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Iowa Electric Light and Power Company

August 1, 1979
LDR-79-131

LARRY D. ROOT
ASSISTANT VICE PRESIDENT
NUCLEAR GENERATION

50-331

Mr. James G. Keppler, Director
Office of Inspection and Enforcement
Region III
U.S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, IL 60137

Dear Mr. Keppler:

The attachment to this letter is a response to Item No. 1
of IE Bulletin No. 79-14.

Very truly yours

Larry D. Root

Larry D. Root
Assistant Vice President

LDR/RFS/glm

Attachment

cc: Director, Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Director, Division of Operating Reactors
Office of Nuclear Reactor Regulation
Washington, D.C. 20555

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SEISMIC ANALYSIS
FOR
AS-BUILT SAFETY-RELATED PIPING SYSTEMS
FOR
DUANE ARNOLD ENERGY CENTER
IOWA ELECTRIC LIGHT & POWER

1.0 INTRODUCTION

The US NRC I-E Bulletin dated July 2, 1979, "Seismic Analysis for As-Built Safety-Related Piping Systems" requested that certain information be submitted within 30 days of the date of the bulletin. Specifically, Item 1 of the bulletin requests that each licensee: (a) identify inspection elements to be used in verifying that the input to the seismic analysis conforms to the actual configuration of safety-related systems, (b) submit a list of design documents, including title, identification number, revision and date, which were sources of input to the seismic analysis and (c) identify systems or portions of systems which are planned to be inspected in sequential inspection periods identified in items 2 and 3 of the bulletin.

The following sections contain the information requested in Item 1.

2.0 IDENTIFICATION OF INSPECTION ELEMENTS

To verify that the seismic analysis input conforms to the actual piping system configuration, a field inspection of safety-related piping will be performed and the results of the field inspection will be compared to design documents used as input to the seismic analysis. The inspection elements which will be included in the field walkdown of the safety-related systems to verify the actual configuration of the piping systems are as follows:

- a. piping geometry
- b. branch connection locations
- c. valve location
- d. valve orientation
- e. valve identification numbers
- f. support/restraint locations

- g. support/restraint function
- h. support/restraint assembly details
- i. pipe clearances
- j. anchor assembly details

Details of the incorporation of these inspection elements into the overall verification program are discussed in Enclosure 1, "Procedures for Verifying Conformance of Seismic Analysis to Actual Configuration of Safety-Related Piping Systems in Response to I-E Bulletin 79-14."

3.0 DESIGN DOCUMENTS USED AS INPUT SOURCES

Table 1.0 attached lists the specific design documents used as inputs to the seismic analysis calculations. Where specific drawings (document number, revision and date) can not be identified until the inspection packages are completely assembled, a "Later" appears in the table indicating this information will be obtained prior to completion of the inspections to be performed in response to Items 2 and 3 of the subject bulletin.

The specific design documents and a description of the information contained in that document as applied to the analysis input is as follows:

1. Piping Class/Summary Sheets - these documents define the pipe material, applicable design code, wall thickness, maximum pressure and temperature for each given line number.
2. Seismic Response Spectra - provide input seismic accelerations for each given elevation and area in the plant.
3. Piping Stress Isometric Drawings - these drawings define the pipe geometry (including valve location and orientation), type of support/restraint, and support/restraint location.
4. Hanger Detail Drawings - these drawings provide the fabrication detail for each support/restraint, and its design load.
5. Valve Vendor Drawings - these drawings contain the specific weight and center of gravity data for each valve.

4.0 IDENTIFICATION OF SYSTEMS TO BE INSPECTED

Table 2 attached lists the safety-related systems in DAEC and the line or spool identification number for the lines in each system. The number in the inspection group column indicates those systems which, in accordance with Items 2 and 3 of the bulletin, will be sequentially inspected. Those lines designated as Group 1 are the lines which will be inspected in the initial inspection phase to be completed September 1, 1979. Group 1 lines are the accessible lines of non-redundant and one train of redundant safety-related systems. Group 2 are the accessible lines of the second train of redundant safety-related systems. Group 3 lines are lines which are inaccessible during normal operation of the plant. Groups 2 and 3 will be inspected by November 1, 1979.

TABLE 1.0

Line #: DBA-2

Service: Drains from steam lines inside containment to MO-4424

Design Input Documents:

Piping Class/Summary Sheet: DBA/M-190

Seismic Response Spectra: See FSAR

Piping Stress Isometric Drawings: SK-M-243, DBA-2-1

Hanger Detail Drawings: Later

Valve Vendor Prints: Later

Line #: DBA-3

Service: Steam to HPCI turbine from main steam line to MO-2238

Design Input Documents:

Piping Class/Summary Sheet: DBA/M-190

Seismic Response Spectra: See FSAR

Piping Stress Isometric Drawings: Later

Hanger Detail Drawings: Later

Valve Vendor Prints: Later

Line #: DBA-4

Service: Steam to RCIC turbine from main steam line to MO-2401

Design Input Documents:

Piping Class/Summary Sheet: DBA/M-190

Seismic Response Spectra: See FSAR

Piping Stress Isometric Drawings: SK-M-342, M-706

Hanger Detail Drawings: Later

Valve Vendor Prints: Later

Line #: DBA-5

Service: RHR pump discharge from MO-1901 to reactor head spray

Design Input Documents:

