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SUBJECT: Forwards description & justification of proposed revision & proposed revision to PVNGS emergency plan for review & approval.

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102-03948-JML/AKK/DRL

June 1, 1997

U. S. Nuclear Regulatory Commission  
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Washington, DC 20555 - 0001

Dear Sirs:

**Subject: Palo Verde Nuclear Generating Station (PVNGS)  
Units 1, 2, and 3  
Docket Nos. STN 50-528/529/530  
Proposed Revision to the PVNGS Emergency Plan**

Arizona Public Service Company (APS) proposes a revision to the PVNGS Emergency Plan in accordance with 10 CFR 50.54 (q) and 50.4. This revision addresses reducing radiation protection (RP) technicians for Emergency Plan staffing from the current eight individuals to five individuals while still complying with NUREG-0654, Table B-1, "Minimum Staffing Requirements For NRC Licensees For Nuclear Power Plant Emergencies".

NRC Region IV management, Mr. Blaine Murray, Plant Support Branch Chief, has been briefed on the proposed changes in a telephone conversation held November 7, 1996 with PVNGS Nuclear Regulatory Affairs Department Leader, Ms. Angela K. Krainik.

APS requests that the NRC expeditiously review and approve this proposed revision prior to PVNGS implementation, tentatively scheduled for September 1, 1997. Based on NRC approval, APS will submit a formal revision to the PVNGS Emergency Plan in accordance with regulatory requirements.

The description and justification of the proposed revision are provided in Enclosure 1 to this letter. Enclosure 2 is the proposed revision to the PVNGS Emergency Plan.

Should you have any further questions, please contact Ms. Krainik at (602) 393-5421.

Sincerely,

*Gregg N. Runkle*  
for JML.

JML/AKK/DRL

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PVNGS Emergency Plan Proposed Revision  
Page 2

Enclosures:

1. Description/Justification of Proposed Revision
2. PVNGS Emergency Plan Proposed Revision

cc: E. W. Merschoff  
K. E. Perkins  
J. W. Clifford  
B. Murray  
T. H. Essig  
K. E. Johnston  
G. M. Good

## **EXECUTIVE SUMMARY OF CHANGES**

This proposal addresses changes to the minimum staffing requirements in the Operations Support Center (OSC) only.

No changes are proposed to the Control Room (CR), the Satellite Technical Support Center (STSC), the Technical Support Center (TSC) or to the Emergency Operations Facility (EOF).

The specific changes address the Radiation Protection technicians available on-shift (immediately) and proposes reducing that number from 8 to 5.

- One position change in the off-site survey area replaces the two formal RP technicians for performance of off-site surveys, with one RP technician and a driver currently staffed by on-shift WRF (Water Reclamation Facility) personnel. This change has no impact on the current capability and methodology to perform off-site surveys. This results in a reduction of one in the RP on-shift staff.
- Two position changes in the "protective actions" area take credit for the advances in technology and the NUREG-0654 allowance for shift personnel assigned other functions to assist in these areas. This change does not affect our capability to meet the NUREG-0654 requirements. This results in a reduction of two in the RP on-shift staff.



**ENCLOSURE 1**

**SUMMARY/JUSTIFICATION  
OF  
PROPOSED CHANGES**

**PVNGS EMERGENCY PLAN**





| Staffing   |                           | Proposal              | Summary   | Page 1 |
|--|---------------------------|-----------------------|---|--------|
| NUREG 0654<br>On-Shift + 30 Min<br>Staffing from Table<br>B-1, page 37<br>[ ] = total required | Current<br>RP<br>Staffing | New<br>RP<br>Staffing | Comments  |        |
| Senior HP Expertise<br>[1]   | 1                         | 1                     | No Change; The senior on-shift RP technician assumes the RP Monitor position and remains responsible for off-site dose assessment, issuing protective action requests (PAR's ) to the emergency coordinator (EC), and directing RP response in-plant, on-site and off-site.   |        |
| Off-Site Surveys<br>[2]  | 2                         | 1                     | This emergency plan (EPLAN) assigned position is reduced by one RP Technician and replaced with a Radiological Field Assessment Team (RFAT) driver position, added to maintain overall on-shift, off-site survey team staffing at 2. Note that in the current EPLAN, revision 18, step 4.2.1.13, states, in part, that "At least one member of the team is a Radiation Protection Technician." - this change clarifies that an off-site survey team will consist of an RP technician and a driver. The driver is briefed during the team dispatch phase, requires a valid Arizona driver's license and is currently staffed by an on-shift Water Reclamation Facility (WRF) person. The driver receives direction from the RP technician and, in addition to driving, provides support such as assistance with radio communications. The site lessons learned from drills/exercises/events in which two RP technicians were sent versus one and a driver do not indicate value added from the second RP technician. Annual training requires RFAT RP technicians to demonstrate competence in obtaining necessary field data on an individual basis. In addition, EPLAN procedures provide for streamlined data communication to the site with minimal calculations performed in the field. This change does not decrease the effectiveness of the PVNGS Emergency Plan since it involves a change in personnel position and not a reduction in committed activities under our current program. |        |



