

DOCKETED

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Project Title:	Fountain Wind Project
TN #:	258001
Document Title:	ROC - Email Response to Staff's Informal Request of February 7, 2024
Description:	Report of Conversation
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*Siting,
Transmission and
Environmental
Protection Division*

FILE:

PROJECT: Fountain Wind Project **Docket: 23-OPT-01**

TECHNICAL AREA(s):			
<input checked="" type="checkbox"/> Telephone	<input type="checkbox"/> Email	<input type="checkbox"/> Meeting Location:	
NAME(s):	Alvin Greenberg, Ph. D	DATE:	February 15, 2024
WITH:	Caitlin Barnes, StanTec		
SUBJECT:	Email Response to Staff's Informal Data Request of Feb. 7, 2024		

COMMENTS:

From: Barns, Caitlin <Caitlin.Barns@stantec.com>
Sent: Thursday, February 15, 2024 11:11 AM
To: Payne, Leonidas@Energy <leonidas.payne@energy.ca.gov>
Subject: RE: Informal data request--Fountain Wind--Worker Safety/Fire Protection

A question has been raised whether a wildfire many miles away could, due to smoke detected by the smoke detectors in the system, activate the fire suppression system within the turbine and thus render the system ineffective to suppress a fire in the turbine itself. The answer is "no." Per TN# 252187, the intent of the Smoke Detection system is to alert the turbine safety system of any smoke in the nacelle or tower base with sensors in the transformer compartment, in the main electrical cabinets, above the switchgear, and above the disc brake and to react accordingly. If enough smoke seeps in from a fire external to the nacelle/turbine, then the Smoke Detection system will trigger an alert. However, by itself, an alert does not activate the fire suppression system. As explained further below, to activate the system to suppress a fire, there must also be heat or flame detected in addition to smoke. Per TN# TN250341 any alerts generated by the Fire Suppression system would be investigated as quickly as possible by the site operations and maintenance team but alerts do not, by themselves, activate the system.

To further explain, the Detection System within the turbine will consist of arc flash detectors, smoke detectors, and heat detectors. An arc detector is utilized to detect fires that start in the electrical area of a wind turbine and can disconnect the source of power in less than 100 milliseconds. A light flash from an arc is sufficient to shut down the wind turbine immediately and remove the energy source.

The Detection System has a number of intelligent fire detectors, which contain optical smoke and thermistor temperature sensors, throughout the nacelle and tower. To prevent incorrect alarms, the detectors operate in a mode, in which smoke and a flame/heat must be sensed to



start an alarm. An alarm results in the automatic activation of the fire suppression system including a wind turbine shutdown, which is controlled through the project SCADA. While the smoke from a distant wildfire could generate an alert if it infiltrates the nacelle/turbine, there would be no flame/heat and therefore no 'fire-in-the-making' condition within the turbine which would trigger an alarm and the automatic fire suppression system response.

Furthermore, the fire Detection System uses a dedicated, stand-alone controller that will operate even if the wind turbine controller is not in operation. This fire protection controller controls the different detector types, alarms, and warnings and is programmed to automatically relay the appropriate notifications and reactive procedures