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PROCEDURE CHANGE NOTICE (PCN)

APPENDIX D
Page 1 of 1
70AC-0ZZ02
Rev. 9
Page 29 of 35

Procedure No. EPIP -03	Revision: 10	PCN No. (obtain from DDC only) 02
Title: Notification of Unusual Event Implementing Actions		DDC Contact (ext. 6633) <i>Melanie</i>
Originator: (Print) Mary Richardson	Ext. 6180	Unit(s) affected: 1,2,3
Reason for this PCN: Correct phone number for ANPP Communications		
		Expiration: Permanent
Page number(s) affected by this PCN: 12, 19	Total Number of Pages attached: 2	
<p>- Does PCN require a 50.59 review? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (refer to 5.1.2)</p> <p>- Does PCN affect activities in the RCA? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (Copy to ALARA)</p> <p>- Does PCN effect the non-radiological environment of any offsite area? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (Contact Compliance)</p> <p>- Is PCN associated with an AC, Program, Emerg. Plan or Secur. Prog., Phase I-IV Test, or a ST? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes (PRB/PRG/TRRG review required)</p>		
<i>[Signature]</i> TECHNICAL REVIEWER (Supervisory Level)		6-4-86 Date
<i>[Signature]</i> PRB/PRG/TRRG CHAIRMAN (if required)		6/4/86 Date
<i>[Signature]</i> FINAL APPROVAL		6/5/86 Date

6/13/86

7

EFFECTIVE DATE (DDC only)

Assigned Copy Number (DDC only)

PALO VERDE NUCLEAR GENERATING STATION

PROCEDURE CHANGE NOTICE

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PAGE 1 of 1

PVNGS

INTENT CHANGE: NO []
YES []

1. PROCEDURE TITLE Notification of Unusual Event Implementing Actions

2. PROCEDURE NUMBER EPIP-03 REV. 10 PCN 1

2a. Manager concurrence N/A DATE _____
to exceed 5 PCNs

3. REASON FOR PCN: To make the STSC Communicator aware that the NRC may request the ENS be manned continuously during an event.

4. EXPIRATION: permanent

5. AFFECTED STEPS:
Page 5, Section 3.0

CHANGE REQUIRED:
Delete Pgs 5; Insert 5a

6. PREPARED BY:
Herald A. Simiele 2/26/86
SIGNATURE DATE

ENTERED IN PROCEDURE BY:
SIGNATURE D

7. TEMPORARY APPROVAL:
N/A
SIGNATURE DATE

SS/Assist. SS D

8. DEPT. MANAGER:
Dennis L. Jones 2/26/86
SIGNATURE DATE

9. PRB/PRG/TRRG:
DA LUMQU 3/12/86
SIGNATURE

10. APPROVED BY: J. McAllen for SBYrum 3/13/86
DEPARTMENT MANAGER'S SIGNATURE D

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PVNGS 7

DEPT. HEAD Harry F. Belling for Dennis Young DATE 12/4/85
PRB/PRG/TRRG REVIEW [Signature] DATE 1/2/86
APPROVED BY [Signature] DATE 1/6/86
EFFECTIVE DATE 01.15.86

DN-1598A/0787A

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REVISION HISTORY

Rev. No.	Date	Revised Pages	Comments
<u>5</u>	<u>12-18-84</u>	<u>Complete</u>	<u>Revised Appendices and</u> <u>Callouts</u>
<u>6</u>	<u>02-08-85</u>	<u>Complete</u>	<u>Incorporated PCN's #01 & 02</u> <u>of Rev. 5 Revised Appendices</u> <u>and Callouts.</u>
<u>7</u>	<u>05-10-85</u>	<u>9, 10, 16</u>	<u>Incorporated PCN #01 of Rev.</u> <u>6 and added step for</u> <u>cancellation using group</u> <u>page.</u>
<u>8</u>	<u>06-17-85</u>	<u>3,7,8,9,12,13</u> <u>16,17,18,19,</u> <u>21,23</u>	<u>Added termination message</u> <u>form and instructions.</u> <u>Changed initial and follow-</u> <u>up message 50 actions</u> <u>(circle vs cross-out) are</u> <u>consistent. Changed initial</u> <u>and follow-up message to</u> <u>match changes the state</u> <u>requested. Capitalized</u> <u>announcements to make stand</u> <u>out. Updated all references</u> <u>to the correct appendices.</u>

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1.0 OBJECTIVE

- 1.1 This procedure provides a series of implementing actions to be taken upon declaration of a NOTIFICATION OF UNUSUAL EVENT.

*1 per
01*

2.0 REFERENCES

2.1 Implementing References

- 2.1.1 EPIP-02, "Emergency Classification"
- 2.1.2 EPIP-11, "Technical Support Center/Satellite TSC Activation"
- 2.1.3 EPIP-22, "Personnel Injury"
- 2.1.4 EPIP-23, "Fire Fighting"
- 2.1.5 9N219.05.00, "Document/Record Turnover Control"

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. 6

3.0 LIMITATIONS AND PRECAUTIONS

- 3.1 Continued surveillance and assessment of plant conditions are necessary to ensure that the emergency classification is appropriately revised as conditions change or more definitive information is obtained.
- 3.2 Notifications to State/County agencies per Appendix A, "Emergency Notification Call List - Emergency Coordinator/STSC Communicator" shall be commenced within 15 minutes of declaration of an emergency.

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1.0 OBJECTIVE

- 1.1 This procedure provides a series of implementing actions to be taken upon declaration of a NOTIFICATION OF UNUSUAL EVENT.

