

Klamath Energy, LLC an Avangrid Renewables Company

January 23, 2018

Mr. Duane Kilsdonk
Oregon Department of Energy
625 Marion St.
Salem, OR 97301-3737

Subject: Evaluation of Proposed upgrades to fire detection, alarming and suppression systems at Klamath Energy, LLC (Klamath Generation Peakers & Klamath Cogeneration Project)

Dear Duane,

Pursuant to our previous correspondence on October 2, 2017 and the Oregon Department of Energy's response on October 11, 2017, Avangrid Renewables Klamath Energy is planning on enhancing the fire and life safety protection systems at the Klamath Generation Peakers and the Klamath Cogeneration Project while leaving in place certain existing systems such as automated carbon dioxide (CO₂) suppression systems, firewater loop systems and sprinkler systems to ensure compliance with each facility's site certificate and applicable appendices.

The following describes the proposed changes to the fire systems and how Klamath Energy will remain compliant with the Fifth Restated And Amended Site Certificate For The **Klamath Cogeneration Project**:

- Replace the entire Electronic Fire Alarm Control and Notification System. The existing system has limited intelligence and the equipment/parts are simply no longer available. As part of this, we will be greatly expanding the Horn/Strobe notification capabilities throughout the plant site. The new system will be intelligent and fully addressable providing device and location detail if there are any issues.
- We plan to install Novec 1230 Clean Agent Suppression Systems in the main plant Control Room, Server Room, and Digital Control System (DCS) Room which contain the main operational capabilities of the plant. Novec 1230 is extremely green with an ODP rating of zero, it contributes almost nothing to global warming and is very safe for personnel in occupied spaces. The existing firewater sprinkler systems which are currently installed in these areas will remain in place. The Novec 1230 Clean Agent system will complement the firewater sprinkler systems resulting in improved protection.

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- We plan to replace the antiquated FM-200 system in each CT electrical package with a Novec 1230 Clean Agent Suppression system at the Klamath Cogeneration facility. This will allow Klamath Energy to remove from service the existing FM-200 systems that are not as safe for personnel and contribute more substantially to global warming.
- We plan to replace the antiquated FM-200 systems for the 2 large gas turbine enclosures at the Klamath Cogeneration Plant with Victaulic Vortex Hybrid Water Mist Suppression. This improves suppression capabilities by providing significant thermal cooling as well as greatly enhanced inert atmosphere time while a turbine spools down and temperatures fall below oil flash temperatures. This suppression is commonly used today by a number of major gas turbine manufacturers. Installing this system will allow Klamath Energy to remove from service the existing FM-200 systems that are not as safe for personnel and contribute more substantially to global warming.
- We plan to install STAT-X aerosol special hazard suppression systems in the UPS Charger and battery Rooms that provide critical power to the plant control systems. The existing firewater sprinkler systems which are currently installed in these areas will remain in place. The STAT-X aerosol suppression system will be in addition to the sprinklers with the intent of suppressing a fire long before sprinkler heads are activated.
- In order to fully comply with paragraph IV.A.(16) of the Fifth Restated And Amended Site Certificate For The Klamath Cogeneration Project and ASC page B-9 which is Appendix B to this Restated and Amended Site Certificate, Klamath Energy will:
 - Maintain a fire water loop system that consists of fire hydrants, building sprinkler systems, the cooling tower sprinkler system, the turbine generator lube oil sprinkler system and hose stations.
 - Maintain the primary source of water to the fire system from a dedicated portion of the raw water storage tank.
 - Maintain the existing automatic packaged CO₂ fire suppression system which currently protects the bearing tunnel areas of both Combustion Turbines.
 - Maintain the automatic water sprinkler system for Control Room Fire Protection. *As stated previously, a Novec 1230 clean agent suppression system will work in conjunction with the water sprinkler system resulting in improved automatic fire suppression.*
- In order to fully comply with paragraph IV.O.(6) of the Fifth Restated And Amended Site Certificate For The Klamath Cogeneration Project and ASC page

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U-9 which is Appendix B to this Restated and Amended Site Certificate, Klamath Energy will:

- Maintain site fire protection systems which are designed in conformance with applicable fire codes and applicable NFPA standards.
- Maintain a system which includes provisions for water storage, motor-driven fire pumps, firewater loop and monitors, chemical extinguishing for combustion equipment, and portable fire extinguishers.

The following describes the proposed changes to the fire systems and how Klamath Energy will remain compliant with the Site Certificate For **The Klamath Generation Peakers:**

- Replace the entire Electronic Fire Alarm Control and Notification System. The existing system has limited intelligence and the equipment/parts are simply no longer available. As part of this, we will be greatly expanding the Horn/Strobe notification capabilities throughout the plant site. The new system will be intelligent and fully addressable providing device and location detail if there are any issues.
- We plan to install STAT-X aerosol special hazard suppression systems in the generator rooms at the Klamath Generation Peaker facility. There is currently no automatic fire suppression system in these generator rooms.
- In order to fully comply with Paragraph D.12.(1) of the Site Certificate For The Klamath Generation Peakers, Klamath Energy will:
 - Maintain the existing automatic CO₂ systems that currently exist for each of the four combustion turbine enclosures.
 - Maintain the existing firewater loop system with hydrants.
 - Maintain portable fire extinguishers in accordance with the applicable NFPA code.

In conclusion, Klamath Energy proposes to significantly improve the fire and life safety protection systems at the two electric generating facilities while maintaining in place the systems that are called out in each facility's site certificate and applicable appendices. The engineered fire protection systems are being designed by 3S Incorporated to comply with the latest fire codes and NFPA standards. During the design phase of this project, we analyzed the requirements in the site certificates for each facility and applicable appendices, the letter from Oregon DOE dated October 11, 2017 and the criteria for when a site certificate amendment is required as described in Oregon Administrative Rule (OAR) 345-027-0050. After this analysis, we have concluded that the proposed upgrades maintain the facilities fire systems in compliance with each facilities site certificate and applicable appendices and therefore, no amendments to the site certificates for either facility is required prior to implementing the improvements to the fire systems. Klamath Energy requests that Oregon Department of Energy review these changes and let me know if you agree with our conclusions.



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Should you have any questions or concerns regarding these upgrade plans, please feel free to let me know. We look forward to your reply.

Sincerely,

A handwritten signature in blue ink, appearing to read "Dennis Winn", written over a faint, illegible printed name.

Dennis Winn
Klamath Energy Plant Manager