

TIC



RICHARD P. CROUSE
Vice President
Energy Supply
(419) 259-5221

Docket No. 50-346

License No. NPF-3

Serial No. 1-93

October 1, 1979

Mr. James G. Keppler
Regional Director, Region III
Office of Inspection & Enforcement
U.S. Nuclear Regulatory Commission
Glen Ellyn, Illinois 60137

Dear Mr. Keppler:

IE Bulletin No. 79-14, dated July 2, 1979, requested that we develop and implement an inspection program to verify that the Davis-Besse Nuclear Power Station Unit 1 seismic analysis input for safety related piping systems conforms to the actual field configuration. Attached is our response to Item 2 of Bulletin No. 79-14.

Our inspection of normally accessible safety related piping was completed September 21, 1979. Discrepancies found during the inspection are being reviewed in accordance with the guidance provided in Supplement Nos. 1 and 2 to IE Bulletin 79-14. Preliminary evaluations of walkdown discrepancies indicate that none adversely affect system operability. Detailed engineering reviews of the total field packages are currently 50% complete and support these preliminary evaluations. The remaining reviews are being completed and will be reported to you by a supplement to this report by October 19, 1979.

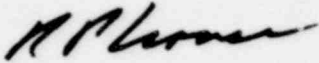
Based on completion of these engineering evaluations sustaining the present high degree of confidence in Davis-Besse's seismic analysis conforming to the as-built safety related systems, Toledo Edison will

1196 016

OCT 3 1979

delay the inspection of normally inaccessible piping systems until the currently planned spring outage scheduled to begin March, 1980. The October 19, 1979 supplement will provide schedules for any detailed analytical work to be done to support the engineering reviews per item 4B of the bulletin.

Yours very truly,



RPC:CLM

Attachment

mj e/7-8

cc:

U.S. Nuclear Regulatory Commission
Office of Inspection & Enforcement
Division of Reactor Operations Inspection
Washington, D.C. 20005

U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Operating Reactors
Washington, D.C. 20555

1196 017

Docket No. 50-346
License No. NPF-3
Serial No. 1-93
October 1, 1979

Seismic Analysis For As-Built
Safety Related Piping Systems

Response to NRC IE Bulletin No. 79-14

Davis-Besse Nuclear Power Station unit 1

I. Introduction

NRC IE Bulletin 79-14, dated July 2, 1979, Revision 1, dated July 18, 1979, Supplement 1, dated August 15, 1979, and Supplement 2, dated September 7, 1979, require all power reactor facility licensees to verify that the seismic analysis of safety-related piping systems applies to the actual as-built configuration of systems. The action items identified in the bulletin apply to all safety-related piping, 2-1/2 inches in diameter and greater, and to Seismic Category I piping, regardless of size, which was analyzed by computer.

The response to Item 1 of the bulletin was submitted on August 1, 1979 (Serial No. 1-81). This report is a response to Item 2 of the bulletin, describing the inspection procedures and findings for normally accessible piping systems, as defined by the bulletin.

II. Action Item 2

For portions of systems which are normally accessible, inspect one system in each set of redundant systems and all non-redundant systems for conformance to the seismic analysis input information set forth in design documents. Include in the inspection: piping run geometry; support and restraint design, locations, function and clearance (including floor and wall penetration); embedments (excluding those covered in IE Bulletin 79-02); pipe attachments; valve and valve operator locations and weights (excluding those covered in IE Bulletin 79-04). Within 60 days of the date of this bulletin, submit a description of the results of this inspection.

III. Response

A. Summary and Conclusions

Inspection of all normally accessible safety-related piping, including both redundant trains, was performed as described in our response to Item 1 of the bulletin. The inspection teams began the walkdown inspections at the site on July 30, 1979 and completed the effort on September 21, 1979. Preliminary evaluation of the discrepancies discovered by the inspection team have been completed and the results indicate that none of these discrepancies adversely affect system operability. Detailed engineering reviews of the field packages are currently fifty percent (50%) complete and support the preliminary evaluations.

1196 018

B. Inspection Packages

As described in the response to Action Item 1, all normally accessible safety-related piping systems were divided into sixty eight inspection packages. Where a system contained redundant trains, both trains were inspected at this time rather than delaying the inspection of one train until the Item 3 inspection effort. Included in each inspection package were the following items:

1. The current revision of the physical piping drawing and a checklist to verify the piping run geometry and the location of pipe fittings, tees, elbows, branch connections and concentrated masses, such as valves.
2. A valve drawing for each different valve on the piping drawing and a checklist to verify that the valve installed in the piping system is the valve indicated on the valve drawing and that the orientation of the valve and operator with respect to the pipe axis is as shown on the piping physical drawing.
3. A inspection checklist for each floor and wall penetration for checking the type of penetration closure (grout, rubber, etc.) against the design drawing. If the penetration was open, or filled with soft foam, the clearances were checked.
4. The pipe support detail drawing and a checklist for each pipe support and pipe anchor in the piping system was used to verify location, orientation (direction), type, proper size, and that the support installation is in accordance with the design document. Attachment of the support to the pipe was also checked. Proper installation of concrete expansion anchors has been verified under the response to NRC IE Bulletin No. 79-02 (Serial No. 1-78), and therefore, was not an inspection element in this effort.

C. Inspection Procedure

To ensure that all systems were uniformly inspected, an inspection procedure, PDP-2 entitled "Inspection Procedure for As-built Configuration of Nuclear Safety-Related Piping Components, IE Bulletin 79-14", containing guidelines, system tolerances, and component tolerances was prepared for use by the walkdown teams. The procedure outlines the steps to be followed, the piping components to be examined, the level of detail to be inspected during the walkdown inspection program and the means of inspecting each component. This procedure also includes the method for proper documentation and reporting of the discrepancies identified by the walkdown teams.

The NRC Office of Inspection and Enforcement, Region III, has audited the procedure for conformance with the bulletin and the field inspection activities were audited by Bechtel Project Quality Assurance to ensure compliance with the procedure.

