Local Government Alternative Fuel & Vehicle "Extent Practicable" Rulemaking
Meeting Notes – January 8, 2015

Introductions

Participants in the room recorded their names and organization on a sign-up sheet attached to these notes. Participants on the phone, as best as could be captured, included:

- Adam Benton, City of Marysville
- Alan Kies, Pierce County
- Allan Jones, Superintendent of Public Instruction
- Alex Soldano, Gordon Thomas Honeywell
- Art Nichols, Spokane Fire Dept
- Brandy Irwin
- Brandi Vena, WA Public Ports Assn
- Frank Castro, Snohomish PUD
- Cindy Steigerwald, WA Assn for Pupil Transportation
- Clark Meek, City of Bothell
- Ron Green, City of Kent
- Kevin Willis, City of Richland
- Matt Stewart, Jefferson County
- John Noble, City of Kennewick
- Susan Knotts, City of Yakima and Yakima County
- Colleen Murphy, Community Transit
- Charlie Phillips, Spokane Transit
- Dave Richards, Community Transit
- David Turissini, Sound Transit
- Dennis McBride, City of Port Angeles
- Derek Wiitala, City of Pasco
- Eric Schlehuber, Whatcom County Public Works
- Janine Robinson, Pierce Transit
- Jerry Otto, Ben Franklin Transit
- John Friedrichs, Ferry PUD #1
- John McCoy, Seattle Electric Vehicle Assn
- John Bush, Northstar Gas
- Kevin Gallacci, Clallam Transit
- Kevin Kuper, Sequential Biodiesel
- Kurt Patterson, City of Arlington
- Tia Livingood, Liquor Control Board
- Mike Bozzo, Whatcom Transit
- Chris Mitchell
- Scott Barham, Grant Transit Authority
- Gail Sandlin, Dept of Ecology
- Norma Bessey, Columbia-WW Fire
- Randy Brackett, Port of Port Angeles
- Tom Krabbenhoft, Western Washington Univ.
- Karen Wichman, Eastern Washington Univ.

Review Criteria for Determining "Practicability"

Peter Moulton, Washington Department of Commerce, reviewed the "extent practicable" rulemaking criteria established by the legislature. These criteria include, but are not limited to, the following:

- Geographic, especially supply and cost of fuels in different locations, and seasonal differences of associated with using fuels in different parts of the state;
- Vehicles, particularly total lifecycle costs of vehicles using alternative versus conventional fuels;
- Functional Differences, including equipment, fuels, etc.;
- Implementation, such as administrative costs and integration with other programs; and
- Phased Approach, including different fuel applications and/or quantities over time.

Transit representatives provided several suggested additions and clarifications:

- Refueling Infrastructure: Transit agencies are heavily invested in their fueling systems. This should be recognized by adding "and investment" to the criteria. What may be considered "reasonably available" in the rules may be significantly affected by how much has been invested in fueling systems and where agencies are in the lifecycle of their fueling systems.
- Maintenance & Training: These are significant, ongoing costs for transit agencies and they can be dramatically impacted by taking on different fuels.
- Functional differences between different fuels.
- Financial Feasibility: Transit agencies want to retain control of finances and decision-making.
- Operational Reliability: Transit agencies have a very low tolerance for service interruptions, including those that might be caused by fuel changes.

Biofuels

The biofuels discussion began by reviewing definitions. Biofuels are already defined by code as biodiesel, ethanol and renewable natural gas (also known as biomethane) obtained from landfills and anaerobic digesters, as well as the biofuels component of blended fuels. For example, biodiesel is most often blended into diesel at 5% (B5), 10% (B10) and 20% (B20) levels, while nearly all gasoline in the state contains roughly 10% ethanol.

To provide details and perspective about the availability and pricing of biodiesel fuels throughout Washington, Mary Beth Lang, Bioenergy and Special Projects Coordinator for the Washington Department of Agriculture, provided a presentation regarding state agency biodiesel use. She began by describing historical efforts to increase biodiesel use among agencies, especially WSDOT ferries. Agencies as a whole are making a good faith effort to use 20% biodiesel on an annual basis. The state's fuel procurement contract, managed by Department of Enterprise Services, is the critical link in this effort. Increasing biodiesel use has been supported by refueling infrastructure and blending improvements, and better data about regional fuel pricing.

Addressing fuel availability, Mary Beth described the instate production of biodiesel and regional production of biodiesel from instate feedstocks. Four companies, with a total production capacity of 125 million gallons per year, are using increasing amounts of Washington state oilseeds and waste grease to make their fuel.

Jerry Buendel, Program Manager for WSDA's Motor Fuel Quality Program, responded to a range of performance concerns, such as deposits in fuel tanks and fuel filter issues. Jerry reported that the state has seen flash point issues in all diesel fuels, and that contamination from gasoline can drive the flash point out of spec. Regarding deposits, Jerry noted biodiesel is a strong solvent, and that it will clean out fuel tank deposits over time.

