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 VAN BRUNT,E.E. Arizona Nuclear Power Project (formerly Arizona Public Serv
 RECIP.NAME RECIPIENT AFFILIATION
 KNIGHTON,G.W. Licensing Branch 3

SUBJECT: Forwards summary of operating experience of shift staffing & proposal for multi-unit licensing & conversion, in response to SER (NUREG-0857), Issue re shift staffing can be closed out.

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 TITLE: Operator Requalification Program

NOTES:Standardized plant. 05000528
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Arizona Nuclear Power Project

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Director of Nuclear Reactor Regulation
Attention: Mr. George W. Knighton, Chief
Licensing Branch No. 3
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D. C. 20555

August 30, 1985
ANPP-33304-EEVB/PGN

Subject: Palo Verde Nuclear Generating Station (PVNGS)
Units 1 and 2
Operating Experience of Shift Staffing,
Multi-Unit Licensing and Conversion of Licenses
Docket No. STN 50-528(License No. NPF-41)/529
File: 85-056-026; G.1.01.10

- References:
- (1) Safety Evaluation Report related to the operation of Palo Verde Nuclear Generating Station, Units 1, 2, and 3 (NUREG-0857), Supplement 8, dated May, 1985.
 - (2) Meeting between NRC and APS on February 20, 1985 in Bethesda, MD, Subject: Operator Licensing.
 - (3) Telecon between E. A. Licitra (NRC), L. Crocker (NRC), R. Zimmerman (NRC), S. R. Frost (APS), T. J. Bloom (APS), and J. M. Allen (APS) dated August 12, 1985, Subject: Operations-Shift Staffing for PVNGS Units 1 and 2.

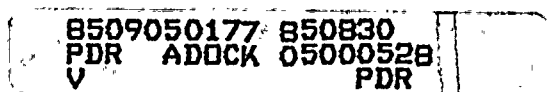
Dear Mr. Knighton:

Reference (1) identifies operating experience of shift staffing as an issue relating to PVNGS Unit 2 which is still outstanding. Attached please find a summary of the Palo Verde Operations experience base for staff review.

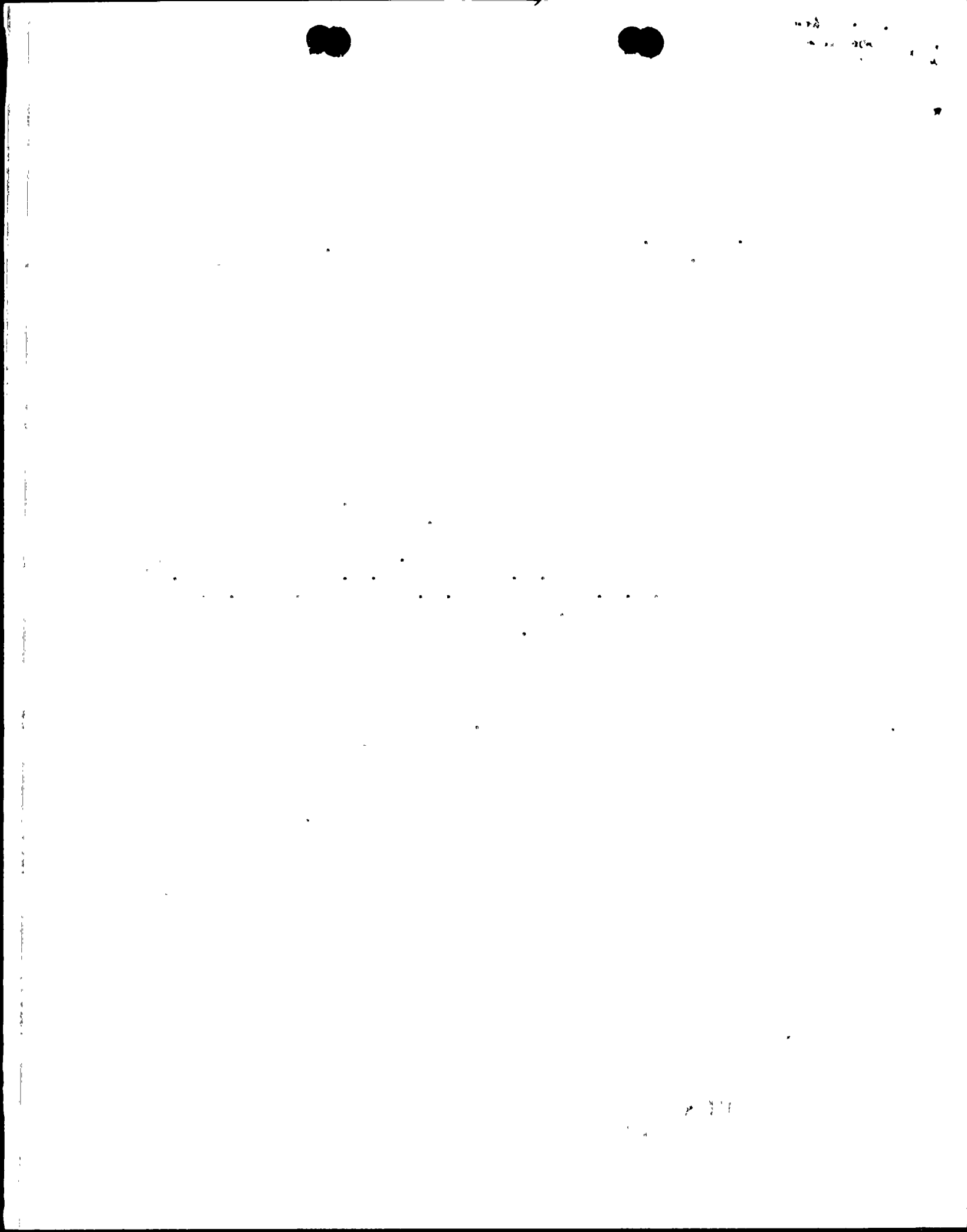
In addition, the Reference (2) meeting resulted in a commitment by APS to submit a proposal for multi-unit licensing and conversion of Unit 1 licenses to Unit 2 licenses. These proposals are also attached for your review.

