Noise and Air Quality Information Session
Thursday, Oct. 12, 2017 | 6 – 8:30 p.m.
Hillsboro Civic Center – Room 113 B/C
150 E Main St, Hillsboro, OR 97123

Port of Portland Staff Present		Consultant Staff Present	
Ryan Parker	Stephen Winkle	Dave Nafie	*WHPacific*
Sean Loughran	Richard Vincent	Kory Lewis	*Coffman Associates*
Chris White	David Breen		
Jayson Shanafelt	Chris Blair	Seth Baker	*EnviroIssues*
Steve Nagy	Aaron Ray	Bridger Wineman	

Welcome and opening exercise
Meeting facilitator Seth Baker opened the meeting, welcomed attendees and reviewed the agenda. The meeting purpose was for the Port of Portland (Port) to share information about noise and air quality around Hillsboro Airport (HIO), report out on Port work to manage noise and air quality, and introduce a new noise and air quality modeling tool used for the current master plan update. Meeting participants were encouraged to post their questions about noise and air quality to a sticky wall before the presentation. The questions were read aloud by the facilitator and answered during the presentation.

The Port would like to know how to best communicate with the community about noise and air quality and welcomed feedback through available comment forms.

The facilitator modified the meeting agenda to accommodate requests from some attendees who wished to give verbal comments. Meeting participants asked questions during the presentation, which are noted in the body of this summary.

Overview
Port of Portland General Aviation Manager Steve Nagy thanked meeting participants for attending. The HIO master plan update is underway. Work completed to date finds HIO will continue its role as a general aviation airport over the next 10 to 20 years. The Port considered planning commercial service in the future, but demand does not yet warrant it. The master plan update is moving into the analysis phase and considering alternatives to meet future needs.

Mr. Nagy said the Port would like to work with the community on topics of air quality, noise management, and how future changes will affect these topics over time.

Noise
Chris Blair, Port of Portland, presented how noise is measured, modeled and managed at HIO. He provided examples of what noise sounds like at different decibel levels, and the level of difference that is noticeable to most people. Key points included:

- Doubling or halving the distance from the noise source changes the decibel level by six.
- In an urban environment, reducing noise by increasing the distance of a noise source like an aircraft from one location often increases noise at other locations.
- Flight plans are routed to areas with lower population densities to decrease perceived noise.

Regarding noise and its measurement, Mr. Blair noted:

- Decibels follow a logarithmic scale.
- For each noise event maximum noise level, average sound and compressed energy are considered.
- Environmental factors are considered including the number and type of aircraft, weather and time of day. The FAA uses day and night noise levels to determine if noise is compatible with different land uses.
- To account for annoyance, the model multiplies noise exposure by ten for nighttime noise events, which is reflected in the noise contours.
- By federal guideline, some levels of noise are not compatible with certain land uses.
- Factors that influence annoyance are acoustic and psychological.

Mr. Blair showed an example of a flight pattern a training pilot might use, as well as the locations of noise monitors, to describe how they measure noise at different points in a flight. The timestamps and locations correlate individual aircraft with the noise measured by the monitor. For short flights, a flight plan is not required and it is not always possible to identify the aircraft measured.

Mr. Blair described the regulations for airport noise:

- Aircraft must be certified for noise. Federal regulations have gradually phased out some older aircraft types that created more noise.
- Minimum altitudes are set under Federal Aviation Regulations (FAR) part 91. However, the pilot has final authority over operation of the aircraft. Minimum altitude is 1,000 feet for congested areas except for during takeoff and landing.
- Helicopters have different minimum altitudes.
- The Port conducted a noise compatibility study in 2005. There is information available on what has been done with the 32 recommendations that came out of the study.
- Regulations about noise for airports are under FAR part 150, Noise Compatibility Planning.
    - The airport runs a noise model to identify any incompatible land uses by modeling noise contours. If land uses are not compatible, a noise compatibility plan is needed.
    - No non-compatible land uses exist for HIO.
- Access restrictions on airport operators are through FAR part 161, but airports across the country have failed to meet the requirements needed to put restrictions in place.

Comment: Saying three large aircraft are similar to many quieter aircraft sugarcoats how loud aircraft are.

Question: How long does it take an aircraft to get to 1,000 feet in altitude?

> *Port response:* There are many different factors that determine this.

Comment: There are examples of airports in New York City and Santa Monica that were successful at putting restrictions in place.

Comment: Please supplement the meeting information posted online with the dates of the restriction decisions.

Santa Monica information:
https://www.faa.gov/news/press_releases/news_story.cfm?newsId=21394

Part 161 efforts and decision dates:
https://www.faa.gov/airports/environmental/airport_noise/part_161/

Question: Please explain more about noise tracking.

Port response: Flight tracking information is from the Federal Aviation Administration (FAA). A tracking unit at PDX is obstructed by the West Hills when aircraft are under 1,500 feet. The Port's multilateration system tracks aircraft where other methods were not feasible.

Question: Where on the map does it show flight paths are aircraft over 1,000 feet?

Port response: This can be discussed in person after the meeting.

Comment: Typically, a pilot will take the aircraft to 1,000 feet before turning.

Question: How do you measure noise at the Airport?

Port response: Devices are in place that constantly measure noise. The noise monitoring system has parameters for events over a minimum level.

Question: How is monitoring different between PDX and HIO?

Port response: The same approach is used for both airports.

Comment: The map doesn't consider if the plane is taking off or landing.

