

**ESSB 6001 Stakeholder Committee**  
**October 2, 2007 Meeting**  
**Decision Matrix:**  
**Cogeneration Facilities**

Issue	What concerns are there (e.g. with current law)?	What approaches should be considered?	What is the reflected opinion (recommendation) of the committee?	What complicating factors (or minority opinions) are there?
<p>1) ESSB 6001, Section 5(4): All cogeneration facilities in the state that are fueled by natural gas or waste gas or a combination of the two fuels, and that are in operation as of June 30, 2008, are deemed to be in compliance with the greenhouse gases emissions performance standard established under this section until the facilities are the subject of a new ownership interest or are upgraded.</p>				
<p>For purposes of this rule, what is the definition of “waste gas”?</p> <p>(FERC regs define “waste”, includes refinery gas.)</p>		<ul style="list-style-type: none"> <li>- garbage would be a fuel and not considered a waste gas</li> <li>- Pulp mill gasifier gas may not be renewable or a waste gas under definition in 18 CFR 292</li> <li>- Exhaust gas streams from a plant like Evergreen Kalama need to be looked at</li> </ul>	<ul style="list-style-type: none"> <li>- limit scope of “waste gas” to Refinery gas</li> <li>- Gaseous organic compound rich streams</li> <li>- {May want to set a BTU content maximum?}</li> </ul>	
<p>Grandfathering: part of this rule or WUTC?</p> <p>An existing cogeneration facility is grandfathered to comply with the performance standard</p>	<ul style="list-style-type: none"> <li>- Compliance by the purchaser of baseload power or the seller of the power?</li> <li>- Is this part of the long term financial commitment</li> <li>- WUTC and PUD commissions oversee purchase of power or operation of its own generating capacity. Don not regulate the generators</li> <li>- Relevance to Ecology’s jurisdiction?</li> </ul>	<ul style="list-style-type: none"> <li>- Under Ecology Rule because of purchasing.</li> </ul>	<p>Regulation by Ecology/EFSEC since WUTC doesn’t regulate the generator of power, only the purchaser. WUTC could require utility to submit contract for review upon any change in ownership or upgrade.</p> <p>Law clear on status of existing generating facilities until a qualifying change is made.</p>	

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			<p>Part of discussion on what triggers the need for a facility to comply with the standard.</p> <p>Suggestion to use approach to a change in ownership similar to that used for air quality and waste water discharge permits – doesn't address fractional changes in ownership</p> <ul style="list-style-type: none"> <li>- sale of controlling interest (operating owner or &gt;50% share of facility would trigger tperformance standard compliance</li> <li>- Don't look at steam user ownership changes</li> </ul>	
<p>a. Does the rule need more detail on what is an upgrade or ownership change than exists in the law?</p> <p>b. What additional details are needed?</p> <p>c. Does a specific consideration need to be made for cogeneration facilities? i.e. if the steam host changes ownership does that trigger the need to comply with the performance standard or</p>	<ul style="list-style-type: none"> <li>- Upon change of ownership of the generation can current contract be terminated based on law? Or does the law require the contract be terminated?</li> <li>- When new long term commitment occurs who has compliance oversight authority?</li> <li>- Time of new long term commitment need to look at compliance standard.</li> <li>- If there is a change of ownership or upgrade should the checks for compliance be</li> </ul>	<p>New long-term power purchase contracts would require the generator to demonstrate compliance with the performance standard before commission or WUTC could approve contract.</p>	<p>Deferred to AAG for investigation</p> <p>Also see above discussion on grandfathering</p>	

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<p>only changes to the electrical generation owner. Should this be different if the steam host and owner are the same?</p>	<p>triggered?</p> <ul style="list-style-type: none"> <li>- Cogeneration plants are allowed to enter into partnerships outside of the state.</li> <li>-</li> </ul>		<p>Thermal energy user (aka ‘steam host’) changing ownership should not be an ownership change that would trigger the need to comply with the performance standard. Closure of steam host might affect status as qualifying facility. If loose status as qualifying facility, may result in need to do something to comply with performance standard.</p>	
<p>2) ESSB 6001, Section 5(6): The department shall establish an output-based methodology to ensure that the calculation of emissions of greenhouse gases for a cogeneration facility recognizes the total usable energy output of the process, and includes all greenhouse gases emitted by the facility in the production of both electrical and thermal energy. In developing and implementing the greenhouse gases emissions performance standard, the department shall consider and act in a manner consistent with any rules adopted pursuant to the public utilities regulatory policy act of 38 1978 (16 U.S.C. Sec. 824a-3), as amended.</p>				
<p>What does output based methodology mean?</p>	<p>The detailed calculation methodology may be necessary for bottoming cycle plants and for IGCC type facilities</p>	<ul style="list-style-type: none"> <li>- product produced</li> <li>- efficiency methodology</li> </ul>	<p>Units are in MW electricity equivalent or useful thermal energy equivalent. Energy input not part of calculation unless detailed formula on efficiency used for cogeneration</p>	
<p>Does a unit/facility have to qualify as a cogeneration facility under 18 CFR Part 292 to get to use the cogeneration formula to calculate emissions?</p>	<ul style="list-style-type: none"> <li>- qualifying facility</li> <li>- qualifying facility divide by two formula is not applicable for 6001 compliance?</li> </ul>	<ul style="list-style-type: none"> <li>- definition in 6001 states that cogeneration facility has to be a QF, so only QFs can use the “deemed in compliance” provision</li> </ul>	<p>Must be a QF to use cogeneration formula to determine compliance with performance standard. But Ecology must deal with how non-QF cogens calculate emissions.</p>	

