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August 20, 1996
NRC-96-004

Dr. Shirley Ann Jackson
Chairman
United States Nuclear Regulatory Commission
Washington, DC 02555-0002

Subject: July 30, 1996 Letter from William T. Russell to me Regarding ASME Interpretations and the Use of Engineering Judgment for ASME Code Activities

Dear Dr. Jackson:

As you are aware, I have been writing letters to you and members of the NRC Staff because of unjustified activities by the NRC. I have been treating these activities as five separate issues. However, as a result of carefully reading the last sentence on the first page of Mr. Russell's letter of July 30, 1996, I am now convinced that there is really only one main issue, with the others being a subset of that issue. Although the NRC Staff has never documented their position on this issue, the NRC Staff has hinted at this position in its correspondence, and it has been verbalized by some NRC Staff members in public meetings.

After rereading the NRC correspondence and recalling the public statements made by Staff members, it is clear to me that the NRC is taking the position that the ASME Code is a handbook and must be complied with exactly as written. The Staff is saying that if the Code does not specifically describe an activity or detail, it is prohibited by the Code. They are saying that engineering judgment can never be used when complying with the ASME Code. On this basis, they say that if engineering judgment is used, it is because the Code cannot be complied with, and thus relief must be obtained from the NRC. They are stating that if I use engineering judgment to show Code compliance, I am bypassing the regulatory process. In their view, engineering judgment can be used only when specifically permitted by the NRC.

The ASME Committee revised the Foreword to the Code to inform people that the position on treating the Code as a handbook is contrary to ASME Code policy. The NRC Staff claims that the ASME policy is contained only in a Code Edition and Addenda not accepted by the NRC by reference in 10CFR50.55a, therefore it does not apply. On the contrary, the ASME policy is an old policy that has been fully referenced and directly endorsed in 10CFR50.55a for decades. To ignore this policy is to ignore 10CFR50. I am surprised that the NRC Staff never researched this before making the statement that use of engineering judgment to meet Code requirements would bypass the regulatory process. Research verifies that using engineering judgment to show Code compliance when specific details are not given fully complies with 10CFR50.55a.

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The statement currently in the Foreword of the ASME Code reads as follows:

"This Code contains mandatory requirements, specific prohibitions, and nonmandatory guidance for construction, and inservice inspection and testing activities. The Code does not address all aspects of these activities and those aspects which are not specifically addressed should not be considered prohibited. The Code is not a handbook and cannot replace education, experience, and the use of engineering judgment. The phrase *engineering judgment* refers to technical judgments made by knowledgeable engineers experienced in the application of the Code. Engineering judgments must be consistent with Code philosophy and such judgments must never be used to overrule mandatory requirements or specific prohibitions of the Code."

Further an ASME Interpretation reads as follows:

Interpretation: III-1-92-67

Subject: All Sections of the Boiler and Pressure Vessel Code; Mandatory Requirements, Specific Prohibitions, and Nonmandatory Guidance for Construction Activities (All Editions and Addenda)

Issue Date: February 11, 1994

Question (1): In the 1992 Addenda, the Foreword to all Sections of the Code was revised to address mandatory requirements, specific prohibitions, and nonmandatory guidance for construction activity and also pointed out that the Code is not a handbook and cannot replace education, experience, and the use of engineering judgment. Is this a new policy which only applies to the 1992 Addenda and later or is this an ASME policy which applies to previous Code editions and addenda?

Reply (1): The changes made in the Foreword of the 1992 Addenda reflect ASME Code policy, which is applicable to all editions and addenda.

If the NRC Staff had researched the issue by reviewing the ASME Codes adopted by the Federal Regulations, they would have found that not only was use of engineering judgment permitted to demonstrate compliance with the Code when specific details were not given, but the ASME Codes (thus the Federal Regulations) demand use of competent engineering judgment to show compliance for such details.

The following statements regarding use of engineering judgment are taken from the ASME Codes directly accepted by reference in 10CFR50.55a as far back as 1969:

ASME Section XI Code (adopted by 10CFR50):

"These rules do not eliminate the need for the engineer or competent engineering judgment....."

ASME B31.1 Code and ASME B31.7 Code (both adopted by 10CFR50):

"The designer is cautioned that the Code is not a design handbook. The Code does not do away with the need for the engineer or competent engineering judgment.

Notice that the admonition against using the Code as a design handbook is a caution to the engineer. This means that using the Code as a handbook can have dangerous consequences. Contrary to this, the Staff seems to be advocating that approach, regardless of the implications to safety.

