



ILLUMINATING BLDG • PUBLIC SQUARE • CLEVELAND, OHIO 44101 • TELEPHONE (216) 623-1350 • MAIL ADDRESS: P. O. BOX 5000

Dalwyn R. Davidson

VICE PRESIDENT  
SYSTEM ENGINEERING AND CONSTRUCTION

the Nation

October 26, 1979

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

Re: Perry Nuclear Power Plant  
Docket Nos. 50-440; 50-441  
IE Bulletin No. 79-14  
IE Bulletin No. 79-14, Rev. 1,  
Supplements 1 and 2.

Dear Mr. Keppler:

The attached has been provided as a response to the referenced items above. Inasmuch as no safety-class piping systems designed to Seismic Category I requirements have been completely installed at our facility, our response deals only with present BOP and NSSS activities being conducted during installation and future activities pertaining to our piping system.

If you require further information, please let me know.

Very truly yours,

Dalwyn R. Davidson  
Vice President  
System Engineering and Construction

Enclosure

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

NOV 13 1979

1468 549

7912040223

## I. BALANCE OF PLANT PIPING SYSTEMS

At this time, no safety-class piping systems designed to Seismic Category I requirements are completely installed. Therefore, this response only addresses present activities being conducted during installation and future plans to be implemented after piping systems are completed. Each Bulletin item is listed below and followed by a response. Some items have been subdivided to respond more directly to specific aspects.

### Item #1

- A. "Identify inspection elements to be used in verifying that the seismic analysis input information conforms to the actual configuration of safety-related systems."

Response: The Engineer, Gilbert Associates, (GAI), provides designs and approves all installation drawings used by the Contractor. The Contractor's Quality Control organization is responsible for ensuring that the piping and supports have been installed in accordance with the installation drawings and subject to the tolerances indicated by the Engineer in the installation specification and design drawings. Deviations must be reported to the Engineer through Engineering Change Notices (ECN), Field Variance Authorizations (FVA) and Non-conformance Reports (NR) which are all approved by the Engineer. The Contractor's QC is subject to audit by CEI's Quality Control organization. As a final review, the Engineer or other organization authorized by CEI will perform a walkdown of the piping systems to determine proper support and restraint location and that overall configuration meets the design intent.

- B. "For each safety-related system, submit a list of design documents, including title, identification numbers, revision, and date, which were sources of input information for the seismic analysis. Also, submit a description of the seismic analysis input information which is contained in each document".

Response:

#### DOCUMENT

#### SEISMIC ANALYSIS INPUT

##### 1. Design Specification

Pressures, temperatures, operating modes, equipment allowables, input loads, load combinations, applicable codes, etc. (Master Document for Piping & Support Analysis)

DOCUMENT

SEISMIC ANALYSIS INPUT

- |  |  |
|--|--|
| 2. Physical Piping Drawings (304 Series) | Pipe Routing, fittings, valves, etc.   |
| 3. Piping Isometrics                     | (Derived from Physical Piping Drawings) Pipe routings, fittings, in a format for use with computer analysis. |
| 4. Response Spectra & Building Movements | Earthquake and New Loads Adequacy Evaluation (NLAE) Load Input   |
| 5. Pipe Support Drawings                 | Pipe support types, locations and orientations   |
| 6. Manufacturer's Valve Drawings         | Valve weights, center of gravities lengths   |
| 7. Pipe & Support Specification          | Pipe & fitting sizes material  |

The above documents are titled, numbered, dated and do have revision numbers.

When the Final Design Verification of a piping system is about to be initiated all the specific documents used in the seismic analysis will be identified and cross referenced with revisions and dates included.

- C. "Identify systems or portions of systems which are planned to be inspected during each sequential inspection identified in items 2 and 3. Submit all of this information within 30 days of the date of this bulletin.

Response: This is considered applicable only to plants with operating licenses.

Items #2 and #3

- #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: pipe run geometry; support and restraint design, locations, function and clearance (including floor and wall penetration); embedments (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. Where nonconformances are found which affect operability of any system, the licensee will expedite completion of the inspection described in item 3."

