



Commonwealth Edison

One First National Plaza Chicago, Illinois
Address Reply to: Post Office Box 767
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June 17, 1982

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555

DESIGNATED ORIGINAL

Certified By Kenneth L. Kiper

Subject: Byron Station Units 1 and 2
Braidwood Station Units 1 and 2
Seismic Qualification of
Equipment
NRC Docket Nos. 50-454, 50-455
50-456, and 50-457

Dear Mr. Denton:

This is to provide information regarding the seismic and dynamic qualification of equipment important to safety at Byron and Braidwood. Review of this information is necessary prior to the site audit at Byron in July or August of this year. Completion of that audit is necessary to close Outstanding Item 6 of the Byron SER.

Attachment A to this letter lists the equipment important to safety at Byron and indicates the status of qualification work on each component. A second list is being generated for Braidwood to indicate the qualification status for the relatively few pieces of equipment that are not duplicated at that site.

Attachment B to this letter lists the pumps and valves at Byron and Braidwood which are included in the pump and valve operability assurance program. Qualification information on these components can also be made available during the SQRT audit at Byron.

Please address further questions regarding this matter to this office.

One signed original and fifteen copies of this letter and the attachment are provided for your use.

Very truly yours,

T. R. Tramm

T. R. Tramm
Nuclear Licensing Administrator

lm

cc: Dr. Mano Subuchi, Brookhaven Nat'l Lab.
Bruce Miller, Brookhaven Nat'l Lab.

4284N 8206240277 820617
PDR ADDCK 05000454
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13001
1/13 on shelf

ATTACHMENT A

Seismic and Dynamic Qualification
Summary and Status

Byron Station

4284N

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

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SYSTEM: Boric Acid Processing

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | STATUS (C) | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: | |
|--|---|-------------------|----------|-----|-----------------------------|--------------------|---------------|-------------------------|------------------------|-------------------------|---------------|----------------|--------|------|------|--|----------|---------------|
| | TYPE, NAME | RANGE, SIZE | NSSS | BOP | VENDOR | BUILDING, ELEV. | | REPORT IDENT. (B) | SEISMIC ZPA | | HYDRO DYN. | DYN. | ANALY. | | TEST | COMB. | | NAT. FREQ. |
| | | | | | | | | | OBE | SSE | | | STAT. | DYN. | | | | |
| Boric Acid Processing R | Recycle Hold- up Tanks 0AB01TA,TB | 125,000 gallon | | X | Chicago Bridge & Iron | Aux. 346' | EMD-028396 | C | H .35g V .45g | H .87g V .84g | | | X | | | | 18Hz | F/L-2794 |
| Boric Acid Processing HS,CS | Boric Acid Tanks 1,2AB03T | 48,000 gallon | | X | Chicago Bridge & Iron | Aux. 401' | EMD-028396 | C | H .80g V .45g | H 1.11g V .84g | | | X | | | | 19Hz | F/L-2794 |
| Boric Acid Processing R | Recyle Evaporator Feed Filter | | | | Pall Trinity Micro Corp. | Aux. | | N/C | | | | | | | | | | F/L-2775 |
| Boric Acid Processing R | Pressure Indicator | | | X | | Aux. | | N/C | | | | | | | | | | F/L-2906 |
| Boric Acid Processing R | Temperature Element Well | | | X | | Aux. | | N/C | | | | | | | | | | F/L-2906 |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
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(3) A/E FILE NUMBER

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SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
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|--|--|------------------------|----------|-----|---------------------------------|-----------------------|--|---------------|------------|---|---------------|------|----------------|------|------|------------------------------|---------------|----------|-----------------------------------|
| | TYPE, NAME | RANGE, SIZE | SSN | NCP | VENDOR | BUILDING, ELEV. | REPORT IDENT. (B) | | SEISMIC | | HYDRO DYN. | DYN. | ANALY. | | TEST | COMB. | NAT. FREQ. | | RESPONSE SPECTRA ID. NO. |
| | | | | | | | | | ZPA | | | | STAT. | ITN. | | | | | |
| Boric Acid Processing R | Check Valves OAB8589 OAB008A+B OAB8600A+B OAB8275 OAB8619 OAB8566A+B | 1" | | X | Borg - Warner Corporation | Auxiliary Building | EMD - 026076 & 020078 | C | | H 3.0g 2.5g V 3.0g | | | X | X | | 2925 1866 6463 5389 | F/L-2794 | | |
| Boric Acid Processing R | Globe Valves OAB8242 OAB8567A,B OAB8588 OAB8598A-D OAB8599A-D | 3/4", 1" 2" 150# | | X | Borg - Warner Corporation | Auxiliary | EMD - 008747, (also, 020078 & 026076) | C | | H 3.0g 2.5g V 3.0g | | | X | | | >33Hz | F/L-2794-1 | | |
| Boric Acid Processing R | Valves OAB019 OAB023A,B OAB028 OAB029 1,2AB004 | 3/4" | | X | Borg- Warner Corporation | Auxiliary | EMD-026077 | C | | H 3.0g 2.5g V 3.0g | | | X | | | >33Hz | F/L-2794 | | |
| Boric Acid Processing HS,CS | Check Valves OAB020 | 3" | | X | TRW Mission | Auxiliary | EMD-026305 | C | | H ₁ = 3.0g H ₂ = 2.5g V = 3.0g | | | X | | | >33Hz | F/L-2794 | | |

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| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | | LOCATION | QUALIFICATION | | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR | REMARKS: |
|--|--|----------------|----------|-----|--------|--------------------|-------------------------|---------------|------------|-----|-------|------|-----------------|--------------|-------|---------------|-----------------------------------|----------|
| | TYPE, NAME | RANGE, SIZE | NSSS | ROP | VENDOR | BUILDING, ELEV. | REPORT IDENT. (B) | STATUS (C) | SEISMIC | | HYDRO | | ANALY. STAT. | TEST DYN. | COMB. | NAT. PRIM. | RESPONSE SPECTRA ID. NO. | |
| | | | | | | | | | OBE | SSE | DYN. | DYN. | | | | | | |
| Boric Acid Processing Valves | QAB009A,B QAB016 QAB017A,B QAB8255A,B QAB8556A,B QAB8558A,B QAB8561A,B QAB8562A,B QAB8565A,B QAB8568 QAB8574A,B QAB8576A,B QAB8578A,B QAB8581A-D QAB8583A-D QAB8591 QAB8617 QAB8618A,B QAB8627A,B QAB8636A,B QAB8642A,B QAB8659 QAB8660 1, 2AB001 1AB007 1AB008 | | | X | | Aux. | | N/C | | | | | | | | | F/L-2795 | |

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SYSTEM: Boron Recycle

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | | LOCATION | QUALIFICATION | STATUS | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR | REMARKS: | |
|--|---|----------------|----------|-----|--------|--------------------|-------------------------|--------|------------|-------------|-------|------|----------------|------|------|-------|-------|----------|-----------------------------------|
| | TYPE, NAME | RANGE, SIZE | NSSS | ROP | VENDOR | BUILDING, ELEV. | REPORT IDENT. (B) | | SEISMIC | | HYDRO | DYN. | ANALY. | DYN. | TEST | COMB. | NAT. | | RESPONSE SPECTRA ID. NO. |
| | | | | | | | | | ORE | SSE | | | | | | | | | |
| R | Recycle Evaporator Feed Pump | D | X | | | AUX. 346' | J | C | | 2.1 | | | X | | | | F1 | 9,10,12 | |
| R | Recycle Evaporator Feed Demin. | D | X | | | AUX. 401' | J | C | | 1.5 0.75 | | | X | | | | F1 | 23,24,12 | |
| R | Recycle Evaporator Feed Filter | D | X | | | AUX. 383' | J | C | | 1.5 1.0 | | | X | | | | F1 | 19,20 | |
| R | Recycle Holdup Tank | D | X | | | AUX. 346' | J | C | | 1.0 | | | X | | | | F2 | 9,10,12 | |
| R | Recycle Evaporator Feed Preheater | D | X | | | AUX. 346' | J | C | | 1.5 0.75 | | | X | | | | F1 | 9,10,12 | |
| R | Gas Stripper | D | X | | | AUX. 346' | J | C | | 1.5 0.75 | | | X | | | | F1 | 9,10,12 | |
| R | * Submerged Tube Evapo- rator | D | X | | | AUX. 346' | J | C | | 1.5 0.75 | | | X | | | | F1 | 9,10,12 | |
| R | Evaporator Condenser | D | X | | | AUX. 346' | J | C | | 1.5 0.75 | | | X | | | | F1 | 9,10,12 | |
| R | Distillate Cooler | D | X | | | AUX. 346' | J | C | | 1.5 0.75 | | | X | | | | F1 | 9,10,12 | |
| R | Absorbtion Tower | D | X | | | AUX. 346' | J | C | | 1.5 0.75 | | | X | | | | F1 | 9,10,12 | |
| R | Vent Condenser | D | X | | | AUX. 346' | J | C | | 1.5 0.75 | | | X | | | | F1 | 9,10,12 | |
| R | Distillate Pump | D | X | | | AUX. 346' | J | C | | 2.1 | | | X | | | | F1 | 9,10,12 | |

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SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

UTILITY: COMMONWEALTH EDISON COMPANY

DOCKET NOS: STN 50-454 and STN 50-455

A/E: SARGENT & LUNDY ENGINEERS

PLANT NAME : BYRON UNITS 1 + 2

NESS: WESTINGHOUSE ELECTRIC COMPANY

SYSTEM: Boron Recycle

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| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIERS | | LOCATION | QUALIFICATION | | LOAD INPUT | | | QUALITY METHOD | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--|---------------------|----------------|-----------|-----|--------------|-------------------------|---------------|-----------------------|-----|---------------|-------------------------|------|-------|--|----------|
| | TYPE, NAME | RANGE, SIZE | NESS | BOP | | REPORT IDENT. (R) | STATUS (C) | SEISMIC ZFA ORE | SSE | HYDRO DYN. | ANALY. DYN. STAT. | TEST | COMB. | NAT. FREQ. | |
| R | Concentrate Pump | D | X | | Aux. 346' | J | C | | 2.1 | | X | | | F1 | 9,10,12 |
| R | Inactive Valves | D, I | X | | | J | C | | 2.1 | | X | | | F1 | |

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| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | | LOCATION | QUALIFICATION | | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR | REMARKS: | |
|--|---|----------------|----------|-----|--|--------------------|-------------------------|---------------|----------------|----------------|---------------|------|----------------|------|------|-------|---|--------------------------|-----------------------------------|
| | TYPE, NAME | RANGE, SIZE | NSSS | BOP | VENDOR | BUILDING, ELEV. | REPORT IDENT. (B) | STATUS (C) | SEISMIC ZPA | | HYDRO DYN. | DYN. | ANALY. | | TEST | COMB. | NAT. FREQ. | | RESPONSE SPECTRA ID. NO. |
| | | | | | | | | | ORE | SSE | | | STAT. | DYN. | | | | | |
| Auxiliary Feedwater HS,CS | Gearbox 1,2AF01PB-C | | | X | Western Gear Corp. | | EMD - 011921 | C | H 0.14g | H 325g | | | X | | | | 61 | F/L - 2758 | |
| | | | | | | | | | V .46g | V .84g | | | | | | | | | |
| HS,CS | Aux. Feedwater Pump with it's aux. lube oil pump 1,2AF01PA,PB 1,2AF01PA-A 1,2AF01PB-A | | | X | Pacific Pumps | Aux. 383'-0" | EMD-018115 | C | | H=0.5 V=1.0 | | | X | | | | 733 Hz | Sheet No's 8,12,17-20 | F/L-2758 |
| HS,CS | Pump Drive, Con- trol Panel and Control Junction Box 1,2AF01PB-K 1,2AF01J (panel) 1,2AF01PB-B (box) | | | X | Stewart & Stevenson Services Inc. | Aux. 383'-0" | EMD - 020714 | C | | H=0.5 V=1.2 | | | | X | | | Panel 20 Hz 33 Hz Drive 15 Hz 16 Hz 33 Hz | 8,12,17-20 | F/L - 2891 |
| Auxiliary Feedwater (HS,CS) | Electro-pneumatic Transducers 1,2IY-AP031 through 1,2IY-AP038 | | | X | Maconeilan, Inc. | Auxiliary | EMD-018242 | C | | H & V 3.0g | | | | X | | | | | F/L-2793 |

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| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | | LOCATION | QUALIFICATION | STATUS (C) | LOAD INPUT | | | | QUALIF. METHOD | | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--|---|----------------|----------|-----|------------------------|--------------------|-------------------------|---------------|------------|--|---------------|------|----------------|------|------|-------|---------------------|--|----------|
| | TYPE, NAME | RANGE, SIZE | NSSS | BOP | VENDOR | BUILDING, ELEV. | REPORT IDENT. (B) | | SEISMIC | | HYDRO DYN. | DYN. | ANALY. | | TEST | COMB. | NAT. FREQ. | | |
| | | | | | | | | | ZPA | | | | STAT. | DYN. | | | | | |
| Auxiliary Feedwater HS,CS | AF Pump Oil Cooler 1,2AF01AA&AB 1,2AF02A | | | X | | Aux. 383' | | N/C | | | | | | | | | 8,12,17,18 19,20 | F/L-2758 | |
| Auxiliary Feedwater HS,CS | AF Pump Battery and Charger 1,2AF01EA-A 1,2AF01EA-B 1,2AF01EB-A 1,2AF01EB-B | | | X | Stewart & Stevenson | Aux. 383' | | N/C | | | | | | | | | 8,12,17,18 19,20 | F/L-2891 | |
| Auxiliary Feedwater HS,CS | AF Pump Motor and Junction Box 1,2AF01PA-M 1,2AF01PA-MA | | | X | Westinghouse | Aux. 383' | | N/C | | | | | | | | | 8,12,17,18 19,20 | F/L-2719 | |
| Auxiliary Feedwater | Instrumentation | I | | X | | Aux. | | N/C | | | | | | | | | | | |

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| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | | LOCATION | QUALIFICATION | STATUS (C) | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR | REMARKS: | |
|--|---|--|----------|-----|---------------------------------|--------------------------------------|-------------------------|---------------|------------|---|---------------|------|-----------------|------|------|--------|---|----------|-----------------------------------|
| | TYPE, NAME | RANGE, SIZE | NSSS | BOP | VENDOR | BUILDING, ELEV. | REPORT IDENT. (B) | | SEISMIC | | HYDRO DYN. | DYN. | ANALY. STAT. | DYN. | TEST | COMP. | NAT. FREQ. | | RESPONSE SPECTRA ID. NO. |
| | | | | | | | | | ZPA | ORE | | | | | | | | | |
| Auxiliary Feedwater HS, CS | Valves 1,2AF004A,B | 6", Globe | | X | Velan Engineering | Auxiliary | CQD-001638 | C | | H ₁ = 4.5 H ₂ = 4.0 V= 1.5 | | | X | | | 119 Hz | F/L-2718-3 | | |
| Auxiliary Feedwater HS, CS | Check Valves 1,2AF014A-H 1,2AF001A,B | 4", 150# 6", 900# | | X | Anderson, Greenwood & Co. | Main Steam Tunnel Auxiliary | EMD-011723 | C | | 5.0g | | | X | | | 198 Hz | F/L-2718-1 | | |
| Auxiliary Feedwater HS, CS | Globe Valves, 1,2AF013A-H | 4", 900# | | X | Velan Engineering Co. | Main Steam Tunnel | CQD-000351, rev. 1 | C | | H ₁ = 4.5 H ₂ = 4.0 V= 1.5 | | | X | | | 102 Hz | F/L-2718-3 | | |
| Auxiliary Feedwater HS, CS | Check Valves, 1,2AF003A,B | 6", 900# | | X | Anderson, Greenwood & Co. | Auxiliary | EMD-011399 | C | | 5.0g | | | X | | | 239 Hz | F/L-2718-1 | | |
| Auxiliary Feedwater HS, CS | Globe Valves 1,2AF010A,B 1,2AF011A,B 1,2AF015A,B 1,2AF018A,B 1,2AF019A,B | 3/4": 150#, 900# & 1500# and 1": 150#, 900# | | X | Anderson, Greenwood & Co. | Auxiliary | EMD-012215 | C | | 5.0g | | | X | | | 138 Hz | F/L-2718-1 | | |
| Auxiliary Feedwater System HS, CS | Carbon Steel Manual Valves 1AF002A,B 2AF002A,B | 6", 150# Gate | | X | Anchor/Darling Valve Company | Auxiliary | EMD-008252 | C | | | | | | | | | Qualif. Method: Valve nozzle analysis shows the valve is stronger than the piping. F/L-2718 | | |

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| | | | | | | | | | | | ORE | SSE | DYN. | DYN. | | | | | | | |
| Auxiliary Feedwater HS, CS | Carbon Steel Valves Gate Type 1,2AF006A,B 1,2AF017A,B | 6", 150 # | | X | Anchor/ Darling Valve Company | Auxiliary | EMD-007921 | C | | H ₁ = 3.0g H ₂ = 2.5g V= 3.0g | | | | X | | | | 96 Hz | F/L-2718-2 | | |
| Auxiliary Feedwater HS, CS | 1,2AF005A-H | 4" | | X | Masoneilan Intern'l | Auxiliary | EMD-018242 | C | H 3.0g V 3.0g | H 3.0g V 3.0g | | | | | | X | 27 Hz 29 Hz | F/L-2793 | | | |
| Auxiliary Feedwater HS, CS | Carbon Steel Air Operated Globe Valves 1,2AF024 | 3", 900# | | X | Borg Warner Corporation | Auxiliary | QGD-002291 | C | | H 3.0g 2.5g V 3.0g | | | | X | | | | 81.3Hz | F/L-2794-1 | | |
| Auxiliary Feedwater HS, CS | Check Valves 1,2AF026A 1,2AF026B | 2" | | X | Rockwell | Auxiliary | EMD-027113 | C | | | | | | | | | | | Valves shown to be stronger than attached piping F/L-2918 | | |
| Auxiliary Feedwater HS, CS | Air Operated Globe Valves 1,2AF022A 1,2AF022B | 2", 900# | | X | Borg-Warner | Auxiliary | EMD-026088 | C | | H 3.0g 2.5g V 3.0g | | | | X | | | | 33Hz | F/L-2794 | | |
| | | | | | | | | | | | | | | | | | | | | | |

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| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | | LOAD INPUT | | | QUALIF. METHOD | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--|------------------------|----------------|------------|-----|---------------|-------------------------|---------------|----------------|--------------------------------|---------------|-----------------|---------------|---------------|--|----------|
| | TYPE, NAME | RANGE, SIZE | NO. LOG | ROP | | REPORT IDENT. (B) | STATUS (C) | SEISMIC ZPA | SSE | HYDRO DYN. | ANALY. STAT. | COMB. TEST | NAT. FREQ. | | |
| Annunciator (BS, CS) | Window Lamp Boxes | | | | | | | | | | | | | | |
| | 10L-AN002, 3, 5 | | | | | | | | | | | | | | |
| | 10L-AN015, 23 | | | | | | | | | | | | | | |
| | 10L-AN024, 26 | | | | | | | | | | | | | | |
| | 10L-AN032 00L-AN031 | | | | | | | | | | | | | | |
| | | | | X | Beta Products | Auxiliary 451'-0" | END-02549 | | H 5.06 7.06 V 7.06 | | | | | Sheet Nos. 28, 32 and 37-40 | F/L-2818 |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

PAGE 11 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | | LOCATION | QUALIFICATION | STATUS (C) | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--|---|---------------------|----------|-----|--------------------------------|--|------------------------------|---------------|----------------|--------------------------------|---------------|------|-----------------|---------------|----------------|--|--|------------|
| | TYPE, NAME | RANGE, SIZE | NSSS | ROP | VENDOR | BUILDING, ELEV. | REPORT IDENT. (B) | | SEISMIC ZPA | | HYDRO DYN. | DYN. | ANALY. STAT. | TEST STAT. | CONF. STAT. | NAT. FREQ. | | |
| | | | | | | | | | ORE | SSE | | | | | | | | |
| Auxiliary Power (480V & Above) HS,CS | Electrical Penetration Assemblies 2AP84EA-EC 2AP85EA-EC | | | X | Amphenol | Contain. 424'-0" & 500'-0" | EMD-020702 | C | 2.5g | 3.0g | | | | | X | Lowest is 3.9Hz | 97 thru 108 | F/L-2804 |
| Auxiliary Power (480V & Above) R | Electrical Penetration Assemblies 1AP85EA-E 1AP85EA-EC | | | X | Conax Corp. | Contain. 424'-0" thru 500'-0" | EMD-025338 | C | | H 1.6g V 1.8g | | | X | | | Lowest is 85Hz | 97 thru 108 | F/L-2804-1 |
| Auxiliary Power (480V & Above) HS,CS | Non-Segregated Bus Ducts | 4.16 kV & 6.9 kV | | X | Fluor Pioneer | Auxiliary | EMD-011613 and EMD-017250 | C | | H 3.3g 0.7g V 1.0g | | | X | | | 68.9 Hz | 32, 69,70 | F/L-2737 |
| Auxiliary Power (480V & Above) R | Switchgear 1AP74E 1AP75E 1AP03E 1AP04E | 6900 V | | X | Westinghouse Electric Corp. | Auxiliary 451'-0" | CQD-002087 | C | | | | | | X | | 4.69 6.75 6.99 7.69 10.1 12.3 14.6 16.4 | 28, 32, 37-40 | F/L-2737-1 |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

NESS: WESTINGHOUSE ELECTRIC COMPANY

DOCKET NOS: STN 50-454 and STN 50-455

A/E: SARGENT & LUNDY ENGINEERS

UTILITY: COMMONWEALTH EDISON COMPANY

PAGE 12 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | | LOAD INPUT | | | QUALITY METHOD | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--|----------------------|----------------|----------|-----|----------|-------------------------|---------------|----------------|-----|---------------|-----------------|------|------|--|----------|
| | TYPE, NAME | RANGE, SIZE | NESS | ROP | | REPORT IDENT, (B) | STATUS (C) | SEISMIC ZFA | SSE | HYDRO DYN. | ANALY. STAT. | DYN. | TEST | | |
| Auxiliary Power 480 Volts and Above F, HS, CS | 1.2AP0566E | | | | Aux. | | N/C | | | | | | | F/L-2737 | |
| | 1.2AP056A-EV | | | | | | | | | | | | | | |
| | 1.2AP066A-EU | | | | | | | | | | | | | | |
| | 1.2AP10E thru | | | | | | | | | | | | | | |
| | 1.2AP13E | | | | | | | | | | | | | | |
| | 1.2AP10EA-ES | | | | | | | | | | | | | | |
| | 1.2AP12EA-ES | | | | | | | | | | | | | | |
| | 1.2AP98EA-EN | | | | | | | | | | | | | | |
| | 1.2AP99E | | | | | | | | | | | | | | |
| | 1.2AP99EA-EN | | | | | | | | | | | | | | |
| Aux. Power | 1.2AP21E thru | | | | Aux. | | N/C | | | | | | | | |
| | 1.2AP28E | | | | | | | | | | | | | | |
| | 1.2AP30E | | | | | | | | | | | | | | |
| | 1.2AP32E | | | | | | | | | | | | | | |
| | 1.2AP21E-A | | | | | | | | | | | | | | |
| | 1.2AP25E-A | | | | | | | | | | | | | | |
| | 1.2AP27E-A | | | | | | | | | | | | | | |
| | 1.2AP28E-A | | | | | | | | | | | | | | |
| | 1.2AP25E-B | | | | | | | | | | | | | | |
| | 1.2AP92E | | | | | | | | | | | | | | |
| | 1.2AP93E | | | | | | | | | | | | | | |
| Aux. Power | Instrumenta- tion | 1 | | X | Aux. | | N/C | | | | | | | | |
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(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.
(3) A/E FILE NUMBER
(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : HYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

PAGE 13 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | STATUS (C) | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: | |
|--|---|------------------------|----------|-----|--------------------------------|--------------------|--|-------------------------|----------------|--------------------------------|---------------|----------------|-----------------|------|------|--|------------|---------------|
| | TYPE, NAME | RANGE, SIZE | NSSS | ROB | VENDOR | BUILDING, ELEV. | | REPORT IDENT. (B) | SEISMIC EPA | | HYDRO DYN. | DYN. | ANALY. STAT. | DYN. | TEST | COMB. | | NAT. FREQ. |
| | | | | | | | | | ORF | SSE | | | | | | | | |
| Boron Thermal Regeneration R | Globe Valves 1,2BR002A,B 1,2BR003A,B 1,2BR006A,B 1,2BR010B 1,2BR012A,B 1,2BR013B | 1/4" 300# & 600# | | X | Borg- Warner Corporation | Auxiliary | EMD-008747, (also, 020078 & 026076) | C | | H 3.0g 2.5g V 3.0g | | | X | | | 233Hz | F/L-2794-1 | |
| | 1BR7009 1,2BR7012A-E 1,2BR7013A-E 1,2BR7016A-E 1,2BR7017A-E 1,2BR7018 1,2BR7019 1,2BR7023A-B 1,2BR7048A-E | | | X | Xomox | Aux. | | N/C | | | | | | | | | F/L-2795 | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

DOCKET NOS: STN 50-454 and STN 50-455
UTILITY: COMMONWEALTH Edison COMPANY
A/E: SARGENT & LUNDY ENGINEERS

PLANT NAME : BTRON UNITS 1 + 2
NSSS: WESTINGHOUSE ELECTRIC COMPANY
SYSTEM: Boron Thermal Regeneration

PAGE 14 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIES | | LOCATION | QUALIFICATION | | LOAD INPUT | | | QUALIF. METHOD | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--|---|----------------|----------|-----|--------------|-------------------------|---------------|-----------------------|-------------|---------------|----------------|--------------|---------------|--|-----------------|
| | TYPE, NAME | RANGE, SIZE | NSSS | BOP | | REPORT IDENT. (B) | STATUS (C) | SEISMIC ZPA OBE | SSE | HYDRO DYN. | ANAL. STAT. | DYN. TEST | COMB. TEST | | |
| R | Moderating Heat Exchanger | D | X | | Aux. 346' | J | C | | N/A | | N/A | | | 9,10,12 | |
| R | Letdown Chiller Heat Exchanger | D | X | | Aux. 346' | N/A | C | | N/A | | N/A | | | 9,10,12 | *Tube side only |
| R | Letdown Reheat Heat Exchanger | D | X | | Aux. 346' | J | C | | 1.5 0.75 | | X | | F1 | 9,10,12 | *Tube side only |
| R | Thermal Re- Generation Heat Exchanger | D | X | | Aux. 401' | J | C | | N/A | | N/A | | | 23,24,12 | |
| R | Chiller Package | D | X | | Aux. 346' | N/A | C | | N/A | | N/A | | | 9,10,12 | |
| R | Inactive Valves | D, I | X | | N/A | N/A | C | | N/A | | N/A | | | | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.
(3) A/E FILE NUMBER
(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

PAGE 15 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | | QUALIFICATION | | LOAD INPUT | | | | QUALIF. METHOD | | | | REMARKS: |
|--|---|---|----------|-----|---------------------------------|--------------------------------|-------------------------|---------------|----------------|--------------------------------|------|-----------------|----------------|-------|---------------|--|---|
| | TYPE, NAME | RANGE, SIZE | NSSS | ROP | VENDOR | BUILDING, ELEV. | REPORT IDENT. (B) | STATUS (C) | SEISMIC ZPA | HYDRO DYN. | DYN. | ANALY. STAT. | TEST DYN. | COMB. | NAT. FREQ. | FLOOR RESPONSE SPECTRA ID. NO. | |
| Component Cooling HS,CS | Globe Valves 0CC018 0CC021A-C 1,2CC018 1,2CC019 1,2CC021A-C 1,2CC045 | 3/4": 150#, 900# & 1500# and 1": 150# 900# | | X | Anderson, Greenwood & Co. | Auxiliary | EMD-012215 | C | | 5.0g | | X | | | 138 Hz | | F/L-2718-1 |
| Component Cooling HS,CS | Ball Valves 1,2CC2091,2 1,2CC2020A,B 1,2CC2026 1,2CC2028 1,2CC2029 1,2CC2052 1,2CC2066 | 1" & 2" | | X | ITT Grinnell Valve Co. | Aux. & Contmt. Buildings | CQD-000573 | C | | | | | | | | N/A | Several valve properties were compared to those of the attached piping. F/L-2918 |
| Component Cooling HS,CS | Valves 1,2CC051 1,2CC060 1,2CC061 1,2CC062 1,2CC095A-D | 2" Ø | | X | Rockwell International | | EMD-029477 | C | | | | X | | | >13 Hz | | F/L-2918 |
| Component Cooling HS,CS | Valves 0CC007 1,2CC007 | 3/4" | | X | Borg-Warner | Auxiliary | EMD-026077 | C | | H 3.0g 2.5g V 3.0g | | X | | | >33Hz | | F/L-2794-1 |
| Component Cooling HS,CS | Valves 1,2CC089A-D 1,2CC090A&B | 1/2" | | X | Anderson- Greenwood & Co. | Auxiliary | EMD-030614 | C | | H 3.0g 2.5g V 3.0g | | X | | | 131Hz | | F/L-2718-1 |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARCENT & LUNDY ENGINEERS

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| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | | LOCATION | QUALIFICATION | | LOAD INPUT | | | | QUALIF. METHOD | | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--------------------------------|--------------------------------------|-------------|----------|-----|--------------|-----------------|-------------------|------------|-------------|------------|------|--------------|----------------|-------|------------|--|--|--------------------------------|----------------------|
| | TYPE, NAME | RANGE, SIZE | NSSS | HOP | VENDOR | BUILDING, ELEV. | REPORT IDENT. (B) | STATUS (C) | SEISMIC ZPA | HYDRO DYN. | DYN. | ANALY. STAT. | TEST | COMB. | NAT. FREQ. | | | | |
| Component Cooling | Valves | | | | | | | | | | | | | | | | | | |
| | ØCC024 | | | X | | Aux. and Cont. | | N/C | | | | | | | | | | | F/L-2718-1 |
| | ØCC025 | | | | | | | | | | | | | | | | | | |
| | ØCC030 | | | | | | | | | | | | | | | | | | |
| | 1,2CC049 | | | | | | | | | | | | | | | | | | F/L-2793 |
| | 1,2CC050 | | | | | | | | | | | | | | | | | | |
| | 1,2CC053 | | | | | | | | | | | | | | | | | | |
| | 1,2CC064A,B | | | | | | | | | | | | | | | | | | F/L-2918-1 |
| | 1,2CC070A,B | | | | | | | | | | | | | | | | | | |
| | 1,2CC071A,B | | | | | | | | | | | | | | | | | | |
| | 1,2CC097 | | | | | | | | | | | | | | | | | | |
| | 1,2CC098 | | | | | | | | | | | | | | | | | | |
| | 2CC099 | | | | | | | | | | | | | | | | | | |
| Component Cooling | Instrumentation | I | | X | | Aux. and Cont. | | N/C | | | | | | | | | | | F/L-2802, 2906, 2741 |
| | | | | | | | | | | | | | | | | | | | |
| Component Cooling | CC Pump Switchgear ØCC01E ØCC01EA-ED | | | X | Westinghouse | Aux. 364' | | N/C | | | | | | | | | | | F/L-2737 |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(B) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2
NCS: WESTINGHOUSE ELECTRIC COMPANY
SYSTEM: Component Cooling

DOCKET NOS: STN 50-451 and STN 50-455
A/E: SARGENT & LUNDY ENGINEERS

UTILITY: COMMONWEALTH Edison COMPANY

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION BUILDING, ELEV. | QUALIFICATION | | LOAD INPUT | | | QUALIP. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--|--|----------------|----------------|-----|--------------------------------|-------------------------|---------------|----------------|-----|---------------|-----------------|--------------|------|-------|--|------------------|
| | TYPE, NAME | RANGE, SIZE | NO CS SS | WOP | | REPORT IDENT. (B) | STATUS (C) | SEISMIC ZPA | SSE | HYDRO DYN. | ANALY. STAT. | HYD. DYN. | TEST | COMP. | NAT. FREQ. | |
| HS,CS | Component Cooling Heat Exchanger | D | X | | Aux. 364' | J | C | 1.5 0.75 | | | X | | | | F1 | 15,16,12 |
| HS,CS | Component Cooling Pumps | D | X | | Aux. 364' | J | C | 2.1 | | | X | | | | F1 | 15,16,12 |
| HS,CS | Component Cooling Surge Tank | E | X | | Aux. 426' | J | C | 1.0 | | | X | | | | F2 | 29,39A, 30,32 |
| HS,CS | Active Valves | D, H | X | | N/A | J | C | 2.1 | | | X | | | | F1 | |
| R | Inactive Valves | D, I | X | | N/A | J | C | 2.1 | | | X | | | | F1 | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
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SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : HYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

PAGE 18 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | | LOCATION | QUALIFICATION | STATUS (C) | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR | REMARKS: |
|--|--|----------------|----------|-----|-------------|---|-------------------------|---------------|----------------|----------------------------|---------------|------|-----------------|--------------|-------|------------------------|-----------------------------------|------------|
| | TYPE, NAME | RANGE, SIZE | NSSS | ROP | VENDOR | BUILDING, ELEV. | REPORT IDENT. (B) | | SEISMIC ZPA | | HYDRO DYN. | DYN. | ANALY. STAT. | DYN. TEST | COMB. | NAT. FREQ. | RESPONSE SPECTRA ID. NO. | |
| | | | | | | | | | ORE | SSE | | | | | | | | |
| Code Call, Public Address, Telephones, Gate TV, Gate Operators, Evacuation Alarm, Station Security R | Elec. Penetration Assemblies 2CQ01E 2CQ02E | | | X | Amphenol | Cont. Building 424'-0" & 500'-0" | EMD-020702 | C | 2.5g | 3.0g | | | | X | | lowest is 0.9 Hz | 97 thru 108 | F/L-2804 |
| Code Call, Public Address, Telephones, Gate TV, Gate Operators, Evacuation Alarm, Station Security R | Elec. Penetration Assemblies 1CQ01E 1CQ02E | | | X | Conax Corp. | Cont. Building 424'-0" thru 500'-0" | EMD-025338 | C | | H 1.6g V 1.8g | | | X | | | lowest is 85 Hz | 97 thru 108 | F/L-2804-1 |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(B) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

PAGE 19 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | | LOCATION | QUALIFICATION | STATUS (C) | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR | REMARKS: |
|--|--|----------------|----------|-----|------------------------|----------------------|-------------------------|---------------|----------------|------------------------|---------------|------|----------------|------|------|-----------------------------------|---------------------|----------|
| | TYPE, NAME | RANGE, SIZE | SSSS | ROP | VENDOR | BUILDING, ELEV. | REPORT IDENT. (B) | | SEISMIC ZPA | | HYDRO DYN. | DYN. | ANALY. | | | RESPONSE SPECTRA ID. NO. | | |
| | | | | | | | | | ORE | SEE | | | STAT. | DYN. | TEST | | COMB. | |
| Containment Spray (HS,CS) | Eductors 1,2CS01SA,SB | 55 gal/min | | X | Gulf Western | Contain. | EMD-015432 | C | | H 4.0g V 5.0g | | | X | | | 86.6Hz | F/L-2899 | |
| Containment Spray (HS,CS) | Tanks 1,2CS01T | 5000 gal | | X | Graver Tank Mfg.Co. | | EMD-009806 | C | | H .26g V .83g | | | X | | | 58 Hz | F/L-2744 | |
| Containment Spray (HS,CS) | Containment Spray Pumps 1,2CS01PA 1,2CS01PB | | | X | Ingersoll Rand | Auxiliary 346'-0" | EMD-025038 | C | | H .25g V .85g | | | X | | | > 33 5,6,8,9, 10,12 | F/L-2758B | |
| Containment Spray (HS, CS) | Electro- pneumatic Transducers 1,21Y-CS013 1,21Y-CS014 | | | X | Masoneilan, Inc. | Auxiliary | EMD-018242 | C | | H&V 3.0g | | | | X | | | F/L-2793 | |
| Containment Spray (HS,CS) | Instrumenta- tion | I | | X | | Aux. | | N/C | | | | | | | | | F/L-2812,2906, 2741 | |
| Containment Spray (HS,CS) | Containment Spray Pump Motors | | | X | Westinghouse | Aux. 346' | | N/C | | | | | | | | 5,6,8,9, 10,12 | | |
| Containment Spray (HS,CS) | 1,2CS01PB-M 1,2CS01PA-M 1,2CS01PB-MA 1,2CS01PA-MA | | | | | | | | | | | | | | | | F/L-2719 | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

**SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY**

DOCS# NOS: STN 50-454 and STN 50-455

PLANT NAME : BYRON UNITS 1 + 2

NSSS: WESTINGHOUSE ELECTRIC COMPANY

UTILITY: COMMONWEALTH EDISON COMPANY

A/E: SARGENT & LUNDY ENGINEERING

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| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | | LOAD INPUT | | QUALIF. METHOD | | FLANGE REFERENCE SPECIFICA TION NO. | REMARKS: |
|--|--|----------------|----------|-----|--------------------|-------------------------|---------------|-----------------------|----------------|-----------------|---|----------------------------------|
| | TYPE, NAME | RANGE, SIZE | NSSS | POP | BUILDING, ELEV. | REPORT IDENT. (B) | STATUS (C) | SEISMIC EVA ONE | STAT. | ANALY. STAT. | TEST DYN. | |
| Containment Spray System HS, CS | Carbon Steel Valves Gate Type 1, 2CS007A, B | 10", 300# | | X | Auxiliary | EMD-009266 | C | H1= | | | | F/L-2794-3 |
| | | | | | | | | 3.0g | | | | |
| | | | | | | | | H2= | | X | | |
| | | | | | | | | 2.5g | | | | |
| | | | | | | | | V = | | | | |
| | | | | | | | | 3.0g | | | | |
| Containment Spray System HS, CS | Gate Valves 1, 2CS004A, B | 10", 300# | | X | Auxiliary | EMD-009275 | C | H | | X | | F/L-2794 |
| | | | | | | | | 3.0g | | | | |
| | | | | | | | | 2.5g | | | | |
| | | | | | | | | V | | | | |
| | | | | | | | | 3.0g | | | | Nozzle Analysis Only F/L-2794 |
| | | | | | | | | | | | | |
| Containment Spray System HS, CS | Valves 1, 2CS013A, B | 1", 1500# | | X | Auxiliary | EMD-018027 | C | H | | X | | F/L-2794-1 |
| | | | | | | | | 3.0g | | | | |
| | | | | | | | | 2.5g | | | | |
| | | | | | | | | V | | | | |
| | | | | | | | | 3.0g | | | | |
| | | | | | | | | | | | | |
| Containment Spray System HS, CS | Globe Valves 1, 2CS015 1, 2CS010 | 1", 150# | | X | Auxiliary | EMD-018027 | C | H | | X | | F/L-2794-1 |
| | | | | | | | | 3.0g | | | | |
| | | | | | | | | 2.5g | | | | |
| | | | | | | | | V | | | | |
| | | | | | | | | 3.0g | | | | |
| | | | | | | | | | | | | |

(A) FUNCTIONAL MODE: H - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REPAIR.

