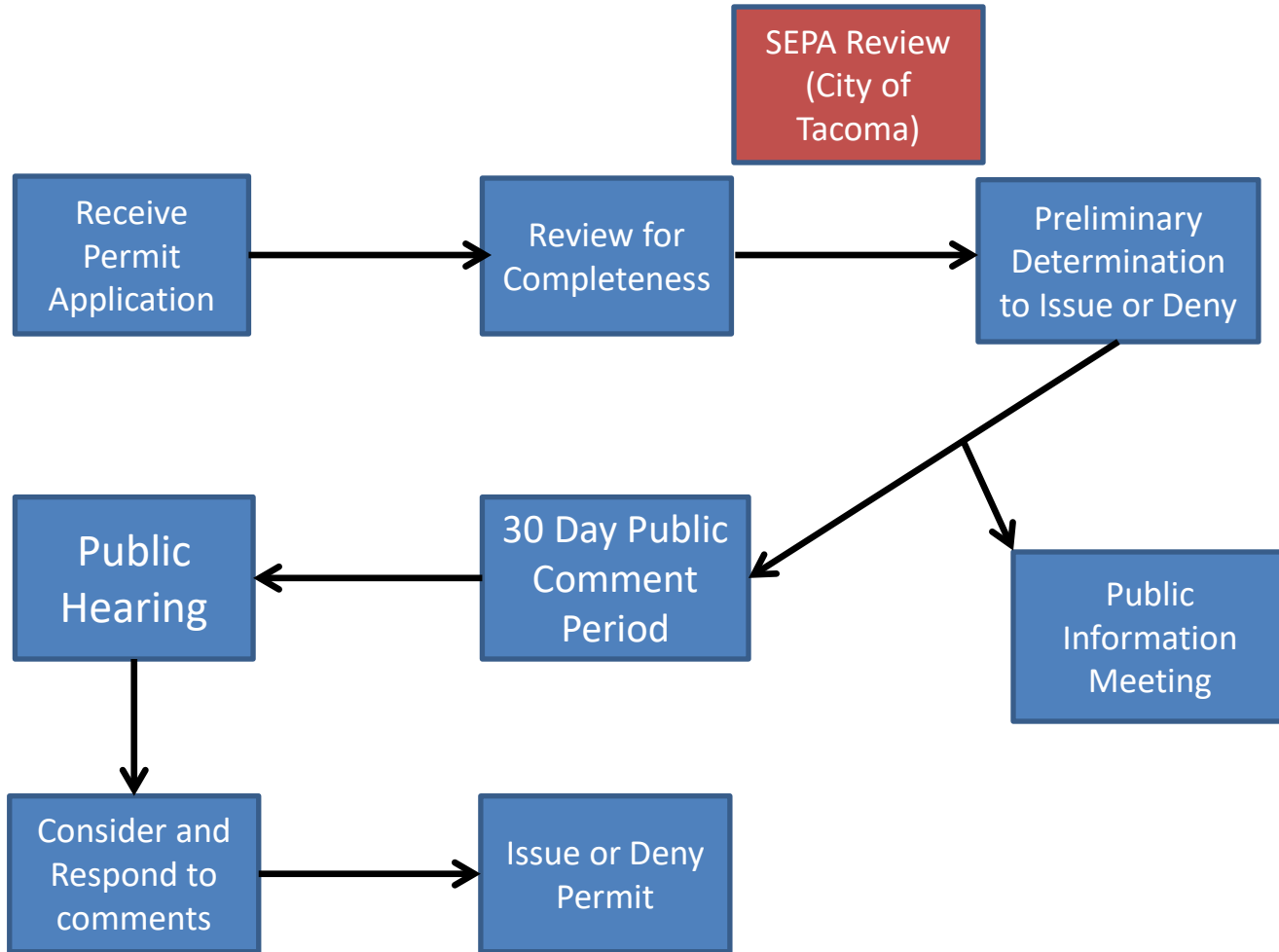


PSE LNG Permit Application



- PSCAA follows requirements set forth by the Washington State Clean Air Act
 - Washington Department of Ecology Rules
 - Local PSCAA Rules.
- These regulations state that if businesses meet these rules and requirements, PSCAA must issue an air quality permit.