In order to document the experience base, summary tables have been completed for the eighteen (18) SROs projected to fulfill the six months "hot" experience requirement (with six weeks >20% power) prior to Unit 2 initial criticality. "Hot" experience levels gained on PVNGS Unit 1 began with Mode 3 entry on April 29, 1985, (per Reference 3) and are current as of September 1, 1985. A multi-unit license will be requested for all SROs currently licensed on Unit 1 that fulfill the hot experience requirement.

In addition, a breakdown of which SROs will be assigned to Unit 1 and which SROs will be assigned to Unit 2 is included to document that shift staffing for both Units meets the requirements (per Reference 3).



Mod 3
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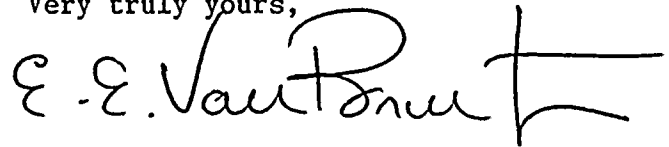


G. W. Knighton
Operating Experience of [REDACTED] Staffing
Multi-Unit Licensing and Conversion of Licenses
ANPP-33304
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By submittal of this information, we believe the issue of operating experience of shift staffing for Unit 2 has been addressed and the issue can be closed out. The commitment made in the Reference (2) meeting has also been completed.

Please contact Mr. William F. Quinn of my staff concerning any questions or additional information you may need on this matter.

Very truly yours,




E. E. Van Brunt, Jr.
Executive Vice President
Project Director

EEVB/WFQ/PGN/slh
Attachments

cc: E. A. Licitra (w/a)
M. C. Ley
R. P. Zimmerman
L. P. Crocker
A. C. Gehr

STATE OF ARIZONA)
) ss.
COUNTY OF MARICOPA)

I, Edwin E. Van Brunt, Jr., represent that I am Executive Vice President, Arizona Nuclear Power Project, that the foregoing document has been signed by me on behalf of Arizona Public Service Company with full authority to do so, that I have read such document and know its contents, and that to the best of my knowledge and belief, the statements made therein are true.


Edwin E. Van Brunt, Jr.

Sworn to before me this 30 day of August, 1985.


Notary Public

My Commission Expires:

My Commission Expires April 6, 1987

THE UNIVERSITY OF CHICAGO
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DEPARTMENT OF PHYSICS
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Operating Experience of [REDACTED] Staffing
Multi-Unit Licensing and Conversion of Licenses
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bcc: D. B. Karner (w/a)
J. G. Haynes
R. M. Butler
T. F. Quan
S. R. Frost
T. J. Bloom
LCTS Coordinator
J. M. Allen
J. R. Bynum
W. F. Fernow
R. J. Adney
R. E. Younger
F. E. Hicks
A. J. McCabe

PALO VERDE OPERATIONS
EXPERIENCE BASE

The following is a list of SROs and their Unit assignments. These assignments are expected to be completed by initial criticality in Unit 2. Each of the SROs listed will meet the Operating Staff Experience Requirements as stated in the Technical Specifications. It is expected that all SROs assigned to Unit 1 will have a multi-unit license and will be able to provide backup for Unit 2.