(B) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

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| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | | LOCATION | QUALIFICATION | STATUS (C) | LOAD INPUT | | | | QUALIF. METHOD | | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--|--|---|----------|-----|--|--------------------|---|---------------|---|--|---------------|------|----------------|------|------|---------------|---------------------------|--|----------|
| | TYPE, NAME | RANGE, SIZE | NSSS | BOP | VENDOR | BUILDING, ELEV. | REPORT IDENT. (B) | | SEISMIC ZPA | | HYDRO DYN. | DYN. | ANALY. | | | NAT. FREQ. | | | |
| | | | | | | | | | OBE | SSE | | | STAT. | DYN. | TEST | | CONG. | | |
| Containment Spray System HS, CS | Carbon Steel Valves Gate Type 1,2CS009A,B | 16", 600# | | X | Anchor/ Darling Valve Company | Auxiliary | EMD-009267 | C | | H ₁ = 3.0g H ₂ = 2.5g V = 3.0g | | | | X | | | 148 Hz | F/L-2794-3 | |
| Containment Spray System HS, CS | Motor Operator SB-0-25 for A/D Valves | Size 0 | | X | Limitorque Corporation | Auxiliary | EMD-009267 | C | H ₁ = 5.0g H ₂ = 5.0g V = 5.0g | H ₁ = 6.25g H ₂ = 6.25g V = 6.25g | | | | | X | | f ₁ > 33 Hz | No resonant frequencies were noted between 5-33 Hz F/L-2794-3 | |
| Containment Spray System HS, CS | Globe Valves 1,2CS012A,B 1,2CS013A,B 1,2CS014A,B 1,2CS016A,B 1,2CS022 1,2CS023 1,2CS025 1,2CS027A,B 1,2CS028A,B 1,2CS029A,B,C,D 1,2CS030A,B,C,D 1,2CS031A,B,C,D 1,2CS034A,B | 1/2", 3/4", 1" and 2" 150# & 300# | | X | Borg Warner Corporation | Auxiliary | EMD-008747 (also EMD-020078 and EMD-026076) | C | | H 3.0g 2.5g V 3.0g | | | | X | | | 233Hz | F/L-2794-1 | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

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| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | STATUS | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR | REMARKS: | | |
|--|---|------------------------|----------|-----|--|---|---|-------------------------|----------------|---|---------------|----------------|--------|------|--------------|----------------------------------|------------|---------------|-----------------------------------|
| | TYPE, NAME | RANGE, SIZE | NSSS | ROP | VENDOR | BUILDING, ELEV. | | REPORT IDENT. (B) | SEISMIC ZPA | | HYDRO DYN. | DYN. | ANALY. | | TEST DYN. | CORE. | | NAT. FREQ. | RESPONSE SPECTRA ID. NO. |
| | | | | | | | | | ORE | SSE | | | STAT. | DYN. | | | | | |
| Containment Spray System HS, CS | Check Valves 1,2CS020A,B 1,2CS011A,B 1,2CS008A,B 1,2CS003A,B | 3" 6" 10" 10" | | X | TRW Mission Manufacturing Co. | Auxiliary Auxiliary Contain. Auxiliary | EMD-010951 | C | | Aux. H1= 3.0g H2= 2.5g V = 3.0g Cont. H1= 4.5g H2= 4.0g V = 1.5g | | | X | | | 2894 Hz | F/L-2794-2 | | |
| Containment Spray System HS, CS | Stainless Steel Gate Valves 1,2CS017A,B 1,2CS035A,B 1,2CS040A,B | 3", 300# | | X | Borg Warner Corporation | Auxiliary | EMD-008747 (also EMD-020078 and EMD-026076) | C | | H 3.0g 2.5g V 3.0g | | | X | | | 94 Hz | F/L-2794-1 | | |
| Containment Spray System HS, CS | Globe Valve 1,2CS010A,B | 3" | | X | Masoneilan Intern'l | Auxiliary | EMD-018242 | C | | H 3.0g V 3.0g | | | | X | | 24 Hz 25 Hz 28 Hz 29 Hz | F/L-2793 | | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RP - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : HYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

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| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | STATUS (C) | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--|--|----------------|----------|-----|-------------------------------|---------------|---------------|----------------|-------|--|--|----------------|------|-------|--|--|----------|
| | TYPE, NAME | RANGE, SIZE | NSSS | BOP | | | | SEISMIC ZPA | HYDRO | | | ANALY. | TEST | CONC. | NAT. FREQ. | | |
| Containment Spray System HS, CS | Gate Valve 1,2CS001A,B | 14", 150# | | X | Anchor/ Darling Company | Auxiliary | EMD-010143 | | | | | X | X | | 63Hz 89Hz 184Hz 823Hz | | F/L-2794 |
| Containment Spray System HS, CS | Gate Valve 1,2CS002A,B | 16", 150# | | X | Anchor/ Darling Company | Auxiliary | EMD-010143 | | | | | X | X | | 112Hz 114Hz 273Hz 879Hz | | F/L-2794 |
| Containment Spray System HS, CS | Gate Valves 1CS019A 1CS019B 2CS019A 2CS019B | 3", 300# | | X | Borg Warner Corporation | Auxiliary | EMD-015525 | | | | | X | X | | 37Hz 55Hz 106Hz 142Hz 1900Hz | | F/L-2794 |
| Containment Spray System HS, CS | Globe Valves 1,2CS049A,B 1,2CS047A,B 1,2CS048A,B 1,2CS058A,B 1,2CS039 | 3/4" 1" | | X | Borg Warner Corporation | Auxiliary | EMD-026077 | | | | | X | | | >33Hz | | F/L-2794 |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2
NSSS: WESTINGHOUSE ELECTRIC COMPANY

DOCKET NOS: STN 50-454 and STN 50-455
A/E: SARGENT & LUNDY ENGINEERS

UTILITY: COMMONWEALTH EDISON COMPANY

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| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | STATUS (C) | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR | REMARKS: | |
|--|---------------------------------------|----------------|----------|-----|---------------------------------------|---------------------------|---------------|----------------|-----|--------------------------------|------|----------------|------|------|-------|---------------|------------|-----------------------------------|
| | TYPE, NAME | RANGE, SIZE | NSSS | ROP | VENDOR | BUILDING, ELEV. (B) | | SEISMIC ZPA | | HYDRO DYN. | DYN. | ANALY. | | TEST | COMB. | NAT. FREQ. | | RESPONSE SPECTRA ID. NO. |
| | | | | | | | | OBE | SSE | | | STAT. | DYN. | | | | | |
| Containment Spray HS, CS | Gate Valves 1,2CS046A 1,2CS046B | 3" | | X | Borg-Warner | Auxiliary | EMD-026310 | C | | H 3.0g 2.5g V 3.0g | | | X | | | >33Hz | F/L-2794 | |
| Containment Spray HS, CS | Lift Check Valves 1,2CS044 | 1" | | X | Borg-Warner | Auxiliary | EMD-026087 | C | | H 3.0g 2.5g V 3.0g | | | X | | | >33Hz | F/L-2794 | |
| | 1,2CS056A-D | .75" | | X | Anderson, Greenwood and Company | Auxiliary | | N/C | | | | | | | | | F/L-2718-1 | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(D) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

PAGE 25 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | STATUS (C) | LOAD INPUT | | QUALIF. METHOD | | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: | |
|--|---|----------------|----------|-----|-----------------------------------|--------------------|---------------|-------------------------|------------------------------|----------------|---------------|------|--------|------|--|-------------------------|----------------------|
| | TYPE, NAME | RANGE, SIZE | NSSS | BOP | VENDOR | BUILDING, ELEV. | | REPORT IDENT. (B) | SEISMIC ZPA | | HYDRO DYN. | DYN. | ANALY. | | | | NAT. FREQ. |
| | | | | | | | | | OBE | SSE | | | STAT. | DYN. | | | |
| CV Chemical & Volume Control HS, CS | Pulsation Dampener 1,2CV012M | 5 gallon | | X | Greer Hydraulic Corporation | Aux. Bldg | EMD-019049 | C | Hor: 5.0g VER: 5.0g | | | | X | X | | 84 86 361 4602 | F/L-2915 |
| CV Chemical & Volume Control CS | Suction Stabilizer 1,2CV13M | 5 gallon | | X | Greer Hydraulic Corporation | Aux. Bldg | EMD-021583 | C | Hor: 5.0g VER: 5.0g | | | | X | X | | 173Hz 139 261 | F/L-2915 |
| Chemical & Volume Control R | Filters 1,2CV01FA & FB 1,2CV02F 1,2CV03F | | | X | Pall Trinity Micro Corp. | Aux. Bldg. | | N/C | | | | | | | | | F/L-2775 |
| Chemical & Volume Control | Instrumentation | I | | X | | | | N/C | | | | | | | | | F/L-2802 F/L-2906 |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(B) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

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| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | | LOCATION | QUALIFICATION | STATUS (C) | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: | | | |
|---|--|---|----------|-----|---------------------------------------|------------------------------|---|---------------|--------------------|--|---------|-----|----------------|------|--------|--------------------------------------|--|----------|------|-------|---------------|
| | TYPE, NAME | RANGE, SIZE | NSSS | ROP | VENDOR | | | | BUILDING, ELEV. | REPORT IDENT. (B) | SEISMIC | | HYDRO DYN. | DYN. | ANALY. | | | | TEST | COMB. | NAT. FREQ. |
| | | | | | | | | | | | ZPA | SSE | | | STAT. | STN. | | | | | |
| Chemical and Volume Control HS, CS | Globe Valves 1,2CV008B 1,2CV011A,B 1,2CV016A,B | 3/4": 150#. 900# & 1500# and 1": 150# & 900# | | X | Anderson, Greenwood and Company | Aux. | EMD-012215 | C | | 5.0g | | | X | | | 136 Hz | F/L-2718-1 | | | | |
| Chemical and Volume Control HS, CS | Globe Valves 1,2CV006 1,2CV007A,B 1,2CV010A 1,2CV003A-D 1,2CV005A-D | 3/4", 1" & 2" 150#, 1500# | | X | Borg Warner Corporation | Auxiliary and Contain. | EMD-008747 (also EMD-020067 and EMD-026076) | C | | $\frac{H}{3.0g}$ 2.5g $\frac{V}{3.0g}$ | | | X | | | 233Hz | F/L-2794-1 | | | | |
| Chemical and Volume Control HS, CS | Check Valve 1,2CV002 | 1", 150# | | | Borg Warner Corporation | Auxiliary | EMD-026076, EMD-020078 | C | | $\frac{H}{3.0g}$ 2.5g $\frac{V}{3.0g}$ | | | X | X | | 2925Hz 1866Hz 6463Hz 5389Hz | F/L-2794 | | | | |
| Chemical and Volume Control HS, CS | Gate Valve 1,2CV012 | 3", 1500# | | X | Borg Warner Corporation | Auxiliary | EMD-012739 | C | | $\frac{H}{3.0g}$ 2.5g $\frac{V}{3.0g}$ | | | X | X | | 203 lowest | F/L-2794 | | | | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

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| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | | STATUS | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: | |
|--|---|----------------|----------|-----|---------------------------------|---------------|--------------------|--------|-------------------------|--------------------------------|-----|---------------|----------------|-----------------|--------------|--------|--|----------|---------------|
| | TYPE, NAME | RANGE, SIZE | NSSS | BOP | | VENDOR | BUILDING, ELEV. | | REPORT IDENT. (B) | SEISMIC ZFA | | HYDRO DYN. | DYN. | ANALY. STAT. | TEST DYN. | COMB. | | | NAT. FREQ. |
| | | | | | | | | | | ORE | SSE | | | | | | | | |
| Chemical and Volume Control HS, CS | Valves 1,2CV038 1,2CV039 1,2CV040 1,2CV041 1,2CV042 1,2CV043 1,2CV044A&B 1,2CV045A&B 1,2CV046A-D 1,2CV047A-D | 1/2" | | X | Anderson- Greenwood & Co. | Auxiliary | EMD-030614 | C | | H 3.0g 2.5g V 3.0g | | | X | | | 131 Hz | F/L-2718-1 | | |
| Chemical and Volume Control HS, CS | Globe Valves 1,2CV057 1,2CV033 1,2CV035 1,2CV030 1,2CV031 1,2CV072 1,2CV032A,B 1,2CV036 1,2CV021 1,2CV034 1,2CV068-070 1,2CV073 1,2CV061 1,2CV065A-D 1,2CV066A-D 1,2CV062-064 1,2CV071 & 074 | 3/4" | | X | Borg-Warner | Auxiliary | EMD-026077 | C | | H 3.0g 2.5g V 3.0g | | | X | | | > 33Hz | F/L-2794 | | |
| | 1,2CV013A-D 1,2CV015A-B 1,2CV017A-B 1,2CV037A-D 1,2CV048 2CV057 1,2CV8553 1,2CV049A-D through 1,2CV052A-D | | | X | | Auxiliary | | N/C | | | | | | | | | F/L-2794-1 F/L-2718-1 F/L-2795 | | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

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SYSTEM: Chemical and Volume Control

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | | LOCATION | QUALIFICATION | STATUS (C) | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--|---------------------------------------|----------------|----------|-----|--------|-----------------------|-------------------------|---------------|----------------|-------------|---------------|------|----------------|------|-------|---------------|--|----------|
| | TYPE, NAME | RANGE, SIZE | NSSS | BOP | VENDOR | BUILDING, ELEV. | REPORT IDENT. (B) | | SEISMIC ZFA | | HYDRO DYN. | DYN. | ANALY. | TEST | COMB. | NAT. PRBN. | | |
| | | | | | | | | | STA. | ORE | | | SSE | | | | STAT. | |
| HS,CS | Regenerative Heat Exchanger | D | X | | | Cont. 401- 413' | J | C | | 1.5 0.75 | | | X | | | F1 | 118,119, 128 | |
| HS,CS | Letdown Heat Exchanger | D | X | | | Aux. 383' | J | C | | 1.5 0.75 | | | X | | | F1 | 19,20 | |
| R | Mixed-Bed Demineralizer | D | X | | | Aux. 401' | J | C | | 1.5 0.75 | | | X | | | F1 | 23,24,12 | |
| R | Cation Demineralizer | D | X | | | Aux. 401' | J | C | | 1.5 0.75 | | | X | | | F1 | 23,24,12 | |
| HS,CS | Reactor Coolant Filter | D | X | | | Aux. 376' | J | C | | 1.5 1.0 | | | X | | | F1 | 19,20 | |
| HS | Volume Control Tank | D | X | | | Aux. 426' | J | C | | 1.0 | | | X | | | F2 | 29,29A, 30,32 | |
| HS,CS | Centrifugal Charging Pump | D | X | | | Aux. 364' | J | C | | 2.1 | | | X | | | F1 | 15,16,12 | |
| R | Positive Dis- placement Pump | D | X | | | Aux. 364' | J | C | | 2.1 | | | X | | | F1 | 15,16,12 | |
| HS,CS | Seal Water Injection Filters | D | X | | | Aux. 376' | J | C | | 1.5 1.0 | | | X | | | F1 | 19,20 | |
| HS,CS | Letdown Orifices | D | X | | | | J | C | | G | | | | G | G | | | |
| HS,CS | Excess Let- down Heat Exchanger | D | X | | | Cont. 401' | J | C | | 1.5 0.75 | | | X | | | F1 | 118,119, 128 | |
| HS,CS | Seal Water Return Filter | D | X | | | Aux. 376' | J | C | | 1.5 1.0 | | | X | | | F1 | 19,20 | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(B) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

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SYSTEM: Chemical and Volume Control

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | | LOCATION | QUALIFICATION | STATUS (C) | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--|---|----------------|----------|-----|--------|--------------------|-------------------------|---------------|------------|-------------|---------------|------|-----------------|------|------|-------|--|----------|
| | TYPE, NAME | RANGE, SIZE | NSSS | SOP | VENDOR | BUILDING, ELEV. | REPORT IDENT. (B) | | SEISMIC | | HYDRO DYN. | DYN. | ANALY. STAT. | DYN. | TEST | COMB. | NAT. FREQ. | |
| | | | | | | | | | ORE | SSE | | | | | | | | |
| HS,CS | Seal Water Heat Exchanger | D | X | | | Aux. 383' | J | C | | 1.5 0.75 | | | X | | | F1 | 19,20 | |
| HS,CS | Boric Acid Transfer Pump | D | X | | | Aux. 401' | J | C | | 2.1 | | | X | | | F1 | 23,24,12 | |
| HS,CS | Boric Acid Filter | D | X | | | Aux. 401' | J | C | | 1.5 1.0 | | | X | | | F1 | 23,24,12 | |
| HS,CS | Reactor Coolant Seal Bypass Orifice | D | X | | | | J | C | | G | | | G | | | G | | |
| HS,CS | Boric Acid Tanks | D | X | | | Aux. 401' | J | C | | 1.0 | | | X | | | F2 | 23,24,12 | |
| R | Boric Acid Blender | D | X | | | | J | C | | | | | | | | | | |
| HS,CS | Active Valves | D,H | X | | | N/A | J | C | | 2.1 | | | X | | | F1 | | |
| R | Inactive Valves | D,I | X | | | N/A | J | C | | 2.1 | | | X | | | F1 | | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

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| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | LOAD INPUT | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: | | | | | | | |
|--|--|----------------|----------|-----|--------------------|--------------------|------------|-------------------------|---|---|-----|--|----------|---------------|------|--------|------|------|----------|---------------|
| | TYPE, NAME | RANGE, SIZE | NSSS | BOP | VENDOR | BUILDING, ELEV. | | REPORT IDENT. (B) | STATUS (C) | SEISMIC | | | | HYDRO DYN. | DYN. | ANALY. | | TEST | COMB. | NAT. FREQ. |
| | | | | | | | | | | OBE | SSE | | | | | STAT. | DYN. | | | |
| Circulating Water R | Traveling Water Screen OCW02FA, PB | | | X | FMC Corporation | | EMD-007074 | C | H ₁ = .78 H ₂ = .78 W=1.3 | H ₁ = 1.2 H ₂ = 1.2 W=1.5 | | | | X | | | 33 | | F/L-2849 | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
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(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
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SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

PAGE 31 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | | LOCATION | QUALIFICATION | STATUS (C) | LOAD INPUT | | | | QUALIF. METHOD | | | | | FLOOR | REMARKS: |
|--|--|----------------|----------|-----|--------------------|-----------------------|-------------------------|---------------|------------------------------------|----------------------------|---------------|------|----------------|------|------|--------------|-----------------------------------|--------------------------|----------|
| | TYPE, NAME | RANGE, SIZE | SSSN | ROP | VENDOR | BUILDING, ELEV. | REPORT IDENT. (B) | | SEISMIC ZPA | | HYDRO DYN. | DYN. | ANALY. | | | NAT. PRQ. | RESPONSE SPECTRA ID. NO. | | |
| | | | | | | | | | OBE | SSE | | | STAT. | DYN. | TEST | | | COMB. | |
| Main Control Board Panels & Associated Instruments R | Fuse Panel 1,2DC10J 1,2DC11J | | | X | Systems Control | Auxiliary 451'-00" | EMD-022749 | C | H= 1.20g 1.65g V= 1.0g | H= 2.6g 2.5g 4.5g | | | | X | | | Sheet No's. 28,32 & 37-40 | F/L-2788 | |
| Battery and DC Distribution | 1,2DC01E&2E 1,2DC01EA&EB 1,2DC02EA&EB 1,2DC05E&6E 1,2DC05EA&EB 1,2DC06EA 2DC06EB | | | | | | | | | | | | | | | | | F/L-2819 F/L-2822 | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
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(B) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
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SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF EQUIPMENT IMPORTANT TO SAFETY

DOCKET NOS: STN 50-45L and STN 50-455

PLANT NAME : BYRON UNITS 1 + 2

A/E: SARGENT & LUNDY ENGINEERS

UTILITY: COMMONWEALTH Edison COMPANY

PAGE 32 OF 148

NSSS: WESTINGHOUSE ELECTRIC COMPANY

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION REPORT IDENT. (B) | LOAD INPUT | | QUALIF. METHOD | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--|--|----------------|----------|----------|-----------------|--|------------|----------------------------------|----------------|-----------------|---------------|--|------------|
| | TYPE, NAME | RANGE, SIZE | NS SS | SC OP | | | STATUS | SEISMIC ZPA OBE | HYDRO DYN. | ASALY. STAT. | COMB. TEST | | |
| Diesel Generator HS, CS | Exhaust Mani- fold - Cylinder Head Joint | | | X | Aux. 401'-0" | END - 007063 | C | H 1.9g 1.36g V 0.91g | | X | | 91.6 8, 12, 21-24 | F/L - 2742 |
| HS, CS | Exhaust Mani- fold Joint | 18" | | X | Aux. 401'-0" | END - 008058 | C | H 1.89g 2.52g V 1.2g | | X | | 8, 12, 21-24 | F/L - 2742 |
| HS, CS | Out-board Bearing | | | X | Aux. 401'-0" | END - 009012 | C | H .19g .20g V .15g | | X | | Sheet No.s 8, 12, 21- 24 | F/L - 2742 |
| HS, CS | Main Engine Structure 1, 2DG01KA, KB | | | X | Aux. 401'-0" | END - 014349 008317 | C | H .36g .38g V .86g | | X | | 24, 08 27, 63 32, 86 39, 48 | F/L - 2742 |
| HS, CS | Level Switch Vendor Model # A103F | | | X | Aux. 401'-0" | END - 012298 | C | H 2.5g V 3.0g | | | X | Sheet No.s 8, 12, 21-24 | F/L - 2742 |
| HS, CS | Jacket Water Standpipe | | | X | Aux. 401'-0" | END - 010954 & 011192 | C | | | X | | 22, 3 23, 7 45, 5 | F/L - 2742 |
| HS, CS | Synchronous Generator 1, 2DG01EA 1, 2DG01EB | | | X | Aux. 401'-0" | END - 013036 | C | | | X | | 31, 4 8, 12, 21-24 | F/L - 2742 |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
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(3) A/E FILE NUMBER

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SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

PAGE 33 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--|---|----------------|----------|-----|------------------------------|--------------------|--------------------------|---------------|----------------------------------|------------------------|---------------------------|-----------------|--------------|-------|----------------------|--|------------|
| | TYPE, NAME | RANGE, SIZE | NSSS | POP | VENDOR | BUILDING, ELEV. | REPORT IDENT. (B) | STATUS (C) | SEISMIC ZPA | HYDRO DYN. | DYN. | ANALY. STAT. | TEST DYN. | COMB. | NAT. FREQ. | | |
| Diesel Generator HS, CS | Air Compressor 1,2DG01SA-A 1,2DG01SA-B 1,2DG01SB-A 1,2DG01SB-B | | | X | Cooper Energy Services | Aux. 401'-0" | EMD - 012741 | C | H 1.7g V 1.1g 1.7g | | | X | | | 46 Hz | Sheet #'s 8,12,21-24 | F/L - 2742 |
| | Motor for Air Compressor, part of package num- ber 1,2DG01SA,SB | | | X | Cooper Energy Services | Aux. 401'-0" | EMD - 011932 & 014043 | C | .70g H 2.52g V 1.68g | | | X | | | >33Hz | Sheet #'s 8,12,21-24 | F/L - 2742 |
| | Starting air tank assembly (skid) 1,2DG01SA,SB | | | X | Cooper Energy Services | Aux. 401'-0" | EMD - 012578 | C | | | 1.267g 0.845g 0.80g | X | | | 27.3 35.0 39.4 | Sheet #'s 8,12,21-24 | F/L - 2742 |
| | Refrigeration dryer for air dryer unit, the unit number is 1,2DG01SA-C 1,2DG01SA-D 1,2DG01SB-C 1,2DG01SB-D | | | X | Cooper Energy Services | Aux. 401'-0" | EMD - 011767 | C | | | 0.95g 1.0g | X | | | 28.7 52.9 | Sheet #'s 8,12,21-24 | F/L - 2742 |
| | Starting Air After Cooler Assembly (part of 1,2DG01SA-C; 1,2DG01SA-D; 1,2DG01SB-C; 1,2DG01SB-D) | | | X | Cooper Energy Services | Aux. 401'-0" | EMD - 012444 | C | H .80g V .85g | | | X | | | | Sheet #'s 8,12,21-24 | F/L - 2742 |
| | Starting Air Separator (part of 1,2DG01SA,SB) | | | X | Cooper Energy Services | Aux. 401'-0" | EMD - 021596 | C | H .40g V .45g | H .80g V .86g | | X | | | | Sheet #'s 8,12,21-24 | F/L - 2742 |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
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(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
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SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

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| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | | LOCATION | QUALIFICATION | STATUS (C) | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--|---|----------------|----------|-----|---------------------------------|--------------------|-------------------------------------|---------------|----------------|---|---------------|------|----------------|------|---------------|---|--|------------|
| | TYPE, NAME | RANGE, SIZE | NSSS | ROP | VENDOR | BUILDING, ELEV. | REPORT IDENT. (B) | | SEISMIC ZPA | | HYDRO DYN. | DYN. | ANALY. | | NAT. FREQ. | | | |
| | | | | | | | | | ORE | SSE | | | STAT. | DYN. | | TEST | | |
| Diesel Generator HS, CS | Air Intercooler | | | X | Cooper Energy Services | Aux. 401'-0" | EMD - 021988 & 023374 | C | | H 2.17g 1.1g 1.31g | | | X | | | 72.4 | | F/L - 2742 |
| HS, CS | Lube Oil and Jacket Water Heaters 1,2DG01kA-B 1,2DG01kA-D 1,2DG01kB-B 1,2DG01kB-D | | | X | Cooper Energy Services | Aux. 401'-0" | EMD - 011336 | C | | H 0.8g V 0.85g | | | X | | | 71.6 Hz | Sheet #'s 8,12,21-24 | F/L - 2742 |
| HS, CS | Jacket Water Cooler | | | X | American Standard for CES | Aux. 401'-0" | EMD - 013757 & 015091 | C | | H 0.94g 0.86g 0.8g V 0.63g 0.58g 0.54g | | | X | | | 29.6 31.35 33.1 65.6 85.3 94.9 102.2 113.8 121.1 126.3 199.6 209.5 | Sheet #'s 8,12,21-24 | F/L - 2742 |
| HS, CS | Lube Oil Cooler | | | X | American Standard for CES | Aux. 401'-0" | EMD - 012693, 013757 & 015091 | C | | H 0.81g 0.80g V 1.2g 0.54g | | | X | | | 25.35 33.4 41.6 75.9 88.9 103.6 107.4 119.5 161.6 189.8 203.3 | Sheet #'s 8,12,21-24 | F/L - 2742 |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

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SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

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| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | | LOCATION | QUALIFICATION | STATUS (C) | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR | REMARKS: |
|--|---|-----------------------------|----------|-----|------------------------------|--------------------|--------------------------|---------------|----------------|-----------------------------------|---------------|---|----------------|--------------|-------|--|--------------------------------------|---|
| | TYPE, NAME | RANGE, SIZE | SSSS | ROP | VENDOR | BUILDING, ELEV. | REPORT IDENT. (B) | | SEISMIC ZPA | | HYDRO DYN. | DYN. | ANALY. | TEST DYN. | CONC. | NAT. FREQ. | RESPONSE SPECTRA ID. NO. | |
| | | | | | | | | | ORE | SSE | | | STAT. | | | | | |
| Diesel Generator HS, CS | Diesel-Generator Governors | EGB-50 P/LS and UG-8L | | X | Cooper Energy Services | Aux. 401'-0" | BMD - 015593 | C | | H 1.0g 0.70g V 0.65g | | | | X | | 1.0 Hz to 5 Hz | Sheet No.s 8,12,21,22, 23 & 24 | Nat. frequencies were de- termined for the Governor shaft F/L - 2742 |
| HS, CS HS, CS | Manifold Bolts, Manifold & Shut- down Butterfly J.W. Outlet/In- let Headers, Fuel Linkage, Fuel Oil System, Lube Oil Headers, Turbocharger Oil Piping, Lube Oil Pump Piping, Forward and Aft Lube Oil Piping, Starting Air Piping | | | X | Cooper Energy Services | Aux. 401" | BMD - 010068 | C | | | | H 5.0g 1.8g 0.8g V 5.3g 1.55g 1.20g 0.85g | X | | | Less than 33 Hz | Sheet No.s 8,12,21,22, 23 & 24 | This analysis is for several pieces of D-G associated equipment F/L- 2742 |
| HS, CS | Intercooler Water Piping Assembly | | | X | Cooper Energy Services | Aux. 401'-0" | BMD - 012447 | C | | H 2.17g 1.41g V 1.56g | | | X | | | 14.2Hz | Sheet No.s 8,12,21-24 | F/L - 2742 |
| HS, CS | Auxiliary Skid Piping & Base Jacket Water Heater Jacket Water Cooler | | | X | Cooper Energy Services | Aux. 401'-0" | BMD - 013360 & 012745 | C | | | | | X | | | J.W.H. 21.9 23.6 55.7 J.W.C. 15.5 20.5 23.5 26.4 28.2 30.7 33.3 35.0 36.3 | Sheet No.s 8,12,21-24 | F/L - 2742 This report covers the piping systems for the components listed, the skid base and the founda- tion bolts |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

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SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF EQUIPMENT IMPORTANT TO SAFETY

DOCKET NOS: STN 50-45L and STN 50-455

A/E: SARCENT & LUNDY ENGINEERS

PLANT NAME : BYRON UNITS 1 + 2

NSSS: WESTINGHOUSE ELECTRIC COMPANY

UTILITY: COMMONWEALTH EDISON COMPANY

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| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | | STATUS (C) | LOAD INPUT | | | QUALIF. METHOD | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--|---------------------------------|----------------|----------|-----|------------------------------|--------------------------|--------------------------|---------------|----------------|----|-------------------------|----------------|------------------------|---------------|--|---|
| | TYPE, NAME | RANGE, SIZE | NSSS | BOP | VENDOR | REPORT IDENT. (B) | REPORT IDENT. (B) | | SEISMIC ZPA | CH | SSE | HYDRO DYN. | ANAL. DYN. STAT. | TEST COMB. | NO. M. NO. A. | |
| HS, CS Diesel Generator | Lube Oil Strainer | | | X | Cooper Energy Services | EMD - 013360 & 012745 | EMD - 013360 & 012745 | C | | | | | | | | F/L-2742 |
| | Lube Oil Cooler | | | | | | | | | | | | | | | |
| | Lube Oil Heater | | | | | | | | | | | | | | | |
| | Lube Oil Drain | | | | | | | | | | | | | | | |
| HS, CS | Turbocharger Lube Oil Filter | | | X | Cooper Energy Services | EMD - 008384 | EMD - 008384 | C | | | H 5.0g V 5.2g | | X | | 4.3Hz | Simplified Dynamic Analyst F/L - 2742 |
| | Lube Oil Filter | | | X | Cooper Energy Services | EMD - 011585 | EMD - 011585 | C | | | H 0.8g V 0.8g | | X | | 294Hz | |
| HS, CS | Lube Oil Strainers | | | X | Cooper Energy Services | EMD - 013091 | EMD - 013091 | C | | | H 0.81g V 0.8g | | X | | | F/L - 2742 |

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(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
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SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

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A/E: SARGENT & LUNDY ENGINEERS

PAGE 37 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | | LOCATION | QUALIFICATION | STATUS (C) | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR | REMARKS: | |
|--|---|----------------|----------|-----|------------------------------|--------------------|--------------------------|---------------|--------------------------|----------------------------------|---------------|------|----------------|------|------|----------------------------------|--------------------------|--|-----------------------------------|
| | TYPE, NAME | RANGE, SIZE | NSSS | HOB | VENDOR | BUILDING, ELEV. | REPORT IDENT. (B) | | SEISMIC | | HYDRO DYN. | DYN. | ANALY. | | TEST | COMB. | NAT. FREQ. | | RESPONSE SPECTRA ID. NO. |
| | | | | | | | | | OBE | SSE | | | STAT. | DYN. | | | | | |
| Diesel Generator HS, CS | Engine Driven Jacket Water Pump | | | X | Cooper Energy Services | Aux. 401'-0" | EMD - 008058 | C | | H 1.18g 1.2g V 0.94g | | | X | | | 54 Hz | Sheet No.s 8,12,21-24 | F/L - 2742 Mounted on Engine | |
| HS, CS | Lube Oil Cir- culation & Pre- Lube Pump (with motor) 1,2DG01KA-A 1,2DG01KB-A | | | X | Cooper Energy Services | Aux. 401'-0" | EMD - 019694 | C | H 1.18g V 5.25g | H 1.7g V 5.2g | | | X | | | | Sheet No.s 8,12,21-24 | F/L - 2742 | |
| HS, CS | Lube Oil Pump | | | X | Roper Pump for CES | Aux. 401'-0" | EMD - 008807 & 008316 | C | | X/Z 0.89g V 3.18g | | | X | | | X/Z 71.1 73.7 V 16.9 | Sheet No.s 8,12,21-24 | F/L - 2742 Simplified dynamic in "Y" direction | |
| HS, CS | Jacket Water Circulation Pump 1,2DG01KA-C 1,2DG01KB-C | | | X | Cooper Energy Services | Aux. 401'-00 | EMD - 008558 | C | H .25g V 0.50g | H .50g V 1.0g | | | X | | | | Sheet No.s 8,12,21-24 | F/L - 2742 | |
| Diesel Generator HS, CS | Junction Boxes 1,2DG01KA-F 1,2DG01KB-F 1,2DG01KA-G thru 1,2DG01KA-T 1,2DG01KB-G thru 1,2DG01KB-T 1,2DG02EA&EB | | | X | | Aux. 401'-00 | | N/C | | | | | | | | | | F/L-2742 | |
| HS, CS | Instrumentation | I | | X | | Aux. 401'-00 | | N/C | | | | | | | | | | F/L-2742, 2788 | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
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SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

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| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | | LOCATION | QUALIFICATION | STATUS (C) | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: | | |
|--|---------------------------------------|-------------------|----------|-----|---|----------------------|---------------------------------|---------------|--------------------|-----------------------------------|----------------|-----|----------------|------|--------|---|--|--|-------|---------------|
| | TYPE, NAME | RANGE, SIZE | SSN | ROP | VENDOR | | | | BUILDING, ELEV. | REPORT IDENT. (B) | SEISMIC ZPA | | HYDRO DYN. | DYN. | ANALY. | | | | COMB. | NAT. FREQ. |
| | | | | | | | | | | | OBJE | SSE | | | STAT. | DYN. | | | | |
| Diesel Generator HS, CS | Butterfly Valve Ball Valves | 3" 4" & 6" | | X | Cooper Energy Services | Auxiliary 401'-0" | EMD - 011086 | C | | 3" 3.0g 4" & 6" 1.04g | | | X | | | 3" 37.54 Hz 4" 191.9 Hz 6" 132.8 Hz | Sheet #'s 8,12,21-24 | Located on auxiliary skid F/L-2742 | | |
| Diesel Generator HS, CS | Check Valves | 3",5" & 6" | | X | Cooper Energy Services | Auxiliary 401'-0" | EMD - 012206 | C | | 3.0g | | | X | | | 8308 Hz | Sheet #'s 8,12,21-24 | Located on auxiliary skid F/L-2742 | | |
| Diesel Generator HS, CS | Jacket Water Thermo Valve | | | X | Cooper Energy Services | Auxiliary 401'-0" | EMD - 012442 | C | | H 5.0g V 6.0g | | | | X | | 188 Hz | Sheet #'s 8,12,21-24 | Located on auxiliary skid F/L-2742 | | |
| Diesel Generator HS, CS | Oil Dump Valve | | | X | Hugent Valve for CES | Auxiliary 401'-0" | EMD - 019609, 015024, 013370 | C | | | | | | | | | | A nozzle load analysis was done F/L-2742 | | |
| Diesel Generator HS, CS | Thermo Control Valve | | | X | Robertshaw for Cooper Energy Services | Auxiliary 401'-0" | EMD - 016824 & 018113 | C | | H 14.6g 2.63g V 22.9g | | | X | | | | | F/L-2742 | | |
| Diesel Generator HS, CS | Lube Oil Relief Valve | | | X | Crosby Valve for Cooper Energy Services | Auxiliary 401'-0" | EMD - 014349 & 016390 | C | | 5.0g | | | X | | | 332Hz | Sheet #'s 8,12,21-24 | F/L-2742 | | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF EQUIPMENT IMPORTANT TO SAFETY