Comment: The model is biased.

Comment: The Port should reconvene a committee of community members. People know where the noise is. This information should be available for each noise event.

Written question: What are the limits to the ability to manage noise?

Port response: FAA regulations apply, and because of the lack of noncompatible land uses, there is less support from the FAA.

Written question: Can you reward quiet flights or create disincentives for noisy flights?

Port response: No, this is not allowed. Also, different airports have tried restrictions. There is an equal access clause. A noise fee would put an undue burden on some airport users and the FAA would sue the airport. The Santa Monica example is unique in that the airport is not encumbered by grant assurances.

Written question: Is the Port tracking progress on electric general aviation?

Port response: Yes, the Port is watching trends including unmanned aircraft. The Port does not build or operate the aircraft, but the Port supports research in those areas and partners with airlines on alternative fuels.

Question: If I see a truck belching smoke, I get the license plate and take action. In this case, there's no recourse for a specific incident. Who do I call about a loud flight?

Port response: Chris Blair is the Port's contact regarding noise at the airport. There is also a noise page on the HIO website with a noise tracking function. Sometimes the tail number of the aircraft can be identified. Information is only available for flights where a flight plan is submitted. Flight tracking information is not live.

Public Comment

Miki Barnes

We need to look at the actual noise contours. We suspect that the noise levels are much higher than shown on the chart. We need a citizen committee. We need more microphones. The planes circle endlessly and the noise contours are most likely higher. You mentioned the court case at the last meeting. The citizen petition was denied. I can share a copy of the petition. The court ruling was unfair and there was no solid information telling us how many operations each tenant logs.

We have the Hillsboro Aero Academy recruiting people from all over the world. I wonder why people are coming here to train. Why don't they train in their own country? We are behind in terms of sustainable transportation like high speed rail. We made a good argument and the court ignored it. It's morally and ethically wrong. Washington County is not low population.

Commenter

I provided the Port with an article on a tether training device for helicopter students to use for some of their flight hours. I haven't heard a response. Also, I compliment the new runway as the flight patterns have improved noise for me. I don't know if the Port is working with the flight school so the flight patterns avoid some of the residential areas.

Port response: We shared the article with the flight school. Flight training also occurs through simulators.

Commenter

I've been a neighbor and partner of the airport for 27 years. The airport has been here 80 years. The helicopter flight school has caused a problem, and most of us agree. The way that the landing area is set up means there is little impact when light aircraft come in. Now, the partnership has deteriorated. The flight school makes money off our discomfort. They could use Twin Oaks Airport instead. The whole neighborhood has deteriorated. The airport adheres to the letter of the law. There's nothing anyone can do about it because all the data is compiled to their advantage. The Port is here to enlighten the public that they're operating under FAA guidelines and will continue to do so. There's not much we can do about it.

Port response: If there's a polluting truck, local regulations for noise and pollutants apply, but there is federal preemption over local regulation for aviation because it crosses state boundaries. The Port does a lot in the context of providing the most accurate information. The

flight school also operates at other airports. Only four of the flight school aircraft stay at HIO; most stay elsewhere already. The flight school may use the airport just like anyone else.

Air Quality

Dave Breen, Port of Portland, presented on air quality. Airport operations that affect air quality is an important topic to the community and the Port of Portland. The Oregon Department of Environmental Quality implements both federal and state air quality regulations. The Portland region is in compliance with federal air quality standards that are established for criterial pollutants. Air quality is also regulated by the Oregon Department of Environmental Quality (DEQ) for air toxics. In general, the air quality in the region is good, but there are challenges: air toxics and greenhouse gases. With the exception of lead, the Hillsboro airport's contribution to the airshed is relatively small. The three types of pollutants are criteria pollutants, air toxics, and greenhouse gases.

- There are standards for criteria pollutants in outdoor air.
- There are no ambient air quality standards for air toxics. Instead, control technologies limit their emission. Oregon DEQ is developing new rules for air toxics which only apply to stationary sources, not mobile sources.
- Greenhouse gases have indirect and global health effects and are regulated through limits and emission standards. Oregon has established greenhouse gas reduction goals and has implemented programs to help attain those goals.
- Air pollutants cross political and jurisdictional boundaries.
    - The Portland/Vancouver airshed occurs within portions of Washington, Multnomah, Clackamas and Clark counties.
    - Port-owned and controlled sources of pollutants make up a very small contribution to total air pollutants for the County, except for lead.
- Environmental Protection Agency (EPA) rules reduced lead by 99 percent in ambient air by eliminating it from automotive fuel. The small amount of remaining lead emissions are largely from piston aviation fuel.
- EPA's National Air Toxics Assessment used dispersion modeling for some pollutants.
    - Looking at census tracts, lead concentration is about 0.02 $\mu g/m^3$, which is an order of magnitude below the standard.
    - The DEQ monitor is located about 0.25 mile from the airport. Lead levels detected by the monitor are similar to other monitors around the state.
    - Around the airport, formaldehyde is the main driver for air toxics risk. There are many sources of formaldehyde apart from aircraft.
    - According to the EPA, the airport accounts for 2 percent of toxics risk.
- Greenhouse gas emissions from the airport are about 1 percent of mobile source emissions for Washington County. The largest source of those emissions come from aircraft.
- To reduce emissions, lead needs to be eliminated from aviation fuel.
    - The challenge is that piston aircraft were designed for leaded fuel and need it to operate safely.
    - The FAA is working on a replacement fuel and the Port is studying conventional unleaded gas (mogas), which is safe for some aircraft to use.
    - Between 8 and 29 percent of aircraft at HIO could use unleaded gasoline.
    - The Port provided an incentive to use unleaded gasoline by reconfiguring storage tanks, but there were concerns about compatibility; it is not provided at HIO at this time.

