coordinator or h (Appendix C), det uipment, allowable lures:	the is designee ailing doses and the
	o Preplanning		
	o Detailed Work Proc	edures	
	o Special Task Train	ing, if time allow	S
	o Dryrun, if time al	lows	
	o Stay Time		
	o Route to Take to t	he Repair Operatio	n Location
	c Adequate Ventilati	on, Lighting, Wate	r, etc.
4.3.2 Per	sonnel Exposure Control		
4.3.2.1	The Emergency Repair T conditions specified i	eam shall abide by n the REP.	all
4.3.2.2	The Emergency Repair T where dose rates are u instruments immediatel beta/gamma detectors a	eam shall not ente nknown or unmeasur y available (high re recommended).	r any area eable with range
	a. Prior to entering for the meter to w	any radiation area arm up.	, allow time
	b. Check meter respon	se with a check so	urce.
	c. Enter suspected ra on the high scale, necessary.	diation areas with switching to lowe	the meter set r scales as
4.3.2.3	Upon entering the oper Emergency Team Leader conditions.	ation/repair locat shall reevaluate ra	ion, the adiological
	o High area dose rat	es and, if necessar	ry,

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- o Surface contamination.
- o Airborne contamination.
- 4.3.2.4 If radiological conditions permit, perform the required operations/maintenance, etc.
 - Decontamination of area(s)/equipment should be conducted in accordance with EPIP-29.
- 4.3.2.5 Personnel unable to complete the task within the allotted stay time or allotted dose shall exit the radiation area.
 - The Emergency Team Leader shall immediately report this information to the OSC Coordinates.
- 4.3.3 Subsequent Actions
 - 4.3.3.1 Emergency Team Leader, check personnel for contamination. Decontaminate as necessary per EPIP-28.
 - 4.3.3.2 Emergency Team Leader, check equipment for contamination. Decontaminate as necessary per EPIP-29.
 - 4.3.3.3 The Radiological Protection Coordinator shall:
 - a. Promptly obtain initia! estimates of the radiation dose of exposed personnel.
 - b. Update and refine dose estimates at a later time.
 - c. Immediately report exposures in excess of 10CFR20 (Appendix B) to the Manager, Nuclear Operations who will then report to the NRC per 10CFR20.403 and 10CFR20.405.

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REENTRY FOR EMERGENCY OPERATIONS

EMERGENCY EXPOSURE LIMITS

	Sampling Under Accident Conditions*	Corrective or Protective Actions
Whole Body (rem)	5	25
Thyroid (rem)	25	125
Extremities (rem)	75	100**
*NUREG 0737, November 1980		

**NCRP Report #39, 1971

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PVNGS ADMINISTRATIVE DOSE LIMITS AND MAXIMUM PERMISSIBLE DOSE EQUIVALENT FOR OCCUPATIONAL WORKERS (10CFR20)

	PUNGS ADMINISTRATIVE LIMITS 10CPE20							
Critical Organ	mrem/quarter	mrem/year	mrem/quarter	mrem/year				
Whole Body, Head and Trunk, Active Blood-Forming Organs, Lens of the Eye or Gonads	1,000	4,000	1,2501	5,000				
Hands, Forearms, Ankles, Feet	15,000	N/A	18,7502					
Skin of Whole Body	6,000	N/A	7,5002					
Other Organs (Thyroid), Tissues and Organ Systems			5,0004					
Pregnant Women (With Respect to the Fetus)	500mrem ³ 9 months	•	500mrem ³ 9 months	500mrem ³ 9 months				

- 3,000 millirem is permitted in a calendar quarter or 12,000 millirem in a year as long as the accumulative occupational dose to the whole body does not exceed 5,000 millirem x (age - 18) and the individual's lifetime exposure history is recorded on the NRC's Form 4 or equivalent. Doses exceeding 1,250 mrem/quarter must be reported to the NRC per 10CFR20.403 and 10CFR20.405.
- 2. The licensee is required to supply appropriate personnel monitoring equipment and shall require the use of such equipment by each individual that receives or is likely to 'receive a dose in any calendar quarter in excess of 25% of the applicable 10CFR20 value.
- 3. NCRP, ICRP Guidance.
- 4. NUREG 0737.

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	STANDARD RADIATION	EXPOSURE PERMIT	
PVNC	GS Unit:	REP #:	
VAL	ID FROM:TO	JOB /:	
REP	STATUS	REP TYPE:	
TASE	COMPONENT:		
MAD	A. LOCATION:		
REP	REQUIRED BY:		
PROC	CESSING PRIORITY:		
RADI MAP AIR BETA	#: SAMPLE ID #: /GAMMA (mr/hr):	SURVEY #: TOTAL MPC FF CONTAMINATIO	ACTION:
RADI MAP AIR BETA WET/	#: SAMPLE ID #: //GAMMA (mr/hr): /DRY:	SURVEY #: TOTAL MPC FF CONTAMINATIO	ACTION:
RADI MAP AIR BETA WET/ RADI	ATION SURVEY CONDITIONS: #: SAMPLE ID #: A/GAMMA (mr/hr): 'DRY: CATION PROTECTION REQUIREMENTS:	SURVEY #: TOTAL MPC FF CONTAMINATIO	ACTION:
RADI MAP AIR BETA WET/ RADI	ATION SURVEY CONDITIONS: #:	SURVEY #: TOTAL MPC FF CONTAMINATIO	ACTION: ON (DPM):
RADI MAP AIR BETA WET/ RADI 1.	ATION SURVEY CONDITIONS: #: SAMPLE ID #: A/GAMMA (mr/hr): 'DRY: CATION PROTECTION REQUIREMENTS: P.C. Requirements No Personal Outer Clothing	SURVEY #: TOTAL MPC FF CONTAMINATIO	ACTION: DN (DPM): Gloves (2 pr)
RADI MAP AIR BETA WET/ RADI 1.	ATION SURVEY CONDITIONS: #: SAMPLE ID #: //GAMMA (mr/hr): /DRY: /DRY: P.C. Requirements No Personal Outer Clothing Lab Coat Plastic Shoe Covers	SURVEY #: TOTAL MPC FF CONTAMINATIO	ACTION: DN (DPM)
RADI MAP AIR BETA WET/ RADI 1.	ATION SURVEY CONDITIONS: #:	SURVEY #: TOTAL MPC FF CONTAMINATIO	ACTION: N (DPM): Gloves (2 pr) ns Cap lood
RADI MAP AIR BETA WET/ RADI 1.	#: SAMPLE ID #: \/GAMMA (mr/hr): 'DRY: CATION PROTECTION REQUIREMENTS: P.C. Requirements No Personal Outer Clothing Lab Coat Plastic Shoe Covers Plastic Booties Rubber Shoe Covers (2 pr)	SURVEY #: TOTAL MPC FF CONTAMINATIO	Gloves (2 pr) ns Cap cod coveralls (2 pr)
RADI MAP AIR BETA WET/ RADI 1.	ATION SURVEY CONDITIONS: #:	SURVEY #: TOTAL MPC FF CONTAMINATIO Rubber Surgeo Full H P.C. C Plasti	ACTION: N (DPM): S Gloves (2 pr) ns Cap lood overalls (2 pr) c Suit
RADI MAP AIR BETA WET/ RADI 1.	ATION SURVEY CONDITIONS: #:	SURVEY #: TOTAL MPC FF CONTAMINATIO Rubber Surgeo Full H P.C. C Plasti	ACTION: N (DPM): Gloves (2 pr) ns Cap Good Goveralls (2 pr) c Suit
RADI MAP AIR BETA WET/ RADI 1.	ATION SURVEY CONDITIONS: #:	SURVEY #: TOTAL MPC FF CONTAMINATIO Rubber Surgeo Full H P.C. C Plasti Bubble	ACTION: N (DPM): Gloves (2 pr) ns Cap cod overalls (2 pr) c Suit Hood
RADI MAP AIR BETA WET/ RADI 1.	ATION SURVEY CONDITIONS: #: SAMPLE ID #: //GAMMA (mr/hr): /DRY: /DRY: ATION PROTECTION REQUIREMENTS: P.C. Requirements No Personal Outer Clothing Lab Coat Plastic Shoe Covers Plastic Booties Rubber Shoe Covers (2 pr) Respiratory Requirements Full Face w/Cannister Full Face w/Supplied Air	SURVEY #: TOTAL MPC FF CONTAMINATIO	ACTION: N (DPM): Gloves (2 pr) ns Cap cod coveralls (2 pr) c Suit Hood imemin/hr
RADI MAP AIR BETA WET/ RADI 1.	ATION SURVEY CONDITIONS: #:	SURVEY #: TOTAL MPC FF CONTAMINATIO Rubber Surgeo Full H P.C. C Plasti Bubble Stay T	ACTION: N (DPM): ons Cap cod coveralls (2 pr) c Suit Hood imemin/hr
RADI MAP AIR BETA WET/ RADI 1. 2.	ATION SURVEY CONDITIONS: #:	SURVEY #: TOTAL MPC FF CONTAMINATIO	ACTION: N (DPM): Gloves (2 pr) ns Cap cod overalls (2 pr) c Suit Hood imemin/hr
RADI MAP AIR BETA WET/ RADI 1. 2.	ATION SURVEY CONDITIONS: #:	SURVEY #: TOTAL MPC FF CONTAMINATIO	ACTION: N (DPM): Gloves (2 pr) ns Cap lood overalls (2 pr) c Suit Hood imemin/hr ion Summer Test
RADI MAP AIR BETA WET/ RADI 1. 2.	ATION SURVEY CONDITIONS: #:	SURVEY #: TOTAL MPC FF CONTAMINATIO	ACTION: N (DPM): Gloves (2 pr) ood overalls (2 pr) c Suit Hood imemin/hr ion Survey Inst. 1 Docimetry

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STANDAR 4. Special Instructions	RD RADIATION EXP	OSURE PERM	MIT (CONT'I		
5.	•				
PERSONNEL ASSIGNED TO REP					
PERSONNEL ASSIGNED TO REP	: FIRST IN	1	LAS'	COUT	
PERSONNEL ASSIGNED TO REP	FIRST IN AVAIL DEPT WB (MR)	AVAIL MPC HR	LAS TOT RES TIME HR	TOTAL WB(R)	TOTAL MPC HR
PERSONNEL ASSIGNED TO REP	FIRST IN AVAIL DEPT WB (MR)	AVAIL MPC HR	LAS' TOT RES TIME HR	TOTAL WB(R)	TOTAL MPC HR
PERSONNEL ASSIGNED TO REP	FIRST IN AVAIL DEPT WB (MR)	AVAIL MPC HR	LAST TOT RES TIME HR	TOTAL WB(R)	TOTAL MPC HR
PERSONNEL ASSIGNED TO REP	FIRST IN AVAIL DEPT WB (MR)	AVAIL MPC HR	LAST	TOTAL WB(R)	TOTAL MPC HR

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POTASSIUM IODIDE (KI) ADMINISTRATION	REVISION	Page 1 of 8

ASSIGNED COLI 1.18 PINGS SN 8.9A

APPROVED BY: Alcal Predogene DATE 9/09/82 DATE EFFECTIVE 10-6-82

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Appendix	В	-	Record	of	Dis	tri	ibu	tion	of	Pota	assium	Iod	lide	8

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1.0 OBJECTIVE

1.1 The objective of this procedure is to define under what emergency conditions Potassium Iodide (KI) should be administered to emergency personnel, and who has the authority to determine when it should be taken.

2.0 REFERENCES

2.1 Implementing References

2.1.1 EPIP-16, 'Onsite Surveys and Sampling'

2.1.2 EPIP-17, "Offsite Surveys and Sampling"

2.1.3 EPIP-27, "Sample Analysis at the Station"

2.2 Developmental References

- 2.2.1 NUREG-0654, Rev. 1, Criteria for Preparation and Evaluation of Radiological Response Plans and Preparedness in Support of Nuclear Power Plants
- 2.2.2 NCRP 55, "Protection of the Thyroid Gland in the Event of Release of Radiologine", National Council on Radiation Protection and Measurements, 1977
- 3.0 LIMITATIONS AND PRECAUTIONS
 - 3.1 Potassium Iodide should not be used by people allergic to iodine. Seafood allergies do not constitue an iodiue allergy.
 - 3.2 The "shelf life" of KI is three years.

3.3 Side Effects of KI

3.3.1 Usually, side effects of KI (iodism) happen when doses are administered in greater amounts and for longer periods of time than recommended.

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- 3.3.2 Possible side effects include skin rashes, swelling of the salivary glands, and "iodism" (metallic taste, burning mouth and throat, sore teeth and gums, symptoms of a head cold, and sometimes stomach upset and diarrhea).
- 3.3.3 Active reactions to low doses are usually limited to angioedema (swelling or hives).
- 3.4 Procedure for Those Allergic to Iodine
 - 3.4.1 If personnel allergic to iodine must enter an area where iodine inhalation is possible, administer 10 mg Tapazole every (two) hours for (two) days, then five mg daily for six days.
 - 3.4.2 If the side effects are severe, or if an allergic reaction is experienced, stop taking potassium iodide and contact a doctor for further instructions.

4.0 DETAILED PROCEDURE

4.1 Personnel Indoctrination

- 4.1.1 Potassium Iodide is administered to personnel who may be exposed to radioiodine. Potassium Iodide if administered in the proper time frame prevents/reduces the uptake of radioiodine by the thyroid gland.
- 4.1.2 The Emergency Coordinator, on the advice of the Radiological Protection Coordinator or Radiological Assessment Coordinator, is responsible for implementing this procedure.

4.2 Prerequisites

- 4.2.1 Potassium Iodide is to be administered if any of the following conditions exists:
 - 4.2.1.1 Whenever a calculated iodine dose commitment of 20 rem or greater to the thyroid is likely to be received by an individual (Appendix A).

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NOTE

In all cases where airborne contamination is anticipated, personnel should be fitted with full face respirators as a minimum.

- 4.2.2.2 If possible, prior to undertaking a life-saving operation where high levels of radioiodine are suspected, and no current air analysis is available.
- 4.2.2.3 Refer to Appendix A of this procedure to determine thyroid dose as a function of the airborne I-131 concentration. If isotopic I-131 analysis is not available utilize gross iodine concentration as determined from EPIP-16 and/or EPIP-17.
- 4.2.3.4 Appendix A is to be utilized exclusively for this procedure.

4.3 Instructions

NOTE

If possible, KI (130mg tablet) should be administered approximately one day to one-half hour before exposure for maximum blockage. Final uptake is halved if KI is administered within 3-4 hours after exposure. Little benefit is gained with KI administration 10-12 hours after exposure. Once taken and the concentration is verified or the calculated dose determined, the tablets should be administered for ten (10) days post-exposure. Dosage is one tablet, once a day. Individuals suspected of inhalation of airborne contaminants should receive thyroid counts on a regular basis throughout the KI treatment period to verify effectiveness of treatment and to estimate dose commitment.

4.3.1 The Emergency Coordinator, acting on advice from the Radiological Protection Coordinator (or Radiological Assessment Coordinator) shall designate when and who shall receive KI.

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- 4.3.2 The Radiological Protection Coordinator or designee shall:
 - 4.3.2.1 Obtain bottle(s) of 130 mg KI tablets from the Service Building warehouse.
 - 4.3.2.2 Dispense one (1) tablet to each individual that has emergency team assignments and could enter a high-level airborne radioiodine environment.
 - 4.3.2.3 Insure that records are maintained for those people who were administered the KI tablets, Appendix B, Record of Potassium Iodide Distribution.
- 4.3.3 KI treatment may be terminated if the Iodine release has ceased and thyroid counts indicate no iodine present.

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POTASSIUN ADMINI	M IODIDE (KI) ISTRATION	REVISION	Page 7 of 8			
Thyroid dose rate (rem/hr) as a function of I-131 airborne concentrations (uCi/cc).*						
I-131 Air Concentration uCi/cc	Effective Age of Mixture (hr)	Integrated I-131 Dose Commitment Rate** (rem/hr Inhalation)	Integrated Total I Dose Commitment Rate** (rem/hr Inhalation)			
1.0E-08	0-0.1	0.02	0.036			
1.0E-06		1.86	3.35			
1.0E-04		186	335			
1.0E-08	0.1-1.0	0.02	0.036			
1.0E-06		1.86	3.35			
1.0E-04		186	335			
1.0E-08	1.0-2.0	0.02	0.034			
1.0E-06		1.86	3.16			
1.0E-04		186	316			
1.0E-08	2.0-5.0	0.02	0.032			
1.0E-06		1.86	2.97			
1.0E-04		186	297			
1.0E-08	5.0-10.0	0.02	0.03			
1.0E-06		1.86	2.79			
1.0E-04		186	279			
1.0E-08	10.0-120.0	0.02	0.026			
1.0E-06		1.86	2.42			
1.0E-04		186	242			
1.0E-08 1.0E-06 1.0E-04	120.0-0.0	0.02 1.86 186	0.02			

If I-131 isotopic analysis is not available utilize gross iodine concentrations as determined from EPIP-16 and/or EPIP-17.

50 year dose commitment per hour of inhalation.

**

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IMPLEN	S EMERGEN	PROCEDURE NO. EPIP-26	APPENDIX B Page 1 of 1	
POTASSIUM IODIDE (KI) ADMINISTRATION			REVISION 0 Page 8 of	
	RECORD C	F DISTRIBUTION O	F POTASSIUM IODIDE	
Date/Time	Name	S. S. No.	Organization	Address
	······································			
/				
_/				
		-		
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SAMPLE ANALYSIS AT THE STATION	REVISION	Page 1 of 10

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SAMPLE ANA	LYSIS AT THE STATION	0	Page 3 of 1
1.0 OBJEC	TIVE		
1.1 Thi tak sam loo not	s procedure provides instru en during the course of ons pling. Major samples consi se surface contamination ar de gas air samples.	actions for evaluat site and interim of idered are: smear nd particulate, rad	ing samples fsite samples for ioiodine, and
2.0 REFER	ENCES		
2.1 Imp	lementing References		
2.1.1	EPIP-02, "Emergency Class:	itication"	
2.1.2	EPIP-16, "Onsite Surveys a	and Sampling"	
2.1.3	EPIP-17, "Offsite Surveys	and Sampling"	
2.1.4	EPIP-29, "Area, Equipment	, Monitoring and De	contamination"
2.1.5	75RP-9ZZ42, Calibration a Radiation Protection Labo	nd Performance Test ratory Counting Equ	ing of ipment
2.1.6	75RP-92268, Operation of	Lab Counting Equipt	nent
2.1.7	74CH-9ZZ85, Gross Activit Particulate and Iodine Fi	y and Isotopic Anal lters	Lysis of
2.1.8	75CH-9ZZ63, Gamma Energy Calibration	Analytical System (Operation and
2.2 De	velopmental References		
2.2.1	APS Accident Prevention M	lanual	
2.2.2	75RP-92217, Radioactive C	Contamination Surve	y Procedure
2.2.3	75RP-92219, Airborne Radi	loactivity Sampling	and Measuremen
3.0 LIMI	TATIONS AND PRECAUTIONS		
3.1 Ob	serve standard safety preca cident Prevention Manual fo	autions as containe or work with electr	d in the APS ical equipment
2.2 P.,	bher gloves should be worr	when contamination	is suspected.

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IMPLEME	NTING PROCEDURE	EPIP-27	
		REVISION	
SAMPLE AN	ALYSIS AT THE STATION	0	Page 4 of 10
3.3 Ap fa	plying excessive voltage to ilure.	detectors can caus	se equipment
3.4 Hi au	ghly contaminated smears sho tomated system.	ould not be counted	l in an
4.0 <u>DETA</u>	ILED PROCEDURE		
4.1 Pe	rsonnel Indoctrination		
4.1.1	The Supervising Radiation	Physicist or his d	lesignee shall:
4.1.	1.1 Supervise the counting	g procedures.	
4.1.	1.2 Determine the counting	g order of samples.	
4.1.	1.3 Report results to the Coordinator.	Radiological Prote	ection
4.1.2	Radiation Protection Techn analysis and record result	nicians shall perfo ts.	orm sample
4.2 Pr	erequisites		
4.2.1	An ALERT or more severe en the provisions of EPIP-02.	nergency has been o	lassified per
4.2.2	All Radiation Protection I be used have been calibrat and necessary calibration	Laboratory counting ted in accordance w charts are availab	g equipment to with 75RP-92242 ble.
4.2.3	Persons performing sample necessary procedures conta Lab Counting Equipment, ar Isotopic Analysis of Parts	analyses are famil ained in 75RP-92268 nd 74CH-92285, Gros iculate and Iodine	iar with the , Operation of s Activity and Filters.
4.2.4 Smear samples and airborne particulate and iodine samples have been obtained in accordance with EPIP-16, Onsite Surveys and Sampling, and EPIP-17, Offsite Surveys and			
•	Sampling.		
4.3 Ins	structions		
4.3.1	Smear Analysis - Radiation	n Protection Techni	cians.
4.3.1	1.1 Scan smears with a per detector. <u>DO NOT</u> cour automated systems.	table hand-held be thighly contamina	ta/gamma ted smears in

in an addition blonci

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		REVISION	
SAMPLE AN	ALYSIS AT THE STATION	0	Fage 5 of 1
4.3.	1.2 Count the smears in ac contained in 75RP-9226 results (dpm) on norma form.	cordance with proce 8 and record survey 1 operations sample	dures location and counting
4.3.1	3 Compare results (dpm) Appendix A to determin equipment.	with limits contain e contaminated area	ed in and/or
4.3.1	.4 Notify the Radiologica contaminated areas and	1 Protection Coordin /or equipment.	nator of any
4.3.2	Airborne Particulate Sampl Protection Technicians.	e Measurement - Rad	iation
4.3.2	.1 Obtain and record the attached label in Appen	sample volume (ft ³) ndix B.	from the
		NOTE	
	Decay particulate minutes after comp collection.	camples for 20 pieting sample	
		NOTE	
	Samples should be 30 minutes after o	counted no more tha collection.	n
		NOTE	
	All steps in this completed, however interchangeable.	section must be , their order is	
4.3.2	.2 Select a calibrated bet instrument.	Select a calibrated beta/gamma and/or alpha counting instrument.	
4.3.2	.3 Place the sample, colle planchet.	ction side up, in a	two inch
4.3.2.4 Perform a minimum one activity and if applic alpha activity in acco instructions for the c		inute count for beta ble a one minute con dance with the post unting instrument us	a/gamma unt for ed sed. Record

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2.4

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		REVISION	
SAMPLE ANALYSI	S AT THE STATION	0	Page 6 of 10
4.3.2.5	Complete calculations	in Appendix B, whe	ere:
		NOTE	
	Airborne radioact radioiodines and performed in the	ivity calculations noble gases are same manner.	for
		uCi-ft ³	
	cc x Net CPM x 1.6E-	ft ³) x Counter Eff	• x Filter Efficiency
	 Counter efficience performance check 	y is posted on the sheet.	daily
	o Filter efficiency	is [later].	
4.3.2.6	If gross activity is gamma forward the sam isotopic analysis in	greater than 3.02- ple to the chemist accordance with 74	09uCi/cc beta ry section for CH-9ZZ85.
4.3.2.7	From the same isotopi factor per procedure	c analysis determi 75RP-92222.	ne the MPC
4.3.2.8	If alpha airborne rad 2.0E-12uCi/cc perform original count.	lioactivity is grea n a recount one hou	ter than r after
4.3.2.9	Determine alpha activ	vity half life usin	g the formula:
	$T 1/2 = \frac{-0.693 T}{\ln (A/A_0)}$		
	Where:		
	T 1/2 = half-life T = time between A = recount (CPM) A ₀ = original court	initial count and) nt (CPM)	recount
4.3.2.10	Determine the alpha a for physical decay,	airborne activity u using the formula:	ci/cc, allowing
	A = A ave (-0.693 T	1	

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SAMPLE ANALYS	IS AT THE STATION	0	Page 7 of 10
	Where:		
	A = alpha activity A ₀ = initial alpha step 4.3.2.5 T 1/2 = alpha activity	<pre>v (uci/cc) activity (uci/cc), v half life dataments)</pre>	determined in
	T = time between in determination	initial count activ (4.3.2.5) and pres	ity ent time
4.3.2.11	If alpha activity is g the Supervising Radiat	greater than 2.0E-1 tion Physicist.	2uCi/cc notify
4.3.3 Ain Teo	borne Radioiodine Measu Chnicians	urements - Radiatio	n Protection
4.3.3.1	Obtain and record the attached label and rec	sample volume (ft ³ ord in Appendix B.) from the
4.3.3.2	Perform a minimum one activity utilizing a c instrument. Record gr and complete calculati	minute count for b alibrated beta/gam coss counts (CPM) o cons.	eta/gamma ma n Appendix B
4.3.3.3	If isotopic analysis i cartridge (AgX) to the in accordance with 740	s necessary, forwa Chemistry Section H-9ZZ85.	rd the sample for analysis
4.3.3.4	Determine individual i record in Appendix B. Appendix B.	odine activities (Complete calculat	CPM) and ions in
4.3.3.5	Determine the iodine M sample isotopic analys	PC factor (75RP-9Z is.	222) from the
4.3.3.6	Record the individual factors on normal oper	iodine activities ations counting fo	and MPC rms.
4.3.4 Air Pro	borne Noble Gas Activit tection Technicians	y Measurements - R.	adiation
4.3.4.1	Obtain and record the attached label and rec	sample volume (ft ³ ord in Appendix B.) from the
4.3.4.2	If isotopic analysis i to the Chemistry Secti with procedure 74CH-92	s necessary forward on for counting in 263.	i the sample accordance

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SAMPLE ANALYSIS AT THE STATION	0	Page 8 of 10

4.3.4.3 Record activity of sample (CPM) in Appendix B and complete calculations.

4.3.5 Waste Disposal

4.3.5.1 Dispose of smears, particulate filters, and cartridges as radioactive waste.

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in the stand was a second to and

PVNGS I	EMERGENCY F	DURE	PROCEDURE NO. EPIP-27	APPENDIX A Page 1 of 1 Page 9 of 10
SAMPLE ANA	ALYSIS AT THE ST	ATION	REVISION 0	
	AREA AND EQ TOOL AND EQ	QUIPMENT CONTAMI QUIPMENT CONTAMI	INATION LIMITS INATION LIMITS	56
LOOSE S	URFACE:	BETA/GAMMA	100 dpm/	100 cm ²
CONTAMI	NATION	ALPHA	20 dpm/100 cm ²	
FIXED S CONTAMI	URFACE: ' NATION	0.1 mR/hr		
POSTING DESIGNATION	LOOSE SURFACE BETA/GAMMA	LOOSE SURFACE ALPHA	FIXED (CONTACT) BETA/GAMMA	FIXED (CONTACT) ALPHA
Restricted Area	1000 dpm/ 100 cm ²	20 dpm/ 100 cm ²	0.1 mR/hr	20 dpm/probe*
Contamination Area	1000 dpm/ 100 cm ²	20 dpm/ 100 cm ²		
High Contamination Area	50,000 dpm/ 100 cm ²	1000 dpm/ 100 cm ²		

*Probe - surface area of the probe.