DOCKET NOS: STN 50-454 and STN 50-455

PLANT NAME : BYRON UNITS 1 + 2

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

UTILITY: COMMONWEALTH EDISON COMPANY

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| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION BUILDING, ELEV. | QUALIFICATION REPORT IDENT. (B) | LOAD INPUT | | | QUALIF. METHOD | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--|--|----------------|----------|-----|--------------------------------|--|--------------------|----------------|---------------|------------------------|------|-------|--|----------|
| | TYPE, NAME | RANGE, SIZE | NSSS | BOP | | | STAT. US (C) | SEISMIC ZPA | HYDRO DYN. | ANAL. DYN. STAT. | TEST | COMB. | | |
| Diesel Generator HS, CS | Lube Oil Thermo Valve, Vendor Model #2-05V- 419-001 | | | X | Aux. 401'0" | EMD-011072 | C | 5.0g | | | | X | sheet nos. 8, 12, 21-24 | F/L-2742 |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

UTILITY: COMMONWEALTH EDISON COMPANY

DOCKET NOS: STN 50-45L and STN 50-455

PLANT NAME: BYRON UNITS 1 + 2

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

PAGE 40 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | | STATUS | LOAD INPUT | | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--|---|--------------------|----------|-----|-----------------------------|----------------------|--------------------------------|--------|-----------------------|-----------------------|---------------|----------------|------|---------------|---------------|--|----------|
| | TYPE, NAME | RANGE, SIZE | NSSS | BCP | | VENDOR | REPORT IDENT. (B) | | SEISMIC ZPA OBE | SSE V | HYDRO DYN. | STAT. | DYN. | TEST COMB. | NAT. FREQ. | | |
| Diesel Fuel Oil HS, CS | Fuel Oil Primary Booster Pump | | | X | Roper for CES | Auxiliary 401'-0" | EMD-007063 | C | H 1.71g V | 1.76g | | X | | | 14.3Hz | 8,12 21-24 | F/L-2742 |
| | Aux. Fuel Oil Transfer Pump 1,2D01PA-PD | | | X | Reliance Electric | Auxiliary 373'-6" | EMD-015278 & 019609, 028396 | C | H 1.4g V | 1.2g 1.65g 5.7g | | X | | | | 8,12,13 14,15,16 | F/L-2742 |
| HS, CS | Aux. Fuel Oil Transfer Pump Motor | | | X | Westinghouse Electric | Auxiliary 373'-6" | EMD-015278, 019609 & 028396 | C | H 1.4g V | 1.2g 1.65g 5.7g | | X | | | | 8,12,13 14,15,16 | F/L-2742 |
| | Fuel Oil Storage Tanks 2D01TA 2D01TB | 50,000 gallon | | X | Chicago Bridge & Iron | Aux. 364'-0" | EMD-028396 | C | H .43g V | .95g .45g .84g | | X | | | 20Hz | | F/L-2750 |
| HS, CS | Fuel Oil Storage Tanks 1D01TA 1D01TB 1D01TC 1D01TD | 25,000 gallon | | X | CB&I | Aux. 364'-0" | EMD-028396 | C | H .43g V | .95g .45g .84g | | | X | | 19.8 | 8,12,13 14,15,16 | F/L-2750 |
| | Storage Tanks 1D01TA, B 1,2D01TA, B 1,2D01OT | 500/2000 gallon | | X | Graver Tank Mfg. & Co. | | EMD-009806 | C | H .38g V | .83g | | | X | | 65Hz | | F/L-2744 |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
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SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

PAGE 41 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | | LOCATION | QUALIFICATION | | STATUS (C) | LOAD INPUT | | | | QUALIF. METHOD | | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--|---|--------------------------|----------|-----|--|-----------------------------------|---------------------------|----------------|---------------------------------|----------------------------------|------------------|-----------------|--------------|----------------|---------------|--------------------------------------|---|----------|--|----------|
| | TYPE, NAME | RANGE, SIZE | NSSS | ROP | VENDOR | BUILDING, ELEV. | REPORT IDENT. (B) | SEISMIC ZPA | | HYDRO DYN. | DYN. | ANALY. STAT. | TEST DYN. | COMB. | NAT. FREQ. | | | | | |
| | | | | | | | | OBE | | | | | | | | SSE | | | | |
| Diesel Fuel Oil HS,CS | Air Intake Silencer 1,2DØ10MA,MB | | | X | Cooper Energy Services | Auxiliary 401'-0" | EMD-012590 | | | 5.77g | | | X | | | 224Hz | Sheet Nos. 8,12,21,22, 23,24 | F/L-2742 | | |
| HS,CS | Air Intake Filter 1,2DØ09MA,MB | | | X | Cooper Energy Services | Auxiliary 401'-0" | EMD-008058 | | H = 0.4g V = 0.4g | H = 0.8g V = 0.83g | | | X | | | 33.2Hz | Sheet Nos. 8,12,21-24 | F/L-2742 | | |
| HS,CS | Exhaust Silencer 1,2DØ12MA,MB | | | X | Cooper Energy Services | Auxiliary 477'-0" | EMD-016377 | | H = 0.4g V = 0.46g | H = 0.8g V = 0.83g | | | X | | | 37.3Hz | Sheet Nos. 56,60,67-70 | F/L-2742 | | |
| HS,CS | Expansion Joints 1,2DØ11MA,MB 1,2DØ15MA,MB | 30" Intake Exhaust | | X | Cooper Energy Services | Auxiliary 401'-0" & 419'-0" | EMD-015113 and EMD-015551 | | H 5.0g 0.8g V 0.84g | | | | X | | | 8.5Hz 35.7Hz 42.1Hz | Sheet Nos. 8,12,21-24 | F/L-2742 | | |
| HS,CS | Expansion Joints 1,2DØ13MA,MB 1,2DØ14MA,MB | 32" Exhaust | | X | Cooper Energy Services | Auxiliary 419'-0" 476'-0" | EMD-014349 | | H 3.5g 0.8g V 1.54g | | | | X | | | 12.8Hz 33.25 Hz | Sheet Nos. 8,12,21-24 55,59,67-70 | F/L-2742 | | |
| HS,CS | Fuel Oil Filter and Strainer | | | X | Commercial for Cooper Energy Services | Auxiliary 401'-0" | EMD-007063 | | | | H=0.8g V=0.6g | | X | | | 30 freq's all over 64 Hz | 8,12 21-24 | F/L-2742 | | |
| HS,CS | Fuel Injection Pump and Nozzle | | | X | Bendix for CES | Auxiliary 401'-0" | EMD-007063 | | | H 2.84g 2.6g V 1.16g | | | X | | | 73 Hz | 8, 12 21-24 | F/L-2742 | | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
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SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2
DOCKET NOS: STN 50-454 and STN 50-455
UTILITY: COMMONWEALTH EDISON COMPANY
NSSS: WESTINGHOUSE ELECTRIC COMPANY
A/E: SARGENT & LUNDY ENGINEERS

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| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | | LOAD INPUT | | | QUALIF. METHOD | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--|---|---|----------|-----|---|-------------------------|---------------|----------------|------|---------------|-----------------|---------------|---------------|--|--|
| | TYPE, NAME | RANGE, SIZE | NSSS | BOP | | REPORT IDENT. (B) | STATUS (C) | SEISMIC ZPA | SSE | HYDRO DYN. | ANALY. STAT. | COMB. TEST | NAT. FREQ. | | |
| Diesel Fuel Oil System (HS,CS) | Carbon Steel Valves Gate Type - 11W063A, B, C, D 1, 2D0002A, B, C, D | 3", 150# | | X | Auxiliary | EMD-014704 | C | | | | | | | | Qualifying Method: Other valve nozzle analysis shows the valve is stronger than the piping. F/L-2718 |
| | Carbon Steel Valves Gate & Globe Type Manual Valves 11W001A, B, C, D 11W007A, B, C, D 2D0001A, B 2D0007A, B 11W0053; 2D0053 | 4", 150# Gate | | X | Auxiliary | EMD-008252 | C | | | | | | | | Qualifying Method: Other valve nozzle analysis shows the valve is stronger than the piping. F/L-2718 |
| Diesel Fuel Oil (HS,CS) | Globe Valves 0D0048A, B 11W006A, B 1, 2D0019A-D 1, 2D0036A, B 11W0036C, D 11W0037A-D 1, 2D0076A, B 11W0076C, D | 3/4": 150#; 900# & 1500# 1": 150# & 900# | | X | Auxiliary and River Screen House | EMD-012215 | C | | 5.0g | | X | | 138 Hz | | F/L-2718 |
| | | | | | | | | | | | | | | | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
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(3) A/E FILE NUMBER
(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
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SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

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| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | | LOCATION | QUALIFICATION | STATUS (C) | LOAD INPUT | | | | QUALIF. METHOD | | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--|--|------------------------|----------|-----|--|------------------------------|----------------------------|---------------|-------------------------|----------------|---------------|------|-----------------|--------------|-------|---------------|---|--|----------|
| | TYPE, NAME | RANGE, SIZE | NSSS | ROP | VENDOR | | | | REPORT IDENT. (B) | SEISMIC ZPA | HYDRO DYN. | DYN. | ANALY. STAT. | TEST DYN. | COMB. | NAT. FREQ. | | | |
| Diesel Fuel Oil (HS,CS) | Ball Valves 2D02089A,B 2D02090A,B 2D02091 2D02096 2D02006A,B, 2D02087A-D 2D02088A-D 2D02037A-D 2D02055A,B 2D02058 2D02004A-D 2D02057 2D02060 2D02117 2D02059 2D02073 2D02077A,B 2D02061A,B | 3/4", 1" 1 1/2", 2" | | X | ITT Grinnell Valve Co. | Aux. & Contain. Bldgs. | CQD-000573 | C | | | | | | | | | Several valve properties were compared to those of the attached piping. F/L-2918 | | |
| Diesel Fuel Oil (HS,CS) | Check Valves 1,2D0003A-D | 1 1/2" | | X | Anderson, Greenwood & Co. | Auxiliary | EMD-014731 | C | | 5.0g | | | X | | | 155 Hz | F/L-2718-1 | | |
| Diesel Fuel Oil (HS,CS) | Relief Valves 1,2D0020A-D | | | X | Crosby Valve for Cooper Energy Serv. | Auxiliary | EMD-015278 & EMD-016393 | C | | 5.0g | | | X | | | 474 Hz | F/L-2742 | | |
| | | | | | | | | | | | | | | | | | | | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(B) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

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| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR | REMARKS: | | |
|--|-----------------|----------------|----------|-----|----------|--------------------|-------------------------|---------------|---------|-----|----------------|------|-----------------|------|-------|----------|--------------|-----------------------------------|
| | TYPE, NAME | RANGE, SIZE | SSSN | BOP | VENDOR | BUILDING, ELEV. | REPORT IDENT. (B) | STATUS (C) | SEISMIC | | HYDRO | | ANALY. STAT. | TEST | COMB. | | NAT. PRD. | RESPONSE SPECTRA ID. NO. |
| | | | | | | | | | OBE | SSE | DYN. | DYN. | | | | | | |
| Diesel Fuel Oil | Valves | | | X | | Aux. | | N/C | | | | | | | | | | F/L-2795 |
| | 0D0066A,B | | | | | | | | | | | | | | | | | |
| | 0D0088A,B | | | | | | | | | | | | | | | | | F/L-2742 |
| | 0D0089A,B | | | | | | | | | | | | | | | | | |
| | 2D0001C | | | | | | | | | | | | | | | | | F/L-2718 |
| | 1D0020D | | | | | | | | | | | | | | | | | |
| | 1D0024A | | | | | | | | | | | | | | | | | F/L-2918 |
| | 1,2D0024B | | | | | | | | | | | | | | | | | |
| | 2D0067A,B | | | | | | | | | | | | | | | | | |
| | 1,2D0072A,B | | | | | | | | | | | | | | | | | |
| | 1,2D0099A-H | | | | | | | | | | | | | | | | | |
| | 1D0077A,B | | | | | | | | | | | | | | | | | |
| | 1D0087A-D | | | | | | | | | | | | | | | | | |
| | 1D0088A-D | | | | | | | | | | | | | | | | | |
| | 1D0090A,B | | | | | | | | | | | | | | | | | |
| | 1D0091,96 | | | | | | | | | | | | | | | | | |
| | 1D0117 | | | | | | | | | | | | | | | | | |
| | 1D0115A,B | | | | | | | | | | | | | | | | | |
| | 1D0116A,B | | | | | | | | | | | | | | | | | |
| | 1,2D0100A-D | | | | | | | | | | | | | | | | | |
| 1,2D0118,119 | | | | | | | | | | | | | | | | | | |
| 2D0125A-D | | | | | | | | | | | | | | | | | | |
| 2D02115A,B | | | | | | | | | | | | | | | | | | |
| 2D03116A,B | | | | | | | | | | | | | | | | | | |
| Diesel Fuel Oil | Instrumentation | I | | X | | Aux. | | N/C | | | | | | | | | | F/L-2906,2742 |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(B) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
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SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

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| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | STATUS (C) | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR | REMARKS: |
|--|--|----------------|----------|-----|---------------------|--|---------------|-------------------------|----------------------------------|--------------------------|-------|----------------|--------|------|-----------------------------------|------------------------------|----------|
| | TYPE, NAME | RANGE, SIZE | NSSS | BOF | VENDOR | BUILDING, ELEV. | | REPORT IDENT. (B) | SEISMIC | | HYDRO | | ANALY. | | RESPONSE SPECTRA ID. NO. | | |
| | | | | | | | | | OBE | SSE | DYN. | DYN. | STAT. | DYN. | | COMB. | |
| Enviroms Monitoring (BS,CS) | Strong Motion Seismic Instrumentation (EM) OXL-EMD09 OXS-EMD03 OXT-EMD03A,B,C OXR-EMD03 OXR-EMD06,7,8 OXR-EMD09 OXT-EMD10,011 OXS-EMD03 | | | X | Terra Technology | Cont. Auxiliary 374'-00" 424'-00" 520'-00" 526'-00" | EMD-017068 | C | H= 3.0g 2.8g V= 2.6g | H= 5.2g V= 5.5g | | | | | | 1 - 4 25 - 33 97 - 108 | F/L-2847 |
| Enviroms Monitoring (BS,CS) | Instrumentation | I | | X | Terra Technology | | | N/C | | | | | | | | | F/L-2847 |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
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(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
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SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

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NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

PAGE 46 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | LOAD INPUT | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: | | | | | | | | |
|--|---|----------------|----------|-----|-------------|---------------|------------|----------------|--------------------|-------------------------|---------------|--|----------|---------|-----|---------------|------|---------------|------|------|-------|
| | TYPE, NAME | RANGE, SIZE | NSSS | RCP | | | | VENDOR | BUILDING, ELEV. | REPORT IDENT. (B) | STATUS (C) | | | SEISMIC | | HYDRO DYN. | DYN. | ANALY. METHOD | | | |
| | | | | | | | | | | | | | | ORE | SSE | | | STAT. | DYN. | TEST | COMB. |
| Fuel Pool Cooling and Clean-up RF | Valves OFC006A OFC007A OFC011 | 3/4" | | X | Borg-Warner | Aux. | EMD-026077 | C | | H3.04 V3.04 | | | X | | | | 33Hz | F/L-2794-1 | | | |
| | Valves OFC001 OFC002A OFC003 1,2FC004A,B 1,2FC005 through 1,2FC013 | | | X | Komox | Aux. | | N/C | | | | | | | | | | F/L-2795 | | | |
| Fuel Pool Cooling and Clean-up RF | Instrumentation | I | | X | | Aux. | | N/C | | | | | | | | | | F/L-2906 | | | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
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(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
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SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

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A/E: SARGENT & LUNDY ENGINEERS

PAGE 47 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | | LOCATION | QUALIFICATION | STATUS (C) | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--|--|----------------|----------|-----|--------------------|---|----------------------------|---------------|------------------------------------|------------------------------------|------|--|----------------|-----------------------|----------------|---------------|--|----------|
| | TYPE, NAME | RANGE, SIZE | NSS | ROP | VENDOR | BUILDING, ELEV. | REPORT IDENT. (B) | | SEISMIC ZPA | HYDRO DYN. | DYN. | ANALY. STAT. | DYN. | TEST STAT. | COMP. | NAT. FREQ. | | |
| Fuel Handling and Transfer Nuclear RF | New Fuel Racks OPHO1GA,B,C | | | X | NUS Corporation | Fuel Handling Building 411'-0" | EMD-013780 & EMD-014647 | C | | | | OBSERVED 3.5g 4.46g 0.82 2.156g 0.45 0.842g 0.45 0.842 0.45 0.842 0.45 0.842 | X | | 12.19 | 61 thru 66 | F/L-2743 | |
| Fuel Handling and Transfer Nuclear RF | Spent & Failed Fuel Racks OPHO2G OPHO4G | | | X | NUS Corporation | Fuel Handling 401'-0" | CQD-002385 | C | H .45g .81g V .87g | H .45g .81g V .87g | | X | | Lowest is 5.5Hz | 8.12, 41-44 | | F/L-2743 | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

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(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

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SYSTEM: Fuel Handling and Transfer Nuclear

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | | LOCATION | QUALIFICATION | STATUS (C) | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: | | | |
|--|---|----------------|----------|-----|--------|----------|---------------|---------------|--------------------|-------------------------|----------------|-----|----------------|------|--------|------|--|---|------|-------|---------------|
| | TYPE, NAME | RANGE, SIZE | NSSS | ROP | VENDOR | | | | BUILDING, ELEV. | REPORT IDENT. (B) | SEISMIC ZPA | | HYDRO DYN. | DYN. | ANALY. | | | | TEST | CONG. | NAT. FREQ. |
| | | | | | | | | | | | OBE | SSE | | | STAT. | DYN. | | | | | |
| RF | Refueling Machine | D | X | | | | N/A | | | N/A | | | N/A | | | | | | | | |
| RF | Fuel Handling Bridge Crane | D | X | | | | N/A | | | N/A | | | N/A | | | | | | | | |
| RF | Rod Cluster Control Changing Fixture | D | X | | | | N/A | | | N/A | | | N/A | | | | | | | | |
| RF | Reactor Vessel Stud Tensioner | D | X | | | | N/A | | | N/A | | | N/A | | | | | | | | |
| RF | Spent Fuel Handling Tool | D | X | | | | N/A | | | N/A | | | X | | | | | | | | |
| RF | Fuel Transfer Tube and Flange | D | X | | | | J | | | | | | X | | | | | Evaluated as part of Containment structure | | | |
| RF | Conveyor System and Controls | D | X | | | | | | | | | | | | | | | | | | |
| RF | Remainder of system | D | X | | | | N/A | | | N/A | | | N/A | | | | | | | | |
| RF | Fuel Transfer Tube Expansion Joint | D | X | | | | J | | | | | | X | | | | | | | | |
| RF | Stud Hole Plug Handling Fixture | D | X | | | | N/A | | | N/A | | | N/A | | | | | | | | |
| RF | Stud Hole Plugs | D | X | | | | N/A | | | N/A | | | N/A | | | | | | | | |
| RF | Lower Internals Storage Stand | D | X | | | | N/A | | | N/A | | | N/A | | | | | | | | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(B) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

PAGE 49 OF 148

SYSTEM: Fuel Handling Equipment and Transfer Nuclear

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | STATUS (C) | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR | REMARKS: | |
|--|---|----------------|----------|-----|----------|--------------------|---------------|-------------------------|---------|-----|---------------|----------------|-----------------|--------------|-------|---------------|----------|-----------------------------------|
| | TYPE, NAME | RANGE, SIZE | NSSS | ROP | VENDOR | BUILDING, ELEV. | | REPORT IDENT. (B) | SEISMIC | | HYDRO DYN. | DYN. | ANALY. STAT. | DYN. TEST | COMB. | NAT. PRIM. | | RESPONSE SPECTRA ID. NO. |
| | | | | | | | | | ORE | SSE | | | | | | | | |
| RF | Rod Cluster Control Thimble Plug Tool | D | X | | | | N/A | | | N/A | | | N/A | | | | | |
| RF | Source In- stallation Guide | D | X | | | | N/A | | | N/A | | | N/A | | | | | |
| RF | Crane Scales | D | X | | | | N/A | | | N/A | | | N/A | | | | | |
| RF | Control Rod Drive Shaft Handling Fixture | D | X | | | | N/A | | | N/A | | | N/A | | | | | |
| RF | Stud Tension- er Handling Device | D | X | | | | N/A | | | N/A | | | N/A | | | | | |
| RF | Irradiation Tube End Plug | D | X | | | | N/A | | | N/A | | | N/A | | | | | |
| RF | New Fuel Elevator | D | X | | | | N/A | | | N/A | | | N/A | | | | | |
| RF | Portable Underwater Lights | D | X | | | | N/A | | | N/A | | | N/A | | | | | |
| RF | Load Cells | D | X | | | | N/A | | | N/A | | | N/A | | | | | |
| RF | Damaged Fuel Container | D | X | | | | N/A | | | N/A | | | N/A | | | | | |
| RF | Burnable Poison Rod Handling Tool | D | X | | | | N/A | | | N/A | | | N/A | | | | | |
| RF | Irradiation Sampling Handling Tool | D | X | | | | N/A | | | N/A | | | N/A | | | | | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(B) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-154 and STN 50-455

UTILITY: COMMONWEALTH Edison COMPANY

KSSES: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

SYSTEM: Fuel Handling Equipment and Transfer Nuclear

PAGE 50 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION BUILDING, ELEV. | QUALIFICATION REPORT IDENT. (B) | STATUS (C) | LOAD INPUT | | | QUALIP. METHOD | | | REMARKS: |
|--|--|----------------|----------|----------|--------------------------------|--|---------------|-----------------------|---------------|-----------------|----------------|-------|----------------------|----------|
| | TYPE, NAME | RANGE, SIZE | MS US | NS US | | | | SEISMIC ZPA ONE | HYDRO DYN. | ANALY. STAT. | TEST DYN. | COMB. | NAT. PRES. ID. | |
| RF | Burnable Poison Assem- bly Rack Inserts | D | | X | | N/A | | N/A | | N/A | | | | |
| RF | Control Rod Drive Shaft Unlatching Tool, full length | D | | X | | N/A | | N/A | | N/A | | | | |
| RF | New Fuel Elevator Winch | D | | X | | N/A | | N/A | | N/A | | | | |
| RF | New Fuel Storage Racks | D | | X | | + | | E | | X | | | F3 | |
| RF | Spent Fuel Storage Racks | D | | X | | + | | E | | X | | | F3 | |
| RF | Refueling Cavity Seal Ring | D | | X | | N/A | | N/A | | N/A | | | | |
| RF | New Fuel Handling Tool | D | | X | | N/A | | N/A | | N/A | | | | |
| RF | Rod Control Cluster Assembly Handling Fixture | D | | X | | N/A | | N/A | | N/A | | | | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(B) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2
NSSS: WESTINGHOUSE ELECTRIC COMPANY

DOCKET NOS: STN 50-454 and STN 50-455
A/E: SARGENT & LUNDY ENGINEERS

UTILITY: COMMONWEALTH EDISON COMPANY

PAGE 51 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | STATUS (C) | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: | | | |
|---|---|---|----------|-----|-------------------------------------|---------------|---------------|------------|--------------------|-------------------------|---------|----------------|-------|------|-----------------|--|--|------|-------|---------------|
| | TYPE, NAME | RANGE, SIZE | NSSS | ROP | | | | VENDOR | BUILDING, ELEV. | REPORT IDENT. (B) | SEISMIC | | HYDRO | | ANALY. STAT. | | | TEST | COMP. | NAT. FREQ. |
| | | | | | | | | | | | EPA | | DYN. | DYN. | | | | | | |
| Fire Protection and Detection R | Carbon Steel Valves Gate Type Manual Valves OFF268 OFF269 | 6", 150# | | X | Anchor/ Darling Valve Company | Auxiliary | EMD-014704 | C | | | | | | | | | Qualifying Method: Other valve nozzle analysis shows the valve is stronger than the piping F/L-2718 | | | |
| Fire Protection and Detection HS, CS R | Carbon Steel Valves Gate & Globe Types Manual Valves OFF241) OFF242) OFF243) OFF244) OFF245) OFF246, -248, -249, -250, -251, -252, -253, -254, -033, -209A, B | 6", 150# Gate 10", 150# Gate | | X | Anchor/ Darling Valve Company | Auxiliary | EMD-008252 | C | | | | | | | | | Qualifying Method: Other valve nozzle analysis shows the valve is stronger than the piping F/L-2718 | | | |
| Fire Protection and Detection R | Carbon Steel Valves Gate Type Manual Valves OFF304 OFF293, -294, -296, -297 | 4", 150# 6", 150# | | X | Anchor/ Darling Valve Company | Auxiliary | EMD-010141 | C | | | | | | | | | Qualifying Method: Other valve nozzle analysis shows the valve is stronger than the piping F/L-2718-2 | | | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(B) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

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| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | STATUS (C) | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: | | | | |
|--|--|----------------|----------|-----|---------------------------------|---|---------------|------------|--------------------|-------------------------|---------|----------------|---------------|------|--------|--|----------|--|-------|---------------|------|
| | TYPE, NAME | RANGE, SIZE | NSSS | EOP | | | | VENDOR | BUILDING, ELEV. | REPORT IDENT. (B) | SEISMIC | | HYDRO DYN. | DYN. | ANALY. | | | TEST | COMB. | NAT. FREQ. | |
| | | | | | | | | | | | ORE | SSE | | | STAT. | | | | | | DYN. |
| Fire Protection and Detection (R) | Ball Valves OFF2430A,B OFF2434 OFF2435A-D OFF2438 OFF2511 1,2FP2242 1,2FP2245A,B 1,2FP2246 | 1½" & 2" | | X | ITT Grinnell Valve Co. | Auxiliary and Cont. Buildings | CQD-000573 | C | | | | | | | | | NA | Several valve properties were compared to those of the attached piping F/L-2918 | | | |
| Fire Protection and Detection (R) | Angle Valves, 1,2FP154-165 OFF313-389 OFF445,449 OFF454-478 | 1½" | | X | Anderson, Greenwood & Co. | Contain. Auxiliary Auxiliary Auxiliary | EMD-014731 | | | 5.0g | | | X | | | 138Hz | | F/L-2718-1 | | | |
| Fire Protection and Detection (R) | Control Valves 1,2FP010 | 4", 150# | | X | Masonellan Intern'l, Inc. | Auxiliary | EMD-016057 | C | | 3.0g | | | | | X | 22 Hz & 25 Hz | | F/L-2793 | | | |
| Fire Protection and Detection (R) | Instrumentation | I | | X | | Auxiliary | | N/C | | | | | | | | | | F/L-2906,2788 | | | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

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| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | STATUS (C) | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: | |
|--|--|--------------------------|----------|-----|-------------------------------------|--------------------|---------------|-------------------------|----------------|-----|-----|----------------|------|-----------------|------|--|----------|----------------------------------|
| | TYPE, NAME | RANGE, SIZE | NSSS | ACP | VENDOR | BUILDING, ELEV. | | REPORT IDENT. (B) | SEISMIC ZPA | ORE | SSE | HYDRO DYN. | DYN. | ANALY. STAT. | DYN. | TEST | | CONC. |
| Fire Protection & Detection (R) | Carbon Steel Valves Gate Type Manual Valves OFF295,-298, -299,-300, -301,-302, -303 | 10",150# | | X | Anchor/ Darling Valve Company | Auxiliary | EMD-010141 | C | | | | | | | | | | Nozzle Analysis F/L-2718-2 |
| Fire Protection & Detection (R) | Carbon Steel Valves Gate Type Manual Valves OFF428A-J OFF429A,B, OFF432A,B OFF487 OFF488 | 3", 150# 4", 150# | | X | Anchor/ Darling Valve Company | Auxiliary | EMD-015194 | C | | | | | | | | | | Nozzle Analysis F/L-2718-2 |
| Fire Protection & Detection R | Valves 1,2FP011 1,2FP243 1,2FP271 | | | | | | | N/C | | | | | | | | | | F/L-2793 F/L-2718 F/L-2918 |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

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| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | | LOCATION | QUALIFICATION | STATUS (C) | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--|---|----------------|----------|-----|---------------------------------|--------------------|-------------------------|---------------|------------------------|--------------------------------|---------------|------|-----------------|------|------|------------------|--|----------|
| | TYPE, NAME | RANGE, SIZE | NSSS | BOP | VENDOR | BUILDING, ELEV. | REPORT IDENT. (B) | | SEISMIC ZPA | | HYDRO DYN. | DYN. | ANALY. STAT. | DYN. | TEST | COMB. | NAT. FREQ. | |
| | | | | | | | | | ORE | SSE | | | | | | | | |
| Main Feedwater HS,CS | Check Valves 1,2FW037A-D 1,2FW038A-D | 6", 900# | | X | Anderson, Greenwood & Co. | Contain. | EMD-011399 | C | | 5.0g | | | X | | | 239Hz | F/L-2718-1 | |
| Main Feedwater HS,CS | Valves 1,2FW017A-D | 3/4",1500# | | X | Borg Warner Corporation | Auxiliary | EMD-018027 | C | | H 3.0g 2.5g V 3.0g | | | X | | | 1936Hz 6859Hz | F/L-2794-1 | |
| Main Feedwater HS,CS | Check Valve 1,2FW036A-D | 3" | | X | Anderson, Greenwood & Co. | Turbine | EMD-013031 | C | | H 5.0g V 5.0g | | | X | X | | 292Hz | F/L-2718 | |
| Main Feedwater HS,CS | Globe Valves 1,2FW035A-D 1,2FW040A-D 1,2FW043A-D | 3" 6" 3" | | X | Masoneilan Intern'l | Turbine | EMD-018242 | C | H 3.0g V 3.0g | H 3.0g V 3.0g | | | X | X | X | 27Hz 29Hz | F/L-2793 | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

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| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--|---|---|----------|-----|--|------------------------------|-------------------------|---------------|----------------|---|------|-----------------|--------------|-------|----------------|--|-------------------------------|
| | TYPE, NAME | RANGE, SIZE | NSSS | ROP | | BUILDING, ELEV. | REPORT IDENT. (B) | STATUS (C) | SEISMIC ZPA | HYDRO DYN. | DYN. | ANALY. STAT. | TEST DYN. | COMB. | NAT. PRESQ. | | |
| Main Feedwater R | 1,2FW024C,E,F, G,H 1,2FW025D,E,F, G,H 1,2FW026E,F, G,H 1,2FW029A,B,C, D 1,2FW031E,F,G, H | 3/4", 150#, 900# & 1500# and 1", 150# & 900# | | X | Anderson, Greenwood & Co. | Aux., Contain. Turbine | EMD-012215 | C | | 5.0g | | X | | | 138Hz | | F/L-2718-1 |
| Main Feedwater HS,CS | Carbon Steel Valves 1,2FW039A,B,C,D 1,2FW041A,B,C,D | 6", 900# | | X | Anchor/ Darling Valve Company | Turbine | EMD-014704 | C | | H ₁ = 3.0g H ₂ = 2.5g V = 3.0g | | X | | | 113Hz | | F/L-2718-2 |
| Main Feedwater R | Carbon Steel Valves Gate Type Manual Valves 1,2FW042A,B,C,D 1,2FW044A,B,C,D | 3", 900# | | X | Anchor/ Darling Valve Company | Turbine | EMD-013586 | C | | | | | | | | | Nozzle Analysis F/L-2718-2 |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(B) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

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| SUBSYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | | LOCATION | QUALIFICATION | STATUS (C) | LOAD INPUT | | | | QUALIF. METHOD | | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|-------------------------------------|---|-----------------------|----------|-----|---------------------------------|--------------------|-------------------------|---------------|----------------|---|---------------|------|----------------|------|--------------|--------------------------|---------------|--|----------|
| | TYPE, NAME | RANGE, SIZE | NSSS | BOP | VENDOR | BUILDING, ELEV. | REPORT IDENT. (B) | | SEISMIC ZFA | | HYDRO DYN. | DYN. | ANALY. | | TEST DYN. | COMB. | NAT. FREQ. | | |
| | | | | | | | | | OBE | SSE | | | STAT. | DYN. | | | | | |
| Main Feedwater H, CS | Check Valves 1,2FW008A,B,C, D | 16", 900# | | X | Anderson, Greenwood & Co. | Turbine | EMD-013662 | | | H1= 3.0g H2= 2.5g V = 3.0g | | | X | | | 67 Hz | F/L-2718-1 | | |
| Main Feedwater R | Control Valve 1,2FW046A-D | 3", 900# | | X | Masonellan Intern'l | Auxiliary | EMD-025330 | | | H 3.0g V 3.0g | | | | X | X | | F/L-2793 | | |
| Main Feedwater R | Carbon Steel, Tilting Disc Check Valves 1,2FW078A-D 1,2FW079A-D | 6", 900# 16", 900# | | X | Borg Warner Corporation | Auxiliary | CQD-002291 | | | H 3.0g 2.5g V 3.0g | | | X | | | 1200Hz 1033Hz | F/L-2794-1 | | |
| Main Feedwater R | Globe Valve 1,2FW015A-D | 3/4",1500# | | X | Borg Warner Corporation | Auxiliary | EMD-018027 | | | H 3.0g 2.5g V 3.0g | | | X | | | 152Hz 243Hz 4495Hz | F/L-2794-1 | | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

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| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | | LOCATION | QUALIFICATION | | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR | REMARKS: |
|--|--|--|----------|-----|--------------------------------|-------------------------|-------------------------|---------------|--------------------------------------|--|---------------|------|-----------------|--------------|-------|---|-----------------------------------|---------------|
| | TYPE, NAME | RANGE, SIZE | NSSS | ROP | VENDOR | BUILDING, ELEV. | REPORT IDENT. (B) | STATUS (C) | SEISMIC ZPA | | HYDRO DYN. | DYN. | ANALY. STAT. | TEST DYN. | COMB. | NAT. FREQ. | RESPONSE SPECTRA ID. NO. | |
| Main Feedwater HS,CS | Main Feedwater Isolation Valves 1,2FW009A,B,C,D | 16"x10"x16" 900# | | X | Borg-Warner Corporation | Main Steam Tunnel | EMD-014482 | C | | H ₁ = 2.50g H ₂ = 2.50g V = 1.80g | | | X | | | 59.8Hz | | F/L-2874 |
| Main Feedwater HS,CS | Hydraulic Valve Operator for Main Feedwater Isolation Valves (1,2FW009A,B, C,D) | Weight-850# Stroke - 12" Opening Thrust - 50,000#force | | X | Borg-Warner Corporation | Main Steam Tunnel | EMD-013666 | C | $\frac{H}{V}$ $\frac{6.2g}{7.8g}$ | $\frac{H}{V}$ $\frac{8.5g}{10.1g}$ | | | | X | | H ₁ = 28Hz H ₂ = 28Hz V = 69Hz | | F/L-2874 |
| Main Feedwater R | Valves 1,2FW063A-H 1,2FW064A-H 1,2FW065A-H 1,2FW066A-H 1,2FW067A-D | 1/2" | | X | Anderson Greenwood & Co. | Auxiliary | EMD-030614 | C | | H ₁ = 3.0g H ₂ = 2.5g V = 3.0g | | | X | | | 131Hz | | F/L-2718-1 |
| Main Feedwater | Valves 1,2FW049A-H 1,2FW077A-D 1,2FW055A-D | | | X | | Auxiliary | | N/C | | | | | | | | | F/L-2718 F/L-2918 F/L-2856 | |
| Main Feedwater | Instrumentation | I | | X | | Auxiliary | | N/C | | | | | | | | | | F/L-2906,2741 |
| Main Feedwater | Junction Boxes | | | X | Borg-Warner Corp. | Auxiliary | | N/C | | | | | | | | | | F/L-2874 |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2
NSSL: WESTINGHOUSE ELECTRIC COMPANY
SYSTEM: Waste Processing (Gas)

DOCKET NOS: STN 50-454 and STN 50-455
A/E: SARGENT & LUNDY ENGINEERS

UTILITY: COMMONWEALTH Edison COMPANY

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| waste processing (gas) | | | | | | | | | | | | | | | | |
|--|---------------------------------|----------------|----------|-----|--------------|-------------------------|----------------|---------------|---------------|-----------------|--------------|----------------|---------------|---------------------------------|------------------|--|
| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | | STATUS (C) | LOAD INPUT | | | QUALIF. METHOD | | | REMARKS: | |
| | TYPE, NAME | RANGE, SIZE | NSSS | BOP | | REPORT IDENT. (B) | SEISMIC ZPA | | HYDRO DYN. | ANALY. STAT. | TEST DYN. | COMB. | NAT. PRES. | FLOOR RESPONSE ID. NO. | | |
| R | Waste Gas Compressor | D | X | | Aux. 426' | J | | C | N/A | | N/A | | | | 29,29A, 30,32 | |
| R | Gas Decay Tank | D | X | | Aux. 346' | J | | C | 1.0 | | X | | | F1 | 9,10,12 | |
| R | Gas Trap | D | | | | N/A | | | N/A | | N/A | | | | | |
| R | Waste Gas Filter | D | X | | | N/A | | C | N/A | | N/A | | | | | |
| R | Gas Decay Tank Drain Pump | D | X | | | J | | C | 2.1 | | X | | | F1 | | |
| R | Inactive Valves | D, I | X | | | J | | C | 2.1 | | X | | | F1 | | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF EQUIPMENT IMPORTANT TO SAFETY

UTILITY: COMMONWEALTH EDISON COMPANY

DOCKET NOS: STN 50-454 and STN 50-455

A/E: SARGENT & LUNDY ENGINEERS

PLANT NAME : BYRON UNITS 1 + 2
NSSS: WESTINGHOUSE ELECTRIC COMPANY

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| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | LOAD INPUT | | | | QUALIF. METHOD | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--|--------------------|----------------|----------|-----|----------|-------------------------|----------------|---------------|-------|-------|----------------|-------|---------------|--|----------------------|
| | TYPE, NAME | RANGE, SIZE | NSSS | BOP | | | SEISMIC ZPA | HYDRO DYN. | STAT. | ANAL. | TEST | COMB. | NAT. FREQ. | | |
| Hoists, Cranes, Elevators, and Manifolds | ORC03G 1,2HC01G | | | X | | REPORT IDENT. (B) | N/C | | | | | | | | F/L-2731 F/L-2720 |
| | | | | | | | | | | | | | | | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RE - REFUEL.

