Northeast Upgrade Project
Tennessee Gas Pipeline Company
NJDEP
401 East State Street
Trenton, NJ
September 7, 2011
Introductions

- Tennessee Gas Pipeline Company
  - Melissa Dettling, Environmental Project Manager
  - Penny Paul, Stakeholder Outreach Coordinator
  - Dan Gredvig, Manager, Land/Permitting
  - Jerry Creel, Project Manager
El Paso Corporation provides natural gas and related energy products in a safe, efficient, and dependable manner.
Over 50 years of experience in pipeline system design, construction, and operation

Tennessee is prepared to meet the demands of a growing market with the integrity and commitment to service that have made it one of the safest and most reliable pipelines in the United States

Supply Regions: Gulf of Mexico, Texas, Appalachia, Mid-Continent & Apps Shale, Rockies, and Canada

Markets: Northeast (including major metropolitan centers in NY/NJ and Boston), Mid-Atlantic, and the Southeast

Pipeline Interconnects: >100 interconnects with most major interstate and intrastate pipeline systems in and around TGP’s markets

Experience and Reliability

Over 50 years of experience in pipeline system design, construction, and operation

Tennessee is prepared to meet the demands of a growing market with the integrity and commitment to service that have made it one of the safest and most reliable pipelines in the United States
Natural Gas Demand Growth Across Regions

10 Year Demand Growth Forecast

ICF Consulting: 2010-2020 Demand Growth Projection

Source: ICF April 2011 Reference Case
Northeast Upgrade Project Benefits

- Natural gas storage struggles to meet peak day Winter requirements and strains regional pipeline capacity
- The Project will help alleviate strain on infrastructure and provide access to natural gas supplies across the country
- Increased supply access:
  - Supply Reliability
  - Diversification
  - Price Competition

Benefits
Northeast Consumers
Compelling Public Need

- Transport natural gas to meet increasing Northeastern U.S. demand for energy
- Will help alleviate demand by increasing pipeline capacity to the high-demand markets in the northeast, and will also assist with the FERC’s goal of providing more natural gas to markets by providing access to natural gas supplies in the Northeast supply area
- Cleaner source of fuel than coal or petroleum
- Project is consistent with New Jersey Energy Master Plan
PROJECT DESCRIPTION
Northeast Upgrade Project Overview

- In-Service Date: November 1, 2013
- Incremental Volume: 636,000 Dth/d
- 39.6 miles (22 miles in PA, 17.6 miles in NJ)
- 20,620 additional Hp
What is Pipeline Looping?

- A segment of pipeline installed adjacent to an existing pipeline and connected to it at both ends
- A loop allows more gas to be moved through the system
Northeast Upgrade Project Planning – Timeline

- **FERC Pre-filing Process**
  - Initial letters to elected officials – Mar 29th
  - Initial agency consultations completed
  - Open Houses – Week of Sept 13th
  - FERC Scoping Meetings – Week of Nov 1st
  - Scoping period ends – Nov 12th
  - File Draft Environmental Report – Dec 10th

- **Survey Work**

- **FERC Certificate Application Filed**

- **Commence NJ/PA Permitting Process**

- **Commence Preliminary JD**

- **FERC issues EA (anticipated)**

- **FERC Certificate (requested)**

- **Commence Construction**

- **In-Service Date**

- **Spring 2010-Winter 2011**

- **Spring/Summer 2010/2011**

- **March 2011**

- **Spring 2011**

- **Spring 2011**

- **Fall 2011**

- **January 2012**

- **Fall 2012**

- **November 2013**
The Northeast Upgrade Project intersects the following NJDEP State Parks:

- High Point State Park
- Long Pond Iron Works State Park
- Ringwood State Park
- Ramapo Mountain State Park
High Point State Park
<table>
<thead>
<tr>
<th>Block/Lot</th>
<th>Length of ROW (ft)</th>
<th>Proposed Perm.</th>
<th>TWS (acres)</th>
<th>ATWS (acres)</th>
<th>Total (acres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>19/25</td>
<td>0</td>
<td>0</td>
<td>0.19</td>
<td>0</td>
<td>0.19</td>
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<tr>
<td>19.01/5</td>
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<td>23/1</td>
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<td>14.65</td>
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<td>10.67</td>
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<td><strong>19,244</strong></td>
<td><strong>11.84</strong></td>
<td><strong>30.02</strong></td>
<td><strong>2.68</strong></td>
<td><strong>44.54</strong></td>
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</tbody>
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- **Total Construction Impacts (acres) HPSP**: 44.54
- **Total Permanent Conveyance (acres) HPSP**: 11.84
- **Total Temporary Impacts (acres) HPSP**: 32.70
High Point State park – Access Roads

- No new access roads proposed, all access roads are existing

<table>
<thead>
<tr>
<th>Access Road ID</th>
<th>Block/Lot</th>
<th>Approx. Milepost</th>
<th>Road Type</th>
<th>Length (feet)</th>
<th>Affected Area (acres)</th>
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<td>24/2</td>
<td>14.36</td>
<td>Path</td>
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<td></td>
<td><strong>1488</strong></td>
<td><strong>0.82</strong></td>
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Highpoint State Park – Environmental

- 8 waterbody crossings
  - 5 perennial streams - Shimers Brook, Parker Brook, and Big Flat Brook
  - 3 Intermittent streams – unnamed tributaries
- 24 wetland crossings
  - Total of approximately 4,700 linear feet of crossings
  - Approximately 7.50 acres of temporary impacts, 1.13 acres of conversion
- 2 Natural Heritage Priority Sites
  - Sawmill Pond Swamp
  - Mashipacong Bogs

*Note: No federally or state-listed species (including plants) were identified in field surveys on either property*

- Federally listed species potentially occurring in or near Highpoint State Park (as identified through consultation with USFWS):
  - Bald eagle (no longer threatened or endangered near Delaware, Wanaque Reservoir) - Surveys found no nests within or adjacent to project area. MBTA recommended tree clearing timing restrictions will be adhered to for the project.
  - Bog turtle – received concurrence of “not likely to adverse effect” from USFWS
  - Dwarf wedgemussel - Big Flat Brook is only stream identified with known occurrence, but locations are downstream of project.
  - Indiana bat – No bats were captured in mist net surveys. Due to presence of foraging range for known maternity colony near park, Tennessee will adhere to a tree-clearing timing restriction for the eastern 2.5 miles of Loop 323 starting at approximately MP 13.85 in Highpoint State Park.

*Note: No federally or state-listed species were identified in field surveys on Highpoint State Park*
Long Pond Iron Works State Park

Ringwood State Park

Ramapo Mountain State Forest
### Summary of Impacts – Long pond Iron Works State Park

**LAND AFFECTED WITHIN EACH TRACT OF STATE-OWNED PARCELS NORTHEAST UPGRADE PROJECT LOOP 325**

**LONG POND IRONWORKS STATE PARK**

<table>
<thead>
<tr>
<th>Block/Lot</th>
<th>Total Length of Proposed ROW (feet)</th>
<th>Proposed Permanent ROW (acres)</th>
<th>Temporary Workspace (acres)</th>
<th>Additional Temporary Workspace (acres)</th>
<th>Total Impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>4601/8</td>
<td>3,966.33</td>
<td>3.95</td>
<td>2.12</td>
<td>1.90</td>
<td>7.97</td>
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<tr>
<td>310/1</td>
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<td><strong>Total</strong></td>
<td>5,443.14</td>
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<td>1.97</td>
<td><strong>11.20</strong></td>
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<table>
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<tr>
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<th>Total Construction Impacts (acres) LPI</th>
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<tr>
<td>Total Permanent Conveyance (acres) LPI</td>
<td>4.79</td>
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</tr>
<tr>
<td>Total Temporary Impacts (acres) LPI</td>
<td>6.41</td>
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</table>
## Summary of Impacts – Ringwood State Park