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				Particul	ate Samples					AMP	IPL OV
Honitoring Location	Gross Gamma/Be or Alpha Activity (CPM)	eta Bekg Acti (CPP	Net vity Act (CP	ivity M)	Sample Volume (ft3)	Counting* Efficiency (cpm/dpm)	Conver <u>uC1-ft</u> dpm-cc x 1.6E x 1.6E x 1.6E x 1.6E x 1.6E x 1.6E	sion P <u>3</u> ((-11	articulate Conc uCi/cc)	LE ANALYSIS AT THE	EMENTING PRO
Monitoring Location	Type of Cartridge	Gross Iodine or Zastope	Gross Sample Activity (CPM)	Radioic Bckg Activity (CPM)	Net Activity (CPM)	Sample Volume (ft3)	Counting* Efficiency (cpm/dpm)	Conversion <u>uC1-ft3</u> dpm-cc x 1.6E-11 x 1.6E-11	Gross or Isotopic Conc (uC1/cc)	STATION	CEDURE
fonitoring	Gross NG or Isotope	Gross Sample Activity (CPM)	Bckg Activity (CPM)	Net Activity (CPM)	oble Gas Sample y Volume (ft3)	+ + + + + + + + + + + + + + + + +	ting* C tiency u (dpm) d	x 1.6E-11 x 1.6E-11 x 1.6E-11 x 1.6E-11 x 1.6E-11 pm-cc	Gross or Isotopic Conc (uCi/cc)	0	REVISION
Counting ef	ficiency is	posted on the	datly performa	nce check shee			x x x x x x x x x x	1.6E-11 = 1.6E-11 = 1.6E-11 = 1.6E-11 = 1.6E-11 = 1.6E-11 =		Page 10 of 10	APPENDIX B Page 1 of 1

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APPROVED BY: <u>Alfael Contegrine</u> DATE <u>ghg/82</u> DATE EFFECTIVE <u>10-6-82</u>

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1.0 OBJECTIVE

1.1 This procedure provides instructions for decontamination of station personnel during emergency conditions or during normal operating conditions. The objectives of personnel decontamination techniques are; to promptly reduce radiation exposure, to minimize the absorption of radionuclides into the body, and to prevent the spread of localized contamination.

2.0 REFERENCES

- 2.1 Implementing References
 - 2.1.4 EPIP-16, "Onsite Surveys and Sampling"
 - 2.1.3 EPIP-18, "Emergency Exposure Guidelines"
 - 2.1.6 EPIP-19, "Onsite Evacuation"
 - 2.1.1 EPIP-21, "Search and Rescue"
 - 2.1.2 EPIP-22, "Personnel Injury"
 - 2.1.5 EPIP-26, "Potassium Iodide (KI) Administration"
- 2.2 Developmental References
 - 2.2.1 PVNGS Emergency Plan, Rev. 2
 - 2.2.2 75RP-92201, Radiation Protection Program

3.0 LIMITATIONS AND PRECAUTIONS

- 3.1 Medical attention to serious injuries takes priority over the removal of contamination or radiation control.
- 3.2 Emergency radiation exposures exceeding 10CFR20 occupational limits must be authorized by the Emergency Coordinator in accordance with EPIP-18, Emergency Exposure Guidelines.
- 3.3 Administrative methods to minimize personnel exposures (such as ALARA) should remain in force to the extent consistent with timely procedures for rescue, corrective, protective, and decontamination actions.

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ERSONNEL MONI	TORING AND DECONTAMINATION	0	Page 4 of 14
3.3.1	Observe radiological preca protective clothing as spe Permit (REP).	autions and wear ap ecified in the Radi	propriate ation Exposure
3.4 De	econtamination may cause air pread of loose surface contar	borne contamination mination.	and/or the
3.4.1	Care should be taken to pa contamination.	revent or minimize	the spread of
3.5 Pe	ersonnel monitoring areas sho nan or equal to 300 cpm.	ould have a bockgro	und level less
3.6 Pe in	ersonnel contamination should a amounts greater than normal	d be removed whenev 1 background.	er it is found
3.7 Th ne nu fr	ne need to improvise decontage ecessary during emergency con umbers of people become conta com the site.	mination facilities nditions in the eve aminated or have to	may be nt large be evacuated
4.0 <u>DETA</u>	AILED PROCEDURE		
4.0 <u>DETA</u> 4.1 Pe	AILED PROCEDURE ersonnel Indoctrination		
4.0 <u>DETA</u> 4.1 Pe 4.1.1	AILED PROCEDURE ersonnel Indoctrination As delineated in EPIP-01 a shall implement this proce	the onsite Emergenc edure.	y Coordinator
4.0 <u>DETA</u> 4.1 Pe 4.1.1 4.1.2	AILED PROCEDURE ersonnel Indoctrination As delineated in EPIP-01 shall implement this proce The Supervising Radiation supervise personnel monito activities.	the onsite Emergenc edure. Physicist or his d oring and decontami	y Coordinator esignee shall nation
4.0 <u>DETA</u> 4.1 Pe 4.1.1 4.1.2 4.1.2	AILED PROCEDURE ersonnel Indoctrination As delineated in EPIP-01 is shall implement this proce The Supervising Radiation supervise personnel monito activities. 2.1 Radiation Protection is personnel monitoring a	the onsite Emergence edure. Physicist or his d oring and decontami Technicians shall p and decontamination	y Coordinator esignee shall nation erform activities.
 4.0 <u>DETA</u> 4.1 Pe 4.1.1 4.1.2 4.1. 4.2 Pr 	AILED PROCEDURE ersonnel Indoctrination As delineated in EPIP-01 shall implement this proce The Supervising Radiation supervise personnel monito activities. 2.1 Radiation Protection Supersonnel monitoring a cerequisites	the onsite Emergence edure. Physicist or his d oring and decontami Technicians shall p and decontamination	y Coordinator esignee shall nation erform activities.
 4.0 <u>DETA</u> 4.1 Pe 4.1.1 4.1.2 4.1. 4.2 Pr 4.2.1 	AILED PROCEDURE ersonnel Indoctrination As delineated in EPIP-01 shall implement this proce The Supervising Radiation supervise personnel monito activities. 2.1 Radiation Protection 2 personnel monitoring a cerequisites Personnel are suspected or	the onsite Emergence edure. Physicist or his d oring and decontami Technicians shall p and decontamination r known to be conta	y Coordinator esignee shall nation erform activities. minated.
 4.0 <u>DETA</u> 4.1 Pe 4.1.1 4.1.2 4.1. 4.2 Pr 4.2.1 4.2.2 	AILED PROCEDURE ersonnel Indoctrination As delineated in EPIP-01 is shall implement this proce The Supervising Radiation supervise personnel monito activities. 2.1 Radiation Protection is personnel monitoring a cerequisites Personnel are suspected on If necessary, the Supervise complete, date, and sign a	the onsite Emergence edure. Physicist or his d oring and decontami Technicians shall p and decontamination r known to be conta sing Radiation Phys a Radiation Exposur	y Coordinator esignee shall nation erform activities. minated. icist shall e Permit (REP).

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4.2.	3.1 Ra ma (1	adiation Protection Te aterials specified in REP).	chnicians shall obtain the Radiation Exposure Permit		
4.2.	3.2 Ra	adiation Protection Te onditions stipulated in REP).	echnicians shall co In the Radiation Ex	omply with the sposure Permit	
4.3 Ins	structio	ons			
4.3.1	In the immedi	e event of a serious i ate medical treatment	njury involving co is of the highest	ntamination, priority.	
4.3.2	Radiat requir	ion Protection Techni ed, prior to, during,	cians perform surv and after deconta	eys, as mination.	
4.3.3	Radiat area(s	ion Protection Techni) as necessary	cians prepare deco	ntamination	
4.3.3	.1 Ut	ilize normal decontam	ination facilities	if available.	
4.3.3	•2 If no	plant conditions do rmal decontamination	not require site e facilities are not	vacuation and available:	
	a.	Select a suitable l routed to the radwa	ocation where drain ste drain system.	ns will be	
	b.	Personnel monitoring background level les	g areas should have ss than or equal to	е а о 300 срт.	
	c.	Provide water supply necessary.	y to area with hose	es if	
	d.	Barricade area with establish an access to avoid the further either laying plasti assembly point or pr	yellow and magenta control area. Tak spread of contami c down in the path coviding temporary	a rope and te measures ination by tway to the shoe covers.	
4.3.4.	.3 If out	necessary, establish side the plant bounda	decontamination fa	cilities	
	a.	Establish a control evacuation re-assemb	access point at th ly point.	e designated	
	b.	Include a barricaded accommodate personne take measures to avo	area large enough l to be decontamin id the further spr	to ated and ead of	

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- c. Provide a separate control exit point for personnel as they leave the decontamination area.
- Provide for the collection of contaminated fluids and disposable supplies.
- 4.3.4.4 If no structures are available, improvise temporary decontamination facilities.
 - a. Select an area where contaminated drains can be collected, (i.e., low point in paved parking lot or a hole lined with plastic).
 - b. Barricade area with yellow and magents rope.
 - c. If local water supply is not available, arrange for a water truck.
 - Provide a control entry and exit point arranged to minimize the spread of contamination.
 - e. Provide clothing to replace contaminated clothing.
- 4.3.5 Assemble individuals that need to be decontaminated.
 - 4.3.5.1 Radiation Protection Technicians shall escort personnel known or suspected to be contaminated to the appropriate decontamination area.
 - a. Care should be taken to prevent or minimize the spread of contamination by either laying plastic down or providing temporary shoe covers.
- 4.3.6 Radiation Protection Technicians perform personnel contamination surveys.
 - 4.3.6.1 The methods and instruments used for personnel contamination surveys do not significantly differ from those used for other contamination surveys.
 - a. If necessary, cover the probe with plastic.
 - b. Do not contaminate the probe by allowing it to come in contact with the person.
 - 4.3.6.2 Due to the response time of most GM monitors, pass the probe of the GM survey meter slowly over the area to be monitored (4-5 seconds for each area).

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Skin Breaks

- a. Survey, record results on Appendix A.
- b. Irrigate wound with copious amounts of warm water making sure no contamination is washed into the wound.
- Carefully decontaminate intact skin surface around wound.
- Continue irrigation with water and survey until no radioactivity is detectable.
- e. Treat wound in usual medical fashion.
- f. Contact the Radiological Protection Coordinator/Monitor.

General Body Decontamination Techniques

Step I

- Survey entire body and record results on Appendix A and B.
- b. Mark very high level areas of the body to receive priority.
- c. Contaminated persons should shower.
 - Make effort not to contaminate hairy areas if initially free of radioactivity.
 - Use precautions to prevent contamination from entering body openings.
- Resurvey entire body, again marking highest levels found.
- Repeat the above steps until contamination is removed. If contamination cannot be removed proceed to Step II.
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4.3.7 Decontamination of Personnel

NOTE

Contamination should be removed whenever it is found in amounts greater than background. Personnel with the highest levels of contamination should receive priority in the decontamination process.

4.3.7.1 Radiation Protection Technicians perform decontamination procedures in accordance with the following instructions.

Localized Skin Decontamination

- Survey, paying particular attention to fingernails and skin folds.
- b. Record survey results on Appendix A.
- c. Localize area of contamination with plastic sheet or other suitable material and tape to prevent contamination spread.
- d. Wipe off loose contamination.
- e. Wash contaminated area with soap and warm water.
- f. Rinse, pat dry, and resurvey.
- g. Repeat cleansing until contamination is removed or until level of contamination does not appreciably decrease. If necessary, scrub with soft brush. Do not break the skin. Resurvey and record the results.
- h. If after a single scrubbing, contamination is still present, apply a thick paste of titanium dioxide and water, keep moist. Remove the paste (with towels) after two minutes, wash with soap and water. Resurvey and record the results.
- 1. If contamination persists, paint the skin with 4% potassium permanganate (preparation instructions are in the emergency lockers). Paint three times, allowing each application to dry. Wash, resurvey and record the results. Skin discoloration may be removed with a 4% solution of sodium bisulfite.

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Step II

- a. For general body contamination with high levels of radioactivity, localized areas of contamination usually remain. When showering becomes ineffective and localized areas of contamination remain, shift to localized skin decontamination techniques above.
- b. Repeat surveys and record results frequently

Hair Decontamination Techniques

- a. Survey and record results on Appendix A.
- Individual performing decontamination put on surgeon's gloves.
- Wrap or position patient to avoid spread of contamination.
- Carefully examine the skin in the area of contamination for cuts and abrasions. If cuts are present:
 - Wearing surgeon gloves and using scissors, carefully trim the hair from the wound. Save the hair for survey.
 - 2. Gently clean the area.
 - 3. If necessary, seek medical attention.
- e. If there is no wound:
 - Have the patient massage soap mixture into hair with gloved hands, rinse.
 - 2. Dry with clean uncontaminated towel.
 - Survey the hair, face and neck after the hair is dry.
 - 4. If contamination cannot be removed by three successive applications of the above procedure, notify the Radiological Protection Coordinator/Monitor.

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Mouth Decontamination

If the mouth is contaminated, begin flushing immediately with water. Keep head bent down to prevent water from reaching the throat and being swallowed. If possible, save rinsings. Contact the Radiation Protection Supervisor immediately.

Eye Decontamination

Apply the same principles as for mouth decontamination. Shift to normal saline as soon as possible. If possible, save rinsings. Survey eye with end window GM tube. Contact the Radiation Protection Supervisor immediately.

Nose Decontamination

- a. DO NOT perform nasal irrigation as this increases the chances of ingestion.
- b. Obtain a direct beta/gamma radiation measurement at the nostrils before the individual blows nose or otherwise clears it. This measurement should be while exhaling.
- c. Have individual blow nose repeatedly.
- d. Obtain nasal smears using "0" tips. Two smears should be taken in each nostril. The first one dry and second wet. Place in plastic bags and mark for gamma/beta analysis.
- Contact the Radiological Protection Coordinator/ Monitor immediately.

Wounds and Injuries

- a. <u>Medical attention to serious injuries should take</u> priority over the removal of contamination. If it
- is not possible to decontaminate a severe wound or injured area, cover with absorbent material to prevent spread of contamination.
- Observe the condition of the skin before decontamination. If there are breaks or abrasions observed, flush with copious amounts of water. Pat dry and resurvey. Cover with plastic to

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prevent spread of contamination. Save all gauze, etc., which may have blood samples in a labeled plastic bag.

 Contact the Radiation Protection Supervisor immediately.

Body Entrance Cavities

- a. Survey and record results on Appendix A.
- b. Make sure that cavity is really contaminated and not just surrounding area. Take wipes if necessary.
- c. Evaluate and decontaminate surrounding area. If necessary, irrigate with copius amounts of water or normal saline.
- d. Contact the Radiological Protection Coordinator/ Monitor immediately.

Personal Effects Decontamination

Shoes

- a. If it is suspected that the contaminant is particulate matter, masking tape may remove it. Press the gummy side of the tape to the area of the shoe that is contaminated. Remove and repeat until no substantial reduction in radiation level is observed or until the shoe is free of contamination.
- b. If the contamination cannot be removed with tape, leather soles should be scraped with a wire brush or emery paper until clean.
- c. If contamination cannot be removed with tape, rubber soles may be scrubbed with decontamination soap. A wire or stiff bristle brush should be used. Wipe off, rinse, dry and resurvey. Repeat if necessary. Wire brushes should be washed with clean soapy water to prevent the spread of contamination.

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	d. Shoes that cannot b methods should be o bag, and labeled as	be decontaminated b confiscated, placed s radioactive mater	y these in a plastic ial.
	Clothing		
	 Contaminated clothing in a plastic bag ar material. 	ing will be confisc ad labeled as radio	ated, placed active
	b. A body survey for s and results recorded	skin contamination ed on Appendix A an	will be made d B.
	c. Temporary clothing	will be issued.	
3.8 Ana soc	alyze nasal smears, sputu on as possible.	um samples, nose bl	ows, etc. as
4.3.8.1	Alpha activity greater activity greater than 1 counter, may indicate p Contact the Radiologica Monitor immediately.	than 20 dpm or bet 100 dpm, measured i possible internal d 11 Protection Coord	a-gamma n a well epostion. inator/
4.3.9 Was	te Disposal		
4.3.9.1	Contaminated material s radioactive waste.	shall be processed	as
	 Collect contaminate receptacles and lab 	ed fluids in approp pel.	riate
	 Place contaminated bags and label. 	disposable supplie	s in plastic

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ERSONNEL M	ONITO	RING ANI	DECONTAMINATION	REVISION 0	Page 13 of 14
SURVEY RECORD - PERSONNEL DECONTAMINATION	CONTAMINATED INDIVIDUAL POCKET DOSIMETER READINCS (1f available)	Net dose rate (mr/hr) Description Gamma Shield Beta/Gamma Shield Alpha (body part) closed open		6 SUPPLIES USED:	Print Name Date
	D NUMBER	Time		Cinna (shield Beta (smaa (shield open) Neutroa Alphz DECOM SOLUTION	CO-MENTS:
	DATE	Survey 8	netruments Used		

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SERIAL NO.

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APPROVED BY: John Budgeren DATE 9/29/82

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1.0 OBJECTIVE

To provide instructions for the monitoring and decontamination of crucial areas and/or equipment during an emergency.

2.0 REFERENCES

2.1 Implementing Procedures

2.1.1 EPIP-16, "Onsite Surveys and Sampling"

2.1.2 EPIP-18, "Emergency Exposure Guidelines"

2.1.3 EPIP-27, "Sample Analysis at the Station"

2.1.4 EPIP-26, "Potassium Iodide (KI) Administration"

2.1.5 EPIP-28, "Personnel Monitoring and Decontamination"

2.2 Developmental References

2.2.1 PVNGS Emergency Plan, Rev. 2

2.2.2 75RP-9ZZ01, Radiation Protection Program

2.2.3 10CFR20, "Standards for Protection Against Radiation"

3.0 LIMITATIONS AND PRECAUTIONS

- 3.1 This procedure shall be implemented only if the area and/or equipment is crucial to the needs of the emergency organization as determined by the Emergency Coordinator, the Emergency Maintenance Coordinator or the Radiological Protection Coordinator.
- 3.2 Emergency radiation exposures in excess of PVNGS administrative limits or 10CFR20 occupational limits must be authorized by the Emergency Coordinator in accordance with EPIP-18, Emergency Exposure Guidelines.
- 3.3 ALARA procedures to minimize personnel exposure should remain in force to the extent consistent with timely procedures for decontamination actions.

3.4 Potassium Iodine (KI) tablets, if necessary, should be administered in accordance with EPIP-26.

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PVNG	S EME	RGENCY PLAN	PROCEDURE		
IMPLEN	IENTI	NG PROCEDURE	EPIP-29	Sec. Sec. Sec.	
AREA/E	QUIPMEN DECONT	NT MONITORING CAMINATION	REVISION 0	Page 4 of 14	
3.5	Protect appropr	tive clothing and/or res	spirators should be	used as	
3.6	Clearly and egr	v label contaminated maters from the area.	cerial and areas, c	ontrol access	
3.7	Deconta spread to prev	amination may cause air of loose surface contan vent or minimize the spr	oorne contamination mination. Care sho cead of contaminati	and/or the uld be taken on.	
3.8	If need shall b	led, personnel monitorin be conducted in accordan	ng and decontaminat nce with EPIP-28.	ion activities	
4.0 <u>DE</u>	TAILED	PROCEDURE			
4.1	Person	nel Indoctrination			
4.1.	1 Aut eme Occ	chorization by the Emergergency exposures in exc cupational Limits (EPIP-	gency Coordinator i cess of PVNGS or 10 -18) are to be exce	s required if CFR20 eded.	
4.1.	2 The Dec in org	e Operations Support Cer contamination Teams upor the onshift organizatio ganization.	nter Coordinator wi n guidance from the on and/or the TSC i	ll deploy Control Room n the onsite	
4.1.	3 Dec Rad mec	contamination Teams shal liation Protection Techr chanical, electrical or	ll consist of at le nician and necessar maintenance techni	ast one y chemical, cians.	
4.2	Prerequ	isites			
4.2.	l As Mai Coo nee	determined by the Emerg Intenance Coordinator or ordinator an area and/or eds of the emergency org	gency Coordinator, the Radiological equipment is cruc ganization.	the Emergency Protection ial to the	
4.	2.1.1	Levels of contamination to exceed contamination	on are known to exc on limits in Append	eed or thought ix B.	
4.	2.1.2	The Radiological Prote complete, date, and si Permit, Appendix A.	ection Coordinator Ign the Radiation E	shall xposure	
		a. The method of deco in the REP (decont	ontamination shall tamination methods	be stipulated are described	

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-29	
AREA/EQUIPMENT MONITORING AND DECONTAMINATION	REVISION	Page 5 of 14

4.2.1.3 Personnel involved in decontamination procedures shall, review, date and sign the Radiation Exposure Permit.

- a. Personnel shall obtain equipment specified in the Radiation Exposure Permit.
- b. Personnel shall comply with conditions established in the Radiation Exposure Permit.

4.3 Instructions

- 4.3.1 The Decontamination Team shall perform comprehensive surveys of the affected areas and/or equipment prior to, during and after decontamination. Surveys shall be performed in accordance with EPIP-16.
- 4.3.2 The Decontamination Team shall provide for the collection of used decontamination supplies.
- 4.3.3 The Decontamination Team, if necessary, shall perform tool and equipment decontamination.

NOTE

Decontamination of tools and equipment with fixed contamination of greater than (50m/hr) will be disposed of as directed by the Supervising Radiation Physicist.

- 4.3.3.1 Perform tool and equipment surveys. Record results in Appendix C.
- 4.3.3.2 Perform tool and equipment decontamination as stipulated by the Radiation Exposure Permit.
- 4.3.3.3 Resurvey tools and equipment and repeats steps necessary to decontaminate. Record results in Appendix C.
- 4.3.3.4. Decontamination of tools and equipment will be complete when loose surface contamination is less than 1000 dpm/100cm² beta/gamma, fixed contamination is less than 0.1 mr/hr or as specified by the Supervising Radiation Physicist.

PVNGS E	MERGENCY PLAN	PROCEDURE NO. EPIP-29	
AREA/EQUI AND DE	PMENT MONITORING CONTAMINATION	REVISION	Page 6 of 1
4.3.4	The Decontamination Team sidecontamination.	hall perform area	
4.3.4	 Perform appropriate are EPIP-16. 	ea surveys in accor	rdance with
4.3.4	.2 Perform area decontami Radiation Exposure Per	nation in accordanc mit.	ce with the
4.3.4	.3 Perform area surveys an decontaminate. Record	nd repeat steps nec results on Appendi	cessary to Lx C.
4.3.4	 Area decontamination is less than limits listed 	s complete when cor i in Appendix B.	ntamination is
4.3.5	Waste Disposal		
4.3.5	 Contaminated fluids will receptacles. 	ll be collected in	appropriate
4.3.5	 Contaminated disposable plastic bags. 	e supplies will be	placed in
4.3.5	.3 Contaminated equipment be placed in an appropr decontaminated or proce	and/or supplies wi iate controlled ar essed as radioactiv	ll remain or ea until e waste.

	PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-29	APPENDIX A Page 1 of 2
	AREA/EQUIPMENT MONITORING	REVISION	
	AND DECONTAMINATION	0	Page 7 of 14
	RADIATION EXPOS	SURE PERMIT	
PVNG	S Unit:	REP #:	
VALI	D FROM: TO	JOB #:	
REP	STATUS	REP TYPE:	
TASK	COMPONENT:		
JOB	DESCRIPTION:		
MAP	#:LOCATION:		
REP	REQUIRED BY:		
PROC	ESSING PRIORITY:		
MAP AIR BETA	#: SAMPLE ID #: /GAMMA (mr/hr):	SURVEY #: TOTAL MPC FR CONTAMINATIO	ACTION:
MAP AIR BETA WET/	#: SAMPLE ID #: /GAMMA (mr/hr): DRY:	SURVEY #: TOTAL MPC FR CONTAMINATIO	ACTION:
RADI MAP AIR BETA WET/ RADI	#: SAMPLE ID #: //GAMMA (mr/hr): DRY: ATION PROTECTION REQUIREMENTS:	SURVEY #: TOTAL MPC FR CONTAMINATIO	ACTION:
RADI MAP AIR BETA WET/ RADI 1.	<pre>#: SAMPLE ID #: //GAMMA (mr/hr): DRY: DRY: TATION PROTECTION REQUIREMENTS: P.C. Requirements</pre>	SURVEY #: TOTAL MPC FR CONTAMINATIO	ACTION:
RADI MAP AIR BETA WET/ RADI 1.	<pre>#: SAMPLE ID #: //GAMMA (mr/hr): DRY: DRY: ATION PROTECTION REQUIREMENTS: P.C. Requirements No Personal Outer Clothing</pre>	SURVEY #: TOTAL MPC FR CONTAMINATIO	ACTION: DN (DPM): Gloves (2 pr)
RADI MAP AIR BETA WET/ RADI 1.	<pre>#: SAMPLE ID #: //GAMMA (mr/hr): DRY: DRY: ATION PROTECTION REQUIREMENTS: P.C. Requirements No Personal Outer Clothing Lab Coat</pre>	SURVEY #: TOTAL MPC FR CONTAMINATIO	ACTION: ON (DPM): Gloves (2 pr) ons Cap
RADI MAP AIR BETA WET/ RADI 1.	<pre>#: SAMPLE ID #: //GAMMA (mr/hr): DRY: DRY: DRY: DRY: DRY: DRY: DRY: DRY</pre>	SURVEY #: TOTAL MPC FR CONTAMINATIO	ACTION: DN (DPM): Gloves (2 pr) ons Cap Hood
RADI MAP AIR BETA WET/ RADI 1.	<pre>#: SAMPLE ID #: //GAMMA (mr/hr): DRY: DRY: DRY: DRY: DRY: DRY: DRY: DRY</pre>	SURVEY #: TOTAL MPC FR CONTAMINATIO	ACTION: DN (DPM): Gloves (2 pr) ons Cap lood Coveralls (2 pr
RADI MAP AIR BETA WET/ RADI	<pre>#:</pre>	SURVEY #: TOTAL MPC FR CONTAMINATIO	ACTION: ON (DPM): Cons Cap Good Coveralls (2 pr) Coveralls
RADI MAP AIR BETA WET/ RADI 1.	<pre>#:</pre>	SURVEY #: TOTAL MPC FR CONTAMINATIO	ACTION: ON (DPM): Gloves (2 pr) ons Cap lood Coveralls (2 pr) tc Suit
RADI MAP AIR BETA WET/ RADI 1.	<pre>#:</pre>	SURVEY #: TOTAL MPC FR CONTAMINATIO	ACTION: N (DPM): Gloves (2 pr) ons Cap Hood Coveralls (2 pr Lc Suit
RADI MAP AIR BETA WET/ RADI 1.	<pre>#:</pre>	SURVEY #: TOTAL MPC FR CONTAMINATIO	ACTION: N (DPM): Gloves (2 pr) ons Cap Hood Coveralls (2 pr) c Suit Hood 'imemin/hr
RADI MAP AIR BETA WET/ RADI 1.	<pre>#:</pre>	SURVEY #: TOTAL MPC FR CONTAMINATIO	ACTION: N (DPM): Gloves (2 pr) ons Cap Hood Coveralls (2 pr Lc Suit Hood Cimemin/hr
RADI MAP AIR BETA WET/ RADI 1.	<pre>#:</pre>	SURVEY #: TOTAL MPC FR CONTAMINATIO	ACTION: ON (DPM): Cons Cap Good Coveralls (2 pr) Coveralls
RADI MAP AIR BETA WET/ RADI 1. 2.	<pre>#:</pre>	SURVEY #: TOTAL MPC FR CONTAMINATIO Rubber Surgeo Full H P.C. O Plasts Bubble Stay T	ACTION: ON (DPM): Cons Cap Good Coveralls (2 pr) Coveralls
RADI MAP AIR BETA WET/ RADI 1. 2.	<pre>#:</pre>	SURVEY #: TOTAL MPC FR CONTAMINATIO	ACTION: ON (DPM): Cloves (2 pr) ons Cap lood Coveralls (2 pr) c Suit Hood 'imemin/hr closimetry
RADI MAP AIR BETA WET/ RADI 1.	<pre>#:</pre>	SURVEY #: TOTAL MPC FR CONTAMINATIO	ACTION: N (DPM): Gloves (2 pr) ons Cap Hood Coveralls (2 pr) C Suit Hood Hood Timemin/hr Common Survey Inst. Dosimetry

