

Portland Planning and Sustainability Commission

Tuesday, March 17, 2015

3:00 p.m.

Meeting Minutes

Commissioners Present: Andre' Baugh, Karen Gray, Mike Houck, Gary Oxman, Howard Shapiro, Chris Smith, Teresa St Martin

Commissioner Members Absent: Karen Gray, Don Hanson, Michelle Rudd (recused), Katherine Schultz, Maggie Tallmadge

City Staff Presenting: Susan Anderson, Tom Armstrong, Michael Armstrong

Chair Baugh called the meeting to order at 3:07 p.m. and gave an overview of the agenda.

Director's Report

Susan Anderson

- Thank you to the PSC for your dedication for all the work and marathon of meetings you've had. The next Comp Plan work session is next Tuesday. We've received more than 4000 comments on the Comp Plan overall, with about 500 coming in the last week before the testimony deadline. We will send you a new batch of the final testimony on Wednesday or Thursday of this week. The red line version of updates will be at the end of April, so you'll have it about a month before your vote and recommendation, which we expect to be on May 26.

Terminal 6 Environmental Overlay Zone Boundary and Code Amendment

Hearing and Briefing: Tom Armstrong

Documents and Presentations:

- <http://efiles.portlandoregon.gov/Record/7220945>

Testimony received January 14 – March 16, 2015:

- <http://efiles.portlandoregon.gov/Record/7220946>

Chair Baugh opened the hearing that will include two panels of speakers. At the conclusion of the panel remarks, we'll continue the hearing to April 7 when we'll have a final hearing and vote on the project that day.

Commissioner Houck is joining us via Skype today.

Today is an overview of the draft risk assessment from Pembina and invited community comments. PSC members are asked to hold their questions until after both panels present.

Tom attended the Pembina safety work shop last week along with Tim Oliver (City consultant) and Nate Takara (Fire Marshal). Today is a time to ground PSC members in the report and to get different perspectives from the community.

Panel 1: Port/Pembina

Keith Levitt, Port of Portland

Harry Andersen, Pembina

Stu Taylor, Pembina

Eric Dyck, Pembina

[Presentation](#)

Keith: The Port is the landlord of the area in question, and Pembina is the potential leasee. The Port has a deliberate process in selecting whom we lease to, particularly on long-term marine leases. We are in the due diligence phase of this work, and each party is beginning to understand the risks and operational needs of the facility. We recognize this development has unique characteristics, and the Port has hired a third party to review the risk assessment that Pembina is describing today.

Ultimately the Port Commission has to approve the lease to move forward. Once there is a lease, we will hire a third-party to audit the lease to audit Pembina to make sure they are adhering to its provisions. Safety, environmental enhancement, on-site energy use and community engagement are some of the key topics in the IGA.

Harry provided an overview: We are talking about 160 feet of pipe that will cross the e-zone, which required an amendment to cross this via above-ground piping to a ship for export. Shipping or crossing by truck or by rail is already allowed, but not by pipe under the current zoning code.

Today's follow-up includes (1) context on the propane market and uses overseas and (2) integrated safety features and risk-assessment work.

Stu provided information about the propane market. The US has moved to being a significant propane exporter. It is a clean alternative and transition fuel that is replacing wood and coal.

Propane is included in Oregon's clean fuels program, and Portland's school buses use it. Not enough propane is produced in Asia for the demand there. The US has exported propane since 1981, but since 2008, exports have risen sharply.

Eric spoke about the quantitative risk assessment (QRA). It looks at risks over time and safety features being implemented to reduce risks. The QRA results are reassuring. People who live close to the facility would not be harmed. This is a closed-loop system. The facility will be built to the equivalent of an "essential facility" as defined by the ORS.

The 30-40 facility operators will be hired as it is being built, so they will know the ins-and-outs of the terminal.

Pembina's primary focus is to make sure the hazards will not occur. We are 30-40 percent complete in the proposed design, which is the minimal place a QRA can be started. Pembina uses QRAs in all their projects – it is industry standard.

Pembina has used the firm DNV to conduct the risk assessment. They are only working to test safety features against possible hazards. Recommendations will be incorporated into the final facility design. Pembina has sent 55M gallons to Portland in the last 15 years, all without incident.

The QRA was shared at the technical workshop last week. This session included Port, City and representatives of the local communities who participated and observed the process. We publicized the risk assessment data even prior to knowing the data from DNV.

The QRA considerations and inputs are included on page 17 of the presentation. Risk criteria is shown in slide 19.

The worst case consequences list and maps are provided on pages 20-24. There are no

residential communities within the risk area for the 1 in 100,000,000 years possibility incident.

