

WCAP 8587

"Equipment Qualification Data Packages"

Supplement 1

EQDP-ESE-16

Solid State Protection System  
Two Train (Three and Four Bay) & Safeguard Test Cabinet

Revision 5

Instruction Sheet

The following instructional information and checklist is being furnished to help insert the following into WCAP-8587 Supplement 1 EQDP-ESE-16 Class 3 (Non-Proprietary). Discard the old cover sheet and insert the new cover sheet as listed below.

Remove  
(Front/Back)

Cover sheet/--  
page 2/3

Insert  
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page 2/3

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March, 1983

EQUIPMENT QUALIFICATION DATA PACKAGE

This document contains information, relative to the qualification of the equipment identified below in accordance with the methodology of WCAP-8587. The Specification section (Part 1) defines the assumed limits for the equipment qualification and constitute interface requirements to the user.

Solid State Protection System (SSPS)  
Two Train (Three and Four Bay) & Safeguard Test Cabinet

APPROVED:

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PART 1 - SPECIFICATIONS

1.0 PERFORMANCE SPECIFICATIONS

1.1 Electrical Requirements

1.1.1 Voltage: 120 VAC  $\pm 10\%$  Single Phase, 105 - 140 VDC

1.1.2 Frequency: 60 or 50 Hz  $\pm 5\%$

1.1.3 Load: Steady state - 10 amp; In Rush - 35 amp

1.1.4 Electromagnetic Interference: None

1.1.5 Other: The electrical requirements are described in detail  
in WCAP-7488L (Reference 14)

3

1.2 Installation Requirements: Westinghouse Drawing 7245D75 Revision 10

1.3 Auxiliary Devices: None

1.4 Preventative Maintenance Schedule: As a result of the completion  
of the Westinghouse Aging Evaluation Program (Phase 1, Short Term  
Aging) described in WCAP-8587 and discussed in WCAP-8687 Supplement  
2, Appendix A1 (Component Aging) Reference 15 and Appendix A2  
(Materials Aging) Reference 16 (Proprietary), no preventive  
maintenance is required to support the equipment qualified life.

3

This does not preclude development of a preventive maintenance  
program designed to enhance equipment performance and identify  
unanticipated equipment degradation as long as this program does  
not compromise the qualification status of the equipment.

4

Surveillance activities may also be considered to support the basis  
for/and a possible extension of the qualified life.

1.5 Design Life: 40 years

1.6 Operating Cycles (Expected number of cycles during design life,  
including test): Continuous duty. Refer to Appendix A1, Reference  
15, for mechanical cycling of relays.

3

1.7 Performance Requirements for Function<sup>(b)</sup>:

| Parameter                     | Containment       |                     |                 | DBE Conditions(a) |      |                | Post DBE Conditions(a) |      |            |
|-------------------------------|-------------------|---------------------|-----------------|-------------------|------|----------------|------------------------|------|------------|
|                               | Normal Conditions | Abnormal Conditions | Test Conditions | FLB/SLB           | LOCA | Seismic        | FLB/SLB                | LOCA | Seismic    |
| 1.7.1 Time requirement        | Continuous        | 12 hours            | N/A             | N/A               | N/A  | Event duration | N/A                    | N/A  | Continuous |
| 1.7.2 Performance requirement | Note d            | As normal           |                 |                   |      | As normal      |                        |      | As normal  |

1.8 Environmental conditions for Same Function<sup>(b)</sup>

|                        |         |        |  |  |  |                   |  |  |         |
|------------------------|---------|--------|--|--|--|-------------------|--|--|---------|
| 1.8.1 Temperature (°F) | 60 - 80 | Note c |  |  |  | Ambient           |  |  | Ambient |
| 1.8.2 Pressure (psig)  | 0       | 0      |  |  |  | 0                 |  |  | 0       |
| 1.8.3 Humidity (% RH)  | 30 - 50 | Note c |  |  |  | Ambient           |  |  | Ambient |
| 1.8.4 Radiation (R)    | < 400   | None   |  |  |  | None              |  |  | None    |
| 1.8.5 Chemicals        | None    | None   |  |  |  | None              |  |  | None    |
| 1.8.6 Vibration        | None    | None   |  |  |  | None              |  |  | None    |
| 1.8.7 Acceleration(g)  | None    | None   |  |  |  | See Sec. 2.10.3.2 |  |  |         |

Notes: a. DBE is the Design Basis Event.

b. Margin is not included in the parameters of this section.

c. Figure 1, envelope 3,. However, since operation at low humidity, based on Westinghouse experience, is not an operating concern, the abnormal extreme for humidity shall be 88 percent RH. Also, for plants having a Class 1E HVAC for the area in which the SSPS is located, the abnormal extremes are the same as the normal specified above.

d. Initiate reactor trip or safeguards actuation on demand.