Unit 1

Ray Buzard
Dave Callaghan
John Dennis
Mike Evans
Burt Grabo
Mike Halpin
Darol Jurn
Ken Koppleman
Jim Niedermeyer
Fred Riedel
Dennis Swan
Bob Vallely

Unit 2

Wayne Aho
Frank Buckingham
Gene Eimar
Dan Ensign
Roger Middleton
Dirk White

Summary tables are attached for each of these SROs documenting their hot experience at an operating PWR > 20% power, hot experience at PVNGS Unit 1, experience > 20% power at PVNGS Unit 1, present license, and license needed. The multi-unit licenses will be requested consistent with the Multi-Unit Licensing Proposal.

NAME: Mike Halpin

PRESENT LICENSE U-1 SRO X U-2 SRO

- | | |
|--|-----------------------------------|
| 1. Hot Experience at operating | <u>3 months at Prairie Island</u> |
| PWR >20% Power | <u></u> |
| 2. Hot Experience at PVNGS U-1 | <u>4 months</u> |
| 3. Experience >20% power at PVNGS U-1 | <u>10 weeks-</u> |
| 4. License needed | <u>NOTES:</u> |
| Dual <input checked="" type="checkbox"/> Unit I <input type="checkbox"/> Unit II | <u></u> |

NAME: Frank Buckingham

PRESENT LICENSE U-1 SRO X U-2 SRO

- | | |
|--|---|
| 1. Hot Experience at operating
PWR >20% Power | 2 months at SONGS |
| 2. Hot Experience at PVNGS U-1 | 4 months |
| 3. Experience >20% power at PVNGS U-1 | 10 weeks |
| 4. License needed | NOTES: Satisfies 6 months criteria on 8-29-85 |
- Dual X Unit I Unit II

NAME: Fred Riedel

PRESENT LICENSE U-1 SRO X U-2 SRO

- | | |
|---|--|
| 1. Hot experience at operating PWR >20% Power | <u>2 1/2 months at ANO-2</u> |
| 2. Hot Experience at PVNGS U-1 | <u>4 months</u> |
| 3. Experience >20% power at PVNGS U-1 | <u>10 weeks</u> |
| 4. License needed | NOTES: <u>Satisfies 6 months criteria on 8-15-85</u> |
| Dual X Unit I Unit II | |

NAME: Gene Eimar	PRESENT LICENSE	U-1 SRO	U-2 SRO	X
------------------	-----------------	---------	---------	---

- | | |
|---------------------------------------|---|
| 1. Hot Experience at operating | 14 months SRO at the Zion Nuclear Plant |
| PWR >20% Power | |
| 2. Hot Experience at PVNGS U-1 | 3 Weeks |
| 3. Experience >20% power at PVNGS U-1 | 3 weeks |
| 4. License needed | NOTES: |
| .. Dual Unit I Unit II X | |

NAME: Wayne Aho PRESENT LICENSE U-1 SRO U-2 SRO ..

- | | |
|---------------------------------------|--|
| 1. Hot Experience at operating | RO License OP-5295 at Maine Yankee |
| PWR >20% Power | 8/80 to 8/81 |
| 2. Hot Experience at PVNGS U-1 | |
| 3. Experience >20% power at PVNGS U-1 | |
| 4. License needed | NOTES: Scheduled for Oct. '85 SRO License exam |
| Dual Unit I Unit II X | |

NAME: Jim Niedermeyer PRESENT LICENSE U-1 SRO X U-2 SRO

- | | |
|---|---|
| 1. Hot experience at operating PWR >20% Power | 6 months at Prairie Island
3 years RO at La Crosse BWR |
| 2. Hot Experience at PVNGS U-1 | 4 months |
| 3. Experience >20% power at PVNGS U-1 | 10 weeks |
| 4. License needed | NOTES: |
| Dual X Unit I Unit II | |

NAME: Roger Middleton PRESENT LICENSE U-1 SRO X U-2 SRO

- | | |
|---|----------------------------------|
| 1. Hot Experience at operating PWR >20% Power | 2 1/2 months at ANO-2 |
| | 1 year RO, 4 years SRO at Cooper |
| 2. Hot Experience at PVNGS U-1 | 4 months |
| 3. Experience >20% power at PVNGS U-1 | 10 weeks |
| 4. License needed | NOTES: |
| Dual X Unit I Unit II | |

NAME: Ray Buzard PRESENT LICENSE U-1 SRO X U-2 SRO .