ASME Section VIII Code (by reference in ASME Section III Code adopted by 10CFR50):

"The Code does not contain rules to cover all details of design and construction. Where complete details are not given, it intended that the manufacturer, subject to the approval of the authorized inspector, shall provide details of design and construction which will be as safe as those provided by the rules of this Code."

Obviously, this can be done only by using competent engineering judgment. On this basis, do you really believe that the Federal Regulations prohibit use of engineering judgment to show ASME Code compliance?

Based on the above, it is obvious that the above-quoted ASME Interpretation and the policy stated in the Foreword to the ASME Code are only stating facts. These are not new rules or policies. Whether or not the NRC accepts the new Foreword or the Interpretation is a moot point. The facts are that 10CFR50.55a has accepted use of engineering judgment to show Code compliance, and further, 10CFR50.55a mandates by reference that the Code is not a handbook. Staff members claiming to the contrary obviously have no basis in either ASME Codes or Federal Regulations to substantiate their theory. It is also obvious that the ASME policy recently published on this subject is not a new ASME policy as claimed by Mr. Russell.

I believe it is necessary for you to correct the following statement made in Mr. Taylor's letter to me dated June 12, 1996.

"In our view, the use of engineering judgment in the manner you proposed is tantamount to allowing individuals to unilaterally waive regulatory requirements thereby bypassing the regulatory process."

As can be seen from the above information, the statement is absolutely false and requires correction because Mr. Taylor is implying that I am proposing bypassing the regulatory process. The statement unjustly hurts my reputation because it hints at unethical practice.

If the Code is treated as a handbook, and not an engineering document, those NRC personnel judging whether or not Code requirements have been met don't have to be qualified engineers or even trained to understand Code requirements. The Code then becomes a document requiring strict compliance with every detail, whether it be administrative or technical, and reviewers don't even have to know the difference. Unfortunately, this is how the NRC has been using the Code in the recent years.

This handbook approach has led to many false assertions of Code violations when none have occurred. The result has been very costly and has diverted utility management's attention from significant issues. The false accusations of Code violations have also needlessly diverted NRC attention.

In a very recent case, the NRC cited a utility for a Code violation because it used a procedure for calibrating equipment in a manner more restrictive (more sensitive) than required by the Code. In other words, they did better but were cited for violating the Code. Is that really what the NRC wants? This is a perfect illustration of the handbook mentality, and how it can reduce quality.

If the NRC Staff insists on using the Code as a handbook, to be complied with in every respect, I will identify how one provision of the ASME Code has never been met for any Code-stamped component installed in any nuclear plant in the world. It is an administrative "Catch 22" provision that is fun to talk about, because it is impossible to meet.

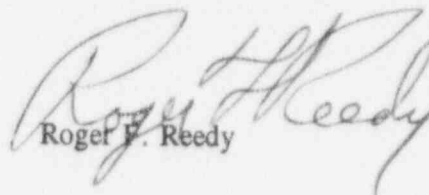
Because of the numerous NRC citations of Code violations that are untrue, I believe that it is important that this issue be brought to your attention. My research has proven that use of engineering judgment is demanded by the Code and the Federal Regulations when details are not specifically provided in the Code. It is unjust and unlawful to fine or cite utilities when they are following the regulations.

NRC Staff members have publicly stated that the reason they do not want engineers to use engineering judgment is that they don't trust the engineers. I interpret this to mean that the NRC Staff does not trust engineers who understand the ASME Code requirements differently from the Staff. Generic Letter 90-05 and Information Notice 93-21 are perfect examples of this. Any engineer who uses and knows the Code will disagree with the statements in those documents regarding Code requirements. Disagreement is not a legitimate basis for declaring distrust. Also, distrust of industry engineers is not a reason to deny that the Federal Regulations allow use of engineering judgment. If the NRC Staff has found engineers breaking federal law, the individuals should be punished. However it is wrong for the NRC Staff to punish the whole industry because they feel some engineers cannot be trusted. The NRC can't regulate the nuclear industry by taking over the management functions of the utilities.

This is a very serious matter, because it causes great hardship to utilities, needlessly raises the cost of electrical power, keeps required power from being available, causing power shortages such as the West Coast has been experiencing, reduces plant safety, and is an unjust situation.

If you have any questions or would like to discuss any details I have, please feel free to call.

Very truly yours


Roger F. Reedy

RFR/ajk