2.0 REFERENCES

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- 2.1.1 EPIP-02, "Emergency Classification"
- 2.1.2 EPIP-11, "Technical Support Center/Satellite TSC Activation"
- 2.1.3 EPIP-22, "Personnel Injury"
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3.0 LIMITATIONS AND PRECAUTIONS

- 3.1 Continued surveillance and assessment of plant conditions are necessary to ensure that the emergency classification is appropriately revised as conditions change or more definitive information is obtained.
- 3.2 Notifications to State/County agencies per Appendix A, "Emergency Notification Call List - Emergency Coordinator/STSC Communicator" shall be commenced within 15 minutes of declaration of an emergency.
- 3.3 *All notifications should be completed prior to contacting the NRC as the ENS must be manned continuously at the NRC's request.*

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4.0 DETAILED PROCEDURE

4.1 Personnel Indoctrination/Responsibilities

4.1.1 In a NOTIFICATION OF 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 NRC and state/county authorities is made.

4.1.2 The Shift Supervisor shall be responsible for initiating this procedure. The Emergency Coordinator shall be responsible for completing the implementing actions of this procedure.

4.2 Prerequisites

4.2.1 The emergency has been classified per EPIP-02, "Emergency Classification."

4.3 Instructions

4.3.1 The affected unit Shift Supervisor shall perform the following:

NOTE

Designated Unaffected Unit Shift Supervisor to assume the role of the Emergency Coordinator in the Onshift Emergency Organization are:


Affected Unit	Unaffected Unit Shift Supervisor
Unit 1	Unit 2
Unit 2	Unit 1
Unit 3	Unit 2
Entire Site	Unit 1

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4.3.1.1 Notify the Shift Supervisor of the designated unaffected unit (or Shift Supervisor of an unaffected unit) to report to the Control Room of the affected unit and assume the duties of the onshift Emergency Coordinator. For NOTIFICATION OF UNUSUAL EVENT, it will be at the discretion of the affected unit Shift Supervisor if he is to be relieved as Emergency Coordinator by the shift supervisor of an unaffected unit.

4.3.1.2 Notify the Control Rooms of the unaffected units.

4.3.1.3 Ensure the following is announced over the plant wide telephone page (phone no. )

"ATTENTION ALL PLANT PERSONNEL - A NOTIFICATION OF UNUSUAL EVENT HAS BEEN DECLARED. SATELLITE TECHNICAL SUPPORT CENTER AND OPERATIONS SUPPORT CENTER EMERGENCY PERSONNEL FOR UNIT _____, REPORT TO YOUR EMERGENCY STATION. OTHER PERSONNEL ASSIGNED TO THE EMERGENCY ORGANIZATION - STANDBY. ALL OTHER PERSONNEL CONTINUE WITH NORMAL ROUTINE UNTIL FURTHER NOTICE".

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

4.3.1.4 Ensure the announcement in step 4.3.1.3 is repeated over the Site Warning Siren/Public Address System.

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NOTE

Protective Action recommendations (Appendix H) are based on plant and containment conditions and these recommendations are made to offsite officials even when no release is in progress.

NOTE

If the emergency is terminated before initial notifications are finished, complete the notifications per Appendix A, then repeat Appendix A with the notification of termination. If the emergency is terminated before initial notification can be started, provide both initiating and terminating messages in the same call.

- 4.3.1.5 Direct the Satellite TSC Communicator to fill out Appendix C, "Initial Emergency Message Form," in accordance with instructions provided in Appendix F, and make notifications per Appendix A.
- 4.3.1.6 Ensure the actions of the appropriate Recovery procedures have been implemented.
- 4.3.2 The Emergency Coordinator/Shift Supervisor shall perform the following:
 - 4.3.2.1 Ensure actuation of the Satellite TSC in accordance with EPIP-11, "Technical Support Center/Satellite TSC Activation."
 - 4.3.2.2 Implement additional Emergency Plan Implementing Procedures according to the situation that resulted in the emergency being classified as a NOTIFICATION OF UNUSUAL EVENT.

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- 4.3.2.3 Determine the need for any additional personnel. If needed, additional personnel should be requested by the existing on-shift organization.
- 4.3.2.4 If it is determined that the OSC is not required to support the emergency response, notify the OSC to deactivate and allow the response personnel to respond to normal work stations.
- 4.3.2.5 Direct the STSC Communicator to prepare Appendix D, "Follow-up Emergency Message Form" in accordance with instructions provided in Appendix F.
- 4.3.2.6 Reevaluate the emergency classification and perform licensee actions as conditions change by implementing EPIP-02.
- 4.3.2.7 When the situation warrants downgrading/upgrading a NOTIFICATION OF UNUSUAL EVENT, proceed to appropriate implementing and notification procedures and direct the Shift Supervisor to announce the reclassification over the public address system and inform the other Control Rooms. Keep PVNGS Plant Manager informed as to status of event.
- 4.3.2.8 Provide over all direction and control of the ONSHIFT emergency response as per Appendix I - Emergency Coordinator Response.
- 4.3.3 PVNGS Security, after being notified by the Emergency Coordinator or STSC Communicator that a NOTIFICATION OF UNUSUAL EVENT is in progress or has occurred, or has been terminated, shall complete Appendix B, "Emergency Notification Call List - PVNGS Security," and notify these individuals or departments of the situation.
- 4.3.4 Emergency Situation Terminated
 - 4.3.4.1 Consult with the PVNGS Plant Manager prior to closing out emergency.

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4.3.4.2 The Shift Supervisor (or Emergency Coordinator) shall ensure the following announcement is made over the plant wide telephone page (phone no. [REDACTED])

"ATTENTION ALL PERSONNEL, THE EMERGENCY SITUATION DECLARED IN UNIT _____ HAS NOW BEEN TERMINATED."
(Provide special instructions as necessary).