Condensation in fueling tanks was also mentioned. Jerry remarked this can be a problem with all diesel fuels, and should be addressed through proper management. WSDOT has successfully used B5 in the ferry fleet, and these fuels are used in a high humidity. Ferries only constraint on using higher biodiesel blends has been budgetary limits tied to current procurement processes. WSDOT is exploring B10 sea trials; they would like to increase content one percent at a time though that can be challenging for their fuel supplier. Ron Stuart from the Port of Tacoma commented that uninterrupted service is a key issue for ports.

Several commenters, including fuel providers and WSDA staff, urged folks to keep an open mind, noting that the world of biofuels, especially biodiesel, has changed dramatically in recent years. All diesel sold in Oregon is now B5, and none of the dreaded horror stories predicted by some have materialized. B5 meets the same ASTM spec as neat diesel. If there are issues, they usually have more to do with fuel handling and storage than the fuel itself. There are also specific transition steps to consider when introducing biodiesel into older fleets due to the fuel's solvent qualities.

Fred Chun, City of Tacoma, commented that Tacoma has B20 delivered straight into their vehicles, thus avoiding any storage issues. They have seen some gelling in extreme cold, as there can be with petroleum diesel, but additives are available to fix this problem. Cost has not been an issue, and they expect to continue to increase their use, which started in 2002.

InterCity Transit used B20 in their coaches for some time, but they're currently using B5 due to budgetary restrictions. They tried B40 in the past and did have more issues with deposits. Fuel filters, which were initially changed more frequently, are now meeting their full life expectancy, even with B20.

Jerry Buendel commented that splash blending has been an issue for some fleets, but that mixing systems are working better now.

Kevin Kuper, from Sequential Biodiesel, remarked that issues come up more frequently where there is limited knowledge or experience. Local governments make the transition toward B5 and higher blends with the help of expert resources available from suppliers and others, including existing fleet users. With proper knowledge, any fleet can use B5, and probably B20 as well.

The discussion turned toward fuel economy changes with biodiesel, especially for heavy vehicles. Jeff Haas of General Biodiesel said there is a slight BTU difference, and that based on the science one could expect to see a very minor difference, but he did not know of any real time analyses that actually showed a difference. There are many factors involved in fuel economy: driver habits, traffic patterns, passenger counts. It may be difficult to account for such differences. It was suggested Spokane or Link Transit may have fuel economy data that should be included in any total cost analysis.

Questions about cost and budgetary restrictions came up next. Randy Winders with King County Metro noted, "it routinely comes up as a budget issue." Paul Hanna with the City of Olympia said their allowance difference is around 10%, and that it is in everybody's interest to get the price for biodiesel down to par with neat diesel.

Fred Chun remarked that biodiesel price variability has been much less than petroleum diesel in recent years. Randy Winders says their experience is it's about a penny more per gallon for every percent of biodiesel they have used. This would be expected given the ratio pricing component of the state's procurement contract. Pricing improvements for B5 have been made with some fuel providers, such as Petro Card, but not all.

Peter Moulton next covered ethanol issues. The general gasoline supply is typically around 9 to 9.5% ethanol content due to the federal Renewable Fuel Standard. While E15 has been approved for newer model cars, we're not seeing the fuel in Washington and are not likely to in the near future. Washington's experience with E85 is very limited. There are a number of E85 capable vehicles, especially around the Tri-Cities, but very few (roughly a dozen) actual fueling stations. Due to the significantly lower energy density of ethanol, there are concerns about fuel economy relative to the price differential. Commenters agreed E85 is basically a non-starter in Washington State.

Peter next covered renewable natural gas from biogas sources. The use of RNG is contingent on the availability of all forms of natural gas and anticipated infrastructure improvements. This topic will be explored at the next meeting, which deals more directly with natural gas availability and vehicles. Randy Winders asked whether transit agencies using RNG would be exempt from the rules, as they would be if using CNG. RNG is considered a biofuel, so any use would meet the intent of the enabling legislation. In addition, there's not likely to be a distinction in the definition of CNG or LNG between biomethane and petroleum methane sources.

Specific recommendations were then offered regarding biodiesel. Transit representatives asked that the decision of whether to allow a price differential for any biofuel, including issues about fuel economy and associated costs be left to the individual transit districts, and that any total cost of ownership analysis incorporate such costs. Also noted it is difficult to put a cost on service interruptions, and they want transit agencies to decide for themselves whether a fuel choice is affecting their operations.

Jeff Haas asked about including the value of emission reductions, such as incorporating health benefits and the social cost of carbon into total cost or lifecycle evaluations for biodiesel.

Scott DeWees acknowledged it is legitimate to allow fleets to address questions about operations, but relayed a story told by the former director of Snohomish County fleet operations, who used biodiesel for six months without notifying drivers or maintenance staff, and that no problems were reported. It was only after he announced using biodiesel that maintenance problems supposedly associated with the fuel began to appear.