| Staffing   |                           | Proposal              | Summary   | Page 2 |
|--|---------------------------|-----------------------|---|--------|
| NUREG 0654<br>On-Shift + 30 Min<br>Staffing from Table<br>B-1, page 37<br>[ ] = total required | Current<br>RP<br>Staffing | New<br>RP<br>Staffing | Comments  |        |
| On-Site Surveys<br>(out-of-plant) [1]  | 1                         | 1                     | No Change; performed by an on-shift RP technician   |        |
| In-Plant Surveys [2]   | 2                         | 2                     | No Change; Currently filled by an on-shift RP technician and an on-shift radiation monitoring (RM) technician. The RM technician provides in-plant dose rate and airborne level data via radiation monitoring system (RMS ) interpretation. The RMS at PVNGS is post TMI and post NUREG-0654. This system provides detailed access area dose rate information as well as access area airborne information, effectively providing survey data specified in NUREG-0654. The on-shift RM technician also performs the Mesorem dose projections used for dose assessment. |        |

**KEY POINTS APPLICABLE TO NUREG STAFFING REQUIREMENTS ON FOLLOWING PAGE:**

The changes take credit for automated systems in effect at PVNGS and NUREG-0654 allowance for shift personnel (RP technicians) assigned other functions to perform some of these actions.

- The automated radiological access control system (ARACS) currently in use performs actions (as delineated on the following page) which significantly reduce man-hours involving both access control and dosimetry.
- State-of-the-art personal and tool contamination monitors (PCM's/TCM's) are in current use.

These systems allow fully automated entry/exit to/from a radiological controlled area (RCA) with an RP technician required only for alarm response. These systems provide effective control of unaffected units with no requirement for full-time RP Technicians to be present. In the affected unit these automated systems allow the responding RP technicians to address the primary needs of the emergency.



| Staffing Proposal Summary Page 3   |                           |   |  |
|--|---------------------------|---|--|
| NUREG 0654<br>On-Shift + 30 Min<br>Staffing from Table<br>B-1, page 38<br>[ ] = total required | Current<br>RP<br>Staffing | New<br>RP<br>Staffing   | Comments   |
| Protective Actions<br>[ 2 plus 2** ]   | 4 full time               | 2 full time<br>plus<br>other **<br>function<br>personnel<br>and<br>auto-equip | Direct assignment reduced from 4 to 2. Overall availability remains the same. The NUREG-0654 requirement is for 4 technicians of whom two may be assigned other functions. This proposal provides 2 full-time RP technicians expected to concentrate on HP coverage and personnel monitoring. Two of the positions will be provided by RP personnel assigned other functions. The availability of personnel assigned other functions is greatly enhanced by the automated equipment in all 3 units which essentially replaces 2 RP technicians. Thus, this proposed change will not decrease the effectiveness of the PVNGS Emergency Plan since the intent of NUREG-0654 and the ability to perform the mandated activities is still being met. |
| a) Access Control  | 1                         | other **<br>function<br>personnel<br>and/or<br>auto-equip                     | ARACS monitors for correct radiation exposure permit (REP) sign-in, correct revision acknowledgment; and for current authorization to enter the RCA by that individual. Entry is barred on any problem. Automatic REP sign-out with dose update is performed upon exit. RP technician support is only necessary on an intermittent basis.  |
| b) HP coverage for repair<br>corrective actions, etc.  | 1                         | 1   | Primary function of assigned RP technician.  |
| c) Personnel<br>Monitoring   | 1                         | 1   | PCM's and TCM's perform fully automated monitoring of tools and personnel. Unless monitors alarm, the assigned RP technician will perform other functions.   |
| d) Dosimetry   | 1                         | other **<br>function<br>personnel<br>and/or<br>auto-equip                     | ARACS checks authorized and remaining dose for individuals prior to entry; selects and sets appropriate setpoints in the individuals electronic personnel dosimeter (EPD). On exit, personnel dose is automatically updated. For special dosimetry and/or problems, RP technicians assigned other functions will respond as required.  |

