

**Lane Regional Air Protection Agency – Cleaner Air Oregon
Seneca Sustainable Energy, LLC Community Meeting
September 8, 2021**

Meeting Summary

Welcome and Introductions

Donna Silverberg, an independent facilitator from DS Consulting, welcomed the group to the Lane Regional Air Protection Agency’s (LRAPA) community meeting regarding Seneca Sustainable Energy, LLC (SSE) and its progress in the Cleaner Air Oregon (CAO) program. Donna thanked everyone for attending and said that the session would provide information on the results of LRAPA and the Oregon Health Authority’s (OHA) CAO Risk Assessment conducted for SSE. Donna added that the session was also intended as an opportunity for community members to ask questions specific to the SSE CAO process and to solicit community feedback on exposure locations the LRAPA used in the risk assessment. To support a respectful and productive session, Donna asked that everyone listens with an open ear and curious mind.

Agency representatives from LRAPA and OHA who work closely with the CAO program, and Seneca Sustainable Energy, introduced themselves.

LRAPA	Steve Dietrich	Executive Director
	Chris Coulter	Modeler
	Lance Giles	Air Monitoring Coordinator
	Max Hueftle	Operations Manager, implementation oversight of the CAO program
	Travis Knudsen	Public Affairs Manager
	Jonathan Wright	Permit writer, Permit Manager for SSE
OHA	Holly Dixon	Public Health Toxicologist, CAO health risk assessment partner
SSE	Todd Payne	Chief Operating Officer
	Casey Roscoe	Vice President Public Affairs
	John Browning	Bridgewater Group, SSE Consultant

Meeting materials, including a video recording and presentation slides are available at LRAPA’s CAO Seneca Sustainable Energy website: <https://www.lrapa.org/328/Seneca-Sustainable-Energy-LLC-SSE>

What is Seneca Sustainable Energy?

Todd Payne, Seneca Sustainable Energy’s Chief Executive Officer, described the SSE plant. He explained that SSE is a 19.8 megawatt wood biomass co-generation system that produces steam and thermal energy. The power generated is delivered to the Eugene Water and Electric Board (EWEB) and, subsequently to 13,000 homes in the region and to the dry kiln at Seneca Sawmill. SSE is considered a firm source of renewable energy that provides fill-in energy when solar and wind sources are not available. The plant was built in 2009 and has helped Seneca decrease their reliance on fossil fuels.

Todd explained the process to develop energy, which starts with combining water and wood biomass in the boiler to create steam. The steam is sent to the turbine, which is connected to the generator to produce electricity for the grid. After use, steam is returned to water and is then fed back into the system.

The SSE system includes a state-of-the-art air emission filtration system. The technology uses high temperatures in the boiler, which helps fuels burn cleaner. The hot exhaust air from the boiler first goes through a system to drop heavier particulates, then through an electrostatic precipitator that uses electrically charged metal plates to pull out smaller particulates.

What is Cleaner Air Oregon (CAO)?

Travis Knudsen, LRAPA Public Affairs Manager, provided an overview of the Cleaner Air Oregon program, noting that LRAPA administers the program for Lane County, and DEQ administers the program for the rest of the state. CAO was adopted by the LRAPA Board in 2019. The CAO program is a permitting program that is separate from, and in addition to, traditional Clean Air Act permitting. One important difference between traditional permitting and the CAO permitting process is that the CAO process takes into account the human health risks of a facility's air emissions (whereas traditional permits consider the *amount* of emissions generated from a facility, but generally do not consider the risk of those emissions on human health). SSE is required to acquire both traditional and CAO permits. SSE is the first facility to complete a CAO Risk Assessment in Lane County.