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P IM	PVNGS EME	RGENCY	PLAN	PROC NO.	EPIP-29	APPE	NDIX A
	AREA/EQUIPMEN AND DECON	NT MONITORIN TAMINATION	ĩG	REVIS	SION	Page	8 of 14
		RADIATIC	N EXPOSURE	PERMIT (CONT'D)		
4. Sp	ecial Instruc	tion:					
Ξ							
·							
IGNOFFS	S AND APPROVA	LS:					
lequeste	ed by:			SS/Unit H	Ready		
lequeste LP Prepa LP Appro	ed by: aration: oval:			SS/Unit H Withdrawn Completed	Ready n/Canceled d by:	by:	
Requeste LP Prepa LP Appro	ed by: aration: oval:			SS/Unit H Withdrawn Completed	Ready n/Canceled d by:	by:	
Requeste RP Prepa RP Appro PERSONNE	ed by: aration: oval: EL ASSIGNED T	0 REP:		SS/Unit H Withdrawn Completed	Ready n/Canceled d by:	by:	
Requeste RP Prepa RP Appro	ed by: aration: oval: EL ASSIGNED T	O REP: FIRST IN		SS/Unit H Withdrawn Completed LAST OUT	Ready n/Canceled d by:	by:	
Request P Prepa P Appro PERSONNE ODE#	ed by: aration: oval: EL ASSIGNED T NAME	O REP: FIRST IN DEPT	AVAIL WB (MR)	SS/Unit H Withdrawn Completed LAST OUT AVAIL MPC HR	Ready n/Canceled d by: f TOT RES TIME HR	by: TOTAL WB(R)	TOTAL MPC HR
Prepa Prepa PAppro PERSONNE	ed by: aration: oval: EL ASSIGNED T NAME	O REP: FIRST IN DEPT	AVAIL WB (MR)	SS/Unit H Withdrawn Completed LAST OUT AVAIL MPC HR	Ready n/Canceled d by: T TOT RES TIME HR	by: TOTAL WB(R)	TOTAL MPC HR
Prepa Prepa PAppro PERSONNE ODE#	ed by: aration: oval: EL ASSIGNED T NAME	O REP: FIRST IN DEPT	AVAIL WB (MR)	SS/Unit H Withdrawn Completed LAST OUT AVAIL MPC HR	Ready	by: TOTAL WB(R)	TOTAL MPC HR
Requeste RP Prepa RP Appro PERSONNE CODE#	ed by: aration: oval: EL ASSIGNED T NAME	O REP: FIRST IN DEPT	AVAIL WB (MR)	SS/Unit H Withdrawn Completed LAST OUT AVAIL MPC HR	Ready	by: TOTAL WB(R)	TOTAL MPC HR
Requeste RP Prepa RP Appro PERSONNE CODE#	ed by: aration: oval: EL ASSIGNED T NAME	O REP: FIRST IN DEPT	AVAIL WB (MR)	SS/Unit H Withdrawn Completed LAST OUT AVAIL MPC HR	Ready	by: TOTAL WB(R)	TOTAL MPC HR
Requeste RP Prepa RP Appro PERSONNE CODE#	ed by: aration: oval: EL ASSIGNED T NAME	O REP: FIRST IN DEPT	AVAIL WB (MR)	SS/Unit H Withdrawn Completed LAST OUT AVAIL MPC HR	Ready	by: TOTAL WB(R)	TOTAL MPC HR
Requeste RP Prepa RP Appro PERSONNE CODE#	ed by: aration: oval: EL ASSIGNED T NAME	O REP: FIRST IN DEPT	AVAIL WB (MR)	SS/Unit H Withdrawn Completed LAST OUT AVAIL MPC HR	Ready	by: TOTAL WB(R)	TOTAL MPC HR

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AREA/EQ AND	UIPMENT MONITOR DECONTAMINATION	REVISION	Page 9 of 14	
	AREA AND	EQUIPMENT CONTA	MINATION LIMITS	
	TOOL AND	EQUIPMENT CONTA	MINATION LIMITS	
LOOSE SURFACE: CONTAMINATION		BETA/GAMMA ALPHA	1000 20 d) dpm/100cm ² lpm/100 cm ²
FIXED SURFACE: CONTAMINATION	1	0.1 mr/hr		
	A	REA CONTAMINATIO	N LIMITS	
Posting Designation	LOOSE SURFACE BETA/GAMMA	LOOSE SURFACE ALPHA	FIXED (Contact) BETA/GAMMA	FIXED (Contact) ALPHA
Restricted Area	1000 dpm/ 100cm ²	20 dpm/ 100cm ²	0.lmR/hr	20dpm/probe*
Contamination Area	1000 dpm/ 100cm ²	20 dpm/ 100cm ²		

*Probe - surface area of the probe

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AREA/EQUIPMENT MONITORING AND DECONTAMINATION			REVISION 0	Page 10 of 14
	AREA/EQU	MINATION SURVEYS		
Location	Type of Survey	Results		
•				
ME				

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AREA/EQUIPMENT MONITORING AND DECONTAMINATION	REVISION	Page 11 of 14

METHODS OF DECONTAMINATION

1. Manual Cleaning

Manual cleaning includes such procedures as wiping, scrubbing, mopping, etc., and in general, is an effective method of removing low or moderate levels of contamination on nonporous or nearly nonporous surfaces. Water or a variety of detergents, solvents, <u>chelating agents</u>, and other chemicals may be used. Manual cleaning usually presents minimal airborne and surface contamination control problems.

2. Mechanical Cleaning

Mechanical cleaning includes such decontamination methods as vacuuming, high-pressure steam and water cleaning, soaking, and ultrasonics. These methods are generally associated with the decontamination of highly contaminated equipment but have application with lower levels of contamination.

a. <u>Vacuumming, Wet or Dry</u>. Vacuumming is generally effective in removing loose particulate contamination and is frequently used as an intitial decontamination step preparatory to manual cleaning. Vacuum systems should be properly filtered to prevent the spread of contamination to surrounding areas and to reduce the hazard of airborne contamination.

Care should be taken to ensure that the concentration of radioactive material in the vacuum system does not create unusually high radiation exposure rates to personnel.

b. Jet Cleaning. High-pressure steam and water used alone or mixed with chemicals and detergents are effective in attaining high decontamination factors. Commercial systems using the jet cleaning principle are available. Equipment of this type is ideally suited for remote operation and for cleaning large surface areas. High-pressure jet cleaning has the disadvantage of spreading contamination over a large area and is more effective when used in a cave or cell designed especially for this purpose.

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METHODS OF DECONTAMINATION (CONT'D)

- c. <u>Soaking and Spraying</u>. Soaking and spraying are used extensively for decontamination of small and moderate size material and equipment. Both methods make use of chemical solutions and may require support features such as catch tanks, liquid recycle ability, and filtered ventilation systems. Spraying has the advantage of combining mechanical as well as chemical action; however, in some cases the shape of the object being cleaned prevents effective cleaning action on all surfaces. Soaking provides good access to surfaces but does not provide mechanical action.
- d. <u>Ultrasonic Cleaning</u>. Ultrasonic cleaning combines the advantage of chemical action and mechanical energy for cleaning. It is best suited for small components and offers the advantage of remote operation and rapid decontamination of objects with irregular shapes and crevices.

3. Grinding and Abrasive Action

Cleaning procedures employing grinding or abrasive action are effective means of decontaminating metal and concrete surfaces, provided alteration of the surface area of the object being cleaned can be tolerated.

- a. <u>Grinding</u>. Grinding of surfaces to remove contamination is usually limited to small objects or isolated spots of contamination where the surface is reasonably smooth. Grinding normally produces a high decontamination factor and is economical. A variety of commercial grinders may be used. Grinding inherently leaves residual contamination on the surface of the object being cleaned and therefore usually requires final cleaning by some other method (vacuuming, wiping, etc.). A disadvantage of grinding is that it may generate airborne contamination and spread surface contamination; however this can be minimized by wet grinding, vacuum systems, or filtered enclosures.
- b. <u>Abrasive Blasting</u>. Abrasive blasting has a number of advantages over grinding. It is rapid, provides a high DF, is effective on irregular shaped surfaces and can be used for large areas.

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METHODS OF DECONTAMINATION (CONT'D)

Abrasive blasting makes use of a large variety of abrasives (sand, shells, glass beads, metals etc.) with velocity, shape, and size of the abrasive, influencing surface-removal characteristics. A prime disadvantage of abrasive blasting is that it usually generates high airborne contamination and spreads surface contamination; however, this can be minimized by wet blasting techniques, vacuum systems, or filtered enclosures.

c. <u>Destructive Decontamination</u>. Destructive decontamination procedures include physical removal of contaminated parts or sections. Generally, little or no effort is made to clean the contaminated parts before disposal as waste. Containment and other radiological controls associated with destructive cleaning are dependent on contamination levels, the nature of the containment, and the physical characteristics of the parts being removed.

Table 1 provides decontamination efficiencies for the methods described on a variety of surfaces.

IMPLE	GS E	ITING P	ROCEDURE	NO. EPIP-	-29	APPENDIX D Page 4 of 4
AREA A	AREA/EQUIPMENT MONITORING AND DECONTAMINATION			REVISION 0		Page 14 of 1
		Steam Cleaning (D+14)(b)	97.86 27.00 91.61 85.00 91.46 71.00 91.46 71.00 91.46 71.00 91.46 71.00 91.46 71.00 92.00 85.00	84.00 48.00 65.00	<u>85.00</u> 67.80	
		Sand- Biasting (D+9)(b)	100.00 100.00 99.90 99.72 99.72 99.92 99.90 99.90 92.73	99.461 90.42 100.00 98.96 100.00	98.83	
	ENT(a)	H1-Press. Wtr. and Detergent (D+5)(b)	99.76 99.59 95.54 100.00 93.83 95.83 95.83 99.48 99.48	7,24 97,55 99,58 82,99	<u>98.28</u> 98.64	
1	EFFICIENCIES IN PERC	<pre>iii-Pressure Wtr. and Detergent (D+4)(b)</pre>	100.00 100.00 99.69 99.62 99.62 99.14 95.32 99.73 99.85 99.85	96.91 10.00	<u>98.09</u> 98.61	cy (2)]
TABLE	DECONFAMINATION	H1-Pressure Wtr.w/Scrub (D+12)(b)	97.79 95.22 95.22 94.19 94.49 99.32 99.32 95.05 95.15 96.25	82.00 92.03		dination Efficien Decontamination Study"
	IIARD SURFACE	H1-Pressure Water (D+3)(b).	92.45 92.45 97.94 97.16 99.46 99.46 99.46 99.46 99.46 99.46 99.45 99.45 99.45	90,00 98,94 73,00 98,00	<u>97.84</u> 96.12	/[100 - Decontam ntamination and "Nuclear Safety
		Vacuum (D+2)(b)	98.95 99.28 99.28 93.06 93.06 93.06 93.06 93.06 93.06 29.99 29.99 29.99 29.99 29.00 29.00 29.00 21.00	74.00	<u>56.00</u> 65.40	r (DF) - 100 a Between Cou
(82)		Material	Glass Stucco Painted Wood Unpainted Wood Aluntum Aluntum Alute Steel Unpainted Wood Shingles Brick Tarpuper Galvantzed Roofing Highway Asphalt (10x10ft) Highway Asphalt	Steel Asphalt (10x10ft) Steel Trowel Concrete Steel Trowel Concrete (10x10ft) Wood Float Concrete Uood Float Concrete	(10x10ft) Average of all Surfaces	(a) - Decontaminácion Facto (b) - (n/a) = Number cf Day WASH 1400, Appendix X1, Octo

PALO VERDE NUCLEAR GENERATING STATION



EMERGENCY PLAN IMPLEMENTING PROCEDURES

VOLUME II

ARIZONA PUBLIC SERVICE COMPANY PROJECT MANAGER AND OPERATING AGENT

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-31	
	REVISION	
RECOVERY	0	Page 1 of 8

ASSIGNED COPY PVNGS SM #_8.98

- VOL 2-

APPROVED BY: L.E. Brown

DATE EFFECTIVE 12-10-82

DATE 12-7-82

DN-1667A/0196A

PV216-00DA (8/82)

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PVNGS EMERGENCY P IMPLEMENTING PROCES	DURE PROCEDURE NO. EPIP-31	
RECOVERY	REVISION 0	Page 2 of 8
<u>TA</u>	BLE OF CONTENTS	
SECTION		PAGE NUMBER
1.0 OBJECTIVE		3
2.0 REFERENCES		3
3.0 LIMITATIONS AND PRECAUTIONS		3
4.0 DETAILED PROCEDURE		4
4.1 Personnel Indoctrinati4.2 Prerequisites4.3 Instructions	Lon	4 4 4 4

APPENDICES

Appendix A - PVNGS Post-Emergency Recovery Organizaton 8

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-31	
RECOVERY	REVISION 0	Page 3 of 8

1.0 OBJECTIVE

1.1 The objective of this procedure is to prescribe those recovery operations necessary to (1) identify the extent of station damage and radiological contamination (if any) and (2) return the station to an operating status which is in compliance with the unit(s) technical specifications.

2.0 REFERENCES

2.1 Implementing References

2.1.1 EPIP-01, PVNGS Emergency Organization

- 2.1.2 EPIP-02, PVNGS Emergency Classification
- 2.2 Developmental References
 - 2.2.1 NUREG 0654, Rev. 1, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants
 - 2.2.2 PVNGS Emergency Plan, Rev. 2

3.0 LIMITATIONS AND PRECAUTIONS

- 3.1 Following any emergency involving radiological hazards, exposure to personnel should be kept as low as reasonably achievable consistent with the nature of the recovery operation required.
- 3.2 Recovery operations will begin when the unit is in a controlled, stable condition. No action shall be taken which might perturb this situation without the express approval of the Recovery Manager.

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-31	
RECOVERY	REVISION	Page 4 of 8

4.0 DETAILED PROCEDURE

- 4.1 Personnel Indoctrination
 - 4.1.1 Recovery Operations for PVNGS will be conducted in two phases. Phase I efforts will involve recovery measures undertaken during and immediately following the emergency. These measures are a functional responsibility of the emergency organization delineated in EPIP-01 and may be augmented by corporate and short term contract support. Phase II recovery operations include the longer term post-emergency efforts that follow a major incident. These operations will be performed by station and other APS personnel, contract experts and specialists, and qualified engineers - contractors under the direction of the Recovery Organization.
 - 4.1.2 The Emergency Operations Director, with the advice of the Emergency Coordinator, is responsible for implementing this procedure.
- 4.2 Prerequisites
 - 4.2.1 Radiation levels are stable or decreasing with time.
 - 4.2.2 Releases of radioactive materials to the environment have ceased or are controlled within permissible license limits.
 - 4.2.3 Fire, flooding, or similar emergency conditions no longer constitute a hazard to the unit or unit personnel.
 - 4.2.4 Measures have been successfully instituted to correct or compensate for malfunctioning equipment.

4.3 Instructions

4.3.1 Upon recognition that the Prerequisites (Section 3.0) have been established the Emergency Operations Director shall establish the Recovery Organization as depicted in Appendix A. The Emergency Operations Director shall assume the duties and responsibilities of the Recovery Manager and notify, via NAN, affected offsite emergency management organizations that Recovery Operations are in progress.

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-31	
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- 4.3.2 For known or suspected significant unit damage, and at the discretion of the Recovery Manager, survey teams will be formed consisting of Operations, Engineering, Maintenance, and Radiation Protection personnel.
- 4.3.3 These teams will perform an organized, search of the unit to ascertain the extent of physical damage and areas of contamination/high radiation. The results of these surveys will be used by the Recovery Manager, the Plant Operations Manager (Manager of Nuclear Operations or designated alternate), and Radcon/Radwaste Manager (Radiation Protection Supervisor or designated alternate) in planning the approach to be utilized in repairing and bringing the unit back into operation.

4.3.4 Planning

- 4.3.4.1 Under the direction of the Recovery Manager, pertinent recovery organization members, as well as selected offsite personnel, will address the planning and coordination of the recovery effort. Such activities as the repair and maintenance of existing station system/components, modification, installation, and decontamination, as well as determining the need for portable shielding and special procedures, will be discussed, prioritized, and planned.
- 4.3.4.2 The Planning/Scheduling Manager (Planning/Scheduling Supervisor or designated alternate) will develop an overall schedule to guide the recovery effort.

4.3.5 Recovery Implementation

4.3.5.1 Upon definition of the problems to be faced, finalization of the overall recovery plan, development of any special procedures, and allocation of adequate repair equipment and properly trained personnel; actual recovery operations will begin. In lieu of any special requirements in place at the time, normal unit practices will be followed concerning maintenance, repair, modification, decontamination, and personnel exposure control.

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE		PROCEDURE NO. EPIP-31	
. REG	COVERY	REVISION	Page 6 of 8
4.3.5.2	The Radcon/Radwaste Ma developing plans to pr gaseous, and solid was population exposure in federal authorities.	anager will in addi cocess and control stes, periodically a conjunction with	tion to liquid, estimate total state and
4.3.5.3	The Station Operations Operations or designat inplant operations and for ensuring that repa optimize post-recovery and safety.	s Manager (Manager ted alternate) mana during recovery i airs and modificati plant operational	of Nuclear ges day-to-day s responsible ons will effectiveness
4.3.5.4	The Design and Constru President, Nuclear Pro alternate), focuses ne construction resources recovery requiring red construction and direc balance-of-plant engin work.	option Support Mana option Support Mana option Management or cessary engineering on those aspects lesign, modification ts and coordinates meering and constru-	ger (Vice designated g, design, and of plant n, or new NSSS and ction/repair
4.3.5.5	The Technical Support Manager or designated plans, schedules, and plant operations.	Manager (Technical alternate) provides procedures in direc	Support s analysis, ct support of
4.3.5.6	The Quality Assurance Assurance Manager or d that the overall condu performed in accordance rules and regulations affect public health a	Manager (Operationa esignated alternate ct of recovery oper e with corporate po governing activitie nd safety.	al Quality e) assumes rations is olicy and es which may
4.3.5.7	The Administrative/Log Support Manager or de administrative, logist personnel support for	istics Manager (Adm signated alternate) ic, communications, the recovery operat	ninistrative) supplies , and tion.
4.3.5.8	The Media Relations Ma Employee and Corporate alternate) coordinates concerning recovery op	nager (Vice Preside Relations or desig the flow of media erations.	ent, Customer, gnated information

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PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO EPIP-31	
RECOVERY	REVISION 0	Page 7 of 8

4.3.5.9 As the recovery operation proceeds, any unforeseen problems which are encountered will be evaluated and factored into the overall recovery plan. The schedule will be adjusted accordingly.

4.3.5.10 Upon completion of the recovery effort, technical specifications compliance will be verified prior to beginning normal unit operations.

4.3.6 Training

4.3.6.1 In consideration of the situation to be handled, special training material will be developed and training conducted for special work tasks to the maximum extent possible.



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PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NC. EPIP-33	
OFFSITE ASSISTANCE	REVISION	Page 3 of 7

1.0 OBJECTIVE

1.1 To provide guidance for obtaining offsite suprat and assistance in the event of an emergency at PVNGS.

2.0 REFERENCES

2.1 Implementing References

- 2.1.1 EPIP-C7, "Notification Process UNJSUAL EVENT"
- 2.1.2 EPIP-08, "Notification Process ALERT, SITE EMERGENCY, or GENERAL EMERGENCY"
- 2.2 Developmental References
 - 2.2.1 PVNGS Emergency Plan, Rev. 2

3.0 LIMITATIONS AND PRECAUTIONS

3.1 The NRC, State/County government, and APS personnel will be notified via dedicated communication links (e.g., ENS, NAN, NAWAS) in accordance with EPIP-07 and 08.

4.0 DETAILED PROCEDURE

4.1 Personnel Indectrination

- 4.1.1 In the event of an emergency at PVNGS, various offsite agency support may be required. Local services could include: backup ambulance, hospital, fire fighting and law enforcement. Contract support could include: bechtel (A-E), Combustion Engineering (NSSS supplier), decontamination firms, radwaste disposal firms, and dosimetry and laboratory support. Additionally, the Institute for Nuclear Power Operations (INPO) will provide equipment and personnel upon request.
- 4.1.2 Local and federal government support shall be contacted as required in accordance with EPIP-07 and 08.

PROCEDURE STANCE ergency Coordinator s ining the need for, a ince. tes ergency Coordinator d assistance. Is ergency Coordinator s he primary telephone	EPIP-33 REVISION 0 shall be responsi and requesting of letermines there shall direct a co number of the re	Page 4 of ble for fsite is a need for
STANCE ergency Coordinator s ining the need for, a ince. tes ergency Coordinator d assistance. IS ergency Coordinator s he primary telephone	REVISION 0 shall be responsi and requesting of letermines there shall direct a co number of the re	Page 4 of ble for fsite is a need for
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ergency Coordinator s ining the need for, a ance. tes ergency Coordinator d assistance. ns ergency Coordinator s he primary telephone	shall be responsi and requesting of letermines there shall direct a co number of the re	ble for fsite is a need for
tes ergency Coordinator d assistance. Is ergency Coordinator s he primary telephone	letermines there shall direct a co number of the re	is a need for
ergency Coordinator d assistance. ns ergency Coordinator s ne primary telephone	determines there shall direct a co number of the re	is a need for
ns ergency Coordinator s ne primary telephone	shall direct a co number of the re	
ergency Coordinator s ne primary telephone	shall direct a co number of the re	
nce as listed in App condary number, if av	pendix A. If no vailable.	mmunicator to quired offsite response, call
in the party answers, lividual contacted an oversation on the Tel pendix B.	record the name ad time of the te ephone Communica	of the lephone tion Log Sheet
form the Emergency Co k of contact.	ordinator of the	contact or
orm the contacted of port required by PVN rgency Coordinator o rify the need for of	fsite assistance GS or transfer t or his designee a fsite assistance	party of the he call to the s necessary to •
ermine the scope of provided and the est port responding to t	offsite assistan imated time of a the station.	ce which will rrival of
teresterno ao a	hall inform the nce that will be d time of arriva	Security responding to 1 onsite.
T	provided and the est pport responding to t ergency Coordinator s or of offsite assista te and their estimate	provided and the estimated time of a pport responding to the station. ergency Coordinator shall inform the or of offsite assistance that will be te and their estimated time of arriva

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PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-33	APPENDIX A Page 1 of 2
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OFFSITE ASSISTANCE TELEPHONE NUMBERS

The following telephone numbers provide an up-to-date list for agencies and personnel that may be required to give assistance to PVNGS in an emergency.

ASSISTANCE

TELEPHONE NUMBER

1. Hospitals

Maryvale Samaritan Hospital - Emergency Dept. Nurse Samaritan Health Service

2. Law Enforcement

Maricopa County Sheriff's Department

3. Fire Support

Bechtel Power Corporation

4. Meteorological Information

National Weather Service

- 5. Radiological Assistance
 - a. Laboratory

ASU, Dr. John McKlveen

- Environmental Monitoring
 ASU, Dr. John McKlveen
- c. Radiation Health Physics ASU, Dr. John McKlveen
- d. Chemistry Support

ASU, Dr. John McKlveen

- e. TLD Processing ASU, Dr. John McKlveen
- f. Whole Body Counting

Helgeson Nuclear Services

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-33	APPENDIX A Page 2 of 2
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OFFSITE ASSISTANCE TELEPHONE NUMBERS

ASSISTANCE

TELEPHONE NUMBER

6. Industry Assistance

- a. Combustion Engineering
- Bechtel Power Corporation Bechtel Security
- c. INPO

d. Southern California Edison

VP, Nuclear Eng. and Operations
 Manager, Nuclear Engineering

e. Pacific Gas and Electric

1) VP, Nuclear Generation

2) Manager, Nuclear Plant Operations

f. Sacramento Municipal Utilities District

1) Shift Technical Advisor

g. Portland General Electric

- 1) VP, Nuclear
- 2) Assistant VP

h. Washington Public Power System

1) Director, Power Operations

2) Director, Administrative Services

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1	PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE						PROCE NO. E	DURE	H	APPENDIX B Page 1 of 1	
	OFFS	SITE	ASSIS	TANCE							Page 7 of 7
	REMARKS										
ON TOG SHEET	CALLER										
IONE COMMUNICALI	DATE/TIME	1	1	1	1	1	1	1			
TELEPA	PERSON CONTACTED										
	AGENCY OR INDIVIDUAL										

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PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-34	
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APPENDICES

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Appendix A - Transportation Accident Check List

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PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-34	
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TRANSPORTATION ACCIDENTS	0	Page 3 of 6

1.0 OBJECTIVE

1.1 To provide guidelines for the response of PVNGS personnel to offsite transportation accidents involving shipments of radioactive material.

2.0 REFERENCES

2.1 Implementing References

2.1.1 EPIP-18, "Emergency Exposure Guidelines"

2.2 Developmental References

2.2.1 PVNGS Emergency Plan, Rev. 2

3.0 LIMITATIONS AND PRECAUTIONS

3.1 PVNGS personnel sent to the scene of a transportation accident should assist state/local officials to the maximum extent practical, yet realize they are acting in a strictly advisory role.

4.0 DETAILED PROCEDURE

- 4.1 Personnel Indoctrination
 - 4.1.1 Prior to arrival and after departure from PVNGS, radioactive material shipments are the responsibility of the common carrier. If a transportation accident involving radioactive material occurs, recovery actions are the responsibility of the common carrier and state/local officials. Because of the knowledge, experience and equipment available to PVNGS personnel, state/local officials may request PVNGS assistance to recover from the accident.
 - 4.1.2 If it is decided to provide PVNGS assistance to a transportation accident the Duty Manager is responsible for implementing this procedure.