(3) A/E FILE NUMBER

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SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

PAGE 60 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | | LOCATION | QUALIFICATION | STATUS (C) | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR | REMARKS: | |
|--|---|----------------|----------|-----|-----------------------------|-----------------------|-------------------------|---------------|----------------|-------------------------|---------------|------|----------------|------|---------------|-------|---------------|----------|-----------------------------------|
| | TYPE, NAME | RANGE, SIZE | NSSS | ROP | VENDOR | BUILDING, ELEV. | REPORT IDENT. (B) | | SEISMIC ZPA | | HYDRO DYN. | DYN. | ANALY. | | TEST STAT. | COMB. | NAT. FREQ. | | RESPONSE SPECTRA ID. NO. |
| | | | | | | | | | ORB | SSE | | | STAT. | TEST | | | | | |
| Instrument Air HS,CS | AIR Oper,Globe Valve 1,2IA065 1,2FA066 | 3" 150# | | X | Borg-Warner | Aux. & Containment | EMD-026088 | C | | H3.0g H2.5g V3.0g | | | X | | | >33Hz | | F/L-2794 | |
| Instrument Air R | Globe Valves 1,2IA083 | 3/4" | | X | Borg-Warner | Aux. | EMD-026077 | C | | H3.0g V3.0g | | | X | | | >33Hz | | F/L-2794 | |
| Instrument Air R | Instrumentation | I | | X | Systems Control Corp. | Aux. | | N/C | | | | | | | | | | F/L-2788 | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(B) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

PAGE 61 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | | LOCATION | QUALIFICATION | STATUS (C) | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR | REMARKS: | |
|--|--|----------------|----------|-----|-------------|---|-------------------------|---------------|------------|----------------------------|---------------|------|-----------------|---------------|------|-------|------------------------|----------------|--|
| | TYPE, NAME | RANGE, SIZE | NSSS | ROP | VENDOR | BUILDING, ELEV. | REPORT IDENT. (B) | | SEISMIC | | HYDRO DYN. | DYN. | ANALY. STAT. | DYN. STAT. | TEST | COMB. | NAT. FREQ. | | FLOOR RESPONSE SPECTRA ID. NO. |
| | | | | | | | | | ORE | SSE | | | | | | | | | |
| Incore Flux Mapping R | Elec. Penetration Assemblies 21C19E | | | X | Amphenol | Cont. Building 424'-0" & 500'-0" | EMD-020702 | C | 2.5g | 0.0g | | | | | X | | lowest is 3.9 Hz | 97 thru 108 | F/L-2804 |
| Incore Flux Mapping R | Elec. Penetration Assemblies 11C19E | | | X | Conax Corp. | Cont. Building 424'-0" & 500'-0" | EMD-025338 | C | | H 1.6g V 1.8g | | | X | | | | lowest is 85 Hz | 97 thru 108 | F/L-2804-1 |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(B) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
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SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2
NSSS: WESTINGHOUSE ELECTRIC COMPANY

DOCKET NOS: STN 50-454 and STN 50-455
A/E: SARCENT & LUNDY ENGINEERS

UTILITY: COMMONWEALTH EDISON COMPANY

PAGE 62 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | LOAD INPUT | | | QUALIF. METHOD | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--|----------------------------|----------------|----------|-----|--------------------|-------------------------|---------------|----------------|---------------|----------------|--------------|---------------|--|-----------------|
| | TYPE, NAME | RANGE, SIZE | NSSS | BCP | | | STATUS (C) | SEISMIC ZFA | HYDRO DYN. | ANAL. STAT. | TEST DYN. | NAT. FREQ. | | |
| Instrument and Control Power | 1.21P01E-4E 1.21P01J-4J | | | X | BUILDING, ELEV. | REPORT IDENT. (B) | N/C | | | | | | | To be purchased |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(C) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

PAGE 63 OF 148

SYSTEM: Instrumentation and Electrical Equipment

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: | | |
|--|---|----------------|----------|---------------|----------|--------------------|-------------------------|---------------|---------|-----|---------------|----------------|-----------------|---------------|------|--|----------|-------|---------------|
| | TYPE, NAME | RANGE, SIZE | NSSS | ROP VENDOR | | BUILDING, ELEV. | REPORT IDENT. (B) | STATUS (C) | SEISMIC | | HYDRO DYN. | DYN. | ANALY. STAT. | DYN. STAT. | TEST | | | COMB. | NAT. PRBQ. |
| | | | | | | | | | OBE | SSE | | | | | | | | | |
| HS,CS | Wide Range RCS Pressure Transmitter | D | X | | | ESE-1 | C | | 2.1 | | | | | X | | F3 | | | |
| HS | Pressurizer Pressure Transmitter | D | X | | | ESE-1 | C | | 2.1 | | | | | X | | F3 | | | |
| HS,CS | Pressurizer Level Transmitter | D | X | | | ESE-3 | C | | 2.1 | | | | | X | | F3 | | | |
| HS,CS | SG Level Transmitter | D | X | | | ESE-3 | C | | 2.1 | | | | | X | | F3 | | | |
| HS | RCS Flow Transmitter | D | X | | | ESE-3 | C | | 2.1 | | | | | X | | F3 | | | |
| HS,CS | RCS Wide Range RTDs | D | X | | | ESE-6 | C | | 2.1 | | | | | X | | F3 | | | |
| HS | RCS Fast Response RTDs | D | X | | | ESE-7 | C | | 2.1 | | | | | X | | F3 | | | |
| HS | Excore Neutron Detectors | D | X | | | ESE-22 | C | | 2.1 | | | | | X | | F3 | | | |
| HS,CS | Valve Limit Switches | D | X | | | HE-3 | C | | 2.1 | | | | | X | | F3 | | | |
| HS,CS | Valve Solenoid | D | X | | | HE-2 | | | 2.1 | | | | | X | | F3 | | | |
| HS,CS | Steam Pressure Transmitter | D | X | | | ESE-1 | | | 2.1 | | | | | X | | F3 | | | |
| HS | Turbine Impulse Pressure | D | X | | | ESE-2 | C | | 2.1 | | | | | X | | F3 | | | |
| HS,CS | Containment Pressure Sensor | D | X | | | ESE-21 | C | | 2.1 | | | | | X | | F3 | | | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

PAGE 64 OF 148

SYSTEM: Instrumentation and Electrical Equipment

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | | LOCATION | QUALIFICATION | | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: | | |
|--|--|----------------|----------|-----|--------|----------------------|--------------------|-------------------------|---------------|----------------|-----|---------------|----------------|--------|------|--------------|--|-------------------|-------|---------------|
| | TYPE, NAME | RANGE, SIZE | NSSS | ROP | VENDOR | | BUILDING, ELEV. | REPORT IDENT. (B) | STATUS (C) | SEISMIC ZPA | | HYDRO DYN. | DYN. | ANALY. | | TEST DYN. | | | COMB. | NAT. PRES. |
| | | | | | | | | | | ORE | SSE | | | STAT. | DYN. | | | | | |
| HS,CS | Valve Motor Operators | D | X | | | | HE-4 HE-1 | NC | | 2.1 | | | | | X | | F3 | | | |
| HS,CS | Containment Pressure Transmitter | D | X | | | | ESE-4 | C | | 2.1 | | | | | X | | F3 | | | |
| HS,CS | Boric Acid Level Trans- mitter | D | X | | | Aux. 364' | ESE-4 | C | | 2.1 | | | | | X | | F3 | 15,16,12 | | |
| HS,CS | RWST Level Transmitter | D | X | | | | ESE-4 | C | | 2.1 | | | | | X | | F3 | | | |
| HS,CS | Process Protection Sets | D | X | | | Aux. 451' | ESE-13 | C | | 2.1 | | | | | X | | F3 | 39,39A, 40,32 | | |
| HS,CS | PAMS Indicators | D | X | | | | ESE-14 | C | | 2.1 | | | | | X | | F3 | | | |
| HS,CS | PAMS Recorders | D | X | | | | ESE-15 | C | | 2.1 | | | | | X | | F3 | | | |
| HS,CS | SSPS | D | X | | | | ESE-16 | C | | 2.1 | | | | | X | | F3 | | | |
| HS,CS | Static Interferer | D | X | | | | ESE-18 | C | | 2.1 | | | | | X | | F3 | | | |
| HS | Reactor Trip Switchgear | D | X | | | Aux. 426' | ESE-20 | C | | 2.1 | | | | | X | | F3 | 29,29A, 30,32 | | |
| HS,CS | LHR/SIS Pump Motors | D | X | | | Aux. 364' 346' | AE-2 | C | | 2.1 | | | X | | | | F1 | 9,10,12, 15,16 | | |
| HS,CS | Bat Pump Motor | D | X | | | Aux. 364' | AE-3 | C | | 2.1 | | | X | | | | F1 | 15,16,12 | | |
| HS,CS | Main Control Board | D | X | | | Aux. 451' | J | C | | E | | | | | X | | F3 | 39,39A, 40,32 | | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;

(3) A/E FILE NUMBER

HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

+ Qualified in accordance with the specific Byron seismic requirements

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

PAGE 65 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | | LOCATION | QUALIFICATION | STATUS (C) | LOAD INPUT | | QUALIF. METHOD | | | | FLOOR | REMARKS: | | |
|---|---|----------------|----------|-----|-------------|---|-------------------------|---------------|------------|----------------------------|----------------|------|-----------------|--------------|-------|------------------------|----------------|-----------------------------------|
| | TYPE, NAME | RANGE, SIZE | NSSS | BOP | VENDOR | BUILDING, ELEV. | REPORT IDENT. (B) | | SEISMIC | | HYDRO DYN. | DYN. | ANALY. STAT. | TEST DYN. | COMB. | | NAT. FREQ. | RESPONSE SPECTRA ID. NO. |
| | | | | | | | | | OBE | SSE | | | | | | | | |
| Auxiliary Power, Low Voltage, Trans- formers, Distribution R | Elec. Penetration Assemblies 2LV01E thru 2LV08E | | | X | Amphenol | Cont. Building 424'-0" & 500'-0" | EMD-020702 | C | 2.5g | 3.0g | | | | | X | lowest is 3.9 Hz | 97 thru 108 | F/L-2804 |
| Auxiliary Power, Low Voltage, Transformers, Distribution R | Elec. Penetration Assemblies 1LV01E thru 1LV010E 2LV09E 2LV10E | | | X | Conax Corp. | Cont. Building 424'-0" & 500'-0" | EMD-025338 | C | | H 1.6g V 1.8g | | | X | | | lowest is 85 Hz | 97 thru 108 | F/L-2804-1 |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
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(B) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
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SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

PAGE 66 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: | | | | |
|--|--|----------------|----------|-----|--------------------|---------------|------------|--------------------|-------------------------|---------------|----------------|--|-------|------|--|----------|-----------------|-------------------------------|-------|---------------|
| | TYPE, NAME | RANGE, SIZE | NSSS | BOP | | | VENDOR | BUILDING, ELEV. | REPORT IDENT. (B) | STATUS (C) | SEISMIC | | HYDRO | | | | ANALY. STAT. | TEST DYN. | COMB. | NAT. FREQ. |
| | | | | | | | | | | | EPA | | DYN. | DYN. | | | | | | |
| Main Steam R | Junction Boxes 1,2MS03JA,JB thru 1,2MS06JA,JB 1MS03JC thru 1MS06JC | | | X | Anchor/ Darling | | | N/C | | | | | | | | | | F/L-2756 | | |
| Main Steam | Instrumentation | I | | X | | | | N/C | | | | | | | | | | F/L-2788, 2802, 2906, 2756 | | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
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SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

DOCKET NOS: STN 50-45J and STN 50-455

A/E: SARGENT & LUNDY ENGINEERS

PLANT NAME : BYRON UNITS 1 + 2

NSSS: WESTINGHOUSE ELECTRIC COMPANY

UTILITY: COMMONWEALTH EDISON COMPANY

PAGE 67 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | | QUALIFICATION | | LOAD INPUT | | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--|--|---|----------|-----|--|--|-------------------------|---------------|----------------------------------|---------------|-----------------|----------------|------|-------|---------------------------|--|------------|
| | TYPE, NAME | RANGE, SIZE | NSSS | ROP | VENDOR | BUILDING, ELEV. | REPORT IDENT. (E) | STATUS (C) | SEISMIC ZPA | HYDRO DYN. | ANALY. STAT. | DYN. | TEST | COMB. | NAT. FREQ. | | |
| Main Steam HS, CS | Relief Valves 1, 2MS018A, B, C, D | | | X | ACF Industries (W-K-M Valve Division) | Auxiliary 383'-00" & 400'-00" | EMD-012194 | C | H = .28g .20 V = .20 | | | | X | | | | F/L-2785 |
| | 1, 2MS013A-D 1, 2MS011A-D 1, 2MS015A-D 1, 2MS016A-D 1, 2MS017A-D | 6"x10" Safety Valve | | X | Dresser Industries Corporation | Auxiliary 383 feet | EMD-001901 | C | Hor: 6.0g Ver: 6.0g | | | | X | | 35.25, 30.45, 55 Hz | 8, 12, 13, 14, 15 & 16 | F/L-2761 |
| Main Steam HS, CS | 1 + 2MS0101A-D Globe Valve | 4" | | X | Masonellian International | Auxiliary Building | EMD-018242 | C | Hor: 3.0g Ver: 3.0g | | | | | X | 27 Hz 29 Hz | | F/L-2793 |
| Main Steam R | Valves 1, 2MS166A-H 1, 2MS166J-N 1, 2MS166P-R | 1 1/2" | | X | Anderson Greenwood & Company | Auxiliary | EMD-030614 | C | H 3.0g 2.5g V 3.0g | | | | | | 131Hz | | F/2718-1 |
| Main Steam R | Electropneumatic Transducers 1, 21Y-MS091 1, 21Y-MS092 1, 21Y-MS093 1, 21Y-MS094 | | | X | Masonellian, Inc. | Auxiliary | EMD-018242 | C | 3.0g | | | | X | | | | F/L - 2793 |
| Main Steam R | Globe Valves 1, 2MS022A-D 1, 2MS023A-D 1, 2MS081A-D 1, 2MS089A-D 1, 2MS090A-H, J-N | 3/4": 150#, 900# & 1500# and 1": 150#, 900# | | X | Anderson, Greenwood & Co. | Main Steam Tunnel | EMD-012215 | C | 5.0g | | | | | | 138Hz | | F/L-2718-1 |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
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(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

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| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | | LOCATION | QUALIFICATION | STATUS (C) | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR | REMARKS: |
|--------------------------------|---|------------------------|----------|-----|------------------------------|--------------------|-------------------|------------|-------------|------------------------------------|------------|------|----------------|------|-------|---------------------------------------|--------------------------|----------|
| | TYPE, NAME | RANGE, SIZE | NSSS | BOP | VENDOR | BUILDING, ELEV. | REPORT IDENT. (B) | | SEISMIC ZPA | | HYDRO DYN. | DYN. | ANALY. STAT. | TEST | COMB. | NAT. FREQ. | RESPONSE SPECTRA ID. NO. | |
| | | | | | | | | | ORE | SSE | | | | | | | | |
| Main Steam; (HS,CS) | Globe Valves 1,2MS101A-D | 4" | | X | Masonellan Internat'l | Auxiliary Building | EMD-018242 | C | Hor. 3.0 | Hor. 3.0 | | | | | X | 27Hz 29Hz | F/L-2793 | |
| Main Steam (HS,CS) | Electro-Pneumatic Transducer | | | X | Masonellan Internat'l | Misc. | EMD-018242 | C | | Hor. 3.0 | | | | | X | 27Hz 29Hz | F/L-2793 | |
| Main Steam (R) | Carbon Steel Valves Gate Type 1,2MS019A,B,C,D | 8", 1500# | | X | Anchor/Darling Valve Company | Cont. | EMD-008259 | | | H1 = 4.5g H2 = 4.0g V = 1.5g | | | X | | | 69 Hz | Nozzle Analysis;F/L-2718 | |
| Main Steam; (HS,CS) | Isolation Valve 1,2MS001A,B,C,D | 32"x24"x32" 6225E | | | | | EMD-011053 | C | | H1 = 1.6 H2 = 1.5 V = 1.8 | | | X | | | 234Hz | F/L-2756 | |
| Main Steam; (HS,CS) | Self-Contained Hydraulic Valve Actuator | Model 64324-C, S/N 001 | | X | Anchor/Darling Valve Company | Cont. | EMD-014730 | C | | H1/V 7.5g H2/V 7.0g | | | | X | | H1 = 24 Hz H2 = 22 Hz V > 33 Hz | F/L-2756 | |
| Main Steam | Valves 1,2MS020A-D 1,2MS021A-D | | | X | Velan | | | N/C | | | | | | | | | F/L-2718-3 | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
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(B) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

PLANT NAME : BYRON UNITS 1 + 2
NSSS: WESTINGHOUSE ELECTRIC COMPANY

UTILITY: COMMONWEALTH EDISON COMPANY

A/E: SARGENT & LUNDY F. GINNERS

PAGE 70 OF 148

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

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| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | STATUS (C) | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: | |
|--|--|----------------|----------|-----|--------------------------|-----------------------|---------------|-------------------------|---------------------------------|---------------------------------|---------------|----------------|--------|------|------|---|------------|---------------|
| | TYPE, NAME | RANGE, SIZE | NSSS | EOP | VENDOR | BUILDING, ELEV. | | REPORT IDENT. (B) | SEISMIC | | HYDRO DYN. | DYN. | ANALY. | | TEST | COMP. | | NAT. FREQ. |
| | | | | | | | | | ZPA | | | | STAT. | DYN. | | | | |
| Off Gas HS, CS | Hydrogen Recombiner 00G08SA,B and Recombiner Power and Control Cabinet Assembly 00G04J & 6J | | | X | Atomics International | Auxiliary 401'-00" | EMD-020328 | C | H= 1.7g 1.5 V= 3.2g | H= 4.2g 3.2 V= 5.2g | | | | | X | Ext. Pip 20 modes 39-588 Hz Int. Pip 50 modes 2.65- 47 Hz Skid 30 modes 47-94 Hz Con- trol Cabs. 25 modes 11.65- 20 Hz Cont. Cabs. Cable Sup. Panel 25 modes 17-28 Hz Cont. Cab. Assem- bly 25 modes 40-46 Hz | 8,12,21-24 | F/L-2845 |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(B) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF EQUIPMENT IMPORTANT TO SAFETY

DOCKET NOS: STN 50-454, and STN 50-455

PLANT NAME: BYRON UNITS 1 + 2

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

UTILITY: COMMONWEALTH EDISON COMPANY

PAGE 72 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | | LOAD INPUT | | | QUALIF. METHOD | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--|---|----------------|----------|-----|---------------------------|--------------------------|---------------|-----------------------------------|---------------|------|-----------------|------|-------|---|----------------------|
| | TYPE, NAME | RANGE, SIZE | NSSS | BOP | | REPORT IDENT. (B) | STATUS (C) | SEISMIC ZPA | HYDRO DYN. | DYN. | ANALY. STAT. | TEST | COMB. | NAT. FREQ. | |
| Off Gas (cont'd) | Hydrogen Recombiner System 00G08SA, SB 00G04J 00G06J | | | X | Rockwell International | EMO-026600 EMO-031542 | C | H= 1.8g V= 1.5 3.2g 5.0g | | | | X | | Cont. Cab. Trans- former Pnl. 25 m modes 17-34 Hz | |
| | HS, CS | | | | Auxiliary 401'-00" | | | | | | | | | 8, 12, 21-24 | F/L-2845 |
| Off Gas HS, CS | Valves 00G05J 00G07J 00G08J 00G09J | | | X | | | N/C | | | | | | | | F/L-2845 F/L-2783 |
| | Instrumentation | I | | X | Auxiliary | | N/C | | | | | | | | F/L-2790, 2780, 2845 |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF EQUIPMENT IMPORTANT TO SAFETY

UTILITY: COMMUNWEALTH EDISON COMPANY

PAGE 11 OF 148

DOCKET NOS: STN 50-454 and STN 50-455

A/E: SARGENT & LUNDY ENGINEERS

PLANT NAME : BYRON UNITS 1 + 2

NSSS: WESTINGHOUSE ELECTRIC COMPANY

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--|---|----------------|----------|-----|--------------------|-----------------------|--|---------------|----------------|-----|---------------------------------------|----------------|-------|----------------|------|--|--|
| | TYPE, NAME | RANGE, SIZE | NSSS | BOP | | VENDOR | REPORT IDENT. (B) | STATUS (C) | SEISMIC ZPA | ORE | SSE | UTDRG DYN. | STAT. | ANALY. DYN. | TEST | | |
| Ø C Off Gas System HS, CS | Butterfly Valve 1-200057A | 3" | | X | Jamesbury Corp. | Auxiliary Building | EMD File 010426, 011070, 011224, 012737 | | | | Hor: 3.0g 2.5g Vert: 3.0g | | X | | | 35Hz to 99Hz | F/L - 2884 |
| | Valves 00G059-6C 00G049A-C 10G053A, B 10G057A 00G068-70 1.20G079-81 | | | | | | | | | | | | | | | | T/L-2884 F/L-2718-1 F/L-2844 F/L-2739 |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
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SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

PAGE 74 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--|--|----------------|----------|-----|---------------------|----------------------|-------------------------|---------------|--------------------------------|------------------------|------|-----------------|--------------|-------|--|--|----------|
| | TYPE, NAME | RANGE, SIZE | NSSS | ROP | VENDOR | BUILDING, ELEV. | REPORT IDENT. (B) | STATUS (C) | SEISMIC ZPA | HYDRO DYN. | DYN. | ANALY. STAT. | TEST DYN. | COMB. | NAT. FREQ. | | |
| Auxiliary Control Equip. Room & Computer Room Panels & Cabinets R | Panel 0PA02J | | | X | Terra Technology | Auxiliary 451'-0" | EMD-017068 | C | H 3.0g 2.8g V 2.6g | H 5.2g V 5.5g | | | X | | 1-4 25-33 47-108 | | F/L-2847 |
| Auxiliary Control Equip. Room & Computer Room Panels & Cabinets R | Isolator Cabinet 1PA31J, 32J | | | X | Beta Products | Auxiliary 451'-0" | EMD-032537 | C | H 2.0g 1.8g V 4.5g | | | | X | | 28,32 & 37-40 | | F/L-2818 |
| Auxiliary Control Equip. Room & Computer Room Panels & Cabinets (HS,CS) | 1+PA13J 1+PA14J Cabinets | | | X | Harlo Corp. | Auxiliary 451' | EMD-024357 | C | | | | | X | | 8,12,17,18, 19,20,28,32, 37,38,39, 40,104,110 | | F/L-2602 |
| Auxiliary Control Equipment Room and Computer Room Panels & Cabinets (R) | ESD Racks with Modules 1,2PA20JC | | | X | Foxboro Company | Auxiliary 451'-0" | CQD-000571 | C | H 1.0g V 1.8g | | | | X | | 16Hz | Sheets 28,32, 37-40 | F/L-2926 |
| Aux. Control Equipment Room and Computer Room Panels and Cabinets | 1,2PA33J&34J 1,2PA20JA&JB | | | X | Westinghouse | Auxiliary | | N/C | | | | | | | | | F/L-2812 |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

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CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME: BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

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| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: | | |
|-----------------------------------|---|-------------|----------|-----|-----------------------------|---|----------------------------|------------|--------------------------|--------------------------|------------|----------------|--------------|------|------|--------------------------------|----------|--|----------|
| | TYPE, NAME | RANGE, SIZE | NSSS | ROP | VENDOR | BUILDING, ELEV. | REPORT IDENT. (H) | STATUS (C) | SEISMIC ZPA | | HYDRO DYN. | DYN. | ANALY. STAT. | DYN. | TEST | COMP. | | NAT. FREQ. | |
| Local Instrument Panels R | Local Control Panel OPL53JA,B 1,2PL50J 1,2PL52J-55J 1,2PL57J 1,2PL70J 1,2PL71J 1,2PL74J-76J 1,2PL81JA,B 1,2PL82JA,B 1,2PL84JA,B 2PL85JA 1,2PL85JB | 8' | | X | Systems Control Corporation | Auxiliary & Cont. 346'-0" 364'-0" 377'-0" 383'-0" 412'-0" | EMD-023125, 023123, 020063 | C | H 0.27g V 0.94g | H 0.97g V 1.25g | | | | | X | | 35.7Hz | 1 thru 20 115 thru 120 124, 128 | F/L-2809 |
| Local Instrument Panels R | Local Instrmnt Panels 1,2PL56J 1,2PL607JA-JD 1,2PL61JA-JD 1,2PL66J 1,2PL67J 1,2PL69J 1,2PL72J 1,2PL77JC 1,2PL78JA,B 1,2PL79JB 1,2PL92J | 4' | | X | Systems Control Corporation | Safety Vlv. Room, Aux. & Cont. 346'-0" 377'-0" 401'-0" 412'-0" 426'-0" | EMD-022567, 023123, 023125 | C | H 0.27g V 0.94g | H 0.97g V 1.25g | | | | | X | | 34Hz | 1 thru 12 21 thru 24 115 thru 128 | F/L-2809 |
| Local Instrument Panels HS, CS | Inc. ment Panels 1,2PLO4J 1,2PLO5J 1,2PLO6J | | | X | Harlo Corp. | Auxiliary Building 383' | EMD-024357 | C | | | | | | | X | | | 8,12,17,18, 19,20,28,32, 37,38,39,40, 104,110 | F/L-2802 |
| Local Instrument Panels | 1,2PLO7J&8J | | | X | | Aux. | | C | | | | | | | | | | | F/L-2742 |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CL - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

PAGE 76 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | | LOCATION | QUALIFICATION | | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|---|--|----------------|----------|-----|--------|--------------------|-------------------------|---------------|------------|-----|---------------|------|----------------|------|---------------|-------|--|---|
| | TYPE, NAME | RANGE, SIZE | NSSS | ROP | VENDOR | BUILDING, ELEV. | REPORT IDENT. (B) | STATUS (C) | SEISMIC | | HYDRO DYN. | DYN. | ANALY. | | TEST STAT. | COMB. | NAT. PREC. | |
| | | | | | | | | | ZPA | SSE | | | DYN. | DYN. | | | | |
| Main Control Room Panels HS, CS HS, CS HS, CS HS, CS | Containment Isolation Panel 1,2PM11J 1+2PM04J Main Control Board Generator and Auxiliary Power Main Control Board 1,2PM01J HVAC Main Control Panel OPM02J | | | | | | | | | | | | | | | | | Human factors mod- ifications will be accounted for by Westinghouse. |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

PAGE 77 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | STATUS (C) | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR | REMARKS: |
|--|--|----------------|----------|-----|-------------------|--------------------------------|---------------|-------------------------|----------------|----------------|---------------|----------------|--------|------|------|-----------------------------------|----------|
| | TYPE, NAME | RANGE, SIZE | NSSS | BOP | VENDOR | BUILDING, ELEV. | | REPORT IDENT. (B) | SEISMIC | | HYDRO DYN. | DYN. | ANALY. | | | RESPONSE SPECTRA ID. NO. | |
| | | | | | | | | | ZPA | | | | STAT. | DYN. | TEST | | |
| Process Radiation Monitoring HS, CS | Particulate, Iodine & Gas Monitors OPR03J OPR11J,13J OPR21J,22J OPR24J-26J 1,2PRO1J 1,2PR13J-18J 1,2PR21J | | | X | General Atomic | Aux 346'0" 426'0" | EMD-027118 | C | H1.7g V4.8g | H1.8g V4.8g | | | | X | | 25,26,28 29,30,32 | F/L-2827 |
| Process Radia- tion Monitoring | OPR09J OPR31J thru OPR38J 1,2PRO2J&3J 1,2PRO6J&9J 1,2PR11J&28J 1,2PR51J&52J | | | X | General Atomic | Aux. 346'-0" 426'-0" | | N/C | | | | | | | | | F/L-2827 |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

UTILITY: COMMONWEALTH EDISON COMPANY

DOCKET NOS: STN 50-454 and STN 50-455

PLANT NAME: BYRON UNITS 1 + 2
NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

PAGE 12 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | | QUALIFICATION | | LOAD INPUT | | QUALIF. METHOD | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--|---|---|----------|-----|--------------------------------|-------------------|-------------------|------------|----------------------------|------------|----------------|-----------|------------|--------------------------------|----------------|
| | TYPE, NAME | RANGE, SIZE | NSSS | FOR | VENDOR | BUILDING, ELEV. | REPORT IDENT. (B) | STATUS (C) | SEISMIC ZPA | HYDRO DYN. | ANAL. TEST | CON. TEST | NAT. FREQ. | | |
| Process Radiation Monitoring HS, CS | Control Valves 1,2PRO01A,B 1,2PRO01 | 1" & 1 1/2", 150# and 3/8", 1500# | | X | Masonellian International Inc. | Auxiliary | EMD-016057 | C | 3.0g | | | X | 32 Hz | | F/L-2793 |
| | Globe Valves 1,2PRO02 | 1"-1 1/2" | | X | Borg-Warner Corporation | Auxiliary | EMD-018077 | C | H 3.0g V 2.5g V 3.0g | | X | | 138Hz | | F/L-2794-1 |
| Process Radiation Monitoring HS, CS | Globe Valves 1,2PRO03A-D 1,2PRO06 1,2PRO062 | 2" 3/4" | | X | Borg-Warner | Auxiliary | EMD-026077 | C | H 3.0g V 2.5g V 3.0g | | X | | >33Hz | | F/L-2794 |
| | Lift Check Valves 1,2PRO032 1,2PRO02C 1,2PRO02H | 1" 2" | | X | Borg-Warner | Auxiliary & Cont. | EMD-026087 | C | H 3.0g V 2.5g V 3.0g | | X | | >33Hz | | F/L-2794 |
| Process Radiation Monitoring HS, CS | Valves OPR011-15 OPR021-22 OPR024-26 OPR031-43 | | | | | | | N/C | | | | | | | F/L-2906 |
| | 1,2PRO13-18 1,2PR-28-30 1,2PRO2E,F Instrumentation | | | X | | | | N/C | | | | | | | F/L-2794 |
| | | I | | X | | | | N/C | | | | | | | F/L-2827, 2788 |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
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SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

PAGE 79 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | | QUALIFICATION | | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: | |
|--|-----------------------|-------------|----------|-----|---------------------------|--------------------|-------------------|------------|-------------|--------------------------------|------------|------|----------------|------|------|-------|--------------------------------|--------------------|----------------|
| | TYPE, NAME | RANGE, SIZE | NSSS | BOP | VENDOR | BUILDING, ELEV. | REPORT IDENT. (B) | STATUS (C) | SEISMIC ZPA | | HYDRO DYN. | DYN. | ANALY. | | TEST | COMB. | | | NAT. FREQ. |
| | | | | | | | | | ORE | SSE | | | STAT. | DYN. | | | | | |
| Process Sampling Primary & Secondary Systems R | 1+2PS003 | 1"-150# | | X | Borg & Warner Corporation | Auxiliary Building | EMD-018027 | C | | H 3.0 2.5 V 3.0 | | | | X | X | | | 138 247 4054 | F/L-2794 |
| Process Sampling Primary & Secondary System Including Chiller Equipment R | Globe Valves 1,2PS142 | 3/4" | | X | Borg-Warner | Aux. | EMD-026077 | C | | H 3.0g 2.5g V 3.0g | | | | X | | | | >33Hz | F/L 2794-1 |
| Process Sampling Primary & Secondary System R | Instrumentation | I | | X | | Aux. | | N/C | | | | | | | | | | | F/L-2788, 2906 |
| Process Sampling Primary & Secondary System R | Panels 1PS435 1PS445 | | | X | | Aux. | | N/C | | | | | | | | | | | F/L-2906 |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(B) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF EQUIPMENT IMPORTANT TO SAFETY

UTILITY: COMMONWEALTH EDISON COMPANY

DOCKET NOS: STN 50-LS4 and STN 50-LS5

PLANT NAME : BYRON UNITS 1 + 2

PAGE 80 OF 148

A/E: SARGENT & LUNDY ENGINEERS

SYSTEM: Sampling

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION BUILDING, ELEV. | QUALIFICATION | | LOAD INPUT | | | QUALIP. METHOD | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--|-------------------------------|----------------|------------|-----|--------------------------------|-------------------------|---------------------------|----------------|---------------|-----------------|----------------|-------------|------------|--|----------|
| | TYPE, NAME | RANGE, SIZE | NSSS CS | BOP | | REPORT IDENT. (S) | US STATE FED (C) | SEISMIC ZPA | HYDRO DYN. | ANALY. STAT. | STAT. DYN. | COMB. F1 | NAT. F1 | | |
| R | Sample Vessel | D | X | | | N/A | C | N/A | | N/A | | | | | |
| R | Sample Heat Exchanger | D | X | | | J | C | 1.5 0.75 | | X | | | F1 | | |
| R | Gross Failed Fuel Detector | D | X | | | N/A | C | N/A | | N/A | | | | | |
| R | GFFD Sample Cooler | D | X | | | J | C | 1.0 | | X | | | F1 | | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
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SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

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| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | | LOCATION | QUALIFICATION | STATUS (C) | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: | |
|--|---|----------------|----------|-----|--|--|-------------------------|---------------|------------|----------------------------|---------------|------|----------------|------|------|-------|--|-------------|----------------------|
| | TYPE, NAME | RANGE, SIZE | NSSS | ROP | VENDOR | BUILDING, ELEV. | REPORT IDENT. (B) | | SEISMIC | | HYDRO DYN. | DYN. | ANALY. | | TEST | COMB. | NAT. FREQ. | | |
| | | | | | | | | | ZPA | | | | STAT. | DYN. | | | | | |
| Reactor Coolant System HS, CS | Elec. Penetra- tion Assemblies 2RC01E thru 2RC04E | | | X | Amphenol | Contmnt. Building 424' & 500' | EMD-020702 | C | 2.5g | 3.0g | | | | | X | | lowest is 3.9 Hz | 97 thru 108 | F/L-2804 |
| Reactor Coolant System R | Elec. Penetra- tion Assemblies 1RC01E 1RC02E 1RC03E 1RC04E | | | X | Conax Corp. | Contmnt. Building 424'-0" thru 550'-0" | EMD-025338 | C | | H 1.6g V 1.8g | | | | | | X | lowest is 85 Hz | 97 thru 108 | F/L-2804-1 |
| Reactor Coolant System | Instrumentation | I | | X | | Cont. | | N/C | | | | | | | | | | | F/L-2802, 2906, 2931 |
| Reactor Coolant System | 1,2RC01J | | | X | Boeing Engineering & Construction Company | Cont. | | N/C | | | | | | | | | | | F/L-2805 |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

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(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

DOCKET NOS: STN 50-45J and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

PAGE 82 OF 148

PLANT NAME : BYRON UNITS 1 + 2

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | | LOAD INPUT | | | | QUALIF. METHOD | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--|--|------------------|----------|-----|-------------------------------------|-----------------|-------------------------|---------------|-------------------------|-----|---------------|-----------------|--------------|---------------|--|----------|
| | TYPE, NAME | RANGE, SIZE | NSSS | BOP | | VENDOR | REPORT IDENT. (B) | STATUS (C) | SEISMIC ZFA | SSE | HYDRO DYN. | ANALY. STAT. | TEST DYN. | COMP. TEST | | |
| Reactor Coolant System R | Globe Valve 1,2RC015 | 3/4" 1500# | | X | Borg - Warner Corporation | EMD File 033165 | C | | H 3.0g V 2.5g | | X | | | 200Hz | F/L-2794-1 | |
| | Stainless Steel Valves 1,2RC001A,B, C,D | 3/4" 1500 lb. | | X | Borg - Warner Corporation | EMD - 018223 | C | | H 4.5g V 4.0g | | X | | | 244Hz | F/L-2794-1 | |
| Reactor Coolant System R | Solenoid Valves 1,2RC014A-P | 1"-1521# | | X | Valcor Engineering | EMD File 030608 | C | | Hor: 4.5 V 4.0 | | X | | | 40 1062 | F/L-2928 | |
| | Valves 1,1RC016A-D 1,2RC017 1,2RC018 1,2RC019 1,2RC020A-H 1,2RC021A-H 1,2RC022A-D 1,2RC023A-D 1,2RC024 1,2RC025A-H 1,2RC026A-H 1,2RC027A-H | 1" 7 | | X | Andersen Greenwood & Company | EMD File 030614 | C | | H 3.0g V 2.5g | | X | | | 131Hz | F/L-2718-1 | |
| Reactor Coolant System R | Valves 1,2RC028A-D 1,2RC029A-D | | | X | Andersen, Greenwood & Company | | N/C | | | | | | | | F/L-2718-1 | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

PLANT NAME : BYRON UNITS 1 + 2

BSSE: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

PAGE 83 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | | LOAD INPUT | | | QUALIF. METHOD | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--|--|----------------|----------|-----|-------------|-------------------------|---------------|----------------|-----------|-----|----------------|-----------------|--------------|--|------------|
| | TYPE, NAME | RANGE, SIZE | NS SS | ROP | | REPORT IDENT. (B) | STATUS (C) | SEISMIC ZPA | OBS | SSE | HYDRO DYN. | ANALY. STAT. | TEST DYN. | COMP. TEST | |
| Control Rod Drive R | Elec. Penetration Assemblies 2RD12E 2RD13E 2RD15E 2RD16E 2RD17E | | | X | Amphenol | EMD-020702 | C | 2.5g | 3.0g | | | | X | lowest is 3.9 Hz | F/L-2804 |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| Control Rod Drive R | Elec. Penetration Assemblies 1RD12E 1RD13E 1RD15E 1RD16E 1RD17E | | | X | Conax Corp. | EMD-025336 | C | H 1.6g | V 1.8g | | | X | | lowest is 85 Hz | F/L-2804-1 |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

