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Response to Fountain Wind deficiency letter

Additional submitted attachment is included below.

Mr. Leonidas Payne, Project Manager

California Energy Commission
Environmental Office, 715 P Street, MS-15
Sacramento, CA 95814
Leonidas.Payne@energy.ca.gov
Re: Fountain Wind Project (23-OPT-01) September 12, 2023

Dear Mr. Payne,

In a docketed letter to you and your agency by ConnectGen's environmental consultant Stantec entitled "response to deficiency letter" (September 8, 2023), Stantec addressed the CEC's question regarding the impacts of the project to aerial firefighting. The letter states CEC's assessment of the issue is incorrect by saying that "aerial firefighting will be precluded over and near the proposed project **is not accurate**." They cite CDF employees as references for the statement and conclude their argument by saying:

"To summarize, wind turbines do not preclude the use of aerial firefighting equipment, their location and height simply need to be made known to pilots as are other aerial obstructions across the state. In consideration of this information and other information, the County's EIR concluded that the project would create a less than significant impact to the environment and public safety based on wildfire risks."

These statements do not accurately reflect the testimony by air tanker pilots and aerial firefighting experts heard by the Shasta County Planning Commission and the Shasta County Board of Supervisors. Consider, in their own words:

"The communities near the development would be indefensible by air assets, particularly Large Air Tankers, or Very Large Air Tankers (VLAT). Further, the turbines themselves are potential ignition sources, which would compound the existing danger. Fires like the Dixie burned so hot the turbines themselves may combust and then sling burning debris as much as a quarter mile away. These projects built in flashy fuels are indefensible by air. We wait until the fires, which are usually started by the turbines, burn well outside the perimeter of the project before we attempt suppression efforts. Remember air tankers are prohibited from dropping anywhere near power lines or associated infrastructures unless we are given specific permission and the subject infra-structures have been de-energized. Retardant weighs nine pounds per gallon and might be traveling as fast as 150 mph when it hits a structure. Retardant dropped directly on a structure will crush it. All said and done the proposed project is a dangerous and unproductive risk to the environment, communities, and their citizens." (Mark Baird, 2023)

"I am Jim Barnes, the immediate past chairman of the Associated Aerial Firefighters. The Associated Aerial Firefighters with over 100 members represents pilots from across the country and provide a forum to advocate for safety, effusiveness, and efficiency in wildland aerial firefighting. As an air tanker pilot myself for over 30 yrs. I have flown fires all over California including on wind farm fires and frequently flew out of the Redding Air Attack base as initial attack on fires all over Shasta County. We in the Association have become aware of the recent Fountain Wind Project proposal, carefully reviewed it, and hope the Commission will consider our comments as they directly affect the safety of our pilots, several

communities, and the forests in Shasta County. This appears to be a very unsafe proposal to adjacent communities and aerial firefighters. Let me explain: Aerial Firefighting in and around turbines presents a set of unique challenges that are problematic to say the least. I have worked fires at Altamont pass and in Tehachapi pass. The strategy employed in both cases was to not use fixed wing air tankers in the turbine fields at all except around the borders. At Altamont we almost always stopped the fire after it burned completely through the field usually at highway I-5. Except for one occasion when it spotted across the highway exposing about a mile of parked cars on the road to a burn over. At Altamont and Tehachapi most of the turbine field was contained within light flashy fuels such as vast stands of grass lands. The proposed Fountain Project would be located in an area containing large stands of pyrophytic fuels such as chaparral, manzanita, digger pines and mixed conifers. The heat generated by such a fire, especially if it is wind driven, would be significantly greater than the heat produced by a fast-moving grass fire. This would pose a greater risk to ground Firefighters because of the lack of ability to provide them effective air support and the adjacent homesteads surrounding the communities of Round Mountain, Montgomery Creek, and Hillcrest. The Threat of fatal damage to the tower structures is also worthy of consideration, not only because of material losses but as an additional hazard that could endanger firefighters on the ground. High towers and high winds are a situation that shouts watch out when it comes to aerial firefighting**.** At some point, winds above 30 knots, air tankers operations would be suspended but even winds below that flowing through the high towers would generate eddy currents that would contribute greatly to the danger for aircraft trying to conduct retardant or water drops above the turbine field. To be effective typical drop altitudes are 150 feet above ground and a bit lower crossing a ridge top. Dropping retardant above these 700 ft. towers with height and wind dispersal will have little to no effect on the fire. As state investigator and current chairman of our organization who has been involved with over 200 fatal and serious injury aircraft accident investigations advises that these structures over 700' scattered over thousands of acres and poor visibility from smoke would be a "prescription for a fatal accident". From an air tanker pilot's point of view fighting such a fire would be a no-win situation. Please consider our thoughts as you review this proposal" (Jim Barnes, 2023).

