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SEE 801

SUBJECT: Forwards response to equipment qualification questions transmitted in NRC 850723 ltr. Info will be included in FSAR Amend 22.

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October 17, 1985
(NMP2L 0514)

Dr. Walter Butler, Chief
Licensing Branch No. 2
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Dr. Butler:

Re: Nine Mile Point Unit 2
Docket No: 50-410

Enclosed is information which responds to Equipment Qualification questions transmitted with your July 3, 1985 letter. This information will be included in Amendment Number 22 to the Final Safety Analysis Report.

Very truly yours,

C. V. Mangan
Senior Vice President

CVM/NLR:rla
Enclosure
0955G

xc: R. A. Gramm, NRC Resident Inspector
Project File (2)

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QUESTION F270.1 (SRP 3.11)

Describe in detail the methodology used to identify equipment included in the NMP-2 EQ program. Your response should address the review process used to assure the accuracy and completeness of the list of equipment and the criteria used for excluding any equipment item from the program. Provide also the definition of the equipment operability code included in each system component evaluation worksheet (SCEW).

RESPONSE

The methodology used to identify equipment included in the Unit 2 EQ program is described in revised Section 5.1 of the EQD.

Definitions of equipment operability codes included in each SCEW sheet are provided in new Table 5-2.

QUESTION F270.2 (SRP 3.11)

Provide information which demonstrates how the NMP-2 EQ program complies with the scope of 10CFR50.49. Specifically, demonstrate how compliance with 10CFR50.49(b)(2) is achieved by conformance with Regulatory Guide 1.75, IEEE Standard 384 and your response to the concerns identified in IE Information Notice 79-22.

RESPONSE

See revised Section 5.1 of the EQD.

QUESTION F270.3 (SRP 3.11)

Indicate that post-LOCA radiation environments have been determined in accordance with NUREG 0737, Item II.B.2 and NUREG 0588.

RESPONSE

See revised Section 2.2 of the EQD.

QUESTION F270.4 (SRP 3.11)

Describe the specific EQ related surveillance/maintenance activities to be performed on the following types of equipment:

- Limitorque valve operators
- ASCO solenoid valves
- Electric cables inside primary containment
- Conax penetrations

RESPONSE

See pages Q & R F270.4-2 through F270.4-10 for Sample Maintenance Program data sheets.

QUESTION F270.5 (SRP 3.11)

Provide the justification for the exclusion of any and all systems listed in Table 3.2-1 of the FSAR from the EQ program systems list, Table 3-1, (e.g., local control panels and racks).

RESPONSE

See revised Table 3-1 of the EQD.

QUESTION F270.6 (SRP 3.11)

A number of harsh environment zones listed in Table 2-1 of the Environmental Qualification Document do not have a corresponding profile in Appendix C. Provide the environmental profiles for these zones or the reason for their exclusion from Appendix C.

RESPONSE

See revised listings of harsh and mild environment zones in Tables 2-1 and 2-2, respectively, of the EQD. A new accident condition profile is provided for Zone SC328221. Environmental profiles are not provided in those cases where the zone environment is classified as harsh due to conditions other than pressure and temperature (e.g., radiation).

QUESTION F270.7 (SRP 3.11)

Provide a statement that if a minimum one hour or ten percent time margin is not used in establishing qualification, the justification for reduced margin is based on the criteria listed in Regulatory Guide 1.89, Revision 1.

RESPONSE

See revised Section 4.1.1 (BOP equipment) and revised Section 4.1.2 (NSSS equipment) of the EQD.

QUESTION F270.8 (SRP 3.11)

Provide a statement that a maintenance/surveillance program in accordance with Regulatory Guide 1.33 will be implemented by fuel load.

RESPONSE

See revised Section 6 of the EQD.

QUESTION F270.9 (SRP 3.11)

Identify the equipment included in the EQ program in response to NUREG-0737 by the categories listed in NUREG-0737.

RESPONSE

See revised Section 5.1 of the EQD and the response to Question 421.36.

QUESTION F270.10 (SRP 3.11)

Indicate that replacement parts will be qualified in accordance with the requirements of 10CFR50.49(1) and the guidance in R.G. 1.89, Rev. 1.

RESPONSE

See revised Section 6 of the EQD.

QUESTION F270.11 (SRP 3.11)

A number of inconsistencies are evident between the Master List of components and the SCEW sheets (e.g., 2RHS*MOV4C is not on the Master List but a SCEW sheet is provided, 2ICS*MOV14B is on the Master List but a SCEW sheet is not provided). These inconsistencies must be eliminated.

RESPONSE

The examples given as inconsistencies between the master list of components and the SCEW sheets were not found to be inconsistencies. The equipment 2RHS*MOV4C is at the top of Page 57 of the master list, and the SCEW sheet (Qual Ref. No. P304SAV) for 2ICS*MOV148 is in Volume 2 of the EQD.

Additional inconsistencies are resolved by providing 9 additional SCEW sheets (denoted as Rev. 0) and 18 revised SCEW sheets (denoted as Rev. 1).

Note that the master list and SCEW sheets continue to be reviewed for any further inconsistencies that may exist. Normal update will include resolution of these inconsistencies.

LIST OF TABLES

LIFT OF FIGURES

SECTION 2

ENVIRONMENTAL CONDITIONS

The Equipment Qualification Environmental Design Criteria (EQEDC)[1] document summarizes the indoor environmental design conditions for normal, abnormal, and accident conditions.

The scope of the EQEDC is limited to establishing the environmental conditions of temperature, pressure, humidity, and radiation (beta, gamma, and neutron). Seismic and hydrodynamic loading conditions are not within the scope of the EQEDC.

These parameters are the environmental design limits to which safety-related equipment is designed and qualified. These data have been incorporated into safety-related equipment design or procurement specifications to ensure that the proper functional performance of the system or equipment during design mode of operation is adequately demonstrated.

The environmental data for temperature, pressure, humidity, and radiation are defined in the EQEDC for each building zone that contains equipment which requires environmental qualification. Data are listed for normal operating conditions, abnormal operating conditions, and the accident event that impacts the zone ambient environment.

Zones that are considered harsh and contain safety-related equipment are listed in Table 2-1. Zones that are defined as mild environment plant zones, based on Section 4.2 requirements, are listed in Table 2-2.

2.1 TEMPERATURE, PRESSURE, AND RELATIVE HUMIDITY

The plant heating, ventilating, and air conditioning (HVAC) systems maintain indoor temperature and pressure conditions in QA Category I buildings for all normal operating modes. Minimum, average, and maximum temperatures are defined and listed in the EQEDC. During normal operation relative humidity is not controlled but is limited to a specified maximum percentage in areas that are mechanically cooled. Elsewhere, relative humidity is limited only by the effect of the indoor sensible heat load.

Normal conditions are assumed to exist on a continuous basis until an abnormal or accident condition occurs, with the

between the airborne or plateout activity and the material of interest. The total integrated dose equals the normal plus the accident conditions. Neutron environments are specified in terms of neutron fluence (neutrons/cm^2) for that portion of the spectrum ≥1 Mev.

For normal operating conditions, the radiological environments are specified as doses integrated over a 40-yr plant life for gamma and beta radiation. A plant capacity factor of 0.8 is used to develop the integrated doses for all equipment which operates in conjunction with normal reactor operation. Expected operation time over the 40-yr life of the plant is used to determine integrated doses in the vicinity of other auxiliary systems and equipment, such as fuel handling systems.

Radiation dose contributions due to abnormal conditions that are expected during the life of the plant are included in the 40-yr normal operating conditions.

Radiation dose contributions due to abnormal conditions are for the MSIV isolation event resulting from a transient caused by a loss of condenser vacuum, an MSIV closure, or a turbine trip.

For accident conditions, accident radiological doses are in addition to normal and abnormal operational conditions. The accident dose contribution is determined for the single most limiting accident. Dose profiles as a function of time (t) following the accident are specified. The actual accident dose that equipment is evaluated against is determined based on the required operation time of the device following an accident. In most cases, the post-LOCA (DBA) environmental conditions will be the basis for the radiological requirements. Post LOCA radiation environments have been determined in accordance with NUREG 0737, Item II.B.2, and NUREG 0588 (see also FSAR Section 12.3.1.3). Anticipated transients without a scram are also considered. Accident integrated doses include combined dose contributions from airborne and contained sources and represent the maximum dose for the area specified.

For NSSS equipment, post-accident radiation environments used in the EQ program were in conformance with NUREG-0737, Item II.B.2, and NUREG-0588 with the exception of the radiation definition applied to qualification of the safety relief valves (SRV). In the case of the SRV, there is no requirement for operation of the valves following a design basis LOCA since the reactor vessel will be depressurized through the break. An analysis was performed to determine

maximum LOCA break size that would require availability of the SRVs. The analysis demonstrated that breaks with an area of 0.5 ft^2 or larger would not require SRV availability. This analysis also concluded that none of the LOCA events for which SRVs must be qualified result in any predicted fuel perforations, thus consistent with the provisions of Regulatory Guide 1.89, Rev. 1, Position C.2.C(2). The percentage of fuel damage associated with these accidents is 0 percent and there is no consequent radiation source term. To conservatively account for "accident" radiation doses associated with events other than LOCA which may require SRV operation (i.e., ATWS, HELB), SRV qualification tests used a post-accident radiation value of 10 percent of the dose due to the DBA LOCA in conformance with NUREG-0737, Item II.B.2, and NUREG-0588. This approach is considered conservative since it represents a source term of approximately 10 percent of the core inventory noble gases and 5 percent of the core inventory halogens instantaneously released to the drywell atmosphere, while in response to an actual ATWS or HELB event little or no fuel damage would be expected and any potential release from the fuel would be initially contained within the reactor coolant (not released to drywell atmosphere).

2.3 CHEMICAL ENVIRONMENT

Engineered Safety Feature (ESF) systems are designed to perform their safety functions in the temperature, pressure, and humidity conditions described in the EQEDC.

Unit 2 does not utilize any chemical additives to the water recirculated by the ECCS during normal or accident conditions.

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Only equipment in the primary containment is subject to spray/submergence conditions. Equipment located inside the primary containment is designed and qualified to perform its intended function under the conditions to which they are exposed. Equipment located in the containment below el 219 ft (Zone PC215121) will be submerged for a duration of up to 2 sec during suppression pool swell following a LOCA. This equipment is qualified to withstand the submergence conditions to which it is exposed. For areas outside the primary containment, flooding analyses were performed as described in FSAR Appendix 3C. These analyses demonstrate that electrical equipment required for safe shutdown of the plant either is located above submergence levels or protective measures are provided to prevent submergence.

TABLE 2-1

HARSH ENVIRONMENT ZONES

Zone	Zone	Zone	Zone	Zone	Zone	Zone	Zone	Zone
ABN17501	ET215239	*PC250619	*PC261649	PC299697	*SC196116	*SC240143	*SC306175	*SG261356
*ABN17503	ET215242	*PC250620	PC261650	PC299698	*SC196117	*SC261145	*SC306176	
*ABN17504	MST24044	*PC250621	PC261651	*PC299699	*SC196118	SC261146	SC306177	
*ABN17505	*MST24045	*PC250622	PC279657	PC299700	SC196119	SC261147	SC306178	
*ABN17506	*MST26146	*PC250623	PC279658	PC299701	SC196120	SC261149	SC306179	
ABN19612	*MST26147	*PC250624	PC279659	PC303705	SC196204	*SC261150	SC306180	
ABN19614	*MST28948	*PC250625	PC280663	PC303706	*SC215122	SC261151	*SC306181	
*ABN19615	*MST28949	PC250626	PC280664	PC303707	*SC215123	SC261152	SC306182	
ABN21521	PC175101	*PC250627	PC280665	*PC306711	SC215124	*SC289155	SC306183	
*ABN21523	PC199112	*PC250628	PC287669	*PC306712	*SC215125	SC289156	SC306184	
ABN21524	*PC215121	*PC250629	PC287670	*PC306713	*SC215127	SC289158	SC306215	
*ABN24031	PC240208	*PC250630	PC287671	*PC328185	*SC215128	SC289159	SC328186	
ABN24032	PC240600	*PC261207	PC287672	RB240218	*SC215129	*SC289160	*SC328187	
*ABN24033	*PC240601	PC261636	PC287673	*SC175102	*SC215130	*SC289161	SC338189	
*ABS17508	PC240602	PC261637	PC287674	*SC175103	SC215131	*SC289162	SC328192	
*ABS17509	*PC240603	*PC261638	*PC289679	SC175104	*SC215132	SC289163	*SC328193	
*ABS17510	PC240604	PC261639	*PC289680	*SC175105	SC215205	SC289164	SC328194	
*ABS17511	PC240605	PC261640	*PC289681	*SC175106	SC215206	SC289165	SC328195	
ABS19619	*PC240606	*PC261641	*PC289682	SC175107	*SC240135	SC289166	SC328196	
*ABS19620	*PC240607	PC261642	PC289683	*SC175108	*SC240136	SC289167	*SC328197	
ABS21528	*PC240608	*PC261643	PC289684	*SC175109	*SC240137	SC289168	*SC328199	
ABS24034	*PC240609	*PC261644	*PC289685	SC175110	*SC240138	SC289169	*SC328221	
ABS24035	PC240610	PC261645	*PC289686	*SC175111	SC240139	SC289170	SC328222	
*ABS24036	PC240611	PC261646	*PC297691	*SC196113	*SC240140	SC306172	SC353201	
	*PC240612	*PC261647	PC297692	*SC196114	SC240141	SC306173	*SC353202	
	*PC250618	*PC261648	PC297693	SC196115	*SC240142	SC306174	*SG261355	

NOTE:

*Designates harsh zones which contain safety-related equipment.

TABLE 2-2

MILD ENVIRONMENT ZONES

Zone	Description
Control Building	
El 215'-0"	
CB215258	Cable Vault Area
CB215259	Cable Vault Area
CB215305	Cable Vault Area
CB215306	Cable Vault Area
CB215307	Cable Vault Area
El 237'-0"	
*CB237261	Cable Vault Area
*CB237265	Cable Vault Area
*CB237266	Cable Vault Area
*CB237267	Cable Vault Area
*CB237272	Cable Vault Area
CB237273	Cable Vault Area
CB237274	Cable Vault Area
El 250'-0"	
*SW250364	Service Water Tunnel
El 261'-0"	
*CB261275	Standby Switchgear Room
*CB261276	Standby Switchgear Room
CB261277	Standby Switchgear Room
*CB261279	Standby Switchgear Room
*CB261280	Standby Switchgear Room
CB261281	Standby Switchgear Room
*CB261282	Standby Switchgear Room
*CB261283	Standby Switchgear Room
CB261284	Standby Switchgear Room
*CB261286	Standby Switchgear Room
CB261287	Standby Switchgear Room
CB261288	Standby Switchgear Room
*CB261289	Standby Switchgear Room
*CB261290	Standby Switchgear Room
CB261292	Standby Switchgear Room
*CB261293	Standby Switchgear Room
*CB261294	Standby Switchgear Room

TABLE 2-2 (Cont)

Zone	Description
*CB261295	Standby Switchgear Room
El 274'-0"	
*CB274389	Standby Switchgear Room
*CB274390	Standby Switchgear Room
*CB274391	Standby Switchgear Room
El 289'-0"	
*CB289296	Relay Room
*CB289297	Relay Room
*CB289298	Relay Room
*CB289301	Relay Room
*CB289394	Relay Room
*CB289395	Relay Room
*CB289396	Relay Room
El 306'-0"	
*CB306310	Control Bldg Passageway
*CB306311	Main Control Room
*CB306312	Main Control Room
CB306313	Main Control Room
CB306314	Main Control Room
*CB306315	Main Control Room
*CB306317	Main Control Room
*CB306321	Main Control Room
Diesel Generator Building	
El 261'-0"	
*DG261330	Diesel Generator Rooms
*DG261331	Diesel Generator Rooms
*DG261332	Diesel Generator Rooms
*DG261333	Diesel Generator Rooms
*DG261334	Diesel Generator Rooms
*DG261335	Diesel Generator Rooms
El 272'-0"	
*DG272337	Diesel Generator Rooms
*DG272338	Diesel Generator Rooms
*DG272339	Diesel Generator Rooms

TABLE 2-2 (Cont)

Zone	Description
*DG272340	Diesel Generator Rooms
*DG272341	Diesel Generator Rooms
*DG272342	Diesel Generator Rooms
*DG272343	Diesel Generator Rooms
El 277'-0"	
*DG277344	Diesel Generator Rooms
*DG277345	Diesel Generator Rooms
*DG277346	Diesel Generator Rooms
Electrical Tunnels	
El 215'-0"	
*ET215240	Electrical Tunnels
ET215241	Electrical Tunnels
ET215243	Electrical Tunnels
*ET215244	Electrical Tunnels
Service Water Building	
El 244'-0"	
*SW224365	Service Water Pump Room
*SW224366	Service Water Pump Room
El 261'-0"	
*SW261367	Service Water Pump Room
*SW261368	Service Water Pump Room
El 261'-0"	
*SA261369	Screenwell Area
El 289'-0"	
TB289760	Turbine Bldg
Intake Structures	
El 234'-0"	
*ITK23490	Intake Structure

TABLE 2-2 (Cont)

Zone	Description
El 285'-0"	
*ITK28591	Intake Structure
Aux Service Building	
El 240'-0"	
*ASB24053	Aux. Service Bldg
*ASB24054	Aux. Service Bldg

*Designates mild zones which contain safety-related equipment.

SECTION 3

FUNCTIONAL PERFORMANCE REQUIREMENTS

3.1 SYSTEM LIST

The systems required to mitigate an accident are listed in Table 3-1. This table also lists components/systems that are listed in Table 3.2-1 of the FSAR which have a quality group classification of A, B, or C, or designated either QA Category I or Seismic Category I.

3.2 SYSTEM/ACCIDENT MATRIX

The system/accident matrix shown in Table 3-2 identifies those systems that are required to respond to accidents which result in harsh environments.

As discussed in Sections 2.1 and 2.2 and the EQEDC, generally only two of the several design basis accidents discussed in FSAR Section 15 and FSAR Appendix 15A are used to define harsh environment for equipment qualification. These two accidents, loss of coolant accident inside the primary containment and high energy line break outside the containment, envelop all other plant conditions with respect to their effect on the equipment environment.

For some components, this worst case combination of accident and environmental conditions results in qualification problems. In these instances, an evaluation was performed to develop the environmental conditions for the accidents in which these components are required to operate. These conditions then become the basis for their qualification.

Not all systems listed in Table 3-1 include equipment located in harsh environments.

Some components listed in Table 3-1 are not required to operate following accident conditions and therefore do not require harsh environment qualification. Justification for this is given in the notes to Table 3-1. A cross reference of GE and SWEC systems is included in Table 3-1.