PAGE 84 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | | LOCATION | QUALIFICATION | STATUS (C) | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: | | |
|---|--|---|----------|-----|--------------------------------------|-----------|---------------|---------------|-------------------------|--------------------------------|-----|---------------|----------------|-----------------|---------------|---------------|--|----------|-------|---------------|
| | TYPE, NAME | RANGE, SIZE | NSSS | HOP | VENDOR | | | | REPORT IDENT. (B) | SEISMIC ZPA | | HYDRO DYN. | DYN. | ANALY. STAT. | DYN. STAT. | TEST STAT. | | | COMB. | NAT. FREQ. |
| | | | | | | | | | | OBE | SSF | | | | | | | | | |
| Reactor Building & Containment Equip. Drains to Radwaste R | Globe Valves 1,2RE007 | 3/4": 150#, 900# & 1500# and 1": 150#, 900# | | X | Anderson, Greenwood, & Company | Auxiliary | EMD-012215 | C | | 5.0g | | | X | | | 138 Hz | F/L 2718-1 | | | |
| Reactor Building & Containment Floor Drains to Radwaste R | Globe Valve 1,2RE012 | 3/4" | | X | Borg-Warner | Auxiliary | EMD-026077 | C | | H 3.0g 2.5g V 3.0g | | | X | | | >33Hz | F/L-2794-1 | | | |
| Reactor Building & Containment Floor Drains to Radwaste R | Valves 1,2RE006 1RE007 2RE008 | 3/4" | | X | Borg-Warner | Auxiliary | | N/C | | | | | | | | | F/L-2794-1 | | | |
| Reactor Building & Containment Equipment Drain System R | Instrumentation | I | | X | Johnson Controls, Inc. | | | N/C | | | | | | | | | F/L-2783 | | | |
| Reactor Building & Containment Floor Drains to Radwaste R | Instrumentation | I | | X | | | | N/C | | | | | | | | | F/L-2788, 2906, 2812 | | | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

PAGE 85 OF 118

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--|--------------------------------|----------------|----------|-----|-------------|--------------------|-------------------------|---------------|----------------|------------------------|------|-----------------|--------------|-------|---------------|--|------------|
| | TYPE, NAME | RANGE, SIZE | NSSS | ROP | VENDOR | BUILDING, PLF7. | REPORT IDENT. (B) | (C) STATUS | SEISMIC ZPA | HYDRO DYN. | DYN. | ANALY. STAT. | TEST DYN. | COMB. | NAT. FREQ. | | |
| Reactor Bldg. and Containment Floor Drains to Radwaste R | Globe Valve 1,2RF031 | 3/4" | | X | Borg-Warner | Aux. | EMD-025077 | | | H3.0g 2.5g V3.0g | | X | | | >33Hz | | F/L-2794-1 |
| Reactor Bldg. & Containment Floor Drains to Radwaste R | Valves 1,2RF026 1,2RF027 | 2.00 | | X | Xomox | Aux. | | N/C | | | | | | | | | F/L-2795 |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDRY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

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| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | | LOCATION | QUALIFICATION | STATUS (C) | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR | REMARKS: |
|--|--|--|----------|-----|---------------------------------------|--------------------|------------------------------------|---------------|----------------|--------------------------------|---------------|------|-----------------|--------------|-------|---------------|-----------------------|----------|
| | TYPE, NAME | RANGE, SIZE | NSSS | ROP | VENDOR | BUILDING, ELEV. | REPORT IDENT. (B) | | SEISMIC ZPA | | HYDRO DYN. | DYN. | ANALY. STAT. | DYN. TEST | COMB. | NAT. FREQ. | RESPONSE | |
| | | | | | | | | | OBE | SSE | | | | | | | SPECTRA ID. NO. | |
| Residual Heat Removal HS,CS | Globe Valves 1,2RH002A,B 1,2RH004A,B | 3/4": 150#, 900# & 1500# and 1": 1500, 900# | | X | Anderson Greenwood, and Company | Auxiliary | EMD-012215 | C | | 5.0g | | | X | | | 138 Hz | F/L-2718-1 | |
| Residual Heat Removal HS,CS | Globe Valves 1,2RH003A,B 1,2RH004C,D 1,2RH005A,B | 3/4" & 2" 600# | | X | Borg-Warner Corporation | Auxiliary | EMD-008747 with 020078 & 026076 | C | | H 3.0g 2.5g V 3.0g | | | X | | | 233Hz | F/L-2794-1 | |
| Residual Heat Removal HS,CS | Valves 1,2RH015A,B 1,2RH016A,B 1,2RH017A,B 1,2RH019A,B | 1/2" | | X | Anderson Greenwood & Company | Auxiliary | EMD-030614 | C | | H 3.0g 2.5g V 3.0g | | | X | | | 131Hz | F/L-2718-1 | |
| Residual Heat Removal HS,CS | Globe Valves 1,2RH011A 1,2RH011B 1,2RH012A,B 1,2RH013A,B | 1/2" 3/4" | | X | Borg-Warner | Auxiliary | EMD-026077 | C | | H 3.0g 2.5g V 3.0g | | | X | | | >23Hz | F/L-2794 | |
| Residual Heat Removal HS,CS | 1,2RH014A,B | 3/4" | | X | Borg-Warner | Auxiliary | | N/C | | | | | | | | | F/L-2794-1 | |
| Residual Heat Removal HS,CS | Instrumentation | I | | X | | Auxiliary | | N/C | | | | | | | | | F/L-2906 | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2
NSSG: WESTINGHOUSE ELECTRIC COMPANY
SYSTEM: Residual Heat Removal Pumps

DOCKET NOS: STN 50-451 and STN 50-455
A/E: SARGENT & LUNDY ENGINEERS

UTILITY: COMMONWEALTH EDISON COMPANY
PAGE 87 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | | LOAD INPUT | | HYDRO | | QUALIF. METHOD | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--|-----------------------|----------------|----------|-----|----------|-------------------------|---------------|----------------|-----|-------------|------|-----------------|---------------|--|---|
| | TYPE, NAME | RANGE, SIZE | NSSG | BOP | VENDOR | REPORT IDENT. (B) | STATUS (C) | SEISMIC ZPA | COE | SSE | DYN. | ANALY. STAT. | COMB. TEST | NAT. PRES. | |
| HS,CS | RHR Pump | D | X | | | J | C | | | 2.1 | | X | | F1 | See Electrical List for Motor Qual. |
| HS,CS | RHR Heat Exchanger | D | X | | | J | C | | | 1.5 0.75 | | X | | F1 | See Electrical List for operator Qual. |
| HS,CS | Active Valves | D,H | X | | | J | C | | | 2.1 | | X | | F1 | |
| R | Inactive Valves | D,I | X | | | J | C | | | 2.1 | | X | | F1 | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

PAGE 88 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | | LOCATION | QUALIFICATION | | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: | | |
|---|--|----------------|----------|-----|------------------------|--|--------------------|-------------------------|---------------|----------------------------|-----|---------------|----------------|-----------------|------|------|--|------------------------------|--------------------|---------------|
| | TYPE, NAME | RANGE, SIZE | NSSS | ROP | VENDOR | | BUILDING, ELEV. | REPORT IDENT. (B) | STATUS (C) | SEISMIC | | HYDRO DYN. | DYN. | ANALY. STAT. | DYN. | TEST | | | COMB. | NAT. FREQ. |
| | | | | | | | | | | ORE | SSE | | | | | | | | | |
| Reactor Coolant Pressurizer System R | Elec. Penetra- tion Assemblies 2 RY04E 2 RY05E 2 RY06E 2 RY07E | | | X | Amphenol | Contain- ment Bldg 424' and 500' | EMD - 020702 | C | 2.5g | 3.0g | | | | | X | | Lowest is 3.9 Hz | 97 thru 108 | F/L - 2804 | |
| Reactor Coolant Pressurizer System R | Elec. Penetra- tion Assemblies 1 RY04E thru 1 RY07E | | | X | Conax Corp. | Contain- ment 424'-0" thru 500'-0" | EMD - 025336 | C | | H 1.6g V 1.8g | | | | | X | | Lowest is 85 Hz | Sheets 97 thru 108 | F/L - 2804-1 | |
| Reactor Coolant Pressurizer System R | ESD Instrumentation 1,2PSH-RY018 1,2PSH-RY019 1,2PSH-RY020 1,2PSH-RY021 1,2PSL-RY018 1,2PSL-RY019 1,2PSL-RY020 1,2PSL-RY021 | | | X | The Foxboro Company | Auxiliary 451'-0" | CQD-000571 | C | | H 20g V 8g | | | | | X | | | Sheets 28, 32, 37 - 40 | F/L - 2926 | |
| Reactor Coolant Pressurizer System R | Instrumentation | I | | X | | auxiliary | | N/C | | | | | | | | | | | F/L-2752,2812,2906 | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(B) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

PAGE 89 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | | LOCATION | QUALIFICATION | | STATUS (C) | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: | |
|---|---|------------------|----------|-----|-------------------------------------|-------------------------|--------------------|-------------------------|---------------|---|-----|---------------|------|----------------|------|------|--------|--|----------|---------------|
| | TYPE, NAME | RANGE, SIZE | NSSS | ROP | VENDOR | | BUILDING, ELEV. | REPORT IDENT. (B) | | SEISMIC ZPA | | HYDRO DYN. | DYN. | ANALY. | | TEST | CORE. | | | NAT. FREQ. |
| | | | | | | | | | | ORE | SSE | | | STAT. | DYN. | | | | | |
| Reactor Coolant Pressurizer System R | Manual, Globe Valves 1,2RY045 | 2", 1529# | | X | Borg-Warner Corporation | Containment | EMD-030858 | C | | H1= 2.50g H2= 3.0g V= 4.0g | | | X | | | | 152 Hz | F/L-2794-1 | | |
| Reactor Coolant Pressurizer System HS,CS | 1,2RY022 1,2RY023 1,2RY024 1,2RY025 | 1" Gate Valve | | X | Borg-Warner Corporation | Containment Building | EMD-012667 | C | | H 3.0g 2.5g V 3.0g | | | X | X | | | 125Hz | F/L-2794 | | |
| Reactor Coolant Pressurizer R | Globe Valves 1,2RY042 1,2RY041 1,2RY058 1,2RY059 1,2RY062 1,2RY063 | 3/8" 3/4" | | X | Borg-Warner | Aux. & Containment | EMD-026077 | C | | H 3.0g 2.5g V 3.0g | | | X | | | | >33Hz | Stresses are within allowables for higher accelerations found in containment bldg. F/-2794 | | |
| Reactor Coolant Pressurizer R | Valves 1,2RY048 1,2RY049 1,2RY050 1,2RY051 1,2RY052 1,2RY053 1,2RY054 | 1/2" | | X | Anderson- Greenwood & Company | Aux. | EMD-030614 | C | | H 3.0g 2.5g V 3.0g | | | X | | | | 131Hz | F/L-2718-1 | | |
| Reactor Coolant Pressurizer System R | 2RY026A,B 2RY027A,B 1,2RY029A,B 1,2RY030A,B 1,2RY031A,B 1,2RY032A,B 1,2RY044A,B | | | X | | | | N/C | | | | | | | | | | F/L-2918-1 F/L-2885 F/L-2793 F/L-2718-1 | | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDRY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

PAGE 90 OF 148

SYSTEM: Reactor Coolant System and Reactor Coolant Pressurizer

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | | LOCATION | QUALIFICATION | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR | REMARKS: | | |
|--|--|----------------|----------|-----|--------|-----------------------|-------------------------|---------------|---------|-----|-------|----------------|-----------------|------|------|-------|----------|---------------------------------|-----------------------------------|
| | TYPE, NAME | RANGE, SIZE | NSSS | BOP | VENDOR | BUILDING, ELEV. | REPORT IDENT. (B) | STATUS (C) | SEISMIC | | HYDRO | | ANALY. STAT. | DYN. | TEST | COMB. | | NAT. PRES. | RESPONSE SPECTRA ID. NO. |
| | | | | | | | | | OBE | SSE | DYN. | DYN. | | | | | | | |
| HS,CS | Reactor Vessel | D | X | | | Cont. 360' 410' | J | C | E | E | | X | X | | | | F3 | 109,110, 124,112, 113,128 | |
| HS,CS | CRDM | D | X | | | Cont. 400' | J | C | E | E | | X | X | X | | | F3 | 115,116, 124,118, 119,128 | |
| HS,CS | Steam Generator | D | X | | | Cont. 399' 461' | J | C | E | E | | X | X | | | | F3 | 121,122, 124,125, 126,128 | |
| HS,CS | Pressurizer | D | X | | | Cont. 455' | J | C | E | E | | X | X | | | | F3 | 129,130, 131,132, 133,134 | |
| HS,CS | RCS Piping | D | X | | | Cont. 399' | J | C | E | E | | X | X | | | | F3 | 115,116, 124,118, 119,128 | |
| HS,CS | RTD Bypass Manifold and Thermoweld | D | X | | | | J | C | E | E | | X | X | | | | F3 | | |
| HS,CS | Thimble Guide Tubing/ Coupling | D | X | | | | J | C | E | E | | X | X | | | | F3 | | |
| HS,CS | Flux Thimble Assembly | D | X | | | | J | C | E | E | | | X | | | | F3 | | |
| HS,CS | Pressurizer Safety and Relief Valves | D | X | | | | J | C | | 2.1 | | X | X | | | | F3 | | |
| HS,CS | Reactor Coolant Pump Pressure Boundary | D | X | | | Cont. 375' | J | C | E | E | | X | X | | | | F3 | | |
| HS,CS | RCP Motor and Accessories | D | X | | | Cont. 399' | + | C | E | E | | X | X | | | | F3 | 115,116, 124,118, 119,128 | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF EQUIPMENT IMPORTANT TO SAFETY

UTILITY: COMMONWEALTH EDISON COMPANY

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DOCKET NOS: STN 50-454 and STN 50-455

A/E: SARGENT & LUNDY ENGINEERS

PLANT NAME : BYRON UNITS 1 + 2

NSSS: WESTINGHOUSE ELECTRIC COMPANY

SYSTEM: Reactor Coolant System and Reactor Coolant Pressurizer

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIE | | LOCATION | QUALIFICATION | | LOAD INPUT | | | QUALIF. METHOD | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--|---------------------|----------------|------------------------|-----|---------------|-------------------------|---------------|----------------|---------------|-----------------|----------------|-------|---------------|--|----------|
| | TYPE, NAME | RANGE, SIZE | MAN- UFACT- URER | BOB | | REPORT IDENT. (R) | STATUS (C) | SEISMIC ZPA | HYDRO DYN. | ANALY. STAT. | TEST DYN. | COMB. | NAT. FREQ. | | |
| R | Loop Stop Valves | D | X | | Cont. 393' | J | C | 2.1 | | X | | | F1 | 112.113 128 | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

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| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | | LOAD INPUT | | | | QUALIF. METHOD | | | | | FLOOR RESPONSE SPECTRA | REMARKS: |
|--------------------------------|---|---------------------------------|----------|-----|--------------------------------------|-------------------|---------------------|------------|-------------|----------------------|------------|----------------|--------------|------|------|---------------|------------------------|----------------------------|
| | TYPE, NAME | RANGE, SIZE | NSSS | BOP | VENDOR | BUILDING, ELEV. | REPORT IDENT. (B) | STATUS (C) | SEISMIC ZPA | | HYDRO DYN. | | ANALY. STAT. | | | NAT. FREQ. | ID. NO. | |
| | | | | | | | | | ORE | SSE | DYN. | DYN. | STAT. | DYN. | TEST | | | |
| Service Air, HS,CS | Control Valves 1,2SA032 | 1" & 1/2", 150# and 3/8", 1500# | | X | Masoneilan International Inc. | Auxiliary | EMD-016057 | C | | 3.0g | | | | | X | 32 Hz | | F/L-2793 |
| Service Air, HS,CS | Control Valves 1,2SA033 | 1 1/2", 150# | | X | Masoneilan International Inc. | Contmnt. | EMD-016057 | C | | 4.5g | | | | | X | 31 Hz & 32 Hz | | F/L-2793 |
| Service Air R | Relief Valves 1,2SA14 | | | X | Crosby Valve for Cooper Energy Serv. | Auxiliary 401'-0" | EMD-027578 & 029678 | C | | 5.0g | | | X | | | 96 Hz | 8,12,21-24 | F/L-2742 |
| Service Air R | Relief Valve 1,2SA144A,B,C,D | | | X | Cooper Energy Services | Auxiliary 401'-0" | EMD-009816 | C | | 3.0g | | | X | | | 400 Hz | Sheet Nos. 8,12,21-24 | F/L-2742 |
| Service Air R | Gate Valves 1,2SA141A,B,C,D 1,2SA142A,B,C,D 1,2SA143A,B,C,D 1,2SA146A,B,C,D 1,2SA147A,B,C,D | 3/4", 1" | | X | Cooper Energy Services | Auxiliary 401'-0" | EMD-011073 | C | | H = 5.0g V = 5.0g | | | X | | | | Sheet Nos. 8,12,21-24 | F/L-2742 |
| Service Air R | Valves 1,2SA140A-D 1,2SA145-D 1,2SA150 2SA157A-D | | | X | | Auxiliary | | N/C | | | | | | | | | | F/L-2742 F/L-2718-1 |
| Service Air R | Instrumentation | I | | X | Systems Control Corp. | Auxiliary | | N/C | | | | | | | | | | F/L-2788 |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

PAGE 93 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|---|----------------------------|---|----------|-----|-------------------------------|--------------------|-------------------|------------|-------------|------------------------|------|----------------|------|-------|----------------------------------|--------------------------------|------------|
| | TYPE, NAME | RANGE, SIZE | NSSS | ROP | VENDOR | BUILDING, ELEV. | REPORT IDENT. (B) | STATUS (C) | SEISMIC ZPA | HYDRO DYN. | DYN. | ANALY. STAT. | TEST | COMB. | NAT. FREQ. | | |
| Steam Generator Blowdown System (R) | Globe Valves 1,2SD004A-D | 3/4": 150#, 900# & 1500# and 1": 150#, 900# | | X | Anderson, Greenwood & Company | Relief Valve Room | EMD-012215 | C | | 5.0g | | | X | | 138Hz | | F/L-2718-1 |
| Steam Generator Blowdown System (HS,CS) | Control Valves 1,2SD005A-D | 1" & 1 1/2", 150# and 3/8", 1500# | | X | Masoneilan International Inc. | Auxiliary | EMD-016057 | C | | 3.0g | | | | X | 32 Hz | | F/L-2793 |
| (HS,CS) | 1,2SD002A-H Globe Valve | Globe Valve 2" Size | | X | Masoneilan International Inc. | Auxiliary Building | EMD-018242 | C | | Hor: 3.0g Ver: 3.0g | | | | X | 24 Hz 25 Hz 28 Hz 29 Hz | | F/L-2793 |
| Steam Generator Blowdown System (HS,CS) | 1,2SD001A-H Globe Valves | 2", 900# | | X | Anderson, Greenwood & Company | Auxiliary | EMD-016593 | C | | 5.0g | | | X | | 68 Hz | | F/L-2718-1 |
| Steam Generator Blowdown System HS,CS | Valve 1,2SD046A-H | | | | | | | N/C | | | | | | | | | F/L-2918-1 |
| Steam Generator Blowdown System HS,CS | Instrumentation | I | | X | Systems Control Corp. | | | N/C | | | | | | | | | F/L-2788 |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(B) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2
NSSS: WESTINGHOUSE ELECTRIC COMPANY

DOCKET NOS: STN 50-454 and STN 50-455
A/E: SARGENT & LUNDY ENGINEERS

UTILITY: COMMONWEALTH EDISON COMPANY

PAGE 94 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | STATUS (C) | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: | | |
|--|-------------------------------------|----------------|----------|-----|-------------------------------|-----------------------|---------------|-------------------------|----------------|--------------------------------|---------------|----------------|--------|------|--------------|--|----------|-------|---------------|
| | TYPE, NAME | RANGE, SIZE | NSSS | ROP | VENDOR | BUILDING, ELEV. | | REPORT IDENT. (B) | SEISMIC ZPA | | HYDRO DYN. | DYN. | ANALY. | | TEST DYN. | | | COMB. | NAT. FREQ. |
| | | | | | | | | | ORE | SSE | | | STAT. | DYN. | | | | | |
| Station Heating R | Gate Valves 1+2SH063 1+2SH068 | 4"-150# | | X | Anchor/ Darling Company | Auxiliary Building | EMD-012482 | C | | H 3.0g 2.5g V 3.0g | | | X | X | | 79.5 Hz lowest | F/L-2718 | | |
| Station Heating R | 1+2SH064 1+2SH067 Gate Valves | 4"-150# | | X | Anchor/ Darling Company | Contmnt. Building | EMD-012482 | C | | | | | X | X | | 79.5 Hz lowest | F/L-2718 | | |
| Station Heating R | Instrumentation | I | | X | Systems Control Corp. | | | N/C | | | | | | | | | F/L-2788 | | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
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SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

PAGE 95 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | | LOCATION | | QUALIFICATION | | LOAD INPUT | | | | QUALIF. METHOD | | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|----------------------------------|---|-------------|----------|----|-------------|-------------------------------------|-------------------|---------------|-------------|------------|--------------|------|--------|----------------|------|------|---------|--------------------|--------------------------------|----------------|
| | TYPE, NAME | RANGE, SIZE | SSS | SP | VENDOR | BUILDING, ELEV. | REPORT IDENT. (B) | STATUS | SEISMIC ZFA | | HYDRO DYN. | DYN. | ANALY. | | TEST | CON. | REMARKS | | | |
| | | | | | | | | | CRS | GRS | | | CRS | GRS | | | | | | |
| Safety Injection System HS,CS | Electrical Penetration Assemblies 2S101E thru 2S108E | | | X | Asphenol | Cont. Bldg. 424' & 500' | EMB-020702 | C | | 2.5K | 3.0K | | | | | X | | Lowest 1s 0.9Hz | 97 thru 108 | F/L-2804 |
| Safety Injection System HS,CS | Electrical Penetration Assemblies 1S101E thru 1S108E | | | X | Gonax Corp. | Cont. Bldg. 424' thru 500' | EMB-025114 | C | | | 1.6K 1.8K | | | | | | | Lowest 1s 0.9Hz | 97 thru 108 | F/L-2804-1 |
| Safety Injection System HS,CS | Instrumentation | I | | X | | | | N/C | | | | | | | | | | | | F/L-2906, 2790 |
| Safety Injection System HS,CS | 1,2S101T | | | | | | | N/C | | | | | | | | | | | | F/L-2722, 2766 |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
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SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2
MSSS: WESTINGHOUSE ELECTRIC COMPANY

DOCKET NOS: STN 50-45L and STN 50-45S
A/E: SARICENT & LINDY ENGINEERS

UTILITY: COMMONWEALTH Edison COMPANY

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | | LOAD INPUT | | | QUALIF. METHOD | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--|--|--|--------------|---|-----------------------|------------------------------------|---------------|---------------|----------------------|--------------|----------------------|----------------|---------------|--|----------------------------------|
| | TYPE, NAME | RANGE, SIZE | MANUFACTURER | MODEL | | REPORT IDENT. (B) | STATUS (C) | STATIC DFA | OSC DFA | HYDRO DFA | ANALYTICAL METHOD | TEST METHOD | CONV. TEST | | |
| Safety Injection System HS,CS | Globe Valves 1,2S1010 | 3/4" 150# 900# A 1500# and 1" 150# 900 | X | Anderson, Greenswood, and Company | Auxiliary | Y-012213 | C | | 5.0g | | X | | | 138 Hz | F/L-2718-1 |
| | Globe Valves 1,2S1002 1,2S1009A,B 1,2S1011 | 1/4" 150# 1500# and 1" 150# 900 | X | Borg-Warner Corporation | Auxiliary | END-008747 with 020076 (026076) | C | | 3.0g 2.5g 3.0g | | X | | | 230Hz | F/L-2794-1 |
| Safety Injection System HS,CS | Stainless Steel Gate Valves 1,2S1011A,B | 300 lb | X | Borg-Warner Corporation | Auxiliary | END-008747 with 020076 (026076) | C | | 3.0g 2.5g 3.0g | | X | | | 4.5 Hz | F/L-2794-1 |
| | 1,2S1001A,B Gate Valve | 6" 300# | X | Anchor Darling | Auxiliary Building | END-009004 | C | | | | | | | | Nozzle Analysis only F/L-2794 |
| Safety Injection System HS,CS | Globe Valves 1,2S1057A,B 1,2S1016A,B 1,2S1032A-D 1,2S1017A,B 1,2S1013A-D 1,2S1027 1,2S1058A,B 1,2S1059A,B 1,2S1034 1,2S1055 1,2S1040A,B 1,2S1043-046 1,2S1048-053 1,2S1062 | 3/4" | X | Borg-Warner | Auxiliary | END-026077 | C | | 3.0g 2.5g 3.0g | | X | | | 130Hz | F/L-2794 |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
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CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2
NSSS: WESTINGHOUSE ELECTRIC COMPANY

DOCKET NOS: STN 50-452 and STN 50-455
A/E: SARGENT & LUNDY ENGINEERS

UTILITY: COMMONWEALTH EDISON COMPANY

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| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | | LOCATION | QUALIFICATION | | LOAD INPUT | | | | QUALIF. METHOD | | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--------------------------------|---|-------------|----------|-----|-------------|-----------|-------------------|------------|-------------|-----|--------------------------------|------------|----------------|--------|----|------|------|--------------------------------|--|
| | TYPE, NAME | RANGE, SIZE | SSS | ROP | VENDOR | | REPORT IDENT. (B) | STATUS (C) | SEISMIC ZFA | ORE | SSE | HYDRO DYN. | TEST | ANALY. | CE | PRG. | NAT. | | |
| Safety Injection System HS,CS | Check Valves 1,2SI020 | 3" | | X | TRW Mission | Auxiliary | EMD-026305 | C | | | H 3.0g 2.5g V 3.0g | | | X | | | | 33Hz | F/L-2794 |
| Safety Injection System HS,CS | Valves 1SI008 1,2SI011A,B 1,2SI015A,B 1,2SI018A,B 1,2SI055 1,2SI060A,B 1,2SI020A-D 1,2SI021A-D 1,2SI022A,B through 1,2SI026A,B 1,2SI028A,B 1,2SI029A,B 1,2SI031A,B | | | X | | | | N/C | | | | | | | | | | | F/L-2795 F/L-2718-1 F/L-2794-1 F/L-2918-1 |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
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SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF EQUIPMENT IMPORTANT TO SAFETY

UTILITY: COMMONWEALTH EDISON COMPANY

DOCKET NOS: STN 50-454 and STN 50-455

PLANT NAME : BYRON UNITS 1 + 2

NGSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

PAGE 98 OF 148

| SYSTEM: Safety Injection | | | | | | | | | | | | | | |
|--|--------------------------------|----------------|----------|---------|--------------------------------|--|------------|-----------------------|-------------|----------------|------------------|-------------|--|---|
| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIES | | LOCATION BUILDING, SLEV. | QUALIFICATION REPORT IDENT. (B) | LOAD INPUT | | | QUALIF. METHOD | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
| | TYPE, NAME | RANGE, SIZE | HS CS | OR 4 | | | VENDOR | SEISMIC ZPA GSE | SEI DYN. | HYDRO DYN. | ANALY. METHOD | TEST NO. | | |
| HS,CS | Accumulator | D | X | | | | I | C | 1.0 | X | | | F2 125,126, 128 | |
| HS,CS | High Head SIS Pump | D | X | | | | J | C | 2.1 | X | | | F1 | Same as centrifugal charging pump |
| HS,CS | Low Head SIS Pump | D | X | | | | J | C | 2.1 | X | | | F1 | See Electrical list for Motor Qual. |
| HS,CS | SI Pump Dis- charge Orifice | D | X | | | | I | | G | | | | G | |
| HS,CS | SI Pump Mini- flow Orifice | D | X | | | | J | | G | | | | G | |
| HS,CS | Active Valves | D,H | X | | | | J | C | 2.1 | X | | | F1 | See Electrical list for Operator Qual. |
| R | Inactive Valves | D,I | X | | | | J | C | 2.1 | X | | | F1 | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(B) A/E FILE NUMBER

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SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 & 2
 Docket Nos: STN 50-154 and STN 50-155
 A/E: SARGENT & LUNDY ENGINEERS
 UTILITY: COMMONWEALTH EDISON COMPANY

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| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | | LOAD INPUT | | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA IDENT. NO. | REMARKS: |
|--------------------------------|--|------------------------------|----------|-----|--|-------------------|------------|--------------|----------------------------|-----------|----------------|------------|--------------------------------------|------------------------------------|--|----------|
| | TYPE, NAME | RANGE, SIZE | W. USED | BOF | | REPORT IDENT. (B) | STATUS (C) | SEISMIC ZONE | SIZE | WIND DYN. | ASBL. STAT. | COMB. DYN. | WAT. EX. DYN. | | | |
| Essential Service Water HS,CS | Pipe Restraints for Cooling Tower Piping | | | X | ESW Cooling Towers 901'-0" | C | | | | | | | | | F/L-2848 Qualified using loads from EMD-010347 and EMD-010329 | |
| | Makeup Pump OSX02PA-P3 | 1500 gal/min | | X | Johnston Pump Co./McDonald Engineering | EMD-011189 | C | | | | | X | 9Hz | | F/L-2758 | |
| Essential Service Water HS,CS | Water Makeup Pump Drive: OSX02PA-K OSX02PB-K | 10% HP | | X | Stewart and Stevenson Services, Inc. | EMD-011189 | C | | H 2.8g V 3.0g V 1.5g | | | X | | 115A, 116A, 117A, 119A, 140A, 141A | F/L-2801 | |
| | Control Panel OSX02PA-B OSX02PB-B Jacket Water Heat Exchanger OSX02AA&AB Gear Oil Cooler: OSX04AA&AB | | | | | | | | | | | | | | | |
| Essential Service Water HS,CS | ESW Strainers 1,2SX01PA,B | 17,000 gpm 26,000 gal/min | | X | R. P. Adams Company, Inc. | EMD-011851 | C | | H 0.2 V 0.2 V 0.2 | | | X | 21Hz 24Hz 25Hz 26Hz 36Hz | 1,2,3,4 | F/L-2749 | |
| | | | | | | | | | | | | | | | | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY; HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RE - REFUEL.
 (B) A/E FILE NUMBER
 (C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE; CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

PAGE 100 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | | LOCATION | | QUALIFICATION | | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR | REMARKS: |
|--|--------------------------------------|----------------|----------|-----|---------------------------------|--|-------------------------|----------------|-------------------------|---|---------------|----------------|-----------------|----------------|--------------|-----------------------------------|-------------------------------------|--|----------|
| | TYPE, NAME | RANGE, SIZE | NSSS | FOR | VENDOR | BUILDING, ELEV. | REPORT IDENT. (R) | STATION (C) | SEISMIC ZPA | | HYDRO DYN. | DYN. | ANALY. STAT. | TEST STAT. | TEST DYN. | RESPONSE SPECTRA ID. NO. | | | |
| | | | | | | | | | ORE | SEE | | | | | | | | | |
| Essential Service Water HS, CS | Cooling Tower Fan Motor | | | X | Reliance Electric | ESW Cooling Towers 909'-6" | EMD-013705 & -014044 | C | H 0.45g V 0.3g | H 0.68g V 0.45g | | | X | | | | 143,144, 145,147, 148,149 | F/L-2848 | |
| Essential Service Water HS, CS | Main Fans OSX03CA-CH | 30' dia. | | X | Ceramic Cooling Tower Co. | ESW Cooling Towers 909'-6" | EMD-015697 | C | | | | 0.70g 0.78g | X | | | 6.2Hz 21.6Hz | 143-145 & 147-149 | F/L-2848 | |
| Essential Service Water HS, CS | Gear Box for Cooling Tower Fan | | | X | Ceramic Cooling Tower Co. | ESWCT 909'-6" | EMD-018036 | C | | H 1.74g V 1.35g 2.0g | | | X | | | 46Hz | 143-145 & 147-149 | F/L-2848 | |
| Essential Service Water HS, CS | Ceramic Fill for Cooling Tower | | | X | Ceramic Cooling Tower Co. | ESWCT 888'-0" | EMD-013090 | C | | H ₁ .65g H ₂ .5g | | | | | | 33Hz | 143C,144C, 146,147C, 148C,150 | F/L-2848 Confirming the lateral stability of the fill was done by comparing the coefficient of friction to the H ₂ SSE (ZPA) accelerations | |
| Essential Service Water HS, CS | Internals OSX02AAAAB | | | X | Ceramic Cooling Tower Co. | Cooling Tower 888'-0" | EMD-012849 | C | | H .272g V .26g | | | X | | | 14.3Hz | | F/L-2848 | |
| Essential Service Water HS, CS | Cooling Tower Piping | | | Y | Ceramic Cooling Tower Co. | ESW Cooling Towers 908'-0" & Lower | EMD-010574 & -010329 | C | | | | | X | | | 41 freq' | 143-150 | F/L-2848 | |

(A) FUNCTIONAL MODE. R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-45L and STN 50-45S

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

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| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | STATUS (C) | LOAD INPUT | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--|---|---------------------|----------|----|----------------------|----------------------|---------------|------------|---|---|---------------|-----------------|---------------|--|--|
| | TYPE, NAME | RANGE, SIZE | SSS | RF | | | | VENDOR | REPORT IDENT. (B) | SEISMIC ZPA | HYDRO DYN. | ANALY. STAT. | CONC. TEST | | |
| Essential Service Water HS, CS | ESW Pump 1,2SX01PA, PB | 24x30x30 HSA | | X | Bingham Willmette | EMD-013704 & -013774 | C | 1.0g | 1.5g | | | | 24Hz | | F/L-2758 |
| Essential Service Water System HS, CS | Flow Element 1,2FE-S 011 0FE-SX044 | 1920# 25,000 gpm | | X | BIF | Auxiliary 346' | EMD-015114 | C | H ₁ = 0.09 H ₂ = 0.25 H ₃ = 0.09 V = 0.45 | H ₁ = 0.15 H ₂ = 0.25 H ₃ = 0.25 V = 0.82 | | X | | Sheet Nos. 6, 8, 9, 12 | F/L-2812 |
| Essential Service Water System HS, CS | OSX03C-AB OSX03C-CD OSX03C-EF OSX03C-GH 1,2SX01JA&JB 1,2SX01K 1,2SX02K 1,2SX01PB-B 1,2SX01PA-G 1,2SX01PA-A 1,2SX01PB-A 1,2SX01PA-C 1,2SX0PB-C 1,2SX01AA&AB 1,2SX01PA-M 1,2SX01PB-M | | | X | | | N/C | | | | | | fn=111 Hz | | F/L-2783 F/L-2749 F/L-2891 F/L-2758 F/L-2714 |
| Essential Service Water HS, CS | Instrumentation | I | | | | | N/C | | | | | | | | F/L-2848, 2812, 2906, 2802, 2891, 278F 2739 |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(B) A/E FILE NUMBER

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SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

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| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | STATUS (C) | LOAD INPUT | | | | QUALIF. METHOD | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--|---|--|----------|---|--|---------------|---|------------|-----------------|--|-------------|----------------|---|------|--------------------------------|--|
| | TYPE, NAME | RANGE, SIZE | SSS | RFP | | | | VENDOR | BUILDING, ELEV. | REPORT IDENT. (B) | SEISMIC ZPA | | HYDRO DYN. | | | |
| | | | | | ORE | SSS | | | | | DYN. | DYN. | ANALY. | TEST | COM. | |
| ESSENTIAL SERVICE WATER SYSTEM HS, CS | CARBON STEEL VALVES GATE TYPE 1, 2SX 173 1, 2SX 178 | 6", 150# | | X | ANCHOR/ DARLING VALVE COMPANY | AUXILIARY | EMD-013587 | | | H ₁ =3.0g H ₂ =2.5g V=3.0g | | | X | | 45Hz | F/L-2718-2 |
| ESSENTIAL SERVICE WATER SYSTEM HS, CS | CARBON STEEL VALVES, GATE TYPE OSX063A,B | 8", 150# | | X | ANCHOR/ DARLING VALVE COMPANY | AUXILIARY | EMD-018037 | | | H ₁ =3.0g H ₂ =2.5g V=3.0g | | | | | 99Hz | NOZZLE ANALYSIS F/L-2718-2 |
| ESSENTIAL SERVICE WATER SYSTEM HS, CS | Butterfly Valves 1, 2SX016A,B 1, 2SX027A,B 1, 2SX147A,B 1, 2SX012A,B OSX007 1, 2SX007 1, 2SX004, 5 OSX146, 147 1, 2SX143A,B 1, 2SX033, 034 1, 2SX001A,B 1, 2SX010 1, 2SX011 1, 2SX136 | 16" 20" 24" 30" 36" 48" | | X X X X X | JAMESBURY CORPORATION | AUXILIARY | EMD Files 010426, 011070, 011224, 012737 | | | Hor 3.0g 2.5g Vert 3.0g all cases | | | X X X X X | | 35Hz to 99Hz all cases | F/L-2884 |
| ESSENTIAL SERVICE WATER SYSTEM HS, CS | CARBON STEEL VALVES GATE AND GLOBE TYPE-MANUAL VALVES 1SX176; 2SX176 1SX177; 2SX177 OSX161A,B 1SX175; 2SX175 OSX066A,B | 4", 150# GATE 6", 150# GATE 8", 150# GLOBE | | X | ANCHOR/ DARLING VALVE COMPANY | AUXILIARY | EMD-008252 | | | | | | | | | F/L-2715 QUALIF. METHOD: VALVE NOZZLE ANALYSIS SHOWS THE VALVE IS STRONGER THAN THE PIPING |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

PAGE 103 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | | LOCATION | QUALIFICATION | | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--|---|-------------------------|-----------|-----|--|--------------------|-------------------------|--------|----------------------------|---|---------------|------|----------------|------|----------------------|------------|--|----------|
| | TYPE, NAME | RANGE, SIZE | 20 FPS | POB | VENDOR | BUILDING, ELEV. | REPORT IDENT. (B) | STATUS | SEISMIC ZPA | | HYDRO DYN. | | ANALY. TEST | | NAT. FREQ. | | | |
| | | | | | | | | | ORE | SSE | DYN. | DYN. | ANALY. | TEST | | | | |
| ESSENTIAL SERVICE WATER SYSTEM HS, CS | CHECK VALVES 1,2SX174 | 6", 900# | | X | ANDERSON, GREENWOOD & COMPANY | AUXILIARY | EMD-011723 | C | | 5.0g | | | X | | 198Hz | F/L-2718-1 | | |
| | CHECK VALVES 1,2SX002A,B | 36", 150# | | X | ANDERSON, GREENWOOD & COMPANY | AUXILIARY | EMD-013662 | C | | H ₁ = 3.0 H ₂ = 2.5 V = 3.0 | | | X | | 40.4Hz | F/L-2718-1 | | |
| | CHECK VALVES 1,2SX116A,B | 3", 150# | | X | ANDERSON, GREENWOOD & COMPANY | AUXILIARY | EMD-011399 | C | | 5.0g | | | X | | 292Hz | F/L-2718-1 | | |
| | 1,2SX150A,B 1,2SX157A,B 1,2SX158A,B Butterfly Valves | 8" 2" 2" | | X | JAMESBURY CORPORATION | Auxiliary | EMD-016236 | C | Hor 3.0g ver 3.0g | Hor 3.0g ver 3.0g | | | | X | | F/L-2884 | | |
| | 1,2SX193A,B | 4"-150" | | X | BORG WARNER CORPORATION | Auxiliary | EMD-022224 | C | | H 1.0g 2.5g V 3.0g | | | X | X | 205 9011 450 | F/L-2790 | | |
| | OSX028A,B OSX127A,B OSX143A,B | 8" | | X | ANDERSON, GREENWOOD & COMPANY | Auxiliary | EMD-013031 | C | | Hor 3.0g ver 4.0g | | | X | X | 165Hz | F/L-2718 | | |
| | OSX064A,B | 6"-30.3# globe valve | | | MASONEILAN INTERNATIONAL COMPANY | Auxiliary | EMD-020339 | C | Hor 3.0g ver 3.0g | Hor 3.0g ver 3.0g | | | | X | 18Hz 24Hz 25Hz | F/L-2793 | | |
| | Globe Valves 1,2SX189A,B | 3/4" | | X | BORG-WARNER | Auxiliary | EMD-26077 | C | | H 3.0g 2.5g V 3.0g | | | | | >33Hz | F/L-2794-1 | | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(B) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF EQUIPMENT IMPORTANT TO SAFETY

UTILITY: COMMONWEALTH Edison COMPANY

DOCKET NOS: STN 50-450, and STN 50-455

PLANT NAME : HYDRO UNITS 1 + 2

ESS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARCENT & LUNDY ENGINEERS

PAGE 104 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | | LOAD INPUT | | QUALIP. METHOD | | | | REMARKS: |
|--|--|----------------|----------|-----|--|--------------------------------|---------------|-------------|-------------|----------------|------|------|-------|----------|
| | TYPE, NAME | RANGE, SIZE | REQD | REP | | REPORT IDENT. (B) | STATUS (C) | TYPE ONE | TYPE TWO | AVAIL. | TEST | TEST | TEST | |
| ESSENTIAL SERVICE WATER SYSTEM HS, CS | AIR ACTUATORS FOR VALVES 7226-SR60 T-3128-SR4 732-SR60 | | | X | BETTIS CORP. FOR JAMESBURY VALVE | END-010426 and END-011124 | C | 5.0g | | X | | | | F/L-2884 |
| | VALVE OPERATORS SMB-0-25 SMB-0/H3BC SMB-0-25/H3BC SMB000-2/H3BC SMB-2H3BC | | | X | LIMITORQUE FOR JAMESBURY VALVE | END-010426 | C | 5.0g | | X | | | | F/L-2884 |
| ESSENTIAL SERVICE WATER SYSTEM HS, CS | LIMIT SWITCHES FOR BUTTERFLY VALVES | | | X | ASCO FOR JAMESBURY VALVE | END-010426, 011234 & 011924 | C | 1.0g | | X | | | | F/L-2884 |
| | BUTTERFLY VALVES OSK162A-D OSK163A-H | 24", 150# | | X | POST-SEAL INTERVENTIONAL WATER FOR CERAMIC COOLING TUNERS TOWER CO. | END-012042 | C | 1.0g | | X | | | 248Hz | F/L-2884 |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - RETUEL.

