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Subj: Comments on Docket Number 09-AFC-9, "Solar Millennium, Ridgecrest Solar Power Project"

Sir:

I appreciate the opportunity to make public comments. I have to say that at first I had mixed feelings about the Ridgecrest Solar Power Project (RSPP). I became interested in solar power at a relatively early age, and since have lived the majority of my adulthood living off-the-grid. However after learning more about this project I am now quite opposed to it. For brevity, I will list my personnel concerns and also request additional information, I am sure that others in the public will be interested in some of this information also.

1. The proposed plan states that the power plant will use LPG that will be trucked into the plant and used for to prevent the Heat Transfer Fluid (HTF) from freezing and for the morning warm up of the 250MW steam turbine. This does not sound like a reasonable plan to me. My February 2010 delivery of LPG, not far from the proposed site cost $3.73 per gallon (Benz Propane). From the Alternatives document Solar Millennium (SM) indicates a comparison of the annual Natural Gas cost of $421k versus a $458k for propane. I find it hard to believe that propane gas is only 8.7% more than natural gas. I have a question to how low SM negotiated their LPG cost per gallon, and what this translates into $/gallon.

2. For a publically subsidized project such as this one, it should be designed to be as robust and independent as possible. Since they have demonstrated the capability to store thermal energy at other projects, this should be the preferred means by which they produce these incidental energy needs on their own. A logical progression of energy fall backs could be:
    a. Thermal Storage derived from their solar field.
    b. Reverse power delivery from the 233kV power line
    c. MW type diesel generation that is trucked in as required for emergency back up.

d. For the necessary night-time electrical needs, SM should be required to have adequate battery based storage and invertors to power this required incidental power for the nominal 3-7 dark days we get each December. Perhaps this energy storage could be supplemented with photovoltaic electric panels.

The power plant will never be capable of black-starting the 233kV grid. It could only participate in a start up after other stable sources are on-line. This would ensure that 233kV power would be available for use if the system needs to brought up after some natural disaster.

My question is, why has not SM proposed such a plan, and what impact would it have on their overall net production of power? And would doing so reveal the truth about the big-picture efficacy of their proposed approach?

3. This project is planned to be constructed entirely on government owned BLM land. For similar projects on government land a number of statutory requirements apply. Some of these requirements are
   a. Davis-Bacon Act
   b. Buy USA Act
   c. Other Federal Acquisition Regulations

   Will the SM construction project follow these regulations that apply to construct work performed on US government property? If not, the by what waiver or means did these normally imposed requirements get bypassed?

4. The original and revised site plans that SM have produced for this project indicate project Right of Way (ROW) that neglects to acknowledge the pre-existing ROW of S. Calvert Blvd. This road has been in existence for around 50 years. Why are SM's plans persistently including the S. Calvert Blvd ROW as their own ROW? It appears that SM presumes that they have some special privileged rights to arbitrarily supersede pre-existing ROW. Is SM going to correct this oversight?

5. This plan proposes the use of 'dry cooling technology'. I have had very poor luck finding information on using dry heat exchanger systems for projects of this size. This leads me to believe that this technology is probably at a low technology readiness level. Also SM press releases indicate that their new trough collectors are just now under trial test at Kramer Junction. That indicates their technology is not yet at a readiness level to merit the accelerated proposed plan of RSPP. Can SM document the technology readiness level of their dry cooling system, and how many similar systems have they produced?

6. Additional concerns on the dry cooling approach are with the potential environmental detriment that could be caused by an estimated 50-75MW waste heat plume emanating from this system. Since I am very familiar with this site, I know that the typical wind pattern for summer is a gentle laminar breeze that blows from the east in the AM and progressively gets stronger as the direction of

the wind rotates westward, practically following the sun. This amount of waste heat, roughly equivalent to 50,000-1500W hair dryers, potentially could be devastating to the remaining wildlife that is always at the brink of survival during the summer time. Additionally it could become a health risk for the nearby property owners who under some circumstance might be exposed to prolonged conditions of a summertime 160F breeze.

