



PNGS Buried Boiler Blowdown Piping Replacement

CLIENT

Ontario Power Generation

LOCATION

Pickering, Ontario

PROJECT DESCRIPTION

The Buried Boiler Blowdown (BBD) carbon-steel piping at Pickering Nuclear Generating Station (PNGS) required replacement due to known degradation detected during remote testing.

B&M SCOPE OF WORK

Black & McDonald's (B&M) scope of work replacing one of two existing BBD lines in presently safe storage Unit 2 and Unit 3 using pull methodology with new 6 in. Carbon Steel (CS) line. Once installed and tied, the newly installed line in Unit 2 will be used as a primary BBD line for Unit 1. The newly installed line in Unit 3 will be used as a primary BBD line for Unit 4. Additional replacements will also take place on a single Unit 5 and Unit 6 BBD line to serve as a sole BBD pathway once the two lines are merged upstream of the underground portion.

The replacement of inner 6 in. CS pipe between north and south concrete pits is considered a modification replacement for both mechanical piping as well as civil 14 in. transite piping which is asbestos based. B&M is accountable for all Engineer, Procure and Construct (EPC) aspects of the project for the 1st unit installation (Unit 1) and PC only for Units 4, 5 and 6 as the owner will replicate the designs for future units.



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The underground BBD pipe crosses the main south road at PNGS. However, one of the project requirements was to have a minimal impact to the station services and logistics. Facing that challenge B&M was able to utilize existing concrete pits at the north and south end of the piping in combination with a small excavation (approximately 20 ft. either side of the underground elbow) when the BBD pipe changes direction at the thrust block. The existing pipe was removed and new pipe installed through only these three locations leaving full roadway access for station use. The total existing length of pipe removed from the 1st unit was approximately 260 ft., therefore 520 ft. of pipe was pulled in this method (260 ft. removed and 260 ft. re-installed). The overall length of pipe for all four unit replacements was approximately 1,040 ft. of removed pipe and 1,040 ft. of reinstalled pipe with newly fabricated supports.

BENEFITS TO CLIENT

B&M successfully completed the Unit 1 underground piping replacement of the 2 BBD lines upstream of the underground portion. This merge/tie-in occurred during the P2011 outage in early 2020. All work was completed event free with no safety or quality issues.