Mary Beth Lang offered she has heard all kinds of amazing horror stories about biodiesel, but that the real stories are not there. Oregon has been using B5 for three years now without experiencing any of these imaginary horrors. Randy Winders agreed that B5 is reasonable, but there can be issues with blends above B5.

Geri Beardsley with the Transit Association argued that with a smaller agency, it's not just a cost issue. There should be consideration of fleet size since many smaller agencies have no experience with these fuels or have older fleets which could be affected negatively even with lower blends. Others suggested that since rules adopted in 2015 aren't scheduled for compliance until 2018, there's adequate time for a phased in approach. It was suggested that fuel consumption could be a good proxy for fleet size. The group was reminded that any size threshold might only be for reporting purposes.

Others wanted to know how any phased-in approach could be affected by vehicle replacement cycles. Some suggested it only apply to existing vehicles being replaced after the 2018 date, that if they write a purchase order before the deadline, compliance isn't required.

Others pointed out that any fueling compliance would be complicated by a single fueling system and different aged vehicles. A single date for compliance with the three-year lead time might be sufficient, especially if the standard is for B5. Western Washington University wondered if B5 meets the same spec as diesel, and there haven't been problems in Oregon, what's the reason for waiting?

Jeff Haas from General Biodiesel reminded that audience that many or most of them were getting and using B5 during 2013 because it was cheaper and distributors were allowed to sell it as diesel without notifying users, and keep the extra profits.

Paul Hanna remarked that light to medium-duty trucks have been their issue. Diesel generally has been a problem with trucks that don't hit the higher highway temperatures. As a result, they prefer gasoline. He asked is there might be direction in the rules regarding vehicle choice to get to higher alternative fuel use? Peter remarked the issue of weight classes and appropriate fuel choices has been discussed previously, and may be a significant topic in the next meeting. Bryan Bazard notes this topic may be also resolved through total cost of ownership calculations.

<u>Electricity</u>

The second major topic of discussion concerned vehicle electrification. Peter discussed general trends and the rapid change in battery technology and electric vehicle charging infrastructure (EVSE). Most vehicle manufacturers have some version of all-electric or plug-in electric hybrid vehicle available. Procurement issues are changing as well, with DES moving toward three-year operating leases in order for state fleets to remain current with new technologies. One complication of an operating versus financing lease has been avoiding significant additional insurance costs. DES is working to resolve this problem.

As for charging infrastructure, hardware prices continue to drop, leaving installation as the primary cost consideration. Local governments were urged to consider these costs when planning new construction or facility remodeling. It may also be possible for fleets with vehicles that return to a common location each evening to simply charge from a standard wall socket.

Peter reviewed the recently adopted rules for agencies, which found that procuring EV is fundamentally an economic consideration, hence the total cost of ownership tool developed by DES, Commerce and the WSU Energy Program. This tool is being updated on a regular basis.

Scott DeWees of Western Washington Clean Cities, with help from Paul Hanna, reviewed the City of Olympia's experience with leasing Nissan Leafs (presentation slides are available on the webpage for this meeting.)

Olympia found the same barriers as other governments, e.g. lack of infrastructure, vehicle cost premium, duty cycle applicability, etc. Nissan was willing to put charging infrastructure on the table as part of a package to support procurement of several Leafs. The city signed a 24-month operating lease for six vehicles and 4 double-headed Level Two chargers with a single upfront payment. While the state is looking at 36-month leases, both approaches allow the value of the federal tax credit to be incorporated into final cost.

The charging infrastructure is managed by ChargePoint, which collects fees through access cards and subscriptions. Some vehicles are permanently assigned, while two to three are in the motor pool. The vehicles are driven regularly, but only for about 2,000 miles per year. As a result, the City has not seen a cost-per-mile savings. Olympia has found that with proper orientation, the Leaf is a very popular pool vehicle.

The broader discussion on plug-in electric vehicles indicated that if you are replacing a vehicle in the near-term, the assigned uses or duty cycle make sense, and total cost of ownership including charging infrastructure is positive, it clearly makes sense to move toward plug-in EVs. PSE segmented their entire fleet by duty cycle to determine where different alternative fuels worked best. In recent years they have been working with the facility side to make sure to get the wiring ready for any and all future developments.

Geri Beardsley suggested that in regards to medium and heavy-duty vehicles, the rule should consider conventional hybrids as a way to reduce or displace petroleum fuel use. This would be consistent with federal rules and standards.

In final comments from the group, transit representatives requested that rules associated with vehicle lifecycle costs be limited to equal or less than conventional vehicles, not up to 5% more. They argue that anything over an “equal to or less than” threshold should be the decision or choice of the local government.

Kevin Kuper noted that as a result of field tests supported by Clean Cities and Paccar, new Paccar diesel engines are being warranted for up to B20.

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Building 5, 4th Floor Conference Room

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