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 RECIP. NAME RECIPIENT AFFILIATION
 KNIGHTON, G. W. PWR Project Directorate 7

SUBJECT: Discusses Unit 3 equip qualification (EQ), per App B of
 NUREG-0857, Suppl 5, "SER Re Operation of Palo Verde Nuclear
 Generating Station...." Unit 3 EQ summary sheets &
 mechanical EQ sheets encl.

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NOTES: Standardized plant. M. Davis, NRR: 1Cy. 05000530

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| NOTES: | | 1 1 | | |

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DATE 08-19-06 BY SP-6 BJS/BJS

U.S. DEPARTMENT OF JUSTICE
FEDERAL BUREAU OF INVESTIGATION
WASHINGTON, D.C.

1. The first part of the document is a letter from the Director of the Central Intelligence Agency to the President, dated 10/10/50. The letter discusses the results of a recent meeting with the British Ambassador, Sir Kenneth Robinson, and the British Foreign Secretary, Ernest Bevin. The letter states that the British are concerned about the possibility of a Soviet takeover of the Middle East and are seeking American support to prevent this. The letter also mentions that the British are planning to send a large number of troops to the Middle East in the near future.

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| 66 | 1941-02-18 | 3175.00 | PAID TO THE BANK |
| 67 | 1941-02-19 | 3225.00 | PAID TO THE BANK |
| 68 | 1941-02-20 | 3275.00 | PAID TO THE BANK |
| 69 | 1941-02-21 | 3325.00 | PAID TO THE BANK |
| 70 | 1941-02-22 | 3375.00 | PAID TO THE BANK |
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Arizona Nuclear Power Project

P.O. BOX 52034 • PHOENIX, ARIZONA 85072-2034

January 23, 1987
ANPP-39797-JGH/BJA/98.05

Director of Nuclear Reactor Regulation
Attention: Mr. George W. Knighton, Project Director
PWR Project Directorate #7
Division of Pressurized Water Reactor Licensing - B
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Subject: Palo Verde Nuclear Generating Station (PVNGS)
Unit 3
Docket No. STN 50-530
PVNGS Unit 3 Equipment Qualification
File: 87-G-056-026

Reference: (1) NUREG-0857, Supplement No. 5, "Safety Evaluation Report
Related to the Operation of Palo Verde Nuclear Generating
Station, Units 1, 2 and 3", dated November, 1983.

Dear Mr. Knighton:

Appendix B of Reference (1) is a Safety Evaluation Report (SER) on the Environmental Qualification of Electrical Equipment Important to Safety and Safety-Related Mechanical Equipment. This SER requires ANPP to identify all PVNGS Unit 3 equipment that is not identical to the previously identified PVNGS Unit 1 equipment and/or is located in areas in which environmental conditions are more severe than the demonstrated values for PVNGS Unit 1. ANPP has determined that there is no equipment in PVNGS Unit 3 which is located in areas where the environmental conditions are more severe than the demonstrated values for PVNGS Unit 1. Additionally, ANPP has identified several items of PVNGS Unit 3 electrical and mechanical equipment that is not identical to the PVNGS Unit 1 equipment. Attachment 1 of this letter contains Equipment Qualification Summary Sheets for the PVNGS Unit 3 electrical equipment which has been identified as being non-identical to the PVNGS Unit 1 electrical equipment. Attachment 2 of this letter contains Mechanical Equipment Qualification Sheets for the PVNGS Unit 3 mechanical equipment which has been identified as being non-identical to the PVNGS Unit 1 mechanical equipment.

If you have any additional questions on this matter, please contact Mr. W. F. Quinn of my staff.

Very truly yours,

J. G. Haynes
Vice President
Nuclear Production

JGH/BJA/rw
Attachments

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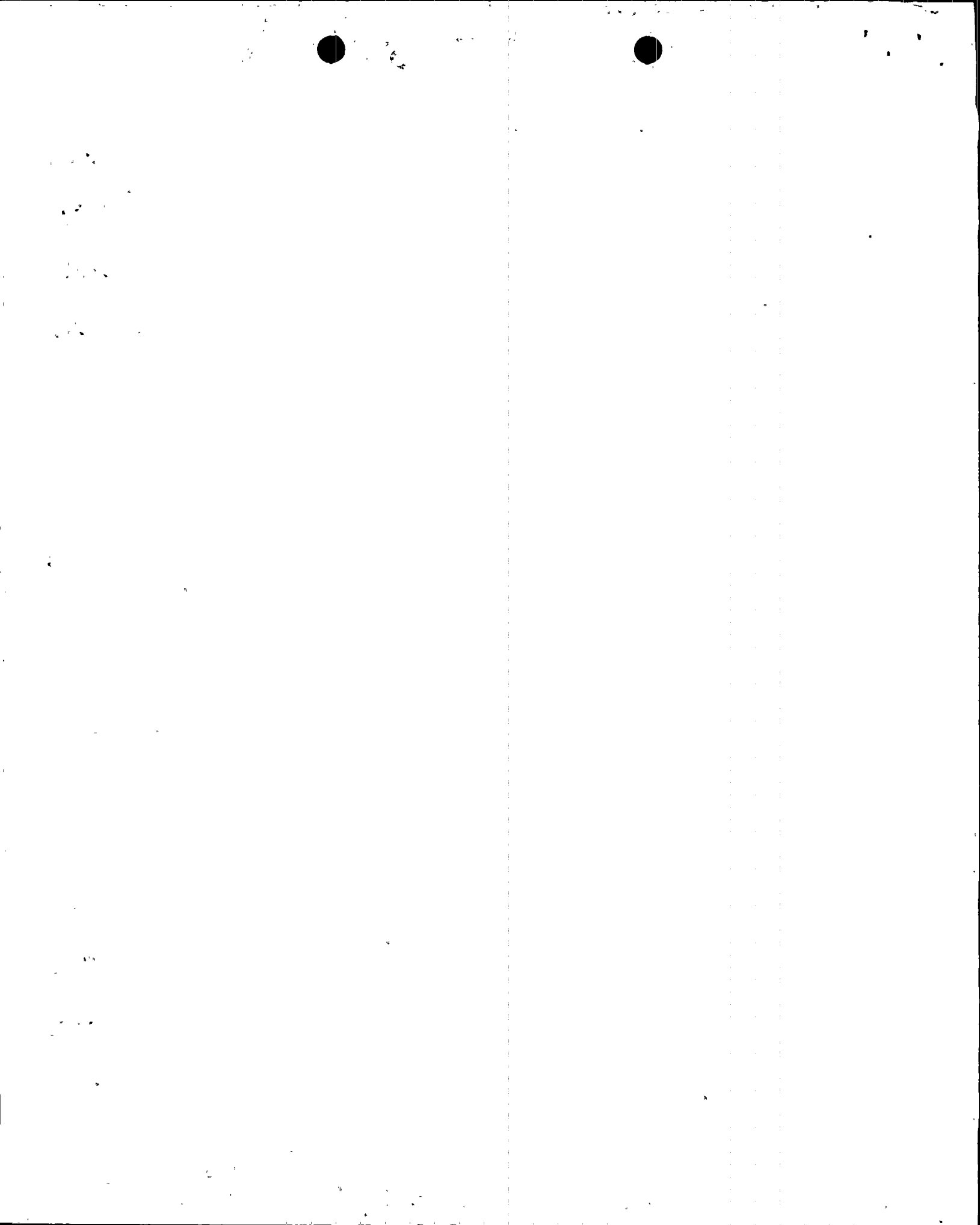
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Mr. George W. Knighton
Subject: PVNGS Unit 3 Equipment Qualification
ANPP- 39797
Page 2

cc: O. M. De Michele (all w/a)
E. E. Van Brunt, Jr.
E. A. Licitra
R. P. Zimmerman
J. B. Martin
A. C. Gehr



