

RAYNA HOLTZ

Comment on the Second Supplemental EIS for the Proposed NWIW Kalama Methanol Plant rev. Oct. 8, 2020 from Rayna Holtz

My comments fall into two categories. First I look at the issue of greenhouse gas emissions that this study so wonderfully examined with considerable care and research, to see the greenhouse gas emissions results of various scenarios depending on whether the Kalama Manufacturing and Marine Export Facility (KMMEF) is built, versus results if it is not built. Second, I look at the context for this study, and for the Washington State governor's and legislature's 2020 progress on charting an effective path to comply with guidelines framed by the world's experts, the Intergovernmental Panel on Climate Change (IPCC). In both cases, I look at not only market forces, but at forces increasingly being mustered to counter market pressures with regulations and incentives that prioritize environmental health and the long term survival of human and other species over market trends driven by profit incentives.

A. The depth and breadth of this SSEIS is impressive, as is the broad range of possibilities it must contend with. However, it suffers from errors, omissions, assumptions.

1. One unknown is how the methanol will be used. We do know that Northwest Innovation Works (NWIW), which is Chinese backed, told the Port of Kalama that the Kalama plant would primarily sell its methanol to markets for olefins in Asia, but when presenting the project to potential funders it emphasized profits from selling the methanol for use as fuel. This behavior does not inspire confidence, but does warn that NWIW will manipulate to achieve a for-profit goal rather than speak out of a confirmed set of ethical guidelines incorporated into the operations of its business. (Why then should we assume that NWIW will follow through with its promised voluntary mitigation plan?)

2. To account for the uncertainty about intended uses, the range of models in the SSEIS includes both use as fuel and MTO (methanol to olefins), but looking at Fig 3.5.3 on p.65 we see that the Chinese use of methanol for fuel quintupled from 2006 to 2016 and it continues to rise. Isn't it likely then that the use of fuel will overtake the use for olefins? Beyond this example the number and combination of variables far exceeds the capability of meaningful modeling. While we do not know precisely what the methanol will be used for, we do know that it will add GHGs to our overtaxed atmosphere starting in just a couple of years and continuing for 40 years (the projected life of the plant), including the next two decades when we it is critical that we reduce GHGs. What is not burned as fuel, will become a problem to the environment when it is discarded, since the uses for products derived from olefins do not break down and return to the soil, so they will present other problems.

3. It is simplistic to want to partially justify the permitting of a facility that uses fossil fuels, emits GHGs in bringing its raw materials to its site, emits more in producing its product, and still more while conveying its product to Asia merely because it produces just slightly fewer emissions than other producers of its product!!

4. This report is based on outdated science. It uses IPCC4 100-year GWP values to calculate CO_{2e}, despite the fact that the IPCC subsequently updated them to more accurately reflect the

significantly enormous GWP of methane in its first 20 years. On p. 90 this report even acknowledges that: "GWP values are periodically updated to reflect current science regarding the energy properties of GHGs and their lifetimes in the atmosphere." Thus the report should have used the most accurate and current GWP values, which are found in the IPCC's fifth Assessment Report's 20-year GWP. The reason given by the authors for using the IPCC4 100-year GWP is that they are "the most commonly used GWP values," meaning they have been around longest?! This error biases all the results apparently deliberately so as to minimize the GWP of all the methane emissions. It doesn't matter what the annual GWP will be, averaged over the next 100 years! It matters tremendously what it is going to be annually between now and 2040!!

5. The calculations of upstream emissions are not well presented in this report, but seem to minimize the problem of methane escape at extraction sites, where gas is fracked. Researcher Robert Howarth notes that "scientists have measured big increases in the amount of methane, the powerful global warming gas, entering the atmosphere over the last decade." The evidence: "The chemical signature of methane released from fracking is found in the atmosphere, pointing to shale gas operations as the culprit." Howarth points to the fact that methane is most active in its first 20 years as having rapid rewards for curtailing its emissions: "Carbon dioxide emitted today will influence the climate for centuries to come, as the climate responds slowly to decreasing amounts of the gas. Unlike its slow response to carbon dioxide, the atmosphere responds quickly to changes in methane emissions. Reducing methane now can provide an instant way to slow global warming and meet the United Nations' target of keeping the planet well below a 2-degree Celsius average rise," Howarth said. (Robert Howarth, ecologist at Cornell University and author of the study published Aug 14 in the journal *Biogeosciences*.)