Harry provided closing comments. This will be the single largest investment in Portland's history, funded entirely by Pembina at a cost of \$500M. The QRA report indicates the project is safe and validates this. Pembina looks forward to being a member of the community. We are a respected and reliable operator.

Panel 2: Neighbors

Carla Mauger, Class Harbor Floating Home Association

Ron Ebersole, Hayden Island

Ben Poe, St Johns

Jeff Geisler, Hayden Island

Carla walked through her [Community Concerns](#) presentation. I'm concerned about discrepancy between the NW CSI white paper / ALOHA model and the Pembina QRA. Why are there such discrepancies? What is the real risk, and how do I process that difference?

Pembina didn't include information about lesser injuries than death or environmental damage or risk. There is death, but there are other possible implications too.

The risk tolerance curves were based on the UK model, but what is the risk tolerance in the US, particularly in Oregon and Washington?

The Pembina QRA does not incorporate findings from previous QRAs for similar facilities. What have other cities determined as suitable or not? Longview just passed on a proposed facility, and I'd like to hear what they have learned in their assessments. We do have to make our own decisions, but there is relevant data from elsewhere that have done similar evaluations.

What about the risks for transportation of propane to the facility by rail or from the facility by ship to the end users? That should be included in the project evaluation too. There are three recent rail incidents involving volatile substances even in just the past month, and the incidences are rising. Why? We need to understand this risk to see if this facility is a good option for Portland. We are already transporting lots of hazardous material via rail, but is it worth adding to the risk?

Ron walked through his [Propane Terminal Risks and Issues](#) presentation and noted the [white paper](#) he and other community members have written.

The QRA meeting last week provided some answers to our questions. But there are several things that weren't addressed including the risk of unit trains, which is a huge issue. There is a substantial discrepancy between what would happen if all the safety measures failed, which is different from the assumptions in the QRA. The new information says Pembina is planning to be safe for a 9.0 earthquake, but the previous work was planning for a 7.0 earthquake. Terminal 6 is in a high-risk earthquake liquefaction zone too.

A terrorist attack is something they or we can't control fully. What will happen over the next 25 years? We modeled a single-tank BLEVE or a domino effect BLEVE of multiple tanks.

The NOAA ALOHA simulation is what we used in the white paper. There are references to previous incidences included as well.

Shipping by rail risks are not in Pembina's control, nor is it the purview of the City or state. This is a problem, especially because we've started to get information that the latest DOT 112 tank cars are having issues. We are working on getting more information about this. We don't have local control over railroads as they are a federal entity, and they aren't even controlled

by the NTSB. They are regulated by the federal government, but we don't know if we can have any influence on those regulations.

The big question is that Portland needs to determine if we want to be an oil and gas energy trans-shipment terminal.

The only reason that the Pembina Propane Terminal is not a "done deal" is the Environmental Overlay Zone restrictions. There is almost no way in the permitting process to review and overturn it.

Ben noted Pembina's excellent safety record and enlightened whistle-blower policy. But the QRA was so narrow that I don't feel like it address all the components including the rail and maritime components. Also, what about the impact on the community such as the rail trains coming through, and what about access to the river for commercial, recreation and residential needs?

Jeff has been visiting the neighborhood associations in the area, and they are mostly just coming up to speed with the information. There are lots of unanswered concerns both locally and regionally. We can't figure out how we can benefit from the project versus what we're giving up to have the terminal here. Almost everyone is scared to death. They need more information. Pembina understands what they need to go through according to standards on record. But the standards are changing. The DOT 112 rail cars are coming under more scrutiny. Pembina only has control when the propane is on their site. But that is only a small portion of the time in the shipping process.

Data mining is important. If we are giving up an e-zone so Pembina can fit into a niche market, we need to have proof it's a safe thing to do.

Discussion / Q&A

Commissioner Smith

- To the neighborhood reps about the white paper: what about the frequency side of the equation? Please come back to us with that perspective.
- Process question: The City will have a consultant to review the consultant's report. When will we see that review? We'll see that before the April 7 hearing.
- For other US propane locations, what is the distance to nearest populations and city centers?
- Acceptable risk curves: what have other government jurisdictions used compared to the UK guidelines?
- Worst case scenario: one includes a rail car, and one includes a storage tank. Is there a reason the ship was not modeled? That is in process right now as it is a coastguard-run process.
- My concern about the BLEVE modelling excluding the shrapnel effects is that in the real world this leads to cascades and multiple BLEVEs as nearby tanks (storage tanks or rail cars) are punctured. If this were to happen, it needs extreme heat over an extended time. All our piping will be above-ground with monitoring 24/7, so that won't happen. If you have a BLEVE on one tank, the affect is not cumulative additive because it's not an instantaneous reaction.
- The risk curve almost touches the UK 1 in 1,000,000. Anything below the line is better than the acceptable limit. This is cumulative effect of all events happening at the same time, which is when it gets close to the line, but it doesn't ever go above it.
- What earthquake risk we're modeling: 7. or 9.? The QRA includes 7.0 at site, 9.0 at the coast. The building will be built to survive a 9.0 at the site, so the final QRA report will reflect this.
- What about terrorism? What are you doing to prevent that? You need to go through