Attachment 1

Electrical Equipment Qualification Summary Sheets

ENVIRONMENTAL QUALIFICATION OF IE ELECTRICAL EQUIPMENT
PALO VERDE NUCLEAR GENERATING STATION UNIT 3

| TYPE OF EQUIPMENT/ LOCATION | MANUFACTURER | MODEL NO.. OR IDENTI- FICATION | ABNORMAL OR ACCIDENT ENVIRONMENT | ENVIRONMENT TO WHICH QUALIFIED | OPERABILITY REQUIREMENT | OPERABILITY DEMONSTRATED | ACCURACY OR RESPONSE TIME REQUIRE- MENT | ACCURACY OR RESPONSE TIME DEMON- STRATED | QUALIFICATION REPORT & METHOD | QUALIFICATION STATUS |
|--------------------------------|--|--|--|---|----------------------------|-----------------------------|--|---|---|--|
| Solenoid Valve | Target Rock Corp. (P.O. No. 10407-F- 143272-H0) | Model No. 82EE-001 | Temperature 50-104°F | Temperature 385°F peak | 30 Days | >30 Days | N/A | N/A | BPC Log No. 13-10407- J603-193, 3/22/83 | Qualified for 40 years with parts replacement |
| Auxiliary Building | | System: HVAC Cont. Bldg. J-HCD-HV-77 | Pressure Atmospheric | Pressure 66 psig peak | | | | | | |
| | | | Humidity 20-90% | Humidity 91% | | | | | | |
| | | | Radiation 1x10 ⁶ rads gamma | Radiation 3.53x10 ⁷ rads gamma | | | | | | |
| | | | Chemical Spray None | Chemical Spray Not Applicable | | | | | | |
| | | | Submergence None | Submergence Not Appli- cable | | | | | | |
| | | | | Cycling 18,000 | | | | | | |
| | | | | | | | | | Similarity Analysis to type test of TRC Model 77CC-001 Valve | |

Unit 1 is Target Rock Model 76HH-003, Spec. JM-603.

ENVIRONMENTAL QUALIFICATION OF IE ELECTRICAL EQUIPMENT
PALO VERDE NUCLEAR GENERATING STATION UNIT 3

| TYPE OF EQUIPMENT/ LOCATION | MANUFACTURER | MODEL NO. OR IDENTIFICATION | ABNORMAL OR ACCIDENT ENVIRONMENT | ENVIRONMENT TO WHICH QUALIFIED | OPERABILITY REQUIREMENT | OPERABILITY DEMONSTRATED | ACCURACY OR RESPONSE TIME REQUIREMENT | ACCURACY OR RESPONSE TIME DEMONSTRATED | QUALIFICATION REPORT & METHOD | QUALIFICATION STATUS |
|--|---|--------------------------------------|--|--|---|---|---------------------------------------|--|--|---|
| Solenoid Valves (for pneumatic operated main steam and feed water isolation gate valves) HSSS above el. 100 ft. | Automatic Switch Co. (ASCO) (P.O. 13-PM-221B) Anchor/Darling Valve Co. | Model No. NP8321A7E | Temperature 28-120°F | Temperature 346°F peak | Remain operable for 30 days following DBE after 40 years of normal operation. | Close & remain closed for 30 days (720 hours) following DBE after simulated 40 yrs of normal operation and including 40,000 cycles by type test and analyses. | N/A | N/A | Type Test and analysis per ASCO Report AQS 21678/TR Rev. A | Qualified for 40 years with maintenance |
| | | Tag Nos. J-SGB-UY-130 & J-SGB-UY-135 | Pressure Atmospheric | Pressure 110 psig peak | | | | | | |
| | | Model No. NP8321A5E | Humidity 20-90% | Humidity Steam/Air Mixture | | | | | | |
| | | Tag Nos. J-SGA-UY-172 & J-SGA-UY-175 | Radiation 1x10 ⁶ rads gamma | Radiation 2.0x10 ⁸ rads gamma | | | | | | |
| | | | Chemical Spray None | Chemical Spray Not Applicable | | | | | | |
| | | | Submergence None | Submergence Not Applicable | | | | | | |

* Model No. NP8321A5E is qualified with Report No. E1563, Rev. D, Bechtel Log No. PM-221B-440 (Reference to ASCO Report AQS-21678/TR, Rev. A).

* Model No. NP8321A7E is listed on ASCO Report AQS-21678/TR, Rev. A.

* See Note (1)

ENVIRONMENTAL QUALIFICATION OF IE ELECTRICAL EQUIPMENT
PALO VERDE NUCLEAR GENERATING STATION UNIT 3

| TYPE OF EQUIPMENT/ LOCATION | MANUFACTURER | MODEL NO. OR IDENTI- FICATION | ABNORMAL OR ACCIDENT ENVIRONMENT | ENVIRONMENT TO WHICH QUALIFIED | OPERABILITY REQUIREMENT | OPERABILITY DEMONSTRATED | ACCURACY OR RESPONSE TIME REQUIRE- MENT | ACCURACY OR RESPONSE TIME DEMON- STRATED | QUALIFICATION REPORT & METHOD | QUALIFICATION STATUS |
|--------------------------------|------------------|--|---|--|---|--|--|---|---|---|
| Solenoid Valves | Valcor (NSSS) | Model No. V-526-5631-9 | Temperature 370°F peak | Temperature 417F peak | Operate for 30 days following DBE after 40 years of normal oper- ation. | Operate for 33 days follow- ing DBE after simulated normal opera- tion includ- ing 60,000 cycles by type test and analysis. | N/A | N/A | Type Test and Analysis per: Environmen- tal Qualifi- cation Pro- gram 14273- PE-5733, Rev. 01 | V526-5631-9 (414150002) qualified for 40 years with preventative maintenance |
| Containment Building | | Tag Nos. J-CHA-HV-205 J-CHB-HV-203 | Pressure 60 psig peak | Pressure 103 psig peak | | | | | | |
| | | | Radiation 3.3 x E7 rads-gamma 1 x E8 rads- beta | Radiation 3.7 x E7 rads-gamma 1.1 x E8 rads-beta | | | | | | |
| | | | Humidity Stm/Air Mix. | Humidity Stm/Air Mix. | | | | | | |
| | | | Chemical Spray 4400 ppm Boron, 50 ppm Hydrazine, pH 7-8.5 | Chemical Spray 6200 ppm Boron, 200 ppm Hydrazine, pH 7-9 | | | | | | |
| | | | Submergence If below plant elev. 90'6" | Submergence Not Appli- cable, in- stalled location above 150 ft plant ele- vation | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

Unit 1 has Target Rock 771-003.

ENVIRONMENTAL QUALIFICATION OF IE ELECTRICAL EQUIPMENT
PALO VERDE NUCLEAR GENERATING STATION UNIT 3

| TYPE OF EQUIPMENT/ LOCATION | MANUFACTURER | MODEL NO. OR IDENTI- FICATION | ABNORMAL OR ACCIDENT ENVIRONMENT | ENVIRONMENT TO WHICH QUALIFIED | OPERABILITY REQUIREMENT | OPERABILITY DEMONSTRATED | ACCURACY OR RESPONSE TIME REQUIRE- MENT | ACCURACY OR RESPONSE TIME DEMON- STRATED | QUALIFICATION REPORT & METHOD | QUALIFICATION STATUS |
|--------------------------------|----------------------|--|--|--|----------------------------|-----------------------------|--|---|---|---|
| Valve Actuator | Limatorque (NSSS) | Model No. SMB-000-5 | Temperature 104°F | Temperature 250°F | 30 Days | 33 Days | N/A | N/A | Type test and analysis per Limatorque Report B0058 C-E Program 14273-PE- 5731 | Qualified for 40 years with preventative maintenance |
| Auxiliary Building | | Tag Nos. J-SIA-HV-657 J-SIB-HV-658 J-SIA-HV-678 J-SIB-HV-679 | Pressure Atmospheric | Pressure 25 psig | | | | | | |
| | | | Radiation 1x10 ⁶ rads gamma | Radiation 2x10 ⁷ rads gamma | | | | | | |
| | | | Humidity 90% RH | Humidity 100% RH | | | | | | |
| | | | Chemical Spray None | Chemical Spray Not Applicable | | | | | | |
| | | | Submergence None | Submergence Not Appli- cable | | | | | | |

EQR has Limatorque SB-000-5. Unit 1 as-built is Limatorque SMB-000-5.