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<p>What does consistency with PURPA require?</p> <p>-- use of method to test efficiency</p>			<p>Consistency does not require use of cogeneration efficiency test for calculating GHG compliance</p>	
<p>Which of three methodologies?</p> <p>a. conversion b. efficiency c. work potential</p> <p>Which term is synonymous with equivalent electrical output?</p> <p>How is bottoming-cycle treated?</p>	<p>Law says output, therefore need to look at actual useful energy and disregard thermal losses</p> <p>a, and b. are equivalent terms differing in only the degree of detail in the equations. a. has fewer assumptions and simpler (more plant to plant replicability), while b. is more complex and accurate.</p> <p>Bottoming cycles are different than topping cycles.</p>	<p>KISS!</p> <p>Allow situation to dictate how to address bottoming cycles.</p>	<p>Use the simple formula. Calculate equivalence in MWh of electricity and electrical equivalent of useful thermal energy.</p> <p>Include language that compliance for a bottoming cycle facility will be determined on a case-by case basis in consideration of the actual process details and configurations.</p>	
<p>What is the boundary for what direct and indirect emissions are to be accounted for in demonstrating compliance with the GHG performance standard? (NOTE:</p>	<p>Will discuss at next meeting on boundary issues.</p> <p>Cogens might be different in regard to indirect emissions from steam host.</p>	<p>Steam host should not be within boundary of emissions calculation.</p>	<p>Not include steam host within boundary of electric generation.</p>	

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<p>This topic will be discussed at a future meeting in the broader context of all baseload generation)</p> <p>In what way should the boundary be different for cogeneration facilities?</p>				
<p>How capacity factor of 60% defined.</p> <p>(To deliver firm energy by contract to a utility in amount equal to the MWh that would be produced by the generator at an annual plant capacity factor of at least 60%.)</p>	<ul style="list-style-type: none"> <li>- recognize built in facilities</li> <li>- Part of definition of base load unit in 6001, Section 2.</li> </ul> <p>PURPA law and rules in 18 CFR 292 contain mandatory purchase and sale provisions for power generated by qualifying facilities.</p> <ul style="list-style-type: none"> <li>- Does the 60% factor defining base load operation apply to electricity and useful energy produced by the cogeneration unit or just the electricity produced, or just the electricity provided for sale?</li> </ul>	<ul style="list-style-type: none"> <li>- look at amount that is contracted out to the grid</li> <li>- intended to provide 60 percent of capacity out to the grid</li> <li>- What is relationship of 'contracted for sale' versus the mandatory purchase provisions for QF units?</li> </ul>	<p>No conclusion at meeting. Need to propose something and get response to proposal.</p> <p>May be related to discussion on mandatory power purchase provisions of PURPA</p>	
<p>Should there be a minimum size threshold (not included in statute)</p> <p>Alternate form of the question – Can Ecology and EFSEC establish a minimum size threshold</p>		<ul style="list-style-type: none"> <li>- ask AG's office if we have authority to set size threshold</li> </ul>	<p>Defer question to AAG</p>	

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for application of the cogeneration and other 6001 provisions?				
Is application of EPS one-time at commitment or an on-going compliance item?	<p>Is compliance by power purchasers/sellers evaluated only at time of entering a new long term power production contract?</p> <p>Is enforcement by Ecology/EFSEC or by the PUD commissions/WUTC by denial of contract approval?</p> <p>What about change of ownership of generator with contract continuing in effect?</p> <p>Is the performance standard over the lifetime of the operation or is it a shorter term compliance issue i.e. hourly, daily, monthly, or annual average?</p>	Deferred to AAG for investigation and advice		
Does the definition of cogeneration within current WAC 173-407 (which is copied verbatim from RCW 80.70) need to be amended to be consistent with the definition in PURPA?		- keep two laws separate in their consideration of cogeneration	Separate sets of definitions for each section of the final rule.	

Side question to investigate – is a municipal waste combustor that makes electricity (assuming it is sold as baseload power) covered by 6001? Is municipal waste a renewable resource? Could it be waste fuel for a cogeneration unit?