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DOCKETED
USNRC

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OFFICE OF SECRETARY
DOCKETING & SERVICE
BRANCH

February 14, 1983

In the Matter of)
)
CONSUMERS POWER COMPANY)
)
(Midland Plant, Units 1)
and 2))

Docket Nos. 50-329-OM
50-330-OM
50-329-OL
50-330-OL

Charles Bechhoefer, Esq.
Atomic Safety & Licensing
Board Panel
U.S. Nuclear Regulatory Com-
mission
Washington, D. C. 20555

Dr. Jerry Harbour
Atomic Safety & Licensing
Board Panel
U.S. Nuclear Regulatory Com-
mission
Washington, D. C. 20555

Dr.Frederick P. Cowan
6152 N. Verde Trail
Apt. B-125
Boca Raton, Florida 33433

Dear Administrative Judges:

In my letter dated February 3, 1983 I listed 10 items of information which, during the evidentiary hearings held in November and December, 1982, Applicant had agreed to provide (or consider providing). Item Number 10 was a list of all underground piping protected by the galvanic protection system, which Ms. Stamiris requested. The enclosures constitute Applicant's response to this request. In addition, I include Applicant's proposed transcript corrections for the November and December hearings.

8302180378 830214
PDR ADOCK 05000329
G PDR

D503

The first enclosure is a handwritten list of "Lines Protected by Cathodic Protection" which was compiled by Scott Woodby at my request. Mr. Woodby, the Board will recall, was a witness in the November hearings.

When I reviewed the list, I had difficulty relating it to Applicant's previous testimony on underground piping. Accordingly, I asked Wesley Kinnear, a legal assistant at IL&B, to write a letter to Bechtel asking for their help. Mr. Kinnear's letter is the second enclosure.

The third enclosure is Bechtel's response, which includes at the end (Attachment 2) a four-page list of lines protected or to be protected by the galvanic protection system. This list should be regarded as the authoritative response, where it differs from Mr. Woodby's list.

To summarize our response to Ms. Stamiris' question: all "Q listed" or Category I underground piping is designed to be protected by the galvanic protection system. I am informed that this will be field-verified before the plant starts operation. During the construction period, the underground lines are not necessarily installed at the same time as the nearest anodes in the galvanic protection system. For example, Mr. Woodby testified in November that the galvanic protection system is being expanded substantially this Spring.

In addition, Bechtel states that the galvanic protection system is also designed to protect all non-Q, non-Category I underground piping used for plant operation. The only lines which will not be protected by the galvanic protection system are lines used only for construction purposes, and of course, all aboveground lines.

The first three enclosures to this letter are communications between CPCo's employee, its consultant, and its lawyers. By providing these documents Applicant does not make any general waiver of the attorney-client or work product privileges as to other such communications. Nor, of course, do we concede that any further evidentiary presentation on the galvanic protection system or potential corrosion of underground piping is necessary or appropriate.

I also include Applicant's proposed transcript corrections for the November and December evidentiary hearings. This was a more difficult job than usual and some guesswork was involved. I hope the Board and the other parties will use independent judgment in reviewing these proposed corrections. I include one group of references where I was uncomfortable even guessing what was actually said; I think in most of these cases the Staff will be able to straighten things out.

Respectfully submitted,

Philip P. Steptoe

PPS:es
enc.
cc service list

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

DOCKETED
USNRC

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

'83 FEB 17 A11:01

OFFICE OF SECRETARY
DOCKETING & SERVICE
BRANCH

In the Matter of:	)	Docket Nos. 50-329 OM
	)	50-330 OM
CONSUMERS POWER COMPANY	)	Docket Nos. 50-329 OL
(Midland Plant, Units 1 & 2)	)	50-330 OL

CERTIFICATE OF SERVICE

I, Rebecca J. Lauer, one of the attorneys for Consumers Power Company, hereby certify that copies of the enclosed February 14, 1983 letter from Philip P. Steptoe to the Administrative Judges, together with the galvanic protection system enclosures and proposed transcript corrections, was served upon all persons shown in the attached service list by deposit in the United States mail, first class, this 14th day of February, 1983; except where service was made as otherwise indicated.