4.3.4.3 Ensure the announcement in step 4.3.4.2 is repeated over the site warning siren/public address system.

4.3.4.4 Ensure the announcement in steps 4.3.4.2 and 4.3.4.3 is repeated once.

4.3.4.5 Direct the STSC Communicator to fill out Appendix E, "Emergency Termination Message Form," per instructions provided in Appendix F.

4.3.4.6 Direct the STSC communicator to transmit the termination per Appendix A.

4.3.4.7 The S.S./E.C. shall notify the PVNGS Compliance Dept. at ext. [REDACTED] (or beeper No. [REDACTED] during off hours) and request a written summary be provided to offsite authorities within 24 hours. S.S./E.C. shall provide copies of shift logs, control room logs, etc. as requested by Compliance for preparation of the report.

4.3.5 Record Retention

4.3.5.1 Appendices A, B, C, D, E, ~~I and J~~^{9/24/84} shall be turned over to the Emergency Planning Dept., mail station 6010, to ensure they are forwarded to DDC for proper storage in accordance with 9N219.05.00, "Document/Record Turnover Control."

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EMERGENCY NOTIFICATION CALL LIST
EMERGENCY COORDINATOR/SITC COMMUNICATOR

AGENCY OR INDIVIDUAL	PRIMARY LINK	ALTERNATE LINK	ALTERNATE LINK DATE/TIME	INITIAL CALLED	DATE/TIME	TERMINATION CALLER
Arizona Department of Public Safety	NAN	Radio System Channel 8 Frequency	/	/	/	/
Maricopa County Sheriff's Office	NAN	Radio System Channel 8 Frequency	/	/	/	/
Arizona Radiation Regulatory Agency	NAN	Radio System Channel 8 Frequency	/	/	/	/
Arizona Division of Emergency Services	NAN	Radio System Channel 8 Frequency	/	/	/	/
Maricopa County Department of Civil Defense and Emergency Services	NAN	Radio System Channel 8 Frequency	/	/	/	/
PVNGS Security			/	/	/	/
Group Paging System #1			/	/	/	/
Group Paging System #2			/	/	/	/
PVNGS Plant Manager			/	/	/	/
Operations Manager			/	/	/	/
Manager*			/	/	/	/
Maintenance Manager*			/	/	/	/
Plant Services Manager			/	/	/	/
Dispatcher (SOC)			/	/	/	/
MRC Headquarters			/	/	/	/

* Call these personnel in sequence until one of them is reached only if unable to contact PVNGS Plant Manager of Operations Manager.

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EMERGENCY NOTIFICATION CALL LIST - PVNGS SECURITY

AGENCY OR INDIVIDUAL	PRIMARY LINK	ALTERNATE LINK	DATE/TIME	INITIAL CALLER	DATE/TIME	TERMINATION CALLER
Corporate Security	/	/	/	/	/	/
Site Construction Security Office	/	/	/	/	/	/
Nuclear Administration	/	/	/	/	/	/
ANPP Communications*	/	/	/	/	/	/
ANPP Site Construction Office*	/	/	/	/	/	/
Bechtel Emergency Control Center	/	/	/	/	/	/



ACTIVATE AUTOMATICALLY

*Available during working hours only.

0010

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INITIAL EMERGENCY MESSAGE FORM
NOTIFICATION OF UNUSUAL EVENT,
ALERT, SITE AREA EMERGENCY, OR GENERAL EMERGENCY

1. Verbatim text of Message: THIS IS (IS NOT) A DRILL!! (Circle One) THIS
IS PALO VERDE NUCLEAR GENERATING STATION (NOTIFICATION OF UNUSUAL EVENT)
(ALERT) (SITE AREA EMERGENCY) (GENERAL EMERGENCY)
(circle applicable classification)

declared at _____ - _____ - Wind is from _____ degrees - At _____ mph.
(time) (date) (speed)

PALO VERDE AUTHENTICATOR _____
(authenticator letters)

2. This is _____, at the Palo Verde Nuclear Generating
(name/title)
Station Unit _____.

3. (Circle One)

- (a) There is NO, repeat NO, radioactive release taking place and no special protective actions are recommended at this time.
OR
- (b) There is NO, repeat NO, radioactive release in excess of allowable operating limits and NO protective actions are recommended at this time.
OR
- (c) There is NO, repeat NO, radioactive release taking place at this time. However, the following protective actions are recommended.
- | | |
|---------|------------------|
| Sectors | Distance (Miles) |
| _____ | _____ |
| _____ | _____ |
- OR
- (d) A radioactive release IS, repeat IS, taking place. We recommend that people in affected sectors remain indoors with windows and doors closed.
- | | |
|---------|------------------|
| Sectors | Distance (Miles) |
| _____ | _____ |
| _____ | _____ |
- OR
- (e) A radioactive release IS, repeat IS, taking place. We recommend that evacuation of affected sectors be considered.
- | | |
|---------|------------------|
| Sectors | Distance (Miles) |
| _____ | _____ |
| _____ | _____ |

4. THIS IS (IS NOT) A DRILL!! (Circle One)

Approved By _____ DATE _____ TIME _____
(SS/EC/EOD)

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FOLLOW-UP EMERGENCY MESSAGE FORM

1. Verbatim text of Message: THIS IS (IS NOT) A DRILL!! (Circle One)
THIS IS A PALO VERDE NUCLEAR GENERATING STATION follow-up information
message concerning the (NOTIFICATION OF UNUSUAL EVENT) (ALERT) (SITE
AREA EMERGENCY) (GENERAL EMERGENCY)
 (circle applicable classification)

declared at _____ - _____
 (time) (date)