3.3 POST-ACCIDENT OPERABILITY TIME

Equipment must be qualified for the length of time it is required to perform its safety function and must remain in a safe mode after the function is performed. The length of time the equipment is required to function following the onset of an accident is its post-accident operability period

TABLE 3-1

SYSTEM LIST

FSAR Table 3.2-1 System/ Structure	BOP (NSSS) Design-ations	QA CAT I Quality Groups A,B, or C, or Seismic Cat I	Required for Accident Mitigation	Envir. Qual. Req.	Basis for Exclusion from Qualification 10CFR50.49
Reactor System	ISC (B22)	X	X	-	(9)
Nuclear Boiler System	ISC (B22) SVV	X	X	X	
Recircu-lation System	RCS (B35)	X	(1)	X	
CRD Hydraulic System	RDS (C21)	X	X	X	
Standby Liquid Control System	SLS (C41) RRS (C22)	X	X	X	(7) for RRS
Neuton Monitoring System	NMS (C51) TIP	X	X (1) for TIP	X	
Reactor Protection System	RPS (C72)	X	X	X	
Leak Detection System(2)	LDS (E31)	X	X	X	
Area, Pro-cess, and Effluent Radiation Monitors	PRM (D13) ARM	X	X	X	

TABLE 3-1 (Cont)

FSAR Table 3.2-1 System/ Structure	BOP (NSSS) Design-ations	QA CAT I Quality Groups A,B, or C, or Seismic Cat I	Required for Accident Mitigation	Envir. Qual. Req.	Basis for Exclusion from Qualification 10CFR50.49
Residual Heat Removal System	RHS (E12)	X	X	X	
Reactor Core Isolation Cooling System	ICS (E51)	X	X	X	
Fuel Service Equipment	FHE	X	-	-	(3)
Reactor Vessel Service Equipment	FHE	X	-	-	(3)
Invessel Service Equipment	FHE	X	-	-	(3)
Low Pressure Core Spray System	CSL (E21)	X	X	X	
High Pressure Core Spray System	CSH (E22)	X	X	X	
Refueling Equipment	FHE	X	-	-	(3)
Storage Equipment	FHE	X	-	-	(3)

TABLE 3-1 (Cont)

FSAR Table 3.2-1 System/ Structure	BOP (NSSS) Design-ations	QA CAT I Quality Groups A,B, or C, or Seismic Cat I	Required for Accident Mitigation	Envir. Qual. Req.	Basis for Exclusion from Qualification 10CFR50.49
Radwaste Management Systems					
1. Liquid Radwaste System	LWS	-	-	-	Not Safety-Related
2. Solid Radwaste System	WSS	-	-	-	Not Safety-Related
3. Off-Gas System	OFG	-	-	-	Not Safety-Related
Reactor Water Cleanup System	WCS (G33) (G36)	X	(1)	X	
Post-Accident Sampling System	SSP	-	-	-	Not Safety-Related nor Class 1E
Fuel Pool Cooling and Clean-up System					
1. Fuel Pool Cleanup Subsystem	SFC	-	-	-	Not Safety-Related
2. Fuel Pool Cooling Subsystem	SFC	X	X	X	

TABLE 3-1 (Cont)

FSAR Table 3.2-1 System/ Structure	BOP (NSSS) Design-ations	QA CAT I Quality Groups A,B, or C, or Seismic Cat I	Required for Accident Mitigation	Envir. Qual. Req.	Basis for Exclusion from Qualification 10CFR50.49
Control Room Panels	CEC	X	X	X	(7)
Local Panels and Racks	CES/ NAP	X	X	X	
Instrument Air System	IAS ADS	X	X	X	
Service & Breathing Air System	SAS, AAS	X	(1)	X	
Service Water System	SWP	X	X	X	
Reactor Building Closed Loop Cooling Water System	CCP	X	(1)	X	
Turbine Building Closed Loop Cooling Water System	CCS	-	-	-	Not Safety-Related
Power Conversion System	MSS(B22) FWC(C33) ASS, TME	X	-	-	(6)
Condensate Storage & Transfer System	CNS	-	(5)	-	

TABLE 3-1 (Cont)

FSAR Table 3.2-1 System/ Structure	BOP (NSSS) Design-ations	QA CAT I Quality Groups A,B, or C, or Seismic Cat I	Required for Accident Mitigation	Envir. Qual. Req.	Basis for Exclusion from Qualification 10CFR50.49
Standby Gas Treat-ment System	GTS	X	X	X	
Primary Contain-ment Purge System	CPS	X	(1)	X	
Diesel Generator System (Pipe Related)	EGS,EGF, EGP	X	X	X	(7)
HPCS Diesel Generator Cooling Water System	EGS/ SWP	X	X	X	(7)
HPCS Diesel Generator Lube Oil System	EGO	X	X	X	(7)
HPCS Diesel Generator Combusion Air Intake and Exhaust System	EGA	X	X	X	(7)
Diesel Generator Systems (Cable Related)	EGS	X	X	X	(7)

TABLE 3-1 (Cont)

FSAR Table 3.2-1 System/ Structure	BOP (NSSS) Design-ations	QA CAT I Quality Groups A,B, or C, or Seismic Cat I	Required for Accident Mitigation	Envir. Qual. Req.	Basis for Exclusion from Qualification 10CFR50.49
Floor and Equipment Drainage Systems					
1. Reactor Building Floor Drains	DFR	X	(1)	X	
2. Turbine Building Floor Drains	DFT	-	-	-	Not Safety-Related
3. Service Building Equipment and Floor Drains	DFE	-	-	-	Not Safety-Related
4. Radwaste Building Floor Drains	DFW	-	-	-	Not Safety-Related
5. Standby Diesel Generator Building Floor Drains	DFD	-	-	-	Not Safety-Related
6. Miscel-laneous Building Floor Drains	DFM	X	(10)	X	

TABLE 3-1 (Cont)

SAR Table 3.2-1 System/ Structure	BOP (NSSS) Design-ations	QA CAT I Quality Groups A,B, or C, or Seismic Cat I	Required for Accident Mitigation	Envir. Qual. Req.	Basis for Exclusion from Qualification 10CFR50.49
7. Turbine Building Miscel-laneous Drains	DTM	-	-	-	Not Safety-Related
8. Moisture Separator RHTR Vents and Drains	DSR	-	-	-	Not Safety-Related
9. Moisture Separator Vents and Drains	DSM	-	-	-	Not Safety-Related
10. Reactor Building Equipment Drains	DER	X	(1)	-	
11. Turbine Building Equipment Drains	DET	X	X	X	
Hydrogen Recombiner System	HCS	X	X	X	
Fire Protection System					
1. Fire Pro-tection Water	FPW	X	(1)	X	

TABLE 3-1 (Cont)

FSAR Table 3.2-1 System/ Structure	BOP (NSSS) Design-ations	QA CAT I Quality Groups A,B, or C, or Seismic Cat I	Required for Accident Mitigation	Envir. Qual. Req.	Basis for Exclusion from Qualification 10CFR50.49
2. Fire Protection Low Pressure CO_2	FPL	-	-	-	Not Safety-Related
3. Fire Protection Foam	FPF	-	-	-	Not Safety-Related
4. Fire Protection Halon	FPG	-	-	-	Not Safety-Related
5. Fire Detection	FPM	-	-	-	Not Safety-Related
HVAC Systems					
1. Reactor Building Ventilation	HVR	X	X	X	
2. Service Building Ventilation	HVE	-	-	-	Not Safety-Related
3. Turbine Building Ventilation	HVT	-	-	-	Not Safety-Related
4. Radwaste Building Ventilation	HVW	-	-	-	Not Safety-Related

TABLE 3-1 (Cont)

FSAR Table 3.2-1 System/ Structure	BOP (NSSS) Design-ations	QA CAT I Quality Groups A,B, or C, or Seismic Cat I	Required for Accident Mitigation	Envir. Qual. Req.	Basis for Exclusion from Qualification 10CFR50.49
5. Standby Diesel Generator Building Ventilation	HVP	X	X	X	(7)
6. Yard Structure Ventilation	HVY	X	X	X	(7)
7. Control Building Air-Conditioning	HVC	X	X	X	(7)
8. Auxiliary Service Building Ventilation	HVL	-	-	-	
9. Control Building Chilled Water	HVK	X	X	X	(7)
10. Ventilation Chilled Water	HVN	-	-	-	Not Safety-Related
11. Drywell Cooling	DRS	-	-	-	Not Safety-Related
12. Auxiliary Boiler Room Ventilation	HVI	-	-	-	Not Safety-Related

TABLE 3-1 (Cont)

FSAR Table 3.2-1 System/ Structure	BOP (NSSS) Design-ations	QA CAT I Quality Groups A,B, or C, or Seismic Cat I	Required for Accident Mitigation	Envir. Qual. Req.	Basis for Exclusion from Qualification 10CFR50.49
Auxiliary AC Power System					
1. Class 1E 600-V Motor Control Centers	EHS	X	X	X	
2. Standby Station Service Substation	EJS	X	X	X	
3. Standby Station Service Supply Breakers	ENS	X	X	X	
4. 13.8-kV Switch-gear Class 1E	EPS	X	X	X	
5. 600-V Lighting Distri-bution Panels	LAC	X	X	X	
6. 600-V ac Power Supply System	EJA	X	X	X	
7. 120-V ac Distri-bution System	SCM	X	X	X	

TABLE 3-1 (Cont)

FSAR Table 3.2-1 System/ Structure	BOP (NSSS) Design-ations	QA CAT I Quality Groups A,B, or C, or Seismic Cat I	Required for Accident Mitigation	Envir. Qual. Req.	Basis for Exclusion from Qualification 10CFR50.49
8. 120/ 240-V Power Distri-bution Systems	SCV	X	X	X	
9. Vital Bus	VBS	X	X	X	
10. Uninter-ruptible Power Supply System	VBA	X	X	X	
125-V dc Power System	DCP,BYS, DMS	X	X	X	
Miscel-laneous Componets e.g., Polar Crane	RPC	X	-	-	(4)
Civil Structures	NAP	X	-	-	Not Elec-trical in Nature
Miscel-laneous Radiation Protection Equipment and Programs	RMS	-	-	-	Not Safety-Related
Containment Monitoring	CMS	X	X	X	
Nitrogen Inerting	GSN	X	(8)	-	

TABLE 3-1 (Cont)

FSAR Table 3.2-1 System/ Structure	BOP (NSSS) Design-ations	QA CAT I Quality Groups A,B, or C, or Seismic Cat I	Required for Accident Mitigation	Envir. Qual. Req.	Basis for Exclusion from Qualification 10CFR50.49
Domestic Water System	DWS	X	-	-	(6)
Leakage Monitoring System	LMS	X	(1)	X	

TABLE 3-1 (Cont)

NOTES:

(1) The only post-accident function of the following systems is primary containment isolation (CIS) (unless otherwise noted):

- Reactor coolant system (RCS) (also serves an ATWS function)
- Reactor water cleanup system (WCS) (also serves an ATWS function and is part of LDS)
- Service air system (SAS)
- Breathing air system (AAS)
- Reactor building closed loop cooling water system (CCP) (interface isolation with service water)
- Main steam system (MSS) (also part of ADS/SVV and LDS)
- Feedwater system (FWS) (also serves an ATWS function)
- Containment purge sytem (CPS)
- Reactor building floor and equipment drain systems (DFR, DER) (also part of LDS)
- Fire protection system (FPW)
- Leakage monitoring system (LMS)
- Traversing incore probe (TIP)

(2) LDS, the leak detection system, includes temperature flow, and/or level instrumentation, in the following systems:

- Main steam system (MSS)
- Reactor system (ISC
- Reactor core isolation cooling system (ICS)
- Reactor building floor and equipment drain systems (DFR, DER)

TABLE 3-1 (Cont)

- Residual heat removal system (RHS)
- Reactor water cleanup system (WCS)

(3) FHE, which includes fuel service, reactor vessel, invessel, storage, and refueling equipment, performs no post-accident function. Selected components are seismically qualified to ensure proper functioning during refueling operations. Refer to FSAR Section 9.1.

(4) RPC, the reactor building polar crane, performs no post-accident function. The crane is seismically qualified to prevent failure that could jeopardize safe operation of the reactor and to ensure proper functioning during refueling operations. Refer to FSAR Section 9.1.

(5) One CNS boundary check valve is used to prevent bypass leakage in the event of a LOCA inside the primary containment.

(6) DWS, ASS, and TME require QA Category I componets based on special system considerations. No environmental qualification is required.

(7) No equipment for these systems is included in the Master List for 10CFR50.49(b) on the basis that it is located in a mild environment.

(8) GSN is required to maintain piping pressure integrity for makeup N_2 supply to IAS. No QA Category I electrical equipment is required.

(9) This equipment is seismic Category I. Only seismic qualification is required.

(10) The service water pump room level switches require Environmental Qualification.

TABLE 3-2

SYSTEM/ACCIDENT MATRIX

Accident	Abbreviation	FSAR Reference
Control Rod Drop Accident	CRDA	15.4.9
Fuel Handling Accident	FHA	15.7.4
Loss of Coolant Accident (inside primary containment)	LOCA	15.6.5
High Energy Line Break (ICS/WCS) (outside primary containment)	HELB	15.6.4
Main Steam Line Break (outside primary containment)	MSLB	15.6.4
Feedwater Line Break (outside primary containment)	FWLB	15.6.6
Anticipated Transients Without Scram	ATWS	15.8

TABLE 3-2 (Cont)

	Accident						
System	CRDA	FHA	LOCA	HELB	MSLB	FWLB	ATWS
CIS(1)	X		X	X	X	X	X
ISC	X	X	X	X	X	X	X
RDS	X		X	X	X	X	X
SLS							X
NMS/TIP	X						X
RPS	X		X	X	X	X	X
LDS				X	X	X	
PRM/ARM	X	X	X	X	X	X	X
RHS	X	X	X	X	X	X	X
CSL	X	X	X	X	X	X	X
CSH	X	X	X	X	X	X	X
ICS	X						X
FHE							
SFC	X	X	X	X	X	X	X
IAS	X		X	X	X	X	X
ADS/SVV	X		X	X	X	X	X
SWP	X	X	X	X	X	X	X
GTS	X	X	X				X
EGS	X	X	X	X	X	X	X
EGF	X	X	X	X	X	X	X

TABLE 3-2 (Cont)

	Accident						
System	CRDA	FHA	LOCA	HELB	MSLB	FWLB	ATWS
EGA	X	X	X	X	X	X	X
CMS	X		X	X	X	X	X
GSN	X		X	X	X	X	X
HCS			X				
HVK	X	X	X	X	X	X	X
HVR	X	X	X		X	X	X
HVP	X	X	X	X	X	X	X
HVY	X	X	X	X	X	X	X
HVC	X	X	X	X	X	X	X
ACP	X	X	X	X	X	X	X
DCP	X	X	X	X	X	X	X
RPC							
RRS							X
CNS			X				
DWS							
TME							
ASS							

(1) CIS, Primary Containment Isolation - See Note 1 of Table 3-1.

Nine Mile Point Unit 2 EQD

TABLE 3-3

THE INFORMATION ON THIS PAGE HAS BEEN DELETED.

October 1985

SECTION 4

QUALIFICATION METHODOLOGY

4.1 HARSH ENVIRONMENT

4.1.1 BOP Equipment - Electrical

The methodology established for the equipment qualification program is in accordance with the guidelines provided in NUREG-0588 for Category II plants and consistent with applicable Regulatory Guides and consensus national standards (ANSI and IEEE), and in compliance with the requirements of 10CFR50.49. The methodology consists of developing the Equipment Qualification Environmental Design Criteria (EQEDC)[1], which establishes the temperature, pressure, humidity, and radiation dose levels, for normal, abnormal, and accident conditions. Post-accident operability time is developed to assure that the equipment will be qualified to maintain a safety function during a post-accident event.

Post-LOCA radiation environments have been determined in accordance with NUREG 0737, Item II.B.2, and NUREG 0588 (see also FSAR Section 12.3.1.3).

These requirements are included in the procurement specification for the safety related electrical equipment. The specification mandates that the qualification will be accomplished in accordance with IEEE 323-1974 and in accordance with the quality assurance program referenced in 10CFR50 Appendix B.

Based on these specification requirements, the equipment manufacturer develops an equipment qualification program.

Safety-related equipment is evaluated by comparing the environmental conditions by which equipment operability has been demonstrated with required conditions. This evaluation includes review for both 40-yr normal and abnormal environments and accident environments resulting from a spectrum of LOCAs and HELBs. The equipment justification is considered acceptable when it is demonstrated that equipment can perform its required safety function under postulated environmental conditions.

All qualification testing and analysis of safety-related equipment are being evaluated for compliance with

Category II NUREG-0588 guidelines. Equipment testing is reviewed to determine the extent to which it simulates plant conditions and provides sufficient margin. Factors considered during the review of testing include test

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unit(s), including aging. The sequence given in IEEE 323-1974, Paragraph 6.3.2, is used, where an alternate sequence can be justified technically. This justification is documented in the qualification reports.

Margin

Qualification type test results were reviewed to verify that adequate margin exists between the most severe specified service conditions for the equipment and the conditions used in type testing. Margins are in addition to any conservatism applied during the derivation of local environmental conditions of the equipment. Margin accounts for production variations of equipment and inaccuracies in test instrumentation. Increased levels of testing, number of test cycles, and test duration are among the methods used for ensuring adequate margin.

Some equipment is required by the design to perform its safety function only within the first 10 hr of an accident. For balance of plant (BOP) equipment, a time margin of at least 1 hr in excess of the time assumed in the accident analysis was used.

For all other equipment, the 10-percent time margin identified in IEEE 323-1974 was used unless a reduced amount could be justified.

Dose Rate and Synergistic Effects

Qualification for radiation was based on the calculated total integrated dose. Safety-related electrical equipment qualified for use in a nuclear radiation environment was exposed to radiation which simulated the conservatively calculated integrated dose (normal and accident) that the equipment is expected to withstand prior to completion of its intended safety function. In general, a gamma radiation source, typically CO-60, is used to simulate expected radiation exposure. Where beta and gamma radiation exposure is expected, beta radiation is taken into account either during simulated exposure (directly or as a gamma equivalent) or during evaluation of the results. Reduction in the total beta dose was allowed only after considering appropriate shielding factors. If the beta radiation dose contribution to the equipment or component was calculated to be less than 10 percent of the total gamma radiation dose to which the equipment or component had been qualified, then the equipment or component was considered qualified for the beta and gamma radiation environment.

specific devices or on the availability of other sources of qualification data, other approaches such as partial type test with justification by analysis, operating experience, analysis or combination of the above mentioned approaches may be used. For any of these approaches the eventual approach used is justified in the accompanying qualification report. This justification is based on the demonstrated ability of the product to meet its intended safety function.

Where type testing is performed, the approach usually taken is as follows:

1. Assure the device is functional under normal conditions as well as under extremes of such conditions.

2. Device is aged to an end-of-qualified life condition.

3. Device is subjected to dynamic simulation.

4. Device is subjected to design basis event conditions and post design basis event conditions.

5. Device is inspected for failures which may not have been apparent during the operational testing which may have occurred during exposure to an environmental extreme.

The specific sequence of tests undertaken during environmental qualification may vary depending upon the function of the device and the nature of the event for which qualification is being demonstrated. The associated qualification report contains a justification of the actual sequence used. When a product is tested, where practical, the interface associated with the product is included in the test. The specific sequences of environments applied during the testing are determined, using engineering judgment, to best select the sequence to which the product would be subjected during actual installation. Furthermore, where synergisms between environments are known, these effects are taken into consideration during the planning and conducting of the test. All tests that are conducted include adequate margins as described in NEDE-24361-1-P[4].

Qualification time margins are consistent with the criteria listed in Regulatory Guide 1.89, Rev. 1, Section C.4, as discussed below.

1. The functional performance requirements document the function times for all Class 1E equipment and the supporting design record files contain the justification for the margin for each function time less than ten hours if a time margin less than one hour is used. The qualification reports for Class 1E equipment with time margins less than one hour document judgements regarding the survivability limits of the equipment beyond the tested time to the 1-hr margin limit.

2. The functional performance requirements document the function times for all Class 1E equipment and the supporting design record files contain the justification for the margin of each function time less than ten hours if a time margin less than one hour is used. The applicable function times for all accidents and qualification for all such are addressed in the qualification report.

3. The functional performance requirements contain failure analyses which address failure effects on other needed equipment for those cases where qualification is based on a time less than the accident duration.

4. For function times less than ten hours with time margins less than one hour, tests are performed on more than one sample (size, cost, and availability permitting) or margins increased, and the qualification report clearly states that the equipment is only qualified for the time tested which includes appropriate time margin.* All other margins are also applied as required by NEDE-24326-1-P.

Following the completion of the tests all of the associated documentation that led to the test and was generated during the test is formally assembled into a qualification report. That report is available for NRC audit.