D. Inspection Teams and Training

A team consisting of two qualified personnel was responsible for the inspection of all piping and supports contained in one inspection package. The average experience of the walkdown teams was fourteen years in the nuclear industry with no one person having less than three years. The field effort was directed by a Group Supervisor having sixteen years of nuclear industry experience and a Professional Engineer's License.

1196 019

Extensive in-class and in-field training was given to all the walkdown team members by qualified and experienced pipe stress and piping engineers. The items covered in the training included elements to be checked, methods of checking, documentation of the findings, etc.

The qualifications, experience level and training for each member of the walkdown team is documented and available for review.

A pipe stress analyst was located in the field for the first three weeks of the inspection to answer any questions raised by the team personnel.

E. Inspection Summary

In the accessible portions of the facility 27,000 feet of piping and approximately 3000 pipe supports were inspected. Areas of high radiation and physical inaccessibility were not inspected. High-radiation areas will be included in the inspection required by Item No. 3 of IE Bulletin No. 79-14, if radiation levels permit. The inaccessible piping totaled 600 feet, approximately 2%, of the normally accessible safety-related piping. During the inspection, 779 inspection items (pipe supports and/or penetrations) were found to be covered by insulation and, as required by Supplement 1, a program of insulation removal, inspection, and re-insulation was initiated to inspect these items. Approximately 89% (690) were inspected. This inspection did not include portions of the Main Steam piping which was at operating temperature and therefore did not allow removal of insulation. This piping will be inspected as part of Item No. 3 of the bulletin.

F. Field Review

After each inspection package was walked down in the field, it was reviewed at the site for discrepancies (i.e., missing or extra supports, missing piping, missing or wrong valves, etc.). These discrepancies were evaluated at the site by either the stress analyst or the supervisor.

All noted discrepancies have been categorized by system on a Master Punch List. Each punch list item has been identified with the data package number prefix and a sequential number. Items requiring drawing changes or field rework were noted on a Nonconformance Report (NCR).

The completed inspection package was then forwarded to the Engineer (Bechtel Power Corporation) for review by a stress analyst to determine if the as-built conditions conform to the seismic input design documents.

G. Engineering Office Review

The stress analyst reviews the Master Punch List Items and the marked-up piping drawings for the following:

1. Pipe routing
2. Pipe diameter
3. Pipe Supports - location, type, function and direction

4. Penetrations - floor and wall
5. Valve orientation

Further, the analyst confirms if the weight of the valves used in the seismic analysis agrees with the valves supplied by the vendors. Discrepancies outside the allowable tolerances that are identified by the stress analyst will be included on a separate NCR generated by the Engineer.

The pipe support and the civil engineers responsible for pipe support and anchor design will compare any deficiencies identified on the checklists for these components against the original design.

H. Evaluation

If nonconformance(s) are found in a system, an evaluation of the significance of the nonconformance is performed in two phases involving an engineering judgement (field review) within two days followed by an engineering evaluation within thirty days (office review). If the thirty day evaluation shows that a nonconformance adversely affects the system operability, applicable technical specification action statements will then apply.

The extent of any reanalysis required and schedule for the reanalysis will be provided in the supplement to this report.

I. Disposition

After the final reanalysis, disposition of the nonconformance will be by one of the following methods:

1. Changes will be made on the drawing to reflect as-built conditions.
2. Changes will be made to calculations and reference documents to reflect as-built conditions.
3. Field modifications will be made to the components so that the component reflects the as designed condition.

IV. Conclusion

Inspection of all the normally accessible Seismic Category I piping was completed on September 21, 1979. A total of sixty eight inspection packages were used in the walkdown and have been forwarded to the Engineer for evaluation. Discrepancies identified by the detailed engineering reviews completed to date are listed in Attachment 1.

The preliminary evaluations required by IE Bulletin 79-14, Supplement 1, have been completed. Results of these evaluations indicate that operability of the systems will not be affected by the noted discrepancies. Detailed engineering reviews completed to date support these evaluations.

ATTACHMENT 1

Response to NRC IE Bulletin 79-14

The discrepancies identified by the field inspection effort and the detailed engineering reviews completed to date are listed on the following twenty four sheets.

The stress calculations are grouped by system and the description of all the discrepancies identified that appear in each stress calculation are tabulated accordingly.

If, for a given stress calculation, no discrepancies are noted, reanalysis of the calculation is not required.

If the discrepancies are of small significance and affect only a pipe support or anchor, the support itself is reanalyzed. If found adequate, a drawing change may be required. This required reanalysis is indicated by a single asterisk (*).

If the discrepancies include moving of supports beyond the tolerance, a simple hand calculation to evaluate the affect on the pipe and adjacent supports is performed. This required reanalysis is indicated by two asterisks (**).

If the discrepancies include preliminary valve weights used in the analysis, different response spectra that must be considered, missing pipe supports, etc., the stress calculation will be given a complete reanalysis. This is indicated on the following sheets by three asterisks (***).

1196 022

IE BULLETIN 79-14 DESCRIPTION OF INSPECTION RESULTS

 PAGE 1 OF 24
 BY Kathy Loh DATE 9/30/79
 CHECKED Chf DATE 9/30/79
SYSTEM AUXILIARY FEEDWATER

STRESS CALCULATION NO.	WALKDOWN PACKAGE NO.	DISCREPANCIES		OK AS IS OR DMC/ CALC CHGS REQD	CORRECT TO ORIGINAL DESIGN	ANALYSIS REQUIRED	SYSTEM OPERABILITY		IF AFFECTED REFER TO REMARK NO.
		NO	YES				UNAFFECTED	AFFECTED	
1B	6		X			*** Yes	X		
				IF YES, DESCRIPTION OF DISCREPANCIES					
				EBD-14-H1 Welds not in accordance with M-190-H06F-1400-8					
				EBD-14-H7 not in accordance with M-190-H06F-1406-6					
				Evaluation					
1C	6		X			*** Yes	X		
				EBD-14-H17A Welds not in accordance with M-190-H17A-1416B-4					
				EBD-14-H19A Welds not in accordance with M-190-H06F-1418A-4					
				EBD-14-H16 Spans Areas 7 and 8					
				Evaluation					
2B	6		X			*** Yes			
				EBD-14-H35 moved 14" South					
				Envelope of areas 7 and 9 should be used in the analysis					
				Evaluation					
2C	6		X			** Yes	X		
				Extra Hanger located on 6" - HBD-137 between Anchor A8 and HBD-137-H8					
				EBD-14-H90 moved 1'-9" South					
				EBD-14-H74 moved 2'-10" East					
				Evaluation					