- | | |
|---|---|
| 1. Hot Experience at operating PWR >20% Power | 5 months at Ft. Calhoun, RO license
1 month at SONGS 2 & 3 |
| 2. Hot Experience at PVNGS U-1 | 4 months |
| 3. Experience >20% power at PVNGS U-1 | 10 weeks |
| 4. License needed | NOTES: |
| Dual X Unit I Unit II | |

NAME:Dirk White PRESENT LICENSE U-1 SRO x U-2 SRO

- | | |
|---|------------------|
| 1. Hot experience at operating PWR >20% Power | 3 weeks at ANO-2 |
| | 3 weeks at SONGS |
| 2. Hot Experience at PVNGS U-1 | 4 months |
| 3. Experience >20% power at PVNGS U-1 | 10 weeks |
| 4. License needed | NOTES: |
| Dual X Unit I Unit II | |

NAME: Bob Vallely

PRESENT LICENSE U-1 SRO X U-2 SRO

- | | |
|---------------------------------------|------------------------------------|
| 1. Hot Experience at operating | 20 months at SONGS U-1, RO license |
| PWR >20% Power | |
| 2. Hot Experience at PVNGS U-1 | 4 months |
| 3. Experience >20% power at PVNGS U-1 | 10 weeks |
| 4. License needed | NOTES: |
| Dual X Unit I Unit II | |

NAME: Darol Jurn

PRESENT LICENSE U-1 SRO X U-2 SRO

- | | |
|--|---------------------------|
| 1. Hot Experience at operating
PWR >20% Power | <u>2½ months at ANO-2</u> |
| 2. Hot Experience at PVNGS U-1 | <u>4 months</u> |
| 3. Experience >20% power at PVNGS U-1 | <u>10 weeks</u> |
| 4. License needed | NOTES: _____ |
| Dual X Unit I Unit II | |

NAME: Dan Ensign

PRESENT LICENSE U-1 SRO X U-2 SRO

- | | |
|---|------------------|
| 1. Hot experience at operating PWR >20% Power | 3 weeks at ANO-1 |
| | 3 weeks at SONGS |
| 2. Hot Experience at PVNGS U-1 | 4 months |
| 3. Experience >20% power at PVNGS U-1 | 10 weeks |
| 4. License needed | NOTES: |
| Dual X Unit I Unit II | |

NAME: Ken Koppleman PRESENT LICENSE U-1 SRO X U-2 SRO

- | | |
|--|---------------------------|
| 1. Hot Experience at operating PWR >20% Power | 5 years RO at DRESDEN BWR |
| 2. Hot Experience at PVNGS U-1 | 3 months on 9/1/85 |
| 3. Experience >20% power at PVNGS U-1 | 10 weeks |
| 4. License needed | NOTES: |
| Dual <input checked="" type="checkbox"/> Unit I <input type="checkbox"/> Unit II | |

NAME: Dennis Swan PRESENT LICENSE U-1 SRO X U-2 SRO

- | | |
|---------------------------------------|----------|
| 1. Hot Experience at operating | None |
| PWR >20% Power | |
| 2. Hot Experience at PVNGS U-1 | 4 months |
| 3. Experience >20% power at PVNGS U-1 | 10 weeks |
| 4. License needed | NOTES: |
| Dual X Unit I Unit II | |

NAME: Mike Evans PRESENT LICENSE U-1 SRO X U-2 SRO.

- | | |
|--|----------|
| 1. Hot experience at operating
PWR >20% Power | None |
| 2. Hot Experience at PVNGS U-1 | 3 months |
| 3. Experience >20% power at PVNGS U-1 | 10 weeks |
| 4. License needed | NOTES: |
| Dual X Unit I Unit II | |

NAME: John Dennis PRESENT LICENSE U-1 SRO X U-2 SRO

- | | |
|---------------------------------------|---------------------------------|
| 1. Hot Experience at operating | 22 months RO/SRO at Davis Besse |
| PWR >20% Power | |
| 2. Hot Experience at PVNGS U-1 | 4 months |
| 3. Experience >20% power at PVNGS U-1 | 10 weeks |
| 4. License needed | NOTES: |
| Dual X Unit I Unit II | |

NAME: Burt Grabo PRESENT LICENSE U-1 SRO x U-2 SRO ..

- | | |
|--|-------------------------------|
| 1. Hot Experience at operating PWR >20% Power | 6 months at ANO-1, RO license |
| 2. Hot Experience at PVNGS U-1 | 4 weeks |
| 3. Experience >20% power at PVNGS U-1 | 4 weeks |
| 4. License needed | NOTES: |
| Dual <input checked="" type="checkbox"/> Unit I <input type="checkbox"/> Unit II | |

NAME: Dave Callaghan PRESENT LICENSE U-1 SRO X U-2 SRO

- | | |
|---|-----------------|
| 1. Hot experience at operating PWR >20% Power | <u>none</u> |
| 2. Hot Experience at PVNGS U-1 | <u>4 months</u> |
| 3. Experience >20% power at PVNGS U-1 | <u>10 weeks</u> |
| 4. License needed | NOTES: _____ |
| Dual X Unit I Unit II | _____ |

MULTI-UNIT LICENSING PROPOSAL

To be eligible for a multi-unit license on PVNGS Units 1 and 2, the individual must satisfy the following:

- 1) Perform licensed duties on the unit for which he holds a license for a period of at least four weeks after the unit has achieved initial 20% power.
- 2) Receive training on the unit differences as they relate to systems and plant operation.