- Diesel particulate matter is another problem in the region, but there are not many sources at HIO. Diesel equipment from construction is a concern in the region. The Port is working with regional governments on standard diesel public contracting language.
- Port-wide standards for reduced diesel particulate matter and greenhouses gas emissions were met and exceeded.

Question: Where does the air quality data come from?

> *Port response:* The information comes from sophisticated monitoring stations. Concentrations of air pollutants are reviewed.

Question: The highest concentration of pollutants is where planes take off. Is monitoring conducted in close proximity to takeoff areas? [This question was discussed through the presentation]

Question: What percentage of the lead is from use of leaded fuel? [This question was discussed through the presentation]

Question: If Troutdale and Aurora airport were included in the modeling, would the data show more lead?

> *Port response:* Washington County lead emissions are 0.67 tons, of which 0.55 tons are from the Hillsboro airport. In using the monitoring data, the Port considers that there are other airports in the region.

Question: The equal access concept should also apply to people wanting access to sleep. Can you post online the link to research this further?

> *Port response:* Yes, the links are on the handout provided and will be posted. *("**Air Quality – Key Terms and Web Links**" https://popcdn.azureedge.net/pdfs/HIO_MP_AQ101_Handout.pdf)*

Question: Are the air quality numbers based on actual monitoring, or fuel sales?

> *Port response:* Numbers are from a combination of monitoring and activity levels. We know the content of lead in the fuel and can calculate numbers from that. The Port also has monitoring data to back it up.

Question: What is the base year for the 2014 lead emissions numbers?

> *Port response:* The data are from 2014.

Question: The Port's figures in the environmental assessment were higher. There is a discrepancy.

> *Port response:* We did an emissions inventory in 2015 which closely matched the EPA numbers.

Question: When an aircraft is departing, at what distance does the model say its emissions are not attributable to the airport?

Port response: FAA guidance uses an altitude of 3,000 feet because that is the height of the mixing layer in the atmosphere.

Question: At what point geographically would the model attribute emissions to Aurora Airport rather than HIO?

Port response: For our emissions inventories, 3,000 feet altitude is used. The EPA models it based on census tract.

Comment: The EPA guidelines say to put the monitor downwind. The monitor is southwest of the airport and the data are not valid.

Port response: The point that another location would have a different monitoring value is understood.

Comment: It's not reasonable to compare emissions from construction equipment that operates on a short-term basis to the airport, which has been here for 100 years.

Question: What is the key takeaway from this presentation? Is it to acknowledge that reducing emissions is something the Port is trying to do?

Port response: The Port is using tools to focus on areas that can make the biggest impact. The airport doesn't make a large contribution to air pollutants. Lead is a concern, but relatively small. Still, we want to assist in eliminating pollutants from aircraft.

Comment: HIO's footprint and contribution to pollution are large compared to the rest of the businesses in Washington County.

Port response: Vehicle emissions far exceed those from aviation.

Question: I'm confused about where the EPA got the data for the 2014 emission inventory. The environmental assessment for the third runway used a monitoring site that was 15 miles away. Don't you need a site close to the airport to differentiate HIO from PDX?

Port response: They used location and activity levels, based on the number of flights and aircraft.

Comment: You need monitors close to the airport. I wonder about the data.

Port response: The Port does not provide the data used by the EPA. The Port has a separate dataset that matches EPA data.

Question: What's the trigger for those living close to an emission source to alert authorities that a population is at risk?

Port response: For criteria pollutants, the permit is based on the level of emissions. Part of the process is monitoring and meteorological studies.

Question: When will unleaded gas be available at HIO and can I, as a pilot, store my own fuel at the airport?

> *Port response:* No, pilots can't have their own fuel storage tank at the airport. The Port has reached out to Swift for unleaded fuel. They don't distribute on the west coast yet, but are working on it. The Port would be happy to accommodate it.

Comment: I attended a presentation from the maker of mogas. Its use is without warranty, which has been a barrier.

Written question: Has the current White House administration affected the schedule of implementing unleaded aviation fuel?

> *Port response:* We will see if the timing of the endangerment study is further affected. It has been delayed already.

Written question: Has the Port analyzed relocating some operations to another airport in Oregon?

> *Port response:* There's a lot of flight training going on in other places around the state already.

Written question: How might cap and invest, or cap and trade, policy affect HIO operations?

> *Port response:* The Port has been following cap and invest. In California the revenue produced has gone to development of alternative fuels. The Port would like to see revenue used for emissions reduction and synergies to help address other pollutants.

Comment: I'm not for closing the airport. HIO has changed from a partnership to a business when they started operating the flight school.

Tools to measure noise and air quality – Aviation Environment Design Tool
Kory Lewis, Coffman Associates, presented on tools to measure noise and air quality. In the past, two distinct systems were used to model noise and air quality separately. In 2008, the FAA started modeling noise and air quality together in the tool that became the Aviation Environmental Design Tool (AEDT).