(B) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: DTN 50-454 and DTN 50-455

UTILITY: COMMONWEALTH Edison COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

PAGE 105 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: | | |
|--|---|---|------------|-----|-------------------------------------|--|--|--------------------|--|----------------|----------------|------|----------------|------------------------------------|--|------------|-------|---------------|
| | TYPE, NAME | RANGE, SIZE | SSA NO. | RCH | | | VENDOR | BUILDING, ELEV. | REPORT ID/NO. (B) | SEISMIC GFA | HYDRO | | ANALY. TYPE | TEST TYPE | | | CONF. | NAT. PRES. |
| | | | | | | | | | | | DYN. | DYN. | | | | | | |
| ESSENTIAL SERVICE WATER SYSTEM HS, CS | GLOBE VALVES | | | X | ANDERSON, GREENWOOD & COMPANY | AUXILIARY CONTAIN- MENT, RIVER SCREEN HOUSE | EMD-012215 | | 5.0g | | | X | | 138Hz | | F/L-2718-1 | | |
| | OSX050A,B OSX068A,B OSX069A,B OSX155A,B 1,2SX050A,B 1,2SX106A-D 1,2SX107A-D 1,2SX110A-D 1,2SX111A-D 1,2SX113A,B 1,2SX119A,B 1,2SX141A,B 1,2SX142A,B 1,2SX144A,B 1,2SX148A-D | 3/4": 150#, 900# & 1500# and 1": 150#, 900# | | | | | | | | | | | | | | | | |
| | Butterfly Valves 8" OSX029A,B | | X | X | JAMESBURY CORPORATION | River Screen House | EMD File 010426, 011070, 011723, 012737 | | Hor 1.0g 2.5g Ver 3.0g Hor 4.5g 4.0g Ver 1.5g | | | X | | 15Hz to 99Hz all cases | | F/L-2884 | | |
| | 1,2SX018A-D 1,2SX021A-D 1,2SX022A-D 1,2SX025A-D | 10" | | X | | Containment | | | | | X | | | | | | | |
| | 1,2SX104A,B 1,2SX105A,B 1,2SX052A,B 1,2SX057A,B 1,2SX169A,B OSX172 & 174 | 10" | | X | | Auxiliary | | | | | X | | | | | | | |
| | 1,2SX112A,B 1,2SX114A,B | 12" | | | | Auxiliary | | | Hor 1.0g 2.5g Ver 3.0g | | X | | | | | | | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(B) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF EQUIPMENT IMPORTANT TO SAFETY

UTILITY: COMMERCIAL SEISMIC COMPANY

DOCKET NOS: STN 50-454 and STN 50-455

PLANT NAME : BYRON UNITS 1 + 2

NSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

PAGE 106 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | LOCATION | QUALIFICATION | | LOAD INPUT | | QUALIF. METHOD | | | REMARKS: |
|--|----------------|------------------|---------------------------|---|------------------------|---------------|-----------------------|---------------------|-----------------------|-------------|--|--|
| | TYPE, NAME | RANGE, SIZE | | | REPORT ELEV. (B) | STATUS (C) | SEISMIC DPA (D) | HYDRO DPA (E) | ANALY. TEST (F) | TEST (G) | FLOOR RESPONSE SPECTRA ID. NO. | |
| ESSENTIAL SERVICE WATER SYSTEM HS, CS | BALL VALVES | 3/4", 1", 1 1/2" | ITT GRINNELL VALVE CO. | AUXILIARY AND CONTAIN- MENT BUILDINGS | CQD-000573 | C | | | | | NA | SEVERAL VALVE PROPERTIES WERE COMPARED TO THOSE OF THE ATTACHED PIPING F/1-2910 |
| | OSX2065A, B | | | | | | | | | | | |
| | OSX2179A, B | | | | | | | | | | | |
| | OSX2178A, B | | | | | | | | | | | |
| | 1, 2SX2179A, B | | | | | | | | | | | |
| | 1, 2SX2180A, B | | | | | | | | | | | |
| | 1, 2SX2102 | | | | | | | | | | | |
| | 1, 2SX2103A, B | | | | | | | | | | | |
| | 1, 2SX2186 | | | | | | | | | | | |
| | 1, 2SX2190 | | | | | | | | | | | |
| | 1, 2SX2191 | | | | | | | | | | | |
| | 1, 2SX2077A, B | | | | | | | | | | | |
| | 1, 2SX2080A, B | | | | | | | | | | | |
| | 1, 2SX2165A, B | | | | | | | | | | | |
| | 1, 2SX2184 | | | | | | | | | | | |
| | 1, 2SX2184A, B | | | | | | | | | | | |
| | 1, 2SX2185 | | | | | | | | | | | |
| | 1, 2SX2163A, B | | | | | | | | | | | |
| | 1, 2SX2166A, B | | | | | | | | | | | |
| | 1, 2SX2157A-D | | | | | | | | | | | |
| | 1, 2SX2158A-D | | | | | | | | | | | |
| | 1, 2SX2185A, B | | | | | | | | | | | |
| | 1, 2SX2167A, B | | | | | | | | | | | |
| | 1, 2SX2070 | | | | | | | | | | | |
| | 1, 2SX2082A-D | | | | | | | | | | | |
| | 1, 2SX2083A-D | | | | | | | | | | | |
| | 1, 2SX2087A, B | | | | | | | | | | | |
| | 1, 2SX2088A, B | | | | | | | | | | | |
| | 1, 2SX2073A, B | | | | | | | | | | | |
| | 1, 2SX2014A-C | | | | | | | | | | | |
| | 1, 2SX2161A-C | | | | | | | | | | | |
| | 1, 2SX2166A | | | | | | | | | | | |
| | 1, 2SX2198A, B | | | | | | | | | | | |
| | 1, 2SX2148A, B | | | | | | | | | | | |
| | 1, 2SX2142A, B | | | | | | | | | | | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF EQUIPMENT IMPORTANT TO SAFETY

UTILITY: COMMONWEALTH EDISON COMPANY

DOCKET NOS: STN 50-451 and STN 50-455

A/E: SARGENT & LUNDY ENGINEERS

PLANT NAME : HYDRO UNITS 1 + 2

NSSS: WESTINGHOUSE ELECTRIC COMPANY

PAGE 107 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | | LOAD INPUT | | | QUALIF. METHOD | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|---|---------------|----------------|--------------|-------|----------|-------------------------|---------------|----------------|-----|-----|----------------|--------------|---------------|--|------------|
| | TYPE, NAME | RANGE, SIZE | MANUFACTURER | MODEL | | REPORT IDENT. (F) | STATUS (C) | SEISMIC DFA | SEE | SEE | ANAL. | TEST DYN. | TEST STAT. | | |
| Essential Service Water System HS, CS | OSX145A,B | | | | | | | | | | | | | | F/L-2718 |
| | OSX196D | | | | | | | | | | | | | | F/L-2884 |
| | OSX163A | | | | | | | | | | | | | | F/L-2794-2 |
| | OSX164A,B | | | | | | | | | | | | | | F/L-2758 |
| | OSX175A,B | | | | | | | | | | | | | | F/L-2913 |
| | OSX188 | | | | | | | | | | | | | | F/L-2848 |
| | 1,2SX046A,B | | | | | | | | | | | | | | |
| | 1,2SX091A,B | | | | | | | | | | | | | | |
| | 1SX104A,B | | | | | | | | | | | | | | |
| | 1SX105A,B | | | | | | | | | | | | | | |
| | 1,2SX124A,B | | | | | | | | | | | | | | |
| | 1SX140A | | | | | | | | | | | | | | |
| | 1,2SX168 | | | | | | | | | | | | | | |
| | 1,2SX192A,B | | | | | | | | | | | | | | |
| | 1SX194 | | | | | | | | | | | | | | |
| | 1,2SX195A-D | | | | | | | | | | | | | | |
| | 1,2SX199A,B | | | | | | | | | | | | | | |
| | 1,2SX205 | | | | | | | | | | | | | | |
| | 1,2SX206A,B | | | | | | | | | | | | | | |
| | 1,2SX207A,B | | | | | | | | | | | | | | |
| | 1,2SX2161A-C | | | | | | | | | | | | | | |
| | 2SX188A,B | | | | | | | | | | | | | | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CS - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2
 NSSS: WESTINGHOUSE ELECTRIC COMPANY
 DOCKET NOS: STN 50-454 and STN 50-455
 A/E: SARGENT & LUNDY ENGINEERS
 UTILITY: COMMONWEALTH Edison COMPANY
 PAGE 108 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | | STATUS (C) | LOAD INPUT | | HYDRO DYN. DYN. | QUALIF. METHOD | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|---------------------------------|--|--------------------------|--------------|-------------------|--------------------|-------------------|------------|------------|--------------|------|-----------------|----------------|------|---------------|--------------------------------|----------|
| | TYPE, NAME | RANGE, SIZE | MANUFACTURER | VENDOR | | REPORT IDENT. (R) | STATUS (C) | | SEISMIC ZONE | OVER | | QUALITY | TEST | NAT. FREQ. Hz | | |
| Auxiliary Building, HVAC HS, CS | Ventilation Fan | 1969# | X | Joy Mfg. Co. | Auxiliary Building | EMD-013588 | C | | H | 3.98 | V | X | | 67.9 | Hz | F/L-2774 |
| | OVA04CA, CB | 63,000 CFM | | | | | | | | | | | | | | |
| Auxiliary Building, HVAC R | HVAC Fan | 72" | X | Joy Mfg. Co. | Auxiliary Building | EMD-019044 | C | | H | .814 | V | X | | 35.9 | Hz | F/L-2774 |
| | OVA01CA-D | 155,550 CFM | | | | | | | | | | | | | | |
| Auxiliary Building, HVAC R | HVAC Fan | 72" | X | Joy Mfg. Co. | Auxiliary Building | EMD-019044 | C | | H | .96 | V | X | | 49.2 | Hz | F/L-2774 |
| | OVA02CA-D | 175,040 CFM | | | | | | | | | | | | | | |
| Auxiliary Building, HVAC R | HVAC Fan | 48" | X | Joy Mfg. Co. | Auxiliary Building | EMD-019044 | C | | H | .94 | V | X | | 53.7 | Hz | F/L-2774 |
| | OVA03CA-F | 63,000 CFM | | | | | | | | | | | | | | |
| Auxiliary Building, HVAC R | HVAC Fan | 42" | X | Joy Mfg. Co. | Auxiliary Building | EMD-019044 | C | | H | .453 | V | X | | 60.69 | Hz | F/L-2774 |
| | 1,2VA08CA,B | 46,600 CFM | | | | | | | | | | | | | | |
| Auxiliary Building, HVAC HS, CS | Fan Board Assembly | 24" Fan in each assembly | X | The Trans Company | Auxiliary Building | EMD-010944 | C | | H | 1.48 | V | X | | 33Hz | Hz | F/L-2900 |
| | 1,2VA01CA-CH 1,2VA02CA-CH 1,2VA03CA-CH 1,2VA04CA-CH 1,2VA05CA, CB 1,2VA06CA-CD 1,2VA07CA, CB | | | | | | | | | | | | | | | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
 HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
 CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2
NSSL: WESTINGHOUSE ELECTRIC COMPANY

DOCKET NOS: STN 50-454, and STN 50-455
A/E: SARGENT & LUNDY ENGINEERS

UTILITY: COMMONWEALTH Edison COMPANY

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIERS | | LOCATION | QUALIFICATION | | LOAD INPUT | | | QUALIF. METHOD | | | | REMARKS: |
|--|---|---------------------|-----------|-----|----------------------|---|---------------|----------------|--------------------------------|---------------|----------------|--------------|--------------|--|--|
| | TYPE, NAME | RANGE, SIZE | NO. | NO. | | REPORT IDENT, (B) | STATUS (C) | SEISMIC ZPA | SEE | HYDRO DYN. | ANALYT. | TEST DATA | CON- FIRM | FLOOR RESPONSE SPECTRA 10.4 11.0 NO. | |
| Auxiliary Building, HV/C HS, CS | Cubicle Coolers 1, 2VA01SA, SB 1, 2VA02SA, SB 1, 2VA03SA, SB 1, 2VA05SA, SB 1, 2VA05S 1, 2VA06SA, SB 1, 2VA07S | | X | | The Trans Company | Auxiliary 300'-0" 363'-0" 364'-0" 401'-0" | END-009409 | C | H 2.34 V 3.34 | | | X | | 32.4 Hz 10.12-16, 21-24 | F/L-2900 |
| | | | | | | | | | | | | | | | |
| Auxiliary Building, HV/C HS, CS | Cubicle Cooler 1, 2VA08S | | X | | The Trans Company | Auxiliary 401'-0" | END-020256 | C | 2.03 | | | X | | 38.7 Hz 8.11, 21-24 | F/L-2900 |
| | | | | | | | | | | | | | | | |
| Auxiliary Building, HVAC R | HEPA Filter Banks OVA04FA-F1 OVA06FA-F1 OVA08FA, FB OVA10FA, FB OVA12FA-F1 | 21,000 CFM 1950F | X | | Farr Company | Auxiliary and Fuel Handling | END-017826 | C | H 2.46 0.72 V 0.93 | | | X | | 39.32 Hz 13Hz 11Hz V 46Hz | F/L-2780 Simplified Dynamic Analysis |
| | | | | | | | | | | | | | | | |
| Auxiliary Building, HVAC HS, CS | Carbon Filter Units OVA05FA-1, OVA09FA, B | | X | | Farr Company | Auxiliary 467'-0" | END-020712 | C | H 6.56 V 8.76 | | | X | | 53-60 Hz 16.0 Hz 129.0 Hz 62.0 Hz | F/L-2780 |
| | | | | | | | | | | | | | | | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY; HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFEED.
(3) A/E FILE NUMBER
(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS

OF EQUIPMENT IMPORTANT TO SAFETY

UTILITY: COMMONWEALTH EDISON COMPANY

DOCKET NOS: STN 50-LS4 and STN 50-LS5

A/E: SARGENT & LUNDY ENGINEERS

PLANT NAME : BYRON UNITS 1 + 2

NSCS: WESTINGHOUSE ELECTRIC COMPANY

PAGE 110 OF 142

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION REPORT IDENT. (B) | LOAD INPUT | | QUALIF. METHOD | | FLOOR RESPONSE SPECTRA ID, NO. | REMARKS: |
|---------------------------------|---|-------------|--------------|----------------------------|--------------------------|---------------------------------|------------------------------|------------|----------------|--------------------------------|--------------------------------|---|
| | TYPE, NAME | RANGE, SIZE | MANUFACTURER | MODEL | | | SEISMIC DATA | HYDRO DYN. | ANAL. TEST | NAT. PER. CWS. | | |
| Auxiliary Building, HVAC HS, CS | HP Pre-Filter Banks | 7908, 51850 | X | Farr Company | Auxiliary 451 Fuel Hoile | EMD-017826 | H 2.27g 0.70g 0.93g | | X | H 17 Hz 10.2Hz 10.2Hz | 27, 28, 31, 32, 37-40, 53-60 | F/L-2780 Simplified Dynamic Analysis was Performed |
| | OVA01FA-FF | 7908, 51850 | | | | | | | | | | |
| | OVA02FA-FF | 7908, 51850 | | | | | | | | | | |
| | OVA03FA-FF | 6158, 21000 | | | | | | | | | | |
| | OVA07FA-FB | 6158, 21000 | | | | | | | | | | |
| Auxiliary Building, HVAC R | OVA11FA-FL | 6158, 21000 | | | | | | | | | | |
| | HVAC Panels OVA01JA-D | | X | Johnson Control | Auxiliary 467 "A" | EMD-011594 | H 6.5g V 6.75g | | X | 33.74 Hz Lowest | 53, 54, 55, 56, 57, 58, 59, 60 | F/L-2783 |
| Auxiliary Building, HVAC HS, CS | Instru. Panels OVA21J-24J, 1, 2VA01J-08J, 1, 2VA10J, 11J, 13J | | X | Johnson Control | Auxiliary | EMD-030446 | | | X | 47.22 | | F/L-2783 |
| | Q-Duct Silencers OVA01XB,C | | X | Reliable Sheet Metal Works | Auxiliary | EMD-025198 | H 6.0g V 6.0g | | X | | | F/L-2782 |
| Auxiliary Building, HVAC HS, CS | Instruments OHS-VA511 thru OHS-VA540, OHS-VA546, OHS-VA547 | | X | Johnson Controls | Auxiliary | EMD-030446 | | | X | 47.22 | | F/L-2783 |
| | | | | | | | | | | | | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY; HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; BF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE; CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : PYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

PAGE 111 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | STATUS | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS |
|------------------------------------|---|--|----------|-----|--|-----------------------------|--------|--|------------|------|--|----------------|----------|-------|------------|--------------------------------|--|
| | TYPE, NAME | RANGE, SIZE | NSSS | ROP | VENDOR | REPORT IDENT. (B) | | SEISMIC ZPA | HYDRO DYN. | DYN. | | ANALY. STAT. | TEST CN. | CONF. | NAT. FREQ. | | |
| Auxiliary Building HVAC System (R) | OVA012Y OVA015Y OVA016Y OVA019Y HVAC Dampers to use with Fans | 180"x60" | | X | Techno Corporation | EMD-021751 | C | HOE: 3.18 HOR: 3.9 VER: 3.18 VER: 3.9 | | | | X | X | | 593Hz | | F/L-2910 |
| | Damper Actuators NH91, NH92, NH95 | | | X | Pacific Air Products Company | EMD-027977 | C | H = 5.0g H = 7.0g V = 5.0 V = 8.0g | | | | | X | | | | F/L-2903 |
| Auxiliary Building HVAC (HS, CS) | Damper Assemblies OVA108Y 1,2VA002Y,3Y | | | X | Pacific Air Products Company | EMD-029481, 027371 & 025047 | C | 2.5g 3.0g | | | | X | | | 35Hz | | F/L-2903 |
| Auxiliary Building HVAC System (R) | Supply Fan Check Dampers OVA0036, 004Y 008Y, 009Y | | | X | Techno Corp. | EMD-012898 | C | H = 2.25g H = 3.0g V = 2.5g V = 3.0g | | | | X | | | | Sheet Nos. 28, 32, 37-40 | F/L-2910 |
| Auxiliary Building HVAC System (R) | OVA098Y-101Y, 091Y-095Y, 419Y, 173Y, 174Y, 396Y, 397Y, 109Y, 105Y, 107Y, 103Y, 440Y, 112Y-116Y, | Manual Rect. Dampers Largest Size: 44"x60" | | X | American Warming and Ventilating, Inc. | EMD-020495 | C | H1 = 3.5 H2 = 3.5 V = 6.0 | | | | X | | | 31.8Hz | | F/L-2782 |
| | OVA441Y-447Y | Manual Round Dampers Largest Size: 11"Ø | | | | | | | | | | | | | | | These dampers were qualified by similarity |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

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SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

NSSS: WESTINGHOUSE ELECTRIC COMPANY

DOCKET NOS: STN 50-454 and STN 50-455

A/E: SARGENT & LUNDY ENGINEERS

UTILITY: COMMONWEALTH Edison COMPANY

PAGE 112 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | | LOAD INPUT | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|---|--|--|----------|-----|--|-------------------------|--------------------------|----------------|--|----------------|-----------------|------|-------|--|---|
| | TYPE, NAME | RANGE, SIZE | NSSS | BOF | | REPORT IDENT. (B) | STATUS (C) | SEISMIC ZPA | SSE | HYDRO DYN. | ANALY. STAT. | TEST | COMB. | | |
| Auxiliary Building HVAC System (R) | OVA338Y - 355Y, 358Y - 371Y, 142Y - 152Y, 155Y - 165Y, 126Y - 132Y, 190Y - 196Y, 222Y - 226Y, 319Y, 311Y, 312Y, 313Y, 316Y, 388Y, 389Y, 394Y, 453Y, 454Y, 320Y, 124Y, 119Y, 136Y, 122Y, 120Y, 134Y, 402Y, 433Y, 167Y, 169Y, 171Y, 139Y, 123Y, 431Y, 432Y, 415Y, 416Y | Manual Rect. Dampers Largest Size: 44"x60" 6 72"x28" | | X | American Warming and Ventilating, Inc. | Auxiliary | EMD-020485 | C | H ₁ = 3.5 H ₂ = 3.5 V = 6.0 | | X | | | 33.8Hz | F/L-2782 These dampers were qualified by similarity |
| | Fire Dampers Curtain Type OVA234Y, 255Y, 258Y, 259Y, 384Y, 386Y, 391Y, 392Y, 413Y, 414Y, 449Y-452Y, 455Y, 456Y, 459Y-462Y, 479Y-484Y | Largest Size: 48"x24" 6 34"x46" | | X | American Warming and Ventilating, Inc. | Auxiliary | EMD-020711 EMD-020267 | C | H 1.4 V 0.8 H 1.1 V 1.6 | | X | | | Speci- men 2 #1 = 21 Hz #2 = 15 Hz #3 = 15 Hz | F/L-2782 The dampers were qualified by similarity |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
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SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

PAGE 113 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | STATUS (C) | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|---|-----------------------|---|----------|-----|--|--------------------|-------------------------|----------------|---|------|------|-----------------|--------------|--------------|--------------|--|--|
| | TYPE, NAME | RANGE, SIZE | NSSS | FOR | VENDOR | BUILDING, ELEV. | REPORT IDENT. (B) | SEISMIC EPA | HYDRO | DYN. | DYN. | ANALY. STAT. | TEST DYN. | TEST ENV. | TEST ENV. | | |
| Auxiliary Building HVAC System (R) | Balancing Dampers: | Manual Rect. Dampers Largest Sizes: 44"x60" & 72"x28" | X | | American Warming and Ventilating Inc. | Auxiliary | EMD-020485 | C | H ₁ = 3.5g H ₂ = 3.5g V = 6.0g | | | X | | | | 03.8Hz | F/L-2782 These dampers were qualified by similar- ity |
| | OVA181Y, 281Y, | | | | | | | | | | | | | | | | |
| | 183Y, 283Y, | | | | | | | | | | | | | | | | |
| | 185Y, 285Y, | | | | | | | | | | | | | | | | |
| | 186Y, 286Y, | | | | | | | | | | | | | | | | |
| | 188Y, 244Y, | | | | | | | | | | | | | | | | |
| | 204Y, 245Y, | | | | | | | | | | | | | | | | |
| | 206Y, 249Y, | | | | | | | | | | | | | | | | |
| | 234Y, 250Y, | | | | | | | | | | | | | | | | |
| | 236Y, 264Y, | | | | | | | | | | | | | | | | |
| | 199Y, 253Y, | | | | | | | | | | | | | | | | |
| | 202Y, 257Y, | | | | | | | | | | | | | | | | |
| | 229Y, 292Y, | | | | | | | | | | | | | | | | |
| | 232Y, 290Y, | | | | | | | | | | | | | | | | |
| | 216Y, 273Y, | | | | | | | | | | | | | | | | |
| | 219Y, 275Y, | | | | | | | | | | | | | | | | |
| | 293Y, 304Y, | | | | | | | | | | | | | | | | |
| | 213Y, 306Y, | | | | | | | | | | | | | | | | |
| | 243Y, 324Y, | | | | | | | | | | | | | | | | |
| | 211Y, 329Y, | | | | | | | | | | | | | | | | |
| | 212Y, 332Y, | | | | | | | | | | | | | | | | |
| | 241Y, 333Y, | | | | | | | | | | | | | | | | |
| | 242Y, 374Y, | | | | | | | | | | | | | | | | |
| | 269Y, 379Y, | | | | | | | | | | | | | | | | |
| | 271Y, 382Y, | | | | | | | | | | | | | | | | |
| | 276Y, 383Y, | | | | | | | | | | | | | | | | |
| | 277Y, 326Y, | | | | | | | | | | | | | | | | |
| | 300Y, 327Y, | | | | | | | | | | | | | | | | |
| | 302Y, 328Y, | | | | | | | | | | | | | | | | |
| | 307Y, 376Y, | | | | | | | | | | | | | | | | |
| | 308Y, 377Y, | | | | | | | | | | | | | | | | |
| | 266Y, 378Y, | | | | | | | | | | | | | | | | |
| | 267Y, 318Y, | | | | | | | | | | | | | | | | |
| | 297Y, 335Y, | | | | | | | | | | | | | | | | |
| | 298Y, 336Y, | | | | | | | | | | | | | | | | |
| | 337Y | | | | | | | | | | | | | | | | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(B) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2
NSSS: WESTINGHOUSE ELECTRIC COMPANY

DOCKET NOS: STN 50-454 and STN 50-455
A/E: SARGENT & LUNDY ENGINEERS

UTILITY: COMMONWEALTH EDISON COMPANY

PAGE 114 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | STATUS (C) | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: | | | |
|---|---|----------------|----------|-----|------------------------------------|--------------------------------------|--------------------------------|------------|--------------------|-------------------------|---------|----------------|---------------|------|-------------------|--|----------|---------------|----------------|------------------------|
| | TYPE, NAME | RANGE, SIZE | NSSS | BSP | | | | VENDOR | BUILDING, ELEV. | REPORT IDENT. (B) | SEISMIC | | HYDRO DYN. | DYN. | ANALY. STAT. | | | TEST STAT. | CONC. STAT. | NAT. PRES. STAT. |
| | | | | | | | | | | | OFF | SSE | | | | | | | | |
| Auxiliary Building HVAC System (R) | Damper Assemblies OVA061YA,B,C OVA062Y OVA063YA,B,C OVA064YA,B,C OVA065YA,B,C OVA067YA,B OVA068YA,B,C OVA069YA,B,C OVA070YA,B,C OVA072YA,B OVA073YA,B,C OVA074YA,B,C OVA075YA,B,C OVA077YA,B,C OVA078YA,B,C OVA079YA,B OVA080YA,B,C OVA081YA,B,C OVA082YA,B,C OVA083YA,B thru OVA090YA,B OVA096Y,97Y OVA102Y, 104Y OVA106Y OVA110Y, 111Y OVA117Y, 133Y OVA135Y, 137Y OVA138Y, 140Y OVA141Y, 153Y OVA154Y, 166Y OVA168Y, 170Y OVA172Y, 182Y OVA184Y, 187Y OVA189Y, 197Y OVA428Y-430Y OVA435Y, 448Y | | | X | Pacific Air Products Company | Auxiliary and Contain- ment | EMD-029481, 027371 & 025043 | C | P 3.0g | H 4.5g | | | | | 2 Hz and up | F/L - 2903 | | | | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

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SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2
NSSS: WESTINGHOUSE ELECTRIC COMPANY

DOCKET NOS: STN 50-454 and STN 50-455
A/E: SARCENT & LUNDY ENGINEERS

UTILITY: COMMONWEALTH EDISON COMPANY
PAGE 115 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION REPORT IDENT. (B) | LOAD INPUT | | QUALIF. METHOD | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--|----------------------|----------------|-----------|---------------|--------------------------------------|--|------------------|---------------|----------------|--------------|--|----------|
| | TYPE, NAME | RANGE, SIZE | NO. /S | HOW TESTED | | | SEISMIC ZPA | HYDRO DYN. | ANALY. DATA | TEST DATA | | |
| Auxiliary Building HVAC (R) | Damper Assemblies | | | | Auxiliary and Contain- ment | IMO-029481, 027371 b 025043 | H 3.0g V 3.0g | | | | | F/L-2903 |
| | OVA005Y, 10Y | | | | | | H 4.5g V 3.0g | | | | | |
| | OVA011Y, 51Y | | | | | | | | | | | |
| | OVA020YA, B thru | | | | | | | | | | | |
| | OVA025YA, B | | | | | | | | | | | |
| | OVA026YA, B, C | | | | | | | | | | | |
| | OVA027YA, B, C | | | | | | | | | | | |
| | OVA028YA, B, C | | | | | | | | | | | |
| | OVA030YA, B, C | | | | | | | | | | | |
| | OVA031YA, B | | | | | | | | | | | |
| | OVA032YA, B, C | | | | | | | | | | | |
| | OVA034YA, B, C | | | | | | | | | | | |
| | OVA035YA, B, C | | | | | | | | | | | |
| | OVA036YA, B, C | | | | | | | | | | | |
| | OVA038YA, B, C | | | | | | | | | | | |
| | OVA039YA, B, C | | | | | | | | | | | |
| | OVA040YA, B, C | | | | | | | | | | | |
| | OVA042YA, B, C | | | | | | | | | | | |
| | OVA043YA, B, C | | | | | | | | | | | |
| | OVA046YA, B, C | | | | | | | | | | | |
| | OVA047YA, B | | | | | | | | | | | |
| | OVA048YA, B, C | | | | | | | | | | | |
| | OVA052YA, B | | | | | | | | | | | |
| | OVA053YA, B, C | | | | | | | | | | | |
| | OVA054YA, B | | | | | | | | | | | |
| | OVA055YA, B, C | | | | | | | | | | | |
| | OVA056YA, B, C | | | | | | | | | | | |
| | OVA057Y | | | | | | | | | | | |
| | OVA058YA, B, C | | | | | | | | | | | |
| | OVA059YA, B | | | | | | | | | | | |
| | OVA060YA, B, C | | | | | | | | | | | |
| | OVA424YA, B thru | | | | | | | | | | | |
| | OVA427YA, B | | | | | | | | | | | |
| | OVA470Y-478Y | | | | | | | | | | | |
| | OVA436YA, B | | | | | | | | | | | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; UF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

PAGE 116 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | | LOCATION | QUALIFICATION | | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--|---|----------------|----------|-----|--------|------------------------------------|------------------------------------|--------------------------------|----------------|----------------------------|----------------------------|------|-----------------|------|------|------|--|----------|
| | TYPE, NAME | RANGE, SIZE | SSSH | HOP | VENDOR | BUILDING, ELEV. | REPORT IDENT. (B) | STATUS (C) | SEISMIC EPA | | HYDRO DYN. | DYN. | ANALY. STAT. | DYN. | TEST | CODE | NAT. PREC. | |
| | | | | | | | | | OBE | SCE | | | | | | | | |
| Auxiliary Equipment HVAC (R) | Damper Assemblies OVA198Y,200Y OVA201Y,203Y OVA205Y,214Y OVA207Y-210Y OVA215Y,217Y OVA218Y,220Y OVA221Y,227Y OVA228Y,230Y OVA233Y,235Y OVA237Y-240Y OVA261Y,262Y OVA265Y,268Y OVA270Y,272Y OVA274Y,282Y OVA278Y-280Y OVA284Y,291Y OVA287Y-289Y OVA296Y,299Y OVA301Y,303Y OVA305Y,309Y OVA310Y,315Y OVA317Y,322Y OVA323Y,325Y OVA331Y,334Y OVA356Y,357Y OVA372Y,373Y OVA375Y,381Y OVA385Y,390Y OVA400YA,B OVA401A,B OVA395Y,434Y OVA403Y-408Y OVA417Y,418Y OVA420Y-423Y OVA437YA,B OVA438YA,B | | | | X | Pacific Air Products Company | auxiliary & contain- ment | EMD-029481, 027371 & 025043 | C | H 3.0g V 3.0g | H 4.5g V 3.0g | | | | | | 2Hz and up | F/L-2903 |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

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SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF EQUIPMENT IMPORTANT TO SAFETY

UTILITY: COMMONWEALTH EDISON COMPANY

PAGE 117 OF 148

DOCKET NOS: STN 50-45L and STN 50-45S

A/E: SARGENT & LUNDY ENGINEERS

PLANT NAME : BYRON UNITS 1 + 2

NSSS: WESTINGHOUSE ELECTRIC COMPANY

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLY | | LOCATION | QUALIFICATION | | LOAD INPUT | | | QUALIF. METHOD | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--|---------------|----------------|----------|----------|----------|-------------------------|---------------|----------------|----------------|------|-------------------------|---------------------|--------------|--|---|
| | TYPE, NAME | RANGE, SIZE | MS CS | HS RF | | REPORT IDENT. (B) | STATUS (C) | SEISMIC ZFA | HYDRO DYTH. | DYN. | ANALY. STAT. DYN. | COMP. ID. NO. | NAT. REQ. | | |
| Auxiliary Building HVAC | OVA03EA4E | | | X | Aux. | | N/C | | | | | | | | F/L-2910 F/L-2788, 2782, 2783, 2903 |
| | OVA08EA9E | | | | | | | | | | | | | | |
| | OVA012E-A | | | | | | | | | | | | | | |
| | OVA015E-B | | | | | | | | | | | | | | |
| | OVA015E-A | | | | | | | | | | | | | | |
| | OVA016E-A | | | | | | | | | | | | | | |
| | OVA016E-B | | | | | | | | | | | | | | |
| Auxiliary Building HVAC | OVA019E-A | | | | | | N/C | | | | | | | | |
| | OVA-19E-B | | | | | | | | | | | | | | |
| Instrumentation | | I | | X | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
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SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