several levels of security to get through. We are 24/7, with people and cameras on the ground all the time. Site security is dictated by the Port, though we can make ours tighter.

- Financial consequences of a disaster: how would Pembina financially bear the risk? Our lease includes an insurance policy with several levels of coverage.
- For the Port: Portland has a Climate Action Plan, and we're trying to achieve significant reduction in carbon use. This means this facility could become a stranded asset. Has the Port evaluated this? No, we have not yet looked at this. Under the lease we would protect ourselves against that risk. Ours is essentially a land lease, and the risk is on the leasee for the future.

Commissioner St Martin

- Regarding lesser injuries than death: is there something we can see to explain these risks? We had 2.5M person hours worked with no lost time for all Pembina operations last year. To analyze all and any types of injuries, it could go on infinitum. Our injury rate is zero.

Commissioner Oxman

- In the impact slides, I noted the asymmetry in the zones of impact. What does that mean? This was actually a distribution of the gas if the main tank was breached; the asymmetry is due to wind. Propane is heavier than air, so it will move along closer to the ground.
- Boundaries of the QRA and risks are excluded. Where are the QRAs for rail and ship transport? The on-site rail data QRA is coming soon, and the coast guard will have information for transport from the site to the ocean. The rail assessment will only cover the on-site assessment. The coast guard report should be ready mid-summer. The off-site rail is not Pembina's property; the rail companies may have something, but they are not ours.
- For BLEVE events, you noted it requires extreme heat for prolonged time. We have liquid propane in a pressurized tank. All 8 tanks are tied into the flare system, which is the relief system for any pressure. At 200 lbs of pressure, the system flares. To have a BLEVE, it would have to be undetected several hours of heat. One of the recommendations is to consider having fire-proof insulation on the tanks, which would make a BLEVE even more impossible. The BLEVE event for the large tank is total rupture.
- Input data for the earthquake is built on a 475 year threshold. How does this play out in terms of our being about 300 years since the last subduction zone quake, and we're closer to the 30-40 percent range of having such an event in the next 50 years? We are designing for the 9.0, with 12 inch lateral movement and 2 inch settlement. That's why the wall and piling is extensive. Assumptions could be driven by the frequency. Modeling at the next 50 years versus 475 years is very different.

Commissioner Houck:

- Tweaking from a magnitude 7 to a magnitude 9 is significant. We have an expert at PSU, Scott Burns, who we could check in with given his long record of analyzing landslides in Portland.
- The citizen panel did a great job analyzing this just-released report. The PSC will need to consider these questions. What is the rush to get through our proceedings? As the group noted, it's time for Portland to make a decision (and the PSC) about our role in moving propane from Canada to Asia? What is our response and environmental responsibility and rail safety? I will be interested to hear the testimony on April 7.
- Pembina has done an excellent job in laying out the safety concerns.

Commissioner Shapiro:

- Thank you for the civility and well-thought points of view on the controversial topic.

- *Commissioner Houck's* comments and the citizen's concerns are also mine. I look forward to reviewing the report.
- What are they doing in Asia with the propane? Are they making plastic? 2.2M barrels a day is the current demand in Asia-Pacific. The Bentek report talks about the supply and demand in Asia-Pacific, which is 67 percent for residential fuel and use and 14 percent for industrial use.
- You're out of control of the rail cars for 90+ percent of the time. How do we talk about that? We understand the concern about rail cars once they are not on our site. The interstate rail system is regulated by federal agencies, which are a safe and efficient system and comply with all federal law. Our major carrier is not yet selected, but it's likely to be either BNSF or UP. They are making investments to comply with and improve their safety. ODOT does also have a role. What is the regulatory scope that ODOT has?
- They have also been required to look at safety studies for what they're doing. Can we look at a comparison of their safety studies and what actually has happened with the shipments of fossil fuels in the US?
- The Port is forming a Citizen Advisory Committee with Pembina. I hope today is the beginning of representation from the citizen side.