- The AEDT outputs for the master plan do not justify mitigation, but could be used for a National Environmental Policy Act (NEPA) analysis if the master plan identifies an improvement at the airport. It can also be used for land use compatibility efforts.
- Night operations account for 6 percent of all operations.
- Flight tracks are used in the model.
- The model also looks at helicopter use and runway use by different aircraft and at different runways.
- The model uses a calculation grid for the area around the airport to map noise contours. The model output is Day-Night Sound Level (DNL) contours. Much of the area within the 65-level DNL contour is on airport property. The 55 DNL contour is also used as a compatibility threshold.
- Pollutant emissions are also considered and included in the model output.
- The environmental assessment prepared for the parallel runway used supplemental noise metrics that are different than DNL. Both use the calculation grid.

Question: How does the model account for different things?

Port response: The modeling is geographically-based using flight tracks.

Question: Do you associate operations with noise and emissions?

Port response: For modeling existing condition operations, AEDT uses various airframe and engine combinations.

Question: Local flights are often for flight training, and some are from other airports. Where are those listed? How many of the jet flights are for training?

Port response: Operations for training at another airport are considered itinerant in the model.

Question: Does this modeling catch outliers like the really loud events?

Port response: Yes, it does.

Comment: You're not monitoring noise.

Port response: The approach is to model noise.

Written question: Helicopter noise is unique. How is that addressed?

Port response: Helicopter noise is modeled differently. The noise model looks at loudness, not the nature of the sound. It doesn't address "blade slap."

Adjourn

Written questions from the sticky wall
(Questions not covered in the presentations were combined and asked/answered during the session.)

1) The AEDT has three major pieces: noise, air quality and social equity (Justice). Please discuss the latter.
2) Are we watching electric GA A/C??
    - No noise
    - No pollution
3) A significant part of aviation operations at HIO is the training, fixed wing and helicopter. This is also a major contribution to community impact. This activity could be shifted to another Oregon location along with the claimed economic benefits. Please evaluate this option!
4) How would cap and invest effect this community/airport operations?
5) Status of no-lead AV gas?

6) What is the current status of the replacement fuel for leaded aviation fuel? What is the probability that the Trump administration will stop this work?
7) What is the FAA doing in the short term to reduce lead emissions at the airport?
8) What is FAA doing to eliminate leaded aviation fuels?
9) Please explain the basis, in detail, for the Port's long and often repeated helplessness regarding noise management?
10) Helicopter noise has specific and unique characteristics, blade slap and low frequency components and blade beats. How are those addressed in the noise model?
11) Can you instrument for noise and then add noise fee to landing fees on a flight by flight basis to encourage/reward quieter flights?
12) How do you measure noise at the airport?
13) Any plans for tethered helicopter trainer?
14) When will the Port measure noise levels so as to verify the AEDT noise model works?
15) How many years do we need to put up with the noise of the helicopters?
16) What is the minimum downwind pattern altitude over Hillsboro, particularly to the west?
17) The previous FBO at PDX would let eight planes park at the "General aviation ramp" and walk to the terminal to sleep, feed, etc. The present wants to charge a huge ramp fee. Can you find a spot where we can park for short periods?

Written comments

Contact: David Chambers

Noise and Air Quality Info Session – Comment Card Date: Oct. 12, 2017

Name (please print): DAVID CHAMBERS

How would you like the Port of Portland to communicate information about noise and air quality?

Comment:

TELL US HOW TO REDUCE NOISE & POLLUTION IN OUR COMMUNITY. IT DOES NOT APPEAR TO BE YOUR GOAL.

Port response: Noise reduction from aircraft activity at Port of Portland airports is certainly a goal of the Port, reflected in the Noise Management Team's mission statement:

"To minimize, to the extent possible, noise impacts from aircraft utilizing Port of Portland airports. To respond to community concerns, and encourage collaboration among internal and external stakeholders including residents, aircraft operators, and federal, state, and local governments."

We work within the FAA's legal framework through the collaborative, voluntary implementation of the Hillsboro Fly Friendly Program to reduce noise; further reductions could come from increased participation with program elements and technological improvements in aircraft themselves.

Contact: *Blaine Ackley*

Comment:

Noise when I report the noise complaints to the airport no one responds, so what difference does it make.

Air Quality Because the Port does not conduct a full environmental impact & because the Port refuses to acknowledge the impact of lead on Hillsboro residents even though it is the 21st dirtiest airport in the country, I do not believe the Port really cares about our health

The back of this sheet may be used for additional comments.

(over)

I live to the SE from the airport. When the wind is blowing from the NW, planes fly over our property on final approach to the airfield. As a result, a lot of planes fly over our property and they are often at a low level. When this happens it can be so noisy that it is difficult to have a telephone conversation outside the house. One can also surmise that when the engines on these planes backfire, we receive a light dusting of lead with each passing plane. The Port seems uninterested in this problem.

Port response (Noise): Winds from the NW are common in the Hillsboro area which means aircraft depart to the north to operate into the wind, and as they make their return to the runway, pilots will operate in the vicinity of your residence. The majority of the operations remain to the north and west of your area, however, pilots will sometimes extend south to comply with air traffic control instructions or to give themselves the highest level of comfort with their final approach.

In looking over notes from your historical communications with the noise management team, we have returned contact when specifically requested. The web form you have been using to communicate in recent months doesn't give an indication if users desire return contact from the noise office. If you would like to continue to use the same form and want return contact, just mention that and we will happily do so.

Port response (Air Quality): The U.S. Environmental Protection Agency, Oregon Department of Environmental Quality, and the Washington County Public Health promulgate standards and assess health risks from air pollutants and other environmental exposures as part of their mandate to protect public health and welfare.