1196 023

SYSTEM FEEDWATER

SYSTEM FEEDWATER				OK AS IS OR DMG/ CALC CHGS REQ	CORRECT TO ORIGINAL DESIGN	ANALYSIS REQUIRED	SYSTEM OPERABILITY	
STRESS CALCULATION NO.	WALKDOWN PACKAGE NO.	DISCREPANCIES	UNAFFECTED				AFFECTED IF AFFECTED REFER TO REMARK NO.	
		NO	YES	IF YES, DESCRIPTION OF DISCREPANCIES				
42B	9		X	EBD-12-SH20 Structural Member not in accordance with C-619 EBD-12-SH21 Structural Member not in accordance with C-619 Extra Support UR-1 located between EBD-12-SR27 and EBD-12-SH13 12-SR30 moved 1'-8"S. 12-SR39 moved 12 1/2"E. 12-SR40 moved 12 1/2"E. 12-SR42 moved 1'-4 3/4"W. The weight of Valve 15-1 used in seismic analysis differs from vendor supplied weight. Evaluation				
1196 024								

IE BULLETIN 79-14 DESCRIPTION OF INSPECTION RESULTS

 PAGE 3 OF 24
 BY hugh DATE 9/30/77
 CHECKED Conf DATE 9/30/77
SYSTEM HYDROGEN DILUTION

SYSTEM <u>HYDROGEN DILUTION</u>				OK AS IS OR DNG/ CALC CHGS REQD	CORRECT TO ORIGINAL DESIGN	ANALYSIS REQUIRED	SYSTEM OPERABILITY	
STRESS CALCULATION NO.	WALKDOWN PACKAGE NO.	DISCREPANCIES					UNAFECTED	IF AFFECTED REFER TO REMARK NO.
		NO	YES	IF YES, DESCRIPTION OF DISCREPANCIES				
119B	25		x	HBC-44-H5 Additional Load Attached HCB-49-H1 Welds not in accordance with Grinnell SK. B-4900 HCB-49-H2 Welds not in accordance with Grinnell SK. B-4901 HCB-44-H-10 moved 13" South HCB-44-H-7 moved 14½" South HCB-44-H-2 moved 15" Up Support HCB-44-H10 Spans areas 7 & 9 Envelope of these 2 areas should be considered in analysis. Evaluation			*** yes	x
119D	25		x	HBC-74-H3 Welds not in accordance with Grinnell SK. 11-7402 HBC-74-H10 Welds not in accordance with Grinnell SK. 11-7409 HBC-74-H11 Welds not in accordance with Grinnell SK. 11-7410 HBC-74-H13 Welds not in accordance with Grinnell SK. 11-7412 HBC-74-H14 Welds not in accordance with Grinnell SK. 11-7413 HBC-74-H17 Welds not in accordance with Grinnell SK. 11-7416 Extra Support No. 2 located next HBC-74-H3 HBC-74-H18 moved 13" South HBC-74-H11 moved 20" South Evaluation			** yes	x
119E	5		x	HBB-16-H1 Welds not in accordance with M-190-H29-1600-3 HBB-16-H2 moved 1'-10" North Evaluation			** yes	x
119H	25		x	Extra Support No. 1 located next to HBC-73-h9 Evaluation		x	no	x
119I	25		x	Evaluation	x		no	x
119J	25		x	HBC-73-H4 Welds not in accordance with Grinnell SK. 11-7303 HBC-73-H7 Welds not in accordance with Grinnell SK. 11-7306 HBC-73-H8 Welds not in accordance with Grinnell SK. 11-7307 Evaluation			* yes	x
119K	25		x	HBC-73-H6 Welds not in accordance with Grinnell SK. 11-7305 Evaluation			* yes	x
1196 025								

1196 025

IE BULLETIN 79-14 DESCRIPTION OF INSPECTION RESULTS

PAGE 4 OF 24
 BY h. a. h. DATE 9/20/79
 CHECKED Carl DATE 9/30/79

SYSTEM QUENCH TANK DRAIN

STRESS CALCULATION NO.	WALKDOWN PACKAGE NO.	DISCREPANCIES		IF YES, DESCRIPTION OF DISCREPANCIES	OK AS IS OR D/C/ CALC CHGS REQD	CORRECT TO ORIGINAL DESIGN	ANALYSIS REQUIRED	SYSTEM OPERABILITY		
		NO	YES					U-AFFECTED	AFFECTED	IF AFFECTED REFER TO REMARK NO.
58A	48		x	Envelope of 7 and 9 should be used in seismic analysis Evaluation			*** yes	x		
58C	48		x	40 HCC-85-H5 moved 12 1/2" down Envelope of 7 and 9 should be used in seismic analysis Evaluation			*** yes	x		
58D	48		x	HSC-19-H5 Welds not in accordance with M-190-H40B-1904-2 HSC-19-H7 Welds not in accordance with M-190-H40B-1906-2 HSC-19-H8 Welds not in accordance with M-190-H40B-1907-1 HSC-19-H9 Welds not in accordance with M-190-H40B-1908-2 40 HSC 19-H2 moved 1'-8" West 40 HSC 19-H6 moved 13" West 40 HSC 19-H9 moved 14" West Evaluation			*** yes	x		

