Cys: K. Herring
J. Martore
JE Knight 4/4/79
H. George

PGE Portland General Electric Company

March 28, 1979

Trojan Nuclear Plant
Docket 50-344
License NPF-1

Director of Nuclear Reactor Regulation
ATTN: Mr. A. Schwencer, Chief
Operating Reactors Branch #1
Division of Operating Reactors
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Sir:

Attached are our responses, prepared by Bechtel Power Corporation, to the NRC Staff technical questions of March 8, 1979, concerning the Trojan Control Building design modifications. We have forwarded 3 signed and 40 copies of this letter.

This letter and attachment are being served on the Atomic Safety and Licensing Board (ASLB) and all parties to the Control Building proceeding.

Sincerely,

W. J. Lindblad
Vice President
Engineering-Construction

WJL/GAZ/4gah2A6
Attachment

7904030317 PDR

RESPONSES TO NRC QUESTIONS DATED MARCH 8, 1979

1. Describe the distance between the diesel fuel lines in the area to be excavated as described in Section 5.3.3 of PGE-1020.

The distance between the centerlines of the two diesel fuel lines in the area to be excavated is 1 ft 3 in.

2. Describe the location of all shutoff and cross-connection valves in the fuel oil lines for the diesel generators.

The location of shutoff and cross-connection valves in the fuel oil lines for the diesel generators (shown on FSAR Figure 9.5-3) are as follows:

West Emergency Diesel Generator Room (Turbine Building)

Valve No	Location
D0005 D0007 D0011 MO-4903A	9 ft west of column line Y, 12 in. off north wall at Elevation 47 ft 6 in.
D0017 D0019	4 ft east of column line Z, 3 ft 6 in. north of column line 47 at Elevation 45 ft 6 in.
D0023	6 in. west of column line X, 6 in. off north wall at Elevation 45 ft 6 in.
D0008	12 in. east of column line X, 6 in. off north wall at Elevation 49 ft.
D0025 D0027	5 ft 3 in. east of column line Z, 9 ft 6 in. south of column line 47 at Elevation 47 ft 9 in.
D0029 D0031	10 ft east of column line X, 9 ft 6 in. south of column line 47 at Elevation 47 ft 9 in.

East Emergency Diesel Generator Room (Turbine Building)

Valve No.	Location
D0009	3 ft east of column line W', 6 in. off north wall at Elevation 49 ft.
D0010	3 ft east of column line W', 6 in. off north wall at Elevation 47 ft 6 in.
D0006	7 ft east of column line W', 6 in. off north wall at Elevation 47 ft.
M04903B	3 ft east of column line W', 3 ft off north wall at Elevation 47 ft 6 in.
D0018 D0022	7 ft east of column line W', 4 ft 6 in. off north wall at Elevation 45 ft 5 in.
D0024 D0026	1 ft 3 in. east of column line W', 9 ft 6 in. south of column line 47 at Elevation 47 ft 5 in.
D0030 D0028	4 ft east of column line T, 9 ft 6 in. south of column line 47 at Elevation 47 ft 5 in.

Vicinity of Storage Tanks (Yard Area East of Fuel Building)

Valve No.	Location
D0001 D0003	D. O. Transfer pump A discharge 109 ft east of column line A, 65 ft south of column line 55.
D0002 D0004	D. O. Transfer pump B discharge 125 ft east of column line A, 65 ft east of column line 55.

Diesel Auxiliary Feed Pump Room (Turbine Building)

Valve No.	Location
D0021	2 ft 5 in. south of column line 65, 27 ft 9 in. east of column line S at Elevation 49 ft 5 in.
D0032	2 ft 5 in. south of column line 65, 24 ft 6 in. east of column line S at Elevation 49 ft 6 in.
D0033	4 ft 11 in. south of column line 65, 30 ft 5 in. east of column line S at Elevation 58 ft 4 in.
D0034	6 ft 6 in. south of column line 65, 26 ft east of column line S at Elevation 58 ft 4 in.
MO-4907A	3 ft 8 in. south of column line 65, 31 ft 5 in. east of column line S at Elevation 58 ft 4 in.
MO-4907B	5 ft south of column line 65, 26 ft east of column line S at Elevation 58 ft 4 in.

3. Identify and discuss the area and depth to be excavated by hand when uncovering diesel fuel lines.

The conventional backfill surrounding the diesel fuel lines will be removed by light hand tools, such as shovels, until sound rock is encountered. If removal of any rock is required, light power tools will be used.

4. Describe measures to be taken to protect diesel fuel lines when hoisting steel plates and the fire protection measures to be taken in event of a line rupture by either hand tool damage or by dropping the steel plate.

The construction sequence is planned such that hoisting of the plates will not occur while the fuel lines are exposed. The excavation will be refilled and the concrete floor replaced before hoisting of the steel plate sections above this area is performed. Thus, the fuel lines will be protected from any potential harm by approximately 5 ft of earth and the concrete floor.

Hand-operated chain hoists and the auxiliary hook of the overhead crane in the Turbine Building will be used to raise or lower plate sections into position. Full redundancy will be provided for each lifting device needed (e.g., if two hoists are needed to lift a plate section, four hoists will be utilized).

The hoists and crane hook will have a safety factor of five times the required capacity. In case of the failure of one hoist, the remaining hoisting device will still have the capacity to carry the entire weight of the plate sections and thus preclude their dropping.