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* An appropriate time margin is that margin which when combined with other test margins adequately accounts for normal variations in commercial production of equipment and reasonable errors in defining satisfactory performance including consideration of the uncertainties associated with the design, production tolerances, testing techniques, and the number of units tested.

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SECTION 5

QUALIFICATION DOCUMENTATION

5.1 MASTER LISTS (ML)

The equipment and components that are within the scope of 10CFR50.49(b) are listed in the ML in Appendix A and are included in the qualification program.

All safety-related equipment added as a result of the TMI action items (see FSAR Section 1.10) have been included in the Unit 2 qualification program and qualified as required.

Also included are post-accident monitoring equipment located in harsh environment, and specified as Category 1 and 2, Revision 2 of Regulatory Guide 1.97. The identity of categories (classifications) of equipment included in the EQ program in response to Regulatory Guide 1.97 can be found in the response to FSAR Question F421.36.

An important feature of the ML is its capability to identify all qualification documentation associated with any of the listed safety-related electrical equipment or components through reference to the associated SCEW sheets for that particular equipment or component. The identity of any qualification document associated with any of the listed items can be accessed through either the individual equipment identification number, (e.g., 2CSL*FV114) or through a generic equipment manufacturer and model number (e.g., Rosemount 1153B pressure transmitter).

Examples of documentation accessible through the ML reference to the SCEW sheets are purchase specifications, vendor records (e.g., test plans and test reports), and SWEC-generated documentation (e.g., aging analyses of mechanical equipment and equipment operability periods).

For each device, the ML provides a summary of the key elements of the Environmental Qualification Program. Tables 5-1a and 5-1b contain the heading for the ML, with a description of each entry. For BOP equipment, the first four characters of the device indicate the unit number and the major system in which the device is used. For NSSS equipment, the major system in which the device is used is indicated by the first three characters of the mark number. The subsequent characters are used to further segregate the devices by specific type and number.

5.1.1 Methodology for Selection of Equipment to be Qualified - BOP

The list of equipment requiring qualification (Appendix A - Equipment Qualification Master List) was taken from the Unit 2 BOP project equipment system equipment list (PES). The PES identifies equipment provided for the Unit 2 plant and is developed based on an engineering review of the Unit 2 engineering and design diagrams. Safety-related equipment is indicated in this list with an asterisk in the equipment identification number, e.g., 2CMS*SOV33A.

From this encompassing equipment list, which is a computer-based document, certain equipment is deleted for various reasons, as follows, by appropriate coding of specific computer fields with the final list encompassing the scope described by 10CFR50.49(b)(1) and (b)(2) results.

Equipment is deleted from the list typically for the following reasons:

1. Nonsafety-related equipment which is not isolated from a Class 1E circuit.

2. Equipment qualified under GE-NSSS programs.

3. Equipment which has a passive safety function such as pressure integrity, has no electrical safety function, and is not associated with Class 1E power.

4. Items that are determined to be in mild environment zones.

Equipment is added to the list for the following reasons:

1. A result of modification to the plant design.

2. Commodity products such as cable which are not identified by an equipment identification number.

The EQD includes items within the scope defined by 10CFR50.49(b)(2). It includes all equipment electrically connected directly into the control or power circuitry of the safety-related equipment whose failure under postulated environmental conditions could adversely affect the safety function of other equipment. It includes associated equipment required to meet Regulatory Guide 1.75, Physical Independence of Electric Systems. Identification of this equipment utilized the review of applicable elementary wiring diagrams. In addition, equipment requiring qualification as a result of the review of IE Information Notice 79-22 is included in the EQ program.

5.1.2 Methodology for Selection of Equipment to be Qualified - NSSS

The list of NSSS equipment was taken from the Unit 2 master parts list (MPL) and elementary diagram device lists (EDDL). The NSSS MPL identifies all hardware and documentation provided under the NSSS contract. In addition, the MPL defines an equipment category (EC) for each NSSS hardware item or assembly. Classification codes are:

A = Active safety-related function, automatically initiated.

M = Active safety-related function, manually initiated.

B = Passive safety-related function (equipment in this category may have safety functions of pressure boundary, structural integrity, or electrical integrity).

N = Not safety-related.

A listing of all GE-supplied equipment classified A, M, or P on either the MPL or EDDL was developed. From this original listing, equipment that was located in the control room and equipment that was nonelectrical were eliminated. The resulting list therefore contained all electrical equipment with any safety-related function, based on the GE NSSS design documentation at that time, that was located in plant areas potentially subject to harsh environment. This

listing was the equipment list provided under the EQ program. As described above, the final list encompassed the scope described by 10CFR50.49(b)(1) and (b)(2).

Equipment was subsequently deleted from this list and the GE EQ program for various reasons, typically for the following reasons:

1. Items which were initially included because of association with Class 1E power and subsequently removed from Class 1E association.

2. Items which were initially included because of a mechanical safety function (pressure integrity) and provide no electrical safety function and are not associated with Class 1E power.

3. Items that were located in mild environment zones outside of the control room as defined in Section 4.2.

4. Items that were qualified through separate programs.

Some equipment items were also added to the list for the following reasons:

1. Several process monitoring instruments for post-accident monitoring functions.

2. A result of modifications to the plant design.

The initial NSSS equipment scope encompassed items within the scope defined by 10CFR50.49(b)(2). The qualification process for such items included an evaluation of the consequences of equipment failure in any mode, in any accident event. If the results of the evaluation demonstrated that failure of a device in any mode would not impact plant safety the evaluation was documented. If the evaluation determined that any mode of failure could adversely impact plant safety then the device was qualified by additional test or analysis to demonstrate that the unacceptable failure mode(s) are not a credible result of the postulated accident environment.

5.2 SYSTEM COMPONENT EVALUATION WORK (SCEW) SHEET

The SCEW sheet presents a description of the individual equipment and its location. A comparison is made, in summary, of the actual environmental parameters of the zone

specified, with the environmental parameters encompassed in the qualification program. It also contains references to all of the supportive environmental qualification documents which demonstrate that the equipment is qualified to perform its safety function in the postulated environmental conditions.

Reference to the qualification documents that contain detailed supporting information, including test data, can be found listed in the individual equipment or component SCEW sheet.

In general, there is a SCEW sheet for every line item on the ML. Some SCEW sheets may consist of more than one page when the individual equipment has components which are located in different zones or are otherwise qualified separately.

Referenced documents are test reports and other such items that are retained in Supplier's Document Data Form (SDDF) files. Other documents which may be referenced are equipment specifications, Equipment Qualification Environmental Design Criteria (EQEDC), and calculations of composite environmental zone profiles, qualified life and supplemental analyses for equivalent gamma radiation and the post-accident operability period.

SCEW sheets are compiled in Appendix B, and additional SCEW sheets are added as additional equipment achieves qualification.

Associated with the SCEW sheets are graphs of time dependent environmental parameters, such as temperature and pressure for both specified accident conditions and qualification test conditions. These profiles of accident and test conditions are compiled in Appendix C and may be used for comparison of the applicable accident conditions and zones to the environment simulated in the qualification test.

Refer to Table 5-2 for explanation of OP codes used on the SCEW sheets.

TABLE 5-2

OPERABILITY CODES
(NUREG 0588, Appendix E, Section 2 Categories)

Operability Code	Equipment Type
A	Equipment that will experience environmental conditions of design basis accidents for which it must function to mitigate such accidents and that will be qualified to demonstrate operability in the accident environment for the time required for accident mitigation with safety margin to failure.
B	Equipment that will experience environmental conditions of design basis accidents through which it need not function for mitigation of such accidents but through which it must not fail in a manner detrimental to plant safety or accident mitigation and that will be qualified to demonstrate the capability to withstand any accident environment for the time during which it must not fail with safety margin to failure.
C	Equipment that will experience environmental conditions of design basis accidents through which it need not function for mitigation of such accidents and whose failure (in any mode) is deemed not detrimental to plant safety or accident mitigation and need not be qualified for any accident environment.

NOTE: If Categories B and C are found to be necessary, a "basis" for inclusion in those categories has been developed on a case-by-case basis.

SECTION 6

MAINTENANCE/SURVEILLANCE PROGRAM

A preventive maintenance and surveillance program is being developed by NMPC to ensure the continued environmental qualification of equipment during plant operation.

The objectives of this preventive maintenance and surveillance program are to ensure that the qualified equipment will perform its intended function in the environment in which it is expected to operate and to maintain retrievable records.

The list of environmentally qualified equipment identifies equipment to be included in the preventive maintenance and surveillance program. The list will be kept current to include mechanical equipment and ensure that equipment added to the plant because of design modifications is incorporated into the qualification program and the preventive maintenance and surveillance program.

For each piece of equipment, a preventive maintenance and surveillance program is being developed based on information such as requirements resulting from the equipment qualification report, and Unit 2 plant specific thermal and radiation qualified life calculations, manufacturer's recommendations, previous experience with similar equipment, etc. The qualification specific requirements are identified for each piece of equipment.

The initially developed preventive maintenance and surveillance programs will be modified during plant life if additional information, such as corrective maintenance frequency, surveillance testing, and industry experience (e.g., NRC information notices, circulars or bulletins, manufacturers' alert, LER's, reliability data bases, etc.), identifies any unanticipated degradation trends. In addition, the preventive maintenance and surveillance program identifies the lubricants suitable for each application and environment. These preventive maintenance and surveillance activities are performed by personnel using detailed procedures, as necessary.

The plant maintenance program will incorporate the scheduling and documentation of maintenance requirements and activities. Schedules will identify when equipment maintenance, replacement, testing, or calibration is required. Appropriate plant departments will complete the

work. On completion of scheduled activities, a notification will be made indicating work completion, which will document completion and facilitate rescheduling. This scheduling program will be used to alert appropriate plant departments of preventive maintenance, surveillance, and replacement requirements for environmentally qualified equipment.

Quality assurance and control programs will require inspections, verifications, and audits of activities and procedures important to safety. These programs will be performed on environmentally qualified equipment to ensure that schedules, maintenance, procedures, replacements, and documentation are completed in a correct and timely manner.

The preventive maintenance and surveillance program is in accordance with Regulatory Guide 1.33 as described in FSAR Section 1.8. Replacement parts will be qualified in accordance with the requirements of 10CFR50.49(1) and Regulatory Guide 1.89.

NINE MILE POINT - UNIT 2
DOCKET NUMBER 50-410

SYSTEM COMPONENT EVALUATION WORK SHEET

DUAL REF # P800AJX REV 1

09-Aug-85

EQUIPMENT DESCRIPTION

EQUIP NO.: E22-N055B
SPEC NO.: 184C4775
SYSTEM: HIGH PRESSURE CORE SPRAY
TYPE: LEVEL TRANSMITTER
MANUFACTURER: GOULD INC.
MODEL NO.: PD3218
SAFETY FUNCTION: SUPPRESION POOL LEVEL INDICATION
OP. CODE: A

ACCURACY - REF. 2
SPEC: REF.2
DEMO: REF.2

ZONE NO.: SC175105
SUBMERGENCE: NA
SPRAY: NA

DOCUMENTATION ACCEPTABILITY:
ACCEPTABLE TO NUREG 0588,CAT I
PER NEDE-24326-1-P

MAINT/SURVEILL -
REFERENCE: 2

QUALIFIED LIFE -
(YEARS): 40
REFERENCE: 2

ENVIRONMENTAL CONDITIONS AND QUALIFICATION

PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE SPECIFIED	DOCUMENT REFERENCE QUALIFIED	QUAL METHOD	MARGIN DEMO	REMARKS
OP.TIME:	24 HRS.	1215 HRS	3	2	TEST-IDENT	NA	
TEMP (F):	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORMAL	104/85	NA	1	2	NA	NA	NOTE 2
ABNORMAL	92	NA	1	2	NA	NA	
ACCIDENT	175	290	1	2	TEST-IDENT	NA	
PRESS(PSIG)	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORMAL	-.25	NA	1	2	NA	NA	
ABNORMAL	-	NA	1	2	NA	NA	
ACCIDENT	2.8	17.55	1	2	TEST-IDENT	NA	
RH (%):	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORMAL	50	NA	1	2	NA	NA	
ABNORMAL	NA	NA	1	2	NA	NA	
ACCIDENT	100	100%/AS	1	2	TEST-IDENT	NA	
RADIATION:	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORM GAMMA	1.1E7	NA	1	2	NA	NA	
ACC GAMMA	1.0E6	3.83E7	1	2	TEST-IDENT	NA	
NORM BETA	NA	NA	1	2	NA	NA	
ACC BETA	1.3E7	NA	1	2	ANALYSIS	NA	- NOTE 3
NEUTRON	NA	NA	1	2	NA	NA	
SPRAY	NA	NA	NA	NA	TEST-IDENT	NA	
SUBMERGENCE	NA	NA	NA	NA	NA	NA	

DOCUMENT REFERENCE:

1. EQUIPMENT QUALIFICATION ENVIRONMENTAL DESIGN CRITERIA, EQEDC-1, REV 1, MAY 2, 1984.
2. GE ENVIRONMENTAL QUALIFICATION REPORT, NEDC-30403.
3. GE FUNCTIONAL PERFORMANCE REQUIREMENT (FPR) CONTAINED IN APPENDIX B OF REFERENCE 2.

NOTES:

1. FOR COMPLETE ENVIRONMENTAL CONDITIONS, SEE THE DOCUMENT REFERENCED.
2. NORMAL TEMPERATURES ARE SHOWN AS MAX DESIGN/AVERAGE.
3. ALL NONMETALLIC MATERIALS ARE SHIELDED FROM BETA RADIATION.

NINE MILE POINT - UNIT 2
DOCKET NUMBER 50-410

QUAL REF # PB00APA REV 1

SYSTEM COMPONENT EVALUATION WORK SHEET

09-Aug-85

EQUIPMENT DESCRIPTION

EQUIP NO.: E51-N010
SPEC NO.: 184C4776
SYSTEM: RCIC

TYPE: LEVEL SWITCH

MANUFACTURER: MAGNETROL

MODEL NO.: C751

SAFETY FUNCTION: ACTUATES CONDENSATE DRAIN POT BYPASS VALVE.

OP. CODE: B

ACCURACY - REF. 2
SPEC: REF.2
DEMO: REF.2

ZONE NO.: SC175106
SUBMERGENCE: NA
SPRAY: NA

DOCUMENTATION ACCEPTABILITY:
ACCEPTABLE TO NUREG 0588,CAT I
PER NEDE-24326-1-P

MAINT/SURVEILL -
REFERENCE: 2

QUALIFIED LIFE -
(YEARS): 4.01
REFERENCE: 2

ENVIRONMENTAL CONDITIONS AND QUALIFICATION

PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE SPECIFIED	DOCUMENT REFERENCE QUALIFIED	QUAL. METHOD	MARGIN DEMO	REMARKS
OP.TIME:	12 HRS.	218.5 HRS	3	2	TEST-SIM	YES	
TEMP (F):	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORMAL	104/85	NA	1	2	TEST-SIM	NA	NOTE 2
ABNORMAL	86	NA	1	2	TEST-SIM	NA	
ACCIDENT	150	.281	1	2	TEST-SIM	YES	
PRESS(PSIG)	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORMAL	-.25	NA	1	2	TEST-SIM	NA	
ABNORMAL	-	-	1	2	NA	NA	
ACCIDENT	3.8	18	1	2	TEST-SIM	YES	
RH (%):	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORMAL	50	NA	1	2	TEST-SIM	NA	
ABNORMAL	-	-	1	2	NA	NA	
ACCIDENT	100	100%/AS	1	2	TEST-SIM	NA	
RADIATION:	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORM GAMMA	2.4E4	NA	1	2	TEST-SIM	NA	
ACC GAMMA	2E7	2.2E8	1	2	TEST-SIM	YES	
NORM BETA	NA	NA	1	2	NA	NA	
ACC BETA	1.3E7	NA	1	2	ANALYSIS	NA	- NOTE 3
NEUTRON	NA	NA	1	2	NA	NA	
SPRAY	NA	NA	NA	NA	NA	NA	
SUBMERGENCE	NA	NA	NA	NA	NA	NA	

DOCUMENT REFERENCE:
1. EQUIPMENT QUALIFICATION ENVIRONMENTAL DESIGN CRITERIA, EQEDC-1, REV 1, MAY 2, 1984.
2. GE ENVIRONMENTAL QUALIFICATION REPORT, NEDC-30408.
3. GE FUNCTIONAL PERFORMANCE REQUIREMENT (FPR) CONTAINED IN APPENDIX B OF REFERENCE 2.

NOTES:
1. FOR COMPLETE ENVIRONMENTAL CONDITIONS, SEE THE DOCUMENT REFERENCED.
2. NORMAL TEMPERATURES ARE SHOWN AS MAX DESIGN/AVERAGE.
3. ALL NONMETALLIC MATERIALS ARE SHIELDED FROM THE BETA RADIATION.

NINE MILE POINT - UNIT 2
DOCKET NUMBER 50-410

SYSTEM COMPONENT EVALUATION WORK SHEET

DUAL REF # F800APD REV 1

09-Aug-85

EQUIPMENT DESCRIPTION	ENVIRONMENTAL CONDITIONS AND QUALIFICATION						
	PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE SPECIFIED	DOCUMENT REFERENCE QUALIFIED	DUAL METHOD	MARGIN DEMO	REMARKS
EQUIP NO.: E51-N037	OP.TIME:	12 HRS.	218.5 HRS	3	2	TEST-SIM	YES	
SPEC NO.: 184C4776	TEMP (F):	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
SYSTEM: RCIC	NORMAL	104/85	NA	1	2	TEST-SIM	NA	NOTE 2
	ABNORMAL	86	NA	1	2	TEST-SIM	NA	
TYPE: LEVEL SWITCH	ACCIDENT	150	281	1	2	TEST-SIM	YES	
	PRESS(PSIG)	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
	NORMAL	-.25	NA	1	2	TEST-SIM	NA	
	ABNORMAL	-	-	1	2	NA	NA	
MANUFACTURER: MAGNETROL	ACCIDENT	3.8	18	1	2	TEST-SIM	YES	
	RH (%):	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
MODEL NO.: C751	NORMAL	50	NA	1	2	TEST-SIM	NA	
	ABNORMAL	-	-	1	2	NA	NA	
SAFETY FUNCTION: ACTUATES	ACCIDENT	100	100%/AS	1	2	TEST-SIM	NA	
CONDENSATE DRAIN POT BYPASS	RADIATION:	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
VALVE.	NORM GAMMA	2.4E4	NA	1	2	TEST-SIM	NA	
	ACC GAMMA	2E7	2.2E8	1	2	TEST-SIM	YES	
OP. CODE: B	NORM BETA	NA	NA	1	2	NA	NA	
	ACC BETA	1.3E7	NA	1	2	ANALYSIS	NA	- NOTE 3
	NEUTRON	NA	NA	1	2	NA	NA	
	SPRAY	NA	NA	NA	NA	NA	NA	
ACCURACY - REF. 2	SUBMERGENCE	NA	NA	NA	NA	NA	NA	
SPEC: REF.2								
DEMO: REF.2								

ZONE NO.: SC175106
SUBMERGENCE: NA
SPRAY: NA

DOCUMENTATION ACCEPTABILITY:
ACCEPTABLE TO NUREG 0588,CAT I
PER NEDE-24326-1-P

MAINT/SURVEILL. -
REFERENCE: 2

QUALIFIED LIFE -
(YEARS): 40
REFERENCE: 2

DOCUMENT REFERENCE:
1. EQUIPMENT QUALIFICATION ENVIRONMENTAL DESIGN CRITERIA, EQEDC-1, REV 1, MAY 2, 1984.
2. GE ENVIRONMENTAL QUALIFICATION REPORT, NEDC-30408.
3. GE FUNCTIONAL PERFORMANCE REQUIREMENT (FPR) CONTAINED IN APPENDIX B OF REFERENCE 2.