6. The problem of emissions from pipeline leaks all along the way is not mentioned. Pipelines are made of lengths of pipe connected. Over time, joints fail, as surrounding earth is disturbed by a variety of impacts, including earthquakes. Not only does this likelihood add to our burden of greenhouse gases, it adds threats to the health and safety of communities and ecosystems due to contamination and fire hazard. (I well remember my daughter's story when she was a Western Washington University student of a local incident: "On June 10, 1999, a gasoline pipeline operated by Olympic Pipeline Company exploded in Bellingham, at Whatcom Falls Park." - Wikipedia)

7. As the Department of Ecology News Release of Sept. 2 states, "The project would increase greenhouse gas emissions within Washington State by almost one million metric tons of carbon dioxide equivalent a year." And because the report uses the AR4 100-year GWP (see point 4 above) this under-reports the CO₂e for whatever portion of this happens to be methane, so we need to multiply that figure by 86. Not helpful, especially when our Washington legislature's 2009 goal, which was to bring our emissions down to 1990 levels by the end of 2020, has already failed completely, and instead our emissions have increased by about 8 percent!!! What part of NO MORE EMISSIONS do we not understand?

8. This report does not consider the possibility that yet cleaner processes may soon make the Kalama technology with its "ultra-low emissions" obsolete.

*One possibility is producing methanol from the carbon dioxide in the atmosphere! An example: "Carbon dioxide-to-methanol process improved by catalyst," *Science Daily*, June 28, 2018, Penn State.

*Another: "Harnessing light for a solar-powered chemical industry," by Associate Professor Daniel Gomez, Royal Melbourne Institute of Technology, published in *ACS Applied Energy Materials*, Jan. 30, 2019. In this second article Dr. Gomez states: "Chemical manufacturing is a power hungry industry because traditional catalytic

processes require intensive heating and pressure to drive reactions." And, "The photo catalyst we've developed can catch 99% of light across the spectrum, and 100% of specific colours. It's scaleable and efficient technology that opens new opportunities for the use of solar power moving from electricity generation to directly converting solar energy into valuable chemicals."

9. There is no mitigation that can adequately compensate for adding GHGs to earth's atmosphere at this time in history. Is it OK to add just a little oxygen to a raging house fire?

B. The context for this permitting process is not average. This is a precedent-setting moment, when every person and every life form on the planet is facing a crisis with a magnitude as great as the one that destroyed the dinosaurs. We simply cannot behave as though it's business as usual, and the best-written set of justifications and excuses wins a work-around to avoid the rules.

1. RCW70A says, under Intent 2020 c 79: "(3) The longer we delay in taking definitive action to reduce greenhouse gas emissions, the greater the threat posed by climate change to current and future generations, and the more costly it will be to protect and maintain our communities against the impacts of climate change. Unchecked, climate change will bring ever more drastic decline to the health and prosperity of future generations, particularly for the most vulnerable communities."

A new methanol plant in Washington would hinder the difficult task that is so urgent right now: to turn our GHG emissions around. With every passing month, more damage is done because of the effects of climate change, and some of the processes unleashed by global warming are actually accelerating its damage and speed (for example: the thawing of tundra is releasing additional methane that had been sequestered in the frozen tundra!) Climate change is increasing in momentum, so that some damages we can still hope to avert by reducing GHGs this year, will become inevitable if we wait to act until next year.

2. Until recently the United States has enjoyed one of the most stable democracies in the world, with time-honored institutions that enabled us to have the rule of law to protect our human rights and welfare. But we have not shouldered the responsibilities that come with our extensive privileges and wealth. According to the Center for Climate and Energy Solutions, the United States leads the world in Per Capita Greenhouse Gas Emissions, with over 18 tons of CO2 equivalent per person in 2017. Russia follows with a bit more than 15, then Japan with a bit less than 10, and the European Union is at about 8. The U.S. is responsible for 25% of the cumulative emissions of GHGs from 1751-2017, followed by the EU at about 22%. It's high time to step up. No simple for-profit venture, the possibility of initiating a successful new corporate enterprise, can take priority over this existential necessity.

3. Department of Ecology's Perry Lund states in his letter of October 9, 2019, to Dr. E. Elaine Placido, Cowlitz County, that "By law, Ecology must review all CUPs for compliance with the following: 1) The Shoreline Management Act (RCW 90.58)." Looking, therefore, at RCW 90.58.020, in "Legislative findings State policy enunciated Use preference", we find that the third paragraph lists "seven uses of state shorelines to guide the development of master programs for shorelines, "in the following order of preference which: (1) Recognize and protect the statewide interest over local interest; (2) Preserve the natural character of the shoreline; (3) Result in long term over short term benefit; (4) Protect the resources and ecology of the shoreline. . ."

Although a Kalama methanol plant may bring jobs and an economic boost to the local folks, the

broader statewide interest will be better served with less GHGs and a healthier shoreline. The long term benefit will be much better served by NOT siting an enormous methanol plant where it can jeopardize "the resources and ecology of the shoreline."

