

DEC 13 1982

Docket Nos.: 50-528/50-529
and 50-530

APPLICANT: Arizona Public Service Company
FACILITY: Palo Verde, Units 1, 2 and 3
SUBJECT: SUMMARY OF ICSB SITE VISIT

A site visit by ICSB was held at the Palo Verde site on November 3 and 4, 1982. The visit was conducted as part of the normal review process, in accordance with Appendix 7-B of the Standard Review Plan (NUREG-0800), to confirm that the physical arrangement and installation of instrumentation and control electrical equipment are in accordance with the design criteria and descriptive information reviewed by the staff. The agenda for the site tour is provided as Enclosure 1 and the attendees are listed in Enclosure 2. An exit meeting was held on November 5, 1982 in Phoenix, Arizona. Attendees for the exit meeting are listed in Enclosure 3. The site visit and meeting are summarized as follows.

Site Visit (November 3 and 4)

All of the agenda items (Enclosure 1) were looked at and discussed during the two day tour of the facility. The following additional equipment and its associated electrical connections were also covered as part of the tour: In-core instrument seal table, cable chase between the auxiliary and control buildings, cable risers, fire protection sprays for cable trays, control rod drive connectors, pressurizer heater connectors, CPC test cart, ERFDADS, radiation laundry, SIT tanks, diesel generators, turbine, MSIV, MFIV, HPSI pump, charging pump, essential spray ponds, RWST level transmitters, EFW flow sensors, and the shutdown cooling heat exchangers.

During the tour, the staff observed that the facility is spacious. This attribute should aid and speed maintenance, and reduce occupational exposure. Two cable spreading rooms, an upper and lower room, and top or bottom entry electrical cabinets in the control room, have been employed to maintain divisional separation. Safety related field wiring is color coded, yellow jacket wire in yellow marked trays, red jacket wire in red marked trays, etc. The color coding significantly enhanced the ability of the staff to confirm electrical separation.

The staff found that the plant was sufficiently complete to accomplish the site visit objectives. At the end of the tour, four issues remained to which the applicant had not fully responded. These were discussed at the exit meeting.

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Exit Meeting (November 5)

At the exit meeting, the staff summarized the purpose of the site visit and identified the following four issues which were not completed at the end of the tour.

(1) Independent Testing of Reactor Trip Switchgear

The switchgear undervoltage and shunt trip coils, and associated access to control test points, were observed at the site. Confirmation of the testability of these devices was not completed during the site tour.

At the exit meeting electrical drawings were reviewed which confirmed the testability of these devices. Therefore, this issue was closed out at the exit meeting.

(2) Remote Shutdown Panel Meters

Meters and labeling on the top front face of the remote shutdown panel appeared difficult to read because space in the area is confining and the cabinets are mounted on a concrete pedestal. This issue was identified as a potential human engineering discrepancy.

(3) Eyewash/Personnel Shower in Battery Room

An eyewash/personnel shower is located in each Class 1E battery room. Operation of the shower could splash water on the batteries and, thus, could affect the ability of the batteries to perform their function. The applicant was asked to address this concern.

(4) Cable Separation

During the tour it appeared, based on actual observations, that instrumentation cable, control cable and power cable were well separated from each other. In remote areas we found limit switch cabling routed with power cabling. Since the tour covered only a fraction of the plant, the applicant was asked to confirm that instrument cabling was not routed with power cabling.

The applicant agreed to submit additional information regarding the above three open issues.

Follow-Up Action (November 17 letter)

By letter, dated November 17, 1982, the applicant provided additional information relating to the three remaining open issues following the ICSB site visit. With regard to the remote shutdown panel meters, the applicant has committed to ascertain the extent of the problem (ability to read meters and labeling) during training and take remedial action if necessary. We find this commitment to be acceptable.

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With regard to the showers in the battery room, the applicant stated that the showers are necessary for personnel safety and do not compromise plant safety. Since this matter deals with power systems, it will be reviewed as part of the PSB scope.

The applicant's November 17 response also confirmed that instrument cabling does not share a raceway with power and control cabling. Control cabling such as limit switch cabling is run with power cabling in remote areas, which is acceptable and consistent with our site tour observations. Therefore, this issue is closed.