NOTES:
1. FOR COMPLETE ENVIRONMENTAL CONDITIONS, SEE THE DOCUMENT REFERENCED.
2. NORMAL TEMPERATURES ARE SHOWN AS MAX DESIGN/AVERAGE.
3. ALL NONMETALLIC MATERIALS ARE SHIELDED FROM THE BETA RADIATION.

NINE [redacted] POINT - UNIT 2
DOCKET NUMBER 50-410

SYSTEM COMPONENT EVALUATION WORK SHEET

QUAL REF # P800APQ REV 1

09-Aug-85

EQUIPMENT DESCRIPTION

EQUIP NO.: G33-N008
SPEC NO.: 136B2186
SYSTEM: REACTOR WATER CLEANUP

TYPE: TEMPERATURE INDICATING SWITCH

MANUFACTURER: FENWAL

MODEL NO.: 56100-64

SAFETY FUNCTION: THE DEVICE HAS NO SAFETY FUNCTION

OP. CODE: C

ACCURACY -NA
SPEC: NOTE 3
DEMO:

ZONE NO.: SC261145
SUBMERGENCE:NA
SPRAY: NA

DOCUMENTATION ACCEPTABILITY:
ACCEPTABLE TO NUREG 0588,CAT I
PER NEDE-24326-1-P

MAINT/SURVEILL -NA
REFERENCE: 2

QUALIFIED LIFE - NA
(YEARS):
REFERENCE: 2

ENVIRONMENTAL CONDITIONS AND QUALIFICATION

PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE SPECIFIED	DOCUMENT REFERENCE QUALIFIED	QUAL METHOD	MARGIN DEMO	REMARKS
OP.TIME:	NA	NA	3	2	NOTE 3	NA	
TEMP (F):	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORMAL	NA	NA	1	2	NOTE 3	NA	NOTE 2
ABNORMAL	NA	NA	1	2	NOTE 3	NA	
ACCIDENT	NA	NA	1	2	NOTE 3	NA	
PRESS(PSIG)	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORMAL	NA	NA	1	2	NOTE 3	NA	
ABNORMAL	NA	NA	1	2	NOTE 3	NA	
ACCIDENT	NA	NA	1	2	NOTE 3	NA	
RH (%):	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORMAL	NA	NA	1	2	NOTE 3	NA	
ABNORMAL	NA	NA	1	2	NOTE 3	NA	
ACCIDENT	NA	NA	1	2	NOTE 3	NA	
RADIATION:	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORM GAMMA	NA	NA	1	2	NOTE 3	NA	
ACC GAMMA	NA	NA	1	2	NOTE 3	NA	
NORM BETA	NA	NA	1	2	NOTE 3	NA	
ACC BETA	NA	NA	1	2	NOTE 3	NA	
NEUTRON	NA	NA	1	2	NOTE 3	NA	
SPRAY	NA	NA	NA	NA	NOTE 3	NA	
SUBMERGENCE	NA	NA	NA	NA	NOTE 3	NA	

DOCUMENT REFERENCE:
1. EQUIPMENT QUALIFICATION ENVIRONMENTAL DESIGN CRITERIA, EQEDC-1, REV 1, MAY 2, 1984.
2. GE ENVIRONMENTAL QUALIFICATION REPORT, NEDC- 30411
3. GE FUNCTIONAL PERFORMANCE REQUIREMENT (FPR) CONTAINED IN APPENDIX A OF REFERENCE 2.

NOTES: 1. FOR COMPLETE ENVIRONMENTAL CONDITIONS, SEE THE DOCUMENT REFERENCED.
2. NORMAL TEMPERATURES ARE SHOWN AS MAX DESIGN/AVERAGE.
3. DEVICE IS EXEMPT FROM QUALIFICATION (DOCUMENT REFERENCE 2)

NINE MILE POINT - UNIT 2
DOCKET NUMBER 50-410

SYSTEM COMPONENT EVALUATION WORK SHEET

QUAL REF # P800AEL REV 1

09-Aug-85

EQUIPMENT DESCRIPTION

EQUIP NO.: C12-N012A
SPEC NO.: 184C4775
SYSTEM: CONTROL ROD DRIVE

TYPE: LEVEL TRANSMITTER

MANUFACTURER: GOULD INC.

MODEL NO.: PD3218

SAFETY FUNCTION: SCRAM
DISCHARGE VOLUME LEVEL
INDICATION

OP. CODE: B

ACCURACY - REF. 2
SPEC: REF.2
DEMO: REF.2

ZONE NO.: SC261145
SUBMERGENCE: NA
SPRAY: NA

DOCUMENTATION ACCEPTABILITY:
ACCEPTABLE TO NUREG 0588,CAT I
PER NEDE-24326-1-P

MAINT/SURVEILL -
REFERENCE: 2

QUALIFIED LIFE -
(YEARS): 40 YEARS
REFERENCE: 2

ENVIRONMENTAL CONDITIONS AND QUALIFICATION

PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE SPECIFIED	DOCUMENT REFERENCE QUALIFIED	QUAL METHOD	MARGIN DEMO	REMARKS
OP.TIME:	12 HRS.	1215 HRS	3	2	TEST-IDENT	NA	
TEMP (F):	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORMAL	104/85	NA	1	2	NA	NA	NOTE 2
ABNORMAL	87	NA	1	2	NA	NA	
ACCIDENT	200	290	1	2	TEST-IDENT	NA	
PRESS(PSIG)	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORMAL	-.25	NA	1	2	NA	NA	
ABNORMAL	-	NA	1	2	NA	NA	
ACCIDENT	2.8	17.55	1	2	TEST-IDENT	NA	
RH (%):	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORMAL	50	NA	1	2	NA	NA	
ABNORMAL	NA	NA	1	2	NA	NA	
ACCIDENT	100	100%/AS	1	2	TEST-IDENT	NA	
RADIATION:	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORM GAMMA	7.9E6	NA	1	2	NA	NA	
ACC GAMMA	2.37E6	3.83E7	1	2	TEST-IDENT	NA	
NORM BETA	NA	NA	1	2	NA	NA	
ACC BETA	1.3E7	NA	1	2	ANALYSIS	NA	- NOTE 3
NEUTRON	NA	NA	1	2	NA	NA	
SPRAY	NA	NA	NA	NA	TEST-IDENT	NA	
SUBMERGENCE	NA	NA	NA	NA	NA	NA	

DOCUMENT REFERENCE:
1. EQUIPMENT QUALIFICATION ENVIRONMENTAL DESIGN CRITERIA, EQEDC-1, REV 1, MAY 2, 1984.
2. GE ENVIRONMENTAL QUALIFICATION REPORT, NEDC-30743.
3. GE FUNCTIONAL PERFORMANCE REQUIREMENT (FPR) CONTAINED IN APPENDIX B OF REFERENCE 2.

NOTES:
1. FOR COMPLETE ENVIRONMENTAL CONDITIONS, SEE THE DOCUMENT REFERENCED.
2. NORMAL TEMPERATURES ARE SHOWN AS MAX DESIGN/AVERAGE.
3. ALL NONMETALLIC MATERIALS ARE SHIELDED FROM BETA RADIATION.

NINE MILE POINT - UNIT 2
DOCKET NUMRER 50-410

SYSTEM COMPONENT EVALUATION WORK SHEET

QUAL REF # P800AEM REV 1

09-Aug-85

EQUIPMENT DESCRIPTION

EQUIP NO.: C12-N012B
SPEC NO.: 184C4775
SYSTEM: CONTROL ROD DRIVE

TYPE: LEVEL TRANSMITTER

MANUFACTURER: GOULD INC.

MODEL NO.: PD3218

SAFETY FUNCTION: SCRAM
DISCHARGE VOLUME LEVEL
INDICATION

OP. CODE: B

ACCURACY - REF. 2
SPEC: REF.2
DEMO: REF.2

ZONE NO.: SC261145
SUBMERGENCE: NA
SPRAY: NA

DOCUMENTATION ACCEPTABILITY:
ACCEPTABLE TO NUREG 0588,CAT I
PER NEDE-24326-1-P

MAINT/SURVEILL -
REFERENCE: 2

QUALIFIED LIFE -
(YEARS): 40 YEARS
REFERENCE: 2

ENVIRONMENTAL CONDITIONS AND QUALIFICATION

PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE SPECIFIED	DOCUMENT REFERENCE QUALIFIED	QUAL METHOD	MARGIN DEMO	REMARKS
OP.TIME:	12 HRS.	1215 HRS	3	2	TEST-IDENT	NA	
TEMP (F):	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORMAL	104/85	NA	1	2	NA	NA	NOTE 2
ABNORMAL	87	NA	1	2	NA	NA	
ACCIDENT	200	290	1	2	TEST-IDENT	NA	
PRESS(PSIG)	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORMAL	-.25	NA	1	2	NA	NA	
ABNORMAL	-	NA	1	2	NA	NA	
ACCIDENT	2.8	17.55	1	2	TEST-IDENT	NA	
RH (%):	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORMAL	50	NA	1	2	NA	NA	
ABNORMAL	NA	NA	1	2	NA	NA	
ACCIDENT	100	100%/AS	1	2	TEST-IDENT	NA	
RADIATION:	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORM GAMMA	7.9E6	NA	1	2	NA	NA	
ACC GAMMA	2.37E6	3.83E7	1	2	TEST-IDENT	NA	
NORM BETA	NA	NA	1	2	NA	NA	
ACC BETA	1.3E7	NA	1	2	ANALYSIS	NA	- NOTE 3
NEUTRON	NA	NA	1	2	NA	NA	
SPRAY	NA	NA	NA	NA	TEST-IDENT	NA	
SUBMERGENCE	NA	NA	NA	NA	NA	NA	

DOCUMENT REFERENCE:

1. EQUIPMENT QUALIFICATION ENVIRONMENTAL DESIGN CRITERIA, EQEDC-1, REV 1, MAY 2, 1984.
2. GE ENVIRONMENTAL QUALIFICATION REPORT, NEDC-30743.
3. GE FUNCTIONAL PERFORMANCE REQUIREMENT (FPR) CONTAINED IN APPENDIX B OF REFERENCE 2.

NOTES:

1. FOR COMPLETE ENVIRONMENTAL CONDITIONS, SEE THE DOCUMENT REFERENCED.
2. NORMAL TEMPERATURES ARE SHOWN AS MAX DESIGN/AVERAGE.
3. ALL NONMETALLIC MATERIALS ARE SHIELDED FROM BETA RADIATION.

NINE MILE POINT - UNIT 2
DOCKET NUMBER 50-410

SYSTEM COMPONENT EVALUATION WORK SHEET

09-Aug-85

QUAL. REF # P800AEN REV 1

EQUIPMENT DESCRIPTION

EQUIP NO.: C12-N012C
SPEC NO.: 184C4775
SYSTEM: CONTROL ROD DRIVE

TYPE: LEVEL TRANSMITTER

MANUFACTURER: GOULD INC.

MODEL NO.: PD3218

SAFETY FUNCTION: SCRAM
DISCHARGE VOLUME LEVEL
INDICATION

OP. CODE: B

ACCURACY - REF. 2
SPEC: REF.2
DEMO: REF.2

ZONE NO.: SC261145
SUBMERGENCE: NA
SPRAY: NA

DOCUMENTATION ACCEPTABILITY:
ACCEPTABLE TO NUREG 0588,CAT I
PER NEDE-24326-1-P

MAINT/SURVEILL -
REFERENCE: 2

QUALIFIED LIFE -
(YEARS): 40 YEARS
REFERENCE: 2

ENVIRONMENTAL CONDITIONS AND QUALIFICATION

PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE SPECIFIED	DOCUMENT REFERENCE QUALIFIED	QUAL METHOD	MARGIN DEMO	REMARKS
OP.TIME:	12 HRS.	1215 HRS	3	2	TEST-IDENT	NA	
TEMP (F):	- - - - - -	- - - - - -	- - - - - -	- - - - - -	- - - - - -	- - -	- NOTE 1
NORMAL	104/85	NA	1	2	NA	NA	NOTE 2
ABNORMAL	87	NA	1	2	NA	NA	
ACCIDENT	200	290	1	2	TEST-IDENT	NA	
PRESS(PSIG)	- - - - - -	- - - - - -	- - - - - -	- - - - - -	- - - - - -	- - -	- NOTE 1
NORMAL	-.25	NA	1	2	NA	NA	
ABNORMAL	-	NA	1	2	NA	NA	
ACCIDENT	2.8	17.55	1	2	TEST-IDENT	NA	
RH (%):	- - - - - -	- - - - - -	- - - - - -	- - - - - -	- - - - - -	- - -	- NOTE 1
NORMAL	50	NA	1	2	NA	NA	
ABNORMAL	NA	NA	1	2	NA	NA	
ACCIDENT	100	100%/A8	1	2	TEST-IDENT	NA	
RADIATION:	- - - - - -	- - - - - -	- - - - - -	- - - - - -	- - - - - -	- - -	- NOTE 1
NORM GAMMA	7.9E6	NA	1	2	NA	NA	
ACC GAMMA	2.37E6	3.83E7	1	2	TEST-IDENT	NA	
NORM BETA	NA	NA	1	2	NA	NA	
ACC BETA	1.3E7	NA	1	2	ANALYSIS	NA	- NOTE 3
NEUTRON	NA	NA	1	2	NA	NA	
SPRAY	NA	NA	NA	NA	TEST-IDENT	NA	
SUBMERGENCE	NA	NA	NA	NA	NA	NA	

DOCUMENT REFERENCE:

1. EQUIPMENT QUALIFICATION ENVIRONMENTAL DESIGN CRITERIA, EQEDC-1, REV 1, MAY 2, 1984.
2. GE ENVIRONMENTAL QUALIFICATION REPORT, NEDC-30743.
3. GE FUNCTIONAL PERFORMANCE REQUIREMENT (FPR) CONTAINED IN APPENDIX B OF REFERENCE 2.

NOTES:

1. FOR COMPLETE ENVIRONMENTAL CONDITIONS, SEE THE DOCUMENT REFERENCED.
2. NORMAL TEMPERATURES ARE SHOWN AS MAX DESIGN/AVERAGE.
3. ALL NONMETALLIC MATERIALS ARE SHIELDED FROM BETA RADIATION.

NINE [redacted] POINT - UNIT 2
DOCKET NUMBER 50-410

SYSTEM COMPONENT EVALUATION WORK SHEET

PAGE 1
OF 1

09-Aug-85

QUAL REF # P800AE0 REV 1

EQUIPMENT DESCRIPTION

EQUIP NO.: C12-N012D
SPEC NO.: 184C4775
SYSTEM: CONTROL ROD DRIVE

TYPE: LEVEL TRANSMITTER

MANUFACTURER: GOULD INC.

MODEL NO.: PD3218

SAFETY FUNCTION: SCRAM
DISCHARGE VOLUME LEVEL
INDICATION

OP. CODE: B

ACCURACY - REF. 2
SPEC: REF.2
DEMO: REF.2

ZONE NO.: SC261145
SUBMERGENCE: NA
SPRAY: NA

DOCUMENTATION ACCEPTABILITY:
ACCEPTABLE TO NUREG 0588,CAT I
PER NEDE-24326-1-P

MAINT/SURVEILL -
REFERENCE: 2

QUALIFIED LIFE -
(YEARS): 40 YEARS
REFERENCE: 2

ENVIRONMENTAL CONDITIONS AND QUALIFICATION

PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE SPECIFIED	DOCUMENT REFERENCE QUALIFIED	QUAL METHOD	MARGIN DEMO	REMARKS
OP.TIME:	12 HRS.	1215 HRS	3	2	TEST-IDENT	NA	
TEMP (F):	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORMAL	104/85	NA	1	2	NA	NA	NOTE 2
ABNORMAL	87	NA	1	2	NA	NA	
ACCIDENT	200	290	1	2	TEST-IDENT	NA	
PRESS(PSIG)	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORMAL	-.25	NA	1	2	NA	NA	
ABNORMAL	-	NA	1	2	NA	NA	
ACCIDENT	2.8	17.55	1	2	TEST-IDENT	NA	
RH (%):	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORMAL	50	NA	1	2	NA	NA	
ABNORMAL	NA	NA	1	2	NA	NA	
ACCIDENT	100	100%/AS	1	2	TEST-IDENT	NA	
RADIATION:	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORM GAMMA	7.9E6	NA	1	2	NA	NA	
ACC GAMMA	2.37E6	3.83E7	1	2	TEST-IDENT	NA	
NORM BETA	NA	NA	1	2	NA	NA	
ACC BETA	1.3E7	NA	1	2	ANALYSIS	NA	- NOTE 3
NEUTRON	NA	NA	1	2	NA	NA	
SPRAY	NA	NA	NA	NA	TEST-IDENT	NA	
SUBMERGENCE	NA	NA	NA	NA	NA	NA	

DOCUMENT REFERENCE:
1. EQUIPMENT QUALIFICATION ENVIRONMENTAL DESIGN CRITERIA, EQEDC-1, REV 1, MAY 2, 1984.
2. GE ENVIRONMENTAL QUALIFICATION REPORT, NEDC-30743.
3. GE FUNCTIONAL PERFORMANCE REQUIREMENT (FPR) CONTAINED IN APPENDIX B OF REFERENCE 2.

NOTES:
1. FOR COMPLETE ENVIRONMENTAL CONDITIONS, SEE THE DOCUMENT REFERENCED.
2. NORMAL TEMPERATURES ARE SHOWN AS MAX DESIGN/AVERAGE.
3. ALL NONMETALLIC MATERIALS ARE SHIELDED FROM BETA RADIATION.

NINE MILE POINT - UNIT 2
DOCKET NUMBER 50-410

SYSTEM COMPONENT EVALUATION WORK SHEET

DUAL REF # P800AEP REV 1

09-Aug-85

EQUIPMENT DESCRIPTION

EQUIP NO.: C12-N013A
SPEC NO.: 184C4776
SYSTEM: CRD

TYPE: LEVEL SWITCH

MANUFACTURER: MAGNETROL

MODEL NO.: C751

SAFETY FUNCTION: SDV LEVEL INDICATION

OP. CODE: B

ACCURACY - REF. 2
SPEC: REF.2
DEMO: REF.2

ZONE NO.: SC261145
SUBMERGENCE: NA
SPRAY: NA

DOCUMENTATION ACCEPTABILITY:
ACCEPTABLE TO NUREG 0588,CAT I
PER NEDE-24326-1-P

MAINT/SURVEILL -
REFERENCE: 2

QUALIFIED LIFE -
(YEARS): 40
REFERENCE: 2

ENVIRONMENTAL CONDITIONS AND QUALIFICATION

PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE: SPECIFIED	DOCUMENT REFERENCE: QUALIFIED	QUAL METHOD	MARGIN: DEMO	REMARKS
OP.TIME:	12 HRS.	218.5 HRS	3	2	TEST-SIM	YES	
TEMP (F):	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORMAL	104/85	NA	1	2	TEST-SIM	NA	NOTE 2
ABNORMAL	87	NA	1	2	TEST-SIM	NA	
ACCIDENT	200	281	1	2	TEST-SIM	YES	
PRESS(PSIG)	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORMAL	-.25	NA	1	2	TEST-SIM	NA	
ABNORMAL	-	-	1	2	NA	NA	
ACCIDENT	2.8	18	1	2	TEST-SIM	YES	
RH (%):	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORMAL	50	NA	1	2	TEST-SIM	NA	
ABNORMAL	-	-	1	2	NA	NA	
ACCIDENT	100	100%/AS	1	2	TEST-SIM	NA	
RADIATION:	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORM GAMMA	7.9E6	NA	1	2	TEST-SIM	NA	
ACC GAMMA	5.9E7	2.2E8	1	2	TEST-SIM	YES	
NORM BETA	-	NA	1	2	NA	NA	
ACC BETA	1.3E7	NA	1	2	ANALYSIS	NA	- NOTE 3
NEUTRON	-	NA	1	2	NA	NA	
SPRAY	NA	NA	NA	NA	NA	NA	
SUBMERGENCE	NA	NA	NA	NA	NA	NA	

DOCUMENT REFERENCE:
1. EQUIPMENT QUALIFICATION ENVIRONMENTAL DESIGN CRITERIA, EQEDC-1, REV 1, MAY 2, 1984.
2. GE ENVIRONMENTAL QUALIFICATION REPORT, NEDC-3040H.
3. GE FUNCTIONAL PERFORMANCE REQUIREMENT (FPR) CONTAINED IN APPENDIX B OF REFERENCE 2.