This shoreline is part of the magnificent Columbia River estuary, whose health and water quality affect large communities of marine life both locally and downstream, extending to shorelines north and south along the Washington and Oregon coasts. Further, this ecosystem lies at a critical bottleneck for a majority of Washington's vital salmon runs, which travel from the Pacific Ocean back up the Columbia to numerous feeder rivers draining both the eastern Cascades and the western Rockies, spanning all of eastern Washington and part of British Columbia. These waters must be protected for the sake of innumerable beleaguered salmon stocks that have already been decimated by dams and premature melting of snowpack causing excessive warming of spawning streams that consequently cannot hold adequate oxygen to keep spawning salmon alive. On these salmon runs depend not only fisheries that have supported indigenous fishermen since time immemorial, and more recent commercial and recreational fisheries, but also the iconic Southern Resident Killer Whales of Puget Sound, now unable to find sufficient forage year-round to sustain healthy reproductive adults. It is unwise to allow any more dangers to further transform one of their key habitats into a gauntlet beset with hazards. (Further detail: see "Policy on Coastal Liquefied Natural Gas Facilities," attached.)

RCW 90.58.020 also states, "Uses shall be preferred which are consistent with control of pollution and prevention of damage to the natural environment, or are unique to or dependent upon use of the state's shoreline." There is no industrial plant that is immune to accidents. The siting of a large methanol facility in such a sensitive shoreline with the potential to cause lethal harm to so many already struggling species with both extremely high economic value and incomparable iconic northwest significance poses unacceptable risks of the sort this law warns against.

In summary, the backdrop of climate change against which this methanol plant is proposed dwarfs all other considerations with its multiple threats and exigencies. We must look at this decision with eyes wide open, and make a decision that will help slow the unraveling of the planetary systems on which biological life depends. Deny the conditional use permit.

Sincerely,
Rayna Holtz

POLICY ON COASTAL LIQUEFIED NATURAL GAS FACILITIES

Approved by the Surfrider Foundation Board of Directors on February 6, 2010

Whereas, the Surfrider Foundation advocates for the conservation of coastal and ocean resources and the use of renewable energy sources over fossil fuels;

Whereas, recent reports suggest that domestic supplies of natural gas are growing and there is nearly a century's worth of production at current rates;

Whereas, energy interests are proposing and applying for licenses to build thirty new liquefied natural gas (LNG) port terminals in U.S. waters;

Whereas, all of the proposed LNG port terminals and 75% of the approved LNG port terminals are designed for exporting U.S. sourced LNG;

Whereas, energy industry outlooks project that the U.S. will become the second largest LNG exporter in the world (after Australia);

Whereas, new coastal LNG terminals require infrastructure development that creates upland environmental impacts that adversely affect coastal resources, including shoreline alteration, coastal erosion, and water quality impairment.

Whereas, the processing and shipment of LNG produces greenhouse gas (GHG) emissions that are much greater than domestic natural gas;

Whereas, the process of turning natural gas into LNG is highly energy intensive, and in total, LNG is estimated to be the largest source of GHG emissions growth from the oil and gas industry by 2025;

Whereas, the drilling and extraction of natural gas results in large amounts of fugitive emissions of the world's most potent GHG, methane, which has 84 times the global warming potential of carbon dioxide in the short term;

Whereas, the Surfrider Foundation, through its Policy on Climate Change, has recognized climate change is a scientific reality that will include dangerous changes in the characteristics of the ocean including warmer waters, higher acidity, rising sea levels and increased storm severity that threaten coastal communities, beaches, and coastal and ocean ecosystems;

Whereas, Surfrider Foundation has resolved to support efforts to reduce carbon and other GHG emissions;

Whereas, the known and anticipated environmental impacts of LNG facility development and operation include marine life mortality associated with continuous water uptake; discharge of both cold and chlorinated water to marine environment; air quality degradation, including carbon dioxide emissions; high energy consumption

rate; introduction of invasive species, including those discharged in ballast water; benthic habitat disturbed in mooring and transmission pipeline installations; and light pollution;

Whereas, the unknown environmental impacts of coastal LNG facility development and operation present significant risks to the marine environment that are difficult, if not impossible, to adequately address through adaptive management protocols under existing regulatory authorities;

Whereas, the siting of LNG facilities and related infrastructure is an applicant-driven process that requires regulatory agencies to conduct environmental review and consider input from affected communities and the public.

This policy is general in nature; the Surfrider Foundation recognizes that every specific case must be evaluated in the context of the local setting.

NOW, THEREFORE, BE IT RESOLVED that the Surfrider Foundation Board of Directors finds:

Coastal community members, the general public, local businesses, and recreational ocean users, including beach goers and surfers, are affected by the development of LNG facilities and associated infrastructure, and are key stakeholders in local, regional and national project proposals.

LNG facilities, due to their consumption of finite natural resources, generation of GHG emissions, and other harmful effects on the environment, are not a viable means of providing safe and sustainable energy. Given the availability of alternative renewable energy resources, LNG facilities are not consistent with successful overall strategies for addressing climate change.

Given the impacts to coastal and ocean ecosystems, air quality, including increased greenhouse gases, and coastal access, the Surfrider Foundation finds that siting LNG facilities in the coastal zone is not consistent with successful protection, conservation and access to coastal resources.