Permitting Process Flow Chart



- A Best Available Control Technology (BACT) and Toxics Best Available Control Technology (t-BACT) analyses
 - Maximum degree of reduction for each pollutant
- Toxic emission assessment
- Modeling air emissions
 - Computer graphics program which takes into account weather and topography to estimate impacts around the proposed facility.

What is the proposed PSE LNG facility?

- Puget Sound Energy(PSE) Liquefied Natural Gas(LNG) would be an LNG storage and distribution plant
- Natural gas is cooled to -260 °F to store as liquid
 - Not stored under pressure (The LNG tank is not intentionally pressurized to cause the inside of the tank to be higher than atmospheric pressure.)
- Stored natural gas would be used in trucks, marine vessels, and for local PSE customers during peak demand periods (approximately 10 days per year)

- Piping system (fugitive emissions)
- Enclosed ground flare
- LNG vaporizer unit

Proposed Piping System

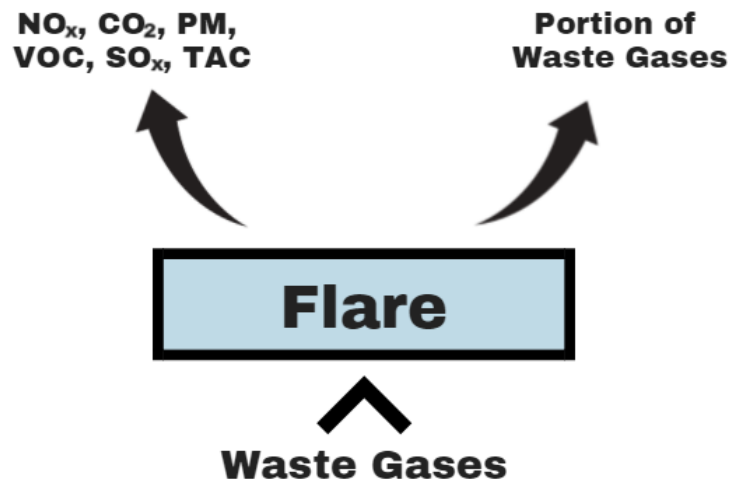
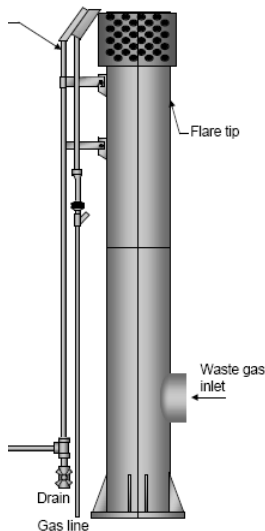
- Valves/Seals, Flanges are a part of the proposed piping system



- Piping designed not to leak but will be monitored and controlled using an Agency approved plan
- Fugitive emissions from this process are primarily volatile organic compounds (VOCs) and toxic air contaminants (TACs).

Proposed Enclosed Ground Flare

- Intermittently used to combust waste gases from processes throughout the plant.
- Emissions from this unit are also typical of natural gas combustion (NO_x , SO_x , PM, CO, VOC, and TAC) (**Nitrogen Oxides, Sulfur Oxides, Particulate Matter, Carbon Monoxide, Volatile Organic Compounds, Toxic Air Contaminants**)



- The vaporizer unit heater
 - Used during peak demand periods (approximately 10 days per year)
 - Because stored natural gas is -260°F , it must be heated before sending to PSE customers
- Once again, emissions from this unit are typical of natural gas combustion (NO_x , SO_x , PM, CO, VOC, and TAC) (Nitrogen Oxides, Sulfur Oxides, Particulate Matter, Carbon Monoxide, Volatile Organic Compounds, Toxic Air Contaminants)