Original Signed By:

E. A. Licitra, Project Manager
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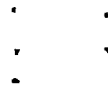
Enclosures:

- 1. Site Tour Agenda
- 2. Site Tour Attendees
(11/3&4/82)
- 3. Exit Meeting Attendees
(11/5/82)

cc w/enclosures:
See next page

Distribution:
See attached sheet

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DATE	12/10/82	12/17/82					



Palo Verde

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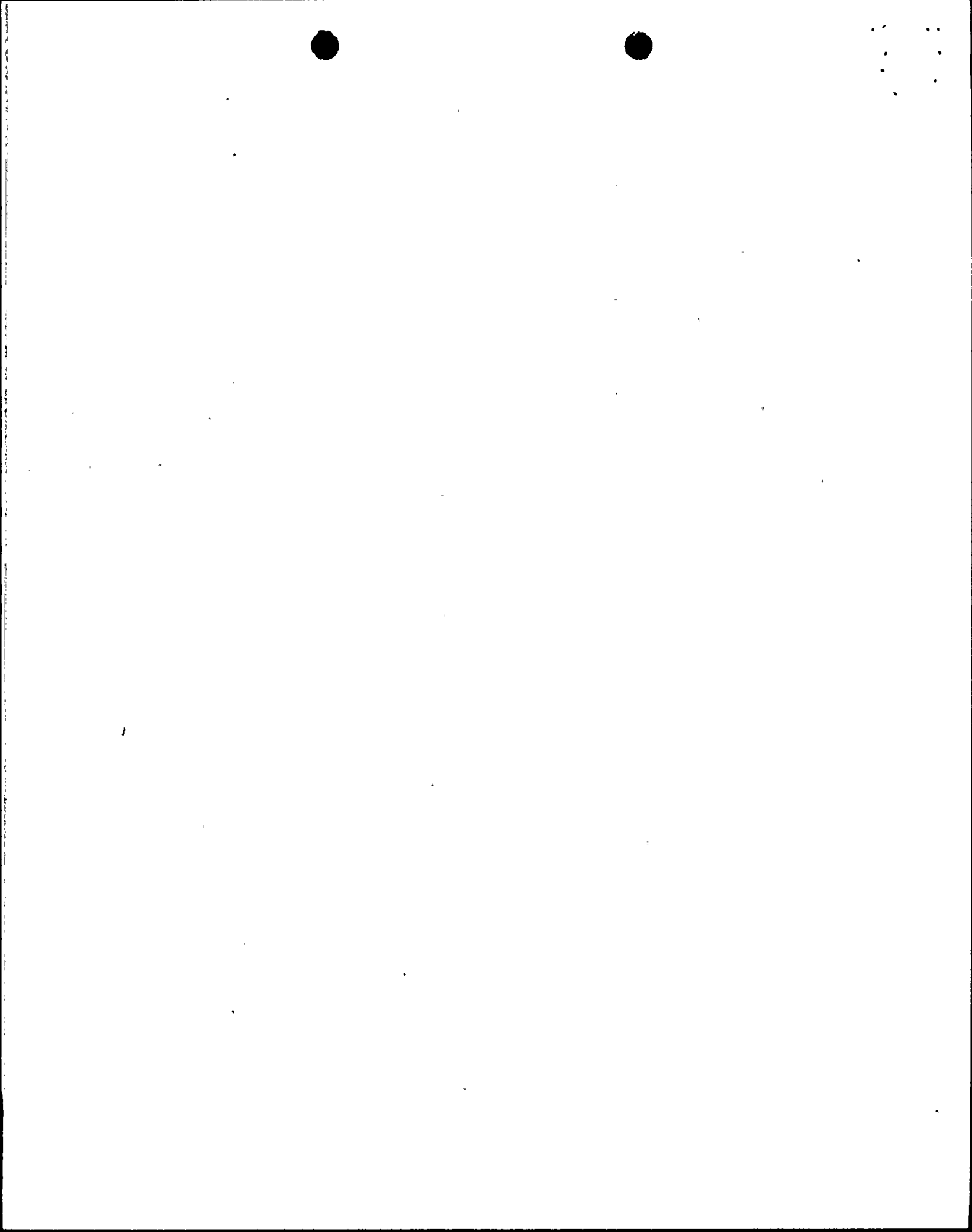
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NRC Tour Route