### Land Affected Within Each Tract of State-Owned Parcels

**Northeast Upgrade Project Loop 325**

### Ringwood State Park

<table>
<thead>
<tr>
<th>Block/Lot</th>
<th>Total Length of Proposed ROW (feet)</th>
<th>Proposed Permanent ROW (acres)</th>
<th>Temporary Workspace (acres)</th>
<th>Additional Temporary Workspace (acres)</th>
<th>Total Impacts</th>
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<tbody>
<tr>
<td>601/8</td>
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<td>0</td>
<td>0.72</td>
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<tr>
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<td>0</td>
<td>0.02</td>
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<td>902/2</td>
<td>2,571.36</td>
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<td>3.99</td>
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<td>5.68</td>
</tr>
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<td>1,285.68</td>
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<td>2.18</td>
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</tr>
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<td>5.97</td>
</tr>
<tr>
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<td>816.28</td>
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<td>1.81</td>
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<td>10.74</td>
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<td>5.36</td>
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<td>7.76</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>19,096.15</strong></td>
<td><strong>10.83</strong></td>
<td><strong>29.98</strong></td>
<td><strong>2.30</strong></td>
<td><strong>43.10</strong></td>
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**Summary of Impacts**

- **Total Construction Impacts (acres)** RSP: **43.10**
- **Total Permanent Conveyance (acres)** RSP: **10.83**
- **Total Temporary Impacts (acres)** RSP: **32.28**
## Proposed Access Roads
### Long Pond Ironworks / Ringwood State park

<table>
<thead>
<tr>
<th>Access Road ID</th>
<th>Block/Lot</th>
<th>Approx. Milepost</th>
<th>Road Type</th>
<th>Length (feet)</th>
<th>Affected Area (acres)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LONG POND IRONWORKS STATE PARK</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L5 AR 02</td>
<td>4601/8</td>
<td>0.01</td>
<td>Two-track</td>
<td>687</td>
<td>0.38</td>
</tr>
<tr>
<td>L5 AR 20</td>
<td>4601/8 310/1</td>
<td>0.49</td>
<td>Paved / Gravel</td>
<td>3,208</td>
<td>1.77</td>
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<td><strong>RINGWOOD STATE PARK</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>L5 AR 50</td>
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<td>Paved / Dirt</td>
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<td>1000/1 1101/3 1000/2</td>
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<td>Gravel</td>
<td>8,540</td>
<td>4.71</td>
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<td>L5 AR 60</td>
<td>1000/2</td>
<td>6.09</td>
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<td>6.25</td>
<td>Rock</td>
<td>6,618</td>
<td>3.65</td>
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<td><strong>State-owned Access Roads Total</strong></td>
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<td></td>
<td></td>
<td><strong>35,762</strong></td>
<td><strong>19.72</strong></td>
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Long Pond Ironworks State Park – Environmental

- 2 waterbody crossings
  - Wanaque River / Monksville Reservoir – to be crossed via Horizontal Directional Drill (HDD)
  - Wanaque River – approximately 13-feet crossing width
- 2 wetland crossings
  - 374-feet total wetland linear crossing
  - Approximately 0.72 acres temporary impact, 0.13 acres conversion

- No Natural Heritage Priority Sites

- Federally listed species potentially occurring in or Long Pond Ironworks State Park (as identified through consultation with USFWS):
  - Bald eagle (no longer threatened or endangered) – No known nests within 3 miles of Long Pond Ironworks State Park. Surveys found no nests within or adjacent to project area. MBTA recommended tree clearing timing restrictions will be adhered to for the project.
  - Bog turtle – Potentially suitable habitat occurs, but no turtles found in Phase I or Phase II surveys.
  - Dwarf wedgemussel – No suitable streams in park to support mussels.
  - Indiana bat – No bats captured in mist net surveys
Long Pond Ironworks State Park – Jungle Habitat Pipeyard

- Existing paved area on state owned land
- Approximately 35 acres total
  - ~ 27.3 acres not including the forested areas, which will not be impacted
Ringwood State Park – Environmental

- 7 waterbody crossings
  - 2 perennial –
    - Cupsaw Brook - approximately 19-feet crossing width
    - Ringwood Creek - approximately 45-feet crossing width
  - 5 Intermittent – tributaries
- 17 wetland crossings
  - Approximately 3,559-feet total wetland linear crossing
  - Approximately 5.60 acres of temporary impacts, 0.87 acres of conversion
- No Natural Heritage Priority Sites