NOTES:
1. FOR COMPLETE ENVIRONMENTAL CONDITIONS, SEE THE DOCUMENT REFERENCED.
2. NORMAL TEMPERATURES ARE SHOWN AS MAX DESIGN/AVERAGE.
3. ALL NONMETALLIC MATERIALS ARE SHIELDED FROM THE BETA RADIATION.

NINE MILE POINT - UNIT 2
DOCKET NUMBER 50-410

SYSTEM COMPONENT EVALUATION WORK SHEET

09-Aug-85

QUAL REF # P800AEQ REV 1

EQUIPMENT DESCRIPTION

EQUIP NO.: C12-N013D
SPEC NO.: 184C4776
SYSTEM: CRD

TYPE: LEVEL SWITCH

MANUFACTURER: MAGNETROL

MODEL NO.: C751

SAFETY FUNCTION: SDV LEVEL INDICATION

OP. CODE: B

ACCURACY - REF. 2
SPEC: REF.2
DEMO: REF.2

ZONE NO.: SC261145
SUBMERGENCE: NA
SPRAY: NA

DOCUMENTATION ACCEPTABILITY:
ACCEPTABLE TO NUREG 0588,CAT I
PER NEDE-24326-1-P

MAINT/SURVEILL -
REFERENCE: 2

QUALIFIED LIFE -
(YEARS): 40
REFERENCE: 2

ENVIRONMENTAL CONDITIONS AND QUALIFICATION

PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE SPECIFIED	DOCUMENT REFERENCE QUALIFIED	QUAL METHOD	MARGIN DEMO	REMARKS
OP.TIME:	12 HRS.	218.5 HRS	3	2	TEST-SIM	YES	
TEMP (F):	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORMAL	104/85	NA	1	2	TEST-SIM	NA	NOTE 2
ABNORMAL	87	NA	1	2	TEST-SIM	NA	
ACCIDENT	200	281	1	2	TEST-SIM	YES	
PRESS(PSIG)	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORMAL	-.25	NA	1	2	TEST-SIM	NA	
ABNORMAL	-	-	1	2	NA	NA	
ACCIDENT	2.8	18	1	2	TEST-SIM	YES	
RH (%):	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORMAL	50	NA	1	2	TEST-SIM	NA	
ABNORMAL	-	-	1	2	NA	NA	
ACCIDENT	100	100%/AS	1	2	TEST-SIM	NA	
RADIATION:	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORM GAMMA	7.9E6	NA	1	2	TEST-SIM	NA	
ACC GAMMA	5.9E7	2.2E8	1	2	TEST-SIM	YES	
NORM BETA	-	NA	1	2	NA	NA	
ACC BETA	1.3E7	NA	1	2	ANALYSIS	NA	- NOTE 3
NEUTRON	-	NA	1	2	NA	NA	
SPRAY	NA	NA	NA	NA	NA	NA	
SUBMERGENCE	NA	NA	NA	NA	NA	NA	

DOCUMENT REFERENCE:
1. EQUIPMENT QUALIFICATION ENVIRONMENTAL DESIGN CRITERIA, EQEDC-1, REV 1, MAY 2, 1984.
2. GE ENVIRONMENTAL QUALIFICATION REPORT, NEDC-30408.
3. GE FUNCTIONAL PERFORMANCE REQUIREMENT (FPR) CONTAINED IN APPENDIX B OF REFERENCE 2.

NOTES:
1. FOR COMPLETE ENVIRONMENTAL CONDITIONS, SEE THE DOCUMENT REFERENCED.
2. NORMAL TEMPERATURES ARE SHOWN AS MAX DESIGN/AVERAGE.
3. ALL NONMETALLIC MATERIALS ARE SHIELDED FROM THE BETA RADIATION.

NINE MILE POINT - UNIT 2
DOCKET NUMBER 50-410

SYSTEM COMPONENT EVALUATION WORK SHEET

09-Aug-85

DUAL REF # P800AER REV 1

EQUIPMENT DESCRIPTION

EQUIP NO.: C12-N013C
SPEC NO.: 184C4776
SYSTEM: CRD

TYPE: LEVEL SWITCH

MANUFACTURER: MAGNETROL

MODEL NO.: C751

SAFETY FUNCTION: SDV LEVEL INDICATION

OP. CODE: B

ACCURACY - REF. 2
SPEC: REF.2
DEMO: REF.2

ZONE NO.: SC261145
SUBMERGENCE: NA
SPRAY: NA

DOCUMENTATION ACCEPTABILITY:
ACCEPTABLE TO NUREG 0588,CAT I
PER NEDE-24326-1-P

MAINT/SURVEILL -
REFERENCE: 2

QUALIFIED LIFE -
(YEARS): 40
REFERENCE: 2

ENVIRONMENTAL CONDITIONS AND QUALIFICATION

PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE: SPECIFIED	DOCUMENT REFERENCE: QUALIFIED	QUAL METHOD	MARGIN: DEMO	REMARKS
OP.TIME:	12 HRS.	218.5 HRS	3	2	TEST-SIM	YES	
TEMP (F):	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORMAL	104/85	NA	1	2	TEST-SIM	NA	NOTE 2
ABNORMAL	87	NA	1	2	TEST-SIM	NA	
ACCIDENT	200	281	1	2	TEST-SIM	YES	
PRESS(PSIG)	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORMAL	-.25	NA	1	2	TEST-SIM	NA	
ABNORMAL	-	-	1	2	NA	NA	
ACCIDENT	2.8	18	1	2	TEST-SIM	YES	
RH (%):	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORMAL	50	NA	1	2	TEST-SIM	NA	
ABNORMAL	-	-	1	2	NA	NA	
ACCIDENT	100	100%/A8	1	2	TEST-SIM	NA	
RADIATION:	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORM GAMMA	7.9E6	NA	1	2	TEST-SIM	NA	
ACC GAMMA	5.9E7	2.2E8	1	2	TEST-SIM	YES	
NORM BETA	-	NA	1	2	NA	NA	
ACC BETA	1.3E7	NA	1	2	ANALYSIS	NA	- NOTE 3
NEUTRON	-	NA	1	2	NA	NA	
SPRAY	NA	NA	NA	NA	NA	NA	
SUBMERGENCE	NA	NA	NA	NA	NA	NA	

DOCUMENT REFERENCE:
1. EQUIPMENT QUALIFICATION ENVIRONMENTAL DESIGN CRITERIA, EQEDC-1, REV 1, MAY 2, 1984.
2. GE ENVIRONMENTAL QUALIFICATION REPORT, NEDC-30408.
3. GE FUNCTIONAL PERFORMANCE REQUIREMENT (FPR) CONTAINED IN APPENDIX B OF REFERENCE 2.

NOTES:
1. FOR COMPLETE ENVIRONMENTAL CONDITIONS, SEE THE DOCUMENT REFERENCED.
2. NORMAL TEMPERATURES ARE SHOWN AS MAX DESIGN/AVERAGE.
3. ALL NONMETALLIC MATERIALS ARE SHIELDED FROM THE BETA RADIATION.

NINE MILE POINT - UNIT 2
DOCKET NUMBER 50-410

SYSTEM COMPONENT EVALUATION WORK SHEET

PAGE 1 OF 1

09-Aug-85

QUAL REF # P800AES REV 1

EQUIPMENT DESCRIPTION

EQUIP NO.: C12-N013D
SPEC NO.: 184C4776
SYSTEM: CRD

TYPE: LEVEL SWITCH

MANUFACTURER: MAGNETROL

MODEL NO.: C751

SAFETY FUNCTION: SDV LEVEL INDICATION

OP. CODE: B

ACCURACY - REF. 2
SPEC: REF.2
DEMO: REF.2

ZONE NO.: SC261145
SUBMERGENCE: NA
SPRAY: NA

DOCUMENTATION ACCEPTABILITY:
ACCEPTABLE TO NUREG 0588,CAT I
PER NEDE-24326-1-P

MAINT/SURVEILL -
REFERENCE: 2

QUALIFIED LIFE -
(YEARS): 40
REFERENCE: 2

ENVIRONMENTAL CONDITIONS AND QUALIFICATION

PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE SPECIFIED	DOCUMENT REFERENCE QUALIFIED	QUAL METHOD	MARGIN DEMO	REMARKS
OP.TIME:	12 HRS.	218.5 HRS	3	2	TEST-SIM	YES	
TEMP (F):	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORMAL	104/85	NA	1	2	TEST-SIM	NA	NOTE 2
ABNORMAL	87	NA	1	2	TEST-SIM	NA	
ACCIDENT	200	281	1	2	TEST-SIM	YES	
PRESS(PSIG)	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORMAL	-.25	NA	1	2	TEST-SIM	NA	
ABNORMAL	-	-	1	2	NA	NA	
ACCIDENT	2.8	18	1	2	TEST-SIM	YES	
RH (%):	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORMAL	50	NA	1	2	TEST-SIM	NA	
ABNORMAL	-	-	1	2	NA	NA	
ACCIDENT	100	100%/AS	1	2	TEST-SIM	NA	
RADIATION:	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORM GAMMA	7.9E6	NA	1	2	TEST-SIM	NA	
ACC GAMMA	5.9E7	2.2E8	1	2	TEST-SIM	YES	
NORM BETA	-	NA	1	2	NA	NA	
ACC BETA	1.3E7	NA	1	2	ANALYSIS	NA	- NOTE 3
NEUTRON	-	NA	1	2	NA	NA	
SPRAY	NA	NA	NA	NA	NA	NA	
SUBMERGENCE	NA	NA	NA	NA	NA	NA	

DOCUMENT REFERENCE:

1. EQUIPMENT QUALIFICATION ENVIRONMENTAL DESIGN CRITERIA, EQEDC-1, REV 1, MAY 2, 1984.
2. GE ENVIRONMENTAL QUALIFICATION REPORT, NEDC-30408.
3. GE FUNCTIONAL PERFORMANCE REQUIREMENT (FPR) CONTAINED IN APPENDIX B OF REFERENCE 2.

NOTES:

1. FOR COMPLETE ENVIRONMENTAL CONDITIONS, SEE THE DOCUMENT REFERENCED.
2. NORMAL TEMPERATURES ARE SHOWN AS MAX DESIGN/AVERAGE.
3. ALL NONMETALLIC MATERIALS ARE SHIELDED FROM THE BETA RADIATION.

NINE MILE POINT - UNIT 2
DOCKET NUMBER 50-410

SYSTEM COMPONENT EVALUATION WORK SHEET

QUAL.REF # P800AFE REV 1

09-Aug-85

EQUIPMENT DESCRIPTION

EQUIP NO.: C41-N010A
SPEC NO.: 184C4775
SYSTEM: STANDBY LIQUID CONTROL

TYPE: LEVEL TRANSMITTER

MANUFACTURER: GOULD INC.

MODEL NO.: PD3218

SAFETY FUNCTION: SLCS TANK LEVEL INDICATION

OP. CODE: A

ACCURACY - REF. 2
SPEC: REF.2
DEMO: REF.2

ZONE NO.: BC289155
SUBMERGENCE: NA
SPRAY: NA

DOCUMENTATION ACCEPTABILITY:
ACCEPTABLE TO NUREG 0588,CAT I
PER NEDE-24326-1-P

MAINT/SURVEILL -
REFERENCE: 2

QUALIFIED LIFE -
(YEARS): 30 YEARS
REFERENCE: 2

ENVIRONMENTAL CONDITIONS AND QUALIFICATION

PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE: SPECIFIED	DOCUMENT REFERENCE: QUALIFIED	QUAL METHOD	MARGIN: DEMO	REMARKS
OP.TIME:	2 HRS.	1215 HRS	3	2	TEST-IDENT	NA	
TEMP (F):	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORMAL	104/95	NA	1	2	NA	NA	NOTE 2
ABNORMAL	139	NA	1	2	NA	NA	
ACCIDENT	175	290	1	2	TEST-IDENT	NA	
PRESS(PSIG)	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORMAL	-.25	NA	1	2	NA	NA	
ABNORMAL	-	NA	1	2	NA	NA	
ACCIDENT	2.8	17.55	1	2	TEST-IDENT	NA	
RH (%):	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORMAL	50	NA	1	2	NA	NA	
ABNORMAL	NA	NA	1	2	NA	NA	
ACCIDENT	100	100%/AS	1	2	TEST-IDENT	NA	
RADIATION:	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORM GAMMA	1.8E6	NA	1	2	NA	NA	
ACC GAMMA	1.0E5	3.83E7	1	2	TEST-IDENT	NA	
NORM BETA	NA	NA	1	2	NA	NA	
ACC BETA	1.3E7	NA	1	2	ANALYSIS	NA	- NOTE 3
NEUTRON	NA	NA	1	2	NA	NA	
SPRAY	NA	NA	NA	NA	TEST-IDENT	NA	
SUBMERGENCE	NA	NA	NA	NA	NA	NA	

DOCUMENT REFERENCE:

1. EQUIPMENT QUALIFICATION ENVIRONMENTAL DESIGN CRITERIA, EQEDC-1, REV 1, MAY 2, 1984.
2. GE ENVIRONMENTAL QUALIFICATION REPORT, NEDC-30743.
3. GE FUNCTIONAL PERFORMANCE REQUIREMENT (FPR) CONTAINED IN APPENDIX B OF REFERENCE 2.

NOTES:

1. FOR COMPLETE ENVIRONMENTAL CONDITIONS, SEE THE DOCUMENT REFERENCED.
2. NORMAL TEMPERATURES ARE SHOWN AS MAX DESIGN/AVERAGE.
3. ALL NONMETALLIC MATERIALS ARE SHIELDED FROM BETA RADIATION.

NINE MILE POINT - UNIT 2
DOCKET NUMBER 50-410

SYSTEM COMPONENT EVALUATION WORK SHEET

QUAL REF # P800AFF REV 1

09-Aug-85

EQUIPMENT DESCRIPTION

EQUIP NO.: C41-N010B
SPEC NO.: 184C4775
SYSTEM: STANDBY LIQUID CONTROL

TYPE: LEVEL TRANSMITTER

MANUFACTURER: GOULD INC.

MODEL NO.: PD3218

SAFETY FUNCTION: SLCS TANK LEVEL INDICATION

OP. CODE: A

ACCURACY - REF. 2
SPEC: REF.2
DEMO: REF.2

ZONE NO.: SC289155
SUBMERGENCE: NA
SPRAY: NA

DOCUMENTATION ACCEPTABILITY:
ACCEPTABLE TO NUREG 0588,CAT I
PER NEDE-24326-1-P

MAINT/SURVEILL -
REFERENCE: 2

QUALIFIED LIFE -
(YEARS): 30 YEARS
REFERENCE: 2

ENVIRONMENTAL CONDITIONS AND QUALIFICATION

PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE SPECIFIED	DOCUMENT REFERENCE QUALIFIED	QUAL METHOD	MARGIN DEMO	REMARKS
OP.TIME:	2 HRS.	1215 HRS	3	2	TEST-IDENT	NA	
TEMP (F):	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORMAL	104/95	NA	1	2	NA	NA	NOTE 2
ABNORMAL	139	NA	1	2	NA	NA	
ACCIDENT	175	290	1	2	TEST-IDENT	NA	
PRESS(PSIG)	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORMAL	-.25	NA	1	2	NA	NA	
ABNORMAL	-	NA	1	2	NA	NA	
ACCIDENT	2.8	17.55	1	2	TEST-IDENT	NA	
RH (%):	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORMAL	50	NA	1	2	NA	NA	
ABNORMAL	NA	NA	1	2	NA	NA	
ACCIDENT	100	100%/AS	1	2	TEST-IDENT	NA	
RADIATION:	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORM GAMMA	1.8E6	NA	1	2	NA	NA	
ACC GAMMA	1.0E5	3.83E7	1	2	TEST-IDENT	NA	
NORM BETA	NA	NA	1	2	NA	NA	
ACC BETA	1.3E7	NA	1	2	ANALYSIS	NA	- NOTE 3
NEUTRON	NA	NA	1	2	NA	NA	
SPRAY	NA	NA	NA	NA	TEST-IDENT	NA	
SUBMERGENCE	NA	NA	NA	NA	NA	NA	

DOCUMENT REFERENCE:

1. EQUIPMENT QUALIFICATION ENVIRONMENTAL DESIGN CRITERIA, EQEDC-1, REV 1, MAY 2, 1984.
2. GE ENVIRONMENTAL QUALIFICATION REPORT, NEDC-30743.
3. GE FUNCTIONAL PERFORMANCE REQUIREMENT (FPR) CONTAINED IN APPENDIX B OF REFERENCE 2.

NOTES:

1. FOR COMPLETE ENVIRONMENTAL CONDITIONS, SEE THE DOCUMENT REFERENCED.
2. NORMAL TEMPERATURES ARE SHOWN AS MAX DESIGN/AVERAGE.
3. ALL NONMETALLIC MATERIALS ARE SHIELDED FROM BETA RADIATION.

NINE MILE POINT - UNIT 2
DOCKET NUMBER 50-410

SYSTEM COMPONENT EVALUATION WORK SHEET

QUAL REF # P800AFB REV 1

09-Aug-85

EQUIPMENT DESCRIPTION	ENVIRONMENTAL CONDITIONS AND QUALIFICATION							
	PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE SPECIFIED	DOCUMENT REFERENCE QUALIFIED	QUAL METHOD	MARGIN DEMO	REMARKS
EQUIP NO.: C41-N010C	OP.TIME:	2 HRS.	1215 HRS	3	2	TEST-IDENT	NA	
SPEC NO.: 184C4775	TEMP (F):	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
SYSTEM: STANDBY LIQUID CONTROL	NORMAL	104/95	NA	1	2	NA	NA	- NOTE 2
	ABNORMAL	139	NA	1	2	NA	NA	
TYPE: LEVEL TRANSMITTER	ACCIDENT	175	290	1	2	TEST-IDENT	NA	
	PRESS(PSIG)	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
	NORMAL	-.25	NA	1	2	NA	NA	
	ABNORMAL	-	NA	1	2	NA	NA	
MANUFACTURER: GOULD INC.	ACCIDENT	2.8	17.55	1	2	TEST-IDENT	NA	
	RH (%):	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
MODEL NO.: PD3218	NORMAL	50	NA	1	2	NA	NA	
	ABNORMAL	NA	NA	1	2	NA	NA	
SAFETY FUNCTION: SLCS TANK	ACCIDENT	100	100%/A8	1	2	TEST-IDENT	NA	
LEVEL INDICATION	RADIATION:	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
	NORM GAMMA	1.8E6	NA	1	2	NA	NA	
	ACC GAMMA	1.0E5	3.83E7	1	2	TEST-IDENT	NA	
OP. CODE: A	NORM BETA	NA	NA	1	2	NA	NA	
	ACC BETA	1.3E7	NA	1	2	ANALYSIS	NA	- NOTE 3
	NEUTRON	NA	NA	1	2	NA	NA	
	SPRAY	NA	NA	NA	NA	TEST-IDENT	NA	
ACCURACY - REF.-2	SUBMERGENCE	NA	NA	NA	NA	NA	NA	
SPEC: REF.2								
DEMO: REF.2								

ZONE NO.: SC289155
SUBMERGENCE: NA
SPRAY: NA

DOCUMENTATION ACCEPTABILITY:
ACCEPTABLE TO NUREG 0588,CAT I
PER NEDE-24326-1-P

MAINT/SURVEILL -
REFERENCE: 2

QUALIFIED LIFE -
(YEARS): 30 YEARS
REFERENCE: 2

DOCUMENT REFERENCE:

1. EQUIPMENT QUALIFICATION ENVIRONMENTAL DESIGN CRITERIA, EDEDC-1, REV 1, MAY 2, 1984.
2. GE ENVIRONMENTAL QUALIFICATION REPORT, NEDC-30743.
3. GE FUNCTIONAL PERFORMANCE REQUIREMENT (FPR) CONTAINED IN APPENDIX B OF REFERENCE 2.

