

EXHIBIT NO. _____ (EMM-27)
DOCKET NO. _____
2003 POWER COST ONLY RATE CASE
WITNESS: ERIC M. MARKELL

BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION,

Complainant,

Docket No. _____

v.

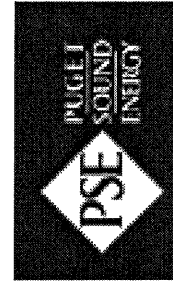
PUGET SOUND ENERGY, INC.,

Respondent.

DIRECT TESTIMONY OF
ERIC M. MARKELL
ON BEHALF OF PUGET SOUND ENERGY, INC.

Power Resource Acquisition Team Summary of Tenaska Report

February 19, 2003



The following material represents only a partial summary of the discussions held by the Power Resource Acquisition Team. It does not constitute the entire range of discussion held or alternatives reviewed. The information contained in this document has been obtained under Confidentiality Agreement and should not be copied or reproduced.

A number of key design and construction variables can dramatically affect specific plant costs which will differ from a generic estimate

Design Cost Drivers

Cooling System
<p>Wet Cooling</p> <ul style="list-style-type: none"> Consumes more water (typically 2 mil gpd for generic 1x1) ~80% of water consumed due to evaporation Not feasible if water unavailable or environmental restrictions <p>Dry Cooling</p> <ul style="list-style-type: none"> Consumes <10% water Less efficient (project capacity reduced ~2-3%) Higher capital costs (~15% more EPC cost or \$10 mil)

Duct Firing
<ul style="list-style-type: none"> CC steam turbines typically oversized to accommodate duct firing (small cost/efficiency penalty if not used) Supplemental firing via "duct burners" to hot gases passing thru HSRG into ST Efficiency loss offset by low cost/incremental kW added (typically add ~38 MW to 1x1 at cost of ~\$150/kW) Incremental HR still more attractive than simple cycle alternative (9,200 vs. 11,000 btu/kwh)

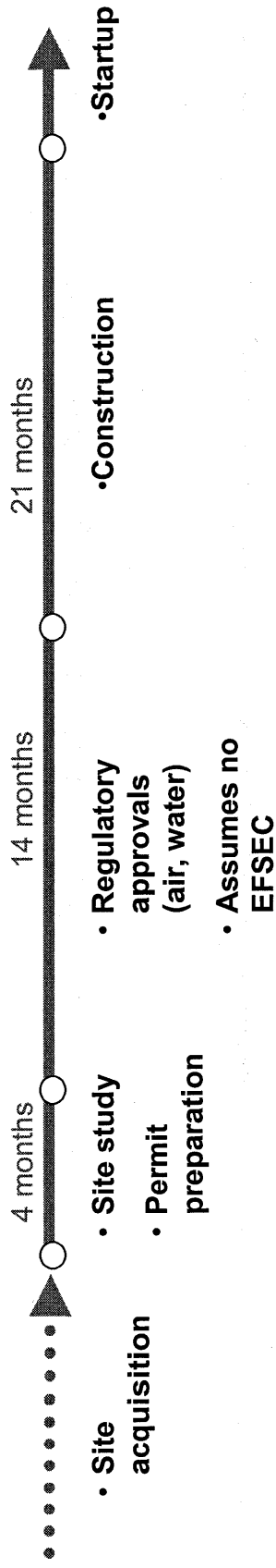
Construction Cost Drivers

EPC Contract
<ul style="list-style-type: none"> Typically largest component of capital costs (~1/3 of total) and carry premium/penalty provisions Costs vary considerably with market conditions (e.g. costs fell estimated 5-10% in 2nd half of 2002) Costs can increase in corresponding manner when market conditions recover

Equipment
<ul style="list-style-type: none"> Waiting periods for turbine orders can grow dramatically in high demand Price of GT varies closely with market conditions (e.g. rose quickly in late '90's to peak at ~\$40 mil in early '01, today's costs about \$30 mil) ST/HRSG typically have more manufacturers and prices are less volatile

Site Specific
<ul style="list-style-type: none"> Development and Transmission interconnection costs vary widely depending on location and community Tenaska assessed 24 potential site locations, performed site-visits and screened these down to two feasible locations

Permitting challenges, and its effect on project schedule and viability are unique for each specific plant



Project Schedule Vary With The Specific Project

- Assumes no schedule contingency
- Delays could add 12-24 months to project schedule (add corresponding increase in IDC)

Permitting challenges, and its effect on project schedule and viability are unique for each specific plant

Conclusions

- Estimated cost-to-build provides a useful comparison among options and is an important input to planning models
- Developing a project-specific cost estimate from a generic estimate requires detailed assessment of specific design, construction variables as well as soft costs
- A variety of development, permitting, scheduling or construction risks also have a considerable impact on the actual cost-to-build
- Leading asset candidates all appear available at more favorable price than self-build option, without the associated development, construction, or schedule risks