0. Simulator (Admin. Bldg.)
1. Control Room (140' Control Building)
 - General Layout (2a)
 - Review panels
 - Face (2c, 2d, 2e-1, 2, 3, 4, 5, 2g)
 - Rear (2f partial)
 - Review back panels
 - PMS (7i, 2b partial)
 - PPS (2h, 7a partial)
 - PPS (2f)
 - ESFAS (7d, 2f)
 - Process Instr. Cabinets
2. Cable Spreading Room (lower 120' Control Bldg.)
 - General Layout (4a)
 - Cable runs (4b)
 - Trace cable from PPS to trip switchgear (7a partial)
3. CEDMCS Room (120' Auxiliary Bldg.)
 - SPS Cabinets (5c)
 - Trip Switchgear (5b, 7a)
 - CEDMCS Cabinet (5b)
 - M-G Sets (5c)
4. Pressurizer Pressure Instr. (Containment)
 - Trace four channels from root valves to racks (4a partial)
 - Trace cable from racks to penetrations (4a partial)
 - Examine Pressurizer Relief valve position location (7g partial)



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5. S/G level instrument (Containment)
Trace one channel from root valve to rack (7b partial)
6. Shutdown Cooling System Valves (Containment)
Locate & examine (7f partial)
7. Electrical Penetration rooms (Auxiliary Bldg.)
Trace cables from West Rooms to PPS (7a partial)
Trace cables from East Rooms to PPS (7a partial)
Trace cable from the East room to ESFAS (7b partial)
8. Remote Shutdown area (100' Control Bldg.)
Examine RSP & Transfer switches location (7e partial)
Examine Switchgear Rooms (7d partial)
9. Vital Instrument & Control Power Supplies (100' C. Bldg.)
Examine battery rooms (7a, 7c)
Examine D. C. Control Equip. (7a, 7b)
10. Control Building HVAC
Exhaust Rad. Monitors (184' Control Bldg.) (7c)
Examine dampers (7c)
11. Upper Cable Spreading Room (160' Control Bldg.)
Examine Layout (4a, 4b)
12. Multiplex Cabinet (160' Corridor Bldg.)
Examine (7i partial)
13. Fuel Bldg. (184' & 140')
Exhaust Radiation Monitor (184') (7h)
Examine dampers



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14. ~~ECW & SCS Areas (74' Auxiliary Bldg.)~~

Examine ECW pumps (7d)

Examine S.C.S. valve (7f partial)

15. Atmospheric Dump Valves (140' M.S.S.S.)

Examine Valves & Accumulators (7e)

16. Auxiliary Feedwater Pumps (81' M.S.S.S.)

Examine Motor & Steam Driven Pumps (7b)

ECS/dh



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SITE VISIT ATTENDEES

(NOVEMBER 3 & 4, 1982)

NAMES

J. E. Rosenthal
E. C. Sterling
G. W. Johnston
Leonard Montoya
Sonja Perkins
Jim Rowland
Warren Greene
Jim Hebison
Dick Guidetti
Steve Shepherd
Guen Gunes
*Manny Licitra

ORGANIZATION

NRC
APS
NRC (Resident Inspector)
APS
APS
APS
CE - I&CE
Operation Engineering APS
Bechtel I&C
Bechtel
NRC
NRC

*November 4, 1982 only



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EXIT MEETING ATTENDEES

(NOVEMBER 5, 1982)

NAMES

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G. W. Johnston
A. Carter Rogers
J. W. Rowland
E. C. Sterling
S. H. Shepherd
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Arthur Gehr
J. Morrison
Guvén Gunes

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APS
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Bechtel
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APS
Snell & Wilmer
Intervenor
NRC

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MEETING SUMMARY

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NSIC

TERA

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E. L. Jordon

Regional Administrator, Region V

J. M. Taylor

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