- Federally listed species potentially occurring in or near Ringwood State Park (as identified through consultation with USFWS):
  - Bald eagle (no longer threatened or endangered) - Surveys found no nests within or adjacent to project area. MBTA recommended tree clearing timing restrictions will be adhered to for the project.
  - Bog turtle – No surveys recommended by USFWS due to lack of historic occurrence in County.
  - Dwarf wedgemussel – Ringwood Creek has potential habitat but no mussels were found in surveys.
  - Indiana bat – No bats captured in mist net surveys.
Bear Swamp Road

- Existing road that crosses Ramapo Mountain State Forest for approximately 7,355 linear feet (estimated 4.06 acres)
  - Minimal use planned on road
  - Improvements to existing road bed as needed
  - Side trimming of woody vegetation as needed
Recreation - Trails

- High Point State Park
  - Appalachian National Scenic Trail ("AT") - State of NJ-owned property operated by NJDEP, Div. of Parks and Forestry
    - Loop 323 crosses the AT at MP 14.37
    - 150-feet in each direction from the center of the Footpath, the construction ROW will be reduced to 75 feet in width, utilizing 50 feet of existing maintained ROW associated with Tennessee’s 300 Line and 25 feet of new ROW
    - Outside of this 300 foot wide area of reduced workspace at the Footpath within the AT Corridor, Tennessee will utilize a variable width construction ROW for construction. These workspaces are required to facilitate specialized construction techniques required to work on the steep side slopes and bedrock outcrops located within the AT corridor.
  - Appalachian Trail Crossing Plan was prepared to:
    - minimize adverse effects to the AT and the environment;
    - maintain the AT experience for hikers to the maximum degree;
    - maintain the safety of hikers during construction; and
    - facilitate coordination with stakeholders throughout the regulatory process.
Recreation – Trails

- **General Trail Crossing Plan**
  - 18 Trails other than the Appalachian Trail to be crossed.
    - 2 on Loop 323
      - Sawmill Loop
      - Iris Trail
    - 16 on Loop 325
      - Hewitt-Butler Trail
      - Monks Trail
      - Cooper Union Trail
      - Crossover Trail
      - Ringwood-Ramapo Trail
      - Mountain Bike Loop
      - Halifax Trail
      - Pierson Ridge Trail
      - Shore Trail
      - Schuber Trail
      - Yellow Silver Trail
      - Halifax
      - Jungle Habitat (W)
      - Skyland
      - Red-Silver Trail
      - Jungle Habitat (R)
Recreation – Trails

- General Trail Crossing Plan
  - Mitigation measures will be put in place to minimize closures and impacts to hikers during construction.
  - Trailheads will be posted to notify hikers of the construction work in progress. This will include notice during the limited times when access to the trail across the pipeline is not available due to safety considerations. The park will also be notified as well as the NY/NJ Trail conservancy so website updates regarding trail impacts can be posted.
  - Once construction is completed, the Right of Way will be returned as close as practicable to its original condition (contour, grade and reseeded).
  - As authorized by the NJDEP, Tennessee will use various techniques to discourage ORV/ATV access and use of the Right of Way such as:
    - installing water bars to direct water off from the Right of Way into established vegetation,
    - strategically placing rocks across the Right of Way at key access locations, and if needed and approved, place rock windrows and fences/gates at key access points.
State Lands Alternatives

- No-action Alternative
- System Alternatives
- Route Alternatives
- Alternative Waterbody Crossing Method
- Construction Alternatives
## Highpoint State Park