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*Personally served on February 14, 1983

LINES PROTECTED BY CATHODIC PROTECTION PER E-522

SH 1A Rev 1

DOMESTIC WATER

3"-OYSG-1 (NQ)

FIRE WATER

12"-CKSF-1 (NQ)

8"

6"

SERVICE WATER

26"-OHBC-20 (Q) 26"-OHBC-16 (Q)

26"-OHBC-19 (Q) 26"-OHBC-15 (Q)

LINES FOR

STAINLESS STEEL

1T60 18"-1HCB-1, 18"-1HCB-2, 4"-1HCB-33, 4"-1HCD-166 (Q) ?

2T60 18"-2HCB-1, 18"-2HCB-2, 4"-2HCB-33, 4"-2HCD-166 (Q) ?

OT15 4"-OHCD-571, 4"-OHCD-572, 3"-OHCD-743, 1"-OHCD-741

OT54 3"-OHCD-703, 4"-OHCD-774, 4"-OHCD-775, 3"-OHCD-575, 1½"-OHCD-750, 6"-OHCD-755, 4"-OHCD-745

LINES FOR THANKS OT15 AND OT54 ARE CONSIDERED CLASS II SYSTEMS. WHOSE FAILURE WOULD NOT RESULT IN A RELEASE OF RADIOACTIVITY AND WOULD NOT PREVENT SAFE REACTOR SHUT DOWN IN A DESIGN BASE ACCIDENT.

SH 1B Rev 1

DOMESTIC WATER

SERVICE WATER

26"-OHBC-15

26"-OHBC-16

26"-OHBC-19

26"-OHBC-20

FIRE WATER

12"-OKSF-1

6"

8"-OKSF-5

SH 1C Rev 1

CIRC WATER

96"-2YBJ-4 (NQ

96"-2YBJ-3 (NQ

72"-1YBJ-4 (NQ

72"-1YBJ-3 (NC

12"-0YBJ-13 (N(

SERVICE WATER

26"-OHBC-54 (Q)

26"-OHBC-53 (Q)

26"-OHBC-56 (Q)

26"-OHBC-55 (Q)

26"-2JBD-1 ?

26"-2JBD-2

FIRE WATER

12"-OKSF-1 (NQ

SH 1D Rev 1

DIESEL GENERATOR FUEL STORAGE TANKS

2T-78A
1T-78A
2T-78B
1T-78A

FIRE WATER

12"-OKSF-1

SERVICE WATER

26"-OHBC-54
26"-OHBC-53
26"-OHBC-56
26"-OHBC-55
26"-OHBC-19
26"-OHBC-20
26"-OHBC-15
26"-OHBC-16

CIRC WATER

72"-1YBJ-1
72"-1YBJ-2
96"-2YBJ-1
96"-2YBJ-2

SH 2A REV 0

FIRE WATER

12"-OKSF-1

6"-

4"

8"

OT-117 (OIL TANK)

1"-OHBD-851

1"-OHBD-864

3"-OHBD-868 (VENT)

CONDENSATE RETURN LINES (DRW)

STAINLESS STEEL

18"-OHCD-974

6"-OHCD-419

1"-OYDD-17

SH2B REV0

FIRE WATER

12"- OKSF-1

6"-

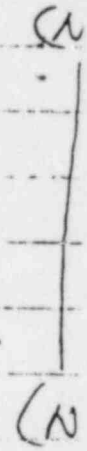
4"-

8"- OKSF-28

8"- OKSF -25

8" -OKSF - 27

6" -OKSF - 11



SH 2C REV 0

FIRE WATER

12"-OKSF-1

8"-OKSF-

SH 3 REV 1

DOMESTIC WATER
8" DUCTILE IRON

NOTE. MAGNESIUM SACRIFICIAL ANODES USED TO PROTECT THIS PIPE.