Lead is one of six criteria pollutants for which the EPA sets enforceable standards to limit the concentration in ambient air. These standards are designed to be protective of human health and the environment. EPA's current National Ambient Air Quality Standard (NAAQS) for lead is 0.15 micrograms per cubic meter (ug/m^3). As part of the Portland Air Toxics Solutions (PATS) program, Oregon Department of Environmental Quality established acceptable concentration values for 52 pollutants present in the air. The ambient benchmark concentrations (ABCs) were set at levels that provide public health protection. For lead, DEQ adopted 0.15 ug/m^3, the same as the NAAQS.

DEQ is responsible for monitoring air quality and developing programs to bring areas that don't meet the NAAQS back into attainment. Regional air quality monitoring by DEQ shows that lead concentrations in the Portland region have been trending down for some time and are currently far below the NAAQS and ABC. The most recent monitoring data published by DEQ for Hillsboro Hare Field, located ¼ mile from HIO, shows the 2014 annual average lead concentration was 0.0021 ug/m^3, 70 times below the NAAQS and ABC.

Washington County Public Health looked at modeled lead concentrations around HIO from three air dispersion models conducted independently by U.S. EPA, Oregon DEQ, and the Port of Portland. The modeling results from the three models were in close agreement (0.00647, 0.00331, and 0.00405 ug/m3) and well below the lead NAAQS and ABC.

While modeling and monitoring data are below health based levels, there is general agreement that lead should be eliminated from piston aviation fuel. The FAA has established a program and performance metric to make available in 2018 an unleaded replacement fuel for leaded aviation gasoline that is usable by most GA aircraft. The program includes developing ASTM specification, airworthiness certification, engine testing and certification, aircraft testing and certification, and feasibility assessment.

An FAA fact sheet with frequently asked questions is provided below.

What is FAA doing about eliminating leaded aviation fuels?
Four initiatives have been established to develop a safe unleaded replacement aviation gasoline:

1. First and most important, the FAA sponsored an Aviation Rulemaking Committee (ARC) involving EPA and industry stakeholders, which developed the process, cost estimate, and time line to replace existing leaded aviation fuels with unleaded solutions. The final report and recommendations, known as the Unleaded Avgas Transition (UAT) Committee Final Report was published on February 17, 2012. The report is available to the public at: www.faa.gov/about/initiatives/avgas/archive. This report contains five key recommendations (and fourteen additional recommendations) to facilitate the development and deployment of a replacement unleaded aviation gasoline. The plan calls for government research and development (R&D) funding and in-kind funding from industry to identify an unleaded fuel by 2018 that could be used by aircraft currently operating on leaded avgas.

2. Second, the FAA has established an Agency performance metric that states: "A replacement fuel for leaded aviation gasoline is available by 2018 that is usable by most general aviation aircraft." This performance metric will guide investments and decisions taken on by FAA for the coming years.

To help meet this goal, the FAA asked the world's fuel producers on June 10 to submit proposals for fuel options that would help the general aviation industry make a transition to an unleaded fuel. The FAA will assess the viability of candidate fuels in terms of their impact on the existing fleet, their production and distribution infrastructure, their impact on the environment and toxicology, and economic considerations. The FAA is asking fuel producers to submit by July 1, 2014, data packages for candidate replacement unleaded fuel formulations for evaluation by the FAA. By Sept. 1, 2014, the FAA will select up to 10 suppliers to participate in phase one laboratory testing at the FAA's William J. Hughes Technical Center. The FAA will select as many as two fuels from phase one for phase two engine and aircraft testing. That testing will generate standardized qualification and certification data for candidate fuels, along with property and performance data. Over the next five years, the FAA will ask fuel producers to submit 100 gallons of fuel for phase one testing and 10,000 gallons of fuel for phase two testing.

There are approximately 167,000 aircraft in the United States and a total of 230,000 worldwide that rely on 100 low lead avgas for safe operation. It is the only remaining transportation fuel in the United States that contains the addition of TEL.

3. Third, Section 910 of the 2012 FAA Modernization and Reform Act establishes an unleaded aviation gasoline R&D program with deliverable requirements for an R&D plan

(Continued Below)

and report. The FAA has issued the Unleaded Avgas Transition (UAT) Action Plan that will integrate these three activities.

The fourth initiative involves private-sector companies that have applied for Supplemental Type Certificates for specific piston engine and aircraft models to operate with new, unleaded aviation gasoline formulations. The FAA is actively working to support all of these initiatives.

What is FAA doing in the short-term to reduce lead emissions from airports?
FAA's goal for an unleaded avgas by 2018 is the long term solution that will, ultimately, allow for the elimination of lead emissions from aircraft that use leaded fuel. Until such fuels can be brought to market, there are actions that FAA can coordinate with airport and aircraft owners and operators to investigate options to reduce lead emissions at airports. Some of the measures that are being considered include:

1. Lower leaded fuel options: It may be possible for airports to supply lower leaded fuels in current fuel distribution systems. These fuels that meet ASTM standards have been approved for use in aircraft certified for their use and would be completely transparent in its distribution and use. Potential reductions in lead emissions are as much as 19 percent since these lower level fuels have approximately 19 percent less lead content than current fuels.