Travis explained the Cleaner Air Oregon process:

1. A facility is **called in to the CAO program**. (See the prioritization list of facilities on LRAPA's website: [Cleaner Air Oregon | Lane Regional Air Protection Agency, OR \(lrapa.org\)](https://www.lrapa.org/cleaner-air-oregon)).
2. The facility conducts an **air toxics emissions inventory** of over 600 chemicals (excluding "criteria" pollutants – lead, carbon monoxide, nitrogen and sulfur dioxide, ozone, and particulate matter, which are regulated by traditional permits). This allows LRAPA to determine what, where, and how many emissions are coming from the facility. Part of this step is to model dispersion of the emissions, to assess how emissions move across the region after they leave the facility, and who may be exposed in various locations. This is often the longest and most important part of CAO; the assessment needs to be comprehensive because it informs the rest of the process.
3. To understand the human health risks of exposure to a facility's emissions, OHA conducts a **human health risk assessment** which results in a designated risk action level (more on this below); as the potential health risk increases, the CAO requirements for mitigative actions increase.
4. After the emissions inventory and human health risk assessment are complete, the facility may work with LRAPA to develop a **risk reduction plan**, if required by rule. A facility can then **apply for a permit** and there will be **public notices and a hearing**. Eventually a permit may be issued and then enforced.
5. Throughout this process, **community engagement** is encouraged and required as part of the CAO program.

What is SSE's Cleaner Air Oregon Process?

Seneca Sustainable Energy is a facility that is part of the Seneca "campus", but separate from the Seneca Sawmill. The CAO risk assessment is only for SSE, not the mill. From an air permitting perspective, these are considered two different facilities and they have separate air permits because the EPA, ODEQ, and LRAPA rules define single source of emissions as: facilities that are located on the one or more contiguous or adjacent property, owned by the same person(s), and have the same two-digit Standard Industrial

Classification (SIC) code. The power plant and sawmill have two separate SICs and could be standalone facilities, thus they do not meet the third requirement and so have separate air permits. The CAO does not consider cumulative impacts of facilities throughout the region, only the impacts of the specific facility being assessed. Travis noted that there is a piolet project in Portland to consider cumulative impacts.

SSE was the first facility for LRAPA to 'call-in' to the CAO. This decision was based on the type of emissions, potential quantity of emissions, demographics of those living around SSE, community interest and concern regarding SSE, and the ease and pace of assessing the facility.

As part of the CAO program emissions inventory, it was determined that 111 pollutants were being emitted by SSE. Of those pollutants, arsenic comprised the majority of the chronic (long-term) risk, and manganese posed the greatest acute (short-term) risk. LRAPA modeled how those pollutants would move across the land to better determine the potential risk posed to human health. Regarding exposure, the risk assessment considered exposure of people who live and work within 6.2 miles of the SSE facility. Chronic and acute exposure is considered for three types of locations:

- Residential – including homes/apartments, mixed use residential and commercial spaces;
- Non-residential Child – including schools, daycare, in-home childcare; and,
- Worker – businesses, commercial/office space, farms, places of employment.

Additionally, acute exposure is considered for a 4th category of “exclusively acute exposure” which includes parks, open spaces, agricultural areas, and public lands where people are not expected to spend long periods of time.

Travis showed a map depicting each of these exposure locations and requested community members to review the map to make sure that the locations are correct and complete. For instance, if there is an in-home childcare facility that is not marked, or a mixed residential/commercial space LRAPA would like to learn that information. The identified locations can be viewed on LRAPA's SSE webpage:

<https://www.lrapa.org/328/Seneca-Sustainable-Energy-LLC-SSE> Please send any revisions to Travis at Travis@LRAPA.org.

What is a Risk Assessment?

Holly Dixon, OHA Public Health Toxicologist, reviewed the Risk Assessment results for SSE. She started by sharing the difference between a health risk and a health outcome. A health risk is the chance or likelihood of a health problem happening; whereas a health outcome is a health problem that has already happened. CAO is future looking and looks at the risk of a health problem occurring, not health outcomes. This is to ensure that regulations are proactive and can prevent people from getting sick.

Health risks from contaminant exposure is calculated considering a wide range of potential effects on the organ systems, because different contaminants impact organs differently. The CAO categorizes health effects into two categories: cancer and non-cancer risks.