<table>
<thead>
<tr>
<th></th>
<th>Proposed Route</th>
<th>Alternative #1</th>
<th>Alternative #2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distance (miles)</td>
<td>7.15</td>
<td>12.12</td>
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<tr>
<td>Waterbodies Crossed</td>
<td>9</td>
<td>12</td>
<td>14</td>
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<tr>
<td>Waters Disturbed (acres)</td>
<td>0.36</td>
<td>3.94</td>
<td>0.34</td>
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<tr>
<td>Wetlands Disturbed (acres)</td>
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<td>24.51</td>
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<td>NHP Priority Sites (acres)</td>
<td>12.51</td>
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<td>1.69</td>
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<td>Bald Eagle Foraging (acres)</td>
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<td>0</td>
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<td>Wood Turtle Habitat (acres)</td>
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<tr>
<td>NHP Vernal Pools (acres)</td>
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<td>0</td>
</tr>
<tr>
<td>Contaminated Sites Within Workspaces</td>
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<td>0</td>
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<tr>
<td>Forested Area (acres)</td>
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</tr>
<tr>
<td>Residential Area (acres)</td>
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<td>8.54</td>
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</table>
## Avoidance Route Alternatives

### Long Pond Ironworks State Park

<table>
<thead>
<tr>
<th></th>
<th>Proposed Route</th>
<th>Alternative #1</th>
<th>Alternative #2</th>
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</thead>
<tbody>
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<td><strong>Distance (miles)</strong></td>
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<td><strong>NHP Priority Sites (acres)</strong></td>
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<td>0</td>
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<td><strong>Bald Eagle Foraging (acres)</strong></td>
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<td>3.46</td>
<td>0</td>
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<td><strong>Wood Turtle Habitat (acres)</strong></td>
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<td>0</td>
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<td>0</td>
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<td>33.87</td>
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<td><strong>Residential Area (acres)</strong></td>
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## Avoidance Route Alternatives

### Ringwood State Park

<table>
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<th>Proposed Route</th>
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<th>Alternative #2</th>
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</thead>
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<td><strong>Distance (miles)</strong></td>
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<td>3.68</td>
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<tr>
<td><strong>Waterbodies Crossed</strong></td>
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<td>11</td>
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<tr>
<td><strong>Waters Disturbed (acres)</strong></td>
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<td>2.05</td>
</tr>
<tr>
<td><strong>Wetlands Disturbed (acres)</strong></td>
<td>7.07</td>
<td>4.82</td>
<td>4.08</td>
</tr>
<tr>
<td><strong>NHP Priority Sites (acres)</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Bald Eagle Foraging (acres)</strong></td>
<td>2.23</td>
<td>9.46</td>
<td>0</td>
</tr>
<tr>
<td><strong>Wood Turtle Habitat (acres)</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>NHP Vernal Pools (acres)</strong></td>
<td>6.56</td>
<td>14.32</td>
<td>0</td>
</tr>
<tr>
<td><strong>Contaminated Sites Within Workspaces</strong></td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td><strong>Forested Area (acres)</strong></td>
<td>52.38</td>
<td>61.86</td>
<td>40.13</td>
</tr>
<tr>
<td><strong>Residential Area (acres)</strong></td>
<td>0</td>
<td>8.69</td>
<td>3.21</td>
</tr>
</tbody>
</table>
TGP’s Proposed Plan to Further Reduce Project Impacts to NJ State Owned Lands

- Intended to further reduce project impacts to NJ State Lands
  - Modified construction technique & special equipment enabling a 10 ft shift of workspace & permanent easement (approx 10 acres) where feasible on state owned lands
  - Riparian zone workspace reduced from 100ft to 75ft excluding road crossings and side slopes

- Plan subject to further site specific NJ DLUR/T&E input and constructability review

- Plan maintains economic viability of the project and associated benefits to NJ while reducing environmental impacts in NJ
Typical Overview of TGP’s Proposed Plan to Reduce Project Impacts

Typical Construction

Wetlands and Riparian Zones
Conservation Restrictions

- For parcels that are acquired with Green Acres nonprofit acquisition funds, the NJDEP holds a conservation restriction on the properties in accordance with the “New Jersey Conservation Restriction and Historic Preservation Restriction Act”, N.J.S.A. 13:8B-1, et seq. See N.J.A.C. 7:36-20.1(g).

- In addition to the proposed 25-year lease of the lands owned in fee by the State, Tennessee is seeking the permanent release of a portion of these conservation restrictions in accordance with the Act. See N.J.S.A. 13:8B-5.