2. This is _____, at Palo Verde Nuclear Generating Station.
 Unit _____. (name/title)

3. Brief description of event _____

4. Meteorological Data

a. Wind direction from _____ (degrees) - at _____ miles per hour
 (direction) (speed)
 from _____ to _____
 (sector) (sector)

b. Stability Class: A B C D E F G
 (Circle One)

c. Precipitation Yes No
 (Circle One)

5. Radiological Data

- a. Radioactivity (check one)
 () Has been released
 () Has not been released

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5. b. Release Time _____
 c. Reactor Trip Time _____
 d. Location/Source of Release _____

6. Current Release Rates

- a. I-131 Equivalent _____ Ci/second
 b. Noble Gas _____ Ci/second
 c. Particulates _____ Ci/second

7. Two-hour plume centerline projected dose at:

Distance	Sector	Whole Body Dose (REM)	Child Thyroid Dose Commitment (REM)
----------	--------	--------------------------	---

 Site
 Boundary

 2 miles

 5 miles

 10 miles

8. Plume arrival time offsite:

_____ 2 mi
 _____ 5 mi
 _____ 10 mi
 _____ Ruth Fisher School
 _____ Arlington School

9. Estimated duration of release _____ minutes

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10. The Following Emergency Measures Including Protective Actions are Recommended:

11. The Following Emergency Response Actions are Underway:

12. We Request the Following Onsite Support and Assistance from Offsite Sources:

13. Our Prognosis of the Emergency is that Conditions:

- Are Under Control
- Can Be Expected to Terminate Within _____ hours
- Are Worsening

14. Other Information:

- a) Power Prior to Event _____
- b) Current Power on mode _____
- c) Mode of Operation Till Correction _____
- d) Estimated Time to Restart _____

15. THIS IS (IS NOT) A DRILL!! (Circle One)

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EMERGENCY TERMINATION MESSAGE FORM

1. Verbatim text of message: THIS IS (IS NOT) A DRILL!! (Circle One)
THIS IS PALO VERDE NUCLEAR GENERATING STATION. THE (NOTIFICATION OF
UNUSUAL EVENT) (ALERT) (SITE AREA EMERGENCY) (GENERAL EMERGENCY)
(circle appropriate classification) DECLARED
AT _____ - _____ HAS BEEN TERMINATED AT
(Time) (Date)

_____ - _____
(Time) (Date)

2. This is _____, at Palo Verde Nuclear Generating Station Unit _____.
(Name) (Title)

3. PALO VERDE AUTHENTICATOR _____
(Authenticator Letters)

Approved: _____
(SS/EC/EOD) Date/Time

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INSTRUCTIONS FOR COMPLETING APPENDIX C, D OR E

1.0 INITIAL EMERGENCY MESSAGE FORM (APPENDIX C)

- 1.1 Fill in data required by steps 1 and 2 of Appendix C, "Initial Emergency Message Form." Obtain authenticator from the confidential envelope marked on the outside with the appropriate month and drill sequence number (if it is a drill).
- 1.2 Obtain from the Radiation Protection Monitor (onshift) data required to complete step 3 of Appendix C.
- 1.3 Circle appropriate wording of step 4 of Appendix C.

NOTE

When the NAN ring button is pushed and it appears that all the receiving stations are on line, or, the ring has stopped, the PVNGS originating station shall initiate a roll call in the order listed below. (Consider the time of day)

NOTE

If the NAN dedicated telephone fails, refer to Appendix G, "Notification Alert Network (NAN) Radio Backup" for instruction on using channel 8, KON-511, for notifications.

- 1.4 By means of a single call on the Notification and Alert Net dedicated telephone, contact the following State/County agencies listed in Appendix A.

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

Maricopa County Sheriffs Office
Maricopa County Department of Civil Defense and Emergency Services
Arizona Department of Public Safety
Arizona Division of Emergency Services
Arizona Radiation Regulatory Agency

Off-Duty Hours (5:00 p.m. to 8:00 a.m., Monday-Friday, all day
Saturday, Sunday and Holidays)

Maricopa County Sheriff's Office
Department of Public Safety

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- 1.5 In the event that an offsite government agency (or agencies) does not answer the NAN phone or NAN backup radio during a test, drill, or actual emergency, the nuclear operator (or STSC Communicator) shall notify the agency via regular PBX telephone (numbers listed in App. A)
- 1.6 When contact is made, the caller shall identify himself and request that the individuals obtain a copy of the appropriate Emergency Message Form.
- 1.7 When each individual has obtained a copy, read the completed Emergency Message Form verbatim and request MCSO to read back verbatim.
- 1.8 Offer to repeat information and reiterate as necessary.

NOTE

To verify the group page activation, monitor the pager installed in the STSC. Be aware that as much as two (2) minutes may lapse between dial-up and the broadcast announcement.

- 1.9 Notify additional personnel as listed in Appendix A ~~as necessary~~ and inform them of the situation. Provide the following message for both Group Paging Systems Notification/Callout:

"THIS IS PVNGS, UNIT ____, CLASSIFICATION ONE,
PLEASE RESPOND APPROPRIATELY" (Repeat message
once).

- 1.10 If an individual requests information not contained in the Emergency Message Form, make reasonable efforts to obtain and give the information only after all initial notifications have been made.
- 1.11 Contact the NRC via the Emergency Notification System (ENS) dedicated telephone within 60 minutes of declaring an emergency. If the ENS phone fails, use commercial phone or HPN phone as an alternate line.
- 1.12 When contact is made, the caller shall identify himself and read the completed Emergency Message Form verbatim (omit the Palo Verde Authenticator).
- 1.13 Offer to repeat information and reiterate as necessary.

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2.0 FOLLOW-UP EMERGENCY MESSAGE FORM (APPENDIX D)

- 2.1 Fill in data required by steps 1-3 of Appendix D, "Follow-up Emergency Message Form."

NOTE

If the emergency is non-radiological in nature, steps 4-9 may be deleted.