January 25, 1982

FEDERAL EXPRESS

Mr. Donald Lewis
Bechtel Power Corporation
777 E. Eisenhower Parkway
Ann Arbor, Michigan 48106

Dear Mr. Lewis:

Phil Steptoe asked me to write you in connection with Consumers' commitment to provide to the Licensing Board more information about the cathodic protection system.

Scott Woodby of Consumers has given us a list of lines which he has determined are protected by the cathodic system (enclosed). I have spoken with him, but we still have a few important questions.

1. Are all Q lines protected by the galvanic protection system? I have compared Table UP-1 of your testimony of February, 1982 (enclosed) with Mr. Woodby's list but I am not able to find all the Q lines you list on Scott Woodby's list. I mark these unaccounted for lines on the two lists with a question mark. If these lines are in fact protected by the system, please so indicate.

2. We need a correspondence of label numbers in order to know which number goes with which pipe. That is, it seems that sometimes lines are referred to by the tank which they serve (e.g. 1T60, on page 1 of Mr. Woodby's list) and sometimes by a pipe number (e.g. 18" - 1HCB-1, same reference). I may have confused the system of labels, but in any case we need to be clear what is referred to so that we can make a reliable statement to the Licensing Board.

3. Finally, we need a description or listing of lines, especially Q lines, not protected by the galvanic protection system and an explanation of why they are not protected. (That they are non-Q would probably be adequate justification.) For example, it appears from Mr. Woodby's list that the diesel generator fuel oil lines are not protected by the cathodic system. Is this true, and, if so, why?

To summarize, what we need to know is: are all Q lines protected by the cathodic system; and what lines are not protected and why. If you could provide this information either by marking up the two lists I enclose or by creating a new list, we would be most grateful. We have promised to inform the Licensing Board in the very near future, so we would ask that if at all possible you provide the necessary information to us within a week. If this proves impossible or there is any other difficulty, please contact Phil Steptoe or me.

Thank you very much for your assistance.

Sincerely,

Wesley Kinnear
Legal Assistant

WK:sc

Enclosure

cc: Scott Woody

TABLE UP-1

SEISMIC CATEGORY I LINES

A. Service Water Lines

8"-1HBC-310
8"-2HBC-81
8"-1HBC-81
8"-2HBC-310
8"-1HBC-311
8"-2HBC-82
8"-1HBC-82
8"-2HBC-311
10"-OHBC-27
10"-OHBC-28

26"-OHBC-53
26"-OHBC-54
26"-OHBC-55
26"-OHBC-56
26"-OHBC-15
26"-OHBC-16
26"-OHBC-19
26"-OHBC-20
36"-OHBC-15
36"-OHBC-16
36"-OHBC-19
36"-OHBC-20

B. Diesel Fuel Oil Lines

1-1/2"-1HBC-3
1-1/2"-1HBC-4
1-1/2"-2HBC-3
1-1/2"-2HBC-4

2"-1HBC-497
2"-1HBC-498
2"-2HBC-497
2"-2HBC-498

C. Borated Water Lines

18"-1HCB-1
18"-1HCB-2
18"-2HCB-1
18"-2HCB-2

D. Control Room Pressurization Lines

4"-ODBC-1
1"-OCCC-1

Bechtel Associates Professional Corporation

104472 777 East Eisenhower Parkway
Ann Arbor, Michigan

Mail Address: P.O. Box 1000, Ann Arbor, Michigan 48106

Isham, Lincoln & Beale
Three First National Plaza
Chicago, Illinois 60602

Attention: Mr. P. Steptoe

Subject: Midland Plant Units 1 and 2
Consumers Power Company
Bechtel Job 7220
CATHODIC PROTECTION SYSTEM

Reference: Isham, Lincoln & Beale
Letter to Bechtel,
W. Kinnear to D. Lewis,
1/25/83 (Com 102693)

This is in response to the referenced letter from your Mr. W. Kinnear requesting additional information about the cathodic protection system. The following paragraphs are numbered to correspond to the questions in the reference.

1a. Are all Q lines protected by the galvanic protection system?

