

REQUEST FOR ADDITIONAL INFORMATION

REQUEST FOR RELIEF NDE-R014 FOR

DUANE ARNOLD ENERGY CENTER

DOCKET NUMBER 50-331

NEXTERA ENERGY CENTER, DUANE ARNOLD

RAI-1

The section designated "Welding" on page 4 of 9 of Relief Request (RR) NDE-R014 states that, "The welding will be performed in accordance with Attachment 1..."

The staff expects that the welding will be performed in accordance with a qualified weld procedure, as well as with Attachment 1. However, paragraphs 1A and 1B in Attachment 1 list many different base metals, such as P1, P3, P12A, etc. To avoid any confusion, Attachment 1 should give a concise list of specifically which materials are to be welded during the weld overlay repair being implemented during the unit's fall 2010 refueling outage and the order and content of welding filler metals and processes.

RAI-2

The staff understands that the licensee is planning to implement a mechanical stress improvement process (MSIP) to mitigate the unit's RRA-F002 weld at the other end of the safe end to which the weld overlay is going to be applied to repair the unit's RRA-F002A weld. Given the combination of a weld overlay and MSIP in close proximity, the staff is concerned that (1) the MSIP application may generate undesirable tensile stresses in the nozzle, safe end, safe end extension, or weld F002A that may lead to a potential for future cracking in these components, (2) the MSIP application may not provide sufficient compressive stresses to Weld F002 to perform its intended application considering the close proximity of the weld overlay and nozzle, and (3) the MSIP application may reduce the desirable compressive stresses generated by the weld overlay in Weld F002A to render the weld overlay ineffective in mitigating the flaw in weld F002A.

In the fourth paragraph on page 3 of RR NDE-014, the licensee stated that it will provide a simplified evaluation to the NRC which ensures that the MSIP application will not affect the weld overlay. The licensee then stated that if the results of the simplified evaluation are not positive, the licensee will postpone the MSIP application to a future refueling outage so that more thorough evaluations can be performed to ensure the MSIP application has the desired result.

- (a) Describe the simplified and thorough evaluations in detail. Discuss the differences between the simplified evaluation and thorough evaluation. Justify that the simplified evaluation will provide the necessary information and reasonable assurance that the MSIP application will not affect the weld overlay, that the MSIP application will

perform its intended function, and that the MSIP will not generate undesirable stresses in the nozzle, safe end, safe end extension, and weld F002A.

- (b) Discuss the acceptance criteria (with references, as necessary) that will be used in the simplified and thorough evaluations that would demonstrate that the MSIP application will not affect the weld overlay of weld F002A while providing the desirable result at weld F002.
- (c) Provide the date when the results of the simplified evaluation, if deemed adequate to support application of the MSIP during this outage, will be submitted to the NRC.