

MCB Issue List Regarding APR-1400, FSAR Section 5.2.1.2

In accordance with Title 10 of the Code of Federal Regulations (10 CFR) Section 50.55a, systems and components of pressurized water reactors like APR-1400 are to meet the requirements of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code). This requirement ensures that facilities will also meet the requirements of 10 CFR Part 50, Appendix A, General Design Criterion 1 such that structures, systems, and components important to safety shall be designed, fabricated, erected, and tested to quality standards commensurate with the importance of the safety function to be performed. As part of the applicant's use of the ASME Code, ASME Code Cases may be invoked. The staff has identified the following issues in regards to the applicant's use of ASME Code Cases.

Issue 1

Combined License (COL) Applicant Action Item 5.2(2) requires the COL applicant to identify ASME Code Cases they intend implement as part of their inservice inspection (ISI) program for a specific plant.

For clarity, revise Action Item 5.2(2) to read, "The COL applicant is to address ASME Code Cases approved in NRC Regulatory Guide 1.147 invoked for the ISI program of a specific plant."

Agree. COL Applicant Action Item 5.2(2) will be revised to read "The COL applicant is to address ASME Code Cases approved in NRC RG 1.147 invoked for the ISI program of a specific plant." as attachment 1.

Issue 2

COL Applicant Action Item 5.2(3) requires the COL applicant to identify ASME Code Cases they intend implement as part of their operations and maintenance program for a specific plant.

For clarity, revise Action Item 5.2(3) to read, "The COL applicant is to address ASME Code Cases approved in NRC Regulatory Guide 1.192 invoked for operations and maintenance activities."

Agree. COL Applicant Action Item 5.2(3) will be revised to read "The COL applicant is to address ASME Code Cases approved in NRC RG 1.192 invoked for operations and maintenance activities." as attachment 1.

Issue 3

Table 5.2-4 “ASME Section III Code Cases” lists ASME Code Case N-71-18, “Additional Material for Subsection NF, Class 1, 2, 3, and MC Supports Fabricated by Welding, Section III, Division 1,” for use in the design of supports for specific nuclear power plant components. The NRC staff has conditioned the use of Code Case N-71-18 in Regulatory Guide 1.84. As such, in order to ensure that the conditions place on Code Case N-71-18 will be met, the staff seeks clarification regarding which specific components it will be applied to.

Revise FSAR Section 5.2.1.2 to identify the components that will be fabricated using Code Case N-71-18 and the material specifications and grades that will be used.

Because the Table 5.2-4 refers Code Case N-71-18 directly, it seems more convenient to add the detailed information for N-71-18 in Table 5.2-4 instead of revising FSAR Section 5.2.1.2..

Following sentence will be added as a note for Code Case N-71-18 in Table 5.2-4 “ASME Section III Code Cases”.

“Note: Among the Code Cases of Table 5.2.4 “ASME Section III Code Cases”, Code Case N-71-18 is used for the materials in support skirt on reactor coolant pump, upper support bracket of steam generator support, and clevis of reactor coolant pump support, lateral support of reactor vessel, base sliding support of steam generator, and pipe supports in contact with the piping which is not RCPB. The detailed material specifications, items and components are provided as below. These materials of Code Cases N-71-18 are applied in conformance with applicable Regulatory Guide 1.84.”

Material Specifications of Code Case N-71-18	Items/Components
ASTM A 148 Grade 90/60	Support skirt on reactor coolant pump
	Upper support bracket of steam generator support
	Clevis of reactor coolant pump support
ASTM A 500 Grade B	Pipe supports in contact with the piping which is not RCPB
ASTM A 514 Grade E or Q	Base sliding support of steam generator
ASTM A 572 Grade 50	Lateral support of reactor vessel

Issue 4

The staff notes that FSAR Section 5.2.1.2 does not identify the use of any ASME Section III Code Cases related to Class 2 or 3 piping. The staff is aware of other certified designs which have made use of such Code Cases.

Verify that no ASME Section III Code Cases related to Class 2 or 3 piping are to be used as part of the APR-1400 design or revise FSAR Section 5.2.1 to identify such Code Cases if they will be used as part of the design.

ASME Section III Code Cases related to Class 2 or 3 piping are described in DCD section 3.12.2.2.