

*Filed via WUTC Electronic Webportal*

August 3, 2011

Mr. David W. Danner  
Executive Director and Secretary  
Washington Utilities and Transportation Commission  
1300 South Evergreen Park Drive S.W.  
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**Subject:** Docket No. UE-100961 and UG-100960: Puget Sound Energy's 2011  
Integrated Resource Plan – Comments of TransAlta Corporation

Dear Mr. Danner:

TransAlta Corporation ("TransAlta") welcomes the opportunity to comment on Puget Sound Energy's ("PSE's") 2011 Integrated Resource Plan ("IRP"). TransAlta's comments address the following points as detailed below:

- The IRP acknowledges that coal would provide a least-cost alternative, but is out of date in its consideration of PSE's ability to contract for coal transition power from the Centralia plant.
- A contract for Centralia plant output would alleviate some of the burdens that the IRP expects to be imposed on ratepayers in the near and medium term, such as costs for peaker plants, gas transportation and storage, and additional transmission requirements.
- Such a contract would also support the State's greenhouse gas reduction goals and the beneficial uses of the facility to Washington State such as providing family-wage jobs, and protecting grid stability, reliability and affordability of power in the state as recognized in Laws 2011, ch 180, §101(3)-(5).
- As an existing non-gas asset Centralia offers additional risk reduction benefits in areas such as construction risk, fuel and power market price risk and resource diversity compared to the alternatives laid out in the IRP. In addition, a contract with Centralia would help to alleviate additional risks such as higher market prices and transmission constraints that PSE has identified as being associated

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with the “No Northwest Coal” scenario.

As an asset based transaction with the above-mentioned attributes, a coal transition power contract from Centralia is a unique product not equivalent to purely financial market purchases, other PPAs or new generation alternatives and should be evaluated in a way that properly recognizes these special characteristics before any other long term commitments are made to peaking capacity, PPAs, power transmission, gas transportation or storage capacity.

Recognizing that the IRP represents only a snapshot in time, TransAlta is not suggesting that the IRP be re-run in light of the developments regarding Centralia. However we do request that as you consider any future proposed resource acquisitions that the Commission explicitly recognizes that a change in law has occurred since the IRP was formulated that fundamentally changes the availability and attractiveness of coal transition power contracts from the Centralia facility.

#### **Background on TransAlta and Centralia**

TransAlta owns and operates the Centralia Coal Plant, which is Washington State’s largest baseload power source. The Centralia plant has a net capacity of 1,340 megawatts and provides approximately 10 per cent of Washington State’s baseload power. TransAlta has invested more than US\$300 million in pollution control technology at the Centralia plant, including scrubbers and low nitrogen dioxide burners. Today, the facility is one of the cleanest coal-fired power plants in North America.

Starting in 2007 with the enactment of chapter 80.80 RCW,<sup>1</sup> the facility was not able to enter into transactions of five years or more with Washington utilities. In 2011, however, the

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<sup>1</sup> Chapter 307, Laws of 2007, commonly known as Senate Bill 6001. Recognizing that the IRP represents only a snapshot in time, TransAlta is not suggesting that the IRP be re-run in light of the developments regarding Centralia. However we do request that as you consider your response to this IRP that the Commission explicitly recognizes in that response that a change in law has occurred that fundamentally changes the availability and attractiveness of coal transition power contracts from the Centralia facility.

Recognizing that the IRP represents only a snapshot in time, TransAlta is not suggesting that the IRP be re-run in light of the developments regarding Centralia. However we do request that as you consider your response to this IRP that the Commission explicitly recognizes in that response that a change in law has occurred that fundamentally changes the availability and attractiveness of coal transition power contracts from the Centralia facility.



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Legislature enacted a bill that provides Washington utilities with the opportunity to enter into longer term contracts for the output of Centralia. As an integral part of Washington's climate change strategy, this bill will lead to the reduction of emissions from Centralia through shutting down one unit in 2020 the other unit in 2025.<sup>2</sup>

TransAlta recognizes that most of the work on PSE's 2011 IRP was done prior to enactment of the new law. Nevertheless, in evaluating proposed resource acquisitions on a going-forward basis, it is important to consider the availability of long-term asset-based coal transition power contracts for the output of the Centralia plant as an alternative resource through 2025.