ENVIRONMENTAL QUALIFICATION OF IE ELECTRICAL EQUIPMENT
PALO VERDE NUCLEAR GENERATING STATION UNIT 3

| TYPE OF EQUIPMENT/ LOCATION | MANUFACTURER | MODEL NO. OR IDENTI- FICATION | ABNORMAL OR ACCIDENT ENVIRONMENT | ENVIRONMENT TO WHICH QUALIFIED | OPERABILITY REQUIREMENT | OPERABILITY DEMONSTRATED | ACCURACY OR RESPONSE TIME REQUIRE- MENT | ACCURACY OR RESPONSE TIME DEMON- STRATED | QUALIFICATION REPORT & METHOD | QUALIFICATION STATUS |
|------------------------------------|----------------------|-------------------------------------|--|--|--|-----------------------------|--|--|---|----------------------------|
| Level Transmitter (Pressure) | ITT Barton (NSSS) | Model No. 764 | Temperature 370°F | Temperature 420°F | Post-Accident Monitoring 60 days for LT-311, LT- 321, LT-331, LT-341 | 100 Days | Post- Accident Monitor- ing +22% for LT-311, LT-321, LT-331, LT-341. | Post- Accident Monitor- ing +17% -7% for LT-311, LT-321, LT-331, LT-341. | E.Q. Program Document 14273-1CE- 3535 Barton Report R3-764-9 See Note 8 of ANPP-30476 TFQ/BJA, dated 09/10/84, for chemical spray eval. | Qualified for 40 years. |
| Containment Building | | Tag Nos. | Pressure 60 psig | Pressure 75 psig | Accident Mitigation LT-1113 A-D LT-1123 A-D LT-1114 A-D LT-1124 A-D 30 min | | Accident Mitigation LT-1113 A-D LT-1123 A-D +15.3% -5.7% LT-1114 A-D LT-1124 A-D None Post- Accident Monitor LT-1113 A-D LT-1123 A-D +17.1% -7.1% | Accident Mitigation LT-1113 A-D LT-1123 A-D +15.3% -5.7% LT-1114 A-D LT-1124 A-D None Post- Accident Monitor LT-1113 A-D LT-1123 A-D +17.1% -7.1% | | |
| | | J-SIB-LT-311 | Relative Humidity | Relative Humidity | | | | | | |
| | | J-SIB-LT-321 | Sat. Steam/ Air Mixture | Sat. Steam/ Air Mixture | | | | | | |
| | | J-SIA-LT-331 | Radiation | Radiation | | | | | | |
| | | J-SIA-LT-341 | 3.3x10 ⁷ rads | 5x10 ⁷ rads | | | | | | |
| | | J-SGA-LT-1113A | 1.0x10 ⁸ rads | 2.10 ⁸ rads | | | | | | |
| | | J-SGB-LT-1113B | Chemical | Chemical | | | | | | |
| | | J-SGC-LT-1113C | Spray | Spray | | | | | | |
| | | J-SGD-LT-1113D | 4400 ppm | 2700 ppm | | | | | | |
| | | J-SGA-LT-1123A | Boron H ₃ BO ₃ , 50 ppm | Boron H ₃ BO ₃ , 0.64 moles | | | | | | |
| | | J-SGB-LT-1123B | Hydrazine pH adjusted to 7.0-8.5 | NaOH to achieve pH of 10.5 | | | | | | |
| | | J-SGC-LT-1123C | after 4 hrs using Tri- sodium phos- phate | | | | | | | |
| | | J-SGD-LT-1123D | Submergence None | Submergence N/A | | | | | | |
| | | J-SGA-LT-1124A | | | | | | | | |
| | | J-SGB-LT-1124B | | | | | | | | |
| | | J-SGC-LT-1124C | | | | | | | | |
| | | J-SGD-LT-1124D | | | | | | | | |

EQR has ITT Barton Model 763. Unit 1 as-built is ITT Barton Model 764.

ENVIRONMENTAL QUALIFICATION OF IE ELECTRICAL EQUIPMENT
PALO VERDE NUCLEAR GENERATING STATION UNIT 3

| TYPE OF EQUIPMENT/ LOCATION | MANUFACTURER | MODEL NO. OR IDENTI- FICATION | ABNORMAL OR ACCIDENT ENVIRONMENT | ENVIRONMENT TO WHICH QUALIFIED | OPERABILITY REQUIREMENT | OPERABILITY DEMONSTRATED | ACCURACY OR RESPONSE TIME REQUIRE- MENT | ACCURACY OR RESPONSE TIME DEMON- STRATED | QUALIFICATION REPORT & METHOD | QUALIFICATION STATUS |
|--------------------------------|----------------------|--|--|--|--|--|--|---|---|--|
| Valve Actuator | Limatorque (NSSS) | Model No. SMB-00-5 | Temperature 104°F | Temperature 250°F | Operate for 30 days fol- lowing DBE after 40 yrs of normal operation. | Remain oper- able for 33 days follow- ing DBE after simulated 40 years of nor- mal operation including 2,000 cycles by type test and analysis. | N/A | N/A | Type test and analysis per Limatorque Report B0058 C-E Program 14273-PE- 5731 | Qualified for 40 years with preventative maintenance. |
| Auxiliary Building | | Tag Nos. J-CHA-HV-524 J-CHB-HV-255 | Pressure Atmospheric | Pressure 25 psig | | | | | | |
| | | | Radiation 1x10 ⁶ rads gamma | Radiation 2x10 ⁷ rads gamma | | | | | | |
| | | | Humidity 90% RH | Humidity 100% RH | | | | | | |
| | | | Chemical Spray None | Chemical Spray Not Applicable | | | | | | |
| | | | Submergence None | Submergence Not Appli- cable | | | | | | |

EQR has Limatorque SMB-00-15. Unit 1 has Limatorque SMB-00-5.

ENVIRONMENTAL QUALIFICATION OF IE ELECTRICAL EQUIPMENT
PALO VERDE NUCLEAR GENERATING STATION UNIT 3

| TYPE OF EQUIPMENT/ LOCATION | MANUFACTURER | MODEL NO. OR IDENTI- FICATION | ABNORMAL OR ACCIDENT ENVIRONMENT | ENVIRONMENT TO WHICH QUALIFIED | OPERABILITY REQUIREMENT | OPERABILITY DEMONSTRATED | ACCURACY OR RESPONSE TIME REQUIRE- MENT | ACCURACY OR RESPONSE TIME DEMON- STRATED | QUALIFICATION REPORT & METHOD | QUALIFICATION STATUS |
|-----------------------------------|---------------------|--|--|--|----------------------------|-----------------------------|--|---|---|---|
| Flow Transmitter (Pressure) | Rosemount (NSSS) | Model No. 1152DP3 | Temperature 50-104°F | Temperature 230°F | 30 days | 30 days | Post-Accident Accuracy ± 10% | +2.0% | ECE-SI-A009 M234A-86-1 E600-36-3 (Rosemount Report 117415 Rev. C) | Replace trans- mitter at 6.5 years. |
| Auxiliary Building | | System: PAMS | Pressure 0 psig | Pressure 6 psig | | | | | | |
| | | Tag Nos. J-SIA-FT-308 J-SIB-FT-309 | Humidity 20-90% RH | Humidity 100% | | | | | | |
| | | | Radiation 1x10 ⁶ rads gamma | Radiation 5x10 ⁶ rads gamma | | | | | | |
| | | | Chemical Spray None | Chemical Spray Not Applicable | | | | | | |
| | | | Submergence None | Submergence Not Appli- cable | | | | | | |

EQR has Rosemount Model 1153B. Unit 1 as-built is Rosemount Model 1152DP3.

ENVIRONMENTAL QUALIFICATION OF IE ELECTRICAL EQUIPMENT
PALO VERDE NUCLEAR GENERATING STATION UNIT 3

| TYPE OF EQUIPMENT/ LOCATION | MANUFACTURER | MODEL NO. OR IDENTI- FICATION | ABNORMAL OR ACCIDENT ENVIRONMENT | ENVIRONMENT TO WHICH QUALIFIED | OPERABILITY REQUIREMENT | OPERABILITY DEMONSTRATED | ACCURACY OR RESPONSE TIME REQUIRE- MENT | ACCURACY OR RESPONSE TIME DEMON- STRATED | QUALIFICATION REPORT & METHOD | QUALIFICATION STATUS |
|--------------------------------|------------------|--|--|--|--|--|--|---|---------------------------------------|--|
| Valve Actuator | Valcor (NSSS) | Model No. 526-5683-7 | Temperature 104°F peak | Temperature 385°F peak | Operate for 30 days following DBE, after 40 years of normal oper- ation. | Operate for 33 days follow- ing DBE after simulated normal oper- ation follow- ing 60,000 cycles by type test and analysis. | N/A | N/A | Type Test per 14273-PE- 5733 | Qualified to 10 years with maintenance |
| Auxiliary Building | | Tag Nos. J-SGB-HV-200 J-SGB-HV-201 | Pressure Atmospheric | Pressure 66 psig | | | | | Valcor Report SKA-11625, Rev. B | |
| | | | Radiation 1x10 ⁶ rads gamma | Radiation 3.5x10 ⁷ rads 1.1x10 ⁸ rads | | | | | | |
| | | | Humidity 90% RH | Humidity Steam/Air Mixture | | | | | | |
| | | | Chemical Spray None | Chemical Spray 4400 ppm Boron as H ₃ BO ₃ , 50 ppm Hydra- zine pH=7.0- 8.5 | | | | | | |
| | | | Submergence None | Submergence Not Appli- cable | | | | | | |

EQR has Valcor Model 526-5683-6. Unit 1 as-built is 526-5683-7.