PAGE 118 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | | LOCATION | QUALIFICATION | | STATUS (C) | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--|---|--|----------|-----|----------------------|-------------------------------|-------------------------|----------------|---------------|---------------|--------------------------|-----------------|--|----------------|-------|---------------|----------------------|--|--|
| | TYPE, NAME | RANGE, SIZE | NSSS | ROP | VENDOR | BUILDING, ELEV. | REPORT IDENT. (B) | SEISMIC ZPA | | HYDRO DYN. | DYN. | ANALY. STAT. | | TEST DYN. | COMB. | NAT. FREQ. | | | |
| | | | | | | | | OBE | | | | SSE | | | | | | | |
| Control Room, Auxiliary Elect Equipment Room HVAC R | Cubicle Coolers OVC01AA&AB | | | X | TRANE Co. | Auxiliary | EMD-016551 | | C | | 2.3g | | | X | | | 30.2Hz | 28,32,37,38, 39,40 | F/L-2900 |
| R | Electric Duct Heaters OVC02AA&2AB, OVC04A, OVC05A, OVC07AA&7AB, OVC08A,OVC09A, OVC010A flanged (types CF&CG) | 78"x34" 16"x10" 12"x8" 20"x10" 24"x10",20" x8" 10"x10" | | X | BRASCH MAN. CORP. | Auxiliary 464' 451' | EMD-014050 | | C | | H 2.8g V 6.0g | | | X | | | | | The natural frequency was not determined. F/L-2826 |
| R | Electric Steam Generators OVC01BA/BB | 70"x41" for 24" D boiler | | X | BRASCH MAN. CORP. | Auxiliary 451'-6" | EMD-014050 | | C | | H 1.05g V 2.43g | | | X | | | 53Hz | Sheet Nos. 27,28,31,32, 37-40 | F/L-2826 |
| R | Ventilation Fan OVC01CA,CB OVC02CA,CB | | | X | JOY MANUF. Co. | 401'-0" | EMD-018235 | | C | | H 0.89g V 0.94g | | | X | | | | 84Hz, 52Hz | F/L-2779 |
| HS, CS | Carbon filter Units OVC02FA,B | | | X | FARR Co. | Auxiliary 467'-00" | EMD-020717 | | C | | H .65g V .67g | | | X | | | lowest 1s 16Hz | Sheet Nos. 53 - 60 | F/L-2780 |
| R | Make-up air filter OVC01SA,B | | | X | FARR Co. | Auxiliary 467'-00" | | | C | | H .65g V .67g | | | | | | lowest 1s 16Hz | Sheet Nos. 53 - 60 | F/L-2780 |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2
NSSS: WESTINGHOUSE ELECTRIC COMPANY

DOCKET NOS: STN 50-454 and STN 50-455
A/E: SAUGENT & LUNDY ENGINEERS

UTILITY: COMMONWEALTH EDISON COMPANY

PAGE 119 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: | | |
|--|--|-----------------------|----------|-----|----------------------------------|-------------------------|---------------|---------------------------------|-----|---------------|------|-----------------|------|-------|-------|--|--|--|----------|
| | TYPE, NAME | RANGE, SIZE | WSS | ROP | BUILDING, ELEV. | REPORT IDENT. (B) | STATUS (C) | SEISMIC ZFA OBE | SSE | HYDRO DYN. | DYN. | ANALY. STAT. | DYN. | TEMP. | COMB. | NAT. FREQ. | | | |
| Control Room Auxiliary Elect. Equipment Room HVAC R | OVC01FA&B HP Pre-filter banks | 2,335 # 55,310 CFM | | X | FARR Co. | EMD-017826 | | H 2.2g 0.7g V 0.95g | | | | X | | | | H 116Hz 87Hz V 87Hz | 27, 28, 31, 32, 37 thru 40 and 53-60 F/L-2780 | simplified dynamic analysis was performed F/L-2780 | |
| | OVC01JA-B HVAC Panel | | | X | JOHNSON CONTROL CORP | EMD-020210 | C | Hor: 0.7 Ver: 0.95 | | | | X | | | | | 39, 32 Rev. 9 28, 37, 38, 40 F/L-2783 | F/L-2783 | |
| HS, CS | Q-Duct Silencers OVC01X, 2X, 3X, 4X | | | X | RELIABLE SHEET METAL WORKS | EMD-025198 | C | H = 6.0g V = 6.0g | | | | X | | | | | | F/L-2782 | |
| | | | | | | | N/C | | | | | | | | | | | F/L-2780 | |
| Control Room, Auxiliary Electric Equipment Room HVAC | OVC03CA&CB OVC03FA&FB thru OVC07FA&FB OVC12AA&AB | | | X | | | | | | | | | | | | | | | |
| | OVC06C&7C OVC08C | | | | | | | | | | | | | | | | | | F/L-2782 |

(A) FUNCTIONAL MODE: R - RUN; S - START; P - HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(B) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

PAGE 120 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | | LOCATION | QUALIFICATION | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR | REMARKS: |
|---|---|---|----------|-----|---|--------------------|-------------------------|----------------|--|------|-----------------|----------------|-------|---------------|-----------------------------------|--|----------|
| | TYPE, NAME | RANGE, SIZE | SSSS | FOR | VENDOR | BUILDING, ELEV. | REPORT IDENT. (B) | SEISMIC ZPA | HYDRO DYN. | DYN. | ANALY. STAT. | TEST | CONC. | NAT. FREQ. | RESPONSE SPECTRA ID. NO. | | |
| | | | | | | | | | | | | | | | | ORE | |
| Control Room Aux. Electric Equipment Room HVAC System (R) | OVC080Y 093Y 23YA 23YB 302Y 45Y 038Y 039Y 040Y 041Y 234Y 236Y 074A | 07YB 304Y 308Y 46Y 056Y 058Y 253Y 303Y 225Y 229Y 269Y 305Y 224Y | | X | American Warming and Ventilating, Inc. | Auxiliary | EMD-020485 | C | H ₁ = 3.5g H ₂ = 3.5g V = 6.0 | | | | X | | 33.8Hz | F/L -2782 These dampers were qualified by similarity | |
| | OVC254Y 255Y 256Y 257Y 258Y 259Y 260Y 261Y 262Y 273Y 274Y 275Y 276Y 277Y 270Y 271Y 272Y 278Y | Manual Round Damper 12" Dia. | | | | | | C | | | | | | | | | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF EQUIPMENT IMPORTANT TO SAFETY

UTILITY: COMMUNWEALTH Edison COMPANY

DOCKET NOS: STN 50-451 and STN 50-455

PLANT NAME : BYRON UNITS 1 + 2

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

PAGE 121 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | | QUALIFICATION | | LOAD INPUT | | | QUALIF. METHOD | | FLOOR RESPONSE SPECTRA | | REMARKS: |
|---|------------------------------|----------------------------|----------|-----|--------------------|---|--------------------------|---------------|-------------------|-----------|--------------|----------------|-------|------------------------------|---------------------------|---|
| | TYPE, NAME | RANGE, SIZE | NSSS | BOB | BUILDING, ELEV. | VENDOR | REPORT IDENT. (B) | STATUS (C) | SEISMIC ZPA | SSE | HTRO DYN. | ANALY. TEST | COMB. | PERI- OD. | ID. NO. | |
| Control Room Aux. Electric Equipment Room HVAC System (R) | Fire Dampers Curtain Type | Largest Size 48"x36" | | X | Auxiliary | American Warming and Ventilating, Inc. | EMD-020711 EMD-020267 | C | H 1.4g 1.2g | H 1.6g | | | | | Sheet No. 5 | F/L-2782 The dampers were qualified by similarity |
| | OV-173YA, | Round | | | | | | | V 0.8g | V 1.6g | | | | | 1, 2, 3, 4, 5, 6, 7, 8 | |
| | 173YB | 12" Dia. | | | | | | | | | | | | | | |
| | 174YA | 240YA | | | | | | | | | | | | | | |
| | 174YB | 240YB | | | | | | | | | | | | | | |
| | 176Y | 241YA | | | | | | | | | | | | | | |
| | 177Y | 241YB | | | | | | | | | | | | | | |
| | 178Y | 242YA | | | | | | | | | | | | | | |
| | 179Y | 242YB | | | | | | | | | | | | | | |
| | 180Y | 248Y | | | | | | | | | | | | | | |
| | 181Y | 249Y | | | | | | | | | | | | | | |
| | 183Y | 250Y | | | | | | | | | | | | | | |
| | 184Y | 251Y | | | | | | | | | | | | | | |
| | 185Y | 252Y | | | | | | | | | | | | | | |
| | 186Y | 263Y | | | | | | | | | | | | | | |
| | 187Y | 264Y | | | | | | | | | | | | | | |
| | 190Y | 265Y | | | | | | | | | | | | | | |
| | 191Y | 266Y | | | | | | | | | | | | | | |
| | 193Y | 268Y | | | | | | | | | | | | | | |
| | 197Y | 279Y | | | | | | | | | | | | | | |
| | 198Y | 283Y | | | | | | | | | | | | | | |
| | 200Y | 309Y | | | | | | | | | | | | | | |
| | 226Y | 310Y | | | | | | | | | | | | | | |
| | 227Y | 51Y | | | | | | | | | | | | | | |
| | 231Y | 52Y | | | | | | | | | | | | | | |
| | 232Y | 267Y | | | | | | | | | | | | | | |
| | 233Y | 298Y | | | | | | | | | | | | | | |
| | 235Y | | | | | | | | | | | | | | | |
| | 237Y | | | | | | | | | | | | | | | |
| | 238Y | | | | | | | | | | | | | | | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(C) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF EQUIPMENT IMPORTANT TO SAFETY

UTILITY: COMMONWEALTH Edison COMPANY

DOCKET NOS: STN 50-454 and STN 50-455
A/E: SARAGENT & LUNDY ENGINEERS

PLANT NAME : BYRON UNITS 1 + 2
NCS: WESTINGHOUSE ELECTRIC COMPANY

PAGE 122 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | LOAD INPUT | | | QUALIF. METHOD | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|---|--|--|----------|-----|---|--------------------------------|--------------------------------|---------------|--|----------------|-----------------|--------------|--|---|
| | TYPE, NAME | RANGE, SIZE | HSB | ROP | | | REPORT IDENT. (B) | STATUS (C) | SEISMIC SSE | HYDRO DYN. | ANALY. STAT. | TEST DYN. | | |
| Control Room Aux. Electric Equipment Room HVAC System (R) | Fire Dampers Curtain Type OVC034YA, YB 036Y 037Y 053Y 054Y 059Y 060Y 076Y 077Y 079Y 083Y 084Y 087Y-090Y 092Y 096Y-100Y 102YA, YB 103YA, YB 105Y-115Y | Largest Size 48"x36" Round 12" Dia. | | X | American Warming and Ventilating, Inc. | Auxiliary | EMD-020711 EMD-020667 | C | H 1.4g 1.2g V 1.6g 0.8g | | | X | Sheet Nos.: 1,2,3, 4,5,6, 7,8 | F/L-2782 The dampers were qualified by similarity |
| | Damper Assemblies OVC011YA, B 02V-04Y 032Y, 33Y 035Y, 042Y 044Y, 055Y 05YA, B, C, D 06YA, B, C, D 08Y, 09Y 094Y, 095Y 104Y, 133Y 140Y, 172Y 16Y, 18Y 17YA, B 175Y, 182Y 19Y, 23Y 19Y, 217Y 21YA, B, C, D 22YA, B, C, D 26Y, 25Y 28Y, 29Y 30Y, 31Y, 32Y | | | X | Pacific Air Products Company | Auxiliary and Contamint. | EMD-029481, 027371 A 025043 | C | H 3.0g V 3.0g 3.0g | | | X | 2 Hz and up | F/L-2803 |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RP - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2
NCS: WESTINGHOUSE ELECTRIC COMPANY

DOCKET NOS: STN 50-454 and STN 50-455
A/E: SARGENT & LUNDY ENGINEERS

UTILITY: COMMONWEALTH Edison COMPANY

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| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION BUILDING, ELEV. | QUALIFICATION REPORT IDENT. (B) | LOAD INPUT | | HYDRO DYN. | | QUALIF. METHOD | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|---|--|---------------------------|----------|-----|--------------------------------|--|-------------------|-----------|---------------|------|-----------------|---------------|--|---|
| | TYPE, NAME | RANGE, SIZE | MS SS | WOP | | | SEISMIC ZPA | OBJ | SSD | DYN. | ANALY. STAT. | TEST STAT. | | |
| Control Room Aux. Electric Equipment Room HVAC System (R) | Fire Dampers Curtain Type OVC116Y-128Y | Largest Size 48" x 36" | | X | Auxiliary | EMD-020711 EMD-020267 | H 1.4g 1.2g | H 1.6g | | | | | Sheet No.: 1, 2, 3, 4, 5, 6, 7, 8 | F/L-2782 The dampers were qualified by similarity |
| | 137Y | Round 12" Dia. | | | | | V 0.8g | V 1.6g | | | | | | |
| | 138Y | | | | | | | | | | | | | |
| | 139Y | | | | | | | | | | | | | |
| | 141Y-155Y 161Y-169Y 170YA, YB 171Y | | | | | | | | | | | | | |
| Control Room, Auxiliary Equipment Room Ventilation (R) | Damper Assemblies OVC43Y | | | X | Auxiliary and Contment. | EMD-029481, 027371 & 025043 | C 2.5g | C 3.0g | | | | | 35 Hz | F/L-2903 F/L-2783, 2788, 2903, 2782, 2780 |
| | Instrumentation | 1 | | X | Auxiliary | | N/C | | | | | | | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION, NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF EQUIPMENT IMPORTANT TO SAFETY

DOCKET NOS: STN 50-45L and STN 50-45S
A/E: SARCENT & LUNDY ENGINEERS

PLANT NAME : BYRON UNITS 1 + 2
NSSL: WESTINGHOUSE ELECTRIC COMPANY

UTILITY: COMMONWEALTH EDISON COMPANY

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| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | | LOAD INPUT | | QUALIF. METHOD | | | | REMARKS: |
|---|---|-----------------|----------|----|--------------------|-------------------------|---------------|------------------------|---------------|----------------|-------|-------------------|--|------------|
| | TYPE, NAME | RANGE, SIZE | VS CS | RF | | REPOST IDENT. (B) | STATUS (C) | SEISMIC ZFA | HYDRO DYN. | ANALY. | CONC. | TEST NO. | FLOOR RESPONSE SPECTRA ID. NO. | |
| Diesel-Gener- ator Room Ventilation HS, CS | HVAC fans 1.2VXD1CA, CB | 66" | X | | Aux. 401'-0" | END - 030517 | C | HOB: 0.52 VEB: 0.81 | | X | | 65.44s | Sheet # 8 8.12, 27 22, 23, 4 | F/L - 2774 |
| | Fans 1.2VXD2CA - CD | | X | | 107'-0" | END - 018235 | C | HOB: 0.52 VEB: 0.81 | | X | | 52.88s | | F/L - 2779 |
| | 1.2VXD3CA, CB HVAC Fan | 18" 2500 CFM | X | | Aux. 401' | END - 019044 | C | HOB: 0.52 VEB: 0.81 | | X | | 52.88s | 12, 23, 24 21, 22, 8 | F/L - 2774 |
| | 1.2VXD1JA, JB HVAC Control Panel | | X | | Aux. Bldg. 401' | END - 021589 | C | HOB: 0.78 VEB: 0.95 | | X | | 34.88s L. west | 8.12, 21, 22, 23, 24 | F/L - 2783 |
| | Instrument Panel 1.2VXD6J 1.2VXD5J | | X | | Auxiliary | END - 030446 | C | | | X | | 47.8s | | F/L - 2783 |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(2) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CK - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

PAGE 125 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | | LOCATION | QUALIFICATION | STATUS (C) | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--|--|---|----------|-----|---|-------------------------------|--------------------------------|---------------|---|----------------------------|---------------|------|-----------------|------|------|------|--|---|
| | TYPE, NAME | RANGE, SIZE | NSSS | ROP | VENDOR | BUILDING, ELEV. | REPORT IDENT. (B) | | SEISMIC | | HYDRO DYN. | DYN. | ANALY. STAT. | DYN. | TEST | COM. | NAT. FREQ. | |
| | | | | | | | | | ORE | SSE | | | | | | | | |
| Diesel Generator Room Ventilation System (HS,CS) | 1,2VD07Y 1,2VD15Y 1,2VD43Y 1,2VD45Y 1,2VD47Y 1,2VD49Y 1,2VD13Y 1,2VD56Y 1,2VD61Y 1,2VD057 1,2VD50Y 1,2VD55Y | Manual Rectangular Damper Largest Size 18"X12" & 10"X22" | | X | American Warming and Ventilating, Inc. | Auxiliary | EMD-020485 | C | H ₁ = 3.5g H ₂ = 3.5g V = 6.0g | | | | X | | | | 33.8Hz | F/L-2782 These dampers were qualified by similarity |
| Diesel Generator Room Ventilation (HS,CS) | Damper Assemblies 1,2VD01YA,B 1,2VD02YA,B 1,2VD09YA,B 1,2VD10YA,B 1,2VD42Y 1,2VD44Y 1,2VD46Y 1,2VD48Y | | | X | Pacific Air Products Company | Auxiliary and Contract. | EMD-029481, 027371 & 025043 | C | H 3.0g V 3.0g | H 4.5g V 3.0g | | | | X | | | 2 Hz and up | F/L-2903 |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(D) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF EQUIPMENT IMPORTANT TO SAFETY

UTILITY: COMMONWEALTH EDISON COMPANY
PAGE 126 OF 148

DOCKET NOS: STN 50-454 and STN 50-455
A/E: SARGENT & LUNDY ENGINEERS

PLANT NAME : BYRON UNITS 1 + 2
NSSS: WESTINGHOUSE ELECTRIC COMPANY

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | | QUALIFICATION | | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID, NO. | REMARKS: |
|--|-----------------|----------------|----------|-----|---|--------------------|--------------------------|-----------------------|-------------------|---------------|------------------------|-------|---------------------------|--------------------------------------|---|--|--|----------|
| | TYPE, NAME | RANGE, SIZE | N SSS | BOB | VENDOR | BUILDING, ELEV. | REPORT IDENT. (B) | SEISMIC ZFA COE | SEE DYN. | HYDRO DYN. | ANALY. TEST DYN. | COMB. | NAT. FREQ. | | | | | |
| Diesel Generator Room Ventilation System (HS,CS) | Fire Dampers | Largest Size | | X | American Warming and Ventilating, Inc. | Auxiliary | EMD-020711 EMD-020267 | C | H 1.4g 1.6g | H 1.6g | | X | Speci- men 2 | Sheet Nos. 1,2,3,4, 5,6,7,8 | F/L-2782 The dampers were qualified by similarity | | | |
| | Curtain Type | 53"x52" | | | | | | | V 1.6g | V 1.6g | | | H ₁ = 21 Hz | | | | | |
| | 1,2VDO8YA,YB | 58"x36" | | | | | | | V 0.8g | V 1.6g | | | H ₂ = 15 Hz | | | | | |
| | 16YA,YB | | | | | | | | | | | | V = 15 Hz | | | | | |
| | 17YA,YB | | | | | | | | | | | | | | | | | |
| | 20Y | | | | | | | | | | | | | | | | | |
| | 21Y | | | | | | | | | | | | | | | | | |
| | 22YA,YB | | | | | | | | | | | | | | | | | |
| | 23YA,YB | | | | | | | | | | | | | | | | | |
| | 24YA,YB | | | | | | | | | | | | | | | | | |
| | 27Y | | | | | | | | | | | | | | | | | |
| | 28Y | | | | | | | | | | | | | | | | | |
| | 51Y | | | | | | | | | | | | | | | | | |
| Diesel Generator Room Ventilation System HS,CS | Instrumentation | 1 | | X | | Auxiliary | | N/C | | | | | | | F/L-2788,2783,2903, 2755,2790 | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

(3) A/E FILE NUMBER

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2
NSSS: WESTINGHOUSE ELECTRIC COMPANY

DOCKET NOS: STN 50-454 and STN 50-455
A/E: SARCENT & LINDY ENGINEERS

UTILITY: COMMONWEALTH EDISON COMPANY
PAGE 127 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--|---|-------------------|----------------|-----|------------------------|---------------|------------|-------------------------|-----------------------------|-----------------------|----------------|---------------|-----------------------------|-------------------------|--|----------|
| | TYPE, NAME | RANGE, SIZE | MS ES ES | WOW | | | VENDOR | REPORT IDENT. (B) | STATUS (C) | SEISMIC ZPA OBE | SSE | HYDRO DYN. | DYN. | ANALY. COMB. TEST | | |
| Misc. Electric Equipment Room Ventilation HS,CS | Ventilation Fans 1.2VE02C 1.2VE03C 1.2VE04C 1.2VE05C | 9000 CFM | | X | Joy Manufac- turing | EMD - 028777 | C | | H 0.94 V 0.94 | | | X | 36.39, 40 28.37, 38 | F/L - 2774 | | |
| | 1.2VE01C HVAC Fan | 36" 24,000 CFM | | X | Joy Manufac- turing | EMD - 019044 | C | | HOB: .89 VER: .95 | | | X | 36.11H | F/L - 2774 | | |
| | 1.2VE01J HVAC Control Panel | | | X | Johnson Control | EMD - 021569 | C | | HOB: 0.7 VER: 0.95 | | | X | 35.3 38.39, 40 Lowest | F/L - 2783 | | |
| | Instrument Panels 1.2VE01J | | | X | Johnson Controls | EMD - 030446 | C | | | | | X | 47.22 | F/L - 2783 | | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CK - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

DOCKET NOS: STN 50-454 and STN 50-455

PLANT NAME : BYRON UNITS 1 + 2

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

UTILITY: COMMONWEALTH EDISON COMPANY

PAGE 128 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | | LOAD INPUT | | QUALIF. METHOD | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--|-------------------------------------|---------------------------|----------|-----|-------------------------|-----------------------------|------------|----------------------|----------------|------|-------|-----------------------------------|--|
| | TYPE, NAME | RANGE, SIZE | MOSS | BOB | BUILDING, ELEV. | REPORT IDENT. (B) | STATUS (C) | SEISMIC DATA | ANAL. STAT. | TEST | COMB. | | |
| Misc. Electric Equipment Room Ventilation System (HS,CS) | 1VE15Y | Manual Rectangular Damper | | X | Auxiliary | EMD-020485 | C | H1= 3.50 | X | | | 33.8Hz | F/L-2782 These dampers were qualified by similarity |
| | 2VE10Y | Largest Size 18"X32" | | | | | | H2= 3.50 | | | | | |
| | 2VE15Y | | | | | | | V = 6.0 | | | | | |
| | 2VE16Y | | | | | | | | | | | | |
| Misc. Electric Equipment Room Ventilation (HS,CS) | Damper Assemblies 1.2VE01Y 1.2VE02Y | | | X | Auxiliary and Contment. | EMD-029431, 022371 & 025043 | C | H = 3.0g V = 3.0g | | X | | 2 Hz and up | F/L-2903 |
| | | | | | | | | | | | | | |
| Misc. Electric Equipment Room Ventilation System (HS,CS) | Pipe Dampers Curtain Type | Largest Size | | X | Auxiliary | EMD-020711 EMD-020267 | C | H = 1.6g V = 1.6g | | X | | Specimen 2 21 Hz 15 Hz V 15 Hz | F/L-2782 The dampers were qualified by similarity |
| | 1.2VE04Y,06Y | 52" x 31" | | | | | | | | | | | |
| | 1.2VE05Y,12Y | 38" x 50" | | | | | | V = 0.8g | | | | | |
| | 1.2VE06Y,17Y 1.2VE07Y,18Y | | | | | | N/C | | | | | | F/L-2785,2783,2503 |
| Misc. Electric Equipment Room Ventilation System (HS,CS) | Instrumentation | I | | X | | | | | | | | | |
| | | | | | | | | | | | | | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY; HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CS - QUALIFIED BUT NOT ON SITE; CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

UTILITY: COMMONWEALTH EDISON COMPANY

DOCKET NOS: STN 50-454 and STN 50-455

PLANT NAME : BYRON UNITS 1 + 2

NRSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

PAGE 129 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION REPORT IDENT. (B) | SEISMIC ZPA (C) | LOAD INPUT | | | QUALIF. METHOD | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|---|--|----------------|----------|--------------|--------------------------------------|--|-----------------------|------------------------|---------------|----------------|----------------|-------|-------------------|--|------------|
| | TYPE, NAME | RANGE, SIZE | MS OS | WOP | | | | SEISMIC OBE | HYDRO DYN. | ANAL. STAT. | TEST STAT. | COMP. | NAT. FREQ. | | |
| Containment Building, Aux- iliary Build- ing Filtered Vents System R | Misc. Tank Vent Filter Unit (OVFOIS) | 5,400# | X | Farr Company | Auxiliary 467 ft. | END - 013663 | C | H 0.6g V 0.6g | | X | | | 33 Hz | 53-60 and 97-102 | F/L - 2780 |
| | United Electric Temp Switch | | | | Auxiliary 467'-00" | END-029488 | C | H 3.2g V 1.3g | | | X | | | Sheet No's 53, 54, 55, 57, 58, 59 | F/L - 2780 |
| | Fe-wal Temp Switch | | | | | | | | | | | | | | |
| | G.E. Calrod Heater | | | | | | | | | | | | | | |
| | Westinghouse Relay | | | | | | | | | | | | | | |
| Containment, Auxiliary Buildings Filtered Vents R | Kiddle Linear Temp Control OVFOIS | | | | | | | | | | | | | | |
| | Damper Assemblies OVFOZY OVFOZY OVFOZY | | | | Auxiliary and Contain- ment | END-029481, 027371 25043 | C | H 3.0g V 3.0g | | | X | | 2 Hz and up | | F/L - 2903 |
| Containment and Auxiliary Buildings Filtered Vents R | | | | | | | | | | | | | | | |
| | OVFOIA OVFOICA & CB OVFOIF OVFOZF & 3P OVFOIF & SF | | | X | | | N/C | | | | | | | | F/L - 2780 |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY; HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.
(3) A/E FILE NUMBER
(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF EQUIPMENT IMPORTANT TO SAFETY

UTILITY: COMMONWEALTH EDISON COMPANY

PLANT NAME : BYRON UNITS 1 + 2
NSSS: WESTINGHOUSE ELECTRIC COMPANY

DOCKET NOS: STN 14 and STN 50-455
A/E: SARAGENT & LUNDY ENGINEERS

PAGE 110 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | LOAD INPUT | | | | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--|---|----------------|---------------|-----|------------------------------------|-------------------------------|----------------------------------|-------------------------|---------------|----------------|-----------|----------------|---------------|------------------------|----------------|--|----------|
| | TYPE, NAME | RANGE, SIZE | NO OF S | BOB | | | VENDOR | REPORT IDENT. (B) | STATUS (C) | SEISMIC ZPA | ORE | SSE | HYDRO DYN. | ANAL. DYN. STAT. | COMB. TEST | | |
| Pump House Ventilation (B) | damper assemblies OVH01Y OVH02YA,B OVH03YA,B OVH04YA,B OVH05Y OVH06Y OVH07Y | | | X | Pacific Air Products Company | auxiliary and SSP Main- | EMD-029481, 027371 and 025043 | C | H 3.0g | H 4.5g | V 3.0g | V 3.0g | | X | 2 Hz and up | F/L-2903 | |
| Pump House Ventilation | OVH01CA & CB | | | X | Joy Mfg. Company | | | N/C | | | | | | | | F/L-2774 | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

PAGE 131 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | | LOCATION | QUALIFICATION | STATUS (C) | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--|---|---|----------|-----|--|------------------------|--------------------------------|---------------|--|----------------------------|---------------|------|-----------------|---------------|------|--|--|--|
| | TYPE, NAME | RANGE, SIZE | SSSS | BOP | VENDOR | BUILDING, ELEV. | REPORT IDENT. (B) | | SEISMIC ZPA | | HYDRO DYN. | DYN. | ANALY. STAT. | DYN. STAT. | TEST | COMB. | NAT. FREQ. | |
| | | | | | | | | | OBE | SSE | | | | | | | | |
| Radwaste and Remote Shutdown Control Room, HVAC System (R) | Fire Dampers Curtain Type OVI007Y OVI008Y OVI009Y | Largest Size 34"x20" | | X | American Warming and Ventilating, Inc. | Auxiliary | EMD-020711 EMD-020267 | C | H 1.4g 1.2g V 0.8g | H 1.6g V 1.6g | | | | X | | Specimen 2 H1= 21 Hz H2= 15 Hz V = 15 Hz | Sheet Nos. 1,2,3,4, 5,6,7,8 | F/L-2782 The dampers were qualified by similarity |
| Radwaste and Remote Shutdown Control Room HVAC (R) | Damper Assemblies OVI03Y,10Y | | | X | Pacific Air Products Company | Auxiliary and Contnmt. | EMD-029481, 027371 & 025043 | C | H 3.0g V 3.0g | H 4.5g V 3.0g | | | | X | | 2 Hz and up | | F/L-2903 |
| Radwaste and Remote Shutdown Control Room HVAC System (R) | OVI001Y OVI002Y OVI004Y OVI005Y OVI006Y OVI011Y OVI012Y | Manual Rectangular Dampers Largest Size 28" X 20" | | X | American Warming and Ventilating, Inc. | Auxiliary | EMD-020485 | C | H 3.5g V 6.0g | | | | X | | | 33.8Hz | | F/L-2782 These dampers were qualified by similarity |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF EQUIPMENT IMPORTANT TO SAFETY

UTILITY: COMMONWEALTH EDISON COMPANY

DOCKET NOS: STN 50-454 and STN 50-455
A/E: SARGENT & LUNDY ENGINEERS

PLANT NAME : BYRON UNITS 1 + 2
NSSS: WESTINGHOUSE ELECTRIC COMPANY

PAGE 132 OF 148

| NGSS: WESTINGHOUSE ELECTRIC COMPANY | | | | | | | | | | | | | | | | |
|--|--|--|----------|-----|---|------------------------------|--------------------------------|---------------|-------------------------|---------------|---|---|--------------|---------------|--|--|
| A/E: SARGENT & LUNDY ENGINEERING | | | | | | | | | | | | | | | | |
| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | | STATUS (C) | LOAD INPUT | | | QUALIF. METHOD | | | | REMARKS: |
| | | | | | | | | | REPORT IDENT. (R) | HYDRO DYN. | SEISMIC ZPA | ANALY. STAT. | TEST DYN. | COMB. TEST | RES. FREQ. | |
| Laboratory HVAC System (R) | TYPE, NAME | RANGE, SIZE | NSSS | BOB | VENDOR | BUILDING, ELEV. | REPORT IDENT. (R) | | | | OBE | SSE | | | | F/L - 2782 These dampers were qualified by similarity. |
| | OVL125Y | Manual Rectangular Damper 72" x 30" | | X | American Warning and Ventilating Inc. | Auxiliary | EMD-020485 | C | | | | | | | | |
| | OVL25Y | Round Damper 16" Dia. | | | | | | | | | | | | | | |
| Laboratory HVAC (R) | Damper Assemblies OVL03Y, 10Y OVL52Y | | | X | Pacific Air Products Company | Auxiliary and Contnmt. | EMD-023481, 023371 & 025043 | C | | | H ₁ = 3.0g V = 3.0g | H ₂ = 4.5g V = 3.0g | | X | 2 Hz and up | F/L-2903 |
| | Fire Dampers Curtain Type OVL006Y OVL021Y OVL044Y OVL05Y OVL056Y OVL43Y OVL49Y OVL50Y OVL59Y | Largest Size 58" x 16" 34" x 34" | | X | American Warning and Ventilating, Inc. | Auxiliary | EMD-020711 EMD-020267 | C | | | H ₁ = 1.4g V = 0.8g | H ₂ = 1.6g V = 1.6g | | X | Speci- Een 2 H ₁ = 21 Hz V = 15 Hz V = 15 Hz | F/L-2783 These dampers were qualified by similarity. |
| (C) STATUS: C - COMPLETE; CS - QUALIFIED BUT NOT ON SITE; NC - NOT COMPLETE. | | | | | | | | | | | | | | | | |

(3) A/E FILE NUMBER

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH EDISON COMPANY

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

PAGE 131 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | STATUS (C) | LOAD INPUT | | HYDRO DYN. | DYN. | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: | |
|--|---|------------------|----------|-----|--------------------|------------------------|--|-------------------------|----------------|----------------------------|------|-----------------|-----|------|------|--|--------------------------|-------------|
| | TYPE, NAME | RANGE, SIZE | SSN | JOB | VENDOR | BUILDING, ELEV. | | REPORT IDENT. (B) | SEISMIC ZPA | | | ANALY. STAT. | EN. | TEST | CODE | NAT. FREQ. | | |
| | | | | | | | | | ORE | | | | | | | | | SSE |
| PRIMARY CONTAINMENT VENTILATION R | RCFC COILS 1,ZVP01AA-AD 1,ZVP02AA-AD FANS 1,ZVP01CA-CD | | | | X CARRIER CORP. | | BMD-031711 & 012936 | C | | 0.95g | | | X | | | 46 | | F/L-2733 |
| | 1+ZVP05CA-B HVAC FAN | 34" 15000 CFM | | | X JOY MFG. CO. | AUXILIARY 330' | BMD-019044 | C | | HOR: .283 VER. .2 | | | X | | | 33.26 HZ | 3,4, 1,2 | F/L-2774 |
| | HVAC FAN 1,ZVP04CA-CD | | | | X JOY MFG. CO. | | | N/C | | | | | | | | | | F/L-2774 |
| | ELECTRICAL PENETRATION ASSEMBLIES 1VP01E thru 1VP04E | | | | X CONAX CORP. | CONT. 423'- 500' | BMD-025338 | C | | H 1.9 V 1.8g | | | X | | | LOWEST IS 85 HZ | SHEETS 97 thru 108 | F/L-2804-1 |
| | ELECTRICAL PENETRATION ASSEMBLIES ZVP01E thru ZVP04E | | | | | X AMPHENOL | CONTAIN- MENT BLDG 424'-0" and 500'-0" | BMD-020702 | C | 2.5g | 3.0g | | | | X | | LOWEST IS 3.9 HZ | 97 thru 108 |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(B) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF EQUIPMENT IMPORTANT TO SAFETY

UTILITY: COMPANHIA SANEAMENTO DE SÃO PAULO

DOCKET NOS: STN 50-454 and STN 50-455
A/E: SARGENT & LUNDY ENGINEERS

PLANT NAME : BYRON UNITS 1 + 2
NSSS: WESTINGHOUSE ELECTRIC COMPANY

PAGE 134 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | | LOAD INPUT | | | QUALIF. METHOD | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|-----------------------------------|---|-------------|----------|-----|------------------------------|-----------------------------|------------|--------------------------|-------|------|----------------|------|-------------|---|----------------------|
| | TYPE, NAME | RANGE, SIZE | ESS | BOC | BUILDING, ELEV. | REPORT IDENT. (B) | STATUS (C) | SEISMIC | HYDRO | DYN. | ANAL. | TEST | COM. | | |
| PRIMARY CONTAINMENT VENTILATION R | CONTAINMENT CHARCOAL FILTER UNIT (1,2VP01SA,B) | 12,140# | | X | FAIR COMPANY | END-013663 | C | H 0.3g V 0.36g | | | X | | | RESPONSE SPECTRA #S: 53- 60 and 97- 102 | F/L-2780 |
| | DAMPERS 1,2VP11Y 1,2VP22Y 1,2VP27Y 1,2VP32Y | 94"x40" | | X | TECH. CORP. | END-019999 | C | HOR: 4.5g 4.0g VCR: 1.5g | | | X | | | | F/L-2910 |
| | DAMPER ASSEMBLIES 1,2VP01YA,B 1,2VP02YA,B 1,2VP04YA,B | | | X | PACIFIC AIR PRODUCTS COMPANY | END-029481, 027371 & 025043 | C | H 3.0g 4.5g V 3.0g | | | | X | 2 Hz and up | | F/L-2903 |
| | INSTRUMENTATION | I | | X | | | N/C | | | | | | | | F/L-2802, 2783, 2780 |
| PRIMARY CONTAINMENT VENTILATION | 1,2VP04CA-CD | | | | JOY MFG. CO. | | N/C | | | | | | | | F/L-2774 |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY; HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE; CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF EQUIPMENT IMPORTANT TO SAFETY

UTILITY: COMMONWEALTH Edison COMPANY

PAGE 135 OF 148

DOCKET NOS: STN 50-454 and STN 50-455

A/E: SARGENT & LUNDY ENGINEERS

PLANT NAME : BYRON UNITS 1 + 2

NSSS: WESTINGHOUSE ELECTRIC COMPANY

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--|--|----------------|----------|--------------------|----------|-------------------------|---------------|-----------------------|-------------------------------------|---------------|--------------------|----------------|---------------|--|----------|--|----------|
| | TYPE, NAME | RANGE, SIZE | BOB | VENDOR | | REPORT IDENT. (R) | STATUS (C) | SEISMIC ZPA OBS | SEISMIC H D.883 V 0.67g | HYDRO DYN. | ANALY. US AS | TEST CONG. | NAT. FREQ. | | | | |
| PRIMARY CONTAINMENT PURGE | FANS 1,2WQ01CA,CB | 40,000 CFM | X | JOY MFG. | | END-031199 | C | | H D.883 V 0.67g | | X | | 79.4 | | F/L-2774 | | |
| | INSTRUMENT PANELS 1,2WQ11J | | X | JENSEN CONTROLS | | END-030446 | C | | | | X | | 47.22 | | F/L-2783 | | |
| | 1VQ001A-A 1VQ001B-A 1VQ002A-A 1VQ002B-A | | X | JAMESRUPP CORP. | | | N/C | | | | | | | | | F/L-2884 | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BTL W UNITS 1 + 2
NSSS: WESTINGHOUSE, ELECTRIC COMPANY