**PSE's ability to contract for coal-fired generation**

The IRP acknowledges that coal would provide a least-cost alternative. "Absent constraints, the AURORA model would have identified coal as a least-cost resource and built a large number of coal units in the WECC[.]" 4-13. Similarly, the IRP recognizes the value of existing coal resources: "The coal resources that are part of PSE's existing portfolio provide a low-cost, stable fuel source and resource diversity." 5-8.

Nevertheless the IRP fails to recognize the recent legislative changes that enable PSE to contract for coal-fired power from the Centralia plant. It states that, "additional coal resources were not modeled because of the emissions restrictions set forth in Washington state law RCW 80.80." 5-8. Similarly, it recites that, "Additional long-term coal fired generation is not a resource alternative. RCW 80.80 precludes utilities in Washington from entering into new long-term agreements for coal." 5-9. This statement is simply incorrect.<sup>3</sup> Although chapter 80.80 RCW still precludes PSE from *constructing* new coal-fired resources, it expressly allows PSE to *contract* for power from the Centralia plant. RCW 80.80.040(3)(c)(i), as adopted by the 2011 Legislature, authorizes the Centralia plant to comply with the greenhouse gas emissions performance standard by shutting down one of its two boilers by the end of 2020 and the other by the end of 2025. Thus, PSE can purchase coal power from the Centralia plant under a long-term contract through 2025. As PSE moves forward in the coming months with further analysis and selection of available resources, it must refine its analysis to recognize the legal availability of long-term contracts for the output of the Centralia plant.

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<sup>2</sup> Chapter 180, Laws of 2011 (Engrossed Second Substitute Senate Bill 5769), effective July 22, 2011 and available at <http://apps.leg.wa.gov/billinfo/summary.aspx?bill=5769&year=2011>.

<sup>3</sup> The same incorrect statement is made at C-2 and D-21.

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**Reducing ratepayer burdens for peakers and gas transportation / storage**

**Peakers.** The IRP base case anticipates PSE acquiring 1065MWs of additional peakers by 2016 with an initial capital cost of over a billion dollars. Figure 5-23, figure 5-10. A contract with Centralia would alleviate some of the costs associated with any new peaker capacity that PSE expects to impose on rate payers. TransAlta also believes the IRP may understate the costs and risks to ratepayers associated with its proposed reliance on peakers. The IRP assumes that new peaker plants will be located where firm transmission is available to PSE's service territory (thereby avoiding transmission infrastructure costs) 3-7, and that these plants will be allowed to use oil as a backup fuel (thereby eliminating the need to incur costs for firm gas transportation and additional gas infrastructure costs) 6-3. Yet the IRP also acknowledges that air quality issues on the west side of the Cascades pose significant challenges to the siting of new thermal generation and that siting generation east of the Cascades would require additional transmission. 3-7. The major transmission line construction that would be needed to deliver significant new resources from east of the Cascades to west of the Cascades could take up to ten years<sup>4</sup> and will be costly. Ratepayers will bear the costs and the risk of delay both for newly constructed peakers and for any new transmission needed to deliver their power to PSE's service territory.

**Gas transportation/storage.** The increasing reliance on gas generation alternatives in the IRP will lead to the need for additional costs relative to gas transportation and storage. TransAlta believes that PSE may need to find gas transportation and/or gas storage sooner than suggested in the IRP. The IRP shows a need for additional gas transportation by 2016-17, even with PSE's aggressive assumption that peakers will be built and can rely solely on opportunistic gas transportation purchases (or on oil back-up) despite coincident winter peaks for electric and gas demand. 1-12, 1-18, 6-3. With more conservative assumptions about the availability of opportunistic purchases and oil back-up, the IRP likely would have shown a need for additional gas transportation even before 2016. Indeed, the IRP notes that PSE should consider acquiring existing capacity in the next two years, instead of waiting until 2013/2014 to begin pipeline expansion or acquisition. 1-18. The IRP properly recognizes that dispatchable gas-fired generation can create significant – even “unprecedented”<sup>5</sup> – swings in

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<sup>4</sup> ColumbiaGrid, “2011 Biennial Transmission Expansion Plan” (February 16, 2011) at 13-14.