All buried Seismic Category I piping (as well as all buried non-Seismic Category I piping) is protected by the cathodic protection system in accordance with Bechtel Drawing 7220-E-40.

1b. Not all the Q lines listed in the testimony of Lewis, et al., February 1982 are on Scott Woodby's list.

Mr. Woodby's list should be amended in accordance with Attachment 2 to this letter. Attachment 2 is consistent with the Seismic Category I piping listed in the February 1982 testimony as supplemented by the May 3, 1982, submittal to the NRC (Attachment 1). In each case where Mr. Woodby's list did not address a line or tank, the Bechtel electrical discipline reviewed the design documents to confirm that the particular line or tank was protected by the cathodic protection system.

2. We need a correspondence of label numbers in order to know which number goes with which pipe.

   The correspondence of label numbers you requested is provided in Attachment 2.

3a. A description or listing of lines, especially Q lines, not protected by the galvanic protection system was requested.

   Aboveground piping is not protected by the cathodic protection system.

3b. It appears from Mr. Woodby's list that the diesel generator fuel oil lines are not protected by the cathodic system. Is this true and, if so, why?

   Drawing 7220-E-40, Section 1.4c indicates that diesel fuel storage tanks and associated piping are to be provided with cathodic protection. Our review confirmed that the diesel fuel oil lines are, in fact, shown on the design drawings as being protected by the cathodic protection system.

If you have any further questions, please contact us.

Very truly yours,

D E Lewis for

E.M. Hughes
Ann Arbor
Project Engineer

DFL/RLR/jsh*(LS)

Attachments: 1. CPCo Letter Serial 16881 to NRC, J. Mooney for J. Cook to H. Denton, 5/3/82 (Com 069372)
2. Cathodic Protection of Seismic Category I and Other Buried Piping and Tanks

cc (all w/a):

J. Brunner (CPCo)
W. Kinnear (IL&B)
M. Puschell (CPCo)
S. Woodby (CPCo)

Written Response Requested: No

0298c

Attachment 1

69372

Consumers Power Company | 04472

James W Cook
Vice President - Projects, Engineering and Construction

General Offices: 1945 West Parnall Road, Jackson, MI 49201 • (517) 788-0453

May 3, 1982

Harold R Denton, Director
Office of Nuclear Reactor Regulation
Division of Licensing
US Nuclear Regulatory Commission
Washington, DC 20555

MIDLAND PROJECT
MIDLAND DOCKET NO 50-329, 50-330
UNDERGROUND PIPING INFORMATION REQUESTED DURING APRIL 16, 1982 MEETING
FILE: 0485.16 SERIAL: 16881
REFERENCES: (1) J W COOK LETTER TO H R DENTON, SERIAL 16269, DATED MARCH 16, 1982
(2) J W COOK LETTER TO H R DENTON, SERIAL 16638, DATED APRIL 15, 1982
ENCLOSURES: (1) TABLE 1.0 MONITORING STATION OVALITY AND CORRESPONDING STATION
(2) BURIED CATEGORY 1 LINES AND TANKS
(3) ADDITIONAL GEOTECHNICAL INFORMATION

The purpose of this letter is to provide confirmatory information regarding several issues discussed during a meeting between the NRC Staff and Consumers Power Company. The meeting was held in Bethesda on April 16, 1982.

Enclosure 1 is an expansion of the table previously submitted by our letter, Serial 16638, dated April 15, 1982. Additional information is provided specifying the future allowable strain based on an acceptance criteria and technical specification limit of 0.48% strain. The number of strain gages has also been specified in the table. The number of gages were determined by reviewing the pipe elevation profiles for abrupt inflection points and critical buckling zones. The strain gages are to be mounted one pipe diameter apart at a given monitoring station.