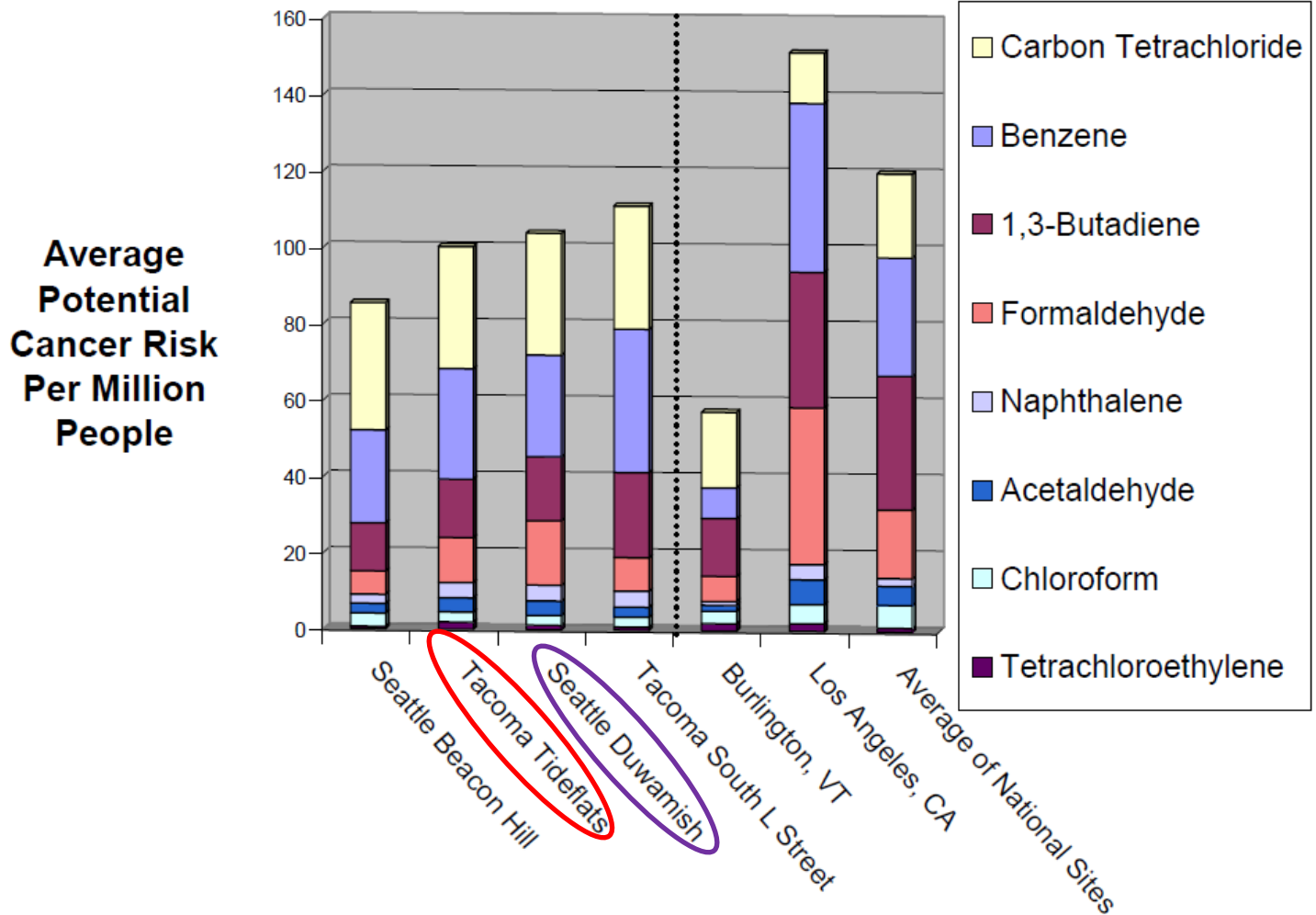
- For more information go to www.pscleanair.org/PSELNGpermit
- Sign up on the website to be notified of updates about the proposed PSE LNG project.



QUESTIONS?

