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## Issue 174: Fastener Gaging Practices (Rev. 1)

This issue has two parts that were evaluated separately. **ISSUE 174.A: SONGS EMPLOYEES' CONCERN DESCRIPTION**

### *Historical Background*

A San Onofre Nuclear Generating Station (SONGS) employee filed a concern with the SONGS Employee Program concerning the acceptance of fastener threads using GO/NO GO thread gages (System 21) rather than variables gaging (System 22). Because of the employee's displeasure with the response received from the SONGS Employee Program, an allegation was filed with the NRC; he was later joined by three other SONGS employees with the same allegation.

SONGS purchased equipment to conduct System 22 thread gaging measurements on a sample of fasteners purchased for the SONGS warehouse. The measurements were made in the commercial dedication laboratory. The fasteners were purchased with the requirement that they are acceptable using a System 21 measurement. Between a quarter and a third of the fasteners tested using System 22 did not meet the System 22 requirements, although they did meet the System 21 requirements. An extensive investigation by SONGS and an independent investigation by the NRC resulted in the conclusion that fasteners that failed testing using System 22 but passed testing using System 21 did not result in an unsafe condition. Each alleged was interviewed, a copy of the allegations was sent to each alleged, and a response was provided to each of the technical allegations. A two-week inspection at the SONGS warehouse was conducted, during which, no unsafe conditions were observed.

This issue was identified in an NRR memorandum<sup>1</sup> to RES in February 1996.

### *Safety Significance*

The safety concern is that the use of GO/NO GO gages does not ensure that all of the material limits specified in ASME B1.1 have been met and unsafe conditions could result from threaded fastener failures.

## CONCLUSION

All of the technical concerns identified by the allegeders have been addressed and they were notified in writing by the NRC. Thus, this issue was RESOLVED and no new requirements were established.<sup>2</sup>

## ISSUE 174.B: JOHNSON GAGE COMPANY CONCERN DESCRIPTION

### *Historical Background*

Concerns were raised by employees at the Johnson Gage Company regarding the gaging of fasteners. The employees approached the NRC staff with a concern about the use of GO/NO GO gages (System 21) instead of the use of variables gaging (System 22) for determining the acceptability of fastener threads. The staff pointed out to the Johnson Gage employees that this issue had low safety significance. The Johnson Gage employees sent numerous letters to the Chairman of the NRC, had congressmen write to the Chairman of the NRC, had NIST write the NRC staff, and met with Chairman Selin and Chairman Jackson to discuss their concerns. The staff responded to all of the correspondence from the Johnson Gage employees, met with congressional staffers, responded to congressional correspondence, met with NIST staff members, and submitted a code inquiry to the ASME. No safety issues could be identified and ASME stated that there were no compliance issues involved.

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<sup>1</sup> Memorandum for C. Serpan from A. Chaffee, "Nuclear Reactor Regulation (NRR) Input Into Research NUREG-0933 (WITS Item 9400213)," February 13, 1996. [9602260124]

<sup>2</sup> Memorandum for W. Russell from D. Morrison, "Prioritization of the NRR Action Plans Submitted to RES on February 13, 1996," June 24, 1996. [9606260260]

This issue was identified in an NRR memorandum<sup>3</sup> to RES in February 1996.

### *Safety Significance*

The safety concern is that the use of GO/NO GO gages does not ensure that all of material limits specified in ASME B1.1 have been met and unsafe conditions could result from threaded fastener failures.

## CONCLUSION

Letters were sent by the NRC to the Johnson Gage Company employees stating that that this issue had low safety significance and no compliance issues were involved. Thus, the issue was RESOLVED and no new

requirements were established.<sup>4</sup>

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<sup>3</sup> Memorandum for C. Serpan from A. Chaffee, "Nuclear Reactor Regulation (NRR) Input Into Research NUREG-0933 (WITS Item 9400213)," February 13, 1996. [9602260124]

<sup>4</sup> Memorandum for W. Russell from D. Morrison, "Prioritization of the NRR Action Plans Submitted to RES on February 13, 1996," June 24, 1996. [9606260260]