Piping Class/Summary Sheet: DBA/M-190

Seismic Response Spectra: See FSAR

Piping Stress Isometric Drawings: SK-M-353

Hanger Detail Drawings: Later

Valve Vendor Prints: Later

Line #: DBA-6

Service: Control rod hydraulic from reactor isolation valve to line DCA-16

Design Input Documents:

Piping Class/Summary Sheet: DBA/M-190

Seismic Response Spectra: See FSAR

Piping Stress Isometric Drawings: SK-M-355, DBA-6-1, DBA-6-2

Hanger Detail Drawings: Later

Valve Vendor Prints: Later

Line #: DBA-7

Service: RCIC discharge to FW line downstream of MO-2512

Design Input Documents:

Piping Class/Summary Sheet: DBA/M-190

Seismic Response Spectra: See FSAR

Piping Stress Isometric Drawings: Later

Hanger Detail Drawings: Later

Valve Vendor Prints: Later

Line #: DBA-8
Service: RWCU discharge to FW line

Design Input Documents:

Piping Class/Summary Sheet: DBA/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: SK-M-372

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: DBB-1
Service: RHR pump discharge from MO-2004 to MO-2003

Design Input Documents:

Piping Class/Summary Sheet: DBB/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: SK-M-331

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: DBB-2
Service: RHR pump discharge from MO-1904 to MO-1905

Design Input Documents:

Piping Class/Summary Sheet: DBB/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: SK-M-332, Rev. E, 12/21/71

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: DCA-1

Service: Reactor recirc pump discharge (by GE)

Design Input Documents:

Piping Class/Summary Sheet: DCA/M-190

Seismic Response Spectra: See FSAR

Piping Stress Isometric Drawings: APED 731E781, Rev. 3
APED 761E344, Rev. 3

Hanger Detail Drawings: Later

Valve Vendor Prints: Later

Line #: DCA-2

Service: RHR pump discharge from isolation valve 2008 to
recirc pump discharge

Design Input Documents:

Piping Class/Summary Sheet: DCA/M-190

Seismic Response Spectra: See FSAR

Piping Stress Isometric Drawings: SK-M-331

Hanger Detail Drawings: Later

Valve Vendor Prints: Later

Line #: DCA-3

Service: RHR pump discharge from isolation valve 1907 to :
recirc pump discharge

Design Input Documents:

Piping Class/Summary Sheet: DCA/M-190

Seismic Response Spectra: See FSAR

Piping Stress Isometric Drawings: SK-M-332, Rev. E,

Hanger Detail Drawings: Later

Valve Vendor Prints: Later

Line #: DCA-4

Service: Reactor recirculation pump suction (by GE)

Design Input Documents:

Piping Class/Summary Sheet: DCA/M-190

Seismic Response Spectra: See FSAR

Piping Stress Isometric Drawings: APED 731E781, Rev. 5,
APED 761E344, Rev. 3

Hanger Detail Drawings: Later

Valve Vendor Prints: Later

Line #: DCA-5

Service: RHR pump suction from reactor recirc pump suction
line to stop valve

Design Input Documents:

Piping Class/Summary Sheet: DCA/M-190

Seismic Response Spectra: See FSAR

Piping Stress Isometric Drawings: SK-M-330, Rev. 6, 12/21/71

Hanger Detail Drawings: Later

Valve Vendor Prints: Later

Line #: DCA-6

Service: Cleanup pump suction from reactor recirc pump
suction line to MO-2701

Design Input Documents:

Piping Class/Summary Sheet: DCA/M-190

Seismic Response Spectra: See FSAR

Piping Stress Isometric Drawings: SK-M-337, Rev. E, 12/21/71

Hanger Detail Drawings: Later

Valve Vendor Prints: Later

Line #: DCA-8

Service: Core spray discharge from stop valve 2142 to
upper reactor spray

Design Input Documents:

Piping Class/Summary Sheet: DCA/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: Later

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: DCA-9

Service: Core spray discharge from stop valve 2143 to
lower reactor spray

Design Input Documents:

Piping Class/Summary Sheet: DCA/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: Later

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: DCA-14

Service: Cleanup recirculation pump discharge downstream of MO-2740

Design Input Documents:

Piping Class/Summary Sheet: DCA/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: SK-M-372

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: DCA-16
Service: CRD hydraulic from DBA-6 to reactor

Design Input Documents:

Piping Class/Summary Sheet: DCA/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: SK-M-355

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: DLA-1
Service: HPCI discharge to FW line upstream of MO-2312

Design Input Documents:

Piping Class/Summary Sheet: DLA/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: Later

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: DLA-2
Service: FW discharge from isolation stop check valve
to reactor

Design Input Documents:

Piping Class/Summary Sheet: DLA/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: SK-M-339, DLA-2-3, DLA-2-4

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: DLA-3

Service: Steam to HPCI turbine through penetration, from
MO-2238 to MO-2239

Design Input Documents:

Piping Class/Summary Sheet: DLA/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: SK-M-344

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: DLA-4

Service: RHR pump suction from reactor recirc line to MO-1909

Design Input Documents:

Piping Class/Summary Sheet: DLA/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: SK-M-330, Rev. 6, 12/21/71

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: DLA-5

Service: RHR discharge from MO-2003 through penetration to
valve ZS-2008

Design Input Documents:

Piping Class/Summary Sheet: DLA/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: SK-M-331

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: DLA-6

Service: RHR discharge from MO-1905 through penetration to
valve ZS-1907

Design Input Documents:

Piping Class/Summary Sheet: DLA/M-190

Seismic Response Spectra: See FSAR

Piping Stress Isometric Drawings: SK-M-332, Rev. E, 12/21/71

Hanger Detail Drawings: Later

Valve Vendor Prints: Later

Line #: DLA-7

Service: Core spray discharge from CV-2117 to reactor
spray valve

Design Input Documents:

Piping Class/Summary Sheet: DLA/M-190

Seismic Response Spectra: See FSAR

Piping Stress Isometric Drawings: SK-M-334

Hanger Detail Drawings: Later

Valve Vendor Prints: Later

Line #: DLA-8

Service: Core spray discharge from CV-2137 to reactor
spray valve

Design Input Documents:

Piping Class/Summary Sheet: DLA/M-190

Seismic Response Spectra: See FSAR

Piping Stress Isometric Drawings: Later

Hanger Detail Drawings: Later

Valve Vendor Prints: Later

Line #: EBB-1

Service: RCIC pump discharge to MO-2512

Design Input Documents:

Piping Class/Summary Sheet: EBB/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: Later

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: EBB-4

Service: RCIC test line

Design Input Documents:

Piping Class/Summary Sheet: EBB/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: Later

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: EBB-5

Service: HPCI pump discharge to FW line upstream of MO-2312

Design Input Documents:

Piping Class/Summary Sheet: EBB/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: Later

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: EBB-6
Service: HPCI pump recirculation to MO-2318

Design Input Documents:

Piping Class/Summary Sheet: EBB/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: Later

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: EBB-14
Service: Steam to HPCI turbine downstream of MO-2239

Design Input Documents:

Piping Class/Summary Sheet: EBB/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: M-702

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: EBB-15
Service: Steam to RCIC turbine downstream of MO-2401

Design Input Documents:

Piping Class/Summary Sheet: EBB/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: M-706

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: EBB-16

Service: Steam to RHR heat exchanger to CV-2033, to CV-1963

Design Input Documents:

Piping Class/Summary Sheet: EBB/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: M-723

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: EBB-17

Service: Core spray from MO-2115 to MO-2117

Design Input Documents:

Piping Class/Summary Sheet: EBB/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: M-710

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: EBB-18

Service: Core spray from MO-2135 to MO-2137

Design Input Documents:

Piping Class/Summary Sheet: EBB/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: M-711

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: EBD-2

Service: Main steam from outer containment isolation valve
to turbine stop valve

Design Input Documents:

Piping Class/Summary Sheet: EBD/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: M-716

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: GBB-3

Service: RHR pumps P-229 B,D discharge to MO-1903

Design Input Documents:

Piping Class/Summary Sheet: GBB/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: M-715

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: GBB-4

Service: RHR pumps P-229 A.C discharge to MO-2001

Design Input Documents:

Piping Class/Summary Sheet: GBB/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: M-714, M-720, GBB-4-5

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: GBB-5

Service: Discharge crossover from pumps P-229 B,D to P-229 A,C

Design Input Documents:

Piping Class/Summary Sheet: GBB/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: Later

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: GBB-6

Service: RHR pumps P-229B,D discharge to RHR heat exchanger IE-201B

Design Input Documents:

Piping Class/Summary Sheet: GBB/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: M-715

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: GBB-7

Service: RHR pumps P-229 A,C discharge to RHR heat exchanger IE-201A

Design Input Documents:

Piping Class/Summary Sheet: GBB/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: M-714, M-720, GBB-7-2

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: GBB-8

Service: RHR pumps discharge from RHR heat exchanger
IE-201B to header

Design Input Documents:

Piping Class/Summary Sheet: GBB/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: Later

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: GBB-9

Service: RHR pumps discharge from RHR heat exchanger
IE-201A to header

Design Input Documents:

Piping Class/Summary Sheet: GBB/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: Later

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: GBB-10

Service: RHR pump discharge from header to MO-1901

Design Input Documents:

Piping Class/Summary Sheet: GBB/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: Later

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: GBB-13
Service: Core spray pump IP-211A discharge

Design Input Documents:

Piping Class/Summary Sheet: GBB/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: M-710

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: GBB-14
Service: Core spray pump IP-211B discharge

Design Input Documents:

Piping Class/Summary Sheet: GBB/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: M-711

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: GBB-15
Service: RHR pumps P-229 B,D discharge to test line
upstream of MO-1935, MO-1970

Design Input Documents:

Piping Class/Summary Sheet: GBB/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: M-722

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: GBB-16

Service: RHR pumps P-229 A,C discharge to test line
upstream of MO-2009, MO-2038

Design Input Documents:

Piping Class/Summary Sheet: GBB/M-190

Seismic Response Spectra: See FSAR

Piping Stress Isometric Drawings: M-718

Hanger Detail Drawings: Later

Valve Vendor Prints: Later

Line #: GBB-18

Service: Condensate supply to RHR discharge to reactor

Design Input Documents:

Piping Class/Summary Sheet: GBB/M-190

Seismic Response Spectra: See FSAR

Piping Stress Isometric Drawings: M-715

Hanger Detail Drawings: Later

Valve Vendor Prints: Later

Line #: GBB-22

Service: RHR service water discharge to RHR
system downstream of MO-1942

Design Input Documents:

Piping Class/Summary Sheet: GBB/M-190

Seismic Response Spectra: See FSAR

Piping Stress Isometric Drawings: SK-M-360

Hanger Detail Drawings: Later

Valve Vendor Prints: Later

Line #: GBB-23
Service: RHR discharge to fuel pool storage

Design Input Documents:

Piping Class/Summary Sheet: GBB/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: SK-M-333

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: GBC-1
Service: RHR service water discharge to RHR heat
exchanger IE-201A

Design Input Documents:

Piping Class/Summary Sheet: GBC/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: SK-M-360, GBC-1-3, GBC-1-4

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: GBC-2
Service: RHR service water discharge to RHR heat
exchanger IE-201B

Design Input Documents:

Piping Class/Summary Sheet: GBC/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: SK-M-359, GBC-2-2, GBC-2-3

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: GBC-3

Service: RHR service water from RHR heat exchanger
IE-201A to MO-2046

Design Input Documents:

Piping Class/Summary Sheet: GBC/M-190

Seismic Response Spectra: See FSAR

Piping Stress Isometric Drawings: SK-M-361, GBC-3-1

Hanger Detail Drawings: Later

Valve Vendor Prints: Later

Line #: GBC-4

Service: RHR service water from RHR heat exchanger
IE-201B to MO-1946

Design Input Documents:

Piping Class/Summary Sheet: GBC/M-190

Seismic Response Spectra: See FSAR

Piping Stress Isometric Drawings: GBC-4-1

Hanger Detail Drawings: Later

Valve Vendor Prints: Later

Line #: GBC-5

Service: RHR service water discharge to RHR heat
exchanger discharge upstream of MO-1942

Design Input Documents:

Piping Class/Summary Sheet: GBC/M-190

Seismic Response Spectra: See FSAR

Piping Stress Isometric Drawings: SK-M-360, SK-M-359

Hanger Detail Drawings: Later

Valve Vendor Prints: Later

Line #: GBC-6
Service: Steam line relief valve PSV-4402 discharge to torus

Design Input Documents:

Piping Class/Summary Sheet: GBC/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: SK-M-346

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: GBC-7
Service: Steam line relief from PSV-4407

Design Input Documents:

Piping Class/Summary Sheet: GBC/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: SK-M-347

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: GBC-8
Service: Steam line relief from PSV-4406

Design Input Documents:

Piping Class/Summary Sheet: GBC/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: SK-M-348

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: GBC-9
Service: Steam line relief from PSV-4400

Design Input Documents:

Piping Class/Summary Sheet: GBC/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: SK-M-349

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: GBC-10
Service: Steam line relief from PSV-4401

Design Input Documents:

Piping Class/Summary Sheet: GBC/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: SK-M-350

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: GBC-11
Service: Steam line relief from PSV-4405

Design Input Documents:

Piping Class/Summary Sheet: GBC/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: SK-M-351

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: GLE-5

Service: RHR pump discharge and test line to torus spray
between MO-1932 and MO-1933 and MO-1934

Design Input Documents:

Piping Class/Summary Sheet: GLE/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: Later

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: GLE-6

Service: RHR pump discharge to torus spray and test line
between MO-2005 and MO-2006 and MO-2007

Design Input Documents:

Piping Class/Summary Sheet: GLE/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: Later

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: GLE-7

Service: RHR pump discharge to containment coil from
MO-2001 through MO-2000

Design Input Documents:

Piping Class/Summary Sheet: GLE/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: Later

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: GLE-8

Service: RHR pump discharge to containment coil from MO-1903
through MO-1902

Design Input Documents:

Piping Class/Summary Sheet: GLE/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: Later

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HBB-1

Service: Core spray pump Ip-211B suction

Design Input Documents:

Piping Class/Summary Sheet: HBB/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: M-709

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HBB-2

Service: Core spray pump IP-211A suction

Design Input Documents:

Piping Class/Summary Sheet: HBB/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: M-708

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HBB-6

Service: HPCI turbine exhaust to torus isolation valve

Design Input Documents:

Piping Class/Summary Sheet: HBB/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: M-703

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HBB-7

Service: RCIC turbine exhaust to torus isolation valve

Design Input Documents:

Piping Class/Summary Sheet: HBB/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: M-707

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HBB-8

Service: HPCI pump suction from MO-2321 to MO-2322

Design Input Documents:

Piping Class/Summary Sheet: HBB/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: M-700

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HBB-9
Service: HPCI pump suction from condensate line

Design Input Documents:

Piping Class/Summary Sheet: HBB/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: M-700

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HBB-14
Service: RCIC pump suction from MO-2516 to MO-2517

Design Input Documents:

Piping Class/Summary Sheet: HBB/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: M-704

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HBB-15
Service: RCIC pump suction from condensate storage tank

Design Input Documents:

Piping Class/Summary Sheet: HBB/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: M-704

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HBB-21

Service: RCIC pump suction from RHR heat exchanger

Design Input Documents:

Piping Class/Summary Sheet: HBB/M-190

Seismic Response Spectra: See FSAR

Piping Stress Isometric Drawings: M-704, M-720

Hanger Detail Drawings: Later

Valve Vendor Prints: Later

Line #: HBB-23

Service: RHR pumps P-229 B,D suction downstream of M0-1909

Design Input Documents:

Piping Class/Summary Sheet: HBB/M-190

Seismic Response Spectra: See FSAR

Piping Stress Isometric Drawings: Later

Hanger Detail Drawings: Later

Valve Vendor Prints: Later

Line #: HBB-24

Service: RHR pumps P-229 A,C suction

Design Input Documents:

Piping Class/Summary Sheet: HBB/M-190

Seismic Response Spectra: See FSAR

Piping Stress Isometric Drawings: Later

Hanger Detail Drawings: Later

Valve Vendor Prints: Later

Line #: HBB-25
Service: Drain from fuel pool skimmer tanks

Design Input Documents:

Piping Class/Summary Sheet: HBB/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: SK-M-320, SK-M-335, M-714

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HBB-29
Service: RHR relief valve PSV-1952 to suppression pool

Design Input Documents:

Piping Class/Summary Sheet: HBB/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: Later

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HBB-30
Service: RHR relief valve PSV-2043 to suppression pool

Design Input Documents:

Piping Class/Summary Sheet: HBB/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: Later

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HBD-24

Service: Emergency service water pump IP-99A discharge

Design Input Documents:

Piping Class/Summary Sheet: HBD/M-190

Seismic Response Spectra: See FSAR

Piping Stress Isometric Drawings: HBD-24-3, HBD-24-4, HBD-24-5,
HBD-24-6, HBD-24-7, HBD-24-8, HBD-24-9, HBD-24-10, SK-M-397

Hanger Detail Drawings: Later

Valve Vendor Prints: Later

Line #: HBD-25

Service: Emergency service water pump IP-99B discharge

Design Input Documents:

Piping Class/Summary Sheet: HBD/M-190

Seismic Response Spectra: See FSAR

Piping Stress Isometric Drawings: HBD-25-3, HBD-25-4, HBD-25-5,
HBD-25-6, HBD-25-7, HBD-25-8, SK-M-320, SK-M-335, SK-M-398

Hanger Detail Drawings: Later

Valve Vendor Prints: Later

Line #: HBD-26

Service: Emergency service water to diesel generator IE-53A

Design Input Documents:

Piping Class/Summary Sheet: HBD/M-190

Seismic Response Spectra: See FSAR

Piping Stress Isometric Drawings: HBD-26-1, HBD-26-2

Hanger Detail Drawings: Later

Valve Vendor Prints: Later

Line #: HBD-27

Service: Emergency service water to diesel generator IE-53B

Design Input Documents:

Piping Class/Summary Sheet: HBD/M-190

Seismic Response Spectra: See FSAR

Piping Stress Isometric Drawings: HBD-27-1, HBD-27-2

Hanger Detail Drawings: Later

Valve Vendor Prints: Later

Line #: HBD-28

Service: Emergency service water returns from safeguard equipment serviced
by pump IP-99A

Design Input Documents:

Piping Class/Summary Sheet: HBD/M-190

Seismic Response Spectra: See FSAR

Piping Stress Isometric Drawings: HBD-28-1, HBD-28-2, HBD-28-3,
HBD-28-4, HBD-28-5, HBD-28-6, HBD-28-7, SK-M-361

Hanger Detail Drawings: Later

Valve Vendor Prints: Later

Line #: HBD-29

Service: Emergency service water returns from safeguard equipment serviced
by pump IP-99B

Design Input Documents:

Piping Class/Summary Sheet: HBD/M-190

Seismic Response Spectra: See FSAR

Piping Stress Isometric Drawings: HBD-29-1, HBD-29-2,
HBD-29-3, HBD-29-4

Hanger Detail Drawings: Later

Valve Vendor Prints: Later

Line #: HBD-30

Service: Service water return from RHR heat exchanger IE-201A to downstream of MO-2046 to MO-1998A

Design Input Documents:

Piping Class/Summary Sheet: HBD/M-190

Seismic Response Spectra: See FSAR

Piping Stress Isometric Drawings: SK-M-361, HBD-30-1

Hanger Detail Drawings: Later

Valve Vendor Prints: Later

Line #: HBD-31

Service: Service water return from RHR heat exchanger IE-201B to downstream of MO-1947 to MO-1998B

Design Input Documents:

Piping Class/Summary Sheet: HBD/M-190

Seismic Response Spectra: See FSAR

Piping Stress Isometric Drawings: SK-M-361, HBD-31-1

Hanger Detail Drawings: Later

Valve Vendor Prints: Later

Line #: HBD-32

Service: RHR service water return from RHR heat exchanger to cooling tower via CW discharge downstream of MO-1998 A,B

Design Input Documents:

Piping Class/Summary Sheet: HBD/M-190

Seismic Response Spectra: See FSAR

Piping Stress Isometric Drawings: SK-M-361, HBD-32-4

Hanger Detail Drawings: Later

Valve Vendor Prints: Later

Line #: HBD-34
Service: Diesel oil piping

Design Input Documents:

Piping Class/Summary Sheet: HBD/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: SK-M-396

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HBD-61
Service: Diesel engine air supply

Design Input Documents:

Piping Class/Summary Sheet: HBD/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: SK-M-247

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HBD-64
Service: Reactor building cooling water supply
inside containment

Design Input Documents:

Piping Class/Summary Sheet: HBD/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: Later

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HBD-65
Service: Reactor building cooling water return
inside containment
Design Input Documents:

Piping Class/Summary Sheet: HBD/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: Later

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HBD-67
Service: River water pumps IP-117 B,D discharge

Design Input Documents:

Piping Class/Summary Sheet: HBD/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: HBD-67-2, HBD-67-3, HBD-67-4,
HBD-67-6, SK-M-399, SK-M-401, SK-M-403