NOTES:

1. FOR COMPLETE ENVIRONMENTAL CONDITIONS, SEE THE DOCUMENT REFERENCED.
2. NORMAL TEMPERATURES ARE SHOWN AS MAX DESIGN/AVERAGE.
3. ALL NONMETALLIC MATERIALS ARE SHIELDED FROM BETA RADIATION.

NINE MILE POINT - UNIT 2
DOCKET NUMBER 50-410

SYSTEM COMPONENT EVALUATION WORK SHEET

QUAL REF # P800AFH REV 1

09-Aug-85

EQUIPMENT DESCRIPTION

EQUIP NO.: C41-N010D
SPEC NO.: 184C4775
SYSTEM: STANDBY LIQUID CONTROL

TYPE: LEVEL TRANSMITTER

MANUFACTURER: GOULD INC.

MODEL NO.: PD3218

SAFETY FUNCTION: SLCS TANK LEVEL INDICATION

OP. CODE: A

ACCURACY - REF. 2
SPEC: REF.2
DEMO: REF.2

ZONE NO.: SC289155
SUBMERGENCE: NA
SPRAY: NA

DOCUMENTATION ACCEPTABILITY:
ACCEPTABLE TO NUREG 0588,CAT I
PER NEDE-24326-1-P

MAINT/SURVEILL -
REFERENCE: 2

QUALIFIED LIFE -
(YEARS): 30 YEARS
REFERENCE: 2

ENVIRONMENTAL CONDITIONS AND QUALIFICATION

PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE: SPECIFIED	DOCUMENT REFERENCE: QUALIFIED	QUAL METHOD	MARGIN: DEMO	REMARKS
OP.TIME:	2 HRS.	1215 HRS	3	2	TEST-IDENT	NA	
TEMP (F):	- - - - - -	- - - - - -	- - - - - -	- - - - - -	- - - - - -	- - -	- NOTE 1
NORMAL	104/95	NA	1	2	NA	NA	NOTE 2
ABNORMAL	139	NA	1	2	NA	NA	
ACCIDENT	175	290	1	2	TEST-IDENT	NA	
PRESS(PSIG)	- - - - - -	- - - - - -	- - - - - -	- - - - - -	- - - - - -	- - -	- NOTE 1
NORMAL	-.25	NA	1	2	NA	NA	
ABNORMAL	-	NA	1	2	NA	NA	
ACCIDENT	2.8	17.55	1	2	TEST-IDENT	NA	
RH (%):	- - - - - -	- - - - - -	- - - - - -	- - - - - -	- - - - - -	- - -	- NOTE 1
NORMAL	50	NA	1	2	NA	NA	
ABNORMAL	NA	NA	1	2	NA	NA	
ACCIDENT	100	100%/AS	1	2	TEST-IDENT	NA	
RADIATION:	- - - - - -	- - - - - -	- - - - - -	- - - - - -	- - - - - -	- - -	- NOTE 1
NORM GAMMA	1.8E6	NA	1	2	NA	NA	
ACC GAMMA	1.0E5	3.83E7	1	2	TEST-IDENT	NA	
NORM BETA	NA	NA	1	2	NA	NA	
ACC BETA	1.3E7	NA	1	2	ANALYSIS	NA	- NOTE 3
NEUTRON	NA	NA	1	2	NA	NA	
SPRAY	NA	NA	NA	NA	TEST-IDENT	NA	
SUBMERGENCE	NA	NA	NA	NA	NA	NA	

DOCUMENT REFERENCE:
1. EQUIPMENT QUALIFICATION ENVIRONMENTAL DESIGN CRITERIA, EQEDC-1, REV 1, MAY 2, 1984.
2. GE ENVIRONMENTAL QUALIFICATION REPORT, NEDC-30743.
3. GE FUNCTIONAL PERFORMANCE REQUIREMENT (FPR) CONTAINED IN APPENDIX B OF REFERENCE 2.

NOTES:
1. FOR COMPLETE ENVIRONMENTAL CONDITIONS, SEE THE DOCUMENT REFERENCED.
2. NORMAL TEMPERATURES ARE SHOWN AS MAX DESIGN/AVERAGE.
3. ALL NONMETALLIC MATERIALS ARE SHIELDED FROM BETA RADIATION.

NINE MILE POINT - UNIT 2
DOCKET NUMBER 50-410

SYSTEM COMPONENT EVALUATION WORK SHEET

QUAL REF # P800AJW REV 1

09-Aug-85

EQUIPMENT DESCRIPTION

EQUIP NO.: E22-N055C
SPEC NO.: 184C4775
SYSTEM: HIGH PRESSURE CORE SPRAY

TYPE: LEVEL TRANSMITTER

MANUFACTURER: GOULD INC.

MODEL NO.: PD3218

SAFETY FUNCTION: SUPPRESION POOL LEVEL INDICATION

OP. CODE: A

ACCURACY - REF. 2
SPEC: REF.2
DEMO: REF.2

ZONE NO.: SC175105
SUBMERGENCE: NA
SPRAY: NA

DOCUMENTATION ACCEPTABILITY:
ACCEPTABLE TO NUREG 0588,CAT I
PER NEDE-24326-1-P

MAINT/SURVEILL -
REFERENCE: 2

QUALIFIED LIFE -
(YEARS): 40
REFERENCE: 2

ENVIRONMENTAL CONDITIONS AND QUALIFICATION

PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE SPECIFIED	DOCUMENT REFERENCE QUALIFIED	QUAL METHOD	MARGIN DEMO	REMARKS
OP.TIME:	24 HRS.	1215 HRS	3	2	TEST-IDENT	NA	
TEMP (F):	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORMAL	104/85	NA	1	2	NA	NA	NOTE 2
ABNORMAL	92	NA	1	2	NA	NA	
ACCIDENT	175	290	1	2	TEST-IDENT	NA	
PRESS(PSIG)	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORMAL	-.25	NA	1	2	NA	NA	
ABNORMAL	-	NA	1	2	NA	NA	
ACCIDENT	2.8	17.55	1	2	TEST-IDENT	NA	
RH (%):	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORMAL	50	NA	1	2	NA	NA	
ABNORMAL	NA	NA	1	2	NA	NA	
ACCIDENT	100	100%/AS	1	2	TEST-IDENT	NA	
RADIATION:	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORM GAMMA	1.1E7	NA	1	2	NA	NA	
ACC GAMMA	1.0E6	3.83E7	1	2	TEST-IDENT	NA	
NORM BETA	NA	NA	1	2	NA	NA	
ACC BETA	1.3E7	NA	1	2	ANALYSIS	NA	- NOTE 3
NEUTRON	NA	NA	1	2	NA	NA	
SPRAY	NA	NA	NA	NA	TEST-IDENT	NA	
SUBMERGENCE	NA	NA	NA	NA	NA	NA	

DOCUMENT REFERENCE:
1. EQUIPMENT QUALIFICATION ENVIRONMENTAL DESIGN CRITERIA, EQEDC-1, REV 1, MAY 2, 1984.
2. GE ENVIRONMENTAL QUALIFICATION REPORT, NEDC-30403.
3. GE FUNCTIONAL PERFORMANCE REQUIREMENT (FPR) CONTAINED IN APPENDIX B OF REFERENCE 2.

NOTES:
1. FOR COMPLETE ENVIRONMENTAL CONDITIONS, SEE THE DOCUMENT REFERENCED.
2. NORMAL TEMPERATURES ARE SHOWN AS MAX DESIGN/AVERAGE.
3. ALL NONMETALLIC MATERIALS ARE SHIELDED FROM BETA RADIATION.

NINE MILE POINT - UNIT 2
DOCKET NUMBER 50-410

SYSTEM COMPONENT EVALUATION WORK SHEET

DUAL REF #P800AEX REV 0

EQUIPMENT DESCRIPTION

EQUIP NO.: C41-F004A
PPD NO.: 21A9370AB
SYSTEM: STANDBY LIQUID CONTROL

TYPE: (DESCRIPTION)
EXPLOSIVE VALVE

MANUFACTURER: CONAX CORP.

MODEL NO.: 7048-17000-01 AND N-27006-01

SAFETY FUNCTION: - - -
SLC INJECTION VALVE

OP. CODE: A

ACCURACY - - -
SPEC: NA
DEMO: NA

ZONE NO.: SC289155
FLOOD LEVEL ELEVATION: NA
ABOVE FLOOD LEVEL? NA
ABOVE SPRAY/ FROTH LEVEL? NA

DOCUMENTATION ACCEPTABILITY:
ACCEPTABLE TO NUREG 0588,CAT I
PER NEDE-24326-1-P

MAINT/SURVEILL - - - NA
REFERENCE: NA

QUALIFIED LIFE - - -
(YEARS): 40
REFERENCE: 2

ENVIRONMENTAL CONDITIONS AND QUALIFICATION

PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE SPECIFIED	DOCUMENT REFERENCE QUALIFIED	QUAL METHOD	MARGIN DEMO	REMARKS
OP.TIME:	1 HR (ATWS)	34MIN (DBE)	3	2	TEST-IDENT	YES	
TEMP (F):	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 3
NORMAL	104 DEG F	104 DEG F	1	2	TEST.+.AN	NA	- NOTE 2
ABNORMAL	139 DEG F	SEE BELOW	1	2	SEE BELOW	NA	
ACCIDENT	175 DEG F	205 DEG F	1	2	TEST-IDENT	YES	
PRESS(PSIG)	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORMAL	-0.25" WG	0	1	2	TEST-IDENT	NA	
ABNORMAL	NA	SEE BELOW	1	2	SEE BELOW	NA	
ACCIDENT	2.8 PSIG	16.5 PSIG	1	2	TEST-IDENT	YES	
RH (%):	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORMAL	50	SEE BELOW	1	2	SEE BELOW	NA	
ABNORMAL	NA	SEE BELOW	1	2	SEE BELOW	NA	
ACCIDENT	100	100	1	2	TEST-IDENT	NA	
RADIATION:	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORM GAMMA	1.8E6	SEE BELOW	1	2	SEE BELOW	NA	
ACC GAMMA	1.0E5	1.15E6	1	2	TEST-IDENT	YES	- NOTE 4
NORM BETA	NA	SEE ABOVE	1	2	SEE ABOVE	NA	
ACC BETA	1.3E7	SEE ABOVE	1	2	SEE ABOVE	YES	
NEUTRON	NA	NA	1	2	NA	NA	
SPRAY	NA	NA	NA	NA	NA	NA	
SUBMERGENCE	NA	NA	NA	NA	NA	NA	

DOCUMENT REFERENCE:
1. EQUIPMENT QUALIFICATION ENVIRONMENTAL DESIGN CRITERIA, EQEDC-1, REV 1, MAY 2, 1984.
2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT, NEDC-30713.
3. EQUIPMENT OPERABILITY TIME NEDC-30713 ATTACHMENT 3.

NOTES:
1. FOR COMPLETE ENVIRONMENTAL CONDITIONS, SEE THE DOCUMENT REFERENCED.
2. NORMAL TEMPERATURES ARE SHOWN AS MAX DESIGN/AVERAGE.
3. VALVE SELF ACTUATION DURING DBE IS POSTULATED TO BE A RESULT OF DETERIORATION OF THE EXPLOSIVE FROM EXPOSURE TO TEMPERATURE. THE PRIMER WITHSTOOD 34 MINUTES OF DBE, A MARGIN OF 22 MINUTES BEYOND MAXIMUM SYSTEM REQUIREMENTS. IN ITS DETERIORATED CONDITION, THE PRIMER EXPLOSIVE CHARGE STILL OPENED THE VALVE SUCCESSFULLY. INADVERTENT OPERATION IS NOT A SAFETY CONCERN; THEREFORE, THE VALVE IS CONSIDERED QUALIFIED.
4. QUALIFIED VALVE IS BASED ON 1 HOUR FUNCTION DURING AN ATWS EVENT.

NINE MILE POINT - UNIT 2
DOCKET NUMBER 50-410

SYSTEM COMPONENT EVALUATION WORK SHEET

DUAL REF #P800AEY REV 0

EQUIPMENT DESCRIPTION	ENVIRONMENTAL CONDITIONS AND QUALIFICATION							
				DOCUMENT REFERENCE				
	PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	SPECIFIED	QUALIFIED	QUAL. METHOD	MARGIN DEMO	REMARKS
EQUIP NO.: C41-F004B	OP.TIME:	1 HR (ATWS)	34MIN (DBE)	3	2	TEST-IDENT	YES	
PPD NO.: 21A9370AB	TEMP (F):	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 3
SYSTEM: STANDBY LIQUID CONTROL	NORMAL	104 DEG F	104 DEG F	1	2	TEST + AN	NA	- NOTE 2
	ABNORMAL	139 DEG F	SEE BELOW	1	2	SEE BELOW	NA	
TYPE: (DESCRIPTION)	ACCIDENT	175 DEG F	205 DEG F	1	2	TEST-IDENT	YES	
EXPLOSIVE VALVE	PRESS(PSIG)	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
	NORMAL	-0.25" WG	0	1	2	TEST-IDENT	NA	
	ABNORMAL	NA	SEE BELOW	1	2	SEE BELOW	NA	
MANUFACTURER: CONAX CORP.	ACCIDENT	2.8 PSIG	16.5 PSIG	1	2	TEST-IDENT	YES	
	RH (%):	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
MODEL NO.: 7048-17000-01 AND N-27006-01	NORMAL	50	SEE BELOW	1	2	SEE BELOW	NA	
	ABNORMAL	NA	SEE BELOW	1	2	SEE BELOW	NA	
SAFETY FUNCTION: - - -	ACCIDENT	100	100	1	2	TEST-IDENT	NA	
SLC INJECTION VALVE	RADIATION:	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
	NORM GAMMA	1.8E6	SEE BELOW	1	2	SEE BELOW	NA	
	ACC GAMMA	1.0E5	1.15E6	1	2	TEST-IDENT	YES	- NOTE 4
OP. CODE: A	NORM BETA	NA	SEE ABOVE	1	2	SEE ABOVE	NA	
	ACC BETA	1.3E7	SEE ABOVE	1	2	SEE ABOVE	YES	
	NEUTRON	NA	NA	1	2	NA	NA	
	SPRAY	NA	NA	NA	NA	NA	NA	
ACCURACY - -	SUBMERGENCE	NA	NA	NA	NA	NA	NA	
SPEC: NA								
DEMO: NA								

ZONE NO.: BC289155
FLOOD LEVEL ELEVATION: NA
ABOVE FLOOD LEVEL? NA
ABOVE SPRAY/ FROTH LEVEL? NA

DOCUMENTATION ACCEPTABILITY:
ACCEPTABLE TO NUREG 0588,CAT I PER NEDE-24326-1-P

MAINT/SURVEILL - - - NA
REFERENCE: NA

QUALIFIED LIFE - - -
(YEARS): 40
REFERENCE: 2

DOCUMENT REFERENCE:
1. EQUIPMENT QUALIFICATION ENVIRONMENTAL DESIGN CRITERIA, EQEDC-1, REV 1, MAY 2, 1984.
2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT, NEDC-30713.
3. EQUIPMENT OPERABILITY TIME NEDC-30713 ATTACHMENT 3.

NOTES:
1. FOR COMPLETE ENVIRONMENTAL CONDITIONS, SEE THE DOCUMENT REFERENCED.
2. NORMAL TEMPERATURES ARE SHOWN AS MAX DESIGN/AVERAGE.
3. VALVE SELF ACTUATION DURING DBE IS POSTULATED TO BE A RESULT OF DETERIORATION OF THE EXPLOSIVE FROM EXPOSURE TO TEMPERATURE. THE PRIMER WITHSTOOD 34 MINUTES OF DBE, A MARGIN OF 22 MINUTES BEYOND MAXIMUM SYSTEM REQUIREMENTS. IN ITS DETERIORATED CONDITION, THE PRIMER EXPLOSIVE CHARGE STILL OPENED THE VALVE SUCCESSFULLY. INADVERTENT OPERATION IS NOT A SAFETY CONCERN; THEREFORE, THE VALVE IS CONSIDERED QUALIFIED.
4. QUALIFIED VALVE IS BASED ON 1 HOUR FUNCTION DURING AN ATWS EVENT.

NINE MILE POINT - UNIT 2
DOCKET NUMBER 50-410

SYSTEM COMPONENT EVALUATION WORK SHEET

QUAL REF #P800ADV REV 0

EQUIPMENT DESCRIPTION	ENVIRONMENTAL CONDITIONS AND QUALIFICATION						
				DOCUMENT REFERENCE			
	PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	SPECIFIED	QUALIFIED	QUAL METHOD	MARGIN DEMO	REMARKS
EQUIP NO.: C12-F010	OP.TIME:	0	NA	2	2	NA	NA	
PPD NO.: 21A1997	TEMP (F):	- - - - - -	- - - - - -	- - - - - -	- - - - - -	- - - - - -	- - -	- NOTE 1
SYSTEM: CONTROL ROD DRIVE HYDRAULIC SYSTEM	NORMAL	85 DEG F	"	1	2	"	NA	- NOTE 2
	ABNORMAL	87 DEG F	"	1	2	"	NA	
TYPE: (DESCRIPTION) LIMIT SWITCH	ACCIDENT	200 DEG F	"	1	2	"	NA	
	PRESS(PSIG)	- - - - - -	- - - - - -	- - - - - -	- - - - - -	- - - - - -	- - -	- NOTE 1
	NORMAL	NOT SPEC.	"	1	2	"	NA	
	ABNORMAL	-.25" WG	"	1	2	"	NA	
MANUFACTURER: NAMCO CONTROLS	ACCIDENT	2.8 PSIG	"	1	2	"	NA	
	RH (%):	- - - - - -	- - - - - -	- - - - - -	- - - - - -	- - - - - -	- - -	- NOTE 1
MODEL NO.: EA080/D12006	NORMAL	NOT SPEC.	"	1	2	"	NA	
	ABNORMAL	50	"	1	2	"	NA	
SAFETY FUNCTION: - - - NO SAFETY RELATED FUNCTION	ACCIDENT	100	"	1	2	"	NA	
	RADIATION:	- - - - - -	- - - - - -	- - - - - -	- - - - - -	- - - - - -	- - -	- NOTE 1
	NORM GAMMA	7.9E6	"	1	2	"	NA	
	ACC GAMMA	3.7E6	"	1	2	"	NA	
OP. CODE: C	NORM BETA	NA	"	1	2	"	NA	
	ACC BETA	3.3E6	"	1	2	"	NA	
	NEUTRON	NA	"	1	2	"	NA	
	SPRAY	<1 GPM/FT2	"	1	2	"	NA	
ACCURACY - -	SUBMERGENCE	NONE	"	NA	2	"	NA	
SPEC: NA								
DEMO: NA								

ZONE NO.: BC261145
FLOOD LEVEL ELEVATION: NA
ABOVE FLOOD LEVEL? YES
ABOVE SPRAY/ FROTH LEVEL? NO

DOCUMENTATION ACCEPTABILITY:
ACCEPTABLE TO NUREG 0588,CAT I
PER NEDE-24326-1-P

MAINT/SURVEILL - - - NA
REFERENCE: NA

QUALIFIED LIFE - - -
(YEARS): NA
REFERENCE: NA

DOCUMENT REFERENCE:
1. EQUIPMENT QUALIFICATION ENVIRONMENTAL DESIGN CRITERIA, EQEDC-1, REV 1, MAY 2, 1984.
2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT, NEDC-30701.