At the April 16 meeting a concern arose about the accuracy of the vibrating wire strain gages. In a telephone conference with the Irad Gage Company, they indicated the instrument is accurate to 10 (μinch/inch) as a worst case condition for any type of vibrating wire gage. This includes accounting for inaccuracies in installation and calibrations. This accuracy is an order of magnitude greater than the accuracy required for the strain measurements to be taken (.0001 in/in vs .00001 in/in).

oc0482-0084a100

1044/ A clarification on the technical specification limits and requirements proposed in the pipe monitoring program submitted March 16, 1982 is necessary. Our intention is to use the 4% ovality (equivalent .0048 inch/inch strain) which includes appropriate safety factors as the technical specification unless we can justify a higher value at a later date. If the specified limit is reached we would immediately notify the NRC Staff and increase the monitoring frequency to one month intervals. In parallel with the Staff notification an engineering evaluation of the situation would be performed. This evaluation would consider the remedial action necessary to restore the safety function and reliability of the service water system to overall plant operations. The actions necessary may very well include excavation of the piping in the affected zone for visual examination and possible replacement or sleeving.

"Q lines" The NRC Staff asked Consumers Power Company to verify that no other buried Category 1 pipes remain unidentified. Enclosure 2 is a current table of all the buried seismic Category 1 lines and tanks. The pressurization lines and tanks have been added to the list of buried Category 1 piping. The control room pressurization lines and tanks were installed during the summer 1981, and therefore not subjected to the soils settlement problems. The penetration pressurization lines and tanks have not been installed; however appropriate procedures for soil settlement will be followed. The list does not include the 48-inch diameter (48-OHBC-2) discussed in Enclosure 3 of our letter, Serial 16638, dated April 15, 1982. } this line was subsequently reclassified as non-Q

The NRC Staff expressed a concern regarding the margins for future settlement at the wall penetration of pipeline 26-OHBC-15. Our investigations indicate that there is a 90° elbow fitting in this line immediately upon exiting the building. Any bending moment developed due to soils settlement will be transformed to an equal torque value. This load transformation causes the vertical deflection due to settlement to change to an angle of twist on the pipe at the penetration. This angle of twist has no effect on the annulus clearance of the wall penetration and therefore the only real clearance we need to assure is the seismic rattlespace (0.3693 inch). The margin we presently have is 0.6307 inches which is a factor of 1.7 times the conservative estimate of seismic rattlespace.

The NRC Geotechinical Branch requested information concerning soils and its relation to buried utilities. Enclosure 3 addresses the concerns expressed about the prediction of maximum future settlement for plant life (3.0 inches) and the isolated sand pocket near the diesel fuel tanks. A concern was also expressed about the soil properties used in estimating the soil forces required to deform condensate line (20-1HCD-169) into its present configuration. We have responded by seperately providing the Structural Mechanics Assoiciates calculations estimating the soil capacity at Midland.

10472

We believe the information supplied satisfies the concerns the NRC Staff expressed during the recent April meeting.

J A Mooney
Executive Manager
Midland Project Office

For J W Cook

JWC/WJC/mkh

CC Atomic Safety and Licensing Appeal Board, w/o
CBechhoefer, ASLB, w/o
PChen, ETEC, w/a
FCherney, NRC, w/a
MMCherry, Esq, w/o
FPCowan, ASLB, w/o
RJCook, Midland Resident Inspector, w/o
RSDecker, ASLB, w/o
SGadler, w/o
JHarbour, ASLB, w/o
DSHood, NRC, w/a (2)
JDKane, NRC, w/a
FJKelley, Esq, w/o
RBLandsman, NRC Region III, w/a
WHMarshall, w/o
WDPaton, Esq, w/o
BStamiris, w/o

oc0482-0084a100

69372

104472

BURIED SEISMIC CATEGORY I LINES AND TANKS

A. Service Water Lines

8"-1HBC-310
8"-2HBC-81
8"-1HBC-81
8"-2HBC-310
8"-1HBC-311
8"-2HBC-82
8"-1HBC-82
8"-2HBC-311
10"-0HBC-27
10"-0HBC-28
26"-0HBC-53
26"-0HBC-54
26"-0HBC-55
26"-0HBC-56
26"-0HBC-15
26"-0HBC-16
26"-0HBC-19
26"-0HBC-20
36"-0HBC-15
36"-0HBC-16
36"-0HBC-19
36"-0HBC-20