ENVIRONMENTAL QUALIFICATION OF IE ELECTRICAL EQUIPMENT
PALO VERDE NUCLEAR GENERATING STATION UNIT 3

| TYPE OF EQUIPMENT/ LOCATION | MANUFACTURER | MODEL NO. OR IDENTI- FICATION | ABNORMAL OR ACCIDENT ENVIRONMENT | ENVIRONMENT TO WHICH QUALIFIED | OPERABILITY REQUIREMENT | OPERABILITY DEMONSTRATED | ACCURACY OR RESPONSE TIME REQUIRE- MENT | ACCURACY OR RESPONSE TIME DEMON- STRATED | QUALIFICATION REPORT & METHOD | QUALIFICATION STATUS |
|--------------------------------|----------------|-------------------------------------|--|--|--|---|--|---|--|---|
| Limit Switch | ASCO (NSSS) | Model No. NP8321A5E | Temperature 104°F | Temperature 450°F peak | Remain oper- able for 30 days fol- lowing DBE after 40 years of normal oper- ation. | Close & remain closed or operate for 33 days (792 hours) fol- lowing DBE after simula- ted 40 years of normal op- eration and including 40,000 cycles by type test and analysis. | N/A | N/A | Type Test & analysis per ASCO Reports AQS-21678/TR Rev. A; AGR- 67368 Rev. 0 C-E Program 14273-PE- 5734, Rev. 0 C-E Letter V-PAK-250 | Qualified for 40 years with preventative maintenance |
| Auxiliary Building | | Tag No. J-CHA-UY-580 | Pressure Atmospheric | Pressure 78 psig peak | | | | | | |
| | | | Radiation 1x10 ⁶ rads gamma | Radiation 1.82x10 ⁸ rads 1.1x10 ⁸ rads | | | | | | |
| | | | Humidity 90% RH | Humidity Steam/Air Mixture | | | | | | |
| | | | Chemical Spray None | Chemical Spray Not Applicable | | | | | | |
| | | | Submergence None | Submergence Not Appli- cable | | | | | | |

EQR has ASCO Model NP8321A1E. Unit 1 as-built is ASCO Model NP8321A5E.

ENVIRONMENTAL QUALIFICATION OF IE ELECTRICAL EQUIPMENT
PALO VERDE NUCLEAR GENERATING STATION UNIT 3

| TYPE OF EQUIPMENT/ LOCATION | MANUFACTURER | MODEL NO. OR IDENTI- FICATION | ABNORMAL OR ACCIDENT ENVIRONMENT | ENVIRONMENT TO WHICH QUALIFIED | OPERABILITY REQUIREMENT | OPERABILITY DEMONSTRATED | ACCURACY OR RESPONSE TIME REQUIRE- MENT | ACCURACY OR RESPONSE TIME DEMON- STRATED | QUALIFICATION REPORT & METHOD | QUALIFICATION STATUS |
|---------------------------------------|----------------------|-------------------------------------|--|---------------------------------------|---|--|--|---|---|--|
| Motor Oper- ated Valve Actuator | Limatorque (NSSS) | Model No. SMB-00-7.5 | Temperature 104°F | Temperature 250°F | Operate for 30 days fol- lowing DBE after 40 yrs normal oper- ation. | Remain oper- able for 33 days follow- ing DBE after simulated 40 years of nor- mal operation including 2,000 cycles by type test and analysis. | N/A | N/A | Type Test and analysis per Limatorque Report B0058 C-E Program 14273-PE- 5731 | Qualified for 40 years with preventive maintenance. |
| Auxiliary Building | | Tag No. J-CHE-HV-536 | Pressure Atmospheric | Pressure 25 psig | | | | | | |
| | | | Rel. Humidity 90% | Rel. Humidity 100% | | | | | | |
| | | | Radiation 1x10 ⁶ rads Y | Radiation 2x10 ⁷ rads Y | | | | | | |
| | | | Chemical Spray None | Chemical Spray N/A | | | | | | |
| | | | Submergence N/A | Submergence N/A | | | | | | |

EQR has Model SMB-00-15 (Letter 30476, Table 4.1-2, page 2 of 35).
Walkdown identified model as SMB-00-7.5.

ENVIRONMENTAL QUALIFICATION OF IE ELECTRICAL EQUIPMENT
PALO VERDE NUCLEAR GENERATING STATION UNIT 3

| TYPE OF EQUIPMENT/ LOCATION | MANUFACTURER | MODEL NO. OR IDENTI- FICATION | ABNORMAL OR ACCIDENT ENVIRONMENT | ENVIRONMENT TO WHICH QUALIFIED | OPERABILITY REQUIREMENT | OPERABILITY DEMONSTRATED | ACCURACY OR RESPONSE TIME REQUIRE- MENT | ACCURACY OR RESPONSE TIME DEMON- STRATED | QUALIFICATION REPORT & METHOD | QUALIFICATION STATUS |
|--|--|---|--|--|---|-----------------------------|--|---|--|-------------------------------|
| Alternating Current Electric Motor Oper- ators | Borg-Warner (P.O. 10407- F-178606) | Limitorque Model No. SMC-04-7-1/2 | Temperature 104°F | Temperature 250°F | Required to close auto- matically upon receipt of a con- tainment isolation alarm signal | 16 days | None | N/A | Environmental Qualified by ECE #HP-A003 Seismic Qualified by ECE #HP-A004 and Limi- torque re- port B0003. | 40 years with maintenance. |
| Auxiliary Building | | Tag No. J-HPB- UV-6 | Pressure Atmospheric | Pressure 25 psig | | | | | | |
| | | | Radiation 1x10 ⁶ rads gamma | Radiation 2.0x10 ⁷ rads gamma | | | | | | |
| | | | Humidity 90% | Humidity 100% | | | | | | |
| | | | Chemical Spray None | Chemical Spray N/A | | | | | | |
| | | | Submergence N/A | Submergence N/A | | | | | | |

* Valve was replaced via NCR #PX9931. This valve was spared. The replacement valve (as listed above) was procured from WPPSS with P.O. F-17866, Item 2 (WPPSS Tag No. NPS-2SI-VQ019).

Unit 1 is Dresser Model 5500W, with Rotork Actuator Model 7NAB1-43.

Attachment 2

Mechanical Equipment Qualification Sheets

MECHANICAL EQUIPMENT QUALIFICATION SHEET

| SPECIFICATION | DESCRIPTION | MODEL | TAG NO. | LOCATION | REPORT NO. | DIFFERENCE FROM UNIT 1 |
|---------------|----------------------------|---------|--|----------------|-------------------|------------------------|
| 13-MM-598 | Dampers Ruskin Mfg. Co. | CDR-92B | M-HAA-M214 M-HAB-M215 M-HAA-M216 M-HAB-M217 | ZCAE (MSSS) | Wyle No. 58551 | CDR-92 |

MECHANICAL EQUIPMENT QUALIFICATION SHEET

| SPECIFICATION | DESCRIPTION | MODEL | TAG NO. | LOCATION | REPORT NO. | DIFFERENCE FROM UNIT 1 |
|---------------|--|----------|-----------|----------|---|------------------------|
| 13-MM-721A | Air Handling Unit (American Air Filter) | H6LPACYA | M-HAA-Z02 | ZACC | NES 26410 AAF No. NESE-358, Rev. 9 | Model No. H9LPACYA |

MECHANICAL EQUIPMENT QUALIFICATION SHEET

| SPECIFICATION | DESCRIPTION | MODEL | TAG NO. | LOCATION | REPORT NO. | DIFFERENCE FROM UNIT 1 |
|---------------|---|----------|------------------------|----------|---|------------------------|
| 13-MM-721A | Air Handling Units (American Air Filter) | H9LPACYA | M-HAB-Z01 M-HAB-Z03 | ZACD | NES 26410 AAF No. NESE-358, Rev. 9 | Model No. H6LPACYA |