NOTES: 1. FOR COMPLETE ENVIRONMENTAL CONDITIONS, SEE THE DOCUMENT REFERENCED.
2. NORMAL TEMPERATURES ARE SHOWN AS MAX DESIGN/AVERAGE.

NINE MILE POINT - UNIT 2
DOCKET NUMBER 50-410

QUAL REF #P800ADW REV 0

SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION

EQUIP NO.: C12-F011
PPD NO.: 21A1997
SYSTEM: CONTROL ROD DRIVE HYDRAULIC SYSTEM

TYPE: (DESCRIPTION)
LIMIT SWITCH

MANUFACTURER: NAMCO CONTROLS

MODEL NO.: EA080/D12008

SAFETY FUNCTION: - - -
NO SAFETY RELATED FUNCTION

OP. CODE: C

ACCURACY - -
SPEC: NA
DEMO: NA

ZONE NO.: BC261145
FLOOD LEVEL
ELEVATION: NA
ABOVE FLOOD LEVEL? YES
ABOVE SPRAY/FROTH LEVEL? NO

DOCUMENTATION ACCEPTABILITY:
ACCEPTABLE TO NUREG 0588,CAT I
PER NEDE-24326-1-P

MAINT/SURVEILL - - - NA
REFERENCE: NA

QUALIFIED LIFE - - -
(YEARS): NA
REFERENCE: NA

ENVIRONMENTAL CONDITIONS AND QUALIFICATION

PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE SPECIFIED	DOCUMENT REFERENCE QUALIFIED	QUAL METHOD	MARGIN DEMO	REMARKS
OP.TIME:	0	NA	2	2	NA	NA	
TEMP (F):	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORMAL	85 DEG F	"	1	2	"	NA	- NOTE 2
ABNORMAL	87 DEG F	"	1	2	"	NA	
ACCIDENT	200 DEG F	"	1	2	"	NA	
PRESS(PSIG)	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORMAL	NOT SPEC.	"	1	2	"	NA	
ABNORMAL	-.25" WG	"	1	2	"	NA	
ACCIDENT	2.8 PSIG	"	1	2	"	NA	
RH (%):	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORMAL	NOT SPEC.	"	1	2	"	NA	
ABNORMAL	50	"	1	2	"	NA	
ACCIDENT	100	"	1	2	"	NA	
RADIATION:	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORM GAMMA	7.9E6	"	1	2	"	NA	
ACC GAMMA	3.7E6	"	1	2	"	NA	
NORM BETA	NA	"	1	2	"	NA	
ACC BETA	3.3E6	"	1	2	"	NA	
NEUTRON	NA	"	1	2	"	NA	
SPRAY	<1 BPM/FT2	"	1	2	"	NA	
SUBMERGENCE	NONE	"	NA	2	"	NA	

DOCUMENT REFERENCE:
1. EQUIPMENT QUALIFICATION ENVIRONMENTAL DESIGN CRITERIA, EQEDC-1, REV 1, MAY 2, 1984.
2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT, NEDC-30701.

NOTES: 1. FOR COMPLETE ENVIRONMENTAL CONDITIONS SEE THE DOCUMENT REFERENCED.
2. NORMAL TEMPERATURES ARE SHOWN AS MAX. DESIGN/AVERAGE.

NINE MILE POINT - UNIT 2
DOCKET NUMBER 50-410
QUAL REF #PB00AEH REV 0

SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION	ENVIRONMENTAL CONDITIONS AND QUALIFICATION							
				DOCUMENT REFERENCE				
	PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	SPECIFIED	QUALIFIED	QUAL METHOD	MARGIN DEMO	REMARKS
EQUIP NO.: C12-F180	DP.TIME:	0	NA	2	2	NA	NA	
PPD NO.: 22A6924AA	TEMP (F):							- NOTE 1
SYSTEM: CONTROL ROD DRIVE HYDRAULIC SYSTEM	NORMAL	85 DEG F	"	1	2	"	NA	- NOTE 2
	ABNORMAL	87 DEG F	"	1	2	"	NA	
TYPE: (DESCRIPTION)	ACCIDENT	200 DEG F	"	1	2	"	NA	
LIMIT SWITCH	PRESS(PSIG)							- NOTE 1
	NORMAL	NOT SPEC.	"	1	2	"	NA	
	ABNORMAL	-.25" WB	"	1	2	"	NA	
MANUFACTURER: NAMCO CONTROLS	ACCIDENT	2.8 PSIG	"	1	2	"	NA	
	RH (%):							- NOTE 1
MODEL NO.: EA180-12302	NORMAL	NOT SPEC.	"	1	2	"	NA	
	ABNORMAL	50	"	1	2	"	NA	
SAFETY FUNCTION: - - -	ACCIDENT	100	"	1	2	"	NA	
NO SAFETY RELATED FUNCTION	RADIATION:							- NOTE 1
	NORM GAMMA	7.9E6	"	1	2	"	NA	
	ACC GAMMA	3.7E6.	"	1	2	"	NA	
DP. CODE: C	NORM BETA	NA	"	1	2	"	NA	
	ACC BETA	3.3E6	"	1	2	"	NA	
	NEUTRON	NA	"	1	2	"	NA	
	SPRAY	<1 GPM/FT2	"	1	2	"	NA	
ACCURACY - -	SUBMERGENCE	NONE	"	NA	2	"	NA	
SPEC: NA								
DEMO: NA								
ZONE NO.: SC261145								
FLOOD LEVEL ELEVATION: NA ABOVE FLOOD LEVEL? YES	DOCUMENT REFERENCE: 1. EQUIPMENT QUALIFICATION ENVIRONMENTAL DESIGN CRITERIA, EQEDC-1, REV 1, MAY 2, 1984. 2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT, NEDC-30702.							
ABOVE SPRAY/ FROTH LEVEL? NO								
DOCUMENTATION ACCEPTABILITY: ACCEPTABLE TO NUREG 0588,CAT I PER NEDE-24326-1-P								
MAINT/SURVEILL - - - NA REFERENCE: NA								
QUALIFIED LIFE - - - (YEARS): NA REFERENCE: NA								

NOTES: 1. FOR COMPLETE ENVIRONMENTAL CONDITIONS, SEE THE DOCUMENT REFERENCED.
2. NORMAL TEMPERATURES ARE SHOWN AS MAX DESIGN/AVERAGE.

NINE MILE POINT - UNIT 2
DOCKET NUMBER 50-410

SYSTEM COMPONENT EVALUATION WORK SHEET

QUAL REF #P800AEI REV 0

EQUIPMENT DESCRIPTION	ENVIRONMENTAL CONDITIONS AND QUALIFICATION						
			DOCUMENT REFERENCE				
	PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	SPECIFIED	QUALIFIED	QUAL METHOD	MARGIN DEMO	REMARKS
EQUIP.NO.: C12-E181	OP.TIME:	0	NA	2	2	NA	NA	
PPD NO.: 22A6924AB	TEMP (F):	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
SYSTEM: CONTROL ROD DRIVE HYDRAULIC SYSTEM	NORMAL	85 DEG F	"	1	2	"	NA	- NOTE 2
	ABNORMAL	87 DEG F	"	1	2	"	NA	
TYPE: (DESCRIPTION)	ACCIDENT	200 DEG F	"	1	2	"	NA	
LIMIT SWITCH	PRESS(PSIG)	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
	NORMAL	NOT SPEC.	"	1	2	"	NA	
	ABNORMAL	-.25" WG	"	1	2	"	NA	
MANUFACTURER: NAMCO CONTROLS	ACCIDENT	2.8 PSIG	"	1	2	"	NA	
	RH (%):	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
MODEL NO.: EA180-12302	NORMAL	NOT SPEC.	"	1	2	"	NA	
	ABNORMAL	50.	"	1	2	"	NA	
SAFETY FUNCTION: - - - -	ACCIDENT	100	"	1	2	"	NA	
NO SAFETY RELATED FUNCTION	RADIATION:	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
	NORM GAMMA	7.9E6	"	1	2	"	NA	
	ACC GAMMA	3.7E6	"	1	2	"	NA	
OP. CODE: C	NORM BETA	NA	"	1	2	"	NA	
	ACC BETA	3.3E6	"	1	2	"	NA	
	NEUTRON	NA	"	1	2	"	NA	
	SPRAY	<1 GPM/FT2	"	1	2	"	NA	
ACCURACY - -	SUBMERGENCE	NONE	"	NA	2	"	NA	
SPEC: NA								
DEMO: NA								

ZONE NO.: SC261145
FLOOD LEVEL ELEVATION: NA
ABOVE FLOOD LEVEL? YES
ABOVE SPRAY/ FROTH LEVEL? NO

DOCUMENTATION ACCEPTABILITY:
ACCEPTABLE TO NUREG 0588,CAT I PER NEDE-24326-1-P

MAINT/SURVEILL - - - NA
REFERENCE: NA

QUALIFIED LIFE - - -
(YEARS): NA
REFERENCE: NA

DOCUMENT REFERENCE:
1. EQUIPMENT QUALIFICATION ENVIRONMENTAL DESIGN CRITERIA, EQEDC-1, REV 1, MAY 2, 1984.
2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT, NEDC-30702.

NOTES: 1. FOR COMPLETE ENVIRONMENTAL CONDITIONS, SEE THE DOCUMENT REFERENCED.
2. NORMAL TEMPERATURES ARE SHOWN AS MAX DESIGN/AVERAGE.

NINE MILE POINT - UNIT 2
DOCKET NUMBER 50-410

SYSTEM COMPONENT EVALUATION WORK SHEET

DUAL REF # P800A19 REV 0

09-Aug-85

EQUIPMENT DESCRIPTION

EQUIP NO.:E12-N062
SPEC NO.:188C7360P015
SYSTEM:RHR

TYPE: PRESSURE TRANSMITTER

MANUFACTURER:ROSEMOUNT,INC.

MODEL NO.: 1153GB7

SAFETY FUNCTION: MONITORS
RHR PUMP DISCHARGE PRESSURE

OP. CODE: B

ACCURACY -
SPEC:REFERENCE 3
DEMO:REFERENCE 2

ZONE NO.: SC175102
SUBMERGENCE: NA
SPRAY: NA

DOCUMENTATION ACCEPTABILITY:
ACCEPTABLE TO NUREG 0588,CAT I
PER NEDE-24326-1-P

MAINT/SURVEILL -
REFERENCE: 2

QUALIFIED LIFE -
(YEARS):10.6
REFERENCE: 2

ENVIRONMENTAL CONDITIONS AND QUALIFICATION

PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE: SPECIFIED	DOCUMENT REFERENCE: QUALIFIED	QUAL METHOD	MARGIN: DEMO	REMARKS
OP.TIME:	NA	100 DAYS	3	2	TEST-SIM	YES	
TEMP (F):	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORMAL	104/85	NA	1	2	NA	NA	NOTE 2
ABNORMAL	92	NA	1	2	NA	NA	
ACCIDENT	175	318	1	2	TEST-SIM	YES	
PRESS(PSIG)	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORMAL	-.25	NA	1	2	NA	NA	
ABNORMAL	-	-	1	2	NA	NA	
ACCIDENT	2.8	73	1	2	TEST-SIM	YES	
RH (%):	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORMAL	50	NA	1	2	NA	NA	
ABNORMAL	NA	NA	1	2	NA	NA	
ACCIDENT	100	100/A8	1	2	TEST-SIM	YES	
RADIATION:	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORM GAMMA	1.1E7	NA	1	2	NA	NA	NOTE 4
ACC GAMMA	1.6E7	2.44E7	1	2	TEST-SIM	YES	NOTE 5
NORM BETA	NA	NA	1	2	NA	NA	
ACC BETA	1.3E7	NA	1	2	NA	NA	NOTE 3
NEUTRON	NA	NA	1	2	NA	NA	
SPRAY	NA	NA	NA	NA	NA	NA	
SUBMERGENCE	NA	NA	NA	NA	NA	NA	

DOCUMENT REFERENCE:
1. EQUIPMENT QUALIFICATION ENVIRONMENTAL DESIGN CRITERIA, EQEDC-1, REV 1, MAY 2, 1984.
2. GE ENVIRONMENTAL QUALIFICATION REPORT, NEDC-30451
3. GE FUNCTIONAL PERFORMANCE REQUIREMENT (FPR) CONTAINED IN APPENDIX H OF REFERENCE 2.

NOTES:
1. FOR COMPLETE ENVIRONMENTAL CONDITIONS, SEE THE DOCUMENT REFERENCED.
2. NORMAL TEMPERATURES ARE SHOWN AS MAX DESIGN/AVERAGE.
3. ALL NON-METALLICS ARE SHIELDED FROM THE BETA RADIATION.
4. THE SPECIFIED RADIATION ENVIRONMENT ENVELOPS ALL APPLICATIONS.
5. THIS DEVICE IS NOT REQUIRED TO FUNCTION DURING OR AFTER A DBE.

NINE MILE POINT - UNIT 2
DOCKET NUMBER 50-410

SYSTEM COMPONENT EVALUATION WORK SHEET

QUAL. REF # P800AIT REV 0

09-Aug-85

EQUIPMENT DESCRIPTION

EQUIP NO.:E12-N063A
SPEC NO.:188C7360P015
SYSTEM:RHR

TYPE: PRESSURE TRANSMITTER

MANUFACTURER:ROSEMOUNT,INC.

MODEL NO.: 1153GB7

SAFETY FUNCTION: MONITORS
RHR PUMP SUCTION

OP. CODE: B

ACCURACY -
SPEC:REFERENCE 3
DEMO:REFERENCE 2

ZONE NO.: SC175102
SUBMERGENCE: NA
SPRAY: NA

DOCUMENTATION ACCEPTABILITY:
ACCEPTABLE TO NUREG 0588,CAT I
PER NEDE-24326-1-P

MAINT/SURVEILL -
REFERENCE: 2

QUALIFIED LIFE -
(YEARS):18.6
REFERENCE: 2

ENVIRONMENTAL CONDITIONS AND QUALIFICATION

PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE: SPECIFIED	DOCUMENT REFERENCE: QUALIFIED	QUAL METHOD	MARGIN DEMO	REMARKS
OP.TIME:	NA	100 DAYS	3	2	TEST-SIM	YES	
TEMP (F):	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORMAL	104/85	NA	1	2	NA	NA	NOTE 2
ABNORMAL	92	NA	1	2	NA	NA	
ACCIDENT	175	318	1	2	TEST-SIM	YES	
PRESS(PSIG)	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORMAL	-.25	NA	1	2	NA	NA	
ABNORMAL	-	-	1	2	NA	NA	
ACCIDENT	2.8	73	1	2	TEST-SIM	YES	
RH (%):	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORMAL	50	NA	1	2	NA	NA	
ABNORMAL	NA	NA	1	2	NA	NA	
ACCIDENT	100	100/AS	1	2	TEST-SIM	YES	
RADIATION:	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORM GAMMA	1.1E7	NA	1	2	NA	NA	NOTE 4
ACC GAMMA	3.2E7	2.44E7	1	2	TEST-SIM	YES	NOTE 5
NORM BETA	NA	NA	1	2	NA	NA	
ACC BETA	1.3E7	NA	1	2	NA	NA	NOTE 3
NEUTRON	NA	NA	1	2	NA	NA	
SPRAY	NA	NA	NA	NA	NA	NA	
SUBMERGENCE	NA	NA	NA	NA	NA	NA	

DOCUMENT REFERENCE:
1. EQUIPMENT QUALIFICATION ENVIRONMENTAL DESIGN CRITERIA, EQEDC-1, REV 1, MAY 2, 1984.
2. GE ENVIRONMENTAL QUALIFICATION REPORT, NEDC-30451
3. GE FUNCTIONAL PERFORMANCE REQUIREMENT (FPR) CONTAINED IN APPENDIX H OF REFERENCE 2.

NOTES:
1. FOR COMPLETE ENVIRONMENTAL CONDITIONS, SEE THE DOCUMENT REFERENCED.
2. NORMAL TEMPERATURES ARE SHOWN AS MAX DESIGN/AVERAGE.
3. ALL NON-METALLICS ARE SHIELDED FROM THE BETA RADIATION.
4. THE SPECIFIED RADIATION ENVIRONMENT ENVELOPS ALL APPLICATIONS.
5. THIS DEVICE IS NOT REQUIRED TO FUNCTION DURING OR AFTER A DBE.

NINE MILE POINT - UNIT 2
DOCKET NUMBER 50-410

SYSTEM COMPONENT EVALUATION WORK SHEET

QUAL REF # P800A1U REV 0

09-Aug-85

EQUIPMENT DESCRIPTION

EQUIP NO.:E12-N063B
SPEC NO.:188C7360P015
SYSTEM:RHR

TYPE: PRESSURE TRANSMITTER

MANUFACTURER:ROSEMOUNT,INC.

MODEL NO.: 1153GB7

SAFETY FUNCTION: MONITORS RHR PUMP SUCTION

OP. CODE: B

ACCURACY -
SPEC:REFERENCE 3
DEMO:REFERENCE 2

ZONE NO.: SC175111
SUBMERGENCE: NA
SPRAY: NA

DOCUMENTATION ACCEPTABILITY:
ACCEPTABLE TO NUREG 0588,CAT I
PER NEDE-24326-1-P

MAINT/SURVEILL -
REFERENCE: 2

QUALIFIED LIFE -
(YEARS):18.6
REFERENCE: 2

ENVIRONMENTAL CONDITIONS AND QUALIFICATION

PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE SPECIFIED	DOCUMENT REFERENCE QUALIFIED	QUAL METHOD	MARGIN DEMO	REMARKS
OP.TIME:	NA	100 DAYS	3	2	TEST-SIM	YES	
TEMP (F):	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORMAL	104/85	NA	1	2	NA	NA	NOTE 2
ABNORMAL	92	NA	1	2	NA	NA	
ACCIDENT	175	318	1	2	TEST-SIM	YES	
PRESS(PSIG)	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORMAL	-.25	NA	1	2	NA	NA	
ABNORMAL	-	-	1	2	NA	NA	
ACCIDENT	2.8	73	1	2	TEST-SIM	YES	
RH (%):	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORMAL	50	NA	1	2	NA	NA	
ABNORMAL	NA	NA	1	2	NA	NA	
ACCIDENT	100	100/AS	1	2	TEST-SIM	YES	
RADIATION:	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORM GAMMA	7.7E5	NA	1	2	NA	NA	NOTE 4
ACC GAMMA	3.7E7	2.44E7	1	2	TEST-SIM	YES	NOTE 5
NORM BETA	NA	NA	1	2	NA	NA	
ACC BETA	1.3E7	NA	1	2	NA	NA	NOTE 3
NEUTRON	NA	NA	1	2	NA	NA	
SPRAY	NA	NA	NA	NA	NA	NA	
SUBMERGENCE	NA	NA	NA	NA	NA	NA	

DOCUMENT REFERENCE:
1. EQUIPMENT QUALIFICATION ENVIRONMENTAL DESIGN CRITERIA, EQEDC-1, REV 1, MAY 2, 1984.
2. GE ENVIRONMENTAL QUALIFICATION REPORT, NEDC-30451
3. GE FUNCTIONAL PERFORMANCE REQUIREMENT (FPR) CONTAINED IN APPENDIX H OF REFERENCE 2.

