REQUEST FOR ADDITIONAL INFORMATION 828-5996 REVISION 3

9/12/2011

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

SRP Section: 09.03.04 - Chemical and Volume Control System (PWR) (Including Boron Recovery System)
Application Section: 9.3.4

QUESTIONS for Reactor System, Nuclear Performance and Code Review (SRSB)

09.03.04-25

Based on Bulletin 80-05 issued by the NRC on March 10, 1980, CVCS HUTs are to implement a means to prevent a vacuum condition from forming within the tanks which could lead to tank inward buckling and possibly an uncontrolled release of radioactivity to the environment in the case of fuel damage. The bulletin further states that HUTs that use a cover gas must be able to admit the cover gas fast enough to keep up with the maximum rate of liquid removal from the tank in order to preclude a vacuum condition. Based on the staff's review, it is not clear that sufficient nitrogen gas will be supplied to the HUTs to prevent a vacuum condition. Explain in detail how vacuum condition prevention is ensured in the CVCS HUTs.