1196 026

1196 027

1196 028

1196 029

IE BULLETIN 79-14 DESCRIPTION OF INSPECTION RESULTS

 PAGE 8 OF 24
 BY hugh DATE 9/20/79
 CHECKED Cml DATE 9/20/79
SYSTEM HIGH PRESSURE INJECTION

STRESS CALCULATION NO.	WALKDOWN PACKAGE NO.	DISCREPANCIES		OK AS IS OR DWG/ CALC CHGS REQD	CORRECT TO ORIGINAL DESIGN	ANALYSIS REQUIRED	SYSTEM OPERABILITY		IF AFFECTED REFER TO REMARK NO.
		NO	YES				UNAFFECTED	AFFECTED	
53	32		X				*** Yes	X	
Anchor A055 moved up 14 1/2" CCB-19-H12 moved up 2'-1 1/2" CCB-2-H18A moved up 10 1/2" CCB-19-H9 moved 13 1/2" east CCB-19-H7 moved 2'-6 1/2" north CCB-19-H8 moved 18 1/2" north Pipe CCB-19 (H7 & H8) was 7'-8 1/2" long CCB-19-H6 moved 12 1/2" east CCB-19-H5 moved 12 7/8" east Anchor A054 in area 8. Envelope of 7 & 8 needs to be used in analysis Weight of the valves B7-1 & B7-4 used in the seismic analysis differs from vendor supplied weight. Evaluation									
54	32		X				*** Yes	X	
CCB-2-H17 Welds not in accordance with M-190-H33D-216-8 CCB-12-H1 Welds not in accordance with M-190-H33D-1200-2 CCB-19-H2 Configuration not in accordance with M-190-H33D-1901-8 CCB-19-H3 Welds not in accordance with M-190-H33D-1902-8 CCB-19-H3 moved 6 5/8" east New hanger H-2 installed 4'-11 1/2" east of CCB-19-H1 CCB-12-H1 moved 14 3/8" west Support H3 spans joint. Envelope of 7 & 8 needs to be used in analysis Evaluation									
56A	32		X				*** Yes	X	
CCB-2-H7 Structural Members not in accordance with M-190-H33D-206-5 CCB-2-H11 Welds not in accordance with M-190-H33D-210-6 Extra Hanger UH-1 located between Anchor A-46 and HCC-124-H4 Envelope of Areas 7 & 9 needs to be used in analysis CCB-2-H12 moved 12 3/4" North Evaluation									
56B1	32		X				** Yes	X	
CCB-2-H3 Welds not in accordance with M-190-H33D-202-5 Extra Hanger UH-3 located between CCB-2-H4 and CCB-2-H5 CCB-2-H4 moved 23 1/2" north Anchor A-055 moved up 14 1/2" Evaluation									
56B2	32		X				*** Yes	X	
The weight of the valve HV-HP2B used in the analysis differs from the vendor supplied weight. Envelope of Areas 7 & 9 should be used in the analysis. Evaluation									

1196 030

IE BULLETIN 79-14 DESCRIPTION OF INSPECTION RESULTS

 PAGE 9 OF 24
 BY haly DATE 9/21/79
 CHECKED Conf DATE 9/20/79
SYSTEM HIGH PRESSURE INJECTION

SYSTEM HIGH PRESSURE INJECTION					OK AS IS OR DNG/ CALC CHGS REQD	CORRECT TO ORIGINAL DESIGN	ANALYSIS REQUIRED	SYSTEM OPERABILITY		
STRESS CALCULATION NO.	WALKDOWN PACKAGE NO.	DISCREPANCIES		UNAFFECTED				AFFECTED	IF AFFECTED REFER TO REMARK NO.	
		NO	YES							
IF YES, DESCRIPTION OF DISCREPANCIES										
56C	32		X	HCC-91-H2 Welds not in accordance with M-190-H33D-9101-4 HCC-91-H3 Welds not in accordance with M-190-H33D-9102-10 Evaluation			* Yes	X		
56D	32		X	HCC-91-H9 Welds not in accordance with M-190-H33D-9108-7 HCC-91-H12 Welds not in accordance with M-190-H33D-9111-6 HCC-91-H9 moved 13 1/8" west HCC-91-H8 moved 13 1/8" west Evaluation			** Yes	X		
56E	32		X	HCC-91-H13 Configuration not in accordance with M-190-H33D-9112-4 HCC-91-H17 Welds not in accordance with Grinnell 14-9116 HCC-91-H19 Welds not in accordance with M-190-H33D-9116-6 HCC-91-H21 Welds not in accordance with M-190-H33D-9120-6 HCC-91-H23 Welds not in accordance with M-190-H33D-9122-4 3"-HCC-91 El. 580'-3"(J-3) increased length by 1'-10 3/16" Evaluation			** Yes	X		
56F	32		X	HCB-2-H36 Welds not in accordance with M-190-H33D-235-2 HCB-2-H38 Welds not in accordance with M-190-H33D-237-2 HCB-2-H39 Welds not in accordance with M-190-H33D-238-3 HCB-2-H40 Welds not in accordance with M-190-H33D-239-2 HCB-2-H41 Welds not in accordance with M-190-H33D-240-2 HCB-2-H43 Welds/Plates not in accordance with M-190-H33D-242-2 Minor modification from originally analyzed piping configuration. New Hanger installed 7" from east elbow at El. 559'-9" 4"HCC-124 Evaluation			** Yes	X		
1196 031										