B. Diesel Fuel Oil Lines and Tanks

1-1/2"-1HBC-3
1-1/2"-1HBC-4
1-1/2"-2HBC-3
1-1/2"-2HBC-4
2"-1HBC-497
2"-1HBC-498
2"-2HBC-497
2"-2HBC-498
1T-77A
1T-77B
2T-77A
2T-77B

C. Borated Water Lines

18"-1HCB-1
18"-1HCB-2
18"-2HCB-1
18"-2HCB-2

D. Control Room Pressurization Lines and Tanks

4"-0DBC-1
1"-0CCC-1
0VT 2 8A
0VT 2 8B

E. Penetration Pressurization Lines and Tanks

1"-1CCB-45
1"-2CCB-45
1T-114
2T-114

4/26/82

10447 CATHODIC PROTECTION OF SEISMIC CATEGORY I AND OTHER BURIED PIPING AND TANKS

Line No.	Q Listed	E-40 Reference	Woodby Listed	Bechtel Review(6)
BWST and Lines				
1T60 (BWST)	Yes	1.3 (sim.)(1)	No	Not required(2)
2T60 (BWST)	Yes	1.3 (sim.)(1)	No	Not required(2)
18"-1HCB-1	Yes	1.4d	Yes	
18"-1HCB-2	Yes	1.4d	Yes	
18"-2HCB-1	Yes	1.4d	Yes	
18"-2HCB-2	Yes	1.4d	Yes	
4"-1HCB-33	Yes	1.4d	Yes	
4"-2HCB-33	Yes	1.4d	Yes	
4"-1HCD-166	No	1.4d	Yes	
4"-2HCD-166	No	1.4d	Yes	
Service Water System				
36"-0HBC-15	Yes	1.4a	No	Yes
36"-0HBC-16	Yes	1.4a	No	Yes
36"-0HBC-19	Yes	1.4a	No	Yes
36"-0HBC-20	Yes	1.4a	No	Yes
26"-0HBC-15	Yes	1.4a	Yes	
26"-0HBC-16	Yes	1.4a	Yes	
26"-0HBC-19	Yes	1.4a	Yes	
26"-0HBC-20	Yes	1.4a	Yes	
26"-0HBC-53	Yes	1.4a	Yes	
26"-0HBC-54	Yes	1.4a	Yes	
26"-0HBC-55	Yes	1.4a	Yes	
26"-0HBC-56	Yes	1.4a	Yes	
26"-2JBD-1	No	1.4a	Yes	
26"-2JBD-2	No	1.4a	Yes	
10"-0HBC-27	Yes	1.4a	No	Yes
10"-0HBC-28	Yes	1.4a	No	Yes
8"-1HBC-81	Yes	1.4a	No	Yes
8"-2HBC-81	Yes	1.4a	No	Yes
8"-1HBC-82	Yes	1.4a	No	Yes
8"-2HBC-82	Yes	1.4a	No	Yes
8"-1HBC-310	Yes	1.4a	No	Yes
8"-2HBC-310	Yes	1.4a	No	Yes
8"-1HBC-311	Yes	1.4a	No	Yes
8"-2HBC-311	Yes	1.4a	No	Yes

