

REVIEW SCOPE FOR CALDON / SEABROOK

SPWB has been assigned responsibility for review of the thermal-hydraulic aspects of UFM applications. All other aspects that contribute to uncertainty, such as transducer characteristics, physical dimensions, signal processing, operations other than those that may affect velocity profile, operator-display interfaces, and long-term degradation, are not part of this assigned responsibility. This safety evaluation is limited to the thermal-hydraulic aspects of the Check and CheckPlus UFM's and consideration of uncertainty is limited to those aspects directly associated with SPWB's assigned responsibility. This safety evaluation addresses, for example, assessment of the hydraulic aspects of laboratory test facilities, actual UFM testing, fidelity of the test configuration to the plant installation insofar as potential effect on velocity profile is concerned, in-situ (in-plant) calibration, operational considerations that may change the velocity profile, and use of other independent plant instrumentation to assess the UFM output and hence provide a potential means for identifying a change in velocity profile.

This review has two objectives within the above-described technical scope:

1. Assess the Seabrook request for a measurement uncertainty recapture (MUR) update
2. Provide a generic assessment of the Caldon Check and CheckPlus UFM's.

There is significant duplication in applicable references. During the review, we initially worked with slides provided in meetings with the NRC since the slides provided the best summaries of the material under review and these descriptions were often adequate to cover the review scope. We used other references as appropriate to incorporate more detail.