- NJDEP Commissioner approval is required for the release of the conservation restrictions.

- Tennessee is complying with the legal requirements for the partial release in accordance with N.J.S.A. 13:8B-5.

- Passaic River Coalition properties are encumbered by Green Acres restrictions and Tennessee is negotiating with Passaic River Coalition in connection with the Green Acres diversion process.

- Compensation for the partial release of the conservation restriction across the Passaic River Coalition properties will be satisfied by the compensation for the diversion in accordance with the compensation requirements set forth in the Green Acres regulations, N.J.A.C. 7:36-26. Compensation is anticipated to be land for land replacement.
In addition to the NJDEP properties, two properties owned by the Passaic River Coalition will be crossed by the NEUP.

**TABLE 1.1-1**

**PASSAIC RIVER COALITION GREEN ACRES TRACTS CROSSED BY THE NORTHEAST UPGRADE PROJECT - LOOP 325**

<table>
<thead>
<tr>
<th>Township/County</th>
<th>Milepost</th>
<th>Tract#</th>
<th>Green Acres Block/Lot</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PIPELINE FACILITIES</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ringwood Borough/Passaic</td>
<td>1.22 – 1.64</td>
<td>144</td>
<td>311/1.01</td>
</tr>
<tr>
<td>Ringwood Borough/Passaic</td>
<td>1.64 – 1.98</td>
<td>144.02</td>
<td>311/1.03</td>
</tr>
<tr>
<td><strong>Total Number of Passaic River Coalition Parcels Affected</strong></td>
<td></td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>
Approximately nine (9) acres temporarily impacted by construction; 2.3 acres new ROW

**TABLE 1.1-2**

<table>
<thead>
<tr>
<th>Block/Lot</th>
<th>Total Length of Proposed ROW (feet)</th>
<th>Proposed New Permanent ROW (acres)</th>
<th>Temporary Workspace (acres)</th>
<th>Additional Temporary Workspace (acres)</th>
<th>Total Impacts (acres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>311/1.01</td>
<td>2243.20</td>
<td>1.29</td>
<td>3.52</td>
<td>0.20</td>
<td>5.01</td>
</tr>
<tr>
<td>311/1.03</td>
<td>1765.66</td>
<td>1.01</td>
<td>2.74</td>
<td>0.23</td>
<td>3.98</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>4008.86</strong></td>
<td><strong>2.3</strong></td>
<td><strong>6.26</strong></td>
<td><strong>0.43</strong></td>
<td><strong>8.99</strong></td>
</tr>
</tbody>
</table>
Mitigation

- No Net Loss Reforestation Act (N.J.S.A. 13:1L-14.1 et seq.)
    - Replanting of TWS/ATWS areas
    - Off-Site Restoration and/or Monetary Compensation for new permanent easement impacts
- Freshwater Wetlands and Flood Hazard Area mitigation
  - Wetland and riparian zone restoration onsite
  - Offsite mitigation for wetland and riparian zone in areas of new right-of-way
- Land replacement will be at ratio of 4:1 acres for new right-of-way areas
- Timber value compensation
- Rare species habitat mitigation (if applicable)
- Highlands Region (Ringwood & Long Pond Ironworks)
  - Prime Groundwater Recharge Areas
    - 100% return of recharge onsite
    - Additional 25% mitigation offsite by way of land purchase/preservation
Public Hearing Comment Period

The hearing record will close on September 21, 2011.

Interested persons may submit written comments by September 21, 2011 to:

Kevin E. Koslosky
Bureau of Legal Services and Stewardship
Green Acres Program
New Jersey Department of Environmental Protection
P.O. Box 420, Trenton, NJ 08625-0420
Mail Code 501-01

Information on the Project is available at www.ferc.gov
(Project Docket No. CP11-161)
The NJDEP also held two previous Public Hearings on the proposed conveyance:

- Montague Municipal Building - August 17, 2011, 7-9:00 pm
- Ringwood Municipal Building - August 18, 2011, 7-9:00 pm