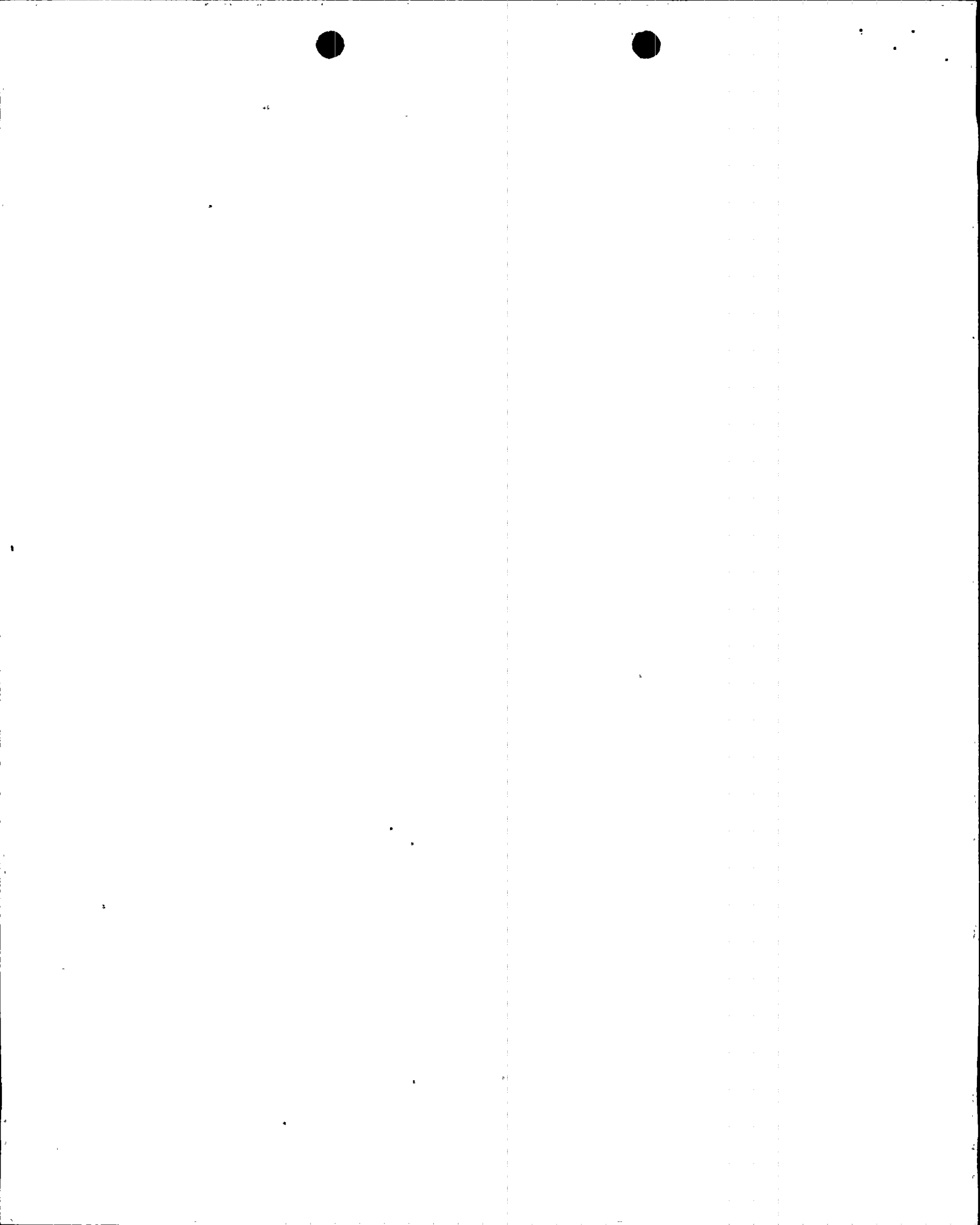
MECHANICAL EQUIPMENT QUALIFICATION SHEET

| SPECIFICATION | DESCRIPTION | MODEL | TAG NO. | LOCATION | REPORT NO. | DIFFERENCE FROM UNIT 1 |
|---------------|-------------|---------------------------|--------------------------------------|----------|---|----------------------------------|
| 13-NM-001 | Valve | Borg-Warner 106FCB3004 | J-SIB-UV- 646 J-SIA-UV- 627 | 2A | NSR 106FCB3004 Qualification Report was submitted for review and components will be qualified prior to fuel load for Unit 3. | Borg-Warner Model No. 77620-2 |

MECHANICAL EQUIPMENT QUALIFICATION SHEET

| SPECIFICATION | DESCRIPTION | MODEL | TAG NO. | LOCATION | REPORT NO. | DIFFERENCE FROM UNIT 1 |
|---|-----------------------------|--------|-------------------|----------|-------------------|--|
| 13-NM-001 (WPPSS/Anchor Darling) P.O. F-187606/1 | Anchor Darling Valve Co. | 4053-3 | J-SIA-IHV- 684 | ZA | NXX2-11.04- 20 | NTA* procurement for Unit 3. Unit 1 Manuf/Model No. Borg Warner/77780 |

* Non-Traditional Acquisition



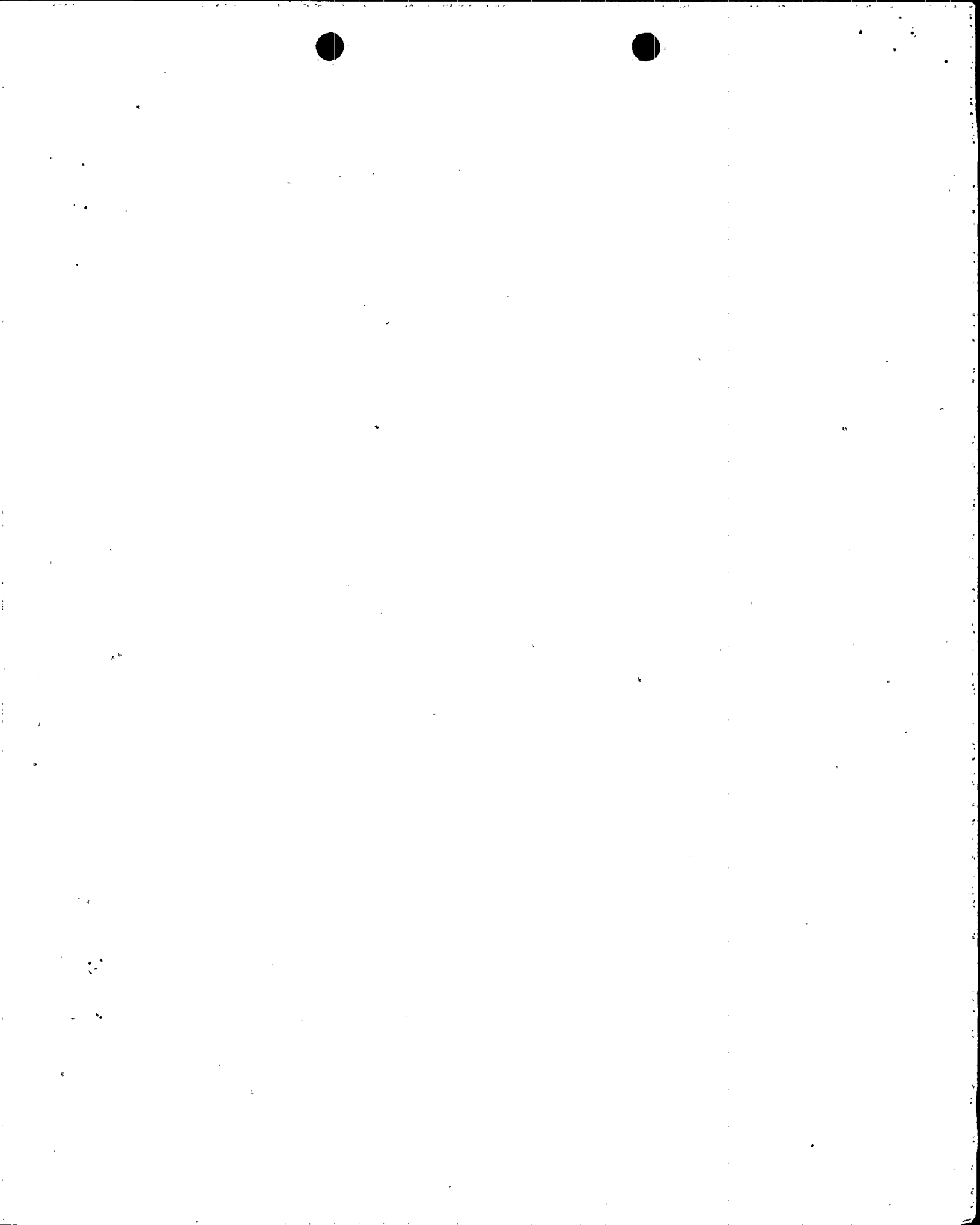
MECHANICAL EQUIPMENT QUALIFICATION SHEET

| SPECIFICATION | DESCRIPTION | MODEL | TAG NO. | LOCATION | REPORT NO. | DIFFERENCE FROM UNIT 1 |
|---------------|----------------------|---------|--------------------------|----------|---|---|
| 13-NM-001 | Borg Warner Valve | 77710-1 | P-CHA-V118 P-CHA-V190 | ZAII | NSR 77710-1 (N001-7.09- 369) for Seismic | Model No. 77710 Note: The difference in the two models is in the casting. |