ANPP will request a waiver of the differences examination be granted when items 1 and 2 above are satisfied, based on the limited differences between the units. A summary of the Unit 1 and Unit 2 operational differences, projected out to Unit 2 fuel load, is attached (Enclosure 1).

Personnel that a multi-unit license will be requested for:

<u>SRO</u> - Ron Younger	- SUPT.	Frank Buckingham	- ASST. SS
Dick Gouge	- DSS	Dirk White	- ASST. SS
John Dennis	- SS	Darol Jurn	- ASST. SS
Mike Halpin	- SS	Dan Ensign	- ASST. SS
Dave Callaghan	- SS	Mike Evans	- ASST. SS
Fred Riedel	- SS	Dennis Swan	- ASST. SS
Ray Buzard	- SS	Burt Grabo	- ASST. SS
Bob Vallyely	- SS	Donna Best	- STA
Jim Niedermeyer	- SS	Lee Clyde	- STA
Ken Koppleman	- ASST. SS		
 <u>RO</u> - John Hunter	- NO III	Duane Hughes	- NO III
Tom Stahler	- NO III	David Smith	- NO III
Randy Bethke	- NO III	Lou Florence	- NO III
Jeff Garden	- NO III	Walt Stearns	- NO III
Scott Zerkel	- NO III	Bill Myers	- NO III
Dave Renn	- NO III	Dave Strey	- NO III

PROPOSAL FOR
CONVERSION OF UNIT 1 LICENSES
TO UNIT 2 LICENSES

To satisfy Unit 2 license needs for fuel load and power ascension testing, we will request conversion of Unit 1 Operator and Senior Operator licenses to Unit 2 licenses. The personnel involved will have been assigned Unit 2 duties during the startup phase of Unit 2 and are expected to perform Unit 2 assignments through the fuel load and power ascension test phase. After 20% power is achieved on Unit 2, a multi-unit license will be requested for these personnel.

The personnel involved will receive training on the unit differences prior to Unit 2 fuel load. A summary of the Unit 1 and Unit 2 operational differences, projected out to Unit 2 fuel load, is attached (Enclosure 1). Due to limited differences, a waiver will be requested on all portions of the examination and a straight license conversion from a Unit 1 to a Unit 2 license will be requested.

Personnel that license conversion will be requested for:

SRO - Robert Adney
Dewayne Carnes
Steve McKinney
John Pollard
Steve Ryan
John Scott
Reginald Taylor
Arlen Nelson

RO - John Brannen
Edward Cesena
Lawrence Speight
Jim Taylor

Based on their participation in Unit 2 startup and the Operator Requalification program, we believe license conversion will be justified.

ENCLOSURE 1

ARIZONA NUCLEAR POWER PROJECT
PALO VERDE NUCLEAR GENERATING STATION
UNIT DIFFERENCES HANDOUT

JULY 20, 1985

The plant differences handout is developed into two sections. The first section covers planned construction differences. These differences have been preplanned to account for a more efficient operation of the PVNGS site as a whole. Some systems and structures will be supporting the site and not just a particular unit.

Section two of the differences handout will cover those changes to systems which were generated by a plant or design change package and have resulted in the major change to an operations procedure or has been determined to have a major impact on the operation of the system. These changes, due to scheduling, may not be installed in the units simultaneously and therefore results in a difference between the units in which the change is installed and those that do not yet have it installed.

It is not the intention for this section to cover all plant changes or differences between the units, only those which have been determined to have major operation impact. An example of this would be, if a one inch drain valve was installed on the suction of a pump to allow for depressurizing and draining the suction pipe prior to the removal of the pump for maintenance, this difference would not be included in this handout because it does not result in a major change to how the system is operated. It does however result in a change to that particular unit's procedure, i.e., System valve line up. Since all units will have unit specific P & ID's and procedures, the use of this valve will be identified by the procedure being used. If the change is an addition of a flow control valve to a system which is controlled from the control room to prevent thermo stressing a heat exchanger, and it has not been installed in the other unit, then that change would be incorporated into Section two of this handout since it has major impact on how the system is operated.

SECTION I

Planned Construction Differences between the Units

1. Control Room differences

a. Electrical Board (B01)

See Appendix "A"

b. Auxiliary Board (B07)

See Appendix "B"

c. Secondary Alarm Station (SAS)

No operational impact

d. HVAC for control building different from unit 2 to account for SAS

No operational impact

e. Auxiliary Boiler Controls

Operators need to be aware that if they are in unit 2 or 3 they need to contact unit 1 control if they require the services of the Auxiliary Boilers. They also need to be aware that this is a shared system and it could be the source of cross contamination either chemical or radiological if one of the units has an upset and this system is not operated correctly.

f. Fire pump start switches

If the fire pumps are required to be started manually, this can only be done from unit 1 control room, or locally.