<sup>5</sup> “Significant additions of gas-fired generation resources – as with the 2,343 MW of peaking plants added in the electric resource portfolio developed for the IRP – could create unprecedented swings in gas loads. As peakers are switched on to meet demand, a volume of gas equivalent to PSE's entire gas sales load on a typical winter day could be required, and by 2020, day-to-day swings in gas volumes for generation fuel could be three times greater than the swings PSE has seen with its entire gas utility load historically.” 6-8.



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the need for gas supply as units are dispatched, and that these demand swings may create a need for additional storage. 1-14, 1-18.

The IRP makes several references to testing the sensitivity of "Fixed (Firm) Gas Transport Cost for Peakers," 4-1, 4-14, 4-15, but it appears that any related modeling is not included in the report so it is not possible to determine the assumptions or sufficiency of that analysis.

The IRP uses the large anticipated swings in demand that stem from reliance on peakers to justify new investment in storage. 6-8.<sup>6</sup> Yet it admits that long-term contracts could affect the need for pipeline/transmission etc. 1-8. It states that, "Choosing purchased power agreements would reduce the amount of natural gas resources needed." 6-9. This demonstrates that long-term contracting for Centralia coal should receive careful consideration prior to any substantial investment in added gas pipeline or storage capacity.

#### *Alleviating new transmission requirements*

The IRP associates market purchases and new generation with additional transmission requirements. 1-7, 3-6, 3-7, 5-10 ("In this IRP, PSE modeled additional transmission capacity plus market power purchases"). For many generating resources, new or existing, additional transmission resources may be needed to serve PSE's system. PSE already has up to 398MW of transmission from the Centralia plant<sup>7</sup>. Thus purchases of Centralia power would alleviate costs that PSE would otherwise incur for incremental transmission (especially new build transmission) required to move other generation to PSE's service territory.

ColumbiaGrid's study of the potential closure of Centralia found that, "The effect of the closure of one unit at Centralia could increase loading on this path [the West of Cascades North path that moves power from east of the Cascades to the west] by approximately 300MW and accelerate the need to reinforce this path which is expected to be a costly undertaking. A new 500kV transmission line could be required which would add roughly between 800MW

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<sup>6</sup> Similarly, see text at 6-49 – 6-50: "[A]dditional firm pipeline capacity or storage may be necessary in the event that an all-peaker portfolio proves to place an unacceptable reliance on day-to-day gas market purchases or non-firm gas transmission capacity." ... "Continued expansion of PSE's gas fired generating resources will increase the need for gas storage resources."

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and 1600MW of transmission capability to the West of Cascades North path at a cost of roughly one billion dollars.”<sup>8</sup>

The ColumbiaGrid observation becomes especially relevant in conjunction with the statement in the IRP that because “Air quality issues on the west side of the Cascades pose significant challenges to siting of new thermal generation projects” and that new generation may have to be located elsewhere causing the need for incremental transmission. 3-7.

In its continuing comparative evaluation of potential resources, PSE should include an evaluation of the transmission cost impacts from purchases of Centralia as compared to other resources.

**Supporting Washington’s greenhouse gas reduction goals and recognized beneficial uses of Centralia**

Compared to all other alternatives, only purchases from Centralia offer the benefits of implementing the State’s greenhouse gas reduction goals<sup>9</sup> in a manner that protects grid stability and reliability, affordability of power, and over 360 direct family-wage jobs. The Legislature expressly recognized these factors,<sup>10</sup> making the following findings:

... The legislature finds coal-fired electric generation may provide baseload power that is necessary in the near-term for the stability and reliability of the electrical transmission grid and that contributes to the availability of affordable power in the state. The legislature further finds that efforts to transition power to other fuels requires a reasonable period of time to ensure grid stability and to maintain affordable electricity resources.

(4) The legislature finds that coal-fired baseload electric generation facilities are a significant contributor to family-wage jobs and economic health in parts of the state and that transition of these facilities must address the economic future and the preservation of jobs in affected communities.

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<sup>8</sup> ColumbiaGrid, “The Effect of the Closure of the Centralia Power Plant Closure on the Grid” (April 28, 2011) at 3.

<sup>9</sup> Chapter 70.235 RCW; see IRP at 1-10.