"The Associated Aerial Firefighters with approximately 100 members represents pilots from across the country and provide a forum to advocate for safety, effectiveness, and efficiency in wildland aerial firefighting. I have examined the proposed Fountain Wind Project and determine it is an accident looking for a place to happen and testified in person at the Planning Commission Hearing where it was unanimously rejected. The planning and analysis gone into this project is **seriously** flawed— Let me explain: 1. Real world dispatch and safety issues created by these huge turbines at over 600-ft AGL are many. 2. No consideration for huge vortexes produced downwind from the turbines was taken. 3. The movement of the turbine blades will produce sunlight reflections that will impair visual ability to see and avoid for maneuvering among turbines. 4. Most effective drop height is 150' above the ground and lower crossing ridge tops not 600 to 750 feet. I urge you to consider that flying heavily laden aircraft (fixed and rotor wing) with poor visibility from smoke and very tall obstructions with whirling, immense blades is a prescription for a fatal accident both in the air and on the ground. And understand how important Air Attack has been over the years. Recently Air Attack was key in saving numerous communities from Tulare to Redding**.** Finally, consider the threat you would be imposing on the 3 communities immediately adjacent to this proposal by eliminating the possibility of fixed wing air attack" (Dave Wardall, 2023).

“This Project is an absolute design for disaster for at least 3 communities, a major power distribution system and the many homes scattered adjacent to the project. This Project sits in a dense stand of young conifers forming continuous horizontal and vertical (ladder) fuels. It is bordered on the West and North by Highway 299 with high potential for fire starts from vehicular accidents. Homes and many other ignitions sources surround the project and within-the turbines themselves and support systems. The most devastating fires in this area come from the North East during strong gradient winds. Our Forests fuels have changed and under these conditions we’ve learned fires jump with ease roads and forest openings. The devastating Carr fire jumped the Sacramento River in two places. This means all the fire-fighting tools must be present for us to be successful. This proposal sets up a condition that cannot be mitigated. 700 foot towers and blades scattered over thousands of acres combined with power lines virtually eliminates the option for using fixed wing aerial attack over a broad area making the adjacent communities and homes indefensible from fast moving large wildfires. As a former Planning Section Chief, I would never recommend assignment of fixed wing aerial attack to this project area and would greatly restrict the use of rotor aircraft. It couldn’t have been made more clear recently how absolutely critical it is to have bombers help save lives and communities. The condition of our Forests has changed so that backing off and burning out and protecting structures has become routine. All with much much greater dependency on aircraft**.** This County has recently experienced 2 deadly and costly fires, the Carr and the Zogg. There was a recent headline article in the Record Search-light about Shasta County filing suit against PG&E to recover costs incurred from the Zogg Fire. As you consider the benefits this project might bring to the State, I hope you will also weigh the costs. Recent Carr, Zogg, Camp, Fawn, Hirz and Dixie fires in this area have cost the State dearly. What are the potential costs, liability and **LOSS OF LIVES** that could result from your decision on this DESIGN FOR DISASTER? Finally, remember Shasta County’s General Plan sets “preserving quality of life, especially in rural areas and “safety of citizens and communities” as its paramount precepts. Therefore, the Commission must reject the proposed project already carefully reviewed and denied by Shasta County. The untenable alternative would be to ask the County to remove “Safety” as its plan precept” (Stephen Fitch, 2023).

The above are the testimonies of the men who do the aerial firefighting job. For ConnectGen, through Stantec to say “turbines do not preclude the use of aerial firefighting equipment, their location and height **simply need to be made known to pilots** as are other aerial obstructions across the state” is dangerously laughable to those who know firefighting and the hazards of aerial firefighting. Air tanker pilot Mark Baird further comments on this issue:

“Cal Fire notes that it is important to know and to note where aerial hazards lie in order to ensure the safety of the aircraft and crew. While situational awareness and the exact location of the hazard may aid in navigation it does not, in any way, change the maneuverability, nor the climb performance of the aircraft either prior to or during the escape maneuver after the retardant drop. The mere presence of five to seven hundred foot obstacles severely limits the ingress, egress, and maneuverability of any aerial asset in the area where the towers are present. In addition to the tower itself, if the turbine is operational, it produces turbulence and tip vortex. This phenomenon is not mentioned in the mitigation plan. The FAA TERPS and the ICAO PAN OPS publications detail minimum climb gradients of 200 feet per nautical mile as mandatory for climb to clear obstacles. These minimum climb gradients are required in airport environments where obstacles are charted very carefully and restricted in climb and descent paths. Further, Category E aircraft such as a VLAT, require a minimum turn radius of 2.7nm while maneuvering in situations of low visibility and obstacles. The Fire traffic area may require far greater climb gradients just because steep terrain requires it. This is certainly true in the project area. With the added hazard of wind turbines protruding hundreds of feet into the maneuvering airspace, it may be

impossible or at least improbable to out climb the obstructions. Accurate charting of the turbines simply tells me that I won't be able to go anywhere near the area to drop retardant" (Baird, 2023).

In a letter to the Shasta County Planning Commission ConnectGen's own fire experts state: "It has also been noted that in the vicinity of turbines, there will be a reduction in available airspace for fixed-wing firefighting aircraft used to apply fire retardant, and a reduction in available airspace for the use of rotor-wing aircraft used to deliver water/foam/gel/retardants, supplies and firefighters to wildfires" (Quigley, Zerr, 2021).

Finally, in their letter, Stantec states that "the County's EIR concluded that the project would create a less than significant impact to the environment and public safety based on wildfire risks." That statement is correct, the EIR did conclude that. However, the EIR conclusion is wrong and is a primary reason that the Shasta County Planning Commission and the County Board of Supervisors did not certify the EIR, as we found it incomplete and inaccurate based on our own knowledge and public testimony. We on the Planning Commission and the Board of Supervisors heard what the aerial firefighting experts said and concluded that Fountain Wind is the wrong project in the wrong place. We further recognized that there is no possible mitigation for the loss of aerial firefighting capability and therefore put in place a zoning ban on such projects for the protection of our citizens and resources. You must do the same to protect our citizens by denying the Fountain Wind project. It is an exceedingly dangerous project for a county with a fire climax ecosystem.

Yours Respectfully,

Steven J. Kerns
Shasta County Planning Commissioner. Former Shasta Trinity Nation Forest biologist and red-carded firefighter

References

Mark Baird: Testimony included in Docketed letter to CEC and ltr to S. J. Kerns, SC Planning Commission. Mark has 23,000 hours with type ratings in the DC-10, MD-11 and B744 (747) supertanker -Was an instructor in both the DC-10 and 747 supertankers -Have spent the last 7 years flying the DC-10 (Very Large Air Tanker). -Have flown fires all over the United States, Australia, and Chile. -Have flown the DC-10 on several large fires in the Shasta County area including the Dixie-largest fire in recent California history.

Jim Barnes: Testimony included in Docketed letter to CEC
Jim is Past chairman of the Associated Aerial Firefighters -Have been a Forestry Air Tanker Pilot for over thirty years. -Have flown air attack on California wind farms. -Have flown Air Attack from the Redding Air Attack Base protecting the vicinity of the current turbine proposal -Have testified in Shasta County concerning the Fountain Wind Project before the Planning Commission and Board of Supervisors.

Steve Fitch: Testimony included in Docketed letter to CEC
-Former Forest Supervisor and District Ranger of the adjacent Shasta Trinity National Forest -Formerly responsible for 7 National Forests and 10 million acres in 3 states -Past type 1 (large fire) Planning Section Chief & Fire Behavior officer on fires across US -Served 15yrs on Advanced Fire & Resource Mgt. training Cadre training US, Canadian, Mexican forest managers. -Congressional Fellow and adviser to U.S. Senate Energy & Natural Re-source Committee Chairman on fire and resource matters 100th Congress. -On the team that developed and tested the Incident Command System used on all fires today. -Was responsible for the largest Air Tanker base in California at Ontario International Airport

Quigley, Darin, Syndy Zerr. 2021. Letter to Shasta County Planning Commission.

Dave Wardall Testimony included in Docketed letter to CEC:
-Chairman-Associated Aerial Firefighters -Former Deputy Chief CDF air tanker operations for 34 years. -Consulting engineer to the NTSB on aerial firefighting accidents. -Involved in around 200 fatal and serious injury aircraft incident/accidents investigations. -FAA Airline Transport pilot.