- 2.2 Obtain from the Radiation Protection Monitor data required to complete steps 4-9.
- 2.3 Obtain from the Emergency Coordinator data required to complete steps 10-14.
- 2.4 Circle appropriate wording in step 15.
- 2.5 Dispense information when requested by offsite agencies (NRC or ARRA).

3.0 EMERGENCY TERMINATION MESSAGE FORM (APPENDIX E)

- 3.1 Fill in data required by steps 1-3 to Appendix E, "Emergency Termination Message Form."
- 3.2 Obtain approval from SS/EC/EOD.
- 3.3 Transmit termination per Appendix A.

NOTE

To verify the group page activation, monitor the pager installed in the STSC. Be aware that as much as two (2) minutes may lapse between dial-up and the broadcast announcement.

- 3.4 When using the Group Paging Systems to announce event termination, use the following message:

"THIS IS PVNGS, UNIT _____, EMERGENCY
TERMINATED. PLEASE CANCEL RESPONSE TO EMERGENCY."

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NOTIFICATION ALERT NETOWRK (NAN) RADIO BACKUP

CHANNEL 8 - KON511

In case of failure of the NAN ringdown telephone, the NAN backup is Channel 8 on the PVNGS radio. FCC regulations require the Palo Verde designator 'KON-511' be used to precede and conclude all outgoing communications.

1. Take control of the radio channel by saying: "All stations this net," (Repeat) "All stations this net, this is K-O-N 5-1-1 Palo Verde to all 5-1-1 stations, stand by for Warning Point roll call."
2. Wait 30 seconds to allow the offsite agencies to get to their radios, then repeat the previous transmission.

NOTE

After 5 P.M. weekdays, all day Saturday, Sunday or holidays, Maricopa County Sheriff's Office (MCSO) and Department of Public Safety (DPS) will be the only agencies responding.

3. Initiate roll call of the offsite government agencies, allowing stations on the net to respond.
 - 3.1 "5-1-1 Palo Verde to 5-1-1 Maricopa County Sheriff's Office. Do you copy?" Allow response: "5-1-1 MCSO copies."
 - 3.2 "5-1-1 Palo Verde to 5-1-1 Maricopa County Department of Civil Defense & Emergency Services. Do you copy?" (MCDCE&ES) Allow response: "5-1-1 Civil Defense copies."
 - 3.3 "5-1-1 Palo Verde to 5-1-1 Department of Public Safety. Do you copy?" Allow response: "5-1-1 DPS copies."
 - 3.4 "5-1-1 Palo Verde to 5-1-1 Arizona Division of Emergency Services. Do you copy?" Allow response: "5-1-1 ADES (State EOC) copies."
 - 3.5 "5-1-1 Palo Verde to 5-1-1 Arizona Radiation Regulatory Agency. Do you Copy?" Allow response: "5-1-1 ARRA copies."

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NOTIFICATION ALERT NETWORK (NAN) RADIO BACKUP (CONT'D)

CHANNEL 8 - KONS11

4. Upon completion of roll call, transmit the notification message verbatim. Take an acknowledgement roll call, allowing MCSO to read the message back in its entirety, and provide assistance or clarification, as needed.
5. Upon completion of the second roll call, announce: "K-O-N 5-1-1 Palo Verde off." This is the required FCC sign-off.
6. Continue notifications per Step 1.8 of Appendix F.

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PROTECTIVE ACTION RECOMMENDATIONS

Classification Category	Protective Actions Recommendations
<p>Notification of Unusual Event- events are in progress which indicate a potential degradation of the level of safety of the plant; however, no releases of radioactive material requiring offsite response/monitoring are expected unless further degradation of safety systems occur.</p>	<p>Inform state and county authorities of NUE status/ cause and based on the situation recommend that no protective action is necessary or to standby for an update due to potential degradation of plant safety.</p>

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EMERGENCY COORDINATOR RESPONSE

POSITION FILLED BY:

Onshift Organization

- 1) Shift Supervisor of the designated unaffected unit
- 2) Shift Supervisor of the affected unit

RESPONSIBILITY:

The individual onsite with the responsibility and authority to immediately and unilaterally initiate emergency actions, including providing notification and protective action recommendations to governmental authorities responsible for implementing offsite emergency measures. Provide overall direction and control of the ONSHIFT Emergency response.

INITIAL RESPONSE

1. Ensure plant wide public address announcement is made as per steps 4.3.1.3 and 4.3.1.4 of this procedure.
2. Activate the Satellite STSC per EPIP-11, "Technical Support Center/Satellite TSC Activation."
3. Commence notification process per Appendix F or direct the STSC Communicator to do same.
4. Notify unaffected unit control rooms of situation.
5. Verify personnel resources are on standby in the OSC.
6. Provide plant wide public address announcement when the the STSC is activated.
7. Implement EIPs according to the situation that resulted in the classification.

SUBSEQUENT RESPONSE

8. As necessary, direct implementation of EPIP-23, "Fire Fighting" and EPIP-22, "Personnel Injury."
 - (1) For a fire, dispatch the Fire Team and order the Security Director to contact the Bechtel or alternate Fire Department for assistance (if required)

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EMERGENCY COORDINATOR RESPONSE

- (2) For personnel injury, contact the First Aid Station and inform them of the situation. Dispatch a First Aid Team, if necessary, and coordinate any required offsite assistance.
- 9. Determine the need for additional personnel and direct the Security Director to initiate call out.
- 10. If it is determined that the OSC is not required to support the emergency response, notify the OSC to deactivate and allow the response personnel to return to normal work stations.
- 11. As appropriate, complete Follow-up Emergency Message Form.
- 12. Reevaluate the emergency classification as conditions change per EPIP-02, reclassify as necessary. Keep PVNGS Plant Manager informed as to status of event.
- 13. Reassess corrective and protective actions. Verify activities underway.