2. Consider unleaded automotive fuels as an option at airports: Approximately 40 percent of piston engine aircraft are either approved or eligible to obtain approval to operate on automotive fuels. This unleaded fuel could represent an option for some airports, however, any fuel used in aircraft engines must not contain ethanol; this requirement may limit the applicability of automotive fuels. This would require separate fuel systems and procedures to ensure that aircraft are fueled properly. Airport sponsors would have to make the necessary arrangements for supply, storage and distribution systems—with due consideration of the level of demand for two different fuel types—all of which may make this option challenging both logistically and financially.

3. Safely change aircraft operations to avoid concentrated lead emissions: Locations for engine run-up areas could be distributed over a wider area within an airport to reduce the potential for concentrated levels of lead emissions. It may also be possible to shorten taxi routes to lessen emissions. Such measures would be airport-specific and would have to consider operational safety as the highest priority.

4. Install vapor recovery systems: Vapor recovery systems, similar to those found at automotive filling stations, could be installed in bulk fuel delivery systems to minimize the release of avgas vapors which contain small concentrations of lead.

Contact: Miki Barnes

U.S. Ninth Circuit Court Denies HIO Third Runway Appeal

(The Court negligently ignores the Petitioners' primary argument in ruling in favor of the FAA and Port of Portland)

Oregon Aviation Watch is disappointed to announce that on 8/3/17, the U.S Ninth Circuit Court of Appeals issued a denial of our petition for review of the Federal Aviation Administration (FAA) and Port of Portland (Port) decision to construct, without an Environmental Impact Statement (EIS), a third runway at the Hillsboro Airport (HIO).

HIO is primarily a flight training facility that recruits many of its prospective pilots from outside the country. During the nearly 90 years HIO has been in existence, it has grown from a grassy airstrip into the largest and most polluting general aviation airport in the State of Oregon. In fact, HIO has earned the dubious distinction of being the number one facility source of lead emissions, a ton or more per year, in the state of Oregon and 21st in the nation among nearly 20,000 U.S. airports.

According to Port and FAA predictions, lead emissions during the landing and take-off phase of flight will increase from 0.8 tons per year in 2016 to 0.9 tons per year by 2021.[1] Pre-flight run-ups, which have been identified by the Environmental Protection Agency (EPA) as a major source of lead emissions at individual airports, were not included in the Port / FAA forecast, thus the actual amount of lead released at HIO is substantially higher than projections indicate. In addition, the Port / FAA estimates did not include cruise phase emissions.

In any case, the court's decision was very much in keeping with the pro-corporate, damn the environment attitude the Port, FAA, aviation sector, local governments and Trump administration have routinely displayed towards the environmental degradation caused by airports and other industrial sources of pollution.

Background

In 2011, the Ninth Circuit Court issued a remand in response to Petitioners who challenged the addition of a third runway at HIO. At the time the Court stated that the Port and FAA failed to consider the potential for induced demand from adding a new runway.[2] The Port's response to the Court decision was troubling and deflective. Instead of directly asking the various tenants at the airport, including the predominant user of the airport, the Hillsboro Aero Academy international flight training school, to provide information about their current activities and projected growth over the next 20 years, the Port engaged in a random sampling of pilots and businesses then proceeded to hinge future forecasts on this flawed data.

The Hillsboro Airport Supplemental Environmental Assessment (HIO SEA) on this topic included an anonymous pilot survey. Though several of the respondents stated that they received pilot training at Hillsboro Aviation, now Hillsboro Aero Academy, the actual numbers of all pilots receiving training at this flight school were not included. This is a significant oversight since the majority of operations at HIO are training flights largely on behalf of Hillsboro Aero Academy / Hillsboro Aviation – a business that lays claim to training pilots from over 75 countries.[3] Oregon Aviation Watch and the other Petitioners questioned the accuracy of the survey in both their Opening and Reply briefs and through extensive testimony submitted during the formal hearing proceedings. The Court, however, opted to ignore the detailed information included in the record.

Per the court decision authored by Judge Richard R. Clifton:

> "In their reply brief, Petitioners contend that, even if Hillsboro Aviation was included in the survey, the survey did not capture all of the likely growth related to pilot training. Petitioners did not raise this argument in their opening brief, and it is therefore waived."[4]

The judge is clearly mistaken. As noted by *Oregon Aviation Watch* Vice President Jim Lubischer:

> "In fact, this specific argument was raised in Oregon Aviation Watch's Opening brief. Even the federal respondents recognized this in their reply brief. A cynic might think that the easiest way for the judges to rule in favor of the Port and FAA was to ignore *Oregon Aviation Watch's* primary argument by ruling that the argument had never been raised. In many court cases there are grey areas but this was not the case here."

Petitioners Re-Hearing Request Denied – No Explanation Provided

In response to the Ninth Circuit Court's misapprehension of material facts, *Oregon Aviation Watch* sought a rehearing, pointing out to the judges that this issue was included in the opening brief. The Court was reminded that when *Oregon Aviation Watch* submitted hearing testimony asking for the number of operations logged by all businesses located at HIO, the FAA and Port stated that the agencies "do not believe that the information requested by commenters [Petitioners] about flight training details or data about specific companies is necessary to prepare forecasts for the Supplemental Environmental Assessment."[5]

The opening brief also clearly stated that "the Survey did not capture the number of operations from the primary user of the Hillsboro Airport, Hillsboro Aviation." As noted by Sean Malone, the attorney for the Petitioners, this concern was argued in the opening brief and was raised yet again in the reply brief.[6] Nonetheless, without even the mere courtesy of an explanation, the Court chose to ignore these material facts and refused to honor the Petitioner's well articulated request.