MECHANICAL EQUIPMENT QUALIFICATION SHEET

| SPECIFICATION | DESCRIPTION | MODEL | TAG NO. | LOCATION | REPORT NO. | DIFFERENCE FROM UNIT 1 |
|--|---|--|------------------------|----------|------------|--|
| P221A (Dresser) | Nuclear Service Valves 2" and smaller | 1", Mark No. 115, Quality Class Q1B | 3PHPAV035 | ZA | P221A-123 | Unit 1 has Dresser Mark No. 374. |
| | | .37", 306, Q1B | 3PSSEV802 and 804 | ZC ZC | P221A-206 | Unit 1 has 1" size Dresser Mark 306. |
| | | .75", 329, Q1B | 3PRCEV874 875, 876 | ZC | P221A-119 | Unit 1 has Mark No. 329, under P221C/Kerotest. |
| | | | 3PSIAV956 3PSIBV954 | ZA | P221A-119 | Unit 1 has Mark No. G under NM001/B-W. |
| | | | 3PSIBV967 3PSIAB966 | ZA | P221A-119 | Unit 1 has Mark No. 329, under P221C/Kerotest. |
| P221A (WPPSS- Borg-Warner) P.O. F- 176952/3 | Nuclear Service Valves 2" and smaller | 2", 374, Q1C | 3PECBV062 | ZJ | PXX1-164 | NTA* procurement for Unit 3 under P.O. F176952/3. Unit 1 has Mark No. 374, 1.50" under P221A/ Dresser. |
| P221A (WPPSS- Dresser) P.O. F- 185169/1 | Nuclear Service Valves 2" and smaller | .75", 313, Q1C | 3PSGEV365 | ZM | PXX1-189 | NTA* procurement for Unit 3 under P.O. F185169/1. Unit 1 has Mark No. 329, 1" size/Dresser. |

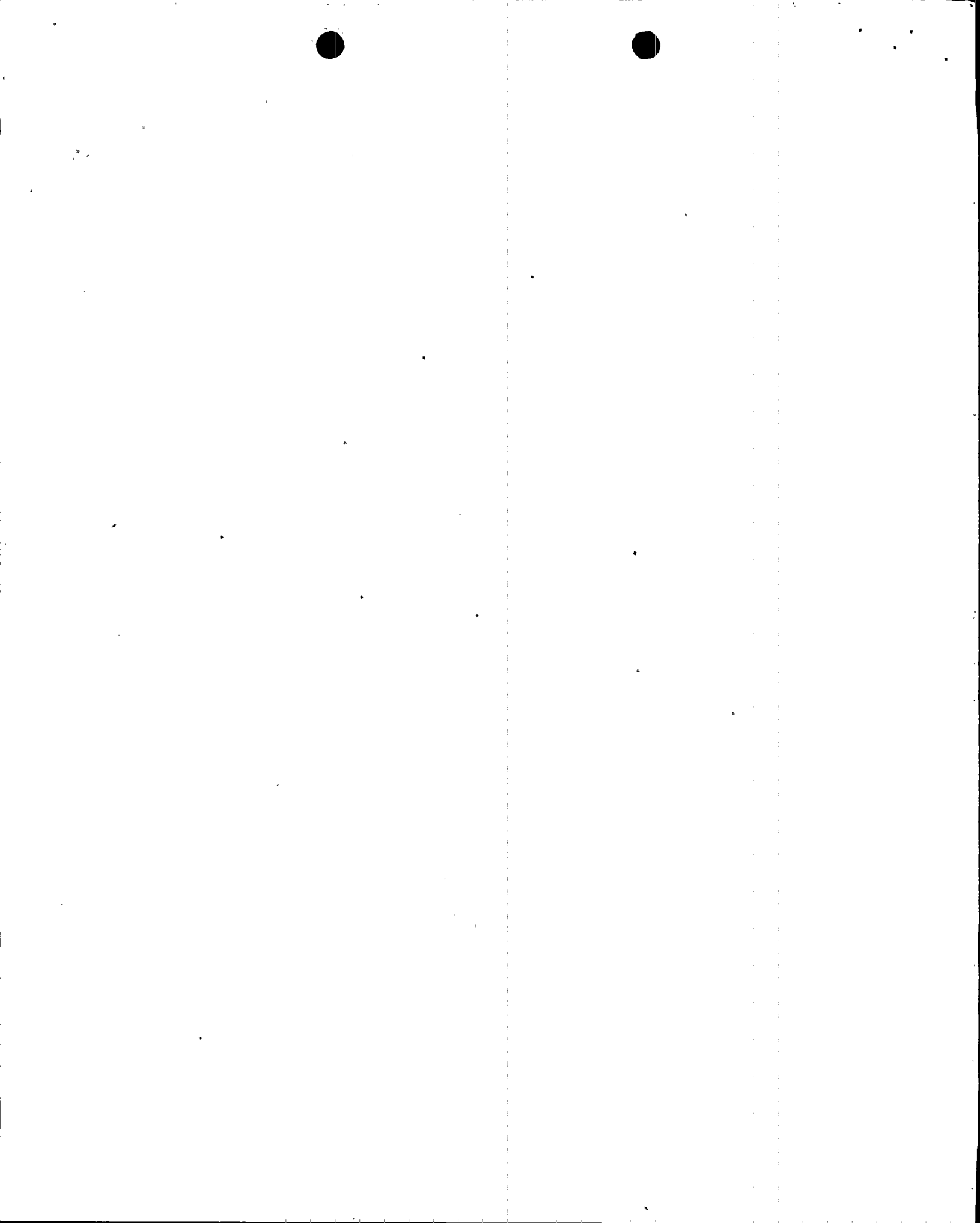
* Non-Traditional Acquisition



MECHANICAL EQUIPMENT QUALIFICATION SHEET

| SPECIFICATION | DESCRIPTION | MODEL | TAG NO. | LOCATION | REPORT NO. | DIFFERENCE FROM UNIT 1 |
|---|--|--------------|------------------------|----------|------------|---|
| P221B (Anchor Darling) | Nuclear Service 2-1/2" and larger valves | 4", 211, Q1C | 3PCTEV009 | ZY | P221B-374 | Unit 1 is 6" Mark 211/ Anchor Darling |
| | | 4", 211, Q1B | 3PPCEV081 | ZC | P221B-374 | Unit 1 valve is 3", Mark No. 211 under P221B/ Anchor Darling |
| | | 3", 212, Q1C | 3PRDAV050 3PRDBV052 | ZA ZA | P221B-373 | Unit 1 valve is 4", Mark No. 212 under P221B/ Anchor Darling |
| | | 8", 606, Q1B | 3PSGEV693 | ZM | P221B-389 | Unit 1 has similar valve under P221B/Anchor Darling |
| | | 3", 430, Q1B | 3PCHEVX47 | ZY | PXX1-162 | Unit 3 NTA* procurement under P.O. F176952/1 Unit 1 is under P221B/ Anchor Darling |
| P221B (WPPSS- Hirata) P.O. F-176950/2 | | 6", 430, Q1B | 3PCHEV011 | ZY | PXX1-182 | Unit 3 NTA* procurement under P.O. F176950/2 Unit 1 is under P221B/ Anchor Darling |
| P221B (WPPSS- Hirata) P.O. F-176950/3 | | 3", 441, Q1C | 3PEMBV024 | ZA | PXX1-181 | Unit 3 NTA* procurement under P.O. F176950/3 Unit 1 under P221B/ Anchor Darling |