Chair Baugh:

- Homeland security: We don't know we can protect everything. Can we flesh out the CRF language to have everyone understand what's included?
- What is the involvement of the police from a security standpoint?
- US DOT has recently announced a new set of standards for rail cars. The Canadian government is coming out with a new rail car. To the extent they get better standards, when do the cars coming to this facility get turned over? The DOT 112 cars cannot transport oil; they are specifically for propane and are the "latest and greatest". We roll our cars over about every 5-6 years. But the newest models are the newest standards, so we start to lease the new cars as soon as they are available. The US DOT new standards are above anything that is out there today. We have 1200 cars in the fleet today. By the time this terminal is up in about 3 years, we will have increased that to 4500 cars. All our train cars run based on latest regulations, regardless of how old the cars we currently have are.
- For the 5 US plants identified as comparisons, is there any way we can get what their safety records are?
- What is our risk tolerance since there isn't a US standard? Have other municipalities looked at risk tolerance in the same way? We need to define our risk tolerance for ourselves against environmental issues close to us versus how the UK came up with theirs. Companies worldwide use the UK data and evaluation. This has been tested and used over and over around the world.
- *Commissioner Smith:* We have a risk management function inside OMF. Perhaps they can give us some analysis. We also need to include a human factor to think through this.
- *Commissioner Oxman* noted that in the US, looking at toxicity of chemicals, similar kinds of numbers come up. So the UK standard is quite good. It's important not to get too hung up on the numbers. They confirm what we're dealing with is a risk situation that has a low probability of occurring but that have potentially massive consequences despite the low probabilities. This is the risk tolerance *Chair Baugh* is referring to. This should be an open conversation at the PSC.

Commissioner Shapiro asked about the ports of Seattle, Longview and Vancouver and why and how they came to the conclusions to not have terminals like this at their ports.

Susan asked about where the fuel would be used, as Pembina noted that it is currently two-thirds residential or commercial and would be used to substitute for coal and wood. But this is

looking backwards. If you look backwards in Oregon, you would include coal, oil and natural gas as main sources. Looking forward, distributed solar, wind and other renewables are where we're headed. Let's be sure we are looking in the forward direction, which can be a very different story.

Chair Baugh asked about talking with ODOT about the rail. Can we understand what their policy is if they have one?

Commissioner Oxman thanked the panelists from today's hearing.

Chair Baugh reiterated the thanks to the panelists. We are closing today's hearing but it will continue on April 7, and written testimony will be accepted through April 7 as well. There will be 2 minutes allotted for testifiers on April 7, and we need to get through everyone then talk among the Commissioners to form our recommendation for Council. We will vote on the zoning code and recommendations to Council.

Commissioner Houck asked to ensure the written announcement for the April 7 meeting includes a note about the 2 minute maximum testimony time.

IGA discussion

Tom and Michael [presented](#) ideas that we are looking at including in the IGA:

- Community Advisory Committee (CAC)
- Risk Assessment and Safety
- Habitat Mitigation
- On-Site Energy Use
- Carbon Mitigation

Chair Baugh: In the recommendation to Council, we should include ideas about how we get to a policy about fossil fuels for the City.

- We currently have an updated draft of the CAP out for public comment. One of the actions proposed is to establish a local policy around local fossil fuels exports. What information is useful to the PSC in informing your conversation?
- *Commissioner Smith* noted the CAP has mostly been focused on energy consumption and reducing it. We've never really talked about the production side, so now we have an opportunity to engage in that. This is complicated and interesting new territory. I don't see how we can have the CAP and not take some responsibility for carbon we are getting out into the world, but I don't know what that "something" is.
- *Commissioner St Martin* asked about energy consumption-based model versus other measures and goals.
- *Chair Baugh* noted we're just talking about propane, but we should have a broad view in terms of the perspective. We should look upstream to what is the producer doing to mitigate, even though we can't control that or the end use. How is the policy flexible to match over time to recognize change and consumption models?

Susan recommended that issues like this the PSC should appoint a sub-committee to work with staff and any experts we need to bring in to do this swiftly and come up with a recommendation that will be included in the draft IGA.

Commissioner Houck agrees with Susan's idea but is concerned with the compressed timeline of April 7. We do need to look upstream and downstream.

Commissioners *Smith*, *Houck* and *St Martin* and *Chair Baugh* will work with Michael to draft this language and will share it with the PSC prior to the April 7 meeting.

Follow up information, the City consultant's review of the QRA and additional information from

today's questions will be provided by March 31 to the PSC. This will include the IGA framework.

Adjourn

Chair Baugh adjourned the meeting 5:17 p.m.

Submitted by Julie Ocken