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 AUTH.NAME AUTHOR AFFILIATION
 CONWAY,W.F. Arizona Public Service Co. (formerly Arizona Nuclear Power R
 RECIP.NAME RECIPIENT AFFILIATION
 MARTIN,R.B. Region 5 (Post 820201) I

SUBJECT: Responds to NRC 910401 ltr re fire watch concerns,including
 lack of fire watch training prior to performing fire watch
 duties during Jan & Feb 1991.Investigation into addl fire
 watch activities expected to be completed on 910621. D
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102-02038-WFC/TERB/RJR
May 31, 1991

Mr. John B. Martin, Regional Administrator
U. S. Nuclear Regulatory Commission, Region V
1450 Maria Lane, Suite 210
Walnut Creek, CA 94596-5368

Reference: Letter from R. P. Zimmerman to W. F. Conway, dated
April 1, 1991

Dear Sir:

Subject: Response to Fire Watch Concern
File: 91-070-026

The referenced letter requested APS to provide information with regard to the following concern:

"Personnel assigned to perform fire watch duties during the month of January and February, 1991, had not received prior fire watch training (other than the General Employee Training (GET)) nor had been shown the fire watch duties procedure (14AC-OFPO4). In addition, personnel receiving on-shift training were assigned to perform "rounds" with personnel who were not fully qualified."

APS initiated an investigation into these concerns with the following results:

The concern that personnel assigned to perform fire watch duties during the months of January and February, 1991, had not received prior fire watch duties training (other than GET) was confirmed in that five of the one hundred fifty-five personnel who were assigned compensatory fire watch duties during the requested time frame had not received formal fire watch training (other than GET), two had not successfully completed all formal training requirements, and five others had not completed their annual retraining.

The concern that personnel assigned to perform fire watch duties during the months of January and February, 1991, had not been shown the fire watch duties procedure (14AC-OFPO4) was confirmed to the extent that there is no formal requirement to document that fire watches have read the fire watch duties procedure. However, fire watch requirements delineated in the procedure are taught in the formal fire watch qualification training. All personnel assigned to perform compensatory fire watch duties have either been formally trained to the procedure or have informally documented that they have reviewed the procedure.

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The concern that personnel receiving on-shift training were assigned to perform "rounds" with personnel who were not qualified to perform fire watch duties was confirmed to the extent that the purpose of the "rounds" was to assist fire watch trainees in plant familiarization. As such, personnel performing familiarization rounds with the trainees were not necessarily fully qualified fire watches.

Details of the investigation and findings are contained in Enclosure 1. Within the referenced letter, additional information was requested. The additional information is contained in Enclosure 2 and its attachments. APS has determined that the attachments to Enclosure 2 should be withheld from public disclosure in accordance with the provisions of 10 CFR 2.790. This attachment contains individual names and social security numbers.

Finally, the APS investigation concentrated on those fire watches used as compensatory measures for deficient fire protection features. Although this group represents a significant portion of the site fire watch activities, it does not reflect all site fire watch activities (e.g., hot work fire watches) as defined by the site fire watch administrative control procedure. Therefore, APS has initiated an investigation into the additional fire watch activities. This investigation is expected to be concluded on June 21, 1991, with determination of corrective action to follow.

Very Truly Yours,



WFC/TRB/RJR/dmn

Attachments

cc: D. H. Coe
Document Control Desk
H. Wong

ENCLOSURE 1

CHARACTERIZATION

Personnel assigned to perform fire watch duties during the month of January and February, 1991, had not received prior fire watch training (other than the General Employee Training) nor had been shown the fire watch duties procedure (14AC-OFPO4). In addition, personnel receiving on-shift training were assigned to perform "rounds" with personnel who were not fully qualified.