PVNGS IMPLEME	EMERGENCY PLAN	PROCEDURE NO. EPIP-34.	
TRANSP	ORTATION ACCIDENTS	REVISION 0	Page 4 of 6
4.2 Pr	erequisites		
4.2.1	The Duty Manager is notify accident involving a ship occurred and PVNGS assista	ied that a transpo ment of radioactive ance has been requ	rtation e material has ested.
4.3 In	structions		
4.3.1	The individual notified of should try to gather the f Appendix A, and notify the possible.	f the transportation following information buty Manager as a	on accident ion, utilizing soon as
	a. Location of accident.		
	b. Type of radioactive ma	aterial involved.	
	c. Type of container invo	olved.	
	1. Extent of damage.		
	 Results of any prelimit assessments. 	lnary radiation/con	ntamination
	f. Personnel injuries.		
	g. Who is on scene and in	charge.	
	h. Shipper's identity.		
	i. Caller's name and phon	ne number.	
4.3.2	If the Duty Manager deems shall:	PVNGS assistance i	is required he
	 Report the situation t Operations and the Rad 	to the Manager, Nucliation Protection	lear Supervisor.
	b. With the assistance of Supervisor, notify and to be sent to the scen	the Radiation Pro assemble a two mane.	otection an Survey Team
	c. Utilize Appendix A as actions in response to	necessary to docum the incident.	ment PVNGS
4.3.3	The Survey Team should pro following equipment as a m	ceed to the scene	with the

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PVNGS E	MERGENCY PLAN	NO. EPIP-34	
TRANSPO	DRTATION ACCIDENTS	REVISION 0	Page 5 of 6
	a. G-M Survey Instrument		
	b. Dose Rate Instrument		
	c. Alpha Survey Instrumen	t	
	d. Smears (for Both Beta/	Gamma and Alpha Su	rvevs)
	e. Plastic Bass		
	f. Radiation Barrier Bora		
	 Radiation Warning Sign 	al	
	h. Self-Alarming Dosimetr Member's Personal Dosi	y in Addition to 1 metry (TLD)	the Team
	i. Portable Radio		
	j. Survey Forms		
	k. Protective Clothing		
	1. Respiratory Equipment		
4.3.4	Upon arrival at the scene and act under the direction	the Survey Team slon of state/local of	hall report to officials.
4.3.5	The Survey Team shall main	tain exposure as	low as
	reasonably achievable and administrative limits with exposures shall be in acco EPIP-18.	should not exceed nout prior authori: ordance with the g	zation. Such
4.3.6	The Survey Team shall repo designee after initially a thereafter as conditions of	ort back to the Du ssessing the situation	ty Manager or ation, and
	increateer as conditions of	incease.	

IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-34	APPENDIX A Page 1 of 1
	REVISION	
TRANSPORTATION ACCIDENTS	0	Page 6 of 6
TRANSPORTATION ACCII	DENT CHECK LIST	
1. Accident Location:		
2. Material Involved: New Fuel, Spent Fue Sources, Medical, O	el, Liquid Radwast Other	e, Solid Radwaste
3. Container Type:		
4. Extent of Damage:		
5. Radiation/Contamination Levels:		
6. Personnel Injuries:		
7. In Charge at Scene:		
8. Common Carrier's Name:		
9. Caller's Name/Phone Number		
10. Manager, Nuclear Operations, Notified:	Date	Time
11. Radiation Frotection Supervisor Notifie	d: Date	Time
12. Survey Team Selected: Name		
13. Survey Team Equipped as Required in 4.3	.3: Date	Time
14. Survey Team Dispatch to Scene: Date	Tin	
.5. Remarks:	110	
Duty Massas		
Duty manager		
Date		

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-35	
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PVNGS I	EMERGENCY PLAN	PROCEDURE NO. EPIP-35		
REVIEW, U OF THE PV	UPDATE, AND REVISION NGS EMERGENCY PLAN	REVISION 0	Page 3 of	
1.0 <u>OBJEC</u>	TIVE			
1.1 To add	establish guidelines for p ministrative review and upd	roviding technical ate of the PNGS Eme	and rgency Plan.	
2.0 <u>REFER</u>	RENCES			
2.1 Im;	plementing References			
2.1.1	EPIP-37A, "Emergency Prep	aredness Drills"		
2.1.2	EPIP-37B, "Emergency Frep	aredness Exercises"		
2.1.3 70AC-0ZZ01, "Writer's Guide"				
2.1.4	10AC-0ZZ02, "Accountabili	ty of Controlled Do	cuments"	
2.2 Dev	velopmental References			
2.2.1	PVNGS Emergency Plan, Sec Preparedness", Rev. 2	tion 8, "Maintainir	g Emergency	
2.2.2	NUREG 0654, Rev. 1, "Crit Evaluation of Radiologica Preparedness in Support o	eria for Preparatio 1 Emergency Respons f Nuclear Power Pla	n and e Plans and nts"	
3.0 LIMI	TATIONS AND PRECAUTIONS			
3.1 Re Im do	visions to or update of the plementing Procedures shall cument control procedures o	PVNGS Emergency Pl be handled in acco f 10AC-0ZZ02.	an and rdance with	
4.0 DETAILED PROCEDURE				
4.1 Pe	rsonnel Indoctrination			
4.1.1	The PVNGS Emergency Plan be reviewed and updated a	and Implementing Pr nnually.	ocedures shal	
4.1.2	On a quarterly basis the	telephone numbers u	tilized to	

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PVNGS MPLEME	EMERGENCY PLAN NTING PROCEDURE	PROCEDURE NO. EPIP-35	
REVIEW, I OF THE P	JPDATE, AND REVISION VNGS EMERGENCY PLAN	REVISION 0	Page 4 of
4.1.3	Independent addits of the preparedness program shall by an outside consulting fi who is not immediately resp preparedness program.	various aspects of be conducted annu irm or by an inter porsible for the e	the emergency ally, either nal AFS group mergency
4.1.4	The Onsite Emergency Plann responsible for initiating independent audit of 4.1.1 Additionally the Onsite EP updating or revising the En Procedures (EPIP's) per the modifying aspects of the pure result of independent audit drills and exercises.	ing Coordinator (2 and coordinating , 4.1.2, and 4.1.3 C shall be respons mergency Plan Impl e findings of the rocedures found de ts or identified b	PC) shall be the review and above. ible for ementing review and for ficient, as a y emergency
4.2 Pr	erequisites		
4.2.1	Review, update, and revision and Implementing Procedure accordance with the PVNGS "Maintaining Emergency Pre-	on of the PVNGS Em s shall be conduct Emergency Plan, Se paredness".	ergency Plan ed in ction 8,
4.3 In	structions		
4.3.1	The Onsite Emergency Plann an annual review of the Em Procedures. The Onsite EP by appropriate PVNGS perso	ing Coordinator sh ergency Plan and I C may be assisted nnel and APS manag	all initiate mplementing in this effor ement.
4.3.2	The review and any subseque following items:	ent revisions will	consider the
	 Deficiencies in traini equipment which have b exercises; 	ng, procedures, pe een discovered dur	rsonnel, and ing drills/
	 Changes in personnel a organization; 	ssignments within	the emergency
	 Changes in the functio capabilities of suppor maintaining agreements 	ns, assignments, o ting agencies, to or contracts curr	r response include ent;
	d. Changes in applicable	federal or state s	tatutes,

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-35	
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- e. Recommended modifications to procedures or equipment from other agencies such as INPO, EPRI, ANSI;
- f. Modifications to the plant or site area;
- g. Changes in construction or operating status;
- h. Results of Emergency Preparedness Appraisals/Reviews by the NRC, INPO, or independent review organization.

4.3.3 Quarterly, the Onsite EPC shall initiate a verification of the telephone numbers listed in the Emergency Plan Implementing Procedures (EPIP's).

- a. Verification procedures may be conducted in conjunction with the monthly communications drill (see EPIP-37A) or the annual joint emergency exercise (see EPIP-37B).
- b. Verification shall be accomplished utilizing EPIP-07, EPIP-08, and EPIP-33 to dial the listed number and receiving concurrence from the answering party that said number is the current number for the location listed in the EPIP's.
- The Onsite EPC shall initiate an annual independent audit 4.3.4 of the emergency preparedness program. This audit will be by competent individuals, either from within APS or an outside consulting firm, who are not immediately responsible for the emergency preparedness program. This audit will include, but not be limited to, the following:
 - a. The PVNGS Emergency Plan and Implementing Procedures;
 - b. Emergency preparedness training;
 - c. Emergency drills and exercises;
 - d. Emergency response facilities;
 - e. Emergency supplies and equipment; and
 - f. Coordination with offsite agencies and state/county government.

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The results of this audit will be prepared in a written report and presented directly to the Vice President, Electric Operations. The results will also be made available to appropriate APS and PVNGS management as it pertains to their routine and emergency functions. In addition cognizant state/county officials will be informed of comments effecting their organizations. Copies of the audit report will be retained by the Onsite EPC for five years.

- 4.3.5 Revisions to or update of the PVNGS Emergency Plan Implementing Procedures necessitated as a result of the reqired reviews and audits will be initiated by the Onsite EPC.
- 4.3.6 Revisions to the EPIP's shall be forwarded to the Corporate Emergency Planner to insure that there is no conflict with the PVNGS Emergency Plan or so that changes may be incorporated into the Emergency Plan.
- 4.3.7 The Plant Review Board (PRB) and Manager, Nuclear Operations will review and approve changes prior to their distribution to controlled copy holders.
- 4.3.8 Procedure 70AC-0Z201, Writer's Guide provides specifiec instructions (i.e., physically marking changes in text, distributing changed material) for incorporating revisions into the PVNGS Emergency Plan Implementing Procedures and shall be utilized by the EPC to update the plan.

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FIGURES

Figure 8.1.1 - Specialized Training Matrix

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1:

PVNGS	EMERGENCY PLAN INTING PROCEDURE	PROCEDURE NO. EPIP-36	
EMERGENC	Y PREPAREDNESS TRAINING	REVISION 0	Page 3 of 7
1.0 <u>OBJ</u>	ECTIVE		
1.1 To It en	o familiarize personnel with mplementing Procedures and wi mergency.	the PVNGS Emergence th their assignmen	y Plan and ts during an
1.2 To	provide for the initial and ersonnel assigned to the emer	l periodic retraini gency response org	ng of all anization.
1.3 To or er	o provide for the training of rganizations who may support mergency.	those offsite eme the plant in the e	rgency vent of an
2.0 <u>REFI</u>	ERENCES		
2.1 In	plementing References		
2.1.1	EPIP-37A, "Emergency Drill	.s"	
2.1.2	EPIP-37B, "Emergency Exerc	ises"	
2.2 De	evelopmental References		
2.2.1	PVNGS Emergency Plan, Sect Preparedness"	ion 8, "Maintainin	g Emergency
2.2.2	80PR-0ZZ01 PVNGS Training	Program	
2.2.3	NUREG 0654, Rev. 1, "Crite Evaluation of Radiological Preparedness in Support of	ria for Preparatio Emergency Respons Nuclear Power Pla	n and e Plan and nts"
3.0 <u>LIMI</u>	TATIONS AND PRECAUTIONS		
None			
4.0 <u>DETA</u>	AILED PROCEDURE		
4.1 Pe	rsonnel Indoctrination		
4.1.1	The Onsite Emergency Plann assistance of the Training development of the PVNGS e program.	ing Coordinator, w Manager, is respo mergency response	ith the nsible for the training

	GENCY PLAN	PROCEDURE NO. EPIP-36	
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EMERGENCY PREPA	REDNESS TRAINING	0	Page 4 of 7
4.1.2 The the resp agen	Corporate Health Phys assistance of the Tra onsible for coordinat cies involved in rend	icist and Emergency ining Manager, shal ing the training fo ering assistance to	Planner, with l be or offsite p PVNGS.
4.2 Prerequi	sites		
4.2.1 Trai of t	ining shall be conduct the PVNGS Emergency Pl	ed in accordance with an and 80PR-0ZZ01.	ith Section 8
4.3 Instruc	tions		
4.3.1 Bas	ic Training and Indoc	crinacion	
4.3.1.1	Each PVNGS employee on emergency plan and of the following:	shall receive gener d supporting proced	al instructions lures consisting of the plan.
	b. Emergency classi	fications and their	significance.
	c. Evergency warning	ng devices and their	r meaning.
	d. Personnel assemb reassembly.	bly, accountability	, evacuation and
	e. Radiation expose medical care and	ure control, decont d emergency dosimet	amination, ry.
4.3.1.2	The format may be a similar program aug lectures.	n audiovisual slide mented as necessary	, tape or by classroom
4.3.1.3	The above training employee indoctrina	shall be conducted tion and annually t	as part of new thereafter.
4.3.2 En	mergency Organization	Training	
4.3.2.1	Personnel assigned shall receive train	to the PVNGS Emerge ning specific to the	ency Organization eir assignments.
4.3.2.2	The training will h necessitated by sig Plan, EPIP's or em	be conducted annual gnificant revisions ergency equipment.	ly, and whenever to the Emergency

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PVNGS EMI	RGENCY PLAN	PROCEDURE NO EPIP-36	
		REVISION	
EMERGENCY PRE	PAREDNESS TRAINING	0	Page 5 of 7
4.3.2.3	In addition to formal and exercises will be further develop their	classroom instruct conducted to enabl skills in handling	ion, drills e personnel to an emergency.
4.3.2.4	The training program f personnel is detailed	or Emergency Organ in Appendix A.	ization
4.3.3 Of	fsite Agency Training		
4.3,3.1	The Corporate Health P will coordinate specia following offsite supp	hysicist and Emerg l training for mem ort agencies:	ency Planner bers of the
	 a. Maricopa County Shib. Arizona Radiation b. Maryvale Samaritan d. Backup Ambulance S e. Bechtel Fire Depar f. Others as deemed not set to the set to th	eriff's Department Regulation Agency Hospital ervice tment (PVNGS) ecessary	
4.3.3.2	The training will be spresponse assignment and following:	pecific to the age d at a minimum wil	ncies' l include the
	a. Basic radiation pro	otection and emerg	ency dosimetry
	b. Emergency site acco	ess procedures.	
	c. Interface with the	PVNGS emergency o	rganization.
4.3.3.3	The Training Manager w Physicist and Emergency conduct the training.	ill assist the Cor y Planner as neces	porate Health sary to
4.3.4 Med	lia Familiarization		
4.3.4.1	On an annual basis, in state/county government given to the local/reg: will include:	cooperation with t, a training prog ional news media.	the ram will be The program
	a. PVNGS Emergency Pla	an and EPIP's.	
	b. Basic information of radiation.	concerning PVNGS of	peration and
	c. Locations and means information in an e	s for release of pu	ublic

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-36	
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- Familiarization tour of the Emergency News Center (ENC) and Corporate Headquarters Information Center (CHIC).
- 4.3.4.2 The Media Relations Department with the assistance of the Corporate Health Physicist and Emergency Planner shall conduct the news media familiarization.
- 4.3.5 Documentation
 - 4.3.5.1 All APS conducted emergency planning training will be documented in accordance with 80PR-02201. The Training Department will maintain these records.
 - 4.3.5.2 Lesson plans will be used for all classroom instruction.
 - 4.3.5.3 Written examinations will be administered, as required, with an established minimum passing score. Individuals failing the written examination will be provided retraining.

CDECIMIZED TRAININ	UD			-	/	/	-	-			_	
MATRIX* MATRIX* Palo Verde Nuclear Generating Station		NUT X BETW	SERURES INCE ADMIN	SXN	38/	TENNOS						PERSONAED
*Content and degree of training ma dependent upon whether personnel ari signed "Lead" or "Team" functions. For details on lesson content, fre- quency, and documentation, consult PVNGS training program.	ase	OKIGKAR READING	COMMINICATION PRO	DETERMIN EXPOS	EVACUATION & PER	FIRE FIGHTING	EIRST AID	PHYSICS HELATED HEAL	32U RDTARI923R	OFFSITE SUPPOS	THO . HOITATROQUEST	031000
EMERGERICY DIRECTORS/ COORDINATORS	×	X	Х	X	X		.	×	×	X	×	~
ACCIDENT ASSESSMENT PERSORHEL JINCL CR SHIFT PERSORNELJ	×	X	×	X	×			×	X			~
RADIOLOGICAL ANALYSIS & MONITORING PERSOMNEL	X	X	X	X		•		X	×			
FIRE & HAZARUS CONTROL TEAMS	X	X	×			×	×	×	×	×		
REPAIR & DAMAGE CONTROL TEAMS	X	X	X			×	X	×	×			
POLICE & SECURITY PERSONNEL	×	×	×		Х		×	×	×		×	
LOCAL SUPPORT PERSONNEL						X		X	X	×		
MEDICAL SUPPORT PERSONNEL							X	×	×		×	
NQ SUPPORT PERSONNEL	×	×		X		×	•					
COMMUNICATIONS PERSONNEL	×	×	×					×	X			
FIRST AID & RESCUE	×	×	×				×	×	×		×	

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PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-37A	
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Allar Anderen DATE 9/19/82 DATE EFFECTIVE 10-6-82 APPROVED BY:

DN-1537A/0188A

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C

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EMERGENCY PREPAREDNESS DRILLS	- 0	Page 3 of 24
1.0 OBJECTIVE		
1.1 To establish guidelines for d and documenting emergency pre	developing, conducti eparedness drills.	ng, evaluating
1.2 To test emergency response per communications and procedures training.	ersonnel, equipment, s, as an extension o	f classroom
1.3 To verify the adequacy of the Implementing Procedures and t emergency preparedness at PVN	e PVNGS Emergency Pl the overall effectiv NGS.	an and reness of
2.0 REFERENCES		
2.1 Implementing References		
None		
2.2 Developmental References		
2.2.1 PVNGS Emergency Plan Sect Preparedness".	tion 8 "Maintaining	Emergency
2.2.2 80PR-0ZZ01 PVNGS Training	g Program	
2.2.3 NUREG 0654 Rev. 1, "Crit Evaluation of Radiologic Preparedness in Support	eria for Preparation al Emergency Respons of Nuclear Power Pla	n and se Plans and ants"
3.0 LIMITATIONS AND PRECAUTIONS		
3.1 A drill in the context of Em supervised instruction perio maintaining skills in a part	ergency Preparedness d aimed at testing, icular operation.	s is a developing and
3.2 Drills shall be conducted on (see Appendix A) and include	a periodic basis fo	or each unit
o Fire (Section 5.0)	6.0)	

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4.0 DETAILED RESPONSE

4.1 Personnel Indoctrination

4.1.1 Regular participation by station personnel in drills is required to maintain emergency preparedness and to test and evaluate specific aspects of emergency plans, procedures and equipment. To accomplish the above, the Onsite Emergency Planning Coordinator is responsible for ensuring that drills are developed, conducted, evaluated and documented in a timely manner.

4.2 Prerequisites

- 4.2.1 Drills shall be conducted in accordance with the guidance in the PVNGS Emergency Plan, Section 8, "Maintaining Emergency Preparedness".
- 4.2.2 The Oneite Emergency Planning Coordinator shall ensure that the items identified in the Predrill Check-Off Sheet (Appendix B) have been completed prior to the initiation of the drill.

10.4

4.3 Instructions

- 4.3.1 The Onsite Emergency Planning Coordinator will coordinate the planning and scheduling of each drill.
- 4.3.2 The Onsite Emergency Planning Coordinator with the assistance of the Safety Director, Radiation Protection Supervisor, and Training Manager as necessary, will ensure that the development and approval of the drill scenario is in accordance with the guidelines presented in Appendix C. The drill scenario will include the following:
 - o Basic objectives
 - o Date, time, location and participating organizations
 - o Simulated events
 - o Initiating events
 - o Narrative summary

o Description of arrangements for drill observers

4.3.2.1 Drill scenarios may be developed on a real time basis or on an accelerated schedule so that more activities are tested in a shorter time frame.

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4.3.2	•2 Emergency information developed to be given predetermined times.	messages (Appendix to emergency persor	D) may be mel at
4.3.3	The Onsite Emergency Plann drill senario (Appendix C) Operations, for review and	ing Coordinator wil to the Manager, Nu approval.	ll submit the uclear
4.3.4	The Onsite Emergency Plann assignment of observers/co availability.	ing Coordinator sha ntrollers based on	all coordinate expertise and
4.3.5	Prior to the drill, the On Coordinator shall:	site Emergency Plan	nning
	 Ensure that the Predri has been completed. 	11 Check-Off Sheet	(Appendix B)
	 Conduct a predrill bri observers/controllers which portions of the control, and which por free play. 	efing to inform the of the objectives scenario require s tions of the scena	e of the drill, trong observer rio permit
	 Distribute Simulated M necessary, and Drill O (Appendix E). 	iessage Forms (Appe Observer's Evaluati	ndix D), if on
	 Allow assigned observe reach their assigned 1 	ers/controllers amp location.	le time to
4.3.6	Guidance from the observer any time during <u>a drill</u> re procedures and equipment.	rs/controllers may egarding the use of	be provided at emergency
4.3.7	Following the drill, the C Coordinator will meet with conduct a drill critique, performance will be discus actions will be noted.	Onsite Emergency P1 h all observers/con where all aspects ssed, and recommend	anning trollers and of drill ed corrective
4.3.8	Upon completion of the cri Planning Coordinator will on the results of the dri where corrective actions of	itique the Onsite E brief APS manageme 11, and identify th were recommended.	mergency nt personnel lose items

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EMERGENCY	PREPAREDNESS DRILLS	0	Page 6 of 24
4.3.9	The Onsite Emergency Plan submit to the Manager, Nuc report, Appendix F with th and additional drill docum	ning Coordinator sha lear Operations a v ne scenarios, simula mentation forms atta	all then written ated messages ached.
4.3.10	The Manager, Nuclear Opera report, assign deficiencie to the affected department	ations shall review as as action items a	the drill and task them
4.3.11	The Manager, Nuclear Opera corrective actions and if completed, sign off the Dr	tions shall review the appropriate act ill Report.	the tions are
4.3.12	Records of all drills will Department.	. be maintained by t	the Training
5.1.1	The Safety Director is res of the fire brigade and th regards to combatting a fi	ponsible for the fi e Bechtel Fire Depa re at PVNGS.	re training artment with
5.1.2	The Onsite Emergency Plann for interfacing the statio	ing Coordinator is	responsible
	drill program with the req	uirements of the em	ergency plan.
5.1.3	Fire drills will be conduc Fire Brigade of each unit.	ted quarterly for e	ach shift
5.1.4	The Bechtel Fire Departmen event of major fires. On drill will be held for the Director will conduct the procedure to provide a che compatibility and fire depu familiarization.	t provides assistan a periodic (annual) Department. The S drill in accordance ck of Bechtel fire artment personnel p	ce in the basis, a afety with this equipment lant
5.2 Pres	requisites		
5.2.1	Fire drills will be conduct guidance of the PVNGS Emerg	ted in accordance w gency Plan, Section	ith the 8.

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE		VNGS EMERGENCY PLAN PROCEDURE PLEMENTING PROCEDURE EPIP-37A	
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EMERGEN	CY PREPAREDNESS DRILLS	0	Page 7 of 24
5.3 I	nstructions		
5.3.1	The Onsite Emergency Plan assistance of the Safety planning, scheduling and drill scenario; for fire	ning Coordinator wi Director shall coor if required, the pr drills.	th the dinate the eparing of a
5.3.2	Drill scenarios shall be guidelines of Section 4.3	prepared in accorda	nce with the
5.3.3	Predrill actions, drill c performance and correctiv accordance with Section 4	ritiques, reports of e actions shall be of .3.3 through 4.3.12	f drill conducted in
6.0 <u>COMM</u>	UNICATIONS DRILLS		
6.1 Pe	rsonnel Indoctrination		
6.1.1	Communications links and moffsite state and local age The Onsite Emergency Planm for developing, conducting drills.	notification procedu gencies are periodic ling Coordinator is g and documenting co	res with ally tested. responsible mmunications
6.1.2	The Corporate Health Physi responsible for coordinati Manager with the offsile s ensure that communications timely manner and offsite as required.	cist and Emergency ng the efforts of t tate and local agen drills are conduct corrective actions	Planner is he Training cies, to ed in a are completed
	A monthly communications d	rill will be conduc	ted with
6.1.3	State and County agencies Pathway (10 mile EPZ). Ap (Notification procedures) drill.	within the Plume Ex pendix G and EPIP O shall be utilized to	posure 7 and 08 0 perform the

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- o Control Room
- o Satellite TSC
- o TSC
- o OSC
- o Service Building (Alternate OSC)

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EMERGENO	Y PREPAREDNESS DRILLS	0	Page 8 of 24
	o CEC		
	o State (ARRA & ADES)		
	 County EOC and Sheriff Field Monitoring Teams 	's Offices	
6.1.	4.1 The annual communicati performed in conjuncti	ons drill should no on with the joint e	ermally be exercise.
6.1.	 4.2 Appendix H and EPIP 07 procedures) shall be u drill. 	and 08 (Notificati tilized to perform	on the annual
6.1.5	Nuclear Regulatory Commiss (MPN & ENS) shall be teste 10CFR50.	ion (NRC) communica d by the NRC in acc	tions links ordance with
6.2 Pr	erequisites		
6.2.1	Communications drills shal with the guidance of the P	1 be conducted in a VNGS Emergency Plan	ccordance , Section 8.
6.3 In:	structions		
6.3.1	The Onsite Emergency Plann the date, time and scope of	ing Coordinator wil f the communication	l determine s drill.
6.3.2	Written notice of the drill be sent to the participation prior to communications ter	l date and approxim ng government agenc sting.	ate time will ies 7 days
6.3.3	Simulated emergency message the message's content can b	es should be used to be understood.	o ensure that
6.3.4	Actual equipment checks sho the Emergency Organization	ould be conducted by as a training exerci-	y members of cise.
6.3.5	Equipment found to be inoper repaired in a timely manner performed until the equipme	erable will be repla . Mitigating action ent is operable.	aced or ons ŵill be
6.3.6	A written report, Appendix documentation attached will Nuclear Operations, by the Coordinator.	F, with appropriate be submitted to th Onsite Emergency Pl	e ne Manager, Lanning
6.3.7	Corrective actions and sign accordance with Sections 4.	off will be perform 3.10 through 4.3.12	ned in

PVNGS	EMERGENCY PLAN	PROCEDURE	
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7.0 <u>MEDI</u>	CAL DRILLS		
7.1 Pe	rsonnel Indoctrination		
7.1.1	Medical emergency drills w shall be conducted annuall treatment of a simulated c include participation of 1	ith Maryvale Samar y. The drill shal ontaminated person ocal backup ambula	itan Hospital l involve and may nce services.
7.1.2	The Corporate Health Physi responsible for developing medical drills.	cist and Emergency , conducting and do	Planner is ocumenting
7.1.3	The Corporate Health Physi responsible for coordinati ambulance, hospital, or ot medical drills are conduct offsite corrective actions	cist and Emergency ng with the backup her services to en ed in a timely mann are completed as n	Planner is offsite sure that her and required.
7.2 Pr	erequisites		
7.2.1	Medical drills shall be co guidance of the PVNGS Emer	nducted in accordan gency Plan, Section	nce with the a 8.
7.3 In	structions		
7.3.1	The Corporate Health Physic the assistance of the Onsit Coordinator, shall prepare	cist and Emergency te Emergency Planni the medical drill	Planner, with ing - scenario.
7.3.2	Drill scenarios shall be pr guidelines of Section 4.3.	repared in accordar 2.	nce with the
7.3.3	Predrill actions, drill criperformance shall be conduce Section 4.3.3 through 4.3.1	itiques and reports cted in accordance 12.	s of drill with
8.0 <u>RADIO</u>	DLOGICAL MONITORING/HEALTH PH	HYSICS DRILLS (Rad-	Mon/HP)
8.1 Per	rsonnel Indoctrination		
8.1.1	Radiological monitoring dri to evaluate the Radiologica involving the use of survey communications equipment, of the collection of sample me vegetation).	ills shall be conduct al Survey and Monit y instruments and f calculation of dose edia (soil, air, wa	octed annually oring Teams field rates and ter and

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8.1.2	Health physics drills invo post-accident sampling sys	olving the use of th tem will be conduct	e ed annually.
8.1.3	Health physics drills invo and actual airborne sample levels, as well as direct environment, will be condu	olving the analysis s with elevated rad radiation measureme cted semi-annually.	of simulated iation nts in the
8.1.4	The Onsite Emergency Plann for developing, conducting monitoring and health phys	ing Coordinator is and documenting ra ics drills.	responsible diological
8.2 Pr	erequisites		
8.2.1	Radiological monitoring an conducted in accordance wi Emergency Plan, Section 8.	d health physics dr th the guidance of	ills shall be the PVNGS
8.3 Ins	structions		
8.3.1	The Onsite Emergency Plann assistance of the Radiation Chemistry Supervisor shall Monitoring and Health Physi	ing Coordinator with n Protection Supervi prepare the Radiolo ics Drill Scenarios	n the isor and ogical
8.3.2	The Rad-Mon/HP Drill Scenar requirements of Appendix A.	rios may be combined	to meet the
8.3.3	Drill scenarios shall be pr Section 4.3.2 and Appendix	repared in accordanc C.	e with
8.3.4	Predrill actions, drill criperformance shall be conducted 4.3.3 through 4.3.12.	itiques and reports ted in accordance w	of drill with Section

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE			NO. EPIP-37A	APPENDIX A Page 1 of 1
F	MERG	ENCY PREPAREDNESS DRILLS	REVISION	Page 11 of 2
		DRILL/EXERCISE I	FREQUENCIES	
1.	MON	THLY		
	a.	Communications links and notif state and local agencies within (10 mile EPZ) are tested on a	fication procedures in the plume ingest monthly basis.	with offsite ion pathway
2.	QUA	RTERLY		
	a.	An onsite fire drill is conduc plant Technical Specifications	cted quarterly in a	ccordance with
3.	SEM	I-ANNUALLY		
	a.	Health physics drills are cond conjunction with exercises or HP drills involve analysis of with elevated radiation levels well as direct radiation measu	ducted semi-annuall radiological monit simulated and actu both liquid and a prements in the env	y generally in oring drills. al samples irborne, as ironment.
4.	ANN	UALLY		
	a.	Communications between PVNGS, response organizations, and fi annually generally in conjunct	federal and state teld assessment teat ion with the joint	emergency ns are tested exercise.
	b.	Medical emergency drills invol contaminated person with prov support service agencies (ambu Maryvale Samaritan Hospital an	ving treatment of sion for particiat lance of helicopte re conducted annual	a simulated ion by offsite r) and ly.
	c.	Radiological monitoring drills Radiation Survey and Monitorin communications, use of instrum dose projections and the colle conducted annually.	s for personnel assing teams, involving ments, calculation ection of sample me	igned to of offsite lia are
	d.	Health physics drills involvin samples with actual elevated r of the post-accident sampling	ng analysis of inpl adiation levels, in system are conduct	ant liquid ncluding usage ed annually.
	e.	Joint emergency exercises invo emergency management organizat	lving participatio	n of offsite annually (See
		EPIP 37B).		