Petitioner's Opening Brief Statements on Flight Training

Concerns related to the flight school and the deficiency of the survey to accurately forecast potential induced demand were raised on pages 24 through 28 of the Petitioner's Opening Brief under the section entitled Failure to account for the single largest operator at HIO. An excerpt from this argument reads as follows:

> "As noted above, the FAA relied on the pilot survey to formulate the 'remand forecast,'… but the survey omitted the single largest general aviation operator at HIO, Hillsboro Aviation…The omission is significant because Max Lyons, President of Hillsboro Aviation, submitted a letter in support of the application to fund the Project, stating that the third runway will allow the airport and its tenants to continue expanding as the impact of the current recession subsides."[7]

This section of the brief also includes excerpts from a Vertical Magazine interview with Max Lyons. According to the article which was included in the record,

> "Since Lyons took leadership of Hillsboro Aviation in 1992, the company has had a continual emphasis on building partnerships in China in order to grow and support the country's aviation industry. As the open skies policy takes effect in China over the

> coming months and years, Hillsboro Aviation is well positioned to nurture the country's general aviation industry through the training of Asian pilots and representing aviation products in Asia."[8]

The article further stated, "Hillsboro Aviation has trained thousands of airplane and helicopter pilots from Asia…" and went on to include the following quote from Lyons, 'As general aviation continues to grow and expand in China, we want to have a role in its growth and support this industry with the experience and resources we have developed over our 30-year history with Asia."[9]

Hillsboro Aviation Flight Training Concerns Submitted at Formal Hearing

Detailed concerns regarding the inadequacy of the pilot survey were submitted into the record. during the formal hearing. The Petioners' analysis was prepared by *Oregon Aviation Watch* vice president, Jim Lubischer.[10] Per Dr. Lubischer,

> "The survey is deficient for not searching for and identifying primary users of HIO runways…The identification of primary users of the HIO runways is critical, as any 'estimated induced demand' is likely to hinge on those particular users. Not ensuring that the primary users are included in the survey is a critical mistake and any conclusions based on the Survey are not valid."[11]

Petitioners' Reply Brief Statements on Flight Training

The Petitioner's Reply Brief on pages 13-15 also includes a section entitled Failure to account for the single largest operator at HIO. As pointed out by, Sean Malone, the attorney for the Petitioners, "This information is of the utmost importance because flight training accounts for the vast majority of operations at the airport."[12]

Obviously the Petitioners emphasized concerns about the survey throughout the entire proceedings. It was not that the issues were not raised, but rather that the Court chose to blatantly ignore this very pivotal issue.

Court Grants Port and FAA Latitude to Increase HIO Lead Emissions to 25 Tons Per Year

Another chilling aspect of the decision was the Court's willingness to fully address the fact that even without a third runway, during the landing and take-off phase of flight, HIO is releasing close to a ton of lead into the air each year. Additional lead is released during engine run-ups. Despite the inclusion of this information in the record, the Court ignored the extensive data on this topic and chose to base its decision solely on the additional lead emissions predicted by the Port and FAA to result from adding a third runway. Per the decision,

> "The SEA demonstrated that the new runway would have little effect on lead in the area around HIO. The Remand Forecast estimated that the new runway would result in the annual additional 0.03 ton of lead in 2016 (from 0.83 ton under the Constrained Forecast to 0.86 ton under the Remand Forecast) and the annual emission an additional 0.02 ton of lead in 2021 (from 0.90 ton under the Constrained Forecast to 0.92 ton under the Remand Forecast). These predictions represent an increase in lead emissions of less than four percent."[13]

Please note that neither the Port of Portland nor the Oregon Department of Environmental Quality or the EPA have ever actually measured lead emissions on the airport property or downwind of the facility where lead emissions are likely to be highest.

And it gets even worse. In arriving at their decision, the Court choose to discount the warnings issued by the CDC that there is no safe level of lead in a child's blood as well as documented evidence that lead is a neurotoxin and probable carcinogen that can be harmful at very low exposure levels. The Court then went on to side with the Port and FAA's argument that until lead emissions from a federal action reach 25 tons annually, EPA regulations do not require an evaluation of the regional impact. At this point a reasonable reader might wonder what the difference is between EPA environmental policy as cited by the attorneys hired by the FAA and Governor appointed Board of Port of Portland Commissioners versus a government promoted institutionalized death camp mentality.

Health Impacts of Lead

The Petitioners' opening brief also contained extensive documentation on the negative health impacts of lead exposure. Lead is a potent neurotoxin that can damage the blood, kidneys, and central nervous system. It can retard fetal development and cause reproductive problems. Even very low levels of lead can cause deficits in intelligence, reaction time, visual motor integration, fine motor skills, and executive functioning.[14]

Oregon Aviation Watch testimony in the record included the following,

> "Lead is a potent neurotoxin. The Agency for Toxic Substances and Disease Registry lists 275 toxic substances on the "Substance Priority List". Arsenic is number one on the list. Lead is number two. The Centers for Disease Control (CDC) has stated that "…no level of lead in a child's blood can be specified as safe…" Furthermore, the CDC has stated that, "...because no level of lead in a child's blood can be specified as safe, primary prevention must serve as the foundation of the effort [to prevent childhood lead poisoning]… Efforts to eliminate lead exposures through primary prevention have the greatest potential for success." Primary prevention means not putting lead into our environment. Rather than increase the lead in our children's environment we should be reducing the lead emitted from non-essential aircraft. Morally, any increase in lead cannot be considered de minimis."[15]

Sadly, the Port of Portland, the FAA, the State of Oregon, local government officials and now the Court have chosen to minimize and ignore the serious environmental and public health threat posed by Hillsboro Airport and have instead given this facility free reign to continue poisoning this community with the noise and pollution generated by private flight training companies.