2. Auxiliary Boiler located in Unit 1 power block area

No operational impact

3. Penetration seals different materials in Unit 1 as Units 2 and 3. (Different Subcontractor)

No operational impact

4. Cable tray routing different on the 100' level of the Auxiliary Building to avoid thermo-lagging in Unit 2.

No operational impact

5. Unit 1 has Laundry/Decon Building

Unit 1 operators should be aware that the expected normal 100 gallons per day or the expected maximum 300 gallons per day of drainage would be pumped into unit 1 chemical drain tanks of the liquid radwaste system. This would not be the case for unit 2 or 3.

6. Unit 1 has Instrument Calibration Building

No operational impact

APPENDIX "A"

UNIT 1

UNIT 2

ANNUNCIATORS

1A15A	13.8KV UNIT 1 SWGR S05 TRBL	NONE
1B5A	525KV SWYD BKR TRIP	NONE
1B6A	13.8KV UNIT 1 SWGR S06 TRBL	NONE
1B4B	SU XFMR XO1 125VDC PROT TRIP SPLY FAIL	NONE
1B5B	525KV SWYD MAJOR TRBL	NONE
1B16B	SU XFMR XO3 125VDC PROT TRIP SPLY FAIL	NONE
1B4C	525KV SWYD MINOR TRBL	NONE
1B8C	480 VOLT LC L43 TRBL	NONE
1B9C	480 VOLT LC L44 TRBL	NONE
1B10C	480 VOLT LC L45 TRBL	NONE
1B11C	480 VOLT LC L48 TRBL	NONE
1B17C	SU XRM R OSCG OPERATED/TRBL	NONE
1C3A	13.8KV UNIT 3 SWGR S05 TRBL	NONE

