

COMMENTS ON WRSI PRESENTATION ON ADVANCED THERMAL RECYCLING, AUGUST 23, 2007

ISSUE	STATEMENT IN PRESENTATION	COMMENTS
<p>Greenhouse Gas Emissions</p>	<p>Landfills produce substantially greater greenhouse gas emissions than waste-to-energy (WTE) facilities.</p>	<p>The R.W. Beck report concludes that waste export/landfilling would result in somewhat lower greenhouse gas emissions than the WTE technologies. This differs from the conclusions of some researchers due to (1) the relatively high landfill gas collection efficiency at landfills in Washington State compared to the national average; and (2) the relatively low avoided emissions in Washington State, where only a small percentage of electricity is generated from coal combustion. (Avoided emissions – i.e., emissions that are avoided because the WTE facility or landfill generates electricity that would otherwise have to be generated by the local power supply – are subtracted from each technology's total emissions to get net emissions.)</p>
<p>Annual Availability</p>	<p>The Hamburg WTE facility has virtually no down time for scheduled and unscheduled maintenance.</p>	<p>The R.W. Beck study states that over the last four years, the two processing units (1,100 ton-per-day each) at the Hamburg WTE facility have had an average annual availability of 92% and 93%. That means one unit is down for scheduled and unscheduled maintenance about 8% of the time, or 29 days/year; and the other about 7% of the time, or 26 days per year.</p>
<p>Need for Landfilling</p>	<p>No landfilling is needed in conjunction with the Hamburg WTE facility.</p>	<p>This may be true in Hamburg, but wouldn't be true in King County. The Hamburg WTE facility produces hazardous fly ash that is wetted to form a slurry and pumped into old salt mines. Bottom ash is recycled. Here in Washington State, the law requires that both fly ash and bottom ash be landfilled. The R.W. Beck report indicates that fly ash and bottom ash together represent about 10% by volume and 25-30% by weight of the incoming waste. In addition, the R.W. Beck report states that about 5% of King County's waste stream by weight would not be processible in a WTE facility like the one in Hamburg, and would have to be disposed by other means. Landfill capacity may also be needed for waste brought to the facility when it is down for scheduled or unscheduled maintenance (see above)</p>
<p>Effect on Recycling</p>	<p>The Hamburg WTE facility has no effect on recycling. Germany has one of the highest recycling rates in the world at 65%.</p>	<p>The R.W. Beck report concludes that King County' recycling rate could increase to 60% with only a small impact on the energy production per ton of waste processed in a conversion facility. However, as the recycling rate approaches 70%, there would be enough of an impact on energy production to affect decisions about the size and operation of the facility. If the county were to commit to a certain size facility based on today's recycling goals, it may limit the county's ability to exceed those goals during the 40-year life of the facility, because certain material may have to be used as fuel rather than recycled.</p>
<p>Visibility of Plume</p>	<p>Since the moist air coming from the stack is at 70° F, the plume from the stack would only be visible when the outside air temperature is below 70 degrees.</p>	<p>That means the plume would be visible much of the time here in King County, based on National Weather Service monthly temperature summaries for the years 1999 through 2007. To dispose of King County's 1.2 million tons per year of garbage (in 2016), four 800 ton-per-day WTE processing units would likely be placed on the same site. Each processing unit would have its own 200+ -foot stack (a total of four stacks). Each stack would have its own white plume every time the outside temperature is below 70° F.</p>

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<p>Use of Steam</p>	<p>Seattle Steam could use steam generated by a WTE facility.</p>	<p>In order for Seattle Steam to make use of steam from a WTE facility, the WTE facility would have to be sited in the industrial area of Seattle within close proximity of Seattle Steam. It is highly unlikely that a King County WTE facility could be sited in this area given Seattle's experience trying to site its own intermodal facility in Georgetown. WRSI has referred to the old Weyerhaeuser Mill site in Snoqualmie, the Cedar Hills Landfill, and a site on the Snohomish River, as being potential sites for an incinerator. Apart from how problematic it would be to site a WTE facility at any of these locations, none of them would allow the steam to be used by Seattle Steam.</p>
<p>Potential for Landfills to Leak</p>	<p>Spokane had four superfund landfill sites before the City/County decided to build an incinerator. All landfill liners will fail in 50 to 60 years and pollute groundwater.</p>	<p>First, the Spokane Superfund sites are unlined landfills, so it is not surprising they leaked. Second, the presenter who says all landfill liners will fail is no doubt quoting G. Fred Lee, who has written for two decades that Subtitle D landfills will inevitably fail due to breakdown of the landfill liner and that groundwater will be polluted. What Lee says may be true for some landfills, but there is no reason to believe it is true for the Northwest arid-area landfills to which King County would export its waste (which are built to more stringent non-arid standards). Liners are only likely to leak if there is leachate buildup in the landfill. But at the Roosevelt, WA Regional Landfill (typical of an arid-area landfill), TVing of leachate observation pipes has indicated there is no leachate head over the bottom liner (Klickitat County, December 2001 EIS). Also, rigorous construction quality assurance and operations measures are taken to minimize the potential for leaks. These measures, combined with the lack of leachate head, address the issues that G. Fred Lee cites as contributing to liner leaks. King County could require such measures in its waste export contract.</p>
<p>Railroad Reliability</p>	<p>The unreliability of the railroads is an unacceptable risk, and no business should take that risk.</p>	<p>There is currently substantial waste export occurring in the region, and the private haulers appear to have a relationship with the railroads that keeps the waste trains moving. Private haulers have said they would prefer to operate intermodal facilities so they can continue to be the ones interfacing with the railroads.</p>
<p>Post-Closure Care of Landfills</p>	<p>The law only requires a 30-yr. post-closure period, and landfills in Europe have been found to be "unstable" long after that (that is, they keep generating landfill gas and leachate). Landfills will be abandoned after 30 years and pollute the environment.</p>	<p>Washington State's Criteria for MSW Landfills require post-closure care during the 30-year post-closure period, including maintaining the integrity of the final cover, maintaining the leachate collection system, maintaining groundwater and landfill gas monitoring, and continuing active gas collection if needed. The regulations state that the 30-year post-closure care period may be increased by the jurisdictional health department if the lengthened period is determined necessary to protect human health and the environment (in other words, if leachate and/or landfill gas still need to be managed). Post-closure care periods for the large landfills to which King County would export waste would likely extend well beyond 30-years.</p>