1196 031

IE BULLETIN 79-16 DESCRIPTION OF INSPECTION RESULTS

PAGE 10 OF 24

BY Calvin DATE 9/30/74CHECKED Conf DATE 9/24/79SYSTEM CONTAINMENT SPRAY

STRESS CALCULATION NO.	WALKDOWN PACKAGE NO.			DISCREPANCIES	OK AS IS OR ENG/ CALC CHGS REQD	CORRECT TO ORIGINAL DESIGN	ANALYSIS REQUIRED	SYSTEM OPERABILITY		IF AFFECTED REFER TO REMARK NO.
		NO	YES					UNDEFFECTED	AFFECTED	
19A	36		X	<p>GCB-5-H3 Welds not in accordance with M-190-H34D-502-8</p> <p>GCB-5-H4 Welds not in accordance with M-190-H34D-503-7</p> <p>GCB-5-H33 moved 7" East</p> <p>Weight of valves B24-10 and B31-2 used in the analysis differ from vendor supplied weights.</p> <p>Evaluation</p>			*** Yes	X		
19B	36		X	<p>GCB-5-H7 Load-Carrying Member not in accordance with M-190-H34D-506-9</p> <p>GCB-5-H9 Welds not in accordance with M-190-H34D-508-5</p> <p>GCB-5-H35 not in accordance with M-190-H34D-534-1</p> <p>HCC-38-H3 Structural Member not in accordance with M-190-H34D-3802-5</p> <p>Extra Hanger UH-3 located between Anchor A80 and HCC-38-H5</p> <p>Weight of the valves B24-11, B31-3 and B98-1 used in analysis differ from vendor supplied weight</p> <p>Envelope of Areas 7 & 9 need be considered in analysis</p> <p>Evaluation</p>			*** Yes	X		
19C	36		X	<p>HCC-38-H7 Clearances and additional loading not in accordance with SK-14-3806</p> <p>HCC-38-H8 Welds not in accordance with SK-14-3807</p> <p>HCC-38-H9 Configuration of additional Hanger not in accordance with SK-14-3808</p> <p>HCC-38-H11 Structural Member size, shim size, and clearance not in accordance with M-190-H34D-3810-6</p> <p>HCC-38-H12 Welds not in accordance with M-190-H34D-3811-4</p> <p>HCC-38-H13 Additional loads attached to Hanger</p> <p>Anchor A-81 moved 1'-6" West</p> <p>ECC-38-E8 moved 1'-7" East</p> <p>Support HCC-38-H12 Spans Areas 7 and 9</p> <p>Envelope of Areas 7 & 9 should be used in analysis</p> <p>Evaluation</p>			*** Yes	X		

1196 032

IE BULLETIN 79-14 DESCRIPTION OF INSPECTION RESULTS

PAGE 11 OF 24
BY haly hl DATE 9/30/79
CHECKED Conf DATE 9/30/79

SYSTEM COMPONENT COOLING WATER

STRESS CALCULATION NO.	WALKDOWN PACKAGE NO.	DISCREPANCIES		OK AS IS OR DMC/ CALC CHGS REQD	CORRECT TO ORIGINAL DESIGN	ANALYSIS REQUIRED	SYSTEM OPERABILITY		IF AFFECTED REFER TO REMARK NO.
		NO	YES				UNAFFECTED	AFFECTED	
20D	43	X							
						Evaluation	X	No	X
55A	39					HBC-2-H1 Configuration not in accordance with M-190-H36A-200-9			
			X			Evaluation		** Yes	X
55B	39					HBC-2-H3 Weld's not in accordance with M-190-H36A-202-7 Support 36HBC-2-H4 moved 1'-0" east extra clamp added (not included in the analysis)			
			X			Evaluation		** Yes	X
55C	39	X							
						Evaluation	X	No	X
55D	39					HBC-27-H4 Welds not in accordance with M-190-H36A-2703-7 Valve F6-3 Welded directly to elbow			
			X			Evaluation	X	* Yes	X
61D	39 40 42					Anchor A-095 moved 2'-8 1/2" east HBC-52-H3 moved 3'-1" south Valve B41-4 is relocated beyond the problem			
			X			Evaluation		*** Yes	X
61J	41					Anchor A-398, Welds/Structural Members not in accordance with C-674 1-H14 moved 8" down 1-H17 moved 11 1/2" South 1-H18 moved 9 1/2" South			
			X			Evaluation		** Yes	X

1196 033

IE BULLETIN 79-14 DESCRIPTION OF INSPECTION RESULTS

 PAGE 12 OF 24
 BY W. J. H. H. DATE 9/20/79
 CHECKED Conf DATE 9/20/79

SYSTEM COMPONENT COOLING WATER

SYSTEM COMPONENT COOLING WATER				OK AS IS OR DWG/ CALC CHGS REQD	CORRECT TO ORIGINAL DESIGN	ANALYSIS REQUIRED	SYSTEM OPERABILITY		IF AFFECTED REFER TO REMARK NO.
STRESS CALCULATION NO.	WALKDOWN PACKAGE NO.	DISCREPANCIES	UNAFECTED				AFFECTED		
			NO	YES	IF YES, DESCRIPTION OF DISCREPANCIES				
61K	41			X	Anchor A-399 Welds/Structural Members not in accordance with C-672 HBC-1-H7 Configuration/Structural Member not in accordance with M-190-H36C-106-5 HBC-1-H20 Configuration/Structural Member not in accordance with M-190-H36C-119-4 HBC-1-H21 Configuration/Structural Member/Weld not in accordance with M-190-H36C-120-3 1-H23 moved 1'-2½" South 1-H21 moved 8½" North-West Evaluation ** Yes x				
61L	41			X	Anchor A-400 Welds/Structural Member not in accordance with C-675 HBC-1-H25 Structural Members not in accordance with M-190-H36C-124-3 HBC-1-H26 Structural Members/Welds not in accordance with M-190-H36C-125A-7 1-H25 moved 9" down 1-H26 moved 11 5/16" North-East Evaluation ** Yes x				
61T	41			X	HBC-28-H11 Welds not in accordance with M-190-H36C-2810-4 Weight of the valve B81-2 used in the analysis differs from vendor supplied weight Evaluation *** Yes X				
61V	41			X	Valve B81-1 Orientation not in accordance with M-236C Weight of the valve B81-1 used in the analysis differs from vendor supplied weight Evaluation *** Yes X				
61W	41			X	HBC-80-H1 Configuration not in accordance with M-190-H36C-8000-6 Evaluation * Yes X				
1196 034									