UNIT 1**UNIT 2****ANNUNCIATORS**

1C5A 13.8KV UNIT 3
SWGR SO6 TRBL

NONE

HARDWARE

STARTUP TRANSFORMER
A-E-NAN-X01 Y WINDINGS
WATTMETER

NONE

STARTUP TRANSFORMER
A-E-NAN-X01 Y WINDINGS
VARMETER

NONE

STARTUP TRANSFORMER
A-E-NAN-X03 Z WINDINGS
WATTMETER

NONE

STARTUP TRANSFORMER
A-E-NAN-X03 Z WINDINGS
VARMETER

NONE

525 KV LINE BREAKER 552-922

525 KV LINE BREAKER 552-922 STATUS

525 KV LINE BREAKER 552-922
SYNCHRONIZE SWITCH

NONE

525 KV LINE BREAKER TRANSFER

NONE

525 KV LINE BREAKER 552-942

525 KV LINE BREAKER 552-942 STATUS

525 KV LINE BREAKER 552-942
SYNCHRONIZE SWITCH

NONE

525 KV LINE BREAKER 552-982

525 KV LINE BREAKER 552-982 STATUS

525 KV LINE BREAKER 552-982
SYNCHRONIZE SWITCH

NONE

UNIT 1

UNIT 2

HARDWARE

525 KV LINE BREAKER 552-992

525 KV LINE BREAKER 552-992 STATUS

525 KV LINE BREAKER 552-992
SYNCHRONIZE SWITCH

NONE

MAIN TRANSFORMER MOTOR OPERATED :
DISCONNECT SW 589-920

NONE

525 KV LINE BREAKER 552-925

525 KV LINE BREAKER 552-925 STATUS

525 KV LINE BREAKER 552-925
SYNCHRONIZE SWITCH

NONE

NONE

MAIN TRANSFORMER MOTOR OPERATED
DISCONNECT SW 589-920

STARTUP TRANSFORMER MOTOR OPERATED
DISCONNECT SW 589-940

STARTUP TRANSFORMER MOTOR OPERATED
DISCONNECT SW 589-940 STATUS

525 KV LINE BREAKER 552-945

525 KV LINE BREAKER 552-945 STATUS

525 KV LINE BREAKER 552-945
SYNCHRONIZE SWITCH

NONE

STARTUP TRANSFORMER MOTOR OPERATED
DISCONNECT SW 589-990

STARTUP TRANSFORMER MOTOR OPERATED
DISCONNECT SW 589-990 STATUS

525 KV STARTUP XFMR BREAKER 552-995

525 KV STARTUP XFMR BREAKER 552-995
STATUS

525 KV STARTUP XFMR BREAKER 552-995
SYNCHRONIZE SWITCH

NONE

525 KV STARTUP XFMR BREAKER 552-928

525 KV STARTUP XFMR BREAKER 552-928
STATUS

525 KV STARTUP XFMR BREAKER 552-928
SYNCHRONIZE SWITCH

NONE

UNIT 1**UNIT 2****HARDWARE**

525 KV STARTUP XFMR BREAKER 552-948

525 KV STARTUP XFMR BREAKER 552-948
STATUS525 KV STARTUP XFMR BREAKER 552-948
SYNCHRONIZE SWITCH

NONE

525 KV STARTUP XFMR BREAKER 552-998

525 KV STARTUP XFMR BREAKER 552-998
STATUS525 KV STARTUP XFMR BREAKER 552-998
SYNCHRONIZE SWITCH

NONE

STARTUP XFMR A-E-NAN-01Y
WDG AMMETER

NONE

STARTUP XFMR A-E-NAN-03Z
WDG AMMETER

NONE

13.8 KV BUS 1-E-NAN-S03
SUPPLY AMMETER

NONE

13.8 KV BUS 1-E-NAN-S03
SUPPLY BREAKER

NONE

13.8 KV BUS 1-E-NAN-S03
SUPPLY BREAKER SYNCHRONIZE SWITCH

NONE

WATER TREATMENT PLANT SUPPLY
AMMETER

NONE

WATER TREATMENT PLANT SUPPLY
BREAKERWATER TREATMENT PLANT SUPPLY
BREAKER STATUS

525 KV SWYD LOAD SUPPLY AMMETER

NONE

525 KV SWYD LOAD SUPPLY BREAKER

525 KV SWYD LOAD SUPPLY BREAKER
STATUS

COMMON LOADS SUPPLY AMMETER

NONE

UNIT 1**UNIT 2****HARDWARE****COMMON LOADS SUPPLY BREAKER****COMMON LOADS SUPPLY BREAKER STATUS****13.8 KV BUS 1-E-NAN-S05 SPARE
BREAKER AMMETER****NONE****13.8 KV BUS 1-E-NAN-S05 SPARE
BREAKER****13.8 KV BUS 1-E-NAN-S05 SPARE
BREAKER STATUS****13.8 KV BUS 1-E-NAN-S05 VOLTMETER****NONE****13.8 KV BUS 1-E-NAN-S05 STANDBY
SUPPLY VOLTMETER****NONE****13.8 KV BUS 1-E-NAN-S05 STANDBY
SUPPLY AMMETER****NONE****13.8 KV 1-E-NAN-S05 STANDBY
SUPPLY BREAKER****13.8 1-E-NAN-S05 STANDBY
SUPPLY BREAKER STATUS****13.8 KV 1-E-NAN-S05 STANDBY
SUPPLY BREAKER SYNCHRONIZE SWITCH****NONE****13.8 KV 1-E-NAN-S05 NORMAL
SUPPLY VOLTMETER****NONE****13.8 KV 1-E-NAN-S05 NORMAL
SUPPLY AMMETER****NONE****13.8 KV 1-E-NAN-S05 NORMAL
SUPPLY BREAKER****13.8 1-E-NAN-S05 NORMAL
SUPPLY BREAKER STATUS****13.8 KV 1-E-NAN-S05 NORMAL
SUPPLY BREAKER SYNCHRONIZE SWITCH****NONE****WATER TREATMENT PLANT SUPPLY
AMMETER****NONE****WATER TREATMENT PLANT SUPPLY
BREAKER****WATER TREATMENT PLANT SUPPLY
BREAKER STATUS****525 KV SWYD LOAD SUPPLY AMMETER****NONE**

UNIT 1**UNIT 2****HARDWARE**

325 KV SWYD LOAD SUPPLY BREAKER

325 KV SWYD LOAD SUPPLY BREAKER
STATUS

EOF & TCS BLDGS SUPPLY AMMETER

NONE

EOF & TCS BLDGS SUPPLY BREAKER

EOF & TCS BLDGS SUPPLY BREAKER STATUS

COMMON LOADS SUPPLY AMMETER

NONE

COMMON LOADS SUPPLY BREAKER

COMMON LOADS SUPPLY BREAKER STATUS

13.8 KV BUS 1-E-NAN-S06 VOLTMETER

NONE

13.8 KV BUS 1-E-NAN-S06 STANDBY
SUPPLY VOLTMETER

NONE

13.8 KV BUS 1-E-NAN-S06 STANDBY
SUPPLY AMMETER

NONE

13.8 KV 1-E-NAN-S06 STANDBY
SUPPLY BREAKER13.8 1-E-NAN-S06 STANDBY
SUPPLY BREAKER STATUS13.8 KV 1-E-NAN-S06 STANDBY
SUPPLY BREAKER SYNCHRONIZE SWITCH