NOTES:
1. FOR COMPLETE ENVIRONMENTAL CONDITIONS, SEE THE DOCUMENT REFERENCED.
2. NORMAL TEMPERATURES ARE SHOWN AS MAX DESIGN/AVERAGE.
3. ALL NON-METALLICS ARE SHIELDED FROM THE BETA RADIATION.
4. THE SPECIFIED RADIATION ENVIRONMENT ENVELOPS ALL APPLICATIONS.
5. THIS DEVICE IS NOT REQUIRED TO FUNCTION DURING OR AFTER A DBE.

NINE MILE POINT - UNIT 2
DOCKET NUMBER 50-410

SYSTEM COMPONENT EVALUATION WORK SHEET

PAGE 1 OF 1

09-Aug-85

QUAL REF # P800A1V REV 0

EQUIPMENT DESCRIPTION

EQUIP NO.:E12-N095
SPEC NO.:188C7360P015
SYSTEM:RHR

TYPE: PRESSURE TRANSMITTER

MANUFACTURER:ROSEMOUNT,INC.

MODEL NO.: 1153GB7

SAFETY FUNCTION: MONITORS
RHR PUMP SUCTION

OP. CODE: B

ACCURACY -
SPEC:REFERENCE 3
DEMO:REFERENCE 2

ZONE NO.: SC175111
SUBMERGENCE: NA
SPRAY: NA

DOCUMENTATION ACCEPTABILITY:
ACCEPTABLE TO NUREG 0588,CAT I
PER NEDE-24326-1-P

MAINT/SURVEILL. -
REFERENCE: 2

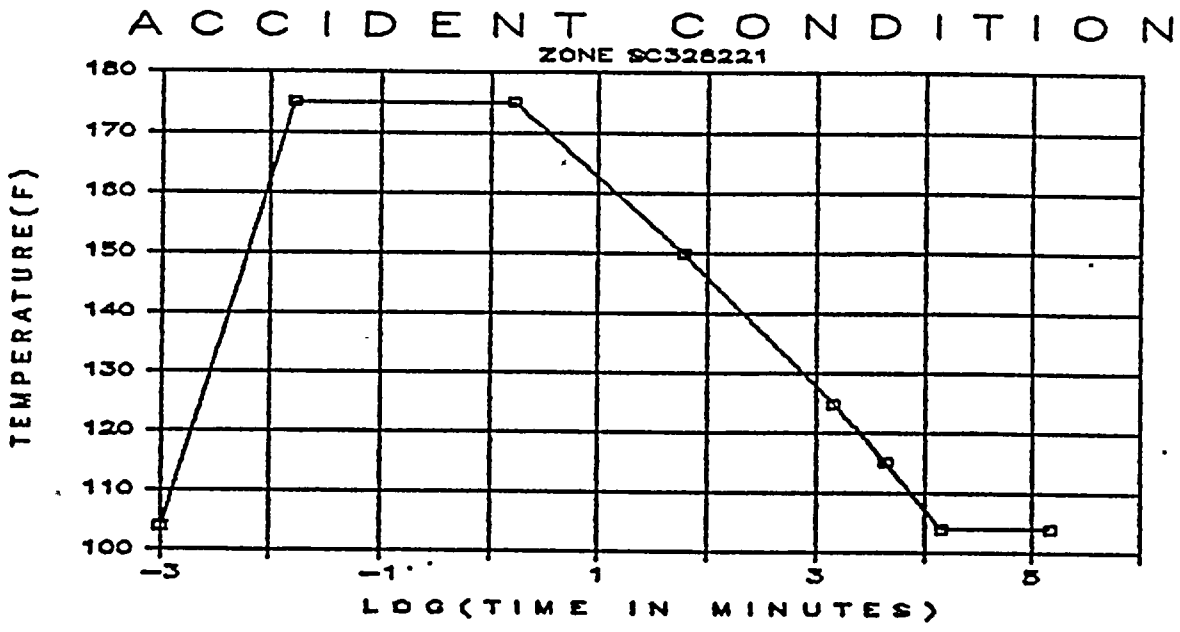
QUALIFIED LIFE -
(YEARS):18.6
REFERENCE: 2

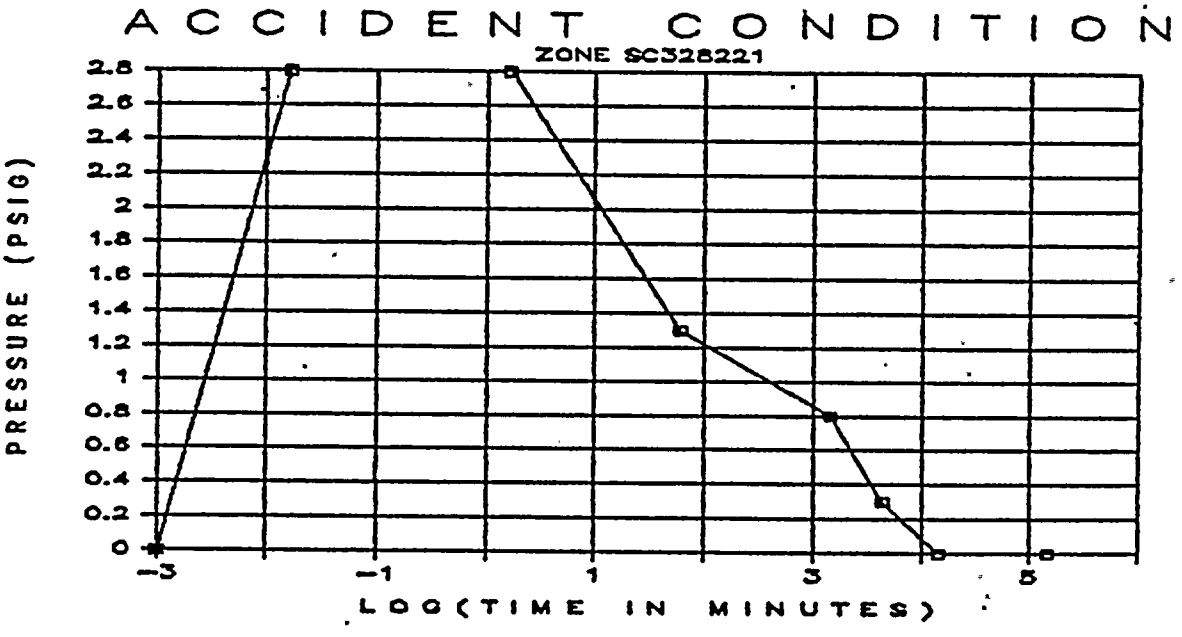
ENVIRONMENTAL CONDITIONS AND QUALIFICATION

PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE SPECIFIED	DOCUMENT REFERENCE QUALIFIED	QUAL METHOD	MARGIN DEMO	REMARKS
OP.TIME:	NA	100 DAYS	3	2	TEST-SIM	YES	
TEMP (F):	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORMAL	104/85	NA	1	2	NA	NA	NOTE 2
ABNORMAL	92	NA	1	2	NA	NA	
ACCIDENT	175	318	1	2	TEST-SIM	YES	
PRESS(PSIG)	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORMAL	-.25	NA	1	2	NA	NA	
ABNORMAL	-	-	1	2	NA	NA	
ACCIDENT	2.8	73	1	2	TEST-SIM	YES	
RH (%):	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORMAL	50	NA	1	2	NA	NA	
ABNORMAL	NA	NA	1	2	NA	NA	
ACCIDENT	100	100/AS	1	2	TEST-SIM	YES	
RADIATION:	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - -	- NOTE 1
NORM GAMMA	7.7E5	NA	1	2	NA	NA	NOTE 4
ACC GAMMA	3.7E7	2.44E7	1	2	TEST-SIM	YES	NOTE 5
NORM BETA	NA	NA	1	2	NA	NA	
ACC BETA	1.3E7	NA	1	2	NA	NA	NOTE 3
NEUTRON	NA	NA	1	2	NA	NA	
SPRAY	NA	NA	NA	NA	NA	NA	
SUBMERGENCE	NA	NA	NA	NA	NA	NA	

DOCUMENT REFERENCE:
1. EQUIPMENT QUALIFICATION ENVIRONMENTAL DESIGN CRITERIA, EQEDC-1, REV 1, MAY 2, 1984.
2. GE ENVIRONMENTAL QUALIFICATION REPORT, NEDC-30451
3. GE FUNCTIONAL PERFORMANCE REQUIREMENT (FPR) CONTAINED IN APPENDIX H OF REFERENCE 2.

NOTES:
1. FOR COMPLETE ENVIRONMENTAL CONDITIONS, SEE THE DOCUMENT REFERENCED.
2. NORMAL TEMPERATURES ARE SHOWN AS MAX DESIGN/AVERAGE.
3. ALL NON-METALLICS ARE SHIELDED FROM THE BETA RADIATION.
4. THE SPECIFIED RADIATION ENVIRONMENT ENVELOPS ALL APPLICATIONS.
5. THIS DEVICE IS NOT REQUIRED TO FUNCTION DURING OR AFTER A DBE.





ACCIDENT CONDITIONS FOR ZONE SC328221 - - 10" RCIC DER HELB in Secondary Containment

TEMPERATURE								
TIME	0	1.0sec	100sec	1hr	1day	3days	10days	100days
LOG(MINUTES)	-3.00	-1.78	0.22	1.78	3.16	3.64	4.16	5.16
TEMP (F)	104	175	175	150	125	115	104	104
TIME(MIN)	0.001	0.02	1.67	60	1440	4320	14400	144000

PRESSURE								
TIME	0	1.0sec	100sec	1hr	1day	3days	10days	100days
LOG(MINUTES)	-3.00	-1.78	0.22	1.78	3.16	3.64	4.16	5.16
PRES(PSIG)	0	2.8	2.8	1.3	0.8	0.3	0	0
TIME(MIN)	0.001	0.02	1.67	60	1440	4320	14400	144000

EQUIPMENT QUALIFICATION MAINTENANCE PROGRAM DATA SHEET

OMPDS E023CAA Rev 0 Date 9-30-83

EQUIPMENT DESCRIPTION

Equipment Function Therm Ins H Jkt 10AWG
Equipment Identification # and/or MPL 2NJM-08
Equipment Specification E023C
Manufacturer Okonite / Okolon
Equipment Model, Type 600V 4 Cond 10 AWG

ENVIRONMENTAL CONDITIONS

EQEDC Zone # Multiple Environment Harsh
System Component Evaluation Worksheet (SCEW) E023CAA
Operability Code A Time 100 Days QA Category I

MAINTENANCE REQUIREMENTS

REF

Qualified Life 40 years (1)
Start of Qualified Life _____ Dictated by N/A
Lubrication None
Refurbishment None
Replacement None
Calibration None
Other None

DOCUMENT REFERENCES/DATA

(1) SDDF IEEE 01.250-5004A
(2) _____
(3) _____
(4) _____
(5) _____

EQUIPMENT QUALIFICATION [redacted]TENANCE REQUIREMENTS

TAG:

EQUIP. LOCATED ZONE: Various

SPEC: E023B,C/E024A,B,P,R

EQUIP. QUAL. ZONE:

VENDOR: Kerite, Okonite, Rockbestos

MODEL/SERIAL NO.: Various

REFERENCE:

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1. Equipment Qualification Requirements:

   None. Insulation resistance, AC Hi Pot, Dissipation Factor, and Continuity Tests are performed after various phases of qualification testing. While these baseline tests, visual inspection, etc. could be made part of a cable maintenance program, no such recommendations are stipulated by these manufacturers in their equipment qualification documentation.

2. Vendor Maintenance Requirements

   None

3. Disagreements in Requirements

   None.

EQUIPMENT QUALIFICATION MAINTENANCE PROGRAM DATA SHEET

EQMPDS E021PAA Rev 0 Date 9-24-85

EQUIPMENT DESCRIPTION

Equipment Function Penetration Neutron Mon (B)
Equipment Identification # and/or MPL 2CES-Z01E
Equipment Specification E021P
Manufacturer Conax
Equipment Model, Type 10001-03

ENVIRONMENTAL CONDITIONS

EQEDC Zone # PC250621 Environment Harsh
System Component Evaluation Worksheet (SCEW) E021PAA
Operability Code A Time 100 Days QA Category I

MAINTENANCE REQUIREMENTS

REF

Qualified Life 40 years (1)
Start of Qualified Life _____ Dictated by Temperature and Radiation (1)
Lubrication None
Refurbishment None
Replacement None
Calibration None
Other Leak Test - interval not specified (2)

DOCUMENT REFERENCES/DATA

(1) SDOF IEEE 01.290-5000E
(2) SDOF INST 01.290-5001E
(3)
(4)
(5)

EQUIPMENT QUALIFICATION MAINTENANCE REQUIREMENTS

TAG: 2CES-Z01E

EQUIP. LOCATED ZONE: PC250621 SPEC: E021P

EQUIP. QUAL. ZONE:

VENDOR: Conax

MODEL/SERIAL NO.: 10001-03

REFERENCE: SDDF INST 01.220-5001E

Periodically repressurize the assembly, monitor and record pressure gage readings to determine the condition of seal integrity until the Initial Integrated Containment Leak Rate Test is conducted per 10 CFR 50, Appendix J.

EQUIPMENT QUALIFICATION MAINTENANCE PROGRAM DATA SHEET

MPDS P304YAA Rev 0 Date 9-30-85

EQUIPMENT DESCRIPTION

Equipment Function LPCS Pump Suct Valve
Equipment Identification # and/or MPL 2CSL*MOV112
Equipment Specification P304Y
Manufacturer Clow
Equipment Model, Type

ENVIRONMENTAL CONDITIONS

EQEDC Zone # SC196114 Environment Harsh
System Component Evaluation Worksheet (SCEW) P304YAA
Operability Code A Time 100 Days QA Category I

MAINTENANCE REQUIREMENTS

REF

Qualified Life 40 years (1)
Start of Qualified Life _____ Dictated by N/A
Lubrication 18 mo / 500 cycles and 36 mo / 1000 cycles (1)
Refurbishment None
Replacement None
Calibration None
Other Preventive Maintenance - 18 months (1)

DOCUMENT REFERENCES/DATA

(1) SDDF IEEE 05.360-5012A
(2)
(3)
(4)
(5)

TAG: 2CSL*MOV112 SPEC: P304Y

ZONE: SC196114 MODEL NO:

WORST CASE ZONE: REFERENCE: SDDP.IEEE 05.360-5012A

VENDOR: Clow EQUIPMENT DESCRIPTION: Suppr Exh Inbd Isol V

Limitorque Valve Actuator

A minimum inspection period of 18 months should be used as a base until experience indicates otherwise. This routine maintenance should include the following:

1. Remove limit switch compartment and/or control cabinet cover. Should moisture be evident, dry the compartment and components.

2. Inspect and clean all electrical controls and contacts in the limit switch compartment and/or control cabinet. This cleaning should consist of wiping all electrical contacts clean with electrical-type solvent cleaner similar to CRC Lectra Clean and removal of foreign residue.

3. Check all terminal connections for tightness.

4. Clean gasketed surfaces on limit switch compartment and/or control cabinet cover. Replace all damaged gaskets or seals for weatherproof or submersible units. Wipe a coating (approximately 2 mils) of lightweight bearing grease onto surfaces of explosion-proof cover flanges for protection.

5. Inspect lubricant:

   Main Gear Case: Inspect lubrication at approximate intervals of 18 months or 500 cycles - whichever occurs first. Lubricate the Zerk fitting in the housing cover at the same interval.

   Geared Limit Switch: Inspect lubrication at approximate intervals of 36 months or 1000 cycles - whichever occurs first.

6. Visually check shaft penetrations for indications of seal leakage. If abnormal leakage is found, the seal should be replaced.

7. Megger the motor. (One MEG-OHM or better is considered normal.)

8. Clean and lubricate the valve stem (obtain valve manufacturer's recommendation for lubricant) for rising stem applications.

EQUIPMENT QUALIFICATION MAINTENANCE PROGRAM DATA SHEET

PDS (various) Rev __ Date _____

EQUIPMENT DESCRIPTION (SOV's are always part of the AOV being qualified)

Equipment Function (various)

Equipment Identification # and/or MPL 2XXX*AOVXXX

Equipment Specification P304D, P304K, P304Y, etc.

Manufacturer Clow, Atwood Morrill, etc.

Equipment Model, Type various

ENVIRONMENTAL CONDITIONS (various)

EQEDC Zone # _____ Environment _____

System Component Evaluation Worksheet (SCEW) _____

Operability Code _____ Time _____ QA Category I

MAINTENANCE REQUIREMENTS REF

Qualified Life valve/actuator/limit switch /solenoid valve (1) (2) (3) (4)

Start of Qualified Life _____ Dictated by _____

Lubrication _____

Refurbishment _____

Replacement _____

Calibration _____

Other _____

DOCUMENT REFERENCES/DATA

(1) Valve data from SWEC MEQ files

(2) Actuator EQ report

(3) Namco EQ report

(4) ASCo EQ report and Vendor Maint. Man (data extraction attached)

(5) _____

EQUIPMENT QUALIFICATION [redacted]NTENANCE REQUIREMENTS

TAG:

EQUIP. LOCATED ZONE: SPEC. NO.

EQUIP. QUAL. ZONE:

VENDOR: ASCo

MODEL/SERIAL NO.: NP8316 and NP8320

REFERENCE: AQR-21678/TR Rev A, Appendix III

ASSEMBLY PART NO.	SUBCOMPONENT	NON-METALLIC MATERIAL	SERVICE LIFE (YEARS)		CONTROLLING QUALIFICATION CONDITION
			MAINTENANCE MANUAL	ENVIRONMENTAL QUALIFICATION	
Not Known	Cover gasket	Not Known	4	*	Temperature
Not Known	Retaining Clip	Not Known			
Not Known	Coil	Not Known	4	*	Temperature
Not Known	Sol. Base Subassy	Not Known			
Not Known	Retainer Gasket	Not Known	4	*	Temperature
Not Known	Core Guide	Not Known			
Not Known	Core assembly	Not Known			
Not Known	Core Spring	Not Known			
Not Known	Body Gasket	Not Known	4	*	Temperature
Not Known	Body Gasket	Not Known	4	*	Temperature
Not Known	Disc Holder Subassy	Not Known			
Not Known	Disc Holder Spring	Not Known			

* Enter qualified life indicated on associated SCEW sheet

EQUIPMENT QUALIFICATION MAINTENANCE REQUIREMENTS

TAG:

EQUIP. LOCATED ZONE: SPEC:

EQUIP. QUAL. ZONE:

VENDOR: ASCo

MODEL/SERIAL NO.: NP8316 and NP8320

REFERENCE: AQR-21678/TR Rev A, Appendix III

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1. Equipment Qualification Requirements:

   Cleaning-

   A periodic cleaning of all solenoid valves is desirable. The time between cleanings will vary depending on medium and service conditions. In general, if the voltage to the coil is correct, sluggish valve operation, excessive noise or leakage will indicate that cleaning is required. Clean valve strainer or filter when cleaning solenoid valve.

   Preventive Maintenance-

   a) Keep the medium flowing through the valve as free from dirt and foreign material as possible.
   b) While in service, operate the valve at least once a month to insure proper opening and closing.
   c) Periodic inspection of internal valve parts for damage or excessive wear is recommended. Throughly clean all parts. Replace any parts that are worn or damaged.
   d) At the end of the qualified life period, the coil and all resilient parts must be replaced. Install a complete Spare Parts Kit and Coil.

2. Vendor Maintenance Requirements:

   Same as above with the exception of the qualified life period.

3. Disagreements in Requirements:

   Qualified life is stated as 4 years in various ASCo maintenance bulletins. SWEC calculation has established qualified life of individual mark numbers based on specified temperature of zone it is operating in. Equipment qualification qualified life can be more or less than 4 years.