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HBD-68
Service: River water pumps IP-117 A,C discharge

Design Input Documents:

Piping Class/Summary Sheet: HBD/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: HBD-68-2, HBD-68-4,
SK-M-400, SK-M-402

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HBD-80

Service: Emergency service water from diesel generator IE-53A to storm sewer

Design Input Documents:

Piping Class/Summary Sheet: HBD/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: HBD-80-3

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HBD-81

Service: Emergency service water from diesel generator IE-53B to storm sewer

Design Input Documents:

Piping Class/Summary Sheet: HBD/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: HBD-81-3

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HBD-82

Service: Discharge from PSE to 2079 A,B to radwaste dilution line and deicing

Design Input Documents:

Piping Class/Summary Sheet: HBD/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: HBD-82-3, HBD-82-5, HBD-82-6, HBD-82-8, SK-M-356, SK-M-403

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HBD-94

Service: Well water supply inside drywell - Loop A

Design Input Documents:

Piping Class/Summary Sheet: HBD/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: Later

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HBD-95

Service: Well water supply inside drywell - Loop B

Design Input Documents:

Piping Class/Summary Sheet: HBD/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: Later

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HBD-97

Service: Well water pump discharge

Design Input Documents:

Piping Class/Summary Sheet: HBD/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: Later

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HBD-115
Service: Well water return - inside
drywell - Loop A

Design Input Documents:

Piping Class/Summary Sheet: HBD/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: Later

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HBD-116
Service: Well water return - inside drywell - Loop B

Design Input Documents:

Piping Class/Summary Sheet: HBD/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: Later

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HBD-122
Service: Diesel exhaust

Design Input Documents:

Piping Class/Summary Sheet: HBD/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: HBD-122-1

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HBD-129
Service: MG set oil piping

Design Input Documents:

Piping Class/Summary Sheet: HBD/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: HBD-129-1, HBD-129-2,
SK-M-662, SK-M-663

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HBD-159
Service: Cooling water p/p IV-CP-30B discharge through chiller to control room air

Design Input Documents:

Piping Class/Summary Sheet: HBD/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: HBD-159-2, SK-M-1188, SK-M-1189,
SK-M-1193, SK-M-1194, SK-M-1214

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HBD-160
Service: Cooling water p/p IV-CP-30A discharge through chiller to control room air

Design Input Documents:

Piping Class/Summary Sheet: HBD/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: HBD-160-1, HBD-160-2, SK-M-1187,
SK-M-1190, SK-M-1191, SK-M-1192

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HBD-161
Service: Control room air CW to p/p IV-CP-30B

Design Input Documents:

Piping Class/Summary Sheet: HBD/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: HBD-161-1, SK-M-1188, SK-M-1189,
SK-M-1193, SK-M-1194, SK-M-1214

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HBD-162
Service: Control room air CW to p/p IV-CP-30A

Design Input Documents:

Piping Class/Summary Sheet: HBD/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: HBD-162-1, SK-M-1187, SK-M-1190,
SK-M-1191, SK-M-1192

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HBD-192
Service: HPCI lube oil piping

Design Input Documents:

Piping Class/Summary Sheet: HBD/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: Later

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HCB-2

Service: Standby liquid control pump suction

Design Input Documents:

Piping Class/Summary Sheet: HCB/M-190

Seismic Response Spectra: See FSAR

Piping Stress Isometric Drawings: SK-M-609

Hanger Detail Drawings: Later

Valve Vendor Prints: Later

Line #: HCC-6

Service: HPCI suction from condensate storage tank

Design Input Documents:

Piping Class/Summary Sheet: HCC/M-190

Seismic Response Spectra: See FSAR

Piping Stress Isometric Drawings: Later

Hanger Detail Drawings: Later

Valve Vendor Prints: Later

Line #: HCC-7

Service: RCIC suction from condensate storage tank

Design Input Documents:

Piping Class/Summary Sheet: HCC/M-190

Seismic Response Spectra: See FSAR

Piping Stress Isometric Drawings: M-704

Hanger Detail Drawings: Later

Valve Vendor Prints: Later

Line #: HCC-8

Service: Core spray pump suction from condensate storage tank

Design Input Documents:

Piping Class/Summary Sheet: HCC/M-190

Seismic Response Spectra: See FSAR

Piping Stress Isometric Drawings: M-708, M-709, HCC-8-3, HCC-8-4

Hanger Detail Drawings: Later

Valve Vendor Prints: Later

Line #: HLE-1

Service: HPCI pump suction from torus to MO-2321

Design Input Documents:

Piping Class/Summary Sheet: HLE/M-190

Seismic Response Spectra: See FSAR

Piping Stress Isometric Drawings: Later

Hanger Detail Drawings: Later

Valve Vendor Prints: Later

Line #: HLE-2

Service: RCIC pump suction from torus to MO-2516

Design Input Documents:

Piping Class/Summary Sheet: HLE/M-190

Seismic Response Spectra: See FSAR

Piping Stress Isometric Drawings: Later

Hanger Detail Drawings: Later

Valve Vendor Prints: Later

Line #: HLE-3

Service: Core spray pump IP-211B suction from torus through MO-2146

Design Input Documents:

Piping Class/Summary Sheet: HLE/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: Later

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HLE-4

Service: Core spray pump IP-211A suction from torus through MO-2147

Design Input Documents:

Piping Class/Summary Sheet: HLE/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: Later