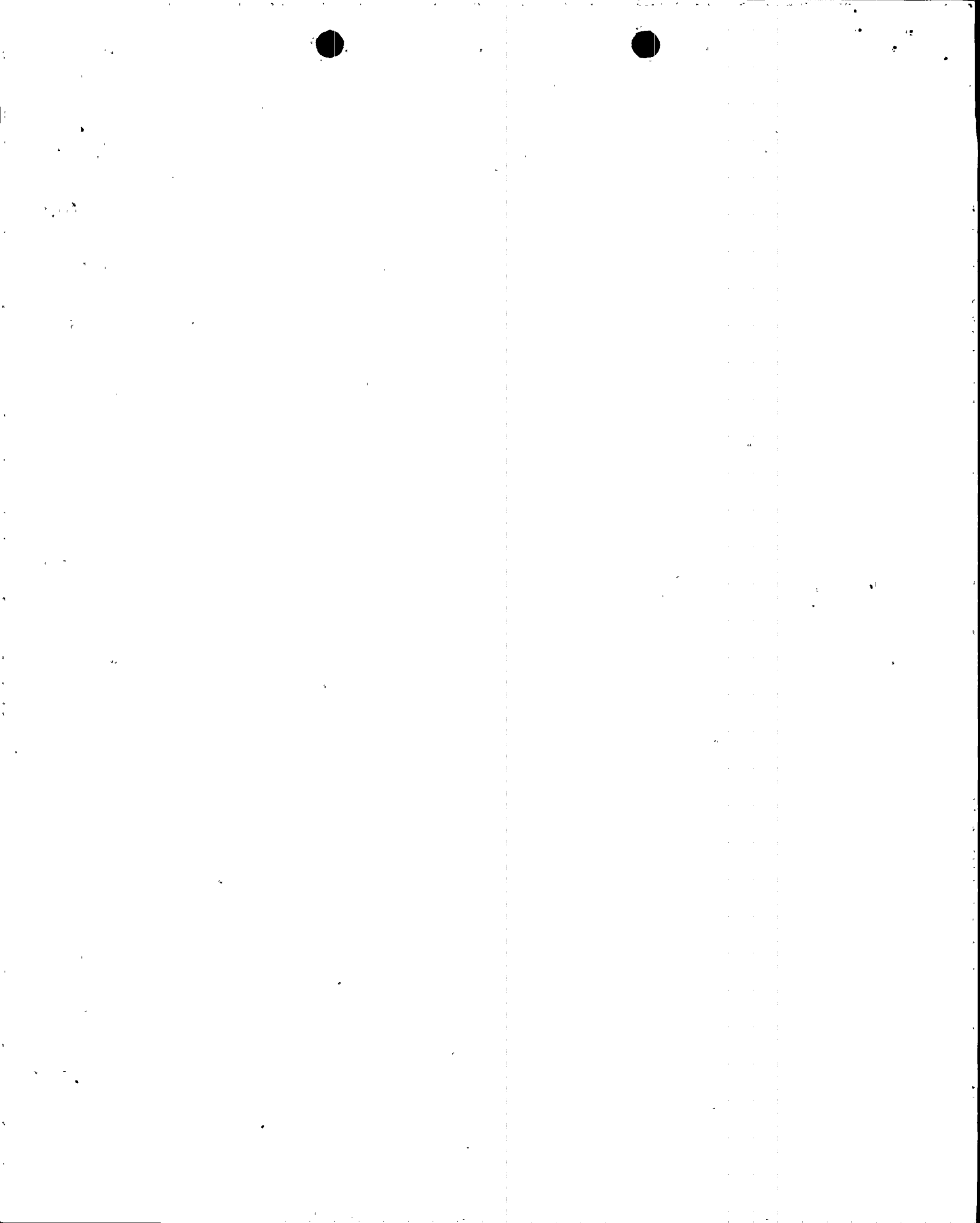
* Non-Traditional Acquisition



MECHANICAL EQUIPMENT QUALIFICATION SHEET

| SPECIFICATION | DESCRIPTION | MODEL | TAG NO. | LOCATION | REPORT NO. | DIFFERENCE FROM UNIT 1 |
|---------------------|---------------------------------------|--------------------------------------|-----------|----------|---|--|
| P221C (Kerotest) | Nuclear Service Valve, 3" and smaller | .50", Mark No. 306 Quality Class Q1A | 3PSIEV129 | ZC | P221C-72 | Unit 1 valve under NM001/Borg-Warner |
| | | | 3PSSEV014 | ZC | P221C-72 | Unit 1 valve under P221C, 1" size/Kerotest |
| | | | 3PSSEV016 | ZC | P221C-72 | Unit 1 valve under P221A, 1" size/Dresser |
| | | | 3PSSEV017 | ZC | P221C-72 | Unit 1 valve under P221A, 1" size/Dresser |
| | | .50", 374, Q1B | 3PSIEV863 | ZA | P221C-72 | Unit 1 valve under P221A/Dresser |
| | | 2", 374, Q1B | 3PCHNV934 | ZA | P221C-29 | Unit 1 valve under P221A/Dresser |
| | | 1", 378, Q1B, Q1C | Various | Various | P221C-35 | Unit 1 valve under P221A/Dresser |
| | | 1", 609, Q1C | 3PSGEV334 | Various | P221C-71 | Unit 1 used Mark No. 619 under P221A/Dresser |
| | | | 339, 348 | | | |
| | | | 350, 357 | | | |
| | | | 358, 360 | | | |
| | | | 3PSGEV346 | ZM | P221C-71 | Unit 1 used Mark No. 313, 3/4", NTA* valve (WPPSS/Dresser) P.O. F-185169/1 |
| | | 1", 634, Q1B | 3PGAEV015 | ZC | Qualification Report was submitted for review and components will be qualified prior to fuel load for Unit 3. | Unit 1 valve under P221A/Dresser |