<sup>10</sup> The Washington State Chapter of the Sierra Club has likewise recognized the plant’s unique role. Its comments on the IRP state, “given the agreement to shut down Centralia, we support PSE acquiring ‘coal transition power’ as necessary to facilitate the retirement of the Centralia plant and provide a stable planning environment for the plant’s laborers & community.” Comments dated June 29, 2011 at 3.



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(5) Therefore, it is the purpose of this act to provide for the reduction of greenhouse gas emissions from large coal-fired baseload electric power generation facilities, to effect an orderly transition to cleaner fuels in a manner that ensures reliability of the state's electrical grid, to ensure appropriate cleanup and site restoration upon decommissioning of any of these facilities in the state, and to provide assistance to host communities planning for new economic development and mitigating the economic impacts of the closure of these facilities. [Laws 2011, ch 180, §101(3)-(5)]

### ***Risk Reduction***

As an existing non-gas asset Centralia offers additional risk reduction benefits compared to the alternatives laid out in the IRP submission.

- **Construction** - Construction costs, ability to site, and timing issues are all risks associated with new build alternatives that are eliminated by contracting with existing assets such as the Centralia facility.
- **Fuel Price** - The current IRP relies heavily on gas fired generation to meet the service territory's future requirements. Gas is a volatile commodity and the price of gas is one of the main drivers of future power prices. If the utility builds new peaker plants, or contracts with other gas fired assets leaving gas fuel costs as a pass-through to ratepayers, this substantial risk will arise. In addition to gas commodity risk, the IRP has made the aggressive assumption that these gas fired plants (which will be relied upon to provide generation when market conditions are tight) can rely on opportunistic gas transportation purchases avoiding the costs associated with firm gas transportation contracts, whereas they would have made the assumption that firm transportation would be required for combined-cycle facilities. 6-3, D-27, D-29 and D-31. Leaving the gas transportation un-contracted exposes rate payers to risk. If firm transportation contracts are required for these peakers, additional costs will be incurred, and there are also potential risks that sufficient transportation capacity would not be available or that substantial additional costs will be incurred for new or expanded pipeline capacity.
- **Market Prices** - The IRP relies on market purchases in combination with peaking plants. This leaves the inherent risk of market prices in the proposed resourcing strategy. A weakness in the IRP, taken as a whole, is its assumption that the current low market prices will persist into the indefinite future. The IRP overall assumes that PSE can simply rely upon short-term market purchases to meet its energy needs and

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can use peakers to fill in any gaps. 1-7. This is not a sustainable long-term strategy because it fails to account for how the markets will respond to PSE's increased demand, particularly if other major utilities adopt the same strategy. Over time, market demand will increase, reducing the availability and increasing the price of market purchases.

- Market Terms & Conditions - The IRP also acknowledges market risk by stating that PPAs were not evaluated with the rationale that "costs and commitment terms are market-driven and known only at the time of the offer" and so could not be modeled. 5-8. In contrast, a contract for Centralia output can be evaluated like other assets on a fair cost and return basis using a "revenue requirement model" 5-25. Thus a Centralia PPA should be included as a resource alternative whenever PSE performs further resource analysis for purposes of specific proposed resource acquisitions.
- Resource Diversity – Resource diversity is a key risk reduction strategy in any portfolio. The IRP notes that the coal resources PSE's existing portfolio provide resource diversity, 5-8. The flawed assumption of "limited alternatives" that has been made in the IRP has led to a resource plan that effectively puts all future "eggs into one basket" by sourcing a huge additional peaking capacity. A transition coal contract from Centralia would help to alleviate this imbalance.

#### **Protecting against the "No Northwest Coal" scenario**

The IRP recognizes that the "No Northwest Coal" scenario would have higher costs for ratepayers, necessitate the need for additional CCCT plants, have transmission impacts, and that "market heat rates could be significantly different than what we have seen historically." 2-6; *see also* 5-41, 1-8. The IRP expressly states that if Centralia and Boardman "operations were significantly curtailed or shut down, PSE and its customers would be affected by the resulting impacts on market prices and regional transmission reliability." 3-5. Similarly, "No NW Coal ... would lead to significant future costs[.]" 5-40. Moreover, although the loss of Northwest coal plants could have significant implications for reliability of the regional transmission grid – and presumably costs for grid reinforcement – PSE was not able to model those reliability impacts (1-8) and related costs were therefore not reflected in the IRP.

