



# Status on Resolving the BTP 5-3 Issue

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NRC/Industry Annual Materials Issue Program Information Exchange Meeting  
June 2 to 4, 2015  
Rockville, Maryland, USA

# Background on The Branch Technical Position (BTP) 5-3 Issue



## Issue:

Using BTP 5-3 in determining the initial nil-ductility transition reference temperature ( $RT_{NDT}$ ) for reactor pressure vessel (RPV) plates and forgings is non-conservative.

## Plants Using BTP 5-3 or Its Variation:

19 pressurized water reactors (PWRs) and a significant number of boiling water reactors (BWRs).

## Plant-Specific Evaluations that Could be Affected:

Any evaluation which used  $RT_{NDT}$  to determine the RPV plate or forging fracture toughness in its fracture mechanics calculations (Pressure-temperature (P-T) limits, pressurized thermal shock (PTS), flaw evaluation, etc.)

# Resolving the BTP 5-3 Issue – BTP 5-3 Revision



## Major revision tasks:

1. Revise the BTP 5-3 to specify the correct margin to eliminate the non-conservatism.
2. Add new technical basis and guidance for taking certain or taking no regulatory actions on P-T limits.

## References for Task 1:

- NRC NUREG on this issue to be published soon.
- The report supporting the February 19, 2015 EPRI presentation slides, “MRP/BWRVIP Evaluation of BTP 5-3.”

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## References for Task 2:

- The report supporting the February 19, 2015 EPRI presentation slides, “Assessment of Potential Impact on RPV Integrity.”
- The report supporting the February 19, 2015 PWROG presentation slides, “Material Orientation Toughness Assessment (MOTA) for the Purpose of Mitigating Branch Technical Position (BTP) 5-3 Uncertainties.”
- The report on a study under consideration (if realized), “The GE Procedure for determination of Initial  $RE_{NDT}$ ” that was mentioned in the February 19, 2015 meeting.

# Resolving the BTP 5-3 Issue – Status



- Initiated the BTP 5-3 revision process.
- Prepared the letters requesting for the industry reports (to be issued soon).
- Will plan a schedule for BTP 5-3 revision upon receiving the industry reports.
  - the goal is to perform tasks 1 and 2 in parallel instead of sequentially