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E	MERGENCY PREPAREDNESS DRILLS	REVISION	Page 12 of 24
	PREDRILL CHEC	K-OFF	
DRI	LL TITLE	<u></u>	
			Initials/Date
1.	Objectives of drill developed and a	pproved.	/
2.	Scenarios developed and approved.		/
3.	Date of drill established that will affect plant operations.	least	/
4.	Offsite agencies notified as necess	ary:	
	a. National Weather Service (NWS)		/
	 Maricopa County Civil Defense & Services (MCCDES) 	Emergency	/
	c. Arizona Radiation Regulatory Ag	ency (ARRA)	/
	d. Maricopa County Sheriff's Offic	e	/
	e. Arizona Department of Emergency	Services	/
	f. Arizona Highway Patrol (DPS)		1
	g. Backup Ambulance Service		/
	h. Maryvale Samaritan Hospital		/
	i. Nuclear Regulatory Commission (NRC)	/
	j. Others (specify)		1
			/
			/
5.	APS departments notified as necessa	ry:	
	 Manager, Nuclear Operations (ap and time) 	oproval of date	/
	b. Maintenance and Operations Mana	iger	/
	c. Technical Support Manager		1

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PREDRILL CHECK-OFF (CONT'D)

		Initials/Date
	d. Administration Support Manager	
	e. Site Security	/
	f. Palo Verde Energy Information Center	/
	g. Public Information Department	/
	h. Telephone Operators	/
	i. Others (specify)	/
		/
		/
6.	Predrill briefing conducted, Simulated Message Forms and Drill Observer's Evaluations distribute	d. /

Reviewed ____

Onsite Emergency Planning Coordinator

C

PVNGS EMERGEN IMPLEMENTING PF	NCY PLAN ROCEDURE	PROCEDURE NO. EPIP-37A	APPENDIX C Page 1 of 2
EMERGENCY PREPAREDNESS DRILLS		REVISION	Page 14 of 24
		A States	
	DRILL SCEN	ARIO	
Developed by:			
NAME	TITLE		DATE
1			
2			
3			
Approved by:			
NAME	TITLE		DATE
1			·
2			
3(Signature)	Manager, Nucl Operations	ear	
Type of Drill:			
Date and Time to be Conduc	ted:		
Participating Organization	s:	<u> </u>	
Observer/Controller assign	ments:		

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DRILL SCENARIO (CONT'D)

OVERVIEW OF SCENARIO EVENTS:

INITIAL STATION CONDITIONS:

PRECAUTIONS: (i.e., safety, ensure that significant construction, maintenance, repair work is not interrupted, etc.)

SCENARIO: (Use additional sheets if necessary)

Time

0

Event

Key Plant Condition

Expected Response Actions

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SIMULATED MESSAGE FORM

THIS IS A DRILL

DO NOT TAKE ANY ACTIONS THAT WILL AFFECT STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO:

MESSAGE NO:

LOCATION:

MESSAGE:

TIME:

1. Keep your controller informed of actions to be taken.

 Request clarification from your controller if the message is not fully understood.

3. Request additional information if you feel it is needed.
| ON
ON
Date
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LARA conc | Page 17 of 24 |
|--------------------------------------------|-----------------------|
| Date | ure
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| Date
y, proced
LARA conc | ure
erns, adequate |
| Date | ure
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EMERGENCY PREPAR	LEDNESS DRILLS	REVISION 0	Page 18 of 24
To: Manager, Nucl From: Onsite Emerge Subject: 1. A 2. The drill was held	DRILL RE ear Operations ency Planning Coordi Drill Drill was condu	PORT nator cted on(Date, 	
3. Offsite assistance 4. A critique was concorrective action ——————————————————————————————————	ducted and the foll were noted:	owing recommendation	ns for

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PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-37A	APPENDIX F Page 2 of 2
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DRILL REPORT (CONT'D)

Corrective Action Assigned To Date Completed

Corrective actions reviewed and completed.

Signature (Manager, Nuclear Operations)

Date

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EMERGENCY PREPAREDNESS DRILLS		REVISION	Page 20 of 24
	MONTHLY COMMUNICATIO	NS DELLI RECORD	
		S DRILL RECORD	
Month Tested			
NAN DRILL MESSAGE:	THIS IS A TEST OF THE THE FOLLOWING STATION	NOTIFICATION AND AN REPORT IN:	LERT NETWORK,
NAN	TESTED SAT/UNSAT	CONNENT	rs
STSC Unit 1 Unit 2 Unit 3			
TSC			
EOF			
NWS			
ADES			
ARRA			
ICCDES			
DPS			
ICSO			
		and the second	
	AND ALERT NETWORK.	HLY TEST OF THE NO	TIFICATION

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EMERGENCY PREPAREDNESS DRILLS	0	Page 21 of 24
MONTHLY COMMUNICATIONS D	RILL RECORD (CONT'D	,
DEDICATED LEASED CIRCUIT DRILL		
MESSAGE: THIS IS A TEST OF THE	DEDICATED LEASED C	IRCUIT PHONE
SISTEM, THE FOLLOWING	STATIONS REPORT IN	•
DEDICATED TESTED		
DEDICATED TESTED LEASED CIRCUIT SAT/UNSAT	COMMEN	<u>TS</u>
DEDICATED TESTED LEASED CIRCUIT SAT/UNSAT	COMMEN	<u>TS</u>
DEDICATED TESTED LEASED CIRCUIT SAT/UNSAT STSC Unit 1 Unit 2 Unit 3	COMMEN	<u>TS</u>
DEDICATED TESTED LEASED CIRCUIT SAT/UNSAT STSC Unit 1 Unit 2 Unit 3 TSC Phone 1	COMMEN	<u>TS</u>
DEDICATED TESTED LEASED CIRCUIT SAT/UNSAT STSC Unit 1 Unit 2 Unit 3 FSC Phone 1 Phone 2	COMMEN	<u>TS</u>
DEDICATED TESTED LEASED CIRCUIT SAT/UNSAT STSC Unit 1 Unit 2 Unit 3 FSC Phone 1 Phone 2 EOF Phone 1	COMMEN	<u>TS</u>
DEDICATED TESTED LEASED CIRCUIT SAT/UNSAT STSC Unit 1 Unit 2 Unit 3 FSC Phone 1 Phone 2 EOF Phone 1 Phone 2	COMMEN	<u>TS</u>
DEDICATED TESTED LEASED CIRCUIT SAT/UNSAT STSC Unit 1 Unit 2 Unit 3 FSC Phone 1 Phone 2 EOF Phone 1 Phone 2 STSC Unit 1 Phone 2 STSC Phone 1 Phone 2 S	COMMEN	<u>TS</u>
DEDICATED TESTED LEASED CIRCUIT SAT/UNSAT STSC Unit 1 Unit 2 Unit 3 FSC Phone 1 Phone 2 SOF Phone 2 SOF	COMMEN	<u>TS</u>

THIS CONCLUDES THE MONTHLY TEST OF THE DEDICATED LEASED CIRCUIT.

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,	AUNTHI Y COMMINICATIONS D		
	TOWINDI COMMONICATIONS DE	CILL RECORD (CONT'D	2
DEDICATED FACSIMILE	TESTED SAT/UNSAT	COMMEN	TS
STSC Unit 1 Unit 2 Unit 3	=		
TSC			
EOF			
411 Corp. Office			
ARRA			
ADES			
BACKUP DEDICATED FACSIMILE	TESTED SAT/UNSAT	COMMENT	rs
ISC			
EOF			
411 Corp. Office			
ARRA			
ADES			
Corrective Actions:			
	*		
	Completed By/Date		

FVNGS E	MERGENC	Y PLA CEDU	N RE	PROCED NO. EPI	URE P-37A	APPENI Page 1	DIX H L of 2	
18. A. MAR				REVISION	4			
EMERGENCY	PREPAREDNESS	S DRILLS	3		0	Page 2	23 of 24	4
	ANNUAL	L COMMUN	ICATION	IS DRILL RE	CORD			
Date Tested								
	CR UNIT 1 /2 /3	STS 1 /2	C 2 /3	TSC	EOF	oso	C/ALT.	HP OFFI
TECHNICAL LINE *	_ / /	/	/			NA	/ NA	NA
RADIOLOGICAL * ASSESSMENT LINE	NA /NA /NA	/			JA		1	
ENVIRONMENTAL * ASSESSMENT LINE	NA /NA /NA	/	1			NA	/ NA	NA
EC/EOD * HOTLINE	<u>NA /NA /NA</u>	/	1			NA	/ NA	NA
DEDICATED LINES*								
CR Unit 1 Unit 2 Unit 3	<u>NA / /</u> /NA / / /NA	<u> </u> 	<u>/</u>				<u>/</u>	NA NA NA
STSC Unit 1	1 1	NA /	1				1	NA
Unit 2 Unit 3		- <u>/NA</u> /	/ <u>/</u> /NA -				1	NA NA
TSC	1 1	/	1	NA			1	NA
EOF	1 1	1	1		NA		1	NA
OSC	1 1	1	1			NA	1	NA
ALT. OSC	.1 1	1	1				/ NA	NA
MAINTENANCE * CONTROL LINE ·	/ /NA	1	/NA		NA		1	NA
COMMENTS:	- 1996	150.0						

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE		PROCEDURE NO. EPIP-37A	APPENDIX H Page 2 of 2
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EMERGENCY	PREPAKEDNESS DRILLS	0	Page 24 of 24
	ANNUAL COMMUNICATIONS DR	LILL RECORD (CONT'D)	2
	TESTED SAT/UNSAT	COMMEN	TS
ENC LINE FROM EOF			
ENC FACSIMILE FROM EOF			
EOF BASE STATION RADIO			
TSC BASE STATION RADIO		7.5	
STSC BASE STATION RADIO			

COMPLETE AND ATTACH THE MONTHLY COMMUNICATIONS DRILL RECORD

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EMERGENCY PREPAREDNESS EXERCISES	0	Page 1 of 13

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APPROVED BY: AR Bynn DATE 10/26/82 DATE EFFECTIVE 11-2-82

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PVNGS EMERGENCY PLAN IMPLEMENT/NG PROCEDURE	PROCEDURE NO. EPIP-273	
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EMERGENC	PREPAREDNESS EXERCISES	REVISION 0	Page 3 of 13
			1
1.0 0	BJECTIVE		
1.1	To establish guidelines for de and documenting NRC/FEMA emerge	eveloping, conducti gency preparedness	ng, evaluating exercises,
1.2	To test both onsite and offsit equipment, communications and coordination and interface with government.	te emergency person procedures, includ th federal, state a	nel, ing the nd county
1.3	To verify the adequacy of the the overall effectiveness of o preparedness.	Palo Verde Emergen onsite and offsite	cy Plan, and emergency
2.0 <u>RI</u>	FERENCES		
2.1	Implementing References		
	None		
2.2	Developmental References		
2.2.	PVNGS Emergency Plan, Sect Preparedness".	tion 8, "Monitoring	Emergency
2.2.	2 80PR-0ZZ01, PVNGS Training	g Program	
2.2.	3 NUREG-0654, Rev. 1, "Crite Evaluation of Radiological Preparedness in Support of	eria for Preparatio 1 Emergency Respons 6 Nuclear Power Pla	n and e Plans and nts"
2.2.	4 NRC/FEMA Joint Memorandum	No. 17	1.1
3.0 LI	MITATIONS AND PRECAUTIONS		
3.1	An exercise is an event that the of onshift, onsite and offsite	tests the emergency e response groups.	preparedness
4.0 DE	TAILED PROCEDURE		
4.1	Personnel Indoctrination		
4.1.	 Joint emergency exercises offsite radiological release response by offsite author Site or General Emergency) 	simulating events a ses to the extent of cities shall be cond	resulting in requiring ducted (i.e.

1.1

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IMPLEME	EMERGENCY PLAN NTING PROCEDURE	EPIP-37B	
		REVISION	
EMERGENCY P	REPAREDNESS EXERCISES	0	Page 4 of 13
4.1.2	The Corporate Health Physi the assistance of the Onsi Coordinator, is responsible development, conduct, evalue emergency preparedness exc	icist and Emergency ite Emergency Plann le for coordinating luation, and docume ercises.	Planner with ing the ntation of
4.1.3	Joint emergency exercises During a six-year period, to commence offshift - one and another between midnig	shall be conducted two exercises shal e between 6:00 p.m. ght and 6:00 a.m.	annually. 1 be scheduled and midnight
4.2 Pre	erequisites		
4.2.1	Exercises shall be conduct guidelines of the PVNGS En "Maintaining Emergency Pre	ted in accordance w mergency Plan, Sect eparedness".	ith the ion 8,
4.2.2	The Corporate Health Physi ensure that the exercise m Appendix A are met.	lcist and Emergency milestone dates def	Planner shall ined in
4.2.3	The Corporate Health Physi ensure that the Pre-Exerci is completed prior to the	lcist and Emergency lse Check-Off Sheet initiation of the	Planner shall (Appendix B) exercise.
4.3 Ins	tructions		
4.3.1	The Corporate Health Physi the assistance of state/co personnel, will develop th exercise.	lcist and Emergency punty emergency plan ne objectives to be	Planner, with ming met for each
4.3.2	The Corporate Health Physi with the cooperation of th Services, will ensure that developed within the time also ensure that the scena station initial conditions will adequately test the 1 of the groups involved in	cist and Emergency te Arizona Division the exercise scena frame of Appendix a trios' simulated even are developed in a evel of emergency p the exercise.	Planner , of Emergency ario is A. They will ents and manner that preparedness
4.3.2	.1 The Corporate Health P	hysicist and Emerge	ency Planner

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE		NO. EPIP-37B	
EMEDATION DEEDADEDNECS EVEDATORS		REVISION	Page 5 of 13
	a. The exercise results in of: require respon	will simulate an emerge fsite radiological rele nse by offsite authorit	ncy that ases which ies.
	b. The scenario : all major elempreparedness of five-year per:	is varied from year to ments of the response p organizations are teste iod.	year so that lans and d within a
	c. Once every si between 6:00 between midni;	x years, the exercise s p.m. and midnight, and ght and 6:00 a.m.	hall start another
4.3.3	The Onsite Emergency a exercise objectives a Manager, Nuclear Oper	Planning Coordinator sh nd an overview of the s ations, for review and	all submit the cenario to the approval.
4.3.4	The Corporate Health the Onsite Emergency the number of observe evaluate the exercise	Physicist and Emergency Planning Coordinator sh rs/controllers needed t •	Planner and all determine o adequately
4.3.5	Prior to the exercise Emergency Planner sha	, the Corporate Health 11:	Physicist and
	o Ensure that the P completed (Append	re-Exercise Check-Off S ix B).	heet has been
	 Conduct a pre-exe observers of the portions of the s which portions of 	rcise briefing to infor objectives of the exerci- cenario require strong the scenario permit fr	m the ise, which control, and ee play.
	o Distribute Simula Exercise Observer	ted Message Forms (Appe 's Evaluation Forms (Ap	endix C) and opendix D).
4.3.6	Following the exercis FEMA, NRC, and state shall be included in	e, critiques shall be c observers. PVNGS obser these critiques.	conducted by ever comments
4.3.7	A written report (App scenario, simulated m documentation attache Health Physicist and the Managar Nuclear	endix E) with critique essages, and additional d shall be prepared by Emergency Planner and s Operations.	results, l exercise the Corporate submitted to

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NG. . EPIP-37B	
EMERGENCY PREPAREDNESS EXERCISES	- REVISION 0	Page 6 of 13

- 4.3.8 The Manager, Nuclear Operations, shall review the exercise report, assign deficiencies as action items, and task them to the appropriate department.
- 4.3.9 The Onsite Emergency Planning Coordinator shall insure that Emergency Plan Implementing Procedures are revised as a result of deficiencies idencified by emergency drills and exercises.
- 4.3.10 The Vice President, Electric Operations shall review the corrective actions and if the appropriate actions are completed, sign off the Exercise Report.
- 4.3.11 Records of all exercises will be maintained by the Training Department.

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IMPLEMENTING PROCEDURE		EPIP-37B	Page 1 of 1
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EMERGENCY	PREPAREDNESS EXERCISES	0	Page 7 of 13
	MILESTONES FOR EXERCISE OBSE	RVATION AND CRITIC	QUES
- 75 days	State and licensee jointly sul NRC Regional Offices.	bmit exercise obje	ctive to FEMA and
- 60 days	FEMA and NRC Regional Offices licensee/state as necessary to	discuss and meet o prepare response	with .
- 45 days	State and licensee scenario de to FEMA and NRC regions for re	evelopers submit e ev.ew.	xercise scenario
- 35 days	FEMA and NRC regions notify st acceptability.	tate and licensee	of scenario
- 30 days	FEMA and NRC regions develop schedule with the state and a	specific post exer dvise FEMA and NRC	cise critique headquarters.
— 15 days	The RAC Chairman and NRC Team observer action plan (where s organization, what to look for	Leader will meet tationed, how many r).	to develop from each
- 1 day	Meeting, in the exercise area onsite and offsite to finalize instructions.	, of all Federal o e assignments, and	bservers both give
E day	Exercise.		
E day	FCMA and RAC observers caucus observers also caucus to colla	to collate observ ate observations.	ations. NRC
E day	RAC Chairman and NRC Team Lead respective caucuses as practic participation in critique.	der meet, as soon cal, to coordinate	after their federal
∑ to + 1 day	Joint RAC/NRC critique.	eral Agenda	
	 a. State, locals and licenset b. Critique of offsite action c. Critique of onsite action d. Critique of federal response e. Opportunity for clarificat licensee, state and local not be entertained during 	e present their vi ns, by RAC Chairma s, by NRC. nse (if applicable tion questions or s (press and publi the critique).	ews. n.) by RAC Chairman. comments by .c questions will
+ 15 days	Written critiques by FEMA reg headquarters and NRC and by NI to NRC headquarters and FEMA.	ion to state, with RC region to licen	copies to FEMA see with copies

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EMER	GENCY PREPAREDNESS EXERCISES	REVISION	Page 8 of 13
1	PRE-EXERCISE CHEC	K-OFF SHEET	•
			Initials/Date
1.	Develop exercise objectives, and so NRC/FEMA.	ubmit to	/
2.	NRC/FEMA approval of objectives.		/
3.	Scenario developed and approved by Nuclear Operations.	Manager,	/
4.	Submit scenario to NRC/FEMA for re- approval.	view and	/
5.	NRC/FEMA approval of objectives.		/
6.	Offsite agencies notified as neces	sary:	
	a. National Weather Service (NWS)		/
	 Maricopa County Civil Defense Services (MCCDES) 	& Emergency	/
	c. Maricopa County Sheriff's Offic	ce	
	d. Arizona Highway Patrol (DPS)		/
	e. Backup Ambulance Sorvice		
	f. Helicopter Service		/
	g. Maryvale Samaritan Hospital		/
	h. Federal Emergency Management A	gency (FEMA)	/
	i. Nuclear Regulatory Commission	(NRC)	/
	j. Arizona Division of Emergency	Services (ADES)	/
	k. Arizona Radiation Regulatory A	gency (ARRA)	/
•	1. Others (specify)		1
			/
	비행 이 사람들은 것 같아요. 문		1

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-37B	APPENDIX B Page 2 of 2
EMERGENCY PREPARCONESS EXERCISES	REVISION 0	Page 9 of 13
PRE-EXERCISE CHECK-OFF	F SHEET (CONT'D)	
		Initials/Date
7. APS departments notified as necessa	ary:	
a. Manager, Nuclear Operations		/
b. Maintenance and Operations Supe	ervisor	/
c. Technical Support Manager		/
d. Administration Support Manager		/
e. V.P. Electric Operations	1. A. A.	/
f. Site Security		/
g. Community Relations and Consume Department	er Affairs	/
h. Public Information Department		/
i. Telephone Operators		
j. System Control Department		
k. Others (specify)		
	<u> </u>	/
		/
8. Pre-exercise briefing conducted, Si Forms and Exercise Observer's Fuel	mulated Message	
distributed.	actons	1

Reviewed _______ Emergency Planner and Site Emergency Coordinator

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EMERGENCY PREPAREDNESS EXERCISES	REVISION	Page 10 of 13

SIMULATED MESSAGE FORM

THIS IS AN EXERCISE

DO NOT TAKE ANY ACTIONS THAT WILL AFFECT STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO:

LOCATION:

MESSAGE:

MESSAGE NO:

TIME:

1. Keep your controller informed of actions to be taken.

 Request clarification from your controller if the message is not fully understood.

3. Request additional information if you feel it is needed.

IMPLEMENTING PROCEDURE	NO. EPIP-37B	APPENDIX D Page 1 of 1
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EMERGENCY PREPAREDNESS EXERCISES	0	Page 11 of 13
EXERCISE OBSERVER	'S EVALUATION	영양 가슴.
Exercise Observer/Controller	Date	
Type of Exercise		
Area of Responsibility		
Comments (Include safety concerns, procedur compliances, radiological consider materials available, etc.)	re adequacy, proced cations, ALARA cond	dure cerns, adequate

IMPLEMENTING PROCEDURE	PROCEDURE NO. FPTP-37P	APPENDIX E
	REVISION	rage 1 OF 2
EMERGENCY PREPAREDNESS EXERCISES	0	Page 12 of 13
EVEDATER D	PDODT	
The Man Draddart Flasteda Occurre	LPURI	
15: Vice Fresident, Electric Operatio	ons	
From: Corporate Health Physicist and E	mergency Planner	
Subject: Emergency Preparedness Exercise		
1. An Emergency Preparedness Exercise was	a conducted on	
		(Date)
3 The eventee we held on		
2. The exercise was held on	Shift.	
3. Offsite assistance utilized was		
 A critique was conducted and the follo corrective action were noted: 	owing recommendatio	ns for
		·
		·
Continue on additional sheets	as necessary	
Continue on additional sheets	as necessary	· · · · · · · · · · · · · · · · · · ·
Continue on additional sheets	as necessary	
Continue on additional sheets Signature Corporate Health	as necessary	rgency Planner

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EMERGENCY PREPAREDNESS EXERCISES	REVISION 0	Page 13 of 13

EXERCISE REPORT (CONT'D)

Corrective Action Date Completed Assigned To

Corrective actions reviewed and completed.

Signature (Vice President, Electric Operations)

Date

· · · · ·

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-38	
EMERGENCY EQUIPMENT AND SUPPLIES INVENTORY	REVISION 0	Page 1 of 12

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APPROVED BY: Allandequese DATE 10/4/82

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2.0 REFERENCES		3
3.0 LIMITATIONS AND PRECAUTIONS		3
4.0 DETAILED PROCEDURE		3
4.1 Personnel Indoctrination4.2 Prerequisites4.3 Instructions		3 4 4
APPENDICES		
Appendix A - Emergency Kit/Locker Inventory f TSC, CR, OSC, and Service Builds	for EOF,	5
Appendix B - Emergency Vehicle Supply Invento	ory	7
Appendix C - Maryvale Samaritan Hospital Emer Inventory	gency Locker	9
Appendix D - Typical Equipment and Supply Lis Control Point and OSC)	t (Near Access	10

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO.	
EMERGENCY EQUIPMENT AND SUPPLIES INVENTORY	REVISION	Page 3 of 12

1.0 OBJECTIVE

1.1 To provide a means of insuring the operational readiness and availability of equipment required for implementation of the EPIP's.

2.0 REFERENCES

2.1 Implementing References

- 2.1.1 EPIP-03, "NOTIFICATION OF UNUSUAL EVENT Implementing Actions"
- 2.1.2 EPIP-04, "ALERT Implementing Actions"
- 2.1.3 EPIP-05, "SITE EMERGENCY Implementing Actions"
- 2.1.4 EPIP-06, "GENF"AL EMERGENCY Implementing Actions"
- 2.2 Developmental References
 - 2.2.1 NUREG 0654, Rev. 1, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants
 - 2.2.2 NUREG 0696, Feb. 1981, Functional Criteria for Emergency Response Facilities
 - 2.2.3 PVNGS Emergency Plan, Rev. 2, Section 7.0, "Emergency Facilities and Equipment"

3.0 LIMITATIONS AND PRECAUTIONS

- 3.1 First-Aid equipment and supplies shall be maintained under the direction of the Safety Director.
- 3.2 Equipment and supplies utilized on a daily basis but which may be used during an emergency shall be maintained through existing surveillance procedures.