The fire protection provided during the excavation around the diesel fuel oil lines and during other construction activities consists of administrative procedures, the permanent sprinkler system 'B' and hand-held fire extinguishers. Should one of the lines be damaged, the amount of fuel oil would be limited to that contained in the piping, thus, the combustion loading would be minimal. This section of piping is isolated from the fuel oil day tanks by normally closed, motor-operated valves and check valves. Oil from the underground storage tanks is supplied through these sections of piping only during operation of a diesel oil transfer pump which will be controlled during excavation.

During the excavation around the fuel oil lines, a fire watch will be added that will remain at his station for at least 30 min after completion of work to ensure that the pipes are not leaking. During the entire modification program, including excavation, local hand-held fire extinguishers will be provided in this area.

5. Describe the effect of dropping the steel plate on the duct banks described in Sections 5.3.3 and 5.3.9. What protection is afforded against damage to safety-related cables?

As with the diesel fuel lines, the duct banks will not be exposed during hoisting of the plate sections since they are located below grade and will be covered by backfill and the concrete slab at grade.

6. Describe measures to be taken to protect cables when hoisting plates above trays over to the guides as discussed in Section 5.3.11.

The equipment that will be used to hoist the plates above trays will be as described in the response to Question 4. The lower plates will be secured in place first, thereby providing a lower limit stop to arrest downward motion of the upper plate section. Vertical steel guides affixed to the lower plates will ensure that the upper sections will come to rest on the lower previously installed plate section. Since the lower plate will arrest the downward motion of the upper plate, contact with the cable trays should not be possible.

7. Describe measures to protect these cables from damage by the hoisting equipment.

The hoists will be installed above Elevation 93 ft. The cables will be protected from the hoists by the floor slab at Elevation 93 ft 0 in. Guides will be installed to prevent any contact between the hoisting equipment and the cable trays.

8. What equipment will be used to raise/lower the plate(s) into position?

This equipment is described in the response to Question 4.

9. As described in PGE-1012, "Trojan Nuclear Plant Fire Protection Review" (Page F-5), Plant safety procedure PS-7 requires that all immoveable combustible material below and within a 35-ft radius where welding, cutting, grinding, or open flame work is performed be protected by asbestos curtains, metal guards or flame-proof covers. In this regard, state the material composition of the protective blankets and welding screens discussed in Section 5.3.11 of PGE-1020.

The material is Claremont Weld Shield Style No. 800-24, manufactured by Claremont Company, Inc., 82 Camp Street, Meriden, Connecticut. or equivalent material. The material is described in Attachment 1.

PRODUCT INFORMATION AND TECHNICAL DATA

REF: STYLE #500-24-32
Data 1-pg.1
DATE: June 1-71

RESPONSES TO NRC STAFF
TECHNICAL QUESTIONS
DATED MARCH 8, 1979
ATTACHMENT 1
PAGE 1 of 2

Weld Shield Fabrics

Claremont Weld Shield fabrics have been designed for difficult and demanding service conditions. Under normal welding and acetylene cutting conditions Claremont Weld Shield fabrics will give many times the use and wear life expected of conventional welding cloth.

Construction

Weld shield fabrics are made of special glass fabrics designed for high strength and flex resistance. The incombustible characteristics of glass are then enhanced with a specially compounded Neoprene coating. The resulting fabric provides high abrasion resistance, tear and puncture resistance, easy sewing and will shed molten metal splash in a good many applications.

Advantages

Most conventional fabrics used for welding or acetylene cutting protection can become quite flammable if contaminated with oils or grease. Weld Shield products do not readily absorb any liquid and surfaces can generally be wiped clean increasing the life and safety of the fabric. The combination of glass and Neoprene in a fabric make it clean to use-no lint or dust to contaminate immediate or adjacent areas. Weld shield fabrics are lightweight and strong permitting easy sewing of curtains, pads and clothing.

Applications

Protection of equipment, protection of personnel, flameproof curtains for eye protection (of chippers, sanders and welders). Weld Shield can be used to direct acetylene cutting drop to desired areas, all purpose protection during heavy construction where welding, cutting, abrasion and flame are present. Weld Shield fabrics can be used for Safety Clothing applications such as aprons, coats, shoulder patches, spats, pants, etc. based on the hazard and conditions.

THE CHEMICAL COMPANY, INC.

PRODUCT INFORMATION AND TECHNICAL DATA

PRODUCT: WELD SHIELD
REF: Style 24-32
DATE: Data 1 Pg. 2
June 1-71

RESPONSES TO NRC STAFF
TECHNICAL QUESTIONS
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BASE FABRIC DATA

Style Number	24	32
Base Fabric	Glass	Glass
Weave	Plain	Plain
Const. WXF	19 x 10	2[illegible] x 10
Wght. oz/yd.^{2}	8.8	16.3
Std. Width	38"-50"	38"

FINISHED FABRIC PHYSICALS

			FTMS 191 Method
Coating	F.R. Neoprene	F.R. Neoprene	
Color	Green #239	Green #239	
Coating Deposit	Balanced	Balanced	
Finish	Textured	Textured	
Wght. oz/yd.^{2}	22±2	32±2	
Thickness-Mils.	33-35	38-40	
Tensile: Warp	230	280	5102
Fill	90	280	5102
Tear: Warp	15	20	5970
Fill	12	20	5970
Flame Resistance			
Flame out (sec.)	.0 to 2.0 Max.	.0 to 2.0 Max	5903
After Glow (sec.)	.0 to 2.0 Max.	.0 to 2.0 Max	5903
Char Length (in.)	1 - 2	1 - 2	5903
Roll Sizes	50-100 yds.	50-100 yds.	
F.O.B.	Meriden, Connecticut		