INVESTIGATION

- 1) APS reviewed 3,596 compensatory fire watch documents (fire watch logs and fire system impairment logs) for the months of January and February, 1991, for all three Units. This represents 100% of the known compensatory fire watch documents for January and February, 1991.
- 2) APS reviewed the training records of the 155 personnel known to have performed fire watch rounds in January and February, 1991, to verify qualification.
- 3) The following documents were researched to ensure the criteria governing fire watch training requirements at PVNGS were appropriate:
 - A) PVNGS Updated Final Safety Analysis Report (UFSAR)
 - B) Appendix A of NRC Branch Technical Position APCS 9.5-1
 - C) PVNGS Technical Training Programs
 - D) PVNGS General Employee Training
 - E) Administrative Control Procedures for Training and Fire Watch Duties

FINDINGS

- 1) Twelve (12) of the one hundred fifty-five (155) personnel who performed fire watch duties during January and February, 1991, did not meet all of the qualification requirements. Of the twelve, five had not received any formal fire watch training (other than GET) which is procedurally required to be completed prior to assumption of fire watch duties. Two individuals had not successfully completed all parts of the formal fire watch training prior to being assigned to fire watch duties. The remaining five (5) had completed the required formal training; however, their annual retraining requirements were not met. Thus, their training certification had expired.
- 2) Objective evidence could not be found to demonstrate that all personnel assigned fire watch duties during January and February, 1991, were shown the fire watch duties procedure. Although there was no programmatic or procedural requirement to document that personnel had reviewed the procedure, the procedure requirements are taught in the formal fire watch training. Additionally, APS uses informal "Qualification" cards which address reading the fire watch duties

procedure (14AC-OFP04). The qualification cards for the seven people who had not received or successfully completed initial fire watch training document that each had read the procedure.

- 3) APS confirmed that some personnel receiving on-shift training were assigned to perform "rounds" with personnel not qualified to perform fire watch duties. APS procedures do not require completion of rounds with a qualified fire watch as a prerequisite to assuming fire watch duties. By procedure, fire watch qualification at Palo Verde requires completion of computer based classroom and practical training. Although not procedurally required, on shift plant familiarization and indoctrination is performed and documented. This documentation has been used to confirm qualifications. It includes steps to perform a fire watch under the instruction of an APS qualified fire watch and demonstrate knowledge of the fire watch routes. Demonstrating knowledge of fire watch routes has been accomplished either by performing rounds with a qualified fire watch or with the individual's supervisor. The supervisor has knowledge of the fire watch routes, but may not be an APS qualified fire watch.

IMPLIED SIGNIFICANCE TO OPERATIONS

Fire watch duties include the following:

1. If a fire develops, notify the fire department through the site emergency number. Non-performance of this duty could result in a fire remaining undetected for a period of time which could challenge the design features of the fire area.
2. Direct the fire team to the fire. Non-performance of this duty could result in an extended period of time for the fire department to locate the fire.
3. Attempt to extinguish a fire if judged to be within the capability of the fire extinguisher. Non-performance of this duty could result in a small, easily contained fire becoming a large fire thus increasing equipment damage.
4. Be alert for hazards which could result in a fire. Non-performance of this duty lessens the units ability to minimize potential for fire hazards.
5. Observe the fire panels to ensure the "Power On" and/or "System Normal" lights are lit. Contact Fire Protection if any panel does not display the "Power On" or "System Normal" lights. Non-performance of this duty could result in less vigilance over fire panel operation.

ASSESSMENT OF SAFETY SIGNIFICANCE

Personnel who work within the Palo Verde protected area are provided General Employee Training upon starting work and annually thereafter. The General

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Employee Training program includes actions to take in the event a fire is discovered. Thus, it is expected that fire watches would have notified the Fire Department or Shift Supervisor upon discovery of a fire despite not having completed the formal fire watch training. It is also expected that the fire watches would have remained available to direct the fire team to the fire since this direction is provided in General Employee Training.

The use of a fire extinguisher is at the discretion of the fire watch according to how the fire watch perceives the fire. Non-use of an extinguisher is not safety significant provided the fire watch notifies the fire department of the fire.

The Fire Department has assigned a member at each unit to inspect for fire protection and fire prevention problems on a shiftly basis in accordance with Fire Department procedures. Observation of fire panels and fire hazards was being accomplished by these personnel and the fire watch was not being relied upon as the sole source for this activity.

The stated concerns have no significance to the health and safety of the public since the safety value of the fire watch is the notification of the fire department in the event of a fire. This function is taught in General Employee Training.

APS ACTIONS

APS immediately verified that the on-shift personnel performing compensatory fire watch duties in the units had satisfactorily completed all training requirements. In addition, the Fire Department developed an interim list of fire watch personnel who had completed all training requirements. This list is used by the individual(s) responsible for the assignment of compensatory fire watches for subsequent shifts.