\*\* - "May be provided by shift personnel assigned other functions", NUREG-0654, Table B-1



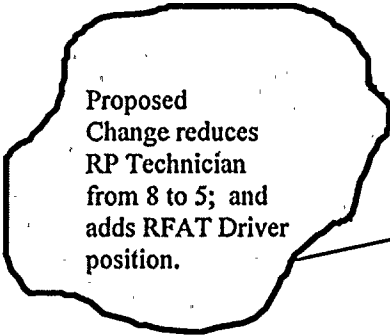
**ENCLOSURE 2**

**PVNGS EMERGENCY PLAN**

**PROPOSED CHANGES**





| Table 1: Minimum Staffing Requirements for PVNGS for Nuclear Power Plant Emergencies          |             |   |  |  |
|---|-------------|---|--|--|
| Notification of Unusual Event   |             | Alert, Site Area Emergency, General Emergency |  |  |
| Personnel   | Time        | Personnel                                     | Time                                       |  |
| <u>Control Room</u>   |             | <u>Control Room</u>                           |  |  |
| Shift Supervisor 1  | Immediately | Shift Supervisor 1                            | Immediately                                |  |
| Control Room Supervisor 1   |             |   |  |  |
| Control Room Operators 2  |             |   |  |  |
| Auxiliary Operators 2   |             |   |  |  |
| <u>Operations Support Center</u>  | NA          | <u>Operations Support Center</u>              | Immediately                                |  |
|             |             | Chemistry Technician 2                        |  |  |
|   |             | Electrical Technician 3*                      |  |  |
|   |             | EMT 2**                                       |  |  |
|   |             | Firefighting all**                            |  |  |
|   |             | I&C Technician 1                              |  |  |
|   |             | Mechanical Technician 2*                      |  |  |
|   |             | Rad Waste Operator 1                          |  |  |
|   |             | Radiation Monitoring Tech 1                   |  |  |
|   |             | RP Technician 5                               |  |  |
|   |             | RFAT Driver 1                                 |  |  |
|   |             | Security all                                  |  |  |
|   |             | -----   |  |  |
|   |             | Offsite Fire Department all                   |  |  |
|   |             | Offsite ambulance all                         |  |  |
| -----   |             |   |  |  |
| RP Technician 4   |             |   |  |  |
| -----   |             |   |  |  |
| 45 minutes  |             |   |  |  |
| -----   |             |   |  |  |
| Normal hours: immediately, Off hours: 1-2 hours   |             |   |  |  |
| <u>Satellite Technical Support Center</u>   | Immediately | <u>Satellite Technical Support Center</u>     | Immediately                                |  |
| STSC Communicator 2   |             |   |  |  |
| Emergency Coordinator 1   |             |   |  |  |
| RP Monitor 1  |             |   |  |  |
| Shift Technical Advisor (STA) 3   |             |   |  |  |
| <u>Technical Support Center</u>   | Immediately | <u>Technical Support Center</u>               | Immediately                                |  |
| Security Director 1   |             |   |  |  |
| -----   |             |   |  |  |
| Emergency Coordinator 1   |             |   |  |  |
| Reactor Analyst 1   |             |   |  |  |
| Technical Support Electrical 1  |             |   |  |  |
| Technical Support Mechanical 1  |             |   |  |  |
| <u>Emergency Operations Facility</u>  | NA          | <u>Emergency Operations Facility</u>          | Normal hours: 1 hour, Off hours: 1-2 hours |  |
|   |             | Emergency Operations Director 1               |  |  |
|   |             | Government Liaison 1                          |  |  |
|   |             | Technical Analysis Supervisor 1               |  |  |
|   |             |   |  |  |
| NOTE: All time requirements are based on optimum response conditions.                         |             |   |  |  |
| * - One Technician position may be provided by shift personnel assigned other functions.      |             |   |  |  |
| ** - Fire Team assembles at the Building E Fire Department area for rapid response as needed. |             |   |  |  |