- **Cancer Risk** – For cancer causing chemicals, OHA assumes there is no safe amount of exposure, as even a small amount can increase the chances of developing cancer. Cancer risk is estimated based on the increased probability that 1 person out of 1 million will develop cancer based on a lifetime of exposure. This is considered in addition to a “background” risk of cancer, which is determined by the

American Cancer Society to be 1 out of every 3 women and 1 out of every 2 men developing cancer in their lifetime, or 400,000 out of 1 million people.

- Non-cancer Risk** – Non-cancer health effects include health issues such as trouble breathing and heart disease; this risk is based on the amount of chemical exposure one can have without experiencing health effects. Time and frequency of exposure, type and amount of contaminants, genetics, and environmental factors all contribute to whether someone experiences health effects. Contaminants in CAO have an associated “health protective level” that is determined by authoritative sources such as the U.S. Environmental Protection Agency. The amount of each chemical being released from a facility is divided by the health protective level to assess whether the levels of contaminants pose a noncancer health risk. The resulting value is called the Health Index (HI) and if the HI is at or below 1 it is not considered to be a significant risk. If the HI is greater than 1, then it signals that more information is needed to understand the risk in a specific area.

Holly presented the risk of cancer and non-cancer health effects of exposure to the SSE emissions, as calculated by the CAO risk assessment:

	Cancer Risk	Non-Cancer Risk (HI)
Residential	1 in a million excess cancer risk	Less than 1
Non-residential Child	Near 0 in a million excess cancer risk	Less than 1
Worker	Less than 0.1 in a million excess cancer risk	Less than 1
Exclusively Acute Locations	N/A	Less than 1

The risk assessment shows that cancer risk from exposure to the SSE emissions is very low. Similarly, the risk of non-cancer health effects from SSE are also very low.

How Was Seneca Sustainable Energy’s Health Risk Assessed?

Travis provided information on how the CAO process incorporated the risk assessment results into action. He explained that there are different Risk Action Levels (RALs) established by CAO and depending on the RAL, LRAPA can require different actions from the facility. As the potential health risk increases, the CAO requirements increase. For example, for low human health risks, a facility may be required to report their emissions (source permit level); however, for facilities with emissions that pose very high risks to human health, they may be required to do mandatory risk reduction or stop emitting immediately (otherwise known as the immediate curtailment level).

Nearly all of SSE’s risk assessment results fall under the lowest RAL, except the acute risk when the facility starts-up, which was 0.73. This is above the “source permit level” and below the “community engagement level” on the RAL matrix (which determines what regulation actions LRAPA can require of SSE). This is because when the facility’s equipment is turned on (for example, after routine maintenance) the system is not warmed up and releases increased emissions. Specific details are still to be decided, however, LRAPA expects that the new air permit regulations for SSE will specify how many start-ups are permitted on an annual basis. The current permit allows for 10 startups a year, new permit will have a lower limit and LRAPA will require that they follow the modeling assumptions for the startup process.

Cleaner Air Oregon Efforts and Community Engagement

Travis reiterated that LRAPA would appreciate the community's input on the locations used in the risk assessment and asked that any additional information is emailed directly to him. He shared that there will be an open public comment period later in the CAO process and, at that point, community members are encouraged to submit comments on the draft Title V permit.

Additionally, there are a number of other facilities in Lane County that are going through or will go through the CAO process. A list of current and planned CAO facilities can be found at the LRAPA webpage: <https://www.lrapa.org/300/Cleaner-Air-Oregon>. There is an option on the webpage to sign up for email notifications for individual facilities.

Questions and Comments from the Community

Donna invited questions and comments on the SSE CAO process from community members:

- Who conducts the health risk assessment? Who funds the studies?
 - Facilities conduct the risk assessment and often use 3rd party consultants. LRAPA oversees the assessment and does in-house modeling to verify results; DEQ and OHA toxicologists then help verify the results and replicate aspects of the assessment.
 - The risk assessment utilizes information from long-term epidemiological studies to determine how a chemical impacts health (these studies have a variety of funding sources). The CAO process uses “authoritative sources”, such as the U.S. Environmental Protection Agency, as resources and OHA toxicologists review and determine how to best apply the source information within CAO. To ensure that the process is utilizing the best available science LRAPA, ODEQ, and OHA review the chemicals and toxicology values every 3 years.
- For the exclusive acute exposure location category, which includes parks and open space, there is an assumption that people spend limited time there. Given that some parks are being used to house unhoused people, should that category of land be assessed with the exposure calculations and limits of residential areas? The unhoused people may spend even more time there than the average housed person spends in their home.
 - The CAO does not currently provide authority for the risk assessment to classify the parks as residential, however, there are ongoing conversations regarding this issue.
- What long-term studies have been conducted about the impacts of particulates on respiratory and cardiac disease?
 - Particulate matter is regulated by Federal regulations, not CAO (see mention above regarding “criteria pollutants”). A lot of research has been done on particulate matter and the U.S. Environmental Protection Agency (U.S. EPA) is a good resource as they provide integrated assessments on the impacts of particulate matter (the latest assessment is from 2019).
 - The CAO program assesses 600 chemical pollutants; other criteria pollutants are permitted through traditional permitting processes. The U.S. EPA establishes national air quality standards that define what “clean air” is in the U.S. and these standards include particulates, ozone, lead, and other criteria pollutants. When the SSE facility was

constructed, models showed that it was meeting the Federal ambient air quality standards.

- According to biogeochemist and former president of the Cary institute of Ecosystem Studies, William Schlesinger, the burning of wood fuels releases large amounts of carbon into the atmosphere all at once. Forests take decades or even a century to draw the same amount of carbon out of the air. This is not a carbon neutral process. According to Bev Law from OSU, a more friendly climate approach would be to simply preserve or add to existing forces without harvesting them - a process that would enhance the nation's carbon sink. What is Seneca Sustainable LLC's business plan to get their greenhouse gas (GHG) emissions to ZERO by 2027 when their contract sunsets with EWEB?
 - The U.S. EPA considers biomass as carbon neutral. When it comes to SSE's business plan, LRAPA does not have insight; as noted previously, this session is just focused on the CAO risk assessment results.
- Have the school districts (4J and Bethel) that are affected by exposure from Seneca's 111 pollutants been notified and have the parents of those students been given handouts listing the chemicals?
 - No, because the CAO risk assessment shows very low health risk from the SSE emissions. The risk assessment is a powerful tool used to thoroughly assess the potential health effects of the facility's emissions. Results show that there is very low risk of cancer and non-cancer health effects.
 - Results of the risk assessment for SSE are available on LRAPA's website. The CAO risk action levels give authority for LRAPA to require specific actions; However, SSE's RAL is so low that LRAPA does not have the authority to require SSE to do any outreach to community. The risk is not there to require notification by State statutes.
- At which points in the SSE facility do emissions leave the plant or their process point?
 - For the CAO emissions inventory there was one source at the facility - the boiler. The boiler system is intended to filter out particulate matter (PM 10 and PM2.5). Some of the particulate matter are arsenic or manganese; these are chemicals that the CAO process assesses. The particulate matter passes through the electrostatic precipitator to capture particulate matter and then, eventually, the exhaust passes through the system and out of a stack.
 - For more on particulate matter: <https://www.epa.gov/pm-pollution/particulate-matter-pm-basics> .
- What percentage of particulates does the plant capture vs. release?
 - The electrostatic precipitator is above 99% effective. LRAPA does not measure the uncontrolled emissions going in, they only measure the emissions leaving the facility. SSE is permitted for allow 16 tons of emissions annually, however that is outside of the CAO process. (See information above regarding traditional and CAO permitting.)
- What does Seneca do with the ash and the fall-out from the electrostatic precipitator?
 - There are two types of ash that come out and the ash is provided to a 3rd party who uses it as an agricultural product.

Steve Dietrich, LRAPA Executive Director, thanked community members for the questions, interest, and input. He noted that this is the first CAO site specific community meeting LRAPA has held and there will be more. Steve encouraged community members to stay involved for future CAO efforts with facilities. And with that, Donna thanked everyone, and adjourned the meeting.

This summary and facilitation services are provided by the independent and impartial facilitation team at DS Consulting; suggested edits are welcome and can be emailed to Emily Stranz (emily@dsconsult.co).