Recovery

- 14. Consult with the PVNGS Plant Manager prior to closing out emergency.
- 15. Complete notifications per Appendix F when emergency is closed out or direct the STSC Communicator to do the same.
- 16. Provide termination announcement or direct Shift Supervisor to provide same per steps 4.3.4.2 and 4.3.4.3 of this procedure.
- 17. Notify PVNGS Compliance at ext. [REDACTED]
event termination. Provide logs as requested.

* Continuing Activity

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STSC COMMUNICATOR RESPONSE

POSITION FILLED BY: Nuclear Operator from affected unit

RESPONSIBILITY Initiate the notification process as directed by the onshift Emergency Coordinator. Ensure operability of communications equipment. Maintain communications logbook.

IMMEDIATE ACTIONS

STSC Activation

1. Report to the STSC upon notification.

Notification of UNUSUAL EVENT

2. Complete the Initial Emergency Message Form as directed by the onshift Emergency Coordinator or Shift Supervisor.
3. Initiate notification process as directed by Emergency Coordinator (or Shift Supervisor, in his absence).
4. Inform Emergency Coordinator when initial notifications are complete.
5. Contact the Security Director and inform him to call in additional personnel if so directed by Emergency Coordinator.
6. Complete the Follow-up Message Form as directed by the Emergency Coordinator.
- *7. Provide follow-up information when requested by the State/County agencies.
- *8. Maintain records of communications received or transmitted offsite.
9. Complete Emergency Termination Message Form as directed by the onshift Emergency Coordinator or Shift Supervisor upon event termination.
10. Transmit termination per Appendix A.

* Continuing Activity

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TECH. REVIEWER *[Signature]* DATE 5-16-86

PRB/PRG/TRRG REVIEW *[Signature]* DATE 6/9/86

FINAL APPROVAL *[Signature]* DATE 6/5/86

EFFECTIVE DATE 6/13/86
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7
ASSIGNED COPY NUMBER (DDC only)

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1.0 OBJECTIVE

- 1.1 To provide a basis for relating actual or projected plume exposure doses to the Environmental Protection Agency (EPA) Protective Action Guides (PAGs).

2.0 REFERENCES

2.1 Implementing References

- 2.1.1 EPIP-14B, "Initial Dose Assessment"
- 2.1.2 EPIP-17, "Onsite/Offsite Surveys and Sampling"
- 2.1.3 EPIP-03, "NOTIFICATION OF UNUSUAL EVENT Implementing Actions"
- 2.1.4 EPIP-04, "ALERT, SITE AREA and 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", Nov. 1980.
- 2.2.2 Manual of Protective Action Guides and Protective Actions for Nuclear Incidents; as revised June, 1980; EPA-520/1-75-001.
- 2.2.3 PVNGS Emergency Plan, Rev. 6.

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.

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- 3.2 Protective action recommendations are based on plant and containment conditions and these recommendations are made even when no release is in progress. These recommendations are transmitted to government officials using EPIP-03, and "NOTIFICATION OF UNUSUAL EVENT Implementing Actions" EPIP-04, "ALERT, SITE AREA and GENERAL EMERGENCY Implementing Actions."
- 3.3 Protective action guides represent trigger levels and are not intended to represent acceptable dose levels.
- 3.4 PAGs for the general public are given in ranges. The lowest dose 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.
- 3.5 The projected dose and affected offsite areas depend upon the curies released, release rate, duration of the release, isotopic mixture of the release (varies with effective age) and meteorological conditions.
- 3.6 At times, selection of protective actions should be considered subjectively as conditions beyond the scope of this procedure may exist.
- 3.7 When the wind is blowing into the Palo Verde Hills (sectors N, P or Q) and protective actions are being considered, the two sectors on either side of the affected sector shall be included in the recommendation (e.g., a plume in sector P shall require consideration of sectors M, N, Q and R in the recommendation.)
- 3.8 Protective actions recommended to state authorities by ANPP SHALL NOT be transmitted to the JENC.
- 3.9 Government officials should inform EC/EOD prior to implementing protective actions.
- 3.10 If actual airborne radioactivity, noble gas or iodine sample results are available (either from RMS filter analysis or field measurements) this information may be used instead of dose projections for making protective action recommendations.

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4.0 DETAILED PROCEDURE

4.1 Personnel Indoctrination/Responsibilities

- 4.1.1 Dose estimates which population groups may potentially receive, are calculated in accordance with EPIP-14B, "Initial Dose Assessment." This dose estimate is referred to as the projected dose. A protective action is an action taken to avoid or reduce this projected dose when the benefits derived from such action are sufficient to offset any undesirable features of the protective action.
- 4.1.2 The Protective Action Guide (PAG) is based on the projected dose to individuals in the population which warrant taking protective actions. It is used in an effort to minimize the risk from an event which is occurring or has already occurred.
- 4.1.3 The responsibility for the decision to notify and recommend protective actions to the appropriate authorities belongs to the Emergency Coordinator until he is relieved of this responsibility by the Emergency Operations Director.
- 4.1.4 The Radiation Protection Technician of the affected unit shall be responsible for initial offsite dose calculations and/or projections.
- 4.1.5 The Radiation Assessment Coordinator (Radiation Protection Monitor, on shift) shall be responsible for updating and refining dose assessments for critical receptor site locations and evaluating appropriate protective actions.
- 4.1.6 The Radiological Protection Coordinator (Radiological Assessment Coordinator) shall be responsible for relaying dose assessment and protective action evaluations to the Emergency Coordinator (Emergency Operations Director).