- #3. "In accordance with item 2, inspect all other normally accessible safety related systems and all normally inaccessible safety related systems. Within 120 days of the date of this bulletin, submit a description of the results of this inspection."

Response: The installed systems will be inspected as stated in the response to Part "A" of item #1. This includes inspection for pipe run geometry; support restraint design, locations, function and clearance; embedments; pipe attachments; valve and valve operator locations. Valve and valve operator weights will be checked in the Design Verification performed by the Engineer.

Item #4

"If nonconformances are identified:"

- A. Evaluate the effect of the nonconformance upon system operability under specified earthquake loadings and comply with applicable action statements in your technical specifications including prompt reporting."

Response: This is considered applicable only to plants with operating licenses.

- B. "Submit an evaluation of identified nonconformances on the validity of piping and support analysis as described in the Final Safety Analysis Report (FSAR) or other NRC approved documents. Where you determine that reanalysis is necessary, submit your schedule for: (i) completing the reanalysis, (ii) comparisons of the results to FSAR or other NRC approved acceptance criteria and (iii) submitting descriptions of the results of reanalysis."

Response: Engineer evaluation of ECN, FVA, NR and any required reanalysis will be complete prior to Functional Testing. These evaluations will consider the FSAR and other NRC approved acceptance criteria commitments. The remainder of this item is considered not applicable to Perry at this time.

- C. "In lieu of B, submit a schedule for correcting nonconforming systems so that they conform to the design documents. Also a description of the work required to establish conformance."

Response: Only NR's dispositioned for repair or rework apply to this item. A work description is indicated on the NR in such cases.

D1. "Revise documents to reflect the as-built condition in the plant..."

Response: As-builts, as reported through ECN's, FVA's, and NR's are incorporated into the Design Documents when the changes affect future design work.

D2. "... and describe measures which are in effect which provide assurance that future modifications of piping systems, including these supports, will be reflected in a timely manner in design documents and the seismic analysis".

Response: CEI will have procedures which require that changes to safety related systems are brought to the attention of the Piping Analyst. His responsibilities will be to review the changes for effects to existing analysis (including seismic). If analysis are considered compromised, they will be re-performed.

## II. NSSS PIPING SYSTEMS

The Perry NSSS piping (Main Steam and Recirc) is supplied by General Electric. None of the NSSS piping or supports have been installed to date. Also the seismic analysis of these piping systems is not yet complete. Therefore the conformance of the as-installed piping with the seismic analysis input information cannot be evaluated at this time. The following responses to IE Bulletin 79-14 Items 1 thru 4 describe the evaluation program that will be implemented on Perry NSSS piping systems installation:

Response 1: As portions of the piping systems installation are completed, they are inspected by the Contractors' QC, to verify that the piping and supports have been installed in accordance with the approved construction drawings and procedures. Any deviations must be reported to the Project Organization through the Non-Conformance form.

Response 2  
and 3: We intend to perform the inspection and seismic evaluation of the as-installed configuration of the Perry NSSS piping systems prior to the hydrostatic and pre-operational testing of these systems. This evaluation, or reconciliation, will be done in accordance with Sec. III of the ASME Code, and will formally be documented in General Electric's final Design Report. General Electric has assured us that their final Design Report will incorporate the results of the evaluations requested in Items 2 and 3 of the Bulletin. Therefore, unless instructed otherwise, we do not intend to provide additional separate documentation addressing items 2 and 3 of the Bulletin.

Response 4: Any non-conformances that involve a deviation from NSSS construction drawings are evaluated by General Electric and are either reworked to original tolerances or are recorded on a Field Deviation Disposition Request (FDDR) and submitted to General Electric for approval. All resulting design changes are then originated on General Electric's Engineering Change Notices (ECN) and Field Disposition Instructions (FDI). General Electric's Purchase Part Drawings, FDDR's, FDI's and ECN's thus form a complete record of the as-built figuration, which will be reconciled in General Electric's Final Design Report.

1468 554