

Vehicles and Fuels

- Reduce the District's use of fossil fuels and reduce vehicle air pollution considering current regulations and requirements.
 - Accomplishments
 - Fleet Services began testing biodiesel in June, 2007. Biodiesel is considered an alternative fuel to ultra-low sulfur diesel. The District continued testing the net benefits of bio-fuels in 2008 and has continued using it since.
 - Fleet Services has secured \$74,000 state DOE grant to retrofit exhaust systems on 42 diesel vehicles over 26,000 pounds, reducing emissions and particulates.
 - In January 2005, the Rocky Reach Visitor Center acquired an electric vehicle.
 - Demonstrated the concept of solar-powered (electric) vehicles with visits to classrooms/special events by the solar go-cart;
 - 2008 Accomplishments
 - Established a baseline against which potential fuel savings associated with automated meter reading could be measured;
 - Conducted a fleet evaluation to determine whether an electric or alternative-fueled vehicle could adequately fulfill the duties and requirements of a given petroleum-fueled vehicle; the evaluation considered how many vehicles are available, how much fuel they use annually, and the tasks/duties for which they are used;
 - Determined whether a certain percentage of District fleet vehicles have duty cycles compatible with plug-in hybrid electric or other alternatively-fueled vehicles;
 - 2009 Accomplishments
 - Evaluated total metric tons of greenhouse gases emitted by the operation of District motor vehicles. This information will help the District determine whether it is subject to reporting requirements that may be considered by the state/region in the future. Firm of Ryerson, Masters and Associates, Inc. was hired by PUD to conduct inventory and provide GHG management plan in May. Results indicated that the District's emissions did not trigger statutory reporting thresholds (emissions are significantly below the 10,000 metric ton annual statutory reporting thresholds for stationary sources, though emissions for fleet vehicles were approaching the 2,500 annual metric ton threshold). At this point, the District does not anticipate triggering any Department of Ecology reporting thresholds, though it is still tracking direct emissions, particularly for fleet vehicles and SF6.
 - As a test, idle-reduction equipment was installed and monitored in a PUD fleet diesel-fueled vehicle in 2009. Initial results indicated a 33-percent reduction in idle time and corresponding fuel savings and emission reductions. A business case was developed and submitted,

and the Idle Reduction Program will be expanded to include an additional ten (10) diesel vehicles in 2010. The expanded test will be monitored in 2010 and be evaluated for further implementation.

○ 2010 Accomplishments

- Converted fleet passenger cars and trucks to ceramic wheel balancing beads; removed lead wheel weights from service.
- Began testing synthetic oils in 12 heavy duty trucks and monitoring test results with laboratory oil analysis samples every 100 hours. Results have doubled oil usage to 600 hours from 300 hours without oil breakdown over the last six months.
- Installed nine idle reduction kits in heavy duty aerial bucket trucks and digger derricks. This resulted in a 30- to 50-percent reduction in idle time over the last six months.
- Implemented synthetic transmission fluid program to increase transmission fluid change intervals from 24,000 miles to 75,000 mile intervals.

2011 Accomplishments

- Expand our synthetic oil change program to our light trucks and passenger cars to increase oil changes from 4,000 miles to 8,000 miles. This would also reduce waste streams in line with go-green fleet initiatives. Monitor current heavy truck synthetic oil program. Continuing to monitor existing synthetic oil program on our heavy duty trucks and will expand this project in 2012.
- Continue the research in permanent oil filtration systems for our heavy duty truck fleet to reduce further our waste streams in Fleet Services. Researching the onboard oil bypass purification systems for our current heavy duty diesel trucks first quarter 2012 and factory equipped on our future heavy duty diesel truck purchases.
- Research and evaluate 125-mile range PHEVs (Plug in Hybrid Electric) cars and charging station infrastructure in collaboration with the Port of Chelan and Chelan County. Moved to 2012 projects PHEV technology is advancing rapidly and the charging station infrastructure is not in place as of October 2011 in Washington State. Funding of the PHEV infrastructure is under review by state and federal agencies.
- Research the advantages of using the new technology of refined oil for low-emission diesel engines that require stringent CJ4 ratings, which could reduce emissions in our heavy duty construction equipment. Currently testing Delo 400LE Synthetic and Synthetic blend oils in our extended oil change out program and sampling the oil every 100 hours for thermal breakdown and soot content. Continue testing and monitoring oil samples into first quarter 2012. Test Refined oil in our heavy duty diesel engines with EcoPower oil system in first quarter 2012 to determine cost savings between both programs.
- Implement and monitor 10 GPS systems to reduce fuel usage, lower our emissions and further reduce our idling times. 10 GPS / Electronic

Vehicle Inspection Report hand held units are now installed in the line department trucks. Currently in the process of integrating the Zonar System web based product into Maximo to create automatic work orders.

- Expand idle reduction program to install 12 more idle reduction kits in our heavy duty trucks.
- 2012 Actions
 - Continuing to monitor existing synthetic oil program on our heavy duty trucks and will expand this project in 2012.
 - Researching the onboard oil bypass purification systems for our heavy duty diesel trucks during first quarter 2012 and evaluate requiring these systems to be factory equipped on our future heavy duty diesel truck purchases.
 - Research and evaluate 125-mile range PHEVs (Plug in Hybrid Electric) cars and charging station infrastructure in collaboration with the Port of Chelan and Chelan County. PHEV technology is advancing rapidly, and the charging station infrastructure is not fully in place as of October 2011 in Washington state. Funding of the PHEV infrastructure is under review by state and federal agencies.
 - Continue testing and monitoring oil samples into first quarter 2012. Test refined oil in our heavy duty diesel engines with EcoPower oil system in first quarter 2012 to determine cost savings between both programs.
- Future Objectives - Example
 - Explore methods to reduce vehicle miles and/or fuel consumption;
 - Promote employee walk-to-work or car-pools or bus transportation alternatives;