4.2 Prerequisites

- 4.2.1 Projected whole body and thyroid dose rates and integrated dose for critical receptor site locations have been calculated in accordance with EPIP-14B, and such doses warrant evaluating, and if necessary, recommending protective actions.

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4.3 Instructions

4.3.1 Radiological Assessment Coordinator (Radiation Protection Monitor, onshift) shall:

4.3.1.1 Evaluate current plant status with respect to potential for releases or increased releases.

4.3.1.2 Update and refine dose estimates for critical receptor site locations upon significant changes in one or more of the following parameters:

- (1) Release rates.
- (2) Duration of the releases.
- (3) Isotopic mixture of the release (varies as a function of effective age).
- (4) Meteorological conditions.

4.3.2 Should the plant status or projected doses indicate that sheltering or evacuation be considered per Appendix A, determine the effectiveness of these protective actions as described below. Time estimates should be obtained from the State Emergency Operations Center.

4.3.3 Evacuation Effectiveness - The effectiveness of evacuation in limiting radiation dose is a function of the time of exposure if a plume is present. This is dependent upon the time required to evacuate. The evacuation time T(EV) is expressed as:

$$T(EV) = T_D + T_N + T_M + T_T$$

Where:

T_D = Time delay measured from the point of the protective action recommendation from the facility to government to evacuate to the actual decision by the competent authority to order the evacuation.

T_N = Time required by officials to notify people to evacuate.

T_M = Time required for people to mobilize and get under way.

T_T = Travel time required to leave the affected areas.

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- 4.3.3.1 If evacuation is completed before the plume arrives, then evacuation is 100 percent effective. To determine the time of exposure to the plume, it is necessary to calculate the plume arrival time T(PA). The plume arrival time, T(PA) is expressed as:

$$T(PA) = T_B + T_{TR}$$

Where:

- T_B = Time projected before release begins.
- T_{TR} = Time projected for plume travel for given windspeed and downwind distances from the start of release. To calculate T_{TR} refer to procedure EPIP-14B.

- 4.3.3.2 Evaluate constraints against evacuation. Compare the estimated evacuation time T(EV) with the estimated plume arrival time, T(PA).

- 4.3.3.3 Under the following conditions evaluate the benefits of sheltering vs. the benefits of evacuation.

- (1) In cases where there is no time to evacuate prior to the arrival of the plume.
- (2) The projected evacuation time and time before plume arrival are nearly equal.

- 4.3.3.4 If evacuation appears to offer a significant reduction in dose (greater than sheltering) recommend evacuation to the appropriate county and/or state officials.

4.3.4 Sheltering Effectiveness

- 4.3.4.1 If evacuation does not offer significant dose avoidance or if local constraints prevent evacuation recommend that officials warn the affected population to:

- (1) Seek shelter.
- (2) Close windows.
- (3) Turn off ventilation systems.
- (4) Seal cracks in doors with wet rags.

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- 4.3.4.2 Control access to the affected area.
- 4.3.5 Evaluate the possibility of evacuation after the plume has passed.
 - 4.3.5.1 After the plume has passed, evaluate the significance of ground deposition in accordance with EPIP-17, "Onsite/Offsite Surveys and Sampling".
 - 4.3.5.2 Determine if dose rates are sufficient to warrant subsequent evacuation.
 - 4.3.5.3 Multiply the projected dose by the external shielding factor (Appendix E).
 - 4.3.5.4 Compare the projected dose to the PAG for whole body gamma dose (Appendix A).
- 4.3.6 Evaluate the significance of inhalation dose. (Shielding factors for inhalation doses are presented in Appendix C). Shielding factors are for a sealed, wood-frame house.
 - 4.3.6.1 Multiply the projected dose by the inhalation shielding factor to determine the reduction in inhalation dose from the plume. Compare the projected dose to the PAG for thyroid dose in Appendix A.
- 4.3.7 Determine the critical organ of concern, the whole body or the thyroid. Compare the projected dose for the critical organ to the PAG for that organ in Appendix A.

PROTECTIVE ACTION RECOMMENDATIONS

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CONDITION	RECOMMENDED ACTION
1. Notification of Unusual Event Declared.	Inform state and county authorities of status/cause and, based on situation recommend that no protective action is necessary or standby for update if situation worsens.
2. An ALERT has been declared.	Inform state and county authorities of Alert status/cause and recommend that the public be apprised of the situation and stay tuned to EBS/KIAR radio station.
3. A Site Area Emergency has been declared.	Inform state and county authorities of Site Area Emergency status/cause and consider recommending seeking shelter within a 2-mile radius of the plant as warranted based on plant/containment conditions.
4. A General Emergency has been declared.	Shelter within 2-mile radius and 5 miles in potentially affected sectors.*
5. EPA Protective Action Guidelines are projected to be exceeded.	In accordance with EPA Protective Action Guidelines:
a) whole body 1 rem to 5 rems thyroid 5 rems to 25 rems	Recommended shelter, as a minimum for affected sectors* and consider evacuation unless time constraints make it impractical.
b) whole body 5 rems thyroid 25 rems	Recommend evacuation for affected sectors* or shelter for those areas that cannot be evacuated before plume arrival.

*NOTE: Affected sectors include, as a minimum, the downwind sector(s) and adjacent sectors. For plumes in sector P, Q, or N, two sectors on either side of the affected sector shall be included in the recommendation (o.g., a plume in sector P shall require consideration of sector M, N, Q and R).