The initial investigation conducted by APS was restricted to determining if there was a valid training concern for compensatory fire watches as discussed in the referenced letter. Since the concern was confirmed, APS is continuing the investigation of fire watch training issues to include all fire watches. Preliminary review of personnel qualifications of hot work permit fire watches has identified similar weaknesses. The investigation is presently scheduled to be complete by June 21, 1991. Development and scheduling of corrective actions will be completed following the investigation. The practice of using only personnel who are on the interim list of qualified fire watches will remain in effect until completion of the investigation, determination of root cause of all unqualified fire watches, and the implementation of appropriate corrective actions.

ENCLOSURE 2

In the enclosure to the referenced letter, the NRC requested information in the following four areas:

1. A brief description of the training program for personnel assigned fire watch duties, including on-the-job training.

RESPONSE:

Per 14AC-OFPO4 Rev. 2, effective October 30, 1990, required training consists of course NGF16-04. This course contains two (2) segments: NGF16-04-RC-001-00 "Fire Watch Training" and NGF16-04-RP-002-00 "Fire Watch Training Practical". The training class is three (3) hours in duration and is administered by computer (CBT). The practical is a maximum of eight (8) hours in duration and is an instructor led class. Successful completion of both the CBT and the Practical portions is required to be "qualified". Subsequent completion of both segments is required on an annual basis (not to exceed 12 months) to maintain qualifications.

Formal on-the-job training has not been specified by the Fire Department as a requirement to be qualified to perform fire watches. On-shift familiarization/indoctrination is performed per a "Qualification Card" which was developed in late 1990. Steps 1 and 2 of the qualification card designate the completion of NGF16-04 (CBT/Practical); Step 3 addresses reading procedure 14AC-OFPO4. (Note: 14AC-OFPO4 is covered in NGF16-04.) Step 4 addresses the employee "tour" of fire watch routes with an APS qualified fire watch, and Step 5 is a final review/discussion with the supervisor. This card is not mandatory to establish qualifications, but is a tool to ensure that persons assigned fire watch duties have completed training and are familiar with their work environment. To facilitate completion of the "Qualification Card", a fire watch orientation guide was developed by the Fire Department. The guide was distributed March 25, 1991.

2. A listing of all personnel who were either qualified or were undergoing , fire watch training during the month of January and February, 1991.

RESPONSE:

Attached is an alphabetical listing of personnel who were either qualified or were undergoing fire watch training during the months of January and February, 1991. (There were a total of 155 individuals who performed fire watch duties in January and February, 1991.)

3. Verification that personnel assigned fire watch duties during the month of January, 1991, were properly trained and qualified prior to being assigned fire watch duties.

RESPONSE:

A review of 3,596 fire protection documents (fire watch logs and fire system impairment logs) was performed to determine if all personnel assigned fire watch duties in January and February, 1991, for all three units were qualified. Attached is an alphabetical listing of personnel who performed fire watch duties and were not qualified.

4. Verification that personnel performing fire watch training were appropriately qualified to perform that training.

RESPONSE:

Mandatory training requirements as delineated by the Fire Department to appropriately qualify personnel consist of NGF16-04 "Fire Watch Training". This course consists of two (2) lessons:

- a) NGF16-04-RC-001-00 - "Fire Watch Training"
- b) NGF16-04-RP-002-00 - "Fire Watch Training Practical"

Personnel must successfully complete both segments to be qualified and successfully pass both segments on an annual basis to maintain their qualifications. Lesson Plan NGF16-04-001-00 - "Fire Watch Training" is a computer based course (CBT). The Training Department developed this course utilizing technical expertise from the Fire Department to ensure course content validity. This section of the course is administered via a computer terminal. Training department representative provides no instruction to personnel. Lesson Plan NGF16-04-RP-002-00 - "Fire Watch Training Practical" is a hands-on, instructor-led class. Again, the course is developed by the Training Department utilizing expertise from the Fire Department to validate technical content.

The Fire Department has designated instructors for the practical course lesson. These designees are qualified Fire Team members and meet Fire Department requirements as instructors. APS has verified that these individuals were appropriately qualified to provide the training described.

