

Implementation Plan for Revised NPCC Directory 1

Planning Advisory Committee
June 2017

Background

- On September 10, 2015, the NPCC Reliability Coordinating Council (RCC) approved a ten year implementation plan to meet the clarified requirements of NPCC Directory 1.
- New England TO's are directed by the NPCC implementation plan to meet the NPCC Directory 1 performance expectations by installing “dual high speed protection systems” (i.e. pilot schemes) on all BPS elements.
- The required completion date for the implementation plan is September 10, 2025.

National Grid's Implementation Plan

- National Grid identified 45 BPS transmission circuits that require additional pilot schemes.
- On September 29, 2016, National Grid communicated the implementation plan for the 45 transmission circuits to the NPCC Task Force on Coordination of Planning (TFCP).

Circuits Addressed in Phases

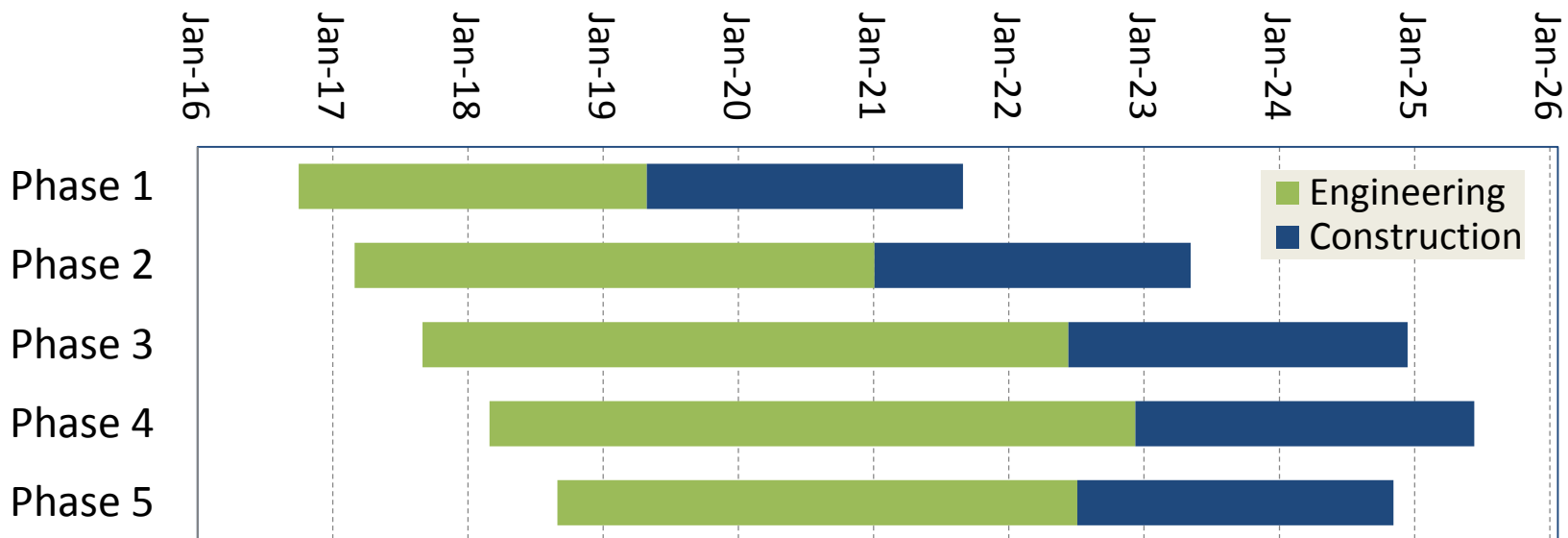
- Forty-three (43) circuits will be addressed in five phases based on location and complexity, as follows*:

Phase	Number of Circuits	OPWG Installation	Control House Expansion/Additions
Phase 1	4	-	-
Phase 2	9	✓	-
Phase 3	11	✓	✓
Phase 4	13	✓	✓
Phase 5	6	✓	-

- The remaining two circuits will be addressed by the SEMA/RI solution.

* All lines require protection upgrade at both ends

Project Timeline



Project Costs

- The PTF cost for Phase 1 is estimated at \$1.8M with a tolerance of +200/-50%.
- The PTF costs for Phases 2-5 are expected to be substantially higher since those phases include significant installation of OPGW and a number of control house rebuilds.
- National Grid has started conceptual engineering to develop conceptual grade cost estimates for the other four phases.
- We will provide an update when conceptual grade cost estimates are available.

Questions?