1196 034

IE BULLETIN 79-14 DESCRIPTION OF INSPECTION RESULTS

PAGE 13 OF 24

BY haly DATE 9/20/79CHECKED Conf DATE 9/30/79SYSTEM SERVICE WATER

STRESS CALCULATION NO.	WALKDOWN PACKAGE NO.	DISCREPANCIES		OK AS IS OR CALC CHGS REQD	CORRECT TO ORIGINAL DESIGN	ANALYSIS REQUIRED	SYSTEM OPERABILITY		IF AFFECTED REFER TO REMARK NO.
		NO	YES				UNAFFECTED	AFFECTED	
51	51		X						
<p>Extra Hanger "HA" located between HBD-96-H4 & HBD-96-H5</p> <p>Hanger HBD-96-H4 sketch calls for weld all-around, but welded at 2 of 4 sides.</p> <p>HBC-34-H41 moved 14 11/16" southwest along pipe</p> <p>Anchor A137 inaccessible</p> <p>Weight of the valves E3-14 and E3-15 used in the seismic analysis differs from vendor supplied weight.</p>						*** Yes	X		
51B	51		X						
<p>Weight of the valves PSV-3962 and</p> <p>PSV-3963 in the seismic analysis differs from vendor supplied weight.</p>						*** Yes	X		
110A	55		X						
<p>HBC-37-H27 Welds not in accordance with M-190-H41L-3726-2</p> <p>HBC-37-H34 Structural Member not in accordance with M-190-H41L-3733-4</p> <p>HBC-37-H35 Welds not in accordance with M-190-H41L-3734-2</p> <p>HBC-37-H36 Structural Member not in accordance with M-190-H41L-3735-4</p> <p>HBC-37-H37 Welds not in accordance with M-190-H41L-3736-6</p> <p>HBC-37-H40 Structural Members not in accordance with M-190-H41L-3739-4</p> <p>HBC-37-H42 Welds not in accordance with M-190-H41L-3741-3</p> <p>HBC-37-H43 Welds not in accordance with M-190-H41L-3742-4</p> <p>37-H46 moved 1'-4" N.</p> <p>37-H36 moved 1'-7" S.</p> <p>37-H45 moved 1'-4 3/4" SE.</p> <p>41 HBC-37 H39 Inaccessible</p>						** Yes	X		
63B	53		X						
<p>41-HBC-42-H2 moved 18" East</p> <p>Weights of following valves used in analysis differs from vendor supplied weight:</p> <p>F4-9, F4-10, F4-11, F6-7, F6-8, F6-9, F6-10, TV1429, TV1434</p>						*** Yes	X		

1196 035

IE BULLETIN 79-14 DESCRIPTION OF INSPECTION RESULTS

 PAGE 14 OF 24
 BY Waght DATE 5/30/78
 CHECKED Conf DATE 9/30/79
SYSTEM SUMP PUMP DISCHARGE

STRESS CALCULATION NO.	WALKDOWN PACKAGE NO.	DISCREPANCIES		OK AS IS OR INCL. CALC CHGS REQD	CORRECT TO ORIGINAL DESIGN	ANALYSIS REQUIRED	SYSTEM OPERABILITY		IF AFFECTED REFER TO REMARK NO.
		NO	YES				UNAFECTED	AFFECTED	
96A	57		X						
		IF YES, DESCRIPTION OF DISCREPANCIES							
		HSC-145-H36 Welds not in accord with M-190-H46B-14535-4							
		HSC-145-H37 Clearances not in accordance with M-190-H46B-14536-4							
		Additional loads attached							
		HSC-145-H39 Structural Members not in accordance with M-190-H46B-14538-3							
		HSC-145-H46 Welds not in accordance with M-190-H46B-14545-4							
		Evaluation				*	Yes	X	
96C			X						
		HSC-155-H10 Welds not in accordance with M-190-H46B-15509-1							
		HSC-155-H11 Welds not in accordance with M-190-H46B-15510-2							
		HSC-145-H4 moved 1'-6 7/8" north							
		HSC-155-H12 moved up 1'-2 1/4"							
		Evaluation				**	Yes	X	
96D	57		X						
		HSC-145-H16 Welds not in accordance with M-190-H46B-14515-6							
		HSC-145-H19 Welds not in accordance with M-190-H46B-14518-3							
		HSC-145-H21 Welds not in accordance with M-190-H46B-14520-1							
		Evaluation				*	Yes	X	
96E	57		X						
		HSC-155-H4 Additional loads attached							
		Extra Hanger located between HSC-155-H3 and HSC-155-H4							
		Anchor A355 has moved to horizontal pipe from vertical position (2 1/4" HSC-155). 8" from elbow toward north							
		HSC-155-H3 moved 3'-5" east							
		Anchor A-356 moved 2'-3" west							
		Evaluation				**	Yes	X	
96F	57		X						
		HSC-155-H9 Configuration not in accordance with M-190-H46B-14508-5							
		HSC-155-H16 Welds not in accordance with M-190-H46B-15515-2							
		Anchor A356 moved 2'-3" west							
		Pipe routing changed-elbows added-used to be 28'-5" @ El. 561'-3" now 23'-6" @ El. 561'-3" & 5'-0" @ 559'-3"							
		HSC-155-H18 moved 1'-6" west							
		HSC-155-H9 previously only hanger support-now rigid x support added							
		Anchor A357 moved up 3'-7 1/4"							
		Evaluation				**	Yes	X	