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HLE-5

Service: RCIC turbine exhaust to torus

Design Input Documents:

Piping Class/Summary Sheet: HLE/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: M-707

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HLE-6
Service: HPCI turbine exhaust to torus

Design Input Documents:

Piping Class/Summary Sheet: HLE/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: M-703

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HLE-7
Service: RHR pump suction from torus through MO-1989

Design Input Documents:

Piping Class/Summary Sheet: HLE/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: Later

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HLE-8
Service: RHR pump suction from torus through MO-2069

Design Input Documents:

Piping Class/Summary Sheet: HLE/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: Later

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HLE-11
Service: RHR pump discharge to torus spray from MO-2006

Design Input Documents:

Piping Class/Summary Sheet: HLE/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: Later

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HLE-12
Service: RHR pump discharge to torus spray from MO-1933

Design Input Documents:

Piping Class/Summary Sheet: HLE/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: Later

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HLE-13
Service: RHR test line to torus from MO-1934 and MO-2038 and MO-2009

Design Input Documents:

Piping Class/Summary Sheet: HLE/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: Later

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HLE-14

Service: RER test line to torus from MO-2007, MO-1970, and MO-1935

Design Input Documents:

Piping Class/Summary Sheet: HLE/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: Later

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HLE-17

Service: RER pump discharge to containment coil from MO-200 through penetration

Design Input Documents:

Piping Class/Summary Sheet: HLE/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: Later

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HLE-18

Service: RER pump discharge to containment coil from MO-1902 through penetration

Design Input Documents:

Piping Class/Summary Sheet: HLE/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: Later

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HLE-19

Service: HPCI minimum flow line downstream of MO-2318

Design Input Documents:

Piping Class/Summary Sheet: HLE/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: Later

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HLE-21

Service: N₂ to drywell valves and torus

Design Input Documents:

Piping Class/Summary Sheet: HLE/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: Later

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HLE-23

Service: Containment vent purge exhaust

Design Input Documents:

Piping Class/Summary Sheet: HLE/_-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: SK-M-369

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HLE-24
Service: Torus vent purge exhaust

Design Input Documents:

Piping Class/Summary Sheet: HLE/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: Later

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HLE-25
Service: Containment purge (supply)

Design Input Documents:

Piping Class/Summary Sheet: HLE/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: SK-M-368, HLE-25-1

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HLE-26
Service: Torus purge (supply)

Design Input Documents:

Piping Class/Summary Sheet: HLE/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: SK-M-368, HLE-26-1

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HLE-27

Service: Torus Vacuum breaker line

Design Input Documents:

Piping Class/Summary Sheet: HLE/M-190

Seismic Response Spectra: See FSAR

Piping Stress Isometric Drawings: SK-M-366

Hanger Detail Drawings: Later

Valve Vendor Prints: Later

Line #: HLE-28

Service: Reactor building cooling water penetration supply

Design Input Documents:

Piping Class/Summary Sheet: HLE/M-190

Seismic Response Spectra: See FSAR

Piping Stress Isometric Drawings: Later

Hanger Detail Drawings: Later

Valve Vendor Prints: Later

Line #: HLE-29

Service: Reactor building cooling water penetration return

Design Input Documents:

Piping Class/Summary Sheet: HLE/M-190

Seismic Response Spectra: See FSAR

Piping Stress Isometric Drawings: SK-M-672, SK-M-673

Hanger Detail Drawings: Later

Valve Vendor Prints: Later

Line #: HLE-30

Service: Drywell floor drain sump pump discharge containment penetration

Design Input Documents:

Piping Class/Summary Sheet: HLE/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: SK-M-666

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HLE-31

Service: Drywell equipment drain sump pump discharge containment penetration

Design Input Documents:

Piping Class/Summary Sheet: HLE/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: SK-M-671

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HLE-32

Service: Drywell cooling water well water supply penetration

Design Input Documents:

Piping Class/Summary Sheet: HLE/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: SK-M-667

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HLE-33

Service: Drywell cooling water well water supply penetration

Design Input Documents:

Piping Class/Summary Sheet: HLE/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: SK-M-668

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HLE-34

Service: Drywell cooling water well water return penetration

Design Input Documents:

Piping Class/Summary Sheet: HLE/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: SK-M-669

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HLE-35

Service: Drywell cooling water well water return penetration

Design Input Documents:

Piping Class/Summary Sheet: HLE/M-190
Seismic Response Spectra: See FSAR
Piping Stress Isometric Drawings: SK-M-670

Hanger Detail Drawings: Later
Valve Vendor Prints: Later

Line #: HLE-36

Service: Nitrogen purge supply to containment downstream of FCI valves

Design Input Documents:

Piping Class/Summary Sheet: HLE/M-190

Seismic Response Spectra: See FSAR

Piping Stress Isometric Drawings: HLE-36-1

Hanger Detail Drawings: Later

Valve Vendor Prints: Later

Line #:

Service:

Design Input Documents:

Piping Class/Summary Sheet:

Seismic Response Spectra: See FSAR

Piping Stress Isometric Drawings:

Hanger Detail Drawings: Later

Valve Vendor Prints: Later

Line #:

Service:

Design Input Documents:

Piping Class/Summary Sheet:

Seismic Response Spectra: See FSAR

Piping Stress Isometric Drawings:

Hanger Detail Drawings: Later

Valve Vendor Prints: Later

TABLE 2

SEISMIC CATEGORY I SYSTEMS, ASSOCIATED PIPING LINE NUMBERS
AND INSPECTION GROUP

<u>SYSTEM</u>	<u>LINE #</u>	<u>INSP GROUP</u>	<u>LINE #</u>	<u>INSP GROUP</u>
Well Water	HBD-97	1		
River Water Supply	HBD-67	1		
	HBD-68	2		
Reac. Bldg. Cooling Water	HBD-64	3		
	HBD-65	3		
	HLE-28	1		
	HLE-29	1		
RHR Cooling Water	GBC-1	2		
	GBC-2	1		
	GBC-3	2		
	GBC-4	1		
	GBC-5	1		
Radwaste Sumps	HLE-30	3		
	HLE-31	3		
Diesel Oil	HBD-34	1		
Stdby. Diesel Generators	HBD-80	1		
	HBD-81	2		
	HBD-122	1		
H&V Control Building	HBD-159	1		
	HBD-160	2		
	HBD-161	1		
	HBD-162	2		
Cond. & Demin. Water	HCC-6	1		
	HCC-7	1		
	HCC-8	1		

SEISMIC CATEGORY I SYSTEMS, ASSOCIATED PIPING LINE NUMBERS
AND INSPECTION GROUP

<u>SYSTEM</u>	<u>LINE #</u>	<u>INSP GROUP</u>	<u>LINE #</u>	<u>INSP GROUP</u>	
Circ. Water	HBD-32	1			
	HBD-82	1			
Feed Water	DBA-7	3			
	DBA-8	3			
	DCA-14	3			
	DLA-1	3			
	DLA-2	3			
RHR	DBB-1	1	GBB-18	1	
	DBB-2	2	GBB-22	1	
	DLA-4	3	GBB-23	1	
	DLA-5	3	GLE-5	1	
	DLA-6	3	GLE-6	2	
	EBB-16	3	GLE-7	3	
	GBB-3	1	GLE-8	3	
	GBB-4	2	HBB-23	1	
	GBB-5	1	HBB-24	2	
	GBB-6	1	HBB-25	1	
	GBB-7	2	HBB-29	1	
	GBB-8	1	HBB-30	2	
	GBB-9	2	HLE-11	2	
	GBB-10	1	HLE-12	1	
	GBB-15	1	HLE-13	1	
	GBB-16	2	HLE-14	2	
			HLE-17	2	
			HLE-18	1	
	RCIC	EBB-1	3	HBB-14	1
		EBB-4	1	HBB-15	1
EBB-15		3	HBB-21	1	
HBB-7		1			

**SEISMIC CATEGORY I SYSTEMS, ASSOCIATED PIPING LINE NUMBERS
AND INSPECTION GROUP**

<u>SYSTEM</u>	<u>LINE #</u>	<u>INSP GROUP</u>	<u>LINE #</u>	<u>INSP GROUP</u>
Core Spray	DLA-7	3	GBB-13	1
	DLA-8	3	GBB-14	2
	EBB-17	1	HBB-1	2
	EBB-18	2	HBB-2	1
HPCI	DLA-3	3	HBB-8	1
	EBB-5	3	HBB-9	1
	EBB-6	1	HBD-192	1
	EBB-14	3	HLE-6	1
	HBB-6	1	HLE-19	1
Standby Liquid Control	HCB-2	1		
Emerg. Serv. Water	HBD-24	1	HBD-28	1
	HBD-25	2	HBD-29	2
	HBD-26	1	HBD-30	2
	HBD-27	2	HBD-31	1
CRD Hydraulic	DBA-6	3		
Primary Containment	HLE-1	1	HLE-5	1
	HLE-2	1	HLE-7	1
	HLE-3	2	HLE-8	2
	HLE-4	1		
H&V Primary Containment	HBD-94	3	HLE-32	3
	HBD-95	3	HLE-33	3
	HBD-115	3	HLE-34	3
	HBD-116	3	HLE-35	3
Reac. Water Cleanup	DCA-6	3		

**SEISMIC CATEGORY I SYSTEMS, ASSOCIATED PIPING LINE NUMBERS
AND INSPECTION GROUP**

<u>SYSTEM</u>	<u>LINE #</u>	<u>INSP GROUP</u>	<u>LINE #</u>	<u>INSP GROUP</u>
Nuclear Boiler	DBA-3	3	DCA-4	3
	DBA-4	3	DCA-5	3
	DBA-5	3	DCA-8	3
	DCA-1	3	DCA-9	3
	DCA-2	3	DCA-16	3
	DCA-3	3		
Reactor Vessel Recirc.	HBD-129	1		
Stdby. Gas Treatment	HLE-23	1		
Contnmnt. Atmos. Control	HLE-21	3		
	HLE-24	1		
	HLE-25	1		
	HLE-26	1		
	HLE-27	1		
	HLE-36	3		
Main Steam	DBA-2	3	GBC-8	3
	EBD-2	3	GBC-9	3
	GBC-6	3	GBC-10	3
	GBC-7	3	GBC-11	3

Note:

Inspection Group 1 lines include all accessible portions of non-redundant systems and accessible portions of one of two non-redundant systems. These will be inspected by September 1, 1979.

Inspection Group 2 lines include accessible portions of redundant systems not included in Group 1. These will be inspected by November 1, 1979.

Inspection Group 3 lines include all inaccessible piping. These will be inspected by November 1, 1979.