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Director of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Attention: Mr. D.B. Vassallo, Chief  
Light Water Reactor Projects Branch 1-1

Gentlemen:

APPLICATION OF ANSI B31.7  
NO. 1 AND 2 UNITS  
SALEM NUCLEAR GENERATING STATION  
DOCKET NOS. 50-272 AND 50-311

In response to your telephone request, Public Service Electric and Gas Company hereby transmits the following information regarding conformance to ANSI B31.7, code for Nuclear Power Piping, for fabrication and inspection of piping "wherever possible," as indicated in Amendment 33 to the Salem FSAR.

ANSI B31.7 was an interim document which did not have a history of field application. It contained many requirements that were, at best, impractical to follow, especially in the area of radiography. In order to overcome these areas, code cases to ANSI B31.7 were prepared and accepted, and an addendum was issued. Subsequently, ANSI B31.7 was made a part of Section III of the 1971 edition of the ASME Boiler and Pressure Vessel Code.

Therefore, using ANSI B31.7 in its original form would also require using the later documents, especially ASME III - 1971, for guidance in dealing with problems created by the original document.

Specific examples of field problems created as a result of using ANSI B31.7 in its original form are indicated below.

1. Radiographic requirements were related to pressure vessel fabrication, and were not suitable for application to piping; e.g.,
  - a.) Inability to obtain reliable results and proper sensitivity when radiographing small (under 4-in) diameter piping, in accordance with Table B-1-110, using isotopes. This was recognized and partially corrected by ANSI B31.7 Code Case 72.

- b.) In the examination of 4-in. to 10-in. diameter piping, it is not feasible to adhere to Table B-1-120, with regard to the placement of film and penetrameters. This situation was corrected by ASME III - 1971, which contains Table IX-3325-2 and requirements directly applicable to radiography of pipe and tubing.

Therefore, radiographic procedures utilized at Salem meet the requirements of ASME III - 1971 and, in some areas, are more stringent.

2. ANSI B31.7 permitted no undercutting in pipe welds. This requirement is unreasonable and other widely used codes recognize that a limited amount of undercutting in a welded structure is tolerable. ANSI B31.7 Code Case 83 was prepared to permit undercutting up to 1/32-in, as does ASME III - 1971.
3. The NDE requirements of ANSI B31.7 required random radiography of Class III pipe joints over 4-in. in diameter. This presents a problem with certain types of piping, particularly piping which is internally-lined. The 1970 addendum to ANSI B31.7 permitted an alternate means of examining Class III pipe welds, as does ASME III - 1971.

PSE&G has conformed with the intent of Amendment 33 to the Salem FSAR by adhering to ANSI B31.7 "wherever possible." In those areas where adherence has not been possible, we have been guided by the requirements of the later code, which represents a more enlightened approach to nuclear construction.

In view of the above, the Salem FSAR will be amended to read: "where not possible to comply with ANSI B31.7, the requirements of ASME III - 1971, which incorporated ANSI B31.7, were adhered to."

Very truly yours,



R.L. Mittl  
General Manager - Projects  
Engineering and Construction  
Department