Because PSE is now able to enter into long-term contracts for the output of Centralia, PSE – subject to Commission approval – can help protect its ratepayers and the region from the burdens of the "No Northwest Coal" scenario. On the other hand, by failing to take the opportunity to contract with Centralia for coal transition power, PSE would push the market closer to the costly No Northwest Coal scenario.



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The IRP is not as clear as it could be as to how dramatically the inclusion or exclusion of coal affects planning outcomes. The IRP repeatedly indicates that there is a high degree of consistency in outcomes for resources to be added to the system across various scenarios. *E.g.*, 1-8; 5-32 (“Resource alternatives are so limited that the portfolio builds for all scenarios look very similar.”). Yet only sometimes does the IRP note that the scenarios that produce consistent results do not include the No Northwest Coal scenario. *See:*

- 2-4 (Figure 2-2, “Electric Portfolios by Scenario”, includes the “Green World” scenario but omits “No Northwest Coal” – the same approach is taken in Figure I-14 at I-33 – I-35);
- 2-5 (narrative states that the conclusions draw in the IRP are are *not* consistent with the Green World and the No Northwest Coal scenarios); and
- 5-32 (no mention of No Northwest Coal scenario when stating “For all but Green World, the optimal portfolio uses new transmission and peakers to meet physical reliability need, conservation and market power purchases to meet annual energy needs, and wind to meet RPS requirements”).

This lack of clarity is compounded by the fact that the IRP sometimes describes the absence of Northwest coal-fired generation as a scenario (5-8) or portfolio (Figure 5-31) and sometimes as a sensitivity (2-5). Moreover, the cost analysis fails to present differences in near to medium term costs between most of the portfolios and the No Northwest Coal portfolio; Figure 5-31 only shows costs in year 2020 and beyond.

**The need for a refined analysis of Centralia**

PSE recognizes that its analysis of the closure of coal plants is incomplete and intends to undertake more analysis. For example, it acknowledges that more analysis is needed to determine market impacts (market prices and transmission reliability). 2-6; 3-5. “This is a first look – not a last look – that PSE will be taking at this issue [No Northwest Coal].” 4-15.

Likewise, the IRP recognizes that, “It is important to consider the limitations of this analysis when considering the scenario in which all Northwest coal plants are forced to retire, as PSE used some simplifying assumptions to complete the IRP analysis in a timely manner.” 5-41. The constraint on the Aurora model to preclude new coal in region although coal is seen as a “least cost resource” and the characterization of RCW 80.80 as prohibiting long-term coal PPAs are assumptions that should be revisited. (4-13; 5-8)

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This further analysis and the refinement of assumptions cannot wait until the next IRP. It is needed to compare any PSE proposal to acquire generation resources to the coal transition power that is available from Centralia.

### **Conclusion**

As an asset-based transaction with the above-mentioned attributes, a coal transition power contract from Centralia is a unique product not equivalent to purely financial market purchases, other PPAs or new generation alternatives and should be evaluated in a way that properly recognizes these special characteristics.

The IRP acknowledges that market opportunities outside RFP and self-build must also be considered when making prudent resource acquisition decisions. 1-16. In a similar vein, the IRP states that although it “did not evaluate PPAs as a resource alternative ... when actual acquisitions are made and terms and conditions can be known, they will certainly be considered and evaluated as alternatives.” 5-8. TransAlta encourages PSE to take this point to heart, and to give serious consideration to the opportunity to enter into long-term transition coal contracts for Centralia power. As the IRP explains,

Integrated resource plans are a means of examining the potential outcomes over time of different resource decisions within a matrix of varying assumptions and risk scenarios. ... Actual resource additions and portfolio costs will surely vary from any single estimate we may make today. Markets are dynamic and we use our RFP process and unanticipated market opportunities to create value propositions for our customers in real time. [1-2]

TransAlta Corporation appreciates the opportunity to present its views. Please direct any questions regarding these comments to Brenda Marshall at 206-402-2034. Thank you for your consideration of these comments.



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Very truly yours,

TRANSALTA CORPORATION



By  
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