NONE

13.8 KV 1-E-NAN-S06 NORMAL
SUPPLY VOLTMETER

NONE

13.8 KV 1-E-NAN-S06 NORMAL
SUPPLY AMMETER

NONE

13.8 KV 1-E-NAN-S06 NORMAL
SUPPLY BREAKER13.8 1-E-NAN-S06 NORMAL
SUPPLY BREAKER STATUS13.8 KV 1-E-NAN-S06 NORMAL
SUPPLY BREAKER SYNCHRONIZE SWITCH

NONE

13.8 KV 1-E-NAN-S04
SUPPLY AMMETER

NONE

13.8 KV 1-E-NAN-S04
SUPPLY BREAKER13.8 1-E-NAN-S04
SUPPLY BREAKER STATUS

UNIT 1**UNIT 2****HARDWARE**

13.8 KV 1-E-NAN-S04
SUPPLY BREAKER SYNCHRONIZE SWITCH

NONE

13.8 KV BUS 3-E-NAN-S05 STANDBY
SUPPLY VOLTMETER

NONE

13.8 KV BUS 3-E-NAN-S05 STANDBY
SUPPLY AMMETER

NONE

13.8 KV 3-E-NAN-S05 STANDBY
SUPPLY BREAKER

13.8 KV 3-E-NAN-S05 STANDBY
SUPPLY BREAKER STATUS

13.8 KV 3-E-NAN-S05 STANDBY
SUPPLY BREAKER SYNCHRONIZE SWITCH

NONE

13.8 KV 3-E-NAN-S05 VOLTMETER

NONE

13.8 KV 3-E-NAN-S05 NORMAL
SUPPLY VOLTMETER

NONE

13.8 KV 3-E-NAN-S05 NORMAL
SUPPLY AMMETER

NONE

13.8 KV 3-E-NAN-S05 NORMAL
SUPPLY BREAKER

13.8 1-E-NAN-S05 NORMAL
SUPPLY BREAKER STATUS

13.8 KV 3-E-NAN-S05 NORMAL
SUPPLY BREAKER SYNCHRONIZE SWITCH

NONE

13.8 KV BUS 3-E-NAN-S06 STANDBY
SUPPLY VOLTMETER

NONE

13.8 KV BUS 3-E-NAN-S06 STANDBY
SUPPLY AMMETER

NONE

13.8 KV 3-E-NAN-S06 STANDBY
SUPPLY BREAKER

13.8 3-E-NAN-S06 STANDBY
SUPPLY BREAKER STATUS

13.8 KV 3-E-NAN-S06 STANDBY
SUPPLY BREAKER SYNCHRONIZE SWITCH

NONE

UNIT 1**UNIT 2****HARDWARE**

13.8 KV 3-E-NAN-SO6 STANDBY
SUPPLY BREAKER SYNCHRONIZE SWITCH

NONE

13.8 KV 3-E-NAN-SO6 VOLTMETER

NONE

13.8 KV 3-E-NAN-SO6 NORMAL
SUPPLY VOLTMETER

NONE

13.8 KV 3-E-NAN-SO6 NORMAL
SUPPLY AMMETER

NONE

13.8 KV 3-E-NAN-SO6 NORMAL
SUPPLY BREAKER

13.8 1-E-NAN-SO5 NORMAL
SUPPLY BREAKER STATUS

13.8 KV 3-E-NAN-SO6 NORMAL
SUPPLY BREAKER SYNCHRONIZE SWITCH

NONE

APPENDIX "B"

UNIT 1

UNIT 2

ANNUNCIATORS

7C5A	SANITARY TREATMENT OR RETEN BASINS TRBL	NONE
7C14A	SEISMIC OCCURRENCE	NONE
7C16A	COMM SYS CHGR 1/2 TRBL	NONE
7C9B	DECON FACILITY HVAC-SYS TRBL	NONE

HARDWARE

AUXILIARY BOILER TOTAL STEAM FLOW ASN-FI-1140	NONE
AUXILIARY BOILER 1 EMERGENCY TRIP ASN-HS-126	NONE
AUXILIARY BOILER 2 EMERGENCY TRIP ASN-HS-127	NONE
AUXILIARY BOILER 2 NORMAL/START SWITCH	NONE

SECTION II

Unit 2 has the capability of overriding a DGSS (AFAS-1, AFAS-2, SIAS) to allow the Control Room Operator to transfer back to the preferred power source when it is restored after a LOP, and shutdown the Diesel Generator with a sustained AFAS-1, AFAS-2, or SIAS, however, the Diesel Generator will automatically restart and the breaker will close upon another LOP occurrence. Unit 1 will incorporate this at the next refueling.

Unit 2 has deleted loadshedding of class IE load centers and added a loadshedding contact in series (.5 sec) with the HPSI pumps starting circuit. Unit 1 will incorporate this at the next refueling.