4.0 DETAILED PROCEDURE

4.1 Personnel Indoctrination

4.1.1 In order to insure that availability may be required during the course of an end

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EMERGE SUP	NCY EQUIPMENT AND PLIES INVENTORY	REVISION 0	Page 4 of 12
	PVNGS, the Radiation Prote responsible for conducting emergency equipment and su	ction Supervisor s a quarterly invent pplies.	hall be tory of
4.2 Pr	erequisites		
4.2.1	Emergency equipment and su conducted in accordance wi Section 7.	pplies inventory with the PVNGS Emerge	111 be ency Plan,
4.3 In	structions		
4.3.1	Dedicated emergency equipm emergency lockers shall be Emergency lockers/kits are locations:	ent and supplies lo inventoried quarte maintained at the	ocated in the erly. following
	 a. Control Room/STSC of E b. Operations Support Cen c. Service Building (alte d. TSC e. EOF f. Emergency Radiological g. Maryvale Samaritan Hos 	ach Unit ter of Each Unit rnate OSC) Vechicle pital	
4.3.3	Inventory is accomplished C. Each appendix contains specified emergency storag required, battery recharge blanks must be filled in w	utilizing Appendice the designated equ e location. Calibu /replacement, and d hen inventoried.	es A through nipment for a cation date/initial
4.3.4	Instruments and communicat emergency lockers shall be use. Calibration of radia conducted at intervals est Protoction Section.	ions equipment stor <u>tested</u> quarterly a tion survey instrum ablished by the Rad	red in the and after each ments shall be diation
4.3.5	Equipment or supplies foun shall be repaired or repla	d to be deficient of ced promptly.	or inoperable
4.3.6	Records of the inventory a will be maintained by the 1 with a copy forwarded to t Coordinator and the Corpor Emergency Planner.	nd checks of emerge Radiation Protection he Onsite Emergency ate Health Physicis	ency equipment on Supervisor v Planning st and

4.3.7 Calibration records of radiation survey instruments will be maintained by the Radiation Protection Section.

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	PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-38	APPENDIX A Page 1 of 2
	EMERGENCY EQUIPMENT AND SUPPLIES INVENTORY	REVISION 0	Page 5 of 12
	EMERGENCY STORAGE AT THE EOF, OSC, AND THE SERVICE H	TSC, CR (ONE EACH BUILDING	H UNIT),
	MAPS AND FORMS		
	 5 Plant Layout Drawings 2 Onsite Monitoring Maps 2 Offsite Monitoring Maps 5 Emergency Onsite and Offsite Monitor Particulate and Iodine, and Soil, MI 	ing Data Sheet (Do lk, Water and Veg.	ose Rate, • Samples)
•	EMERGENCY KIT EQUIPMENT - (Office Supp	lies)	
	<pre>1 Log Book - 9 1/2" x 6" (Accounting B 1 Box Pencils (Sharpened) 1 Ream of Paper (Yellow Tablets) 1 Box Colored Pencils 1 Box Grease Pencils 3 Clip Boards 1 Stopwatch 1 Box "D" Size Batteries 1 Roll of Quarters</pre>	ook)	
	EMERGENCY KIT EQUIPMENT - (Tools)		
	<pre>2 Flashlights 2 Pocket Knives 1 18" Boltcutter 1 8" Common Screwdriver 1 8" Phillips Screwdriver 1 Diagonal Pliers 1 Regular Pliers 1 Long Nose Pliers 2 Portable 2-Way Radios 2 Radio Chargers</pre>		
•	PEPSONNEL DECONTAMINATION SUPPLIES		
	5 Bars of Soap 2 Bottles of Shampoo 2 Razors 3 Packages Razor Blades 2 Packages of Q-Tips 1 Scissors 1 Nail File		

	PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-38	APPENDIX A Page 2 of 2
	EMERGENCY EQUIPMENT AND SUPPLIES INVENTORY	REVISION 0	Page 6 of 12
	EMERGENCY STORAGE AT THE EOF, OSC, AND THE SERVICE BUILD	, TSC, CR (ONE EACH DING (CONT'D)	H UNIT),
	<pre>2 Cans Shaving Cream 7 Rolls Bath Towels (Disposable) 4 Hand Towels 4 Washcloths 2 Packages Absorbant Wipes KMn04</pre>		
D.	PERSONNEL PROTECTION ITEMS		
	10 Hoods 20 Plastic Shoe Covers 10 Cotton Liners 10 Rubber Shoe Covers 10 Rubber Gloves 5 Respirators 10 Charcoal Respirator Filters 3 Rolls Duct Tape Rolls 7 Boxes Disposable Gloves		
ē.	RADIOLOGICAL CONTROL EQUIPMENT		
	<pre>1 E520 w/Probes 1 E530 w/Probes 1 P1C 6A 2 Air Samplers, High Volume 2 Air Samplers, Battery Powered 1 Frisker w/Probes and Cords 2100' Yellow Poly Batrier Rope 24 Large Yellow Poly Batrier Rope 24 Large Yellow Poly Bags - 24" x 36" 12 Barrier Signs with Inserts 20 Yellow Poly Bags 25 TLD's and Issue Forms 10 Dosimeters 0-1 R 10 Dosimeters 0-200 mR 1 Dosimeter Charger 1 Box Ziplock Bags 1 Roll Glad Wrap 200 Smears and Envelopes 50 Charcoal Cartridges (Air Sampler) 10 Silver Zeolite Cartridges (Air Sampler)</pre>	oler)	

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EMERGENCY EQUIPMENT AND SUPPLIES INVENTORY	REVISION	Page 7 of 12
EMERGENCY RADIOLOGICAL VEHIC	CLE SUPPLY INVENTOR	Υ
A. MAPS AND FORMS		
2 Onsite Monitoring Mane		

2 Offsite Monitoring Maps 2 Offsite Monitoring Maps 5 Sets of Emergency Onsite and Offsite Monitoring Data Sheets

B. EMERGENCY KIT EQUIPMENT - (Office Supplies)

1 Log Book - 9 1/2" x 6" (Accounting Book) 1 Box Pencils (Sharpened) 1 Ream of Paper (Yellow Tablets) 1 Box Colored Pencils 1 Box Grease Pencils 3 Clip Boards 1 Stopwatch 1 Box "D" Size Batteries 1 Roll of Quarters

EMERGENCY KIT EQUIPMENT - (Tools)

2 Flashlights 2 Pocket Knives 1 18" Boltcutter 1 8" Common Screwdriver 1 8" Phillips Screwdriver 1 Diagonal Pliers 1 Regular Pliers 1 Long Nose Pliers 2 Portable 2-Way Radios 2 Radio Chargers

C. PERSONNEL DECONTAMINATION SUPPLIES

5 Bars of Soap 2 Bottles of Shampoo 2 Razors 3 Packages Razor Blades 2 Packages of Q-Tips 1 Scissors 1 Nail File 1 Hand Operated Hair Clipper

	PVNGS EMERGENCY PLAN	PROCEDURE NO.	APPENDIX B
	EMERGENCY EQUIPMENT AND SUPPLIES INVENTORY	REVISION	Page 2 of 2 Page 8 of 12
	EMERGENCY RADIOLOGICAL VEHICLE SU	JPPLY INVENTORY (C	ONT'D)
	2 Cans Shaving Cream 7 Rolls Bath Towels (Disposable) 4 Hand Towels 4 Washcloths 2 Packages Absorbant Wipes KMn04		
D.	PERSONNEL PROTECTION ITEMS		
	10 Pair Coveralls 10 Hoods 20 Plastic Shoe Covers 10 Cotton Liners 10 Rubber Shoe Covers 10 Rubber Gloves 5 Respirators 10 Charcoal Respirator Filters 3 Rolls Duct Tape Rolls 7 Boxes Disposable Gloves		
E	RADIOLOGICAL CONTROL EQUIPMENT		
	<pre>1 E520 w/Probes 1 E530 w/Probes 1 PIC 6A 2 Air Samplers, High Volume 2 Air Samplers, Battery Powered 1 Frisker w/Probes and Cords 2100' Yellow Poly Barrier Rope 24 Large Yellow Poly Bags - 24" x 36" 12 Barrier Signs with Inserts 20 Yellow Poly Bags 25 TLD's and Issue Forms 10 Dosimeters 0-1 R 10 Dosimeters 0-200 mR 1 Dosimeter Charger 1 Box Ziplock Bags 1 Roll Glad Wrap 200 Smears and Envelopes 50 Charcoal Cartridges (Air Sampler) 10 Silver Zoolite Contridees (Air Sampler)</pre>		

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MARYVALE SAMARITAN HOSPITAL EMERGENCY LOCKER INVENTORY

1 Roll Herculite, Green - 54" x 100 Yards 3 Roll Herculite, Yellow - 54" x 100 Yards 1 Roll Herculite, White - 54" x 100 Yards 1 Eberline PIC-6A Survey Meter 1 Frisker w/Pancake Probe and Cord 15 0 to 1R Dosimeters, Self-Reading 15 0 to 200 mR Dosimeters, Self-Reading 1 Dosimeter Charger 15 TLD Badges 15 TLD Rings 1 Lead Pig 1 Decon Table Top 1 30 Gallon Container w/Wheels 24 Rools of Yellow Tape, Pressure Sensitive w/Radiation Symbols 150' Yellow and Magenta Barrier Rope 12 Rope Stanchions 5 Dosimetry Distribution and Exposure Forms 12 Barrier Signs w/Inserts

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TYPICAL EQUIPMENT AND SUPPLY LIST (NEAR ACCESS CONTROL POINT AND OSC)

PERSONNEL DECONTAMINATION AREAS (2)

Bars of Scap Bottles of Shampoo Razors Razor Blades, Sets Cotton Swabs Scissors Nail Files Hair Clippers Shaving Cream Spray Foam Decontaminant Bath Towels (Disposable Rolls) Hand Towels Washcloths Absorbant Wipes KMn04 Adhesive Strips 1 Liter Polyethelene Bottles

RESPIRATORY ISSUE ROOM

Respirator Respirator Filter Self-Contained Breathing Device Geiger Counters, Portable Beta/Gamma 0-200 mR/hr Geiger Counters, Portable Beta/Gamma 0-2000 mR/hr Ion Chambers, Portable Beta/Gamma 1 mR/hr - 1000 R/hr Air Samplers, Portable, High Volume Friskers

CLOTHING ISSUE ROOM

Anti-C Coveralls Anti-C Hoods Plastic Shoe Covers Rubber Shoe Covers Rubber Gloves Cotton Liners

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PRQCEDURE NO. EPIP-38	APPENDIX D Page 2 of 3
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TYPICAL EQUIPMENT AND SUPPLY LIST (NEAR ACCESS CONTROL POINT AND OSC) (CONT'D)

RADIATION PROTECTION OFFICE

Dosimeters 0-1 R, Self-Reading Dosimeters 0-200 mR, Self-Reading Dosimeter Charger Swipes and Envelopes Charcoal Cartridges (Air Sampler) Silver Zeolite Iodine Cartridges (Air Sampler) Air Sampler Filter Holders Barrier Rope Large Yellow Poly Bags Flashlights Plastic Bags TLD's and Issue Forms Pocket Camera, Instamatic Film, Unexposed, 24 Exposure (2) Various Unit Maps Two-Way Radios

FIRST AID ROOM

Decontamination Kit Sample Taking Kit Decontamination Table Top w/Water Collection Containers Stretcher Stethoscope Sphygmomanometer Kit Oxygen Emergency Resuscitator Bag #2 Air Way #5 Air Way Set Inflatable Splints Blankets Pillow Surgical Gloves Scissors Bath Towel Hand Towel Face Towel Ace Bandage Combine Dressing - 5" x 9"

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PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-38	APPENDIX D
EMERGENCY EQUIPMENT AND SUPPLIES INVENTORY	REVISION	Page 12 of 12

TYPICAL EQUIPMENT AND SUPPLY LIST (NEAR ACCESS CONTROL POINT AND OSC) (CONT'D)

FIRST AID ROOM (CONT'D)

Elastic Bandage Cotton Balls Cotton Tippled Applicators Eye Pads Triangular Bandages 4 x 4 Gauze Pads 2 x 2 Gauze Pads Adhesive Tape Alcohol Wipes Betadine Wipes Rubbing Alcohol 3M Disposable Hand Brush 3M Betadine Hand Brush Merthiolate Swabs Orthopedic Stretcher

. PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-39	
EMERGENCY OPERATIONS DIRECTOR (TOP)	REVISION	
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PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-39	
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	OBJECTIVE REFERENCES LIMITATIONS AND PRECAUTIONS DETAILED PROCEDURE 4.1 Personnel Indoctrination 4.2 Prerequisites 4.3 Instructions

APPENDICES

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Appendix A - Emergency Operations Director Check List

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1.0 OBJECTIVE

The objective of this procedure is to provide instructions for the Emergency Operations Director (EOD) to complete his responsibility for overall command of the APS onsite and offsite emergency functions.

This procedure addresses the following responsibilities:

- Coordinate all APS onsite and offsite emergency functions; 0
- Interface between APS and federal/state/local emergency 0 response agencies; 0
- Communicate plant status updates and radiological release data to APS, federal, state and county personnel; 0
- Notify state and county agencies concerning recommended protective actions; 0
- Provide administrative, technical, and logistical support to station emergency operations; and, 0
- Ensure continuity of emergency organization resources.

2.0 REFERENCES

2.1 Implementing References

EPIP-01 "APS Emergency Organization" 2.1.1

- EPIP-08 "Notification Process Alert, Site Emergency, or 2.1.2 General Emergency"
- EPIP-13 "Emergency Operations Facility Activation" 2.1.3
- 2.1.4 EPIP-15 "Protective Action Guidelines"
- 2.1.5 EPIP-31 "Recovery"
- EPIP-54 "Government Staffing at EOF" 2.1.6
- 2.2 Developmental References
 - NUREG-0654, Rev. 1, "Criteria for Preparation and 2.2.1 Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants"
 - PVNGS Emergency Plan 2.2.2
| PVNGS EMERGENCY PLAN
IMPLEMENTING PROCEDURE | PROCEDURE
NO.
EPIP-39 | | |
|------------------------------------------------|-----------------------------|-------------|--|
| EMERGENCY OPERATIONS DIRECTOR (EOD) | REVISION
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3.0 LIMITATIONS AND PRECAUTIONS

- 3.1 Upon notification, the designated Emergency Operations Director shall report to the Emergency Operations Facility (EOF) and achieve full functional operation as soon as possible (generally within 90 minutes).
- 3.2 The Emergency Operations Director shall contact the Emergency Coordinator and receive a full briefing before declaring the EOF operational. He shall notify the Emergency Coordinator as soon as he assumes overall command.

4.0 DETAILED PROCEDURE

- 4.1 Personnel Indoctrination
 - 4.1.1 The Emergency Operations Director exercises overall command of APS emergency operations during an ALERT, or more severe accident once the EOF is operational.
 - 4.1.2 The Vice President, Electric Operations (or his alternates, Technical Support Manager or Manager of Nuclear Operations Support) assumes the position of Emergency Operations Director at the EOF. He ensures that all other necessary EOF functional assignments have been made and that all positions are operational.
 - 4.1.3 The Emergency Operations Director directs all APS emergency functions; coordinates onsite, offsite and corporate response organization; and assumes from the Emergency Coordinator the responsibility for (1) notifying and communicating with offsite emergency management agencies and (2) making protective action recommendations to offsite emergency management agencies, as necessary.
 - 4.1.4 The Emergency Operations Director commands the offsite organization at the EOF directly and the onsite organization at the Technical Support Center and Control Room through the Emergency Coordinator. He also communicates with the Corporate Emergency Center Director at corporate headquarters and keeps him informed.

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-39		
EMERGENCY OPERATIONS DIRECTOR (EOD)	REVISION	Page 5 of 9	

- 4.2 Prerequisites
 - 4.2.1 An ALERT or more severe emergency has been declared and procedures EPIP-04, 05, or 06, EPIP-08 and EPIP-13 are being implemented.
 - 4.2.2 The Emergency Operations Director has been fully briefed by the Emergency Coordinator before assuming command.
- 4.3 Instructions
 - 4.3.1 The Emergency Coordinator shall notify (or orders the notification) of the Vice President, Electric Operations (or, if he is unavailable, his alternates, Technical Support Manager or Manager of Nuclear Operations Support). The emergency situation and plant status shall be explained.
 - 4.3.2 The Vice President, Electric Operations (or his alternates, Technical Support Manager or Manager of Nuclear Operations Support) shall report to the EOF as soon as possible and assume the position of Emergency Operations Director (EOD).
 - 4.3.3 The EOD shall complete the designated checklist (Appendix A) as soon as possible and shall review the checklist periodically to assure completion of required updates and continuing tasks.
 - 4.3.4 On a periodic basis and when the emergency class changes, the EOD shall provide plant status updates and radiological release data to APS, federal, state and county personnel in accordance with EPIP-08, using the FOLLOWUP EMERGENCY MESSAGE FORM (Appendix E to EPIP-08) and EMERGENCY NOTIFICATION CALL CHECKLIST (Appendix F to EPIP-08) and EPIP-54 for Federal and State personnel present at the EOF.
 - 4.3.5 On a periodic basis and when the emergency class changes, the EOD shall recommend protective actions to state and county agencies in accordance with EPIP-08, and EPIP-15 using the FOLLOWUP EMERGENCY MESSAGE FORM (Appendix E to EPIP-08).
- 4.3.6 As part of his ongoing activities, the EOD shall consult with EOF staff and the Emergency Coordinator and communicate with the Corporate Emergency Center Director.

F IN	PVNGS EMERGENCY PLAN	PROCEDURE NO. EPIP-39	APPENDIX A Page 1 of .
		REVISION	AGKE 1 OF 4
EMI	RGENCY OPERATIONS DIRECTOR (EOD)	0	Page 6 of 9
	EMERGENCY OPERATIONS D	DIRECTOR CHECKLIST	
	ACTION ITEMS		TIME/INITIALS
1.	Report to the EOF (or TSC, initi for briading.	ally),	/
2.	Contact Emergency Coordinator an	d review:	
	a. Basis for classification o	f event.	
	b. Status of plant conditions	•	/
	 Corrective actions being implemented. 		
	 d. Status of notifications to other APS offsite staff and offsite emergency management agencies. 	d	
3.	Ensure that the following position staffed and review readiness:	ons are .	
	a. Radiological Assessment Coo	ordinator.	/
	b. Technical Analysis Coordina	ator.	
	c. EOF Contact.		
	d. Administrative and Logistic Coordinator.	:S	/
4.	Conduct briefing with available E personnel. As a minimum, the fol items shall be discussed:	COF lowing	
	a. Adequacy of activation.		/
	 Ability of assigned personn to assume their emergency d 	el uty	
	LOTES.		
	c. Operability of equipment.		1

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PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-39	APPENDIX A Page 2 of 4
EMERGENCY OPERATIONS DIRECTOR (EOD)	REVISION	Page 7 of 9

EMERGENCY OPERATIONS DIRECTOR CHECKLIST (CONT'D)

ACTION ITEMS

- Notify the TSC and CEC when the EOF is operational.
- Notify the Emergency Coordinator and the Corporate Emergency Center Director that EOD has assumed control and responsibility for offsite communications.
- Complete the FOLLOWUP EMERGENCY MESSAGE FORM in accordance with EPIP-08 in anticipation of next offsite update and recommendation of protective actions.
- 8. Contact the following offsite agencies and notify that ECF is operational and that EOD is in command and has offsite communication responsibilities. Provide plant status update and protective action recommendations using completed FOLLOWUP EMERGENCY MESSAGE FORM in accordance with EPIP-08 and EPIP-15.

Arizona Dept. of Emergency Services (Using NAN or alternate, NAWAS)

Arizona Radiation Regulatory Agency (Using NAN or alternate, NAWAS)

Maricopa County Dept. of Civil Defense and Emergency Services (Using NAN or alternate, NAWAS)

NRC Headquarters (Using ENS or alternate, HPN)

Federal and State Staff at FOF per EPIP-54

 Review onsite actions and requirements periodically with the Emergency Coordinator. TIME/INITIALS

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PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-39	APPENDIX A Page 3 of 4
EMERGENCY OPERATIONS DIRECTOR (EOD).	REVISION	Page 8 of 9

EMERGENCY OPERATIONS DIRECTOR CHECKLIST (CONT'D)

ACTION ITEMS

TIME/INITIALS

- 10. Communicate with Corporate Emergency Center Director as necessary.
- 11. Consult with EOF Staff as necessary.
- Repeat steps 6-9 periodically as necessary and whenever the emergency class changes.

(Update No. 2)

(Update No. 3)

(Update No. 4)

(Update No. 5)

- 13. Declare the emergency over when the unit is in a controlled stable condition; notify offsite agencies as in Step 8 and the APS emergency organization.
- Relinquish control of the situation to the Recovery Manager in accordance with Procedure EPIP-31.
- 15. Collect all EOF personnel check lists and logs.

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IMPLEMENTING	PROCEDURE	PROCEDURE NO. EPIP-39	APPENDIX A Page 4 of 4
EMERGENCY OPERATIONS	DIRECTOR (EOD)	REVISION	Fage 9 of 9
EMERGENC	T OPERATIONS DIRECT	OR CHECKLIST (CON	T'D)
	Emergency Operatio Director Signature	ns	
	Date		
EOD RELIEF			
t on (date)	I relinquished t	he EOD role to	
(2222)	for		
(name)	(reason)		
	Emergency Operation Director Signature	15	
acknowledge assumption	of the EOD role as r	noted above.	
acknowledge assumption	of the EOD role as r Relieving EOD Signature	noted above.	
acknowledge assumption	of the EOD role as r Relieving EOD Signature	noted above.	
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IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-40	
ADMINISTRATIVE AND LOGISTICS COORDINATOR (ALC)	REVISION	Page 1 of 7
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ADMINISTRATIVE AND LOGISTICS COORDINATOR (ALC)	REVISION	Page 2 of 7

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Appendix A - Administrative and Logistics Coordinator Check List

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SECTION

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-40	
ADMINISTRATIVE AND LOGISTICS COORDINATOR (ALC)	REVISION	

1.0 OBJECTIVE

The objective of this procedure is to provide instructions for the Administrative and Logistics Coordinator (ALC) to complete his responsibility for the planning and provision of logistical support to the APS emergency organization.

2.0 REFERENCES

- 2.1 Implementing References
 - 2.1.1 EFIF-01 "APS Smergency Organization"
 - 2.1.2 MPIP-08 "Notification Process Alert, Site Emergency or General Emergency"
 - 2.1.3 EPIF-13 "Emergency Operations Facility Activation"
 - 2.1.4 EPIP-33 "Ufisite Assistance"
 - 2.1.5 EPIP-54 "Sovernment Staffing at EOF"
- 2.2 Developmental References
 - 2.2.1 NUREG-0654, Rev. 1, "Criteria for Preparation and Braluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants"
 - 2.2.2 PVNGS Emergency Plan

3.0 LIMITATIONS AND PRECAUTIONS

- 3.1 Upon notification, the designated ALC shall report to the Emergency Operations Facility (EOF) and achieve full functional operation as soon as possible (generally within 90 minutes).
- 3.2 The ALC shall contact the Emergency Operations Director (EOD) and receive a briefing on the emergency status. The ALC shall provide the EOD with a briefing on his operational status.

PVNGS IMPLEME	EMERGENCY PLAN	NO. EPIP-40	
ADMINIST COC	RATIVE AND LOGISTICS RDINATOR (ALC)	REVISION 0	Page 4 of
4.0 ' DETA	ILED PROCEDURE	- '	
4.1 Pe	rsonnel Indoctrination		
4.1.1	The ALC will be located at for calling in offsite res provision of logistical su organization. When he bec with the Emergency Coordin	the EOF and will h ources and for the pport for the APS e omes operational, h ator in implemention	be responsible planning and emergency te will work tg EPIP-33.
4.1.2	The ALC shall provide, at logistical support:	a minimum, the foll	oving
	a. Provision of needed te	chnical documents.	
	 b. Provision of any addit analytical equipment. 	ional communication	us and
	c. Provision of additiona	1 security support.	
. se	d. Provision of manpower	support.	
	e. Provision of transport	ation.	
	f. Provision of housing an	nd food needs.	
	g. Act as liaison to any	reporting support p	ersonnel.
	h. Act as liaison with Ame	erican Nuclear Insu	rers.
4.1.3	The ALC is responsible to	the EOD.	
4.1.4	The ALC directs the activit Communicator, the Security Clerk.	tes of the Logistic Coordinator and th	s e Dosimetry
4.1.5	The ALC is a designated per Support Staff with ALC train	rson from the Nucle	ar Operation
4.2 Pre	requisites		
4.2.1	An ALERT or more severe eme procedures EPIP-04, 05, or being implemented.	ergency has been de 06, EPIP-08 and EP	clared and IP-13 are
4.2.2	The FOD and ALC have conduc	ted on initial bas	

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PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	NO. EPIP-40	
ADMINISTRATIVE AND LOGISTICS COORDINATOR (ALC)	REVISION	Page 5 of 7

4.3 Instructions

· · · ·

- 4.3.1 Upon being notified that an ALERT or more severe level emergency has been declared, the ALC shall report to the EOF as soon as possible.
- 4.3.2 The ALC shall contact the EOD and receive an initial briefing.

4.3.3 The ALC shall complete the designated checklist (Appendix a) and report readiness to the EOD.

4.3.4 The ALC shall provide continuing logistics support to the APS emergency organization as necessary.

	IMPLEMENTING PROCEDURE	PROCEDURE NO. EPTP-40	APPENDIX A
	ADMINISTRATIVE AND LOGISTICS COORDINATOR (ALC)	REVISION	rage 1 of 2
		1 0	Page 6 of 7
	ADMINISTRATIVE AND LOGISTICS	COORDINATOR CHECK	C LIST
ACT	ION ITEMS		TIME / INITIALS
1.	Ensure that the following equipment is	operational.	
	a. SPDS	operational.	
	b. CRACS		
	c. EOF Computer Terminals (RE&M, SIMS	, RMS, CRACS)	
2.	Ensure support organizations such as Be	echtel CE INPO	
	are contacted to obtain necessary techn	nical support	
	per EPIP-33 (assume this function from	Emergency	
	coordinator).		
3.	Check that facilities available to anot		
	personnel are adequate.	gency response	
4.	Provide readiness briefing to Emergency	Operations	
	Director.		- / .
5.	Provide for additional manager autors		
	by contacting organizations per EPIP-33	as necessary	
		•	- <u>/</u> *
0.	As necessary obtain required:		
	a. Technical documents		,
	b. Communication equipment		
	c. Analytical equipment		
	d. Transportation support		
•	e. Housing and food for emergency resp	onse personnel	
7.	Contact American Nuclear Insurance and d	nfana sha c	
	situation.	alora them of	/ *
3.	Ensure that the following model		
	fully briefed:	staffed and	
	a. Logistics Communicator		S. S. Barthand
	b. Dosimetry Clerk		
	c. Security Coordinator .		
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PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-40	APPENDIX A Page 2 of 2	
ADMINISTRATIVE AND LOGISTICS COORDINATOR (ALC)	REVISION 0	Page 7 of 7	

ADMINISTRATIVE AND LOGISTICS COORDINATOR CHECK LIST (CONT'D)

ACTION ITEMS

6

TIME/INITIALS

9. Assist government staff with logistics as necessary per EPIP-54.

_____/

 Submit checklist, logs and other data to EOD when emergency is cancelled.