Conclusion

In justifying their refusal to require an Environmental Impact Statement by citing EPA regulations, more specifically the archaic 25 tons de minimis statement, it's worth remembering that it was once legal to put lead in paint and automotive fuel - a practice that was discontinued due to the significant environmental and health risks posed by this toxic substance. It was once legal to own slaves but this practice was also discontinued because it was brutal and inhumane. It was once legal to ban women from voting but this practice was discontinued because it was discriminatory and misogynistic. It was once legal to ban black people from frequenting white

only diners and restrooms but thankfully this practice, too, was discontinued because it was blatantly racist and dehumanizing.

In a similar vein, this country is sorely in need of laws that protect fetuses, infants, toddlers, kindergarteners, school children, pregnant women, the elderly, disabled individuals and ultimately the entire population from being assaulted daily by lead pollution, especially the lead released by the aviation sector which is responsible for over 50% of airborne lead emissions in this country. Moreover legislation, or at the very least a significant change in the way the courts interpret existing laws, is needed to protect residents from the judicial, legislative and executive branches of government that perpetuate, rather than seek to solve, this very serious problem. Sadly the laws of this country are all too often bereft of any semblance of either morality or ethics.

All too often U.S., state and local laws have historically been established by a greedy, self-serving dominant class whose primary intent is to accumulate corporate and industry profits by gouging and exploiting public sources of money at every turn. As a result, it should come as no surprise that the EPA, FAA, State of Oregon and Port policies that pollute the air, degrade the environment and compromise the health of current and future generations are promoted and upheld by the judicial system. What a travesty!

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[1] Hillsboro Airport Parallel Runway 12L/30R Final Supplemental Environmental Assessment. Prepared for the Federal Aviation Administration by the Port of Portland. Volume 1. Pg.. 29-30. (February 2014).
[2] Barnes et al vs. US Dept. of Transportation, FAA, and Port of Portland. US Ninth Circuit Court Opinion #10-70718. (Filed 10/25/11). Pgs. 16285 to 16286 and 16297. Available on-line at http://www.oregonaviationwatch.org/docs/NinthCircuitCourtOpinion-10-70718.pdf.
[3] Hillsboro Aero Academy website. Last accessed on 10/4/17 at http://flyhaa.com/.
[4] Barnes et al v. the FAA and Port of Portland. No. 14-71180. U.S. Ninth Circuit Court of Appeals Opinion. (8/3/17) Pg. 10, Footnote. Available on-line at http://www.oregonaviationwatch.org/docs/NinthCircuitCourtOpinion-14-71180.pdf.
[5] Hillsboro Airport Parallel Runway 12L/30R Final Supplemental Environmental Assessment. Prepared for the Federal Aviation Administration by the Port of Portland. Volume 2 of 2 Appendices G and I. Pg. G. 9-45. (February 2014).
[6] Barnes et al v. the FAA and Port of Portland No. 14-71180. Petitioners' Petition for a Re-hearing (8/25/17) Available on-line at http://www.oregonaviationwatch.org/docs/NinthCircuitCourtOpinion-10-70718.pdf..
[7] Barnes et al v. the FAA and Port of Portland No. 14-71180. Petitioners' Opening Brief. (8/11/14) Pg. 24. Available on-line at http://www.oregonaviationwatch.org/docs/HIO_2014-24-1-Opening_Brief.pdf.
[8] Hillsboro Aviation Prepared to Support General Aviation Growth in China. Vertical Mag. (3/5/11). Last accessed on-line on 10/4/17 at https://www.verticalmag.com/features/hillsboro-aviation-prepared-to-support-general-aviation-growth-in-china-html/.
[9] Ibid.
[10] Lubischer, J. Analysis of the General Aviation Survey Report Summary. OAW Hearing Testimony. Submission. Available on-line at http://www.oregonaviationwatch.org/docs/Analysis_of_DSEA_SURVEY.pdf.
[11] Ibid. Pg. 7.
[12] Barnes et al v. the FAA and Port of Portland No. 14-71180. Petitioners' Reply Brief. (12/02/14) Pg. 15 Available on-line at http://www.oregonaviationwatch.org/docs/HIO_2014-41-1-Reply_Brief.pdf.
[13] Barnes et al v. the FAA and Port of Portland. No. 14-71180. U.S. Ninth Circuit Court of Appeals Opinion. (8/3/17) Pg. 11. Available on-line at http://www.oregonaviationwatch.org/docs/NinthCircuitCourtOpinion-14-71180.pdf.
[14] Barnes et al v. the FAA and Port of Portland No. 14-71180. Petitioners' Opening Brief. (8/11/14) Pg. 10-12. Available on-line at http://www.oregonaviationwatch.org/docs/HIO_2014-24-1-Opening_Brief.pdf.

[15] Lubischer, J. Analysis of the General Aviation Survey Report Summary. Pg. 1. Available on-line at http://www.oregonaviationwatch.org/docs/Analysis_of_DSEA_SURVEY.pdf.