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TOLEDO EDISON

LOWELL E. ROE
Vice President
Facilities Development
(419) 249-5242

Director of Nuclear Reactor Regulation
Attention: Mr. Victor Stello, Jr., Director
Division of Operating Reactors
United States Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Mr. Stello:

This letter is in response to your letter of May 25, 1979 related to the feedwater lines at Davis-Besse Nuclear Power Station, Unit 1 (DB-1). The requested items related to design information as well as the two asterisked items under fabrication history are attached. Discussions have taken place with representatives of Region III of the Office of Inspection and Enforcement as to the comparison of the D.C. Cook type design and the DB-1 arrangement. Although the vendor designs are quite different, Toledo Edison is performing a minimum number of spot non-destructive examinations in one auxiliary feedwater train to document a sampling of results.

Yours very truly,

Lowell E. Roe /ECN

LER:TJM

cc:
J. G. Keppler, Regional Director
Region III
Office of Inspection and Enforcement
U. S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Attachment

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TOLEDO EDISON COMPANY
DAVIS-BESSE UNIT NO. 1

INFORMATION REQUESTED ON PWR FEEDWATER LINES

DESIGN

Question 1. Provide as-built piping or isometric drawings of the feedwater line to steam generator sparger within containment. Show details of the design such as dimensions, pipe schedule, support type and locations, pipe restraints, and valve (s).

RESPONSE: Attachment 1 is a copy of Feedwater Piping Isometric, Bechtel Drawing 7749-M-207C, Rev. 11, marked up to show piping dimensions, pipe support locations and type of support. Attachments 2, 3 and 4 are Babcock and Wilcox design drawings of Feedwater ring header, showing piping dimensions, pipe support locations and type of support. Attachment 5 contains a listing of all pipe supports, including pipe support number, type, stress data point and relevant pipe support drawing number. Attachments 6 and 7 are copies of the support design drawings. Pipe Schedule is shown on Attachments 12 and 13.

Question 2. Provide the results of any stress or fatigue analyses which was performed for this system.

RESPONSE: Attachment 8, sheet 1 of 2, contains a listing of the pipe stresses due to the effects of weight, thermal, seismic, and differential movement of supports due to an earthquake for piping from isolation valve to the ring header nozzle. The total primary and secondary stresses and the allowable for each category are listed.

The stresses at the problem terminal points and the highest stressed intermediate points are provided in the list. The data points on the lists are shown on the Stress Isometrics, Attachments 9, 10 and 11.

A summary of results of the stress and fatigue analyses performed on the two OTSG main feedwater system components supplied by Babcock & Wilcox are shown in Attachment 8, sheet 2 of 2. These results were summarized from the Toledo Edison Co. OTSG Stress Report for Davis-Besse #1. The analyses consider a maximum or worst case set of conditions and are applicable for both generators.

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FABRICATION HISTORY

Question 1. Supply a list of the materials for the steam generator sparger, steam generator feedwater nozzles and feedwater piping within containment.

RESPONSE: Attachment 12 is a listing of Grinnell pipe spools from the containment isolation valve to the nozzle connection of the steam generator ring header. Attachment 13 is a list of B&W items/assemblies of the steam generator ring header and feedwater connections. These attachments list the material specification for the feedwater piping.

Question 2. Provide the details of the welding process (es) used to make the nozzle-to-pipe, pipe to sparger and piping welds. Include details of welding such as preheat, joint configuration (include with or without backing ring), and post weld treatment, if any.

RESPONSE: Attachments 12 and 13 also lists the welding processes, including preheat and post weld heat treatment. The "type of weld prep" column references the detail and drawing number for every shop and field weld for the piping.

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List of Attachments

PWR Feedwater Line Cracking Problem

1. M-207C, Rev. 11
2. B&W Dwg. No. 151918E (7749-M-506-37-2)
3. B&W Dwg. No. 151922E (7749-M-506-18-3)
4. B&W Dwg. No. 151923E (7749-M-506-19-3)
5. List of Pipe Supports
6. Bechtel Dwg. No. 7749-C-612
7. Bechtel Dwg. No. 7749-C-613
8. List of Pipe Stresses
9. Stress Isometric for Problems 42A and 42C
10. Stress Isometric for Problem 42B
11. Stress Isometric for Problem 42D
12. List of Grinnell Spools
13. List of B&W items/assemblies

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