**PVNGS EMERGENCY PLAN
IMPLEMENTING PROCEDURE**

PROCEDURE
NO.
EPIP-15

APPENDIX A
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PROTECTIVE ACTION GUIDELINES

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PROTECTIVE ACTION RECOMMENDATIONS

CONDITION	RECOMMENDED ACTION
6. Loss of physical control of the plant to intruders.	Evacuation for 2-mile radius and 5 miles in potentially affected sectors.*
7. Substantial core damage has occurred or is projected to the extent that 20% of fuel clad gap activity is released from fuel.	Evacuation for 2-mile radius and 5 miles in potentially affected sectors.*
8. Large fission product inventory (greater than fuel gap clad activity)	Evacuation for 5-mile radius and 10 miles in potentially affected sector(s).
9. Imminent containment failure is projected such that a "puff" release greater than design leak rate will occur, in conjunction with 7. or 8. above.	Shelter for areas that cannot be evacuated before plume arrival; evacuation of remainder of 5-mile radius and 10-miles in potentially affected sectors.*

*NOTE: Affected sectors include, as a minimum, the downwind sector(s) and adjacent sectors. For plumes in sector P, Q, or N, two sectors on either side of the affected sector shall be included in the recommendation (e.g., a plume in sector P shall require consideration of sector M, N, Q and R).

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REDUCTION IN EXTERNAL GAMMA DOSE FROM PASSING CLOUD

<u>STRUCTURE OR LOCATION</u>	SHIELDING FACTOR ^(a)	
	AVERAGE	RANGE
(1) Outside	1.0	--
(2) Vehicles	1.0	--
(3) Wood frame house (no basement) ^(b)	0.9	--
(4) Basement of wood house	0.6	0.1 to 0.7 ^(c)
(5) Masonry house (no basement)	0.6	0.4 to 0.7 ^(c)
(6) Basement of masonry house	0.4	0.1 to 0.5 ^(c)
(7) Large office or industrial building	0.2	0.1 to 0.3 ^(c,d)

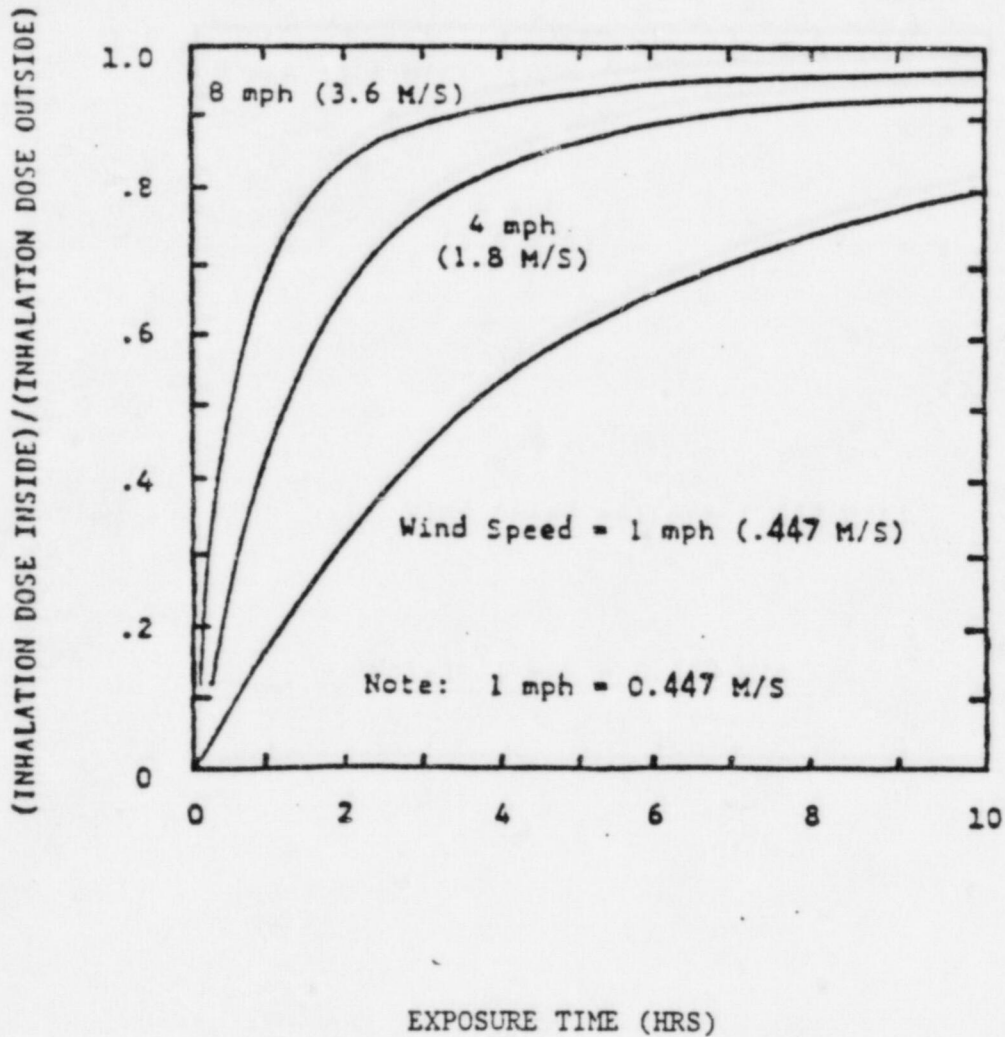
NOTES:

- (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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INHALATION SHIELDING FACTORS FOR A WOOD HOUSE,
SNUG DOORS, CLOSED WINDOWS





UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

July 23, 1986

50-528/529/530 Palo Verde

MEMORANDUM FOR: Chief, Document Management Branch, TIDC
FROM: Director, Division of Rules and Records, ADM
SUBJECT: REVIEW OF UTILITY EMERGENCY PLAN DOCUMENTATION

The Division of Rules and Records has reviewed the attached document and has determined that it may now be made publicly available.

Donnie H. Grimsley

Donnie H. Grimsley, Director
Division of Rules and Records
Office of Administration

Attachment: As stated