OCT 14 1958

Mr. L. W. Fromm
Argonne National Laboratory
Box 299
Lemont, Illinois

Dear Mr. Fromm:

This is in reply to your letter of October 6th in which you requested suggestions for discussion at the forthcoming Task Force Chairmen's Meeting of the ASA B-31 Advisory Committee on Nuclear Piping.

As you point out, it was evident at the last meeting of the Committee that there is yet to be derived a clear and acceptable definition for nuclear piping. This, of course, must be done before any code provisions can be adopted for nuclear applications.

I believe that the classification of nuclear piping hazards solely according to the radioactivity levels of the confined fluids is unrealistic, particularly with respect to reactor piping. This might be satisfactory if the only consideration was the hazard occasioned by exposure to the leaking fluid, which may have been the thought at the time the Committee adopted its present definition and quality categories. However, the safety and reliability required in a nuclear piping system may be unrelated to the radioactivity level of the normal working fluid.

In portions of the primary loops of some reactors it is likely that the fluid has comparatively little radioactivity; yet, it is most important that the piping system have the highest degree of integrity. Interruption to flow or the complete loss of coolant due to breaching of the system can result in complete destruction of a reactor, with attendant consequences offering the most severe potential hazards. It is important that at least the same degree of safety be built into these piping systems as those containing dangerous fluids which offer hazards due to leaks only.

The need for reconsideration of the definition of nuclear piping was discussed at our last Committee meeting. Perhaps the definition adopted by the Committee at Meeting No. 3 (April 8 & 9, 1958) might be modified somewhat along the following lines:

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"Nuclear piping is that piping used for containing or transporting a radioactive fluid which is radioactive or the confinement of which is necessary for safe operation."

(Note: Delete words; add words)

Similarly, I do not believe that the classification of nuclear piping into quality categories should be made according to radioactivity levels of the contained fluid. The basic premise should be that breaching of the system is either potentially hazardous or it is not hazardous; in other words, a leak can be tolerated or it cannot.

I hope that these thoughts will be of assistance to you. I shall be looking forward to seeing you again at the next meeting.

Sincerely yours,

S. G. Nordlinger

CC: F. W. Catudal
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