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E. H. CREWS, JR.
VICE-PRESIDENT AND GROUP EXECUTIVE
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October 30, 1979

Mr. James P. O'Reilly, Director
U. S. Nuclear Regulatory Commission
Region II, Suite 1217
230 Peachtree Street, N. W.
Atlanta, GA 30303

Subject: Virgil C. Summer Nuclear Station, Unit 1
Inspection and Enforcement Bulletin 79-14
Revision 1, Supplement 2 - Docket No. 50-395
Nuclear Engineering File: 2.8950

Dear Mr. O'Reilly:

NRC I & E Bulletin 79-14, Revision 1 and Supplement 2, regarding Seismic Analysis for As-Built Safety-Related Piping Systems required action by South Carolina Electric & Gas Company within 120 days. This letter provides information in response to this bulletin as it applies to the Virgil C. Summer Nuclear Station, Unit 1.

I. The following is a list of Piping system design specifications which provides the sources of input information for the piping seismic analyses. These specifications include information required to perform piping analytical activities such as:

a. pipe sizes/weights
b. valve weights/center of gravity
c. load combinations
d. allowable stresses
e. interface requirements
f. seismic response spectra (reference specification)

SPEC. #		TITLE	ASME CODE
544AA	Rev. 1	Chemical & Volume Control System	Classes 2 & 3
544AB		Chemical & Volume Control System	Classes 2 & 3
544DA		Residual Heat Removal System Piping	Class 2
544FA		Safety Injection System High Head Subsystem	Classes 2 & 3

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SPEC. #	TITLE	ASME CODE
544EB	Safety Injection System Accumulator System	Class 2
544BC	Safety Injection System Low Head Subsystem	Class 2
544D	Main Steam (Nuclear) Steam Piping	Classes 2 & 3
544C Rev. 1	Emergency Feedwater System Piping	Classes 2 & 3
544D Rev. 1	Feedwater System Piping	Class 2
544E	Steam Generator Blowdown (Nuclear) System Piping	Class 2
544H Rev. 2	Service Water System Piping	Classes 2 & 3
544I	Component Cooling Water System Piping	Classes 2 & 3
544J Rev. 1	Reactor Building Spray System	Classes 2 & 3
544K	Spent Fuel Cooling System Piping	Classes 2 & 3
W Rev. 4 E-Sp. G-677458	General Piping Design Specification, ANS Safety Class 1	Class 1

II. Using design drawings as a basis for fabrication, isometric drawings are generated by our piping contractor and our piping fabricator for their respective scopes of responsibility. These isometrics are used for fabrication and erection. Through Work Procedures (WP), Quality Control Procedures (QCP) and specifications, these isometrics are verified to show the actual pipe geometry, shop and field welds, and hanger and valve locations.

Procedures are used to maintain control over work and to document all changes affecting the dimensions, locations, and installation of the piping, hangers, supports, valves and attachments.

Procedures and specifications applicable to the fabrication and installation of safety grade piping systems are as follows:

	TITLE
QCP-VII-02	Fabrication and Installation Packet Inspection
WP-VII-02	Preparation and Processing of fabrication and Installation Packets
QCP-VII-03	Inspection of Piping Subassemblies
WP-VII-03	Fabrication of Piping Subassemblies
QCP-VII-07	Inspection of Fabrication and Installation of Hangers and Supports
WP-VII-07	Fabrication and Installation of Hangers and Supports
QCP-VII-09	Pipe Installation Inspection
WP-VII-09	Installation of Piping
GAI Spec. 220	Erection of Nuclear Piping
GAI Spec. 544	Fabrication of Nuclear Piping
GAI Spec. 545	Pipe Line Specification for Nuclear Safety Class Piping

At the completion of the installation of a system, the document packet will contain all the isometric drawings corrected to as-built conditions, plus all the other required documentation.

III. The piping designer using his analysis isometrics for Class 2 and 3 pipe and the information received through approved Field Change Requests and Non-Conformance Notices, will reconcile any changes to the as-built drawings. Representatives of the piping designer will then visit the site. During the visit, their scope of work will be to conduct an inspection walkdown of the completed system.

Class 1 piping systems are analyzed by Westinghouse Electric Corporation. The as-built isometric drawings will be provided to them for re-analysis or reconciliation. Walkdowns will be performed in the same manner as Class 2 and 3 systems.

We are including a list of the 15 inspection checkpoints used. (See Attachment 1.)

These inspection checkpoints will be implemented in the physical walkdown of the piping system.

a. Pipe geometry (isometrics)

b. Supports, hangers, etc.: function, location and clearance

c. Attachments

d. Valve and valve operators: locations and weights. Valve plus valve operator weights have been obtained from vendors' drawings and included in the Design Specifications. All valves are presently welded into the systems, so their actual weight is now impossible to obtain. We are contacting valve vendors and requesting verification of weights indicated on their certified drawings.

e. Embedments: please refer to our answer to IEB 79-02 dated July 5, 1979, and the additional response dated August 17, 1979.

The discrepancy list generated during walkdown, if any, will be dispositioned in the most expeditious manner and reconciled to the approved as-built isometric drawings.

There will be a final system walkdown and reconcilation of information after the first reanalysis is performed.

The areas of inspection will be the same as the original walkdown. At this time, there are practically no in-accessable systems.

Should you have any further questions concerning this matter, please contact us.

Very truly yours,

E. H. Crews, Jr.

AGA:rm

CC: Office of Inspection and Enforcement
Washington, DC

GAI SYSTEMS WALKDOWN INSPECTION CHECKLIST

This walkdown checklist is to be applied to the above noted system. If a discrepancy is found in any of these areas, the number pertaining to it on the list below should be put in the notes/remarks column, along with a brief description, if necessary. This list is not intended to cover all support discrepancies, but rather those areas which must be checked.

1. Is support type and function correct?
2. Is support location-orientation correct?
3. Is the support welded per design (size, location) relationship to fittings and valves?
4. Are pipe support gaps acceptable?
5. Are there any damaged (bent, misaligned, etc.) parts?
6. Is there excessive corrosion?
7. Do deadload supports seem "LOADED"?
8. Will pipe movements be unrestricted?
9. Was erection tolerance violated (S.A. on C , Hilti's, etc.)?
10. Are locking devices - nuts/bolts - present?
11. Are TV'L stops in spring hangers?
12. Are temporary supports remaining?
13. Center to center distances of Hilti Bolts on same plate and to adjacent supports (any kind) less than 10 diameter?
14. Does analysis ISO reflect as-built condition of pipe as shown on packet ISO's?
15. Orientation and location of valves and valve operators.

VERIFIER DATE VERIFIER DATE