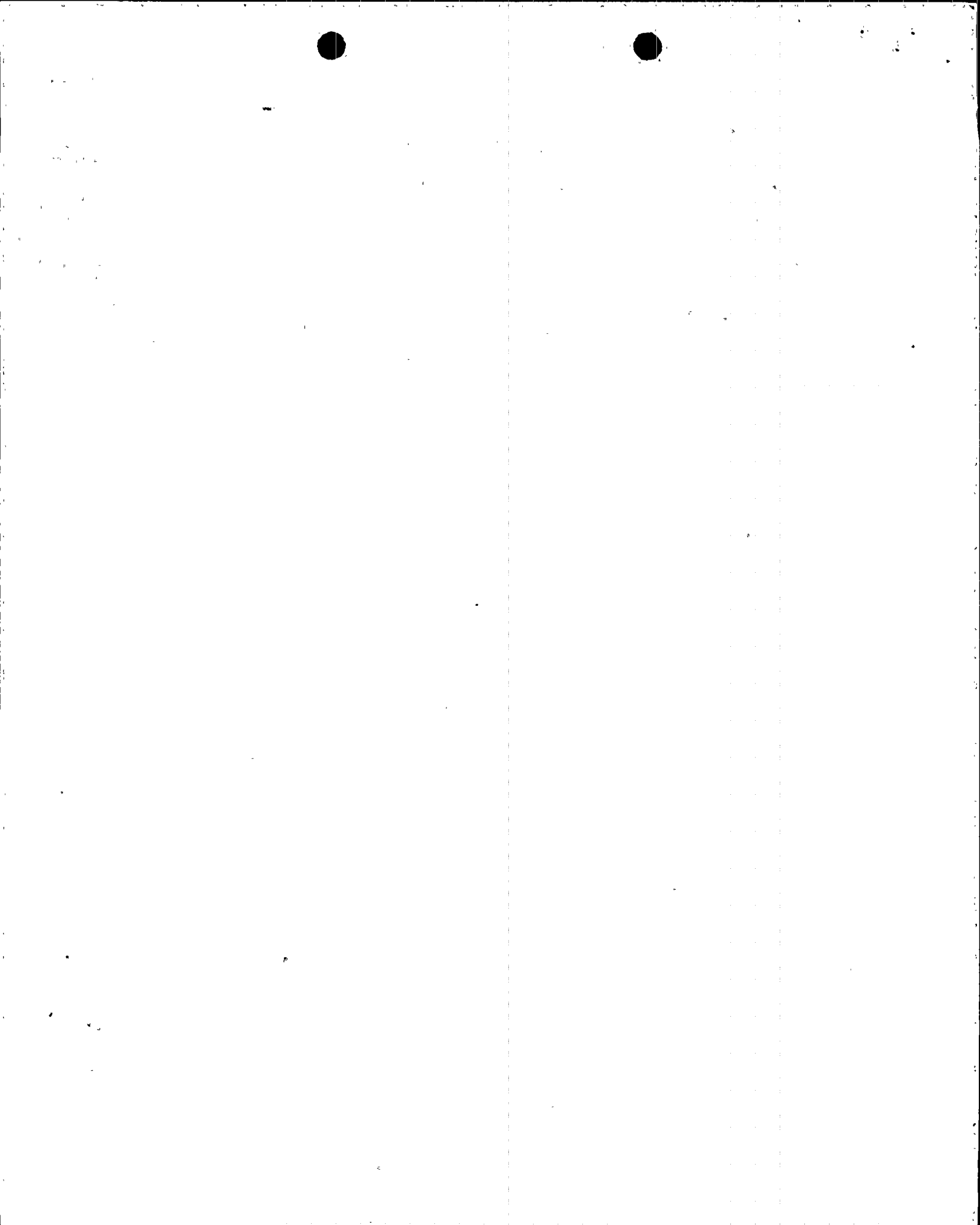
* Non-Traditional Acquisition



MECHANICAL EQUIPMENT QUALIFICATION SHEET

| SPECIFICATION | DESCRIPTION | MODEL | TAG NO. | LOCATION | REPORT NO. | DIFFERENCE FROM UNIT 1 |
|--|--|--------------|-----------|----------|------------|--|
| P231 (ITT Grinnell) | Nuclear Service Diaphragm Valves | 4", 850, Q1C | 3PPCNV024 | ZY | P231-36 | Unit 1 has used Q1B valve, Dwg. No. P231-38. Unit 3 Dwg. No. P231-24. Requirement is for Q1C only. |
| | | | Various | Various | P231-67 | Elastomer Diaphragm Irradiation Report |
| | | 3", 850, Q1B | 3PCHNV093 | ZA | PXX1-186 | Unit 3 NTA* procurement under P.O. F176957/1. Unit 1 has 2" Mark 850 under P231/ITT. |
| P231 (WPPSS- Tuflin) P.O. F-176957/1 | | | | | | |
| P231 (WPPSS- ITT) P.O. F-186868/1 | | 1", 857, Q1B | 3PCHNVY70 | ZA | PXX3-10 | Unit 3 NTA* procurement under P.O. F186868/1. Unit 1 has Mark No. 850/ITT. (Mark No. 850 and 857 are same except 857 is socket weld ends.) |

* Non-Traditional Acquisition

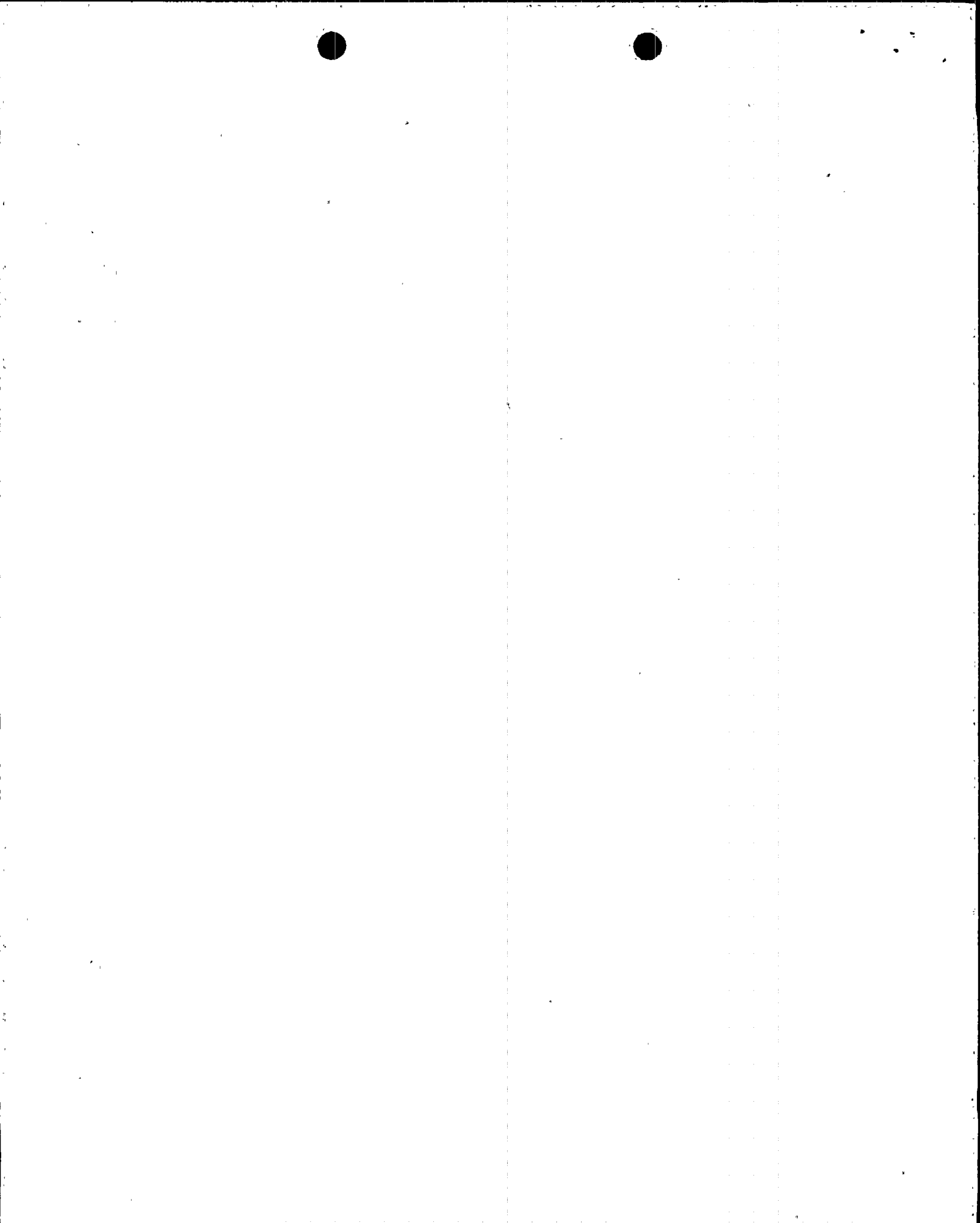


MECHANICAL EQUIPMENT QUALIFICATION SHEET

| SPECIFICATION | DESCRIPTION | MODEL | TAG NO. | LOCATION | REPORT NO. | DIFFERENCE FROM UNIT 1 |
|---------------|---------------------------|-------|------------------------|-------------------|------------|--|
| 13-MM-598 | Ruskin Back-Draft Dampers | CBS-7 | M-HFA-M07 M-HFB-M07 | ZF El. 112'-0" | M598-632-6 | CDR-92 For these two tag numbers, Unit 1 and Unit 3 have Model CBS-7. MEQP lists Model CDR-92. |

MECHANICAL EQUIPMENT QUALIFICATION SHEET

| SPECIFICATION | DESCRIPTION | MODEL | TAG NO. | LOCATION | REPORT NO. | DIFFERENCE FROM UNIT 1 |
|---------------|--------------------------------------|--------|---------------|-------------------------|---|-------------------------------------|
| M071 | Pressure Relief Valves (Lonergan) | LCT-13 | J-SPA-PSV-029 | Auxiliary Building 100' | Qualification Report was submitted for review | None (Vendor Drawing No. A2957) |
| | | | J-SPB-PSV-030 | Auxiliary Building 100' | and components will be qualified prior to fuel load for Unit 3. | Bechtel Log No. 13-10407-M071-50-2) |
| | | | | | | |



Note (1) = These solenoid valves are identical between Units 1 and 3. However, they are different from the original Equipment Qualification Report. DCP #1SM, 2SM, 3CM - AF-500 changed the actuator for valves J-SGA-UV-172, 175 and J-SGB-UV-130, 135 and also modified the pilot solenoids. The new pilot solenoids are ASCO Model NP8321A7E (UY-130 and 135) and ASCO Model NP8321A5E (UY-172 and 175).