1196 036

IE BULLETIN 79-14 DESCRIPTION OF INSPECTION RESULTS

PAGE 15 OF 24
BY Wright DATE 9/20/79
CHECKED Conf DATE 9/24/79SYSTEM AUXILIARY STEAM

SYSTEM <u>AUXILIARY STEAM</u>				OK AS IS OR DWG/ CALC CHGS REQD	CORRECT TO ORIGINAL DESIGN	ANALYSIS REQUIRED	SYSTEM OPERABILITY		IF AFFECTED REFER TO REMARK NO.		
STRESS CALCULATIONS NO.	WALKDOWN PACKAGE NO.	NO	YES				UNAFFECTED	AFFECTED			
DISCREPANCIES											
IF YES, DESCRIPTION OF DISCREPANCIES											
68C	21		X	GBD-12-H4 Welds not in accordance with M-190-H20B-1203-3 Restraint 20 GBD-12 H6 moved 2'-11" down Restraint 20 GBD-12 H3 moved 1'-11" north Evaluation				** Yes	X		
77A	22		X	Extra Hanger located next to HBD-37-H77 HBD-44-H2 Configuration not in accordance with Grinnell SK 12-4401 HBD-44-H4 Welds not in accordance with M-190-H20D-4403-2 HBD-44-H11 Structural Member not in accordance with M-190-H20D-4410-3 Anchor A-238 moved 2'-0" east Evaluation				** Yes	X		
77B	22		X	HBD-44-H8 Configuration not in accordance with M-190-H20D-4407-3 HBD-44-H9 additional load attached Evaluation				* Yes	X		
77C	22	X		Evaluation				X	No	X	
77E	22		X	HBD-86-H3 Additional Load attached Support 20 HBD86-H4 moved 1'-4" east Evaluation				** Yes	X		
77F	22		X	The weight of the valve HV-2073 used in the analysis differs from the vendor supplied weight Evaluation				*** Yes	X		
77G	22	X		Evaluation				X	No	X	
1196 037											

1196 037

IE BULLETIN 79-14 DESCRIPTION OF INSPECTION RESULTS

PAGE 16 OF 24
 BY Haydel DATE 9/30/79
 CHECKED Conf DATE 9/30/79

SYSTEM AUXILIARY STEAM

STRESS CALCULATION NO.	WALKDOWN PACKAGE NO.			DISCREPANCIES		OK AS IS OR CALC CHGS F	CORRECT TO ORIGINAL D	ANALYSIS REQUIRED	SYSTEM OPERABILITY	
		NO	YES	IF YES, DESCRIPTION OF DISCREPANCIES					UNAFFECTED	AFFECTED
77H	22			Restraint: 3D-86-H17 moved 1'-7 5/8" down				** Yes	X	
				Evaluation						
				1196 038						

1196 038

1196 039

SYSTEM VENT HEADER

1196 040

IE BULLETIN 79-14 DESCRIPTION OF INSPECTION RESULTS

SYSTEM FIRE PROTECTION SYSTEM

STRESS CALCULATION NO.	WALKDOWN PACKAGE NO.			DISCREPANCIES	OK AS IS OR DUC/ CALC CHGS REQD	CORRECT TO ORIGINAL DESIGN	ANALYSIS REQUIRED	SYSTEM OPERABILITY	
		NO	YES	IF YES, DESCRIPTION OF DISCREPANCIES				UNAFFECTED	IF AFFECTED REFER TO REMARK NO.
118A	20		X	Valve FP-1 Orientation not in accordance with M-216F, rotated 30° East Extra Support KBE-3-H2 is installed Extra Support KBE-16-H14 is installed Extra Support KBE-16-H15 is installed The weight of the valve FP-47 used in the analysis differs from the vendor supplied weight <div style="text-align: right;">Evaluation</div>			*** Yes	X	

1196 041

IE BULLETIN 79-14 DESCRIPTION OF INSPECTION RESULTS

PAGE 20 OF 24
 BY haly hl DATE 9/30/79
 CHECKED Conf DATE 9/30/79

SYSTEM SCREEN WASH AND CHLORINATION

STRESS CALCULATION NO.	WALKDOWN PACKAGE NO.	DISCREPANCIES		IF YES, DESCRIPTION OF DISCREPANCIES	OK AS IS OR DWG/ CALC CHGS REQD	CORRECT TO ORIGINAL DESIGN	ANALYSIS REQUIRED	SYSTEM OPERABILITY		IF AFFECTED REFER TO REMARK NO.
		NO	YES					UNAFECTED	AFFECTED	
103A	14			Anchor A148 moved 1'-1½" East			No	X		
				Evaluation	X		No	X		