> Administrative and Logistics Coordinator Signature_____ Date

IMPLEMENTING PROCEDURE	NO. EPIP-41	
	REVISION	
RADIOLOGICAL ASSESSMENT COORDINATOR (RAC)	0	Page 1 of 6
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PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-41	
RADIOLOGICAL ASSESSMENT CCORDINATOR (RAC)	REVISION .	Page 2 of 6

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4.0	DETAILED PROCEDURE	4
	 4.1 Personnel Indectrination 4.2 Prerequisites 4.3 Instructions 	4 4 4

APPENDICES

Appendix A - Radiological Assessment Coordinator Check List

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-41	
	REVISION	
RADIOLOGICAL ASSESSMENT COORDINATOR (RAC)	0	Page 3 of 6

1.0 OBJECTIVE

The objective of this procedure is to provide instruction for the Radiological Assessment Coordinator (RAC) to complete his responsibility for monitoring and assessing radiological releases. This procedure addresses the following:

- . o Responsibilities of the RAC
 - o Activities to be carried out by the RAC during an emergency
 - Coordination between the RAC and other members of the emergency organization.

2.0 REFERENCES

- 2.1 Implementing References
 - 2.1.1 EPIP-01 "APS Emergency Organization"
 - 2.1.2 EPIP-13 "EOF Activation"
 - 2.1.3 EPIP-14A, 14B "Release Rate Determination" and "Dose Assessment"
 - 2.1.4 EPIP-15 "Protective Action Guidelines"
- 2.2 Developmental References
 - 2.2.1 NUREG-0654, Rev. 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants."
 - 2.2.2 PVNGS Emergency Plan.

3.0 LIMITATIONS AND PRECAUTIONS

3.1 Upon notification, the designated RAC shall report to the Emergency Operations Facility (EOF) and achieve full functional operation as soon as possible (generally within 90 minutes).

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-41	
RADIOLOGICAL ASSESSMENT COORDINATOR (RAC)	REVISION 0	Page 4 of 6

3.2 Upon arrival at the EOF, the RAC shall fully familiarize himself with the situation [via briefings from the Emergency Operations Director (EOD), the Radiation Protection Coordinator (RPC) at the Technical Support Center (TSC) and others] before assuming his responsibilities.

4.0 DETAILED PROCEDURE

- 4.1 Personnel Indoctrination
 - 4.1.1 The RAC is the principal liaison of the PVNGS emergency response organization with the Arizona Radiation Regulatory Agency (ARRA).
 - 4.1.2 The primary responsibility of the RAC is to receive and evaluate dost rate projections from the RPC and advise the EOD of the need for protective actions.
 - 4.1.3 The RAC coordinates offsite monitoring efforts. He makes recommendations to ARRA officials as to what to monitor and where REAT's should be deployed.
 - 4.1.4 The RAC is a Health Physicist who has received RAC training.
- 4.2 Prerequisites
 - 4.2.1 An ALERT or more severe level emergency has been declared and EPIP-04, 05, or 06 and EPIP-08 and EPIP-13 are being implemented.
 - 4.2.2 The EOD and RAC have conducted an initial briefing.
- 4.3 Instructions
 - 4.3.1 Upon being notified that an ALERT or more severe level emergency has been declared, the RAC shall report to the EOF as soon as possible.
 - 4.3.2 The RAC shall contact the EOD and receive an initial briefing.

PVNGS I IMPLEME	EMERGENCY PLAN NTING PROCEDURE	PROCEDURE NO. EPIP-41.	
RADIOLOGICAL ASSESSMENT COORDINATOR (RAC)		REVISION	Page 5 of 6
4.3.3	The RAC shall complete the (Appendix A) and report rea Those action items marked w continued throughout the em of initial activity on thos the check list.	designated check diness status to ith a "*" are act ergency by the RA e items should be	list the EOD. ivities to be C. The time entered ou
4.3.4	Throughout the emergency th term, meteorological and fi determine the reasonablenes with the dose projections b protective actions.	e RAC shall analy eld monitoring da s and consistency eing used as the	ze source ta to of those data basis for
4,3,5	The RAC shall continually e determine the probability a emission increases. He sha Protection Coordinator with	valuate plant con nd magnitude of p ll also assist th dose projections	ditions to ossible e Radiological •
4.3.6	The RAC shall provide prote the Emergency Operations Di	ctive action reconcector.	mmendations to
4.3.7	The RAC shall advise the Ar Agency as to where and what field monitoring teams.	izona Radiation R to monitor and wi	egulatory here to deploy

	PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-41	APPENDIX A Page 1 of 1
R	ADIOLOGICAL ASSESSMENT COORDINATION (DATA	REVISION	
	DIOLOGICAL ASSESSMENT COORDINATOR (RAC)	0	Page 6 of 6
	RADIOLOGICAL ASSESSMENT CO	ORDINATOR CHECK L	IST
ACT	TION ITEMS		TIME/INITIALS
1.	Ensure that the Radiological Assessment position is staffed and fully briefed an communication systems are operational.	Communicator's d that	/
2.	Access CRACS to receive current dose pro	jection data.	/ *
3.	Contact the Radiological Protection Coord determine:	dinator and	
	 Extent and consequence of radiological plant conditions. 	l releases and	*
	b. Protective action recommendations made	e to date.	/
	c. Potential for future radiological rele	eases.	
	d. Location of onsite and offsite field m if dispatched.	monitoring teams,	*
4.	Ensure that the following materials neede manual dose assessments are available:	ed to perform	
	a. EPIP-14A and 14B		/
	b. Isopleths		/
	c. Base Map		1
5.	Advise the Emergency Operations Director need for protective actions.	as to the	*
5.	Ensure Radiological Status Boards are upd information becomes available.	ated as	*
· ·	Advise ARRA officials as to where and wha and where REAT's should be deployed.	t to monitor	_/*
3.	Submit check list, logs and other data to emergency is cancelled.	EOD when	/
	Radiological Assessm Coordinator Signatur	ent	

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*Continuing Activities

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PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-42	
	REVISION	
TECHNICAL ANALYSIS COORDINATOR (TAC)	0	Page 1 of 6

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APPROVED BY: L.E. Brow

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	PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-42	
		REVISION	
1	TECHNICAL ANALYSIS COORDINATOR (TAC)	0	Page 2 of 6
SECTI	LON		PAGE NUMBER
1.0	OBJECTIVE		3
2.0 REFERENCES		3	
3.0	T TUTTI		3
	LIMITATIONS AND FRECAUTIONS		3
4.0	DETAILED PROCEDURE		4

APPENDICES.

Appendix A - Technical Analysis Coordinator Check List

4.2 Prerequisites4.3 Instructions

APPROVED BY:

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PV-16-00DA (8/82)

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-42		
TECHNICAL ANALYSIS COORDINATOR (TAC)	REVISION	Page 3 of 6	
IDOMNICAL AMALISIS COORDINATOR (IAC)	0	Page 3 of	6

1.0 OBJECTIVE

The objective of this procedure is to provide instructions for the Technical Analysis Coordinator (TAC) to complete his responsibility for providing technical guidance on the impact of plant status on offsite emergency response actions. This procedure addresses the following:

o Responsibilities of the TAC.

o Activities of the TAG to be implemented during an emergency.

o Coordination between the TAC and other members of the emergency organization.

2.0 REFERENCES

- 2.1 Implementing References
 - 2.1.1 EPIP-01, "APS Emergency Organization"
 - 2.1.2 EPIP-13, "EOF Activation"
- 2.2 Developmental Reference
 - 2.2.1 NUREG-0654, Rev. 1. "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants."
 - 2.2.2 PVNGS Emergency Plan

3.0 LIMITATIONS AND PRECAUTIONS

- 3.1 Upon notification, the designated TAC shall report to the Emergency Operations Facility (EOF) and achieve full functional operations as soon as possible (generally within 90 minutes).
- 3.2 The TAC shall contact the Emergency Operations Director (EOD) and receive a briefing on the emergency status. The TAC shall provide the EOD with a briefing on his operational status.

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TECHNICAL ANALYSIS COORDINATOR (TAC)	0	Page 4 of 6

4.0 DETAILED PROCEDURE

4.1 Personal Indoctrination

- 4.1.1 The TAC is the primary interface with NRC and state personnel stationed in the EOF and provides updates on the status of the reactor and unit.
- 4.1.2 The TAC shall be a suitably trained person from the NOS Licensing/Operations Support Group.
- 4.1.3 The TAC reports to the Emergency Operations Director (EOD).

4.1.4 The Government Liaison Engineer (GLE) and the TSC Liaison Engineer (TLE) report directly to the TAC. The Technical Advisor (at the ENC) takes technical direction from the TAC. The Offsite Technical Representative (OTR) at the state EOC reports to the TAC.

4.2 Prerequisites

4.2.1 An ALERT or more severe level emergency has been declared and EPIP-04, 05, or 06 and EPIP-08 and EPIP-13 are being implemented.

4.2.2 The EOD and TAC have conducted an initial briefing.

4.3 Instructions

- 4.3.1 Upon being notified that an ALERT or more severe level emergency has been declared, the TAC shall report to the EOF immediately.
- 4.3.2 The TAC shall contact the EOD and receive an initial briefing.
- 4.3.3 Upon arrival at the EOF, the TAC shall complete the designated check list in Appendix A. For "continuing activities," as indicated by an asterisk in the check list, the time of commencing the activity should be noted.
- 4.3.4 The TAC shall supervise the TSC Liaison Engineer in maintaining contact with the TSC and Architect-Engineer. The TAC will be kept informed of technical changes and recommendations by the TSC Liaison Engineer.

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PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-42	
TECUNICAL ANALYSIS SOODDIVISOD (T.S.)	REVISION	
IECHNICAL ANALYSIS COORDINATOR (TAC)	0	Page 5 of 6

- 4.3.5 The TAC, along with the Emergency News Center Director, shall supervise the ENC Technical Advisor.
- 4.3.6 The TAC shall communicate with the NRC and state personnel in the EOF frequently throughout the emergency to keep them informed of plant status and to answer questions. The Government Liaison Engineer shall assist the TAC in this task.

4.3.7 The TAC shall inform the Offsite Technical Representative of plant status and supervise the OTR's activities as necessary.

	PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-42	APPENDI) Page 1 c	CA.
		REVISION		
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	TECHNICAL ANALYSIS COORI	DINATOR CHECK LIST	c	•
ACT	TION ITEMS		TIME/INIT	TALS
1.	Obtain information on plant status from	the TSC.	/	*
2.	Provide updates to NRC, state, and count as necessary on the status of the reacto	y personnel or and unit.	/	*
3.	Provide the Emergency Operations Directo technical guidance on how plant status m offsite emergency response actions.	or with may impact	/	*
¥ .	Verify the technical accuracy and adequa public information releases prior to dis the news media.	cy of all semination to	/	*
5.	Ensure that the following positions are fully briefed:	staffed and		
	a. Government Lisison Engineer		/	
	b. TSC Liaison Engineer		/	
	c. Offsite Technical Representative		/	
	d. ENC Technical Advisor		/	
•	Submit check list, logs and other data to emergency is cancelled.	o EOD when		
	Technical Analysis Coordinator Signatur	re		
	- Dat	te		

*Continuing Activities

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PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-43	
	REVISION	
RADIOLOGICAL ASSESSMENT COMMUNICATOR (RACom	0	Page 1 of 6
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3.0	LIMITATIONS AND PRECAUTIONS		3
4.0	DETAILED PROCEDURE		4
	4.1 Personnel Indoctrination		4
	4.3 Instructions		4

APPENDICES

Appendix A - Radiological Assessment Communicator Check List

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PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-43	
	REVISION	
RADIOLOGICAL ASSESSMENT COMMUNICATOR (RACom)	0	Page 3 of 6

1.0 OBJECTIVE

The objective of this procedure is to provide instructions for the Radiological Assessment Communicator (RACom) to complete his responsibility for coordinating and maintaining communications regarding radiological assessment. This procedure addresses the following:

· · · o Responsibilities of the RACom.

o Activities to be carried out by the RACom during an emergency.

 o Coordination between the RACom and other members of the emergency organization.

2.0 REFERENCES

3

2.1 Implementing References

2.1.1 EPIP-01 "APS Emergency Organization"

2.1.2 EPIP-13 "EOF Activation"

2.1.3 EPIP-41 "Radiological Assessment Coordinator"

2.2 Developmental References

- 2.2.1 NUREG-0654, Rev. 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants."
- 2.2.2 PVNGS Emergency Plan

3.0 LIMITATIONS AND PRECAUTIONS

- 3.1 Upon notification, the designated RACom shall report to the Emergency Operations Facility (EOF) and achieve full functional operation as soon as possible (generally within 90 minutes).
- 3.2 The RACom shall contact the Radiological Assessment Coordinator and receive an initial briefing.

	EMERGENCY PLAN	PROCEDURE NO.	
IMPLEME	NTING PROCEDURE	EPIP-43	
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RADIOLOGICAL A	SSESSMENT COMMUNICATOR (RACom) 0	Page 4 of 6
4.0 <u>DETA</u>	ILED PROCEDURE		
4.1 Pe	rsonnel Indoctrination		
4.1.1	The RACom maintains a record matters pertaining to radiol maintains communications with personnel at the TSC and Sat	d (status board a logical assessmen th radiological as rellite TSC.	nd log) of t. He also ssessment
4.1.2	The RACom reports to, and re Radiological Assessment Coor	eceives direction rdinator (RAC).	from, the
4.1.3	The RACom is assigned from t Section.	the Radiation Prot	tection
4.2 Pre	erequisites		
4.2.1	An ALERT or more severe leve and EPIP-04, 05, or 06 EPIP- implemented.	el emergency has b -08 and EPIP-13 ar	been declared e being
4.2.2	The RAC and RACom have condu	acted an inivial b	riefing.
4,3 Ins	tructions		
4.3.1	Upon being notified that an emergency has been declared, report to the EOF immediatel	ALERT or more sev the designated R y.	ere level ACom shall
4.3.2	Upon arrival at the EOF the 1	RACom shall repor	t to the RAC.
4.3.3	The RACom shall determine op circuits (normal phone, dedic Environmental Line, base stati inoperable circuits to the Ra and Logistics Coordinator (Al	erability of comm cated voice circu tion radio) and r AC and to the Adm LC).	unications its, eport any inistrative
4.3.4	The RACom shall keep the Radi current (as directed by the R	iological Status RAC) throughout th	Board and log he emergency.
4.3.5	The RACom shall maintain comm Protection personnel in the T required by the RAC and advis	nunications with ISC and satellite se the RAC of char	the Radiation TSC as nges in

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PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-43	
RADIOLOGICAL ASSESSMENT COMMUNICATOR (RACom)	REVISION 0	Page 5 of 6

4.3.6 The RACom shall complete the check list in Appendix A. For "continuing activities," as indicated by an asterisk in the check list, the time of commencing activity should be noted.

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RADIOLOGICAL ASSESSMENT COMMUNICATOR (RACom) 0 Page 6 of RADIOLOGICAL ASSESSMENT COMMUNICATOR CHECK LIST ACTION ITEMS 1. Establish and maintain communications with TSC / Radiological Assessment personnel. / 2. Inform the Radiological Assessment Coordinator of changes in radiological status. / 3. Maintain records of communications concerning radiological assessment. /
RADIOLOGICAL ASSESSMENT COMMUNICATOR (RACom) 0 Page 6 of RADIOLOGICAL ASSESSMENT COMMUNICATOR CHECK LIST ACTION ITEMS 1. Establish and maintain communications with TSC / 1. Establish and maintain communications with TSC / 2. Inform the Radiological Assessment Coordinator of changes in radiological status. / 3. Maintain records of communications concertaing radiological assessment. /
ACTION ITEMS TIME/INITIA ACTION ITEMS TIME/INITIA 1. Establish and maintain communications with TSC / Radiological Assessment personnel. 2. Inform the Radiological Assessment Goordinator of // changes in radiological status. 3. Maintain records of communications concerning /
ACTION ITEMS TIME/INITIA ACTION ITEMS TIME/INITIA 1. Establish and maintain communications with TSC // Radiological Assessment personnel. 2. Inform the Radiological Assessment Coordinator of // changes in radiological status. 3. Maintain records of communications concerning //
ACTION ITEMS <u>TIME/INITIA</u> 1. Establish and maintain communications with TSC <u>/</u> Radiological Assessment personnel. 2. Inform the Radiological Assessment Coordinator of <u>/</u> changes in radiological status. 3. Maintain records of communications concerning <u>/</u>
 Establish and maintain communications with TSC / Radiological Assessment personnel. Inform the Radiological Assessment Coordinator of / changes in radiological status. Maintain records of communications concerning / radiological assessment.
 Inform the Radiological Assessment Coordinator of
3. Maintain records of communications concerning /
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4. Maintain the Radiological Status Board in the EOF as / directed by the Radiological Assessment Coordinator.
5. Submit check list and logs to RAC when emergency/

· . . · ·

Radiological Assessment Communicator Signature____

Date

*Continuing Activities

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PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-44	
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PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-44	
	REVISION	
TSC LIAISON ENGINEER (TLE)	0	Page 3 of 5

1.0 OBJECTIVE

The objective of this procedure is to provide instuctions for the TSC Lialson Engineer (TLE) to complete his responsibility for monitoring plant system data and coordinating the activities of other emergency organization members. This procedure addresses the following:

o Responsibilities of the TLE.

o Activities of the TLE to be implemented during an emergency.

o Coordination between the TLE and other members of the emergency organization.

2.0 REFERENCES

2.1 Implementing References

- 2.1.1 EPIP-01, "APS Emergency Organization"
- 2.1.2 EPIP-08, "Notification Process Alert, Site Emergency or General Emergency"
- 2.1.3 EPIP-11, "TSC/Satellite TSC Activation"
- 2.1.4 EPIP-13, "EOF Activation"
- 2.1.5 EPIP-42, "Technical Analysis Coordinator"
- 2.2 Developmental References
 - 2.2.1 NUREG-0654, Rev. 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants"
 - 2.2.2 PVNGS Emergency Plan

3.0 LIMITATIONS AND PRECAUTIONS

3.1 Upon notification, the designated TLE shall report to the Emergency Operations Facility (EOF) and achieve full functional operation as soon as possible (generally within 90 minutes)

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PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-44	
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APPENDICES

Appendix A - TSC Liaison Engineer Check List

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PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-44	
TSC LIAISON ENGINEER (TLE)	REVISION 0	Page 4 of 5

3.2 The TLE shall contact the Technical Analysis Coordinator and receive an initial briefing.

4.0 DETAILED PROCEDURE

- 4.1 Personnel Indoctrination
 - 4.1.1 The TLE monitors plant system data via SPDS, CRACS and voice communication with the TSC.
 - 4.1.2 The TLE maintains communication with the Architect-Engineer concerning technical status and recommendations.
 - 4.1.3 The TLE reports to the Technical Analysis Coordinator (TAC).
 - 4.1.4 The fLE shall be a suitably trained person from the NOS Licensing/Operations Support Group.
- 4.2 Prerequisites
 - 4.2.1 An ALERT or more severe level emergency has been declared and EPIP-04, 05, or 06, EPIP-08 and EPIP-13 are being implemented.
- 4.3 Instructions
 - 4.3.1 Upon being notified that an ALERT or more severe level emergency has been declared, the designated TLE shall report immediately to the EOF.
 - 4.3.2 The TLE shall contact the TAC and receive an initial briefing.
 - 4.3.3 The TLE shall complete the designated check list in Appendix A. For "continuing activities", as indicated by an asterisk in the check list, the time of commencing the activity should be noted.

PROCEDURE NO. EPIP-44	APPENDI Page 1	X A of 1
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R CHECK LIST		
ACTION ITEMS		
1. Monitor the SPDS terminal in the EOF.		*
 Contact the TSC to obtain operational status of the unit. 		*
 Maintain communication with Bechtel and CE personnel at the EOF concerning plant status and recommendations for corrective action. 		*
 Inform the Technical Analysis Coordinator of proposed recommendations and of significant changes in plant status. 		
5. Ensure that the Status Board Keeper position is staffed and provide status board updates as necessary.		
. Submit check list, logs and status board to TAC when emergency is cancelled.		
	PROCEDURE NO. EPIP-44 REVISION 0 R CHECK LIST atus of CE personnel at mmendations r of proposed as in plant tion is staffed ssary. to TAC when	PROCEDURE NO. EPIP-44 REVISION 0 Page 5 R CHECK LIST TIME/INI atus of CE personnel at _/ mendations r of proposed _/ es in plant tion is staffed _/ ssary. to TAC when _/

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PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPTP-45	
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GOVERNMENT LIAISON ENGINEER (GLE)	0	Page 1 of 5

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DATE 12-7-82

DATE EFFECTIVE 12-10-82

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	PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-45	
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Appendix A - Government Liaison Engineer Check List

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IMPLEMENTING PROCEDURE	NO. EPIP-45	And Landberg
GOVERNMENT LIAISON ENGINEER (GLE)	REVISION 0	Page 3 of 5

The objective of this procedure is to provide instructions for the Government Liaison Engineer (GLE) to assume his responsibility of assisting with notifications and communications to offsite emergency management agencies.

2.0 REFERENCES

2.1 Implementing References

2.1.1 EPIP-01, "APS Emergency Organization"

- 2.1.2 EPIP-08, "Nutification Process Alert, Site Emergency, General Emergency"
- 2.1.3 EPIP-13, "EOF Activation"
- 2.1.4 EPIP-42, "Technical Analysis Coordinator"
- 2.2 Developmental References
 - 2.2.1 NUREG-0654, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants"
 - 2.2.2 PVNGS Emergency Plan

3.0 LIMITATIONS AND PRECAUTIONS

- 3.1 Upon notification, the designated Government Liaison Engineer (GLE) shall report to the Emergency Operations Facility (EOF) and achieve full functional operation as soon as possible (generally within 90 minutes).
- 3.2 The GLE shall contact the Technical Analysis Coordinator and receive an initial briefing.

4.0 DETAILED PROCEDURE

- 4.1 Personnel Indoctrination
 - 4.1.1 The GLE is the primary communication interface with NRC, state and local government agencies.

IMPLEM	EMERGENCY PLAN ENTING PROCEDURE	PROCEDURE NO. EPIP-45	
GOVERNMENT	LIAISON ENGINEER (GLE)	REVISION	Page 4 of
			1.480 4 01 .
4.1.2	Until an NRC representative maintains communications wi Washington).	e relieves the GLE th the NRC (Region	, the GLE n V and
4.1.3	The GLE notifies government emergency classification.	al agencies of ch	anges in
4.1.4	The GLE reports to the Tech (TAC).	nical Analysis Coo	ordinator
4.1.5	The GLE is a properly train Licensing/Operations group.	ed person assigned	d from the NOS
4.2 Pre	requisites		
4.2.1	An ALERT or more severe lev and EPIP-04, 05, or 06, EPI implemented.	el emergency has b P-08 and EPIP-13 a	been declared are being
4.2.2	The GLE and TAC have conduc	ted an initial bri	lefing.
4.3 Det	ailed Instructions		
4.3.1	Upon being notified that an emergency has been declared report to the EOF immediate	ALERT or more sev , the designated G ly.	vere level ELE shall
4.3.2	Upon arriving at the EOF, the on the current status of the TAC.	he GLE shall obtai e plant and emerge	n a briefing ncy from the
4.3.3	Upon arrival at the EOF, the designated check list in Ap	e GLE shall comple pendix A.	te the
4.3.4	The GLE shall maintain cont. representative arrives.	act with the NRC u	ntil an NRC
4.3.5	The GLE shall make notifical agencies whenever a change made.	tions to NRC, stat in emergency class	e and local ification is
1.3.6	The GLE shall assist the TAG	C with briefings o	f Federal and

	PVNGS EMERGENCY PLAN MPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-45	APPENDI Page 1	°A of 1
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	GOVERNMENT LIAISON ENGINEER (GLE)	0	Page 5	of 5
	GOVERNMENT LIAISON ENG	INEER CHECY LIST		
ACT	TION ITEMS		TIME/INI	TIALS
1.	Inform the Satellite TSC Communicator th station and assume the responsibility for notifications.	at you are on r offsite		
2.	Establish and maintain communications wi agencies per EPIP-08.	th offsite	/	*
3.	Establish and maintain communications wi relieved by a designated NRC representat	th the NRC until ive.	/	*
4.	Maintain log of communications per EPIP-	08.	1	*
5.	Assist the TAC with briefings of governme the EOF.	ent staff at		*
6.	Submit check list, logs and other data to emergency is cancelled.	the TAC when		
	Government Liaison			
	Engineer Signature			

Date

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PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDUR	E PROCEDURE	•
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Appendix A - EOF Contact Check List

4.0

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-46	
EOF CONTACT	REVISION	Page 3 of 5

The objective of this procedure is to provide instructions for the EOF Contact to complete his responsibility for gathering necessary information for subsequent release to the media from the Emergency News Center.

2.0 REFERENCES

2.1 Implementing Procedures

2.1.1 EPIP-01, "APS Emergency Organization"

- 2.1.2 EPIP-13, "Emergency Operations Facility Activation"
- 2.1.3 EPIP-32, "Public Information/Media"

2.2 Developmental References

- 2.2.1 NUREG-0654, Rev. 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants"
- 2.2.2 PVNGS Emergency Plan
- 2.2.3 Emergency Public Information Procedure

3.0 LIMITATIONS AND PRECAUTIONS

- 3.1 Upon notification, the designated EOF Contact shall report to the Emergency Operations Facility (EOF) and achieve full functional operation as soon as possible (generally within 90 minutes).
- 3.2 The EOF Contact shall contact the Emergency Operations Director (EOD) and receive a briefing on the emergency status.

4.0 DETAILED PROCEDURE

- 4.1 Personnel Indoctrination
 - 4.1.1 The EOF Contact is assigned to the EOF and gathers necessary information for subsequent release to the media from the Emergency News Center (ENC).

PVNGS IMPLEME	EMERGENCY PLAN NTING PROCEDURE	PROCEDURE NO.	
		REVISION	
E	OF CONTACT	0	Page 4 of
4.1.2	The ENC Director prepares information provided by th	news releases on t ne EOF Contact.	he basis of
4.1.3	The EOF Contact reports jo the Emergency Operations I	Dintly to the ENC D	irector and
4.1.4	The EOF Contact is the Sup Training. Senior Nuclear training serve as alternat	pervisor of License Instructors with E tes.	d Operations OF Contact
4.2 Pr	erequisites		
4.2.1	An ALERT or more severe em procedures EPIP-04, 05 or being implemented.	mergency has been do 06, EPIP-08 and EP:	eclared and IP-13 are
4.2.2	The EOF Contact has been b Operations Director.	riefed by the Emerg	gency
4.3 Ins	tructions		
4.3.1	Upon being notified that a emergency has been declare shall report to the EOF as	n ALERT or more sev d, the designated H soon as possible.	vere level COF Contact
4.3.2	The EOF Contact shall cont. Director and receive an in	act the Emergency O itial briefing.	perations
4.3.3	The EOF Contact shall comp in Appendix A and provide of Emergency Operations Direct	lete the designated continuing support tor and the ENC Dir	check list to the ector.

	PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-46	APPENDIX A Page 1 of 1
	EOF CONTACT	REVISION 0	Page 5 of 5
	EOF CONTACT CH	ECK LIST	
C	TION ITEMS		TIME/INITIALS
•	Establish and maintain communications wi Director at the ENC.	th the ENC	/
•	Provide a readiness report to the Emerge Direotor.	ncy Operations	
	Inform the ENC Director of significant c status for subsequent release to the new	hanges in plant s media.	/*
•	Prepare preliminary press releases in ac EPIP-32.	cordance with	*
•	Submit check list, logs and other data to emergency is cancelled.	o EOD when	
		. "•. *	
	EOF Contact Signature Date		

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APPENDICES

1.1

Appendix A - Logistics Communicator Check List

PVNGS EMERGENCY PLAN · IMPLEMENTING PROCEDURE	PROCEDURE NO.	
	REVISION	
· LOGISTICS COMMUNICATOR	0	Page 3 of 5

The objective of this procedure is to provide instructions for the Logistics Communicator to complete his responsibility of assisting the Administrative and Logistics Coordinator as necessary to obtain logistics support.

