Backup Generators for Deer Island Treatment Plant during HEEC Cable Protection

March 15, 2017
Electrical Power Critical to DITP Performance

• Primary Source of Power – Cross-Harbor Cable
• Backup – Deer Island’s Installed 2 Combustion Turbine Generators
• Backup Generators required by NPDES permit.

• HEEC Cable Protection Work
  – Cable to be de-energized for two 8 month periods (new info)
  – July 1 – Feb 15th

• CTGs only source of Power for Deer Island
• Dry Weather – cable de-energized
  – 1 CTG can power plant up to approx. 800 mgd
  – 2<sup>nd</sup> CTG used as backup

• Wet Weather – cable de-energized
  – Both CTGs needed to power plant – no backup
  – Few days when flow over 800 mgd (average 4.2 days) - 2% of the time
  – Current trigger is 600 mgd (average 14.6 days) - 4% of the time
  – Would require backup generators or cable re-energized
Backup Power Solution

- PW Power Systems has portable 25 MW units
Eversource submitted schedule as follows:

July 1, 2017 to Feb. 15, 2018 cable de-energized
Feb. 16, 2018 to June 30, 2018 cable energized (flounder restriction)
July 1, 2018 to Feb. 15, 2019 cable de-energized

One Year - 8 months

$ 8 million - 8 month backup generator rental
$ 5 million - mobilization

$13 million Subtotal Backup Generator Cost

$ 9 million - MWRA Costs to Run CTGs
$22 million - Total Cost for 8 months

Two Year - 20 months

$20 million - 20 month backup generator rental
$ 5 million - mobilization

$25 million Subtotal Total Backup Generator Cost

$18 million - MWRA Costs to Run CTGs
$43 million – Total Cost for 20 months
Dorchester Interceptor Sewer Rehabilitation Design, Construction Administration and Resident Engineering/Inspection Services

Contract 7512

March 15, 2017
Project Purpose

• Rehabilitation of the 120 year old Dorchester Interceptor Sewer and manhole structures

• The Dorchester Interceptor conveys sewage flow from Dorchester and connections from Milton to the BWSC system

• Total length of pipe to be rehabilitated: ~ 6,500 feet
  – Section 240: 48”x36” elliptical-brick including 1,000+ ft of replaced PIP concrete pipe
  – Section 241: 48”x36” elliptical-brick with a brick lined tunnel section
  – Section 242: 42”x28” egg-shaped brick
### Procurement Process and Project Cost

<table>
<thead>
<tr>
<th>Proposer</th>
<th>Cost</th>
<th>Hours</th>
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<tbody>
<tr>
<td>Kleinfelder</td>
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- One step RFQ/P
- Selection Committee recommends CDM Smith
- Cost: $1,496,354
# Project Schedule

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<thead>
<tr>
<th>Item</th>
<th>Start Date</th>
<th>Duration</th>
<th>End Date</th>
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<tbody>
<tr>
<td>Award Professional Services Contract</td>
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<td>September 2021</td>
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<tr>
<td>Design</td>
<td>March 2017</td>
<td>24 Months</td>
<td>March 2019</td>
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<tr>
<td>Construction</td>
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<td>18 Months</td>
<td>September 2020</td>
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<td>Warranty</td>
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<td>12 Months</td>
<td>September 2021</td>
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