DOCKET NOS: STN 50-454 and STN 50-455
A/E: SARGENT & LUNDY ENGINEERS

UTILITY: COMMONWEALTH Edison COMPANY

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| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | LOAD INPUT | | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: | |
|---|--|---|----------|--|--|--------------------------------|--------------------|--|------------------------|----------------|-----|---------------|--|--|--|--------------------|
| | TYPE, NAME | RANGE, SIZE | NEECS | VENCOR | | | BUILDING, ELEV. | REPORT IDENT. (B) | STATUS (C) | SEISMIC ZPA | SSE | HYDRO DYN. | ANALY. STAT. | | | TEST ID. |
| Primary Containment Purge System (R) | Fire Damper Curtain Type 2VQ23YB | 58" x 36" | X | American Warming and Ventilating Inc. | Auxiliary | EMD-020711 EMD-020217 | C | H 1.1g 1.2g V 0.8g 1.6g | H 1.6g V 1.6g | | | X | Speci- men #2 H 21 Hz 15 Hz V 15 Hz | Sheet #'s 1,2,3,4, 5,6,7,8 | F/L-2782 The dampers were qual- ified by similarity. | |
| | 1.2VQ10Y 1.2VQ08Y-YH 1.2VQ08Y-JYN 1.2VQ08Y-YU 1.2VQ09YA-YD 1.2VQ09E-G | Manual, Round Damper Largest Size 48" dia. | X | American Warming and Ventilating Inc. | 1 & 2VQ10Y Contain- ment Remaining Dampers in Auxil- iary | EMD-020485 | C | H 2.2g V 1.5g H 3.5g V 6.0g | | | X | | 33.8Hz | | F/L-2782 These dampers were qual- ified by similarity. | |
| | Damper Assemblies 1.2VQ01Y,04Y 1.2VQ02YA,B 1.2VQ03YA,B 1.2VQ05Y,07Y 1.2VQ11Y,12Y | | X | Pacific Air Products Company | Auxiliary and Contain- ment | EMD-029481, 027371 & 025043 | C | H 3.0g V 3.0g | H 4.5g V 3.0g | | | X | 2 Hz and up | | F/L-2903 | |
| | Instrumentation | I | X | | | | N/C | | | | | | | | | F/L-2788,2903,2783 |
| Primary Containment Purge System (R) | | | | | | | | | | | | | | | | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CS - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF EQUIPMENT IMPORTANT TO SAFETY

UTILITY: COMMONWEALTH EDISON COMPANY

DOCKET NOS: STN 50-45L and STN 50-455

PLANT NAME : BYROC UNITS 1 + 2
NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARCENT & LUNDY ENGINEERS

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| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | | LOAD INPUT | | QUALIF. METHOD | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|---------------------------------------|---|-------------|----------|-----|------------------------|-----------------------------------|------------|--------------------------------------|------------|----------------|------|--------------------------|--|----------|
| | TYPE, NAME | RANGE, SIZE | NSSS | BOP | | REPORT IDENT. (B) | STATUS (C) | SEISMIC ZFA | HYDRO DYN. | ANALY. STAT. | TEST | NAT. FREQ. | | |
| Primary Containment Purge R | Valves 1.2VQ016 1.2VQ017 1.2VQ018 1.2VQ019 | 1" Ø | | | Rockwell International | EMD-029477 | C | | | X | | 3 HZ | | F/L-2918 |
| VQ Primary Containment Purge System R | 48" Valve operator (to be used on: 1.2VQ001A,B & 1.2VQ002A,B) | 48" | | X | Paul Monroe Company | EMD-019136 | C | 4.5g | | X | X | | 103A, 103 104, 104A 105, 105A 106, 106A 107, 107A 108, 108A | F/L-2854 |
| VQ Primary Containment Purge R | Butterfly Valve 1.2VQ001A+B 1.2VQ002A+B | 48" | | X | Jamesbury Corporation | EMD-010-26, 011070, 01122, 012737 | C | HOR: 4.5g 4.0g ver: 1.5g | | X | | 35HZ to 99HZ all classes | | F/L-2884 |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY; HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.
(3) A/E FILE NUMBER
(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE; CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF EQUIPMENT IMPORTANT TO SAFETY

UTILITY: COMMONWEALTH EDISON COMPANY

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DOCKET NOS: STN 50-454 and STN 50-455
A/E: SARCENT & LUNDY ENGINEERS

PLANT NAME : BYRON UNITS 1 + 2
NSSS: WESTINGHOUSE ELECTRIC COMPANY

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | LOAD INPUT | | | QUALIF. METHOD | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--|---|----------------|----------|-----|---|-------------------------|-----------------------|------------------------|-----------------|-----------------|-------------|-------------|--|------------|
| | TYPE, NAME | RANGE, SIZE | NSSS | ROP | BUILDING, ELEV. | REPORT IDENT. (P) | SEISMIC ZPA OBE | HYDRO DYN. | ANALY. STAT. | COX BY BY | STAT. BY | STAT. BY | | |
| Miscellaneous Ventilation R | HVAC Fans 1.2VVOICA, CB | 42" | | X | Safety Valve En- closure 406'-3" | EMD - 030547 | C | H .524 V 0.84 | X | | | | Sheet #'s 8,12,21-24 | F/L - 2774 |
| | HVAC Fans 1.2VVOICC, CD | 54" | | X | Safety Valve Enclosure 406'-3" | EMD - 030547 | C | H .524 V 0.84 | X | | | | Sheet #'s 8,12,21-24 | F/L - 2774 |
| | Instrument Panel OVV05J OVV06J | | | X | | EMD - 030446 | C | | | | X | | | F/L - 2783 |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

UTILITY: COMMONWEALTH EDISON COMPANY

PAGE 119 OF 148

DOCKET NOS: STN 50-454 and STN 50-455

A/E: SARCENT & LINDY ENGINEERS

PLANT NAME : BYRON UNITS 1 + 2

NSSS: WESTINGHOUSE ELECTRIC COMPANY

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | LOAD INPUT | | | QUALIF. METHOD | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: | |
|---|--|---|----------|-----|---|-------------------------------|-------------------------------|-------------------------|---|----------------|---------------|-----------------|--|--|---------------|
| | TYPE, NAME | RANGE, SIZE | NESS | BOF | | | BUILDING, ELEV. | REPORT IDENT. (B) | STATUS (C) | SEISMIC ZPA | HYDRO DYN. | ANALY. STAT. | | | COMB. TEST |
| Miscellaneous Ventilation System (R) | OVV45Y | Manual Rectangular Damper Largest Size 14"x26" | | X | American Warning and Ventilating, Inc. | Auxiliary | EMD-020485 | C | H ₁ = 3.5g H ₂ = 3.5g V = 6.0g | | X | | 33.8Hz | F/L-2782 These dampers were qualified by similarity | |
| | OVV53Y | | | | | | | | | | | | | | |
| | OVV57Y | | | | | | | | | | | | | | |
| | OVV60Y | | | | | | | | | | | | | | |
| | OVV61Y | | | | | | | | | | | | | | |
| Miscellaneous Ventilation (R) | Damper Assemblies OVV62Y-69Y 1,2VV01Y-10Y | | | X | Pacific Air Products Company | Auxiliary and Contract. | EMD-020481, 020371 & 02043 | C | H ₁ = 3.0g H ₂ = 3.0g V = 3.0g | | X | | 2 Hz and up | F/L-2903 | |
| | Fire Dampers Curtain Type OVV10Y, 48Y OVV21Y, 50Y OVV41Y, 55Y OVV43Y, 56Y OVV44Y, 58Y OVV46Y, 59Y OVV47Y | Largest Size 16" x 14" | | X | American Warning and Ventilating, Inc. | Auxiliary | EMD-020711 EMD-020267 | C | H ₁ = 1.6g H ₂ = 1.2g V = 0.8g | | X | | Speci- men 2 1,2,3,4, 5,6,7,8 H ₁ = 21 Hz H ₂ = 15 Hz V = 15 Hz | P/L-2782 These dampers were qualified by similarity. | |

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

(3) A/E FILE NUMBER

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2
NSSS: WESTINGHOUSE ELECTRIC COMPANY

DOCKET NOS: STN 50-451 and STN 50-455
A/E: SARGENT & LUNDY ENGINEERS

UTILITY: COMMONWEALTH EDISON COMPANY

PAGE 140 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | | LOAD INPUT | | QUALIF. METHOD | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|---|--|--|-------------|-----|----------------------------------|--------------------------------|---------------|--|---------------|-----------------|---------------|---|---|
| | TYPE, NAME | RANGE, SIZE | W G G | BOP | | REPORT IDENT. (B) | STATUS (C) | SEISMIC ZPA OBE SSE | HYDRO DYN. | ANALY. STAT. | CONC. TEST | | |
| Radioactive Facility Ventilation System (R) | OW006Y | Manual Rectangular Damper 8"x8" | | X | Auxiliary | EMD-020485 | C | H ₁ = 3.5 H ₂ = 3.5 V = 6.0 | | X | | 33.8Hz | F/L-2782 These dampers were qualified by similarity |
| | Damper Assemblies OW04YA,B OW05YA,B OW11Y | | | X | Auxiliary and Containment. | EMD-027431, 027371 & 025043 | C | H 3.0g V 3.0g | | X | | 2 Hz and up | F/L-2903 |
| | Fire Dampers Curtain Type OW12Y OW14Y OW15Y OW16Y | Largest Size 48" x 16" | | X | Auxiliary | EMD-020711 EMD-020767 | C | H 1.4g 1.2g V 0.8g | | X | | Specimen 2 21 Hz H ₁ = 15 Hz H ₂ = 15 Hz V = 15 Hz | F/L-2782 These dampers were qualified by similarity |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS

OF EQUIPMENT IMPORTANT TO SAFETY

UTILITY: COMMONWEALTH EDISON COMPANY

DOCKET NOS: STN 50-454 and STN 50-455

A/E: SARGENT & LUNDY ENGINEERS

PLANT NAME : BYRON UNITS 1 + 2

NSSS: WESTINGHOUSE ELECTRIC COMPANY

PAGE 141 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | | LOAD INPUT | | | QUALIF. METHOD | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--------------------------------|-------------------|----------------|----------|----|----------------|-------------------|------------|-------------|-------------------------|------------|----------------|-------|----------|--------------------------------|----------|
| | TYPE, NAME | RANGE, SIZE | HS | RF | | REPORT IDENT. (B) | STATUS (C) | SEISMIC ZPA | SSE | HYDRO DYN. | ANAL. DYN. | COMP. | TEST ID. | | |
| SWITCHGEAR HEAT REMOVAL HS, CS | FMS 1-ZXX07C | 9000 CFM | X | | | END-028777 | C | | H 0.9g V 0.95g | | X | | 44.5 HE | F/L-2774 | |
| | 1-ZXX01C HVAC FAN | 38" 29,500 CFM | X | | AUXILIARY 426' | END-019044 | C | | HOR: .653g VER: .94g | | X | | 54.8 HZ | F/L-2774 | |
| | 1-ZXX02C HVAC FAN | 38" 26,800 | X | | AUXILIARY 451' | END-019044 | C | | HOR: .89g VER: .95g | | X | | 55.3 HZ | F/L-2774 | |
| | 1-ZXX03C | 38" 26,500 | X | | AUXILIARY 439' | END-019044 | C | | HOR: .653g VER: .94g | | X | | 55.3 HZ | F/L-2774 | |
| | 1-ZXX04C HVAC FAN | 48" 37,000 CFM | X | | AUXILIARY 426' | END-019044 | C | | HOR: .653g VER: .94g | | X | | 54.8 HZ | F/L-2774 | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY; HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE; CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

DOCKET NOS: STN 50-454 and STN 50-455

UTILITY: COMMONWEALTH Edison COMPANY

PLANT NAME : BYRON UNITS 1 + 2
NSSL: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

PAGE 142 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | | LOAD INPUT | | | | QUALIF. METHOD | | | | REMARKS: |
|--|--|----------------|----------|-----|--|-------------------------|---------------|----------------|-----------------------------|--|----------------|----------------|---|--|----------|----------|
| | TYPE, NAME | RANGE, SIZE | MS SS | BOB | | REPORT IDENT. (B) | STATUS (C) | SEISMIC ZPA | HYDRO DYN. | DYN. | ANALY. TEST | COMB. TEST | FLOOR RESPONSE SPECTRA ID. NO. | | | |
| SWITCHGEAR HEAT REMOVAL SYSTEM HS, CS | FILTER HOUSING 1, 2VX05F 1, 2VX06F | 48x48 48x48 | | X | RELIABLE SHEET METAL WORKS, INC. | EMD-024810 | C | | | H1 0.22g 0.03g 0.55g 0.42g 12 0.2g 0.36g 0.34g | X | | H2 14.2 Hz 17.1 Hz 25, 26, 28, 29, 30, 32 31.5 Hz 74.6 Hz 118 Hz 148 Hz | F/L-2782 THE EQUIPMENT WAS QUALIFIED BY SIMILARITY BASED ON 1VX01F THRU 1VX04F. See EMD File 016391 | | |
| | PANELS 1, 2VX01J 1, 2VX02J | | | X | JOHNSON CONTROLS, INC | EMD-021589 | C | | HER: 0.7 VER: 0.95 | | X | | 35.3 Hz LOWEST | F/L-2783 35.3 Hz NAT. FREQ. | | |
| | HWK CONTROL PANELS 1, 2VX05J 1, 2VX06J | | | X | JOHNSON CONTROLS | EMD-021589 | C | | HER: 0.7 VER: 0.45 | | X | | 35.3 Hz LOWEST | F/L-2763 | | |
| | INSTRUMENT PANELS 1, 2VX07J 1, 2VX08J 1, 2VX96J 1, 2VX99J | | | X | JOHNSON CONTROLS | EMD-030446 | C | | | | | X | | 47.22 | F/L-2783 | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF EQUIPMENT IMPORTANT TO SAFETY

UTILITY: COMMONWEALTH EDISON COMPANY

DOCKET NOS: STN 50-451, and STN 50-455

PLANT NAME : BYRON UNITS 1 + 2

NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARCENT & LINDY ENGINEERS

PAGE 143 OF 148

| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | | LOAD INPUT | | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: | | |
|---|---|---|------------|-----|---|-------------------------------|--------------------------------|---------------|----------------------|----------------------|----------------|---------------|----------------|------|--|----------|--|---|
| | TYPE, NAME | RANGE, SIZE | NO. LOG | BOP | | VENDOR | REPORT IDENT. (B) | STATUS (C) | SEISMIC ZFA | OBE | SSE | HYDRO DYN. | ANAL. STAT. | DYN. | | | TEST | COMB. |
| Switchgear Heat Removal System (HS,CS) | Fire Dampers Curtain Type | Largest Size 56" x 50" 44" x 52" | | X | American Warning and Ventilating, Inc. | Auxiliary | EMD-020711 EMD-020267 | C | | | | | | X | | | Specimen 2 H ₁ = 21 Hz H ₂ = 15 Hz N = 15 Hz | F/L-2782 The dampers were qualified by similarity |
| | 1VX03Y, 2VX03Y 11Y, 11Y 12Y 12Y 13Y 13Y 14YA 14YA 14XB 14XB 15Y 15Y 16Y 16Y 17Y 17Y 18Y 18Y 20Y 20Y 21Y 21Y 22Y 22Y 24Y 24Y 26Y 26Y 27Y 27Y 28Y 28Y | | | | | | | | | | | | | | | | | |
| | Damper Assemblies 1,2VX01Y,02Y 1,2VX04Y,05Y 1,2VX07Y,08Y 1,2VX23Y,25Y 1,2VX33Y-35Y | | | X | Pacific Air Products Company | Auxiliary and Contract. | ESD-022401, 027371 & 025043 | C | H = 3.0g V = 3.0g | H = 4.5g V = 3.0g | | | X | | | | 2 Hz and up | F/L-2903 |
| | 1VX19Y 2VX19Y | Manual Rectangular Damper Largest Size 18" x 32" | | X | American Warning and Ventilating, Inc. | Auxiliary | EMD-020485 | C | | | | | X | | | | 33.8 Hz | F/L-2782 These dampers were qualified by similarity |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | | | | | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

**SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY**

PLANT NAME : BYRON UNITS 1 + 2
NSSS: WESTINGHOUSE ELECTRIC COMPANY

DOCKET NOS: STN 50-453 and STN 50-455
A/E: SARGENT & LUNDY INDUSTRIES

UTILITY: COMMERCE/ELTE Edison COMPANY

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| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | | LOAD INPUT | | QUALIF. METHOD | | | | PLANE RESPONSE SP/STRA ID. NO. | REMARKS: |
|--|--------------------------|----------------|------------|-----|---------------------|------------------------|---------------|------------------------|-----|--------------------|-----------------|---------------|---------------|--|------------|
| | TYPE, NAME | RANGE, SIZE | NSS UGS | BOP | | REPORT IDNO. (B) | STATUS (C) | SEISMIC ZPA OBE | SSR | HYDRO INT. DYN. | ANALY. STAT. | DYN. STAT. | COMB. TEST | NAT. FREQ. | |
| Make up Deminerlizer | Globe Valves 1,2MN216 | 3/4" | | X | Borg Warner Aux. | END-026077 | C | H3.0g 2.5g V3.0g | | | X | | | > 33Hz | F/L-2794-1 |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

DOCKET NOS: STN 50-L54 and STN 50-L55

A/E: SARGENT & LUNDY ENGINEERS

UTILITY: COMMONWEALTH EDISON COMPANY

PLANT NAME: BYRON UNITS 1 + 2

NSSS: WESTINGHOUSE ELECTRIC COMPANY

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| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION REPORT IDENT. (B) | STATUS (C) | LOAD INPUT | | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--|--|----------------|----------|-----|---------------------------------|--|---------------|--|---|----------------|----------------|---------------|----------------|--|--|----------|
| | TYPE, NAME | RANGE, SIZE | NSSS | BOP | | | | VENDOR | VEHICLE ELEV. | SEISMIC ZPA | SSE | HYDRO DYN. | ANAL. STAT. | DYN. | | |
| Chilled Water; R | Valves 1.2W0056A, B with operator SMB-00-10 | 10", gate | | X | Anchor/ Darling | CQD-001905 | C | H ₁ = 2.2 H ₂ = 2.5 V = 1.5 0.75 | 4.5 4.0 1.5 | X | | | | 38Hz | F/L-2718-2 | |
| Chilled Water; HS, CS | Check Valves 0W0002A, B | 6", 900# | | X | Anderson, Greenwood & Co. | EMD-011723 | C | | 5.0g | X | | | | 198Hz | F/L-2718-1 | |
| Chilled Water; R | Globe Valves 0W0094A, B 0W0095A, B 0W0096A, B 0W0097A, B 0W0098A, B 0W0099A, B | 3/4", 150# | | X | Anderson Greenwood & Co. | EMD-012215 | C | | 5.0g | X | | | | 138Hz | F/L-2718-1 | |
| Chilled Water System HS, CS | Carbon Steel Valves Gate Type 1.2W0006A, B 1.2W0020A, B | 10", 150# | | X | Anchor/ Darling Valve Co. | EMD-009680 | C | | H ₁ = 3.0g H ₂ = 2.5g V = 3.0g | X | | | | 48Hz | F/L-2718-2 | |
| Chilled Water System R | Motor Operator SMB-1&SMB-25 for A/D Valves | Size 1 and 0 | | X | Linitorque Corporation | EMD-009680 | C | | H ₁ = 3.0g H ₂ = 3.0g V = 3.0g 6.3g | | X | | f > 33Hz | No resonant frequencies were noted between 5-33Hz F/L-2718-2 | | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; RF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2
 NSSS: WESTINGHOUSE ELECTRIC COMPANY
 A/E: SARGENT & LUNDY ENGINEERS
 DOCKET NOS: STN 50-454 and STN 50-455
 UTILITY: COMMONWEALTH EDISON COMPANY

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| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION REPORT IDENT. (B) | STATUS (C) | LOAD INPUT | | | QUALIF. METHOD | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--|---|----------------|----------|-----|--------------------------|--|---------------|--------------------------|---------------|------|-----------------|-------|------|--|--------------------------------------|
| | TYPE, NAME | RANGE, SIZE | NSSS | BOB | | | | SEISMIC ZPA | HYDRO DYN. | DYN. | ANALY. STAT. | COMB. | TEST | | |
| Chilled Water System HS, CS | Refrigeration Units OW001CA,B | 600,000 Btu/hr | | X | Carrier Cor- poration | EMD - 015704 & 017152 | C | H 1.28g V 0.68g | | | X | | | 8,12,17, 18,19,20 21,76,82 82,76,82 83,63,82 83,79,82 86,93,82 | F/L - 2778 |
| | Motor For Con- trol Room Pump (Pump: OW001PA,B) | | | X | Ingersoll Rand Co. | EMD - 018034 | C | H 1.28g V 0.68g | | | X | | | 129 H4 | F/L - 2758 |
| | Instrumentation | | | X | | | N/C | | | | | | | | F/L-2783, 2788 2906, 2778 2741 |
| | OW001CA-A OW001CB-A OW001CA-B OW001CA-C OW001CB-B OW001CB-C OW001CB-D | | | X | Carrier Corp. | Aux. 383" | N/C | | | | | | | | F/L-2778 |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
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 (C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
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SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

DOCKET NOS: STN 50-45L and STN 50-455

PLANT NAME : BYRON UNITS 1 + 2
NSSS: WESTINGHOUSE ELECTRIC COMPANY

A/E: SARGENT & LUNDY ENGINEERS

UTILITY: COMMONWEALTH EDISON COMPANY

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| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | LOAD INPUT | | | | QUALIF. METHOD | | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: | | |
|--|--|----------------|-----------|-----|----------------------------------|---|-------------------------|---------------|----------------|-----|----------------|---------------|--------|-------|--|----------|----------------|--|
| | TYPE, NAME | RANGE, SIZE | NSS SS | BOP | | | REPORT IDENT. (B) | STATUS (C) | SEISMIC ZFA | OBE | SSE | HYDRO DYN. | ANALY. | STAT. | | | DYN. | TEST |
| Chilled Water HS, CS | Ball Valves OW0207C,D OW02024C,D OW02145A,B OW02204A,B OW02351A,B OW02352A,B | 3/4" & 1" | | X | ITT Grinnell Valve Co. | auxiliary and contain- ment buildings | QOD-000573 | C | | | | | | | | | N/A | Several valve properties were compared to those of the attached piping F/L-2918 |
| | Check Valve 1-2W0007A-B | 10" | | X | Anderson Greenwood Company | contain- ment building | EMD-011031 | C | | | | X | X | | | | 83HZ lowest | F/L-2718 |
| | Gate Valve OW0001A+B OW0003A+B OW0004A+B OW0006A+B OW0007A-H | | | X | Anchor Darling Company | auxiliary building | EMD-008746 | C | | | | X | | | | | | F/L-2718 Nozzle analysis only |
| | Check Valves OW0205A OW0205B | 1" | | X | Rochwell | Auxiliary | EMD-027113 | C | | | | | | | | | | Valves shown to be stronger than attached piping F/L-2918 |
| | OW0005A,B OW0008A-H OW0009A,B OW0028A,B OW0116A,B OW0146A,B OW0147A-D OW0204A,B OW02142A,B OW02148A,B 1,2W0019A-H 1,2W0053A,B 1,2W0054A,B 1,2W0055A-D | | | X | | | | N/C | | | | | | | | | | F/L-2718 F/L-2885 F/L-2918 |
| | | | | | | | | | | | | | | | | | | |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; NF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS
OF EQUIPMENT IMPORTANT TO SAFETY

PLANT NAME : BYRON UNITS 1 + 2
NSSS: WESTINGHOUSE ELECTRIC COMPANY

DOCKET NOS: STN 50-454 and STN 50-455
A/E: SARGENT & LUNDY ENGINEERS

UTILITY: COMMONWEALTH EDISON COMPANY

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| SAFETY SYSTEM AND FUNCTION (A) | EQUIPMENT | | SUPPLIER | | LOCATION | QUALIFICATION | | LOAD INPUT | | | QUALIF. METHOD | | | FLOOR RESPONSE SPECTRA ID. NO. | REMARKS: |
|--|-------------------------|----------------|----------|-----|-----------------------|-------------------------|---------------|-----------------------|-------------------------------|---------------|-------------------------|--------------|------------------------|--|------------|
| | TYPE, NAME | RANGE, SIZE | NSSS | BOP | | REPORT IDENT. (F) | STATUS (C) | SEISMIC ZFA OBE | SSE | HYDRO DYN. | ANALY. DYN. STAT. | TEST DYN. | NAT. FREQ. COMB. | | |
| Solid Radioactive Reprocessing and Disposal R | Filter Support Frame | | | X | Auxiliary Building | EMD - 012747 and 011981 | C | | 0.946 | | X | | 115 Hz | 8,12,21,22 23,24 | F/L - 2772 |
| | Storage Tank OMAX5T | 5000 gal. | | X | | EMD - 009806 | C | | H1 = .5 H2 = .5 V = .95 | | X | | 37 Hz | | F/L - 2744 |

(A) FUNCTIONAL MODE: R - RUN; S - STARTUP/HOT STANDBY;
HS - HOT SHUTDOWN; CS - COLD SHUTDOWN; NF - REFUEL.

(3) A/E FILE NUMBER

(C) STATUS: C - COMPLETE; CN - QUALIFIED BUT NOT ON SITE;
CE - QUALIFIED WITH EXCEPTION; NC - NOT COMPLETE.

NOTES:

- A. Functional Mode:
 - R=Run
 - S=Startup/Hot Standby
 - HS=Hot Shutdown
 - CS=Cold Shutdown
 - RF=Refuel
- B. Identification No., Purchase Order, etc.
- C. Status:
 - C=Complete
 - CN=Qualified but not on Site
 - CE=Qualified with Exception
 - NC=Not Complete
- D. Specification information concerning range/capacity will be provided on the detailed SQRT Forms for the equipment selected for audit.
- E. The seismic input for this equipment is identified by specific response spectra requirements for each component. The specific seismic input for this equipment will be provided on the detailed SQRT Forms for the equipment selected for audit.
- F. The natural frequency is defined as follows:
 - F1. - rigid (natural frequency greater than 33 Hz)
 - F2. - semi-rigid (one natural frequency less than 33 Hz)
 - F3. - flexible (natural frequency less than 33 Hz)
- G. Analyzed as part of piping system.
- H. See Table 3.9-16 in FSAR (also attached)
- I. See P&ID's in FSAR.
- J. Procured to requirements of ASME Code. Specific qualification reference will be provided on SQRT Forms.

ATTACHMENT B

Pumps and Valves Included in
Byron/Braidwood Operability
Assurance Program

4284N

BYRON/BRAIDWOOD

PUMPS

| <u>EQUIPMENT NUMBER</u> | <u>NAME</u> |
|-----------------------------|---|
| 0AB03P 1,2AB03P | Boric acid transfer pump |
| 1,2AF01PA,PB | Auxiliary feedwater pump |
| 0CC01P 1,2CC01PA,PB | Component cooling pump |
| 1,2CS01PA,PB | Containment spray pump |
| 1,2CV01PA,PB | Centrifugal charging pump |
| 1,2RH01PA,PB | Residual heat removal pump |
| 1,2SI01PA,PB | Safety injection pump |
| 1,2SX01PA,PB | Essential service water pump |
| 0SX02PA,PB | Essential service water makeup pump (Byron only) |

VALVES

| <u>Tag Number</u> | <u>Actuated By</u> | <u>Size (in.)</u> | <u>Body Type</u> |
|-------------------|--------------------|-----------------------|------------------|
| OAB8473 | -- | 2 | Check |
| 1AB8487 | -- | 2 | Check |
| 1AF001A,B | -- | 6 | Check |
| 1AF006A,B | Motor | 6 | Gate |
| 1AF013A-H | Motor | 4 | Globe |
| 1AF017A,B | Motor | 6 | Gate |
| OCC9464 | -- | 12 | Check |
| 1CC0685 | Motor | 4 | Gate |
| 1CC9412A,B | Motor | 12 | Gate |
| 1CC9413A,B | Motor | 6 | Gate |
| 1CC9414 | Motor | 6 | Gate |
| 1CC9416 | Motor | 6 | Gate |
| 1CC9437A,B | Air | 3 | Globe |
| 1CC9438 | Motor | 4 | Gate |
| 1CC9459A,B | -- | 16 | Gate |
| 1CC9463A,B | -- | 12 | Check |
| 1CC9467A,B,C | -- | 16 | Gate |
| 1CC9473A,B | Motor | 16 | Gate |
| 1CC9486 | -- | 6 | Check |
| 1CC9518 | -- | 3/4 | Check |
| 1CC9534 | -- | 3/4 | Check |
| 1CS001A,B | Motor | 14 | Gate |
| 1CS007A,B | Motor | 10 | Gate |
| 1CS008A,B | -- | 10 | Check |
| 1CS009A,B | Motor | 16 | Gate |
| 1CS010A,B | Air | 3 | Globe |
| 1CS011A,B | -- | 6 | Check |
| 1CS019A,B | Motor | 3 | Gate |
| 1CV0112B,C | Motor | 4 | Gate |
| 1CV0112D,E | Motor | 8 | Gate |
| 1CV8100 | Motor | 2 | Globe |
| 1CV8104 | Motor | 2 | Globe |
| 1CV8105 | Motor | 3 | Gate |
| 1CV8106 | Motor | 3 | Gate |
| 1CV8110 | Motor | 2 | Globe |
| 1CV8111 | Motor | 2 | Globe |
| 1CV8112 | Motor | 2 | Globe |
| 1CV8113 | -- | 3/4 | Check |
| 1CV8145 | Air | 2 | Globe |
| 1CV8152 | Air | 3 | Globe |
| 1CV8160 | Air | 3 | Globe |
| 1CV8348 | -- | 2 | Check |
| 1CV8355A,B,C,D | Motor | 2 | Globe |
| 1CV8367A,B,C,D | -- | 2 | Check |
| 1CV8368A,B,C,D | -- | 2 | Check |
| 1CV8372A,B,C,D | -- | 2 | Check |
| 1CV8377 | -- | 2 | Check |

VALVES - cont.

| <u>Tag Number</u> | <u>Actuated By</u> | <u>Size (in.)</u> | <u>Body Type</u> |
|-------------------|--------------------|-----------------------|------------------|
| 1CV8378A,B | -- | 3 | Check |
| 1CV9379A,B | -- | 3 | Check |
| 1CV8381 | -- | 3 | Check |
| 1CV8442 | -- | 2 | Check |
| 1CV8497 | -- | 3 | Check |
| 1CV8546 | -- | 8 | Check |
| 1CV8804A | Motor | 8 | Gate |
| 1FC8765 | -- | 3 | Diaphragm |
| 1FC8793 | -- | 10 | Check |
| 1FC8794 | -- | 3 | Diaphragm |
| 1FP010 | Air | 4 | Globe |
| 1FP011 | Air | 4 | Globe |
| 1FW009A,B,C,D | Comp. Air | 16 | Gate |
| 1FW036A,B,C,D | -- | 3 | Check |
| 1FW038A,B,C,D | -- | 6 | Check |
| 1FW043A,B,C,D | Air | 3 | Globe |
| 1FW510 | Air | 16 | Globe |
| 1FW510A | Air | 4 | Globe |
| 1FW520 | Air | 16 | Globe |
| 1FW520A | Air | 4 | Globe |
| 1FW530 | Air | 16 | Globe |
| 1FW530A | Air | 4 | Globe |
| 1FW540 | Air | 16 | Globe |
| 1FW540A | Air | 4 | Globe |
| 1IA065 | Air | 3 | Gate |
| 1IA066 | Air | 3 | Gate |
| 1MS001A,B,C,D | Comp. Air | 30 | Gate |
| 1MS013A,B,C,D | -- | 6 | Relief |
| 1MS014A,B,C,D | -- | 6 | Relief |
| 1MS015A,B,C,D | -- | 6 | Relief |
| 1MS016A,B,C,D | -- | 6 | Relief |
| 1MS017A,B,C,D | -- | 6 | Relief |
| 1MS018A,B,C,D | Comp. Air | 8 | Relief |
| 0ØG059 | Motor | 3 | Butterfly |
| 0ØG060 | Motor | 3 | Butterfly |
| 0ØG061 | Motor | 3 | Butterfly |
| 0ØG062 | Motor | 3 | Butterfly |
| 0ØG063 | Motor | 3 | Butterfly |
| 0ØG064 | Motor | 3 | Butterfly |
| 1ØG057A | Motor | 3 | Butterfly |
| 1ØG079 | Motor | 3 | Butterfly |
| 1ØG080 | Motor | 3 | Butterfly |
| 1ØG081 | Motor | 3 | Butterfly |
| 1PS9354A,B | Air | 3/8 | Globe |
| 1PS9355A,B | Air | 3/8 | Globe |
| 1PS9356A,B | Air | 3/8 | Globe |
| 1PS9357A,B | Air | 3/8 | Globe |

VALVES - cont.

Page 3

| <u>Tag Number</u> | <u>Actuated By</u> | <u>Size (in.)</u> | <u>Body Type</u> |
|-------------------|--------------------|-----------------------|------------------|
| 1RE1003 | Air | 3 | Diaphragm |
| 1RE9157 | Air | 1 | Diaphragm |
| 1RE9159A,B | Air | 3/4 | Diaphragm |
| 1RE9160A,B | Air | 1 | Diaphragm |
| 1RE9170 | Air | 3 | Diaphragm |
| 1RF026 | Air | 2 | Plug |
| 1RF027 | Air | 2 | Plug |
| 1RH0606 | Air | 8 | Butterfly |
| 1RH0607 | Air | 8 | Butterfly |
| 1RH0610 | Motor | 2 | Globe |
| 1RH0611 | Motor | 2 | Globe |
| 1RH0618 | Air | 8 | Butterfly |
| 1RH0619 | Air | 8 | Butterfly |
| 1RH8701A,B | Motor | 12 | Gate |
| 1RH8702A,B | Motor | 12 | Gate |
| 1RH8716A,B | Motor | 8 | Gate |
| 1RY8010A,B,C | -- | 6 | Relief |
| 1RY8025 | Air | 3/8 | Globe |
| 1RY8026 | Air | 3/8 | Globe |
| 1RY8028 | Air | 3 | Diaphragm |
| 1RY8033 | Air | 3/4 | Diaphragm |
| 1RY8046 | -- | 3 | Check |
| 1RY8047 | -- | 3/4 | Check |
| 1SA032 | Air | 1-1/2 | Globe |
| 1SA033 | Air | 1-1/2 | Globe |
| 1SD002A-H | Air | 2 | Globe |
| 1SH063 | Air | 4 | Gate |
| 1SH064 | Air | 4 | Gate |
| 1SH067 | Air | 4 | Gate |
| 1SH068 | Air | 4 | Gate |
| 1SI8801A,B | Motor | 4 | Gate |
| 1SI8802A,B | Motor | 4 | Gate |
| 1SI8804B | Motor | 8 | Gate |
| 1SI8806 | Motor | 8 | Gate |
| 1SI8807A,B | Motor | 6 | Gate |
| 1SI8808A,B,C,D | Motor | 10 | Gate |
| 1SI8809A,B | Motor | 8 | Gate |
| 1SI8811A,B | Motor | 24 | Gate |
| 1SI8812A,B | Motor | 12 | Gate |
| 1SI8813 | Motor | 2 | Globe |
| 1SI8814 | Motor | 1-1/2 | Globe |
| 1SI8818A,B,C,D | -- | 6 | Check |
| 1SI8819A,B,C,D | -- | 2 | Check |
| 1SI8821A,B | Motor | 4 | Gate |
| 1SI8824 | Air | 3/4 | Globe |
| 1SI8835 | Motor | 4 | Gate |
| 1SI8840 | Motor | 12 | Gate |
| 1SI8871 | Air | 3/4 | Globe |
| 1SI8880 | Air | 1 | Globe |

VALVES - cont.

Page 4

| <u>Tag Number</u> | <u>Actuated By</u> | <u>Size (in.)</u> | <u>Body Type</u> |
|-------------------|--------------------|-----------------------|------------------|
| 1SI8881 | Air | 3/4 | Globe |
| 1SI8888 | Air | 3/4 | Globe |
| 1SI8890A,B | Air | 3/4 | Globe |
| 1SI8920 | Motor | 1-1/2 | Globe |
| 1SI8923A,B | Motor | 6 | Gate |
| 1SI8924 | Motor | 6 | Gate |
| 1SI8948A,B,C,D | -- | 10 | Check |
| 1SI8949A,B,C,D | -- | 6 | Check |
| 1SI8956A,B,C,D | -- | 10 | Check |
| 1SI8958A,B | -- | 12 | Check |
| 1SI8964 | Air | 3/4 | Globe |
| 1SI8968 | -- | 1 | Check |
| 1SX001A,B | Motor | 36 | Butterfly |
| 1SX005 | Motor | 30 | Butterfly |
| 1SX016A,B | Motor | 16 | Butterfly |
| 1SX027A,B | Motor | 16 | Butterfly |
| 1SX101A | Air | 1 | Globe |
| 1SX136 | Motor | 42 | Butterfly |
| 1SX146 | Motor | 30 | Butterfly |
| 1SX147 | Motor | 30 | Butterfly |
| 1SX169A,B | Air | 10 | Butterfly |
| 1SX173 | Air | 6 | Gate |
| 1SX178 | Air | 6 | Gate |
| LVQ001A | Elec.-Hyd. | 48 | Butterfly |
| LVQ002A | Elec.-Hyd. | 48 | Butterfly |
| LVQ003 | Air | 8 | Butterfly |
| LVQ004A,B | Air | 8 | Butterfly |
| LVQ005A,B | Air | 8 | Butterfly |