2.0 REFERENCES

2.1 Implementing References

2.1.1 EPIP-01, "APS Emergency Organization"

2.1.2 EPIP-13, "Emergency Operations Facility Activation"

2.1.3 EPIP-33, "Offsite Assistance"

- 2.1.4 EPIP-40, "Administrative and Logistics Coordinator"
- 2.2 Developmental References
 - 2.2.1 NUREG-0654, Rev. 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants"
 - 2.2.2 PVNGS Emergency Plan

3.0 LIMITATIONS AND PRECAUTIONS

- 3.1 Upon notification, the designated Logistics Communicator shall report to the Emergency Operations Facility (EOF) and achieve full functional operation as soon as possible (generally within 90 minutes).
- 3.2 The Logistics Communicator shall contact the Administrative and Logistics Coordinator before completing any actions.

4.0 DETAILED PROCEDURE

- 4.1 Personnel Indoctrination
 - 4.1.1 The Logistics Communicator is assigned to the EOF and assists the Administrative and Logistics Coordinator as necessary.

IMPLEME	EMERGENCY PLAN INTING PROCEDURE	PROCEDURE NO. EPIP-47	
		REVISION	
LOGIS	TICS COMMUNICATOR	. 0	Page 4 of 5
4.1.2	The Logistics Coordinator (log and status board) of obtained and is required.	maintains at th logistic suppor	e EOF, a record t that has been
4.1.3	The Logistics Communicator and Logistics Coordinator.	r reports to the	Administrative
4.1.4	The Logistics Communicator Control Section and has Lo	is assigned frogistics Communi	om the Materials cator training.
4.2 Pro	erequisites		
4.2.1	An ALERT or more severe em procedures EPIP-04, 05 or being implemented.	ergency has been 06, EPIP-08 and	n declared and EPIP-13 are
4.2.2	The Logistics Communicator Administrative and Logisti	has been briefe cs Coordinator.	d by the
- 4.3 Ins	tructions		
4.3.1	Upon being notified that a emergency has been declared Communicator shall report	n ALERT or more d, the designate to the EOF as so	severe level d Logistics on as possible.
4.3.2	The Logistics Communicator Administrative and Logistic initial briefing.	shall contact t cs Coordinator a	he nd receive an
4.3.3	The Logistics Communicator check list in Appendix A and the Administrative and Logi	shall complete nd provide contin stics Coordinat	the designated nuing support to or.

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PVNG	ENTING PROCEDURE	PROCEDURE NO. EPIP-47	APFENDIX A
LOGI	STICS COMMUNICATOR	REVISION	
	LOGISTICS COMMUNICA	TOR CHECK LIST	Page 5 or 5
ACTION ITEMS		TOR ONDOR DIST	
			TIME/INITIALS
 Ensure all with the as Communicato 	EOF communications equipment sistance of the Radiological r.	is operable, Assessment	
2. Establish 1	ogistics log and status board	i.	/
 Provide rea Logistics C 	diness report to the Administ oordinator.	trative and	
 Contact sup Administrat 	port organizations at the dir ive and Logistics Coordinator	ection of the per EPIP-33.	
5. Maintain th	e logistics log and status bo	pard.	/
 Submit check Administrat emergency is 	t list, logs and status board ive and Logistics Coordinator s cancelled.	to the . when the	*
	Logistics	이번 이 것 같아요.	
	Communicator Signat	ure	
	D	ate	

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO.	
	REVISION	
- SECURITY COORDINATOR	0	Page 1 of 5

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PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-48	
- SECURITY COORDINATOR	REVISION	Page 2 of 5

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3.0	LIMITATIONS AND PRECAUTIONS	3
4.0	DETAILED PROCEDURE	4
	4.1 Personnel Indoctrination4.2 Prerequisites4.3 Instructions	4 4 4

APPENDICES

Appendix A - Security Coordinator Check List

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PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-48	
· SECURITY COORDINATOR	REVISION	Page 3 of 5

The objective of this procedure is to provide instructions for the Security Coordinator to complete his responsibility for processing personnel necessary for site support prior to site entry.

2.0 REFERENCES

2.1 Implementing Procedures

2.1.1 EPIP-01, "APS Emergency Organization"

- 2.1.2 EPIP-08, "Notification Process Alert, Site Emergency or General Emergency"
- 2.1.3 EPIP-13, "Emergency Operations Facility Activation"
- 2.1.4 EPIP-24, "Security"
- 2.2 Developmental References
 - 2.2.1 NUREG-0654, Rev. 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants"
 - 2.2.2 PVNGS Emergency Plan

3.0 LIMITATIONS AND PRECAUTIONS

- 3.1 Upon notification, the designated Security Coordinator shall report to the Emergency Operations Facility (EOF) and achieve full functional operation as soon as possible (generally within 90 minutes).
- 3.2 The Security Coordinator shall contact the Administrative and Logistics Coordinator before completing any actions.

PVNGS	EMERGENCY PLAN INTING PROCEDURE	PROCEDURE NO. EPIP-48	
		REVISION	
SECUE	LITY COORDINATOR	0	Page 4 of
4.0 <u>DETA</u>	AILED PROCEDURE		1. S. A.
4.1 Pe	ersonnel Indoctrination		
4.1.1	The Security Coordinator : processes personnel necess site entry.	is assigned to the sary for site suppo	EOF and st prior to
4.1.2	The Security Coordinator of Security Director concerning ranted access to the site	naintains communica ng personnel that 1 2.	tions with the have been
4.1.3	The Security Coordinator r Logistics Coordinator.	eports to the Admin	nistrative and
4.1.4	The Security Coordinator in Department and has Securit	s assigned from the y Coordinator train	e Security
4.2 Pr	erequisites		
4.2.1	An ALERT or more severe le and procedures EPIP-04, 05 being implemented.	vel emergency has h or 06, EPIP-08 and	peen declared EPIP-13 are
4.2.2	The Security Coordinator h Administrative and Logisti Director.	as been briefed by cs Coordinator and	the the Security
4.3 Ins	structions		
4.3.1	Upon notification that an has been declared, the desishall report to the EOF as	ALERT or more sever ignated Security Co soon as possible.	e emergency ordinator
4.3.2	The Security Coordinator sh and Logistics Coordinator a	hall contact the Ad and receive an init	ministrative ial briefing.
4.3.3	The Security Coordinator sh check list in Appendix A and the Administrative and Logi	nall complete the d nd provide continui lstics Coordinator.	esignated ng support to
		· · · · · · ·	*

	PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-48	APPENDIX A Page 1 of 1
	SECURITY COORDINATOR	REVISION 0	Page 5 of 5
	SECURITY COORDINATO	R CHECK LIST	
ACT	TION ITEMS		TIME/INITIALS
1.	Contact the Security Director at the TSC present site access conditions.	to determine	/
2.	Provide readiness report to the Administr Logistics Coordinator.	rative and	
3.	Inform the Security Director of offsite pare required onsite to expedite the badg	personnel that ing process.	
4.	Inform the Administrative and Logistics (of site security conditions.	Coordinator	
	Submit the check list to the Administration	ive and	

Security Coordinator Signature_____ Date_____

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PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO.	
DOSIMETRY CLERK	REVISION	Page 1 of 5
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	PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-49	
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Appendix A - Dosimetry Clerk Check List

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PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-49	
DOSIMETRY CLERK	REVISION	
	U	Page 3 of 5

The objective of this procedure is to provide instructions for the Dosimetry Clerk to complete his responsibility for providing proper dosimetry to personnel at the Emergency Operations Facility (EOF), to support personnel reporting for site assignment and to site personnel.

2.0 REFERENCES

2.1 Implementing Procedures

2.1.1 EPIP-01, "APS Emergency Organization"

2.1.2 EPIP-13, "Emergency Operations Facility Activation"

- 2.1.3 EPIP-40, "Administrative and Logistics Coordinator"
- 2.2 Developmental References
 - 2.2.1 NUREG-0654, Rev. 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants."
 - 2.2.2 PVNGS Emergency Plan
- 3.0 LIMITATIONS AND PRECAUTIONS
 - 3.1 Upon notification, the designated Dosimetry Clerk shall report to the Emergency Operations Facility (EOF) and achieve full functional operation as soon as possible (generally within 90 minutes).
 - 3.2 The Dosimetry Clerk shall contact the Administrative and Logistics Coordinator before completing any actions.

4.0 DETAILED PROCEDURE

- 4.1 Personnel Indoctrination
 - 4.1.1 The Dosimetry Clerk is assigned to the EOF and provides, as necessary, proper dosimetry and TLD's to EOF personnel, support personnel reporting for site assignment, and site personnel.

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-49	
	REVISION	
DOSIMETRY CLERK	0	Page 4 of 5

- 4.1.2 The Dosimetry Clerk reports to the Administrative and Logistics Coordinator.
- 4.1.3 The Dosimetry Clerk is assigned from the Radiation Protection Section and has Dosimetry Clerk training.
- 4.2 Prerequisites .
 - 4.2.1 An ALERT or more severe level emergency has been declared and procedures EPIP-04, 05 or 06, EPIP-08 and EPIP-13 are being implemented.
 - 4.2.2 The Dosimetry Clerk has been briefed by the Administrative and Logistics Coordinator.
- 4.3 Instructions
 - 4.3.1 Upon being notified that an ALERT or more severe level emergency has been declared, the designated Dosimetry Clerk shall report to the EOF as soon as possible.
 - 4.3.2 The Dosimetry Clerk shall contact the Administrative and Logistics Coordinator and receive an initial briefing.
 - 4.3.3 The Dosimetry Clek shall complete the designated check list in Appendix A and provide continuing support to the Administrative and Logistics Coordinator.

	PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-49	APPENDIX A Page 1 of 1	
		REVISION		
	DOSIMETRY CLERK	0	Page 5 of 5	
	DOSIMETRY CLERK C	HECK LIST		
ACT	TION ITEMS		TIME/INITIALS	
1.	Obtain emergency dosimetry from the EOF e in preparation for its distribution.	emergency locker		
2.	Provide readiness report to the Administr Logistics Coordinator.	ative and		
3.	 Provide dosimetry and TLDs, as necessary, to EOF personnel, support personnel reporting to site assignment, and site personnel. 			
4.	Maintain dosimetry issuance records.		· /	
5.	. Report the need for additional dosimetry to the Administrative and Logistics Coordinator.			
6.	Submit check list and other records to th and Logistics Coordinator when the emerge	e Administratīve ncy is cancelled.		
	Dosimetry Clerk			
	Signature Date			

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-50		
· STATUS BOARD KEEPER (SBK)	REVISION	Page 1 of 5	

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PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-50	
• STATUS BOARD KEEPER (SBK)	REVISION	Page 2 of 5

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Appendix A - Status Board Keeper Check List

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IN	PVNGS EMERGENCY PLAN IPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-50	
	-STATUS BOARD KEEPER (SBK)	REVISION	Page 3 of 5

The objective of this procedure is to provide instructions for the Status Board Keeper (SBK) to maintain a record on the Emergency Operations Facility (EOF) status board of emergency actions taken.

2.0 REFERENCES

2.1 Implementing References

2.1.1 EPIP-01 "APS Emergency Organization"

- 2.1.2 EPIP-13 "Emergency Operations Facility Activation"
- 2.1.3 EPIP-44 "TSC Liaison Engineer'
- 2.2 Developmental References
 - 2.2.1 NUREG-0654, Rev. 1 "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants"
 - 2.2.2 PVNGS Emergency Plan

3.0 LIMITATIONS AND PRECAUTIONS

- 3.1 Upon notification, the designated Status Board Keeper shall report to the Emergency Operations Facility (EOF) and achieve full functional operation as soon as possible (generally within 90 minutes).
- 3.2 The Status Board Keeper shall contact the TSC Liaison Engineer and receive a briefing before becoming operational. He shall notify the TSC Liaison Engineer when he becomes operational.

4.0 DETAILED PROCEDURE

- 4.1 Personnel Indoctrination
 - 4.1.1 The Status Board Keeper maintains a record on the EOF status board of emergency actions taken by the APS emergency organization, logistics support requirements and records the status of the emergency on a continual basis.

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PVNGS E	MERGENCY PLAN	PROCEDURE NO. EPIP-50	
		REVISION	
STATUS	BOARD KEEPER (SBK)	0	Page 4 of 5
4.1.2	A designated Technical S Status Board Keeper train Status Board Keeper of th	upport Department po ning will assume the he EOF.	erson with e position of
4.1.3	The Status Board Keeper n	ceports to the TSC I	Liaison Engineer
4.2 Pre	requisites		
4.2.1	An ALERT or more severe e EPIP-04, 05, or 06, EPIP- implemented.	emergency has been of -08 and EPIP-13 are	leclared and being
. 4.2.2	The Status Board Keeper H Liaison Engineer.	nas been fully brief	ed by the TSC
4.3 Ins	tructions		
4.3.1	Upon being notified that has been declared, the St the EOF as soon as possib	an ALERT or more se atus Board Keeper s ble.	vere emergency hall report to
4.3.2	The Status Board Keeper s Engineer and receive a br	hall report to the iefing.	TSC Liaison
4.3.3	The Status Board Keeper s list (Appendix A) as soon	hall complete the d	esignated check
		*	

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-50	APPENDIX A Page 1 of 1
STATUS BOARD KEEPER (SBK)	REVISION	Page 5 of 5

STATUS BOARD KEEPER CHECKLIST

	ACTION ITEMS	TIME/INITIALS
1.	Report to the EOF and obtain briefing from TSC Liaison Engineer.	/
2.	Locate Status Board and associated supplies. Determine operational status.	
3.	Report operational status to TSC Liaison Engineer.	/
4.	Record the status of the emergency as expressed by TSC Liaison Engineer.	
5.	Repeat step 4 periodically as status changes.	/
6.	Submit this check list to TSC Liason Engineer when emergency is cancelled.	<u></u>

Status Board Keeper Signature _____ Date _____

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-51	
	REVISION	
OFFSITE TECHNICAL REPRESENTATIVE (OTR)	0	Page 1 of 7

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PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-51	
OFFSITE TECHNICAL REPRESENTATIVE (OTD)	REVISION	
COTR DOMINICAL REPRESENTATIVE (OTR)	0	Page 2 of 7

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PALO VERDE NUCLEAR GENERATING STATION MANUAL	PROCEDURE NO. EPIP-51	
OFFSITE TECHNICAL REPRESENTATIVE (OTR)	REVISION 0	Page 3 of 7

The objective of this procedure is to provide instructions for the Offsite Technical Representative (OTR) to coordinate APS emergency response activities with Federal/State/local agencies at the State EOC/TOC.

2.0 REFERENCES

2.1 Implementing References

2.1.1 EPIP-01 "APS Emergency Organization"

2.1.2 EPIP-13 "Emergency Operations Facility Activation"

2.1.3 EPIP-42 "Technical Analysis Coordinator"

2.2 Developmental References

- 2.2.1 NUREG-0654, Rev. 1 "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants"
- 2.2.2 PVNGS Emergency Plan

3.0 LIMITATIONS AND PRECAUTIONS

- 3.1 Upon notification, the designated Offsite Technical Representative shall report to the Technical Operations Center (TOC) at the State Emergency Operations Center (EOC) and achieve full functional operation as soon as possible (generally within 90 minutes).
- 3.2 The Offsite Technical Representative shall contact the Technical Analysis Coordinator and receive a briefing before becoming operational. he shall notify the Technical Analysis Coordinator when he has arrived at the State EOC/TOC.

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-51	
OFFSITE TECHNICAL REPRESENTATIVE (OTR)	REVISION 0	Page 4 of 7

4.0 DETAILED PROCEDURE

- 4.1 Personnel Indoctrination
 - 4.1.1 The Offsite Technical Representative reports to the State EOC/TOC at the Arizona Division of Emergency Services headquarters at 5636 East McDowell Road in Phoenix. He will coordinate APS emergency response activities with Federal/State/local agencies at the State EOC/TOC. He will provide up-to-date site information and interpret data regarding PVNGS emergency status and conditions for emergency response agencies assigned to the State EOC/TOC.
 - 4.1.2 The designated Nuclear Operations Support Licensing/Operations person with Offsite Technical Representative training will assume the position of Offsite Technical Representative at the State EOC/TOC.
 - 4.1.3 The Offsite Technical Representative reports to the Technical Analysis Coordinator.
 - 4.1.4 Other APS staffing at the State EOC/TOC will include a member of the Corporate Relations staff and supporting clerical personnel, if needed.
- 4.2 Prerequisites
 - 4.2.1 An ALERT or more severe emergency has been declared and EPIP-04, 05, or 06, EPIP-08 and EPIP-13 are being implemented.
 - 4.2.2 The Offsite Technical Representative has been briefed by the Technical Analysis Coordinator.
- 4.3 Instructions
 - 4.3.1 Upon being notified that an ALERT or more severe emergency has been declared, the Offsite Technical Representative shall report to the State EOC/TOC at the Arizona Division of Emergency Services headquarters at 5636 East McDowell Road in Phoenix as soon as possible.
 - 4.3.2 Once at the State EOC/TOC, the Offsite Technical Representative shall report his presence to the Director of Radiological Technical Operations (Arizona Radiological Regulatory Agency).

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PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-51	
OFFSITE TECHNICAL REPRESENTATIVE (OTR)	REVISION 0	Page 5 of 7

- 4.3.3 The Offsite Technical Representative shall then contact the Technical Analysis Coordinator at the EOF by dedicated voice circuit to receive a briefing.
- 4.3.4 The Offsite Technical Representative shall coordinate emergency response activities, provide site information and interpret data as necessary in the State EOC, TOC.
- 4.3.5 The Offsite Technical Representative shall coordinate his activities with those of the Corporate Relations Representative at the State EOC/TOC.
- 4.3.6 In the conduct of his activities, the Offsite Technical Representative shall maintain a check list and log as shown in Appendix A and Appendix B. The log shall identify the time of contacts, information received and person with whom the contact was made.

PVNGS EMERGENCY PLAN PROCEDURE IMPLEMENTING PROCEDURE EPIP-51		APPENDIX A Page 1 of 1		
OFFSITE TECHNICAL REPRESENTATIVE (OTR)		REVISION	Page 6 d	of 7
	OFFSITE TECHNICAL REPRESE	NTATIVE CHECK LIS	ST	
	ACTION ITEMS		TIME/INIT	TIALS
1.	Report to the State EOC/TOC at ADES head 5636 East McDowell in Phoenix.	dquarters at	/	
2.	Report presence to State Director of Rad Technical Operations (ARRA).	diological		
3.	Contact the Technical Analysis Coordinat EOF for briefing using dedicated voice of	tor at the circuit.	. ,	
 Maintain communications with and coordinate actions between the State Director of Radiological Technical Operations and the APS Technical Analysis Coordinator. 			/	*
5. Coordinate with APS Corporate Relations Representative.			/	*
6. Maintain attached log as necessary.			/	*
7. Repeat steps 4, 5 and 6 as necessary.			/	*
8.	Submit check list and log to Technical A Coordinator when emergency is cancelled.	nalysis	/	
	Offsite Technical Representative Signa	ture		

*Continuing Activities

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PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-51	APPENDIX B Page 1 of 1
OFFSITE TECHNICAL REPRESENTATIVE (OTR)	REVISION 0	Page 7 of 7

OFFSITE TECHNICAL REPRESENTATIVE LOG

	Time	Person Contacted	Information Related
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
		Sig	ned

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PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-52	
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- ENC TECHNICAL ADVISOR	0	Page 2 of 5

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APPENDICES

Appendix A - ENC Technical Advisor Check List

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PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-52	
	REVISION	
ENC TECHNICAL ADVISOR	0	Page 3 of 5

1.0 OBJECTIVE

The objective of this procedure is to provide instructions for the ENC Technical Advisor to provide technical explanations and support to the Emergency News Center (ENC) Director.

2.0 REFERENCES

2.1 Implementing References

- 2.1.1 EPIP-01 "APS Emergency Organization"
- 2.1.2 EPIP-32 "Public Information/Media"
- 2.1.3 PVNGS Emergency Plan, Appendix I "APS Emergency Public Information Procedures"
- .2.2 Developmental References
 - 2.2.1 NUREG-0654, Rev. 1 "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants"
 - 2.2.2 PVNGS Emergency Plan
 - 2.2.3 Emergency Public Information Procedure

3.0 LIMITATIONS AND PRECAUTIONS

- 3.1 Upon notification, the designated ENC Technical Advisor shall report to the Emergency News Center (ENC) and achieve full functional operation as soon as possible (generally within 90 minutes).
- 3.2 The ENC Technical Advisor shall contact the ENC Director when he arrives at the ENC.
- 3.3 The ENC Technical Advisor shall contact the Technical Analysis Coordinator and receive a briefing before becoming operational.

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-52	
- ENC TECHNICAL ADVISOR	REVISION 0	Page 4 of 5

4.0 DETAILED PROCEDURE

4.1 Personnel Indoctrination

- 4.1.1 The ENC Technical Advisor reports to the Emergency News Center (ENC) at the Palo Verde Inn. He provides necessary technical explanation to the ENC Director (and to the media, if requested by ENC Director), provides background information and reviews technical content of all media releases.
- 4.1.2 A designated Training Department person with ENC Technical Advisor training will assume the position of ENC Technical Advisor at the ENC.
- 4.1.3 The ENC Technical Advisor reports jointly to the Technical Analysis Coordinator and the ENC Director.
- 4.2 Prerequisites
 - 4.2.1 An ALERT or more severe emergency has been declared and EPIP-04, 05, or 06, EPIP-08 and APS Emergency Public Information Procedures are being implemented.
 - 4.2.2 The ENC Technical Advisor has been briefed by the Technical Analysis Coordinator.
- 4.3 Instructions
 - 4.3.1 Upon notification of an ALERT or more severe emergency, the ENC Technical Advisor shall report to the Emergency News Center (ENC) at the Palo Verde Inn.
 - 4.3.2 Upon arrival, he shall report to the ENC Director and then contact the Technical Analysis Coordinator at the EOF by dedicated voice circuit to receive a briefing.
 - 4.3.3 The ENC Technical Advisor shall complete assignments as directed by the ENC Director or the Technical Analysis Coordinator.
 - 4.3.4 In the conduct of his activities, the ENC Technical Advisor shall maintain a check list (Appendix A).

	PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-52	APFENDIX A Page 1 of 1
	· ENC TECHNICAL ADVISOR	REVISION 0	Page 5 of 5
	ENC TECHNICAL ADVI	SOR CHECK LIST	
	ACTION ITEMS		TIME/INITIALS
1.	Report to the ENC at Palo Verde Inn.		/
2.	2. Report presence to ENC Director.		1
 Contact the Technical Analysis Coordinator at the EOF for briefing by dedicated voice circuit. 			1
4.	Complete assignments as directed by EN or Technical Analysis Coordinator.	C Director	/
5.	Submit check list to Technical Analysi when emergency is cancelled.	s Coordinator	/
	ENC Technical Advisor	Signature Date	

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PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-55	
	REVISION	
TSC/EOF PERSONNEL IDENTIFICATION	0	Page 1 of 6

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APPROVED BY: L.E. Brown

DATE 12-7-82

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1.0 OBJECTIVE

The objective of this procedure is to provide instructions for identifying emergency response personnel according to their emergency organization position by the use of a badge system.

2.0 REFERENCES

2.1 Implementing References

2.1.1 EPIP-01 "APS Emergency Organization"

- 2.1.2 EPIP-11 "Technical Support Center/Satellite TSC Activation"
- 2.1.3 EPIP-13 "Emergency Operations Facility Activation"
- 2.1.4 EPIP-24 "Security"
- 2.2 Developmental References
 - 2.2.1 NUREG-0654, Rev. 1 "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants"
 - 2.2.2 PVNGS Emergency Plan

3.0 LIMITATIONS AND PRECAUTIONS

- 3.1 Emergency Personnel Identification badges shall be used by all TSC and EOF personnel with emergency organization position titles.
- 3.2 Emergency Personnel Identification badges shall be transferred along with the transfer of responsibility when an individual is relieved.
- 3.3 Emergency Personnel Identification badges must not be confused with the PVNGS Security badge or APS Security badge.

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4.0	DETA	ILED PROCEDURE			
4.	l Pe	rsonnel Indoctrination			
	4.1.1	There are a large number carried out at the TSC and Identification badges will organization title (e.g., Radiological Protection Co communication and coordina	of emergency functi d EOF. Emergency P l identify each per Emergency Coordina oordinator, etc.) so ation can proceed mo	ons to be ersonnel son's emergency tor, o that ore effectively	
	4.1.2	The Security Department is this procedure.	s responsible for in	nplementing	
4.	2 Pr	erequisites			
	4.2.1	An ALERT or more severe en procedures EPIP-11 and EPI	mergency has been de IP-13 are being impl	eclared and emented.	
4.	3 In	structions			
	4.3.1	Upon activation of the TSC and EOF, the Security Coordinator shall order a member of the Security Team to locate the Emergency Personnel Identification badges and distribute them properly at the TSC and EOF.			
	4.3.2	Individuals with functiona organization position titl Emergency Personnel Identi the TSC and EOF.	al responsibilities es shall obtain the fication badge upon	and emergency appropriate reporting to	
•	4.3.3	The Security Coordinator s badges are being properly	hall periodically d displayed.	etermine if	
	4.3.4	Individuals shall transfer Identification badges to t the functional responsibil	the Emergency Pers hose relieving them ity is transferred.	onnel at the time	
-	.3.5	The Security Coordinator si Personnel Identification b cancelled.	hall collect the Em adges when the emer	ergency gency is	
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TSC PERSONNEL IDEN	TIFICATION LIST	
1. Emergency Coordinator		
2. Shift Supervisor		
3. Shift Technical Advisor		
4. Radiation Protection Monitor		
5. OSC Coordinator		
6. Technical Engineering Coordinator		
7. Reactor Analyst		
8. Computer Support Coordinator		
9. Chemistry Coordinator		
10. Hazards Control Coordinator		
11. Radiological Protection Coordinator		
12. Field Team Communicator		
13. Personnel Resources Coordinator		
14. Emergency Maintenance Coordinator		
15. Systems Engineer		
16. Security Director		
17. Operations Advisor		
18. Satellite TSC Communicator		
19. NRC (5)		

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EOF PERSONNEL IDENTIFICATION LIST

- 1. Emergency Operations Director
- 2. Radiological Assessment Coordinator
- 3. Radiological Assessment Communicator
- 4. Technical Analysis Coordinator
- 5. ENC Technical Advisor
- 6. Government Liaison Engineer
- 7. TSC Liaison Engineer
- 8. Status Board Keeper
- 9. Offsite Technical Representative
- 10. EOF Contact

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- 11. Administrative and Logistics Coordinator
- 12. Logistics Communicator
- 13. Dosimetry Clerk
- 14. Security Coordinator
- 15. Arizona Radiation Regulatory Agency (2)
- 16. FEMA (1)
- 17. NRC (3)