1196 042

SYSTEM MAKEUP WATER TREATMENT

1196 043

IE BULLETIN 79-14 DESCRIPTION OF INSPECTION RESULTS

 PAGE 22 OF 24
 BY Wally L. L. DATE 9/30/77
 CHECKED Conf DATE 9/30/79
SYSTEM MAKEUP WATER TREATMENT

SYSTEM MAKEUP WATER TREATMENT				OK AS IS OR ENG/ CALC CHGS REQD	CORRECT TO ORIGINAL DESIGN	ANALYSIS REQUIRED	SYSTEM OPERABILITY		
STRESS CALCULATION NO.	WALKDOWN PACKAGE NO.	DISCREPANCIES					UNAFFECTED	AFFECTED	IF AFFECTED REFER TO REMARK NO.
		NO	YES						
102D	12		X	HCC-50-H1 Welds not in accordance with M-190-H10E-5000-3 HCC-50-H2 Welds not in accordance with Grinnell SK 14-5001 HCC-50-H3 Configuration not in accordance with M-190-H10E-5002-4 HCC-50-H4 Welds not in accordance with M-190-H10E-5003-3 Supports located in areas 7 & 8 should be analyzed for displacement Evaluation			*** Yes	X	
102E	10			HCC-50-H44 Welds not in accordance with M-190-H10C-5043-3 HCC-50-H10 Welds not in accordance with M-190-H10C-5009-3 HCC-50-H11 Welds not in accordance with M-190-H10C-5010-3 HCC-50-H12 Welds not in accordance with M-190-H10C-5011-5 HCC-50-H13 Welds not in accordance with M-190-H10C-5012-4 HCC-50-H15 Configuration/Structural Member not in accordance with M-190-H10C-5014-4 HCC-50-H17 Welds not in accordance with M-190-H10C-5016-5 HCC-50-H18 Welds not in accordance with M-190-H10C-5017-4 HCC-50-H19 Welds and clearances not in accordance with M-190-H10C-5018-4 HCC-50-H23 Welds not in accordance with M-190-H10C-5022-5 HCC-50-H25 Welds not in accordance with M-190-H10C-5024-5 HCC-50-H27 Welds not in accordance with M-190-H10C-5026-5 HCC-50-H28 Welds and attachment not in accordance with M-190-H10C-5027-5 HCC-50-H32 Welds not in accordance with M-190-H10C-5029-4 HCC-50-H33 - Not installed HCC-50-H34 Welds not in accordance with M-190-H10C-5033-4 HCC-50-H35 Welds not in accordance with M-190-H10C-5034-5 HCC-50-H36 Welds not in accordance with M-190-H10C-5035-4 HCC-50-H37 Welds not in accordance with M-190-H10C-5036-7 HCC-50-H39 Welds not in accordance with M-190-H10C-5038-5 HCC-50-H40 Structural Members not in accordance with M-190-H10C-5039-5 HCC-50-H42 Welds not in accordance with M-190-H10C-5041-6 HCC-50-H43 Welds not in accordance with M-190-H10C-5042-5 Extra Hanger UH-1 located next to HCC-50-H9 Extra Hanger UH-2 located between HCC-50-H10 and HCC-50-H11 Extra Hanger UH-3 located between HCC-50-H11 and HCC-50-H12 Extra Hanger UH-4 located next to HCC-50-H19 Extra Hanger UH-5 located next to HCC-50-H20 Extra Hanger UH-6 located next to HCC-50-H31					

1196 044

1196 044

IE BULLETIN 79-14 DESCRIPTION OF INSPECTION RESULTS

PAGE 23 OF 24
 BY haghe DATE 9/30/77
 CHECKED Conf DATE 9/30/79

SYSTEM MAKEUP WATER TREATMENT

STRESS CALCULATION NO.	MAKEUP PACKAGE NO.	DISCREPANCIES		GR. AS IS OR DUC/ CALC CHGS REQD	CORRECT TO ORIGINAL DESIGN	ANALYSIS REQUIRED	SYSTEM OPERABILITY		IF AFFECTED REFER TO REMARK NO.
		NO	YES				UNAFFECTED	AFFECTED	
102E Cont.	10		X						
Extra Hanger UH-7 located between HCC-50-H43 and HCC-50-H44 Extra Hanger UH-8 located between HCC-50-H47 and Anchor A-84 HCC-50-H9 moved 1'-6 5/8" West HCC-50-H10 moved 1'-8 3/8" West HCC-50-H13 moved 2'-9" South HCC-50-H18 moved 1'-7 3/4" up HCC-50-H21 moved 1'-7 7/8" East HCC-50-H30 moved 13" East HCC-50-H33 is missing HCC-50-H42 moved 12 7/8" North HCC-50-H43 moved 14 1/8" South HCC-50-H44 moved 12 1/2" North HCC-50-H45 moved 2'-2 1/2" North HCC-50-H46 moved 2'-2 1/8" West Support HCC-50-M 1 Spans Seismic Joint									
Evaluation						*** Yes	X		
102F	10	X							
Evaluation				X		No	X		
102G	11		X						
Anchor A423 Configuration/Structural Members not in accordance with C-831 Anchor A424 Structural Members not in accordance with C-837 HCC-51-H102 Welds not in accordance with M-190-H10D-A5101-2 HCC-51-H103 Welds not in accordance with M-190-H10D-A5102-2 HCC-51-H104 Welds not in accordance with M-190-H10D-A5103-3 10B HCC-51-H103 moved 1'-2 1/8" to West Anchor A424 moved 2'-3 1/2" to North-West									
Evaluation						** Yes	X		
102H	11		X						
HCC-69-H104 Welds not in accordance with M-190-H10D-A6903-2 HCC-69-H105 Welds not in accordance with M-190-H10D-A6904-3 Extra Hanger UH-1 located next to HCC-69-H101 10B-HCC-69-H102 moved 1'-1" to West 10B-HCC-69-H104 moved 1'-0 3/4" to South Anchor A-426 moved 1'-4 5/8" to North-West									
Evaluation						** Yes	X		
102I	12		X						
Anchor A427 Structural Members not in accordance with C-657 HCC-40-H103 Configuration not in accordance with M-190-H10E-A4002-1 Anchor A-428 moved 1'-6 1/2" North-West									
Evaluation						** Yes	X		

1196 045

IE BULLETIN 79-14 DESCRIPTION OF INSPECTION RESULTS

PAGE 24 OF 24
 BY W. J. H. DATE 9/30/74
 CHECKED Cmf DATE 9/30/74

SYSTEM MAKEUP WATER TREATMENT

STRESS CALCULATION NO.	WALKDOWN PACKAGE NO.	DISCREPANCIES		OK AS IS OR DMG/ CALC CHGS REQD	CORRECT TO ORIGINAL DESIGN	ANALYSIS REQUIRED	SYSTEM OPERABILITY		IF AFFECTED REFER TO REMARK NO.
		NO	YES				UNAFECTED	AFFECTED	
102J	13		X						
Anchor A430 Structural Member not in accordance with C-837 Extra Support No. 1 located between HCC-53-H101 and Anchor A429 10B-HCC-53-H104 moved 1'-4" down Anchor A430 moved 1'-11" North-West Evaluation									
102K	13		X						
10B HCC-53-H-111 moved 1'-11" to West 10B HCC-53-H-112 moved 1'-1" to East 10B HCC-53-H-116 moved 1'-8 1/8" to East 10B HCC-53-H-126 moved 2'-2 9/16" North-East HCC-53-H115 Spans Seismic Joint Envelope of Areas 7, 8, & 9 need be considered Evaluation									

1196 046