Integrated Resource Planning

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Ten Year Site Plan (TYSP)

- TYSP describes planned generation expansion
- Filed April 1 annually
- TEC’s IRP process designed to evaluate demand-side and supply-side resources on a comparable and consistent basis to satisfy future energy requirements in a cost-effective and reliable manner
- The process incorporates a reliability analysis to determine timing of future needs and an economic analysis to determine what resource alternatives best meet future system demand and energy requirements.
IRP process

1. Forecast demand & energy, including existing and potential demand alternatives; determine reliability needs/timing
2. Initial economic screen of candidate resources
3. Long term economic analysis with Expansion Planning Models
4. Detailed evaluation of top expansion plans with Production Cost Models
5. Determine cost effective demand alternatives to avoided unit
LEVELIZED COST CURVES ($/KW-YR)
NO CARBON COST INCLUDED

- IGCC
- SCPC
- NGCC
- Big Bend Solar (18 MW-AC)
- 7FA CT

LEVELIZED COST ($/KW-YR) vs. CAPACITY FACTOR (%)
Economic Analyses

• TEC uses System Optimizer (ABB) to evaluate all feasible combinations of alternatives to arrive at the most cost effective timing and type of resources that achieve the reliability criteria

• TEC uses Planning and Risk (ABB) to model the top ranked resource plan(s) for the entire planning horizon.
TYSP Expansion Plan

Summer Reserve Margin

Planned and Prospective Generating Facility Additions

<table>
<thead>
<tr>
<th>Plant Name</th>
<th>Unit No.</th>
<th>Location</th>
<th>Unit Type</th>
<th>Fuel</th>
<th>Const. Start</th>
<th>Commercial In-Service</th>
<th>Expected Retirement</th>
<th>Gen. Max. Nameplate</th>
<th>Net Capability</th>
<th>Status</th>
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<td>01/17</td>
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<td>*</td>
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