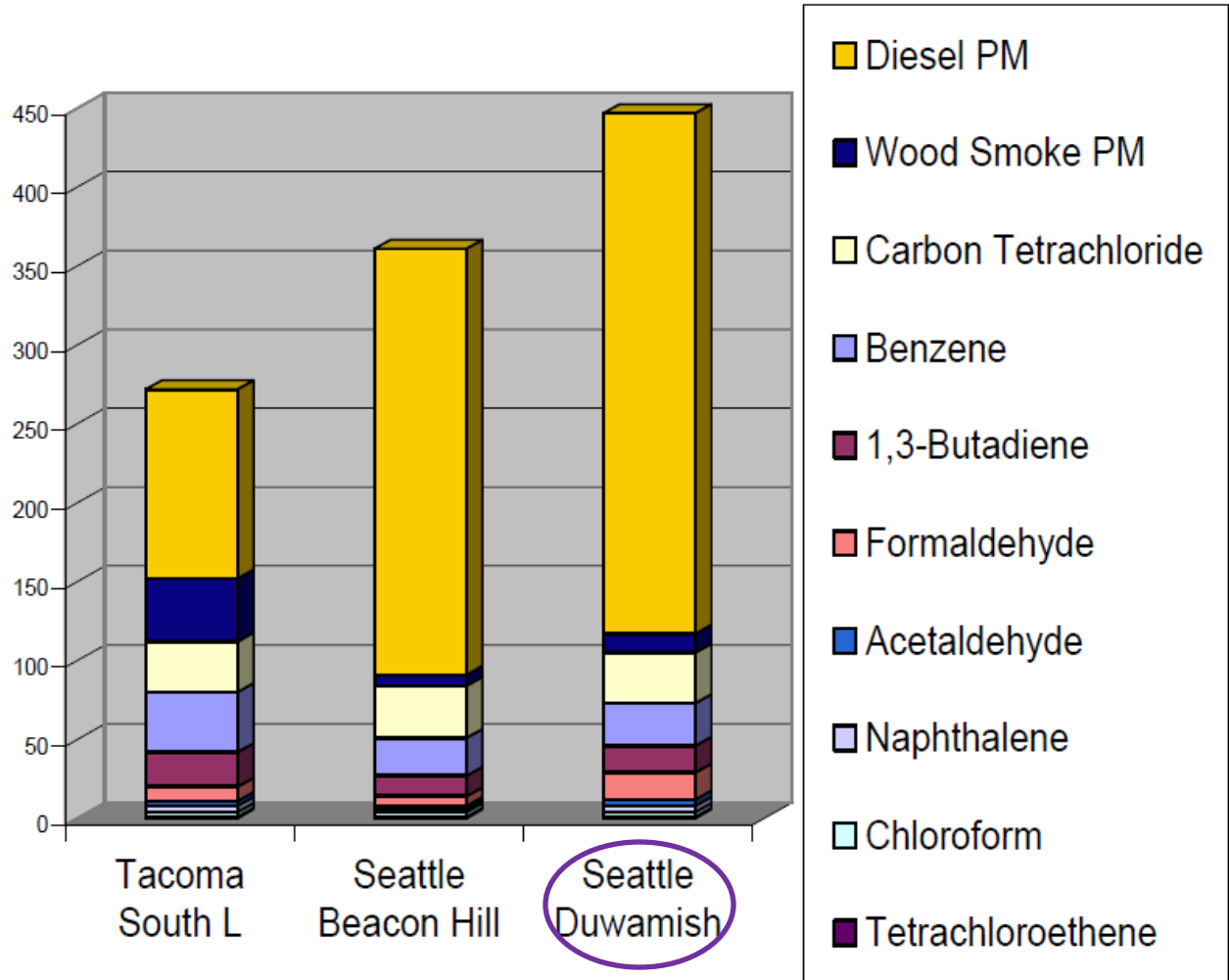
What's in the air?

Figure A: Air Toxics Contribution to Potential Cancer Risk (excluding Diesel and Wood Smoke Particulate)



Diesel PM poses the highest health risk

Average Potential
Cancer Risk per
Million People



Diesel and wood smoke particulate matter results are based on recent estimates from other studies.^{2,3}

- 7,12-Dimethylbenz(a)anthracene – 0.0052 lbs/year
- Ammonia - 41 lbs/day
- Arsenic – 0.065 lbs/year
- Cadmium – 0.36 lbs/year
- Hydrogen sulfide – 0.27 lbs/day
- Sulfur Dioxide – 2.1 lbs/hr

- (Each toxic air contaminant is evaluated at worst case potential to emit for both short and long term. This does not mean the source will emit each toxin continuously at the rates listed above.)