104472

Line No.	Q Listed	E-40 Reference	Woodby Listed	Bechtel Review(6)
Domestic Water System				
3"-0YSG-1	No	1.4e	Yes	
8"-Ductile Iron	No	1.4e	Yes	Sacrificial anodes
Fire Water System				
12"-0KSF-1	No	1.4g	Yes	
8"-0KSF-5	No	1.4g	Yes	
8"-0KSF-25	No	1.4g	Yes	
8"-0KSF-27	No	1.4g	Yes	
8"-0KSF-28	No	1.4g	Yes	
6"-0KSF-27	No	1.4g	Yes	
Utility and Primary Water Storage System				
0T-15 (UWST)	No	1.3 (sim.)(1)	No	Not required(2)
0T-54 (PWST)	No	1.3 (sim.)(1)	No	Not required(2)
4"-0HCD-571	No	1.4d	Yes	
4"-0HCD-572	No	1.4d	Yes	
3"-0HCD-743	No	1.4d	Yes	
1"-0HCD-741	No	1.4d	Yes	
3"-0HCD-703	No	1.4d	Yes	
4"-0HCD-774	No	1.4d	Yes	
4"-0HCD-775	No	1.4d	Yes	
3"-0HCD-575	No	1.4d	Yes	
1-1/2"-0HCD-750	No	1.4d	Yes	
6"-0HCD-755	No	1.4d	Yes	
4"-0HCD-745	No	1.4d	Yes	
Circulating Water System				
96"-2YBJ-1	No	1.4a	Yes	
96"-2YBJ-2	No	1.4a	Yes	
96"-2YBJ-3	No	1.4a	Yes	
96"-2YBJ-4	No	1.4a	Yes	
72"-1YBJ-1	No	1.4a	Yes	
72"-1YBJ-2	No	1.4a	Yes	
72"-1YBJ-3	No	1.4a	Yes	
72"-1YBJ-4	No	1.4a	Yes	
12"-0YBJ-13	No	1.4a	Yes	

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Line No.	Q Listed	E-40 Reference	Woodby Listed	Bechtel Review(6)
Diesel Fuel Oil System				
1T-78A	Yes	1.4c	Yes	
1T-78B	Yes	1.4c	Yes	
2T-78A	Yes	1.4c	Yes	
2T-78B	Yes	1.4c	Yes	
1-1/2"-1HBC-3	Yes	1.4a, c	No	Yes
1-1/2"-1HBC-4	Yes	1.4a, c	No	Yes
1-1/2"-2HBC-3	Yes	1.4a, c	No	Yes
1-1/2"-2HBC-4	Yes	1.4a, c	No	Yes
2"-1HBC-497	Yes	1.4a, c	No	Yes
2"-1HBC-498	Yes	1.4a, c	No	Yes
2"-2HBC-497	Yes	1.4a, c	No	Yes
2"-2HBC-498	Yes	1.4a, c	No	Yes
Yard Lighting Diesel Fuel Oil System				
0T-117	No	(3)	No	Yes
1"-0HBD-851	No	1.4a	Yes	
1"-0HBD-864	No	1.4a	Yes	
3"-0HBD-868	No	1.4a	Yes	
Condensate Return Lines				
18"-0HCD-974	No	1.4d	Yes	
6"-0HCD-419	No	1.4d	Yes	
1"-0YDD-17	No	1.3	Yes	
Control Room Pressurization System				
0VT-28A	Yes	(4)	No	Yes
0VT-28B	Yes	(4)	No	Yes
4"-0DBC-1	Yes	1.4a	No	Yes
1"-0CCC-1	Yes	1.4d	No	Yes
Penetration Pressurization System				
1T-114	Yes	(4)	No	(5)
2T-114	Yes	(4)	No	(5)
1"-1CCB-45	Yes	1.4d	No	(5)
1"-2CCB-45	Yes	1.4d	No	(5)

NOTES:

(1) sim. = similar; these tanks are similar to the condensate storage tanks which are specifically addressed in Section 1.3 of Drawing 7220-E-40.

(2) Cathodic protection is not required for aboveground tanks. They receive some incidental protection in accordance with Section 1.3 of Drawing 7220-E-40.

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(3) Yard lighting diesel fuel oil storage tank is a buried tank for diesel fuel storage, similar to those included in Section 1.4c of Drawing 7220-E-40.

(4) These are buried alloy steel tanks. They do not fall into any of the Section 1.4 categories of structures to be protected. However, Bechtel's review indicates protection has been provided in the design documents.

(5) These tanks and lines have not yet been installed. The design documents place cathodic protection in the proposed location of this system.

(6) This column shows the results of Bechtel's review of items not indicated by Woodby as being protected. Bechtel's review provided either a reason why it was not protected or confirmed that a design document shows the protection to be provided.