7. At the January 5, 2010 town hall meeting SM presented the revised site plan that includes 30' high wind fences that span considerable distance around the solar mirror field. These fences would have some neutral or tan-colored type fabric that would lower the visual impact of the site. To me, these sounds like a 7th wonder of the world type project. The winds in this area can be particularly fierce at times. I have seen the aftermath of one homestead building roof completely blown off, and another, (still standing) that had its roof half blown off. Also in the valley there have been occurrences where the tops of wooden power poles were ripped off by the wind. I would estimate that some times the wind speed is in excess of 80 mph. The cost and unpractical construction of this fence, will surely lead it to be cut out of the program early in the construction phase. Perhaps the fences real purpose is provide margin in the construction cost budget. I have a question to SM's experience in building these types of fences? And where on earth do similar fences exist?

8. Also at the evening city-hall session of the January 5, 2010 town hall meeting, SM's project manager made the statements to the effect that the existing soil conditions at the proposed site are dense impermeable clay and virtually all rainfall becomes run-off. Additionally she stated that since SM's leveling and grading of the site will reduce the soil density to 80% of natural, the run-off of rain water will actually be less than it is now.

   Granted, I am no soils geologist, but having lived near this site for 20 years I find this statement quite offensive. There are a variety of soil conditions at this site, what she has described may be accurate for a hard pack dirt road, but for the greater general conditions of these native desert terrain it is not. The soil in this area has an amazing quality. What appears to be dry packed actually fluffs up after as small amount of rainfall. At the current time of this writing, the soil for most of this area is so softened that it is actually difficult to walk on it without leaving foot prints. Additionally the whole area is densely pot marked with the Kangaroo rat and other animal burrows that it is excellent water sink. The dry washes very rarely actually contain surface water, and when they do only is during time of active heavy precipitation.

   SM's proposed plan of de-vegetating large areas of land will, in my experience produce soil conditions that will increase the water run-off and lead to substantial erosion and trenching. The clay rich soil, devoid of vegetation becomes very soft sticky glue like constancy that readily erodes. The unmaintained country road of

S. Calvert Blvd is an excellent example. Run-off from the S. Brown road turns N on this road and has caused it to be of poor condition.

9. SM has designed the site such that all of the rainfall run-off will be directed into an eastern branch of the El Paso wash on the northern side, and indirectly into the main western branch from the southern mirror field. This will not be desert variety run-off. This run-off will contain all of the residual chemicals SM will need to use for de-vegetation, insect control, dust abatement, and what ever trace HTF, solvents and lubricants that will be needed to maintain the mechanicals, and mirror cleansing compounds. These chemicals, combined with the high density clay silt could transform this natural sand wash into a chemical laden clay coated trough. Maybe we will rename it to the Red LA River North.

10. SM land-use OHV map is incorrect in my opinion of observing activities in this area for more than 20 years. The 'Designated OHV Trail' just east on S. Calvert Blvd is actually an illegal road that was 'created' around 4-years ago by a now deceased individual that lived half way up Calvert. Apparently the unmaintained S. Calvert was too bumpy. Not shown are another couple of his roads created even more recently, located a little further east and intersects S. Brown. Apparently he was proud enough of this one that he lined it with white rocks. Also on the map it shows a second 'Designated OHV Trail' yet further east from the ones already discussed. This again I contend is not used for OHV use, it is actually another abandoned short-cut road that was used by some of the early homestead inhabitants of this area.

    What they do not indicate on the map is a now very popular QUAD trail that originates at a Hwy 395 concrete culvert and cuts diagonally through the area and intercepts S. Calvert around 1 mile N of S. Brown road. This new trail traverses directly through the proposed N. mirror field.

    I do not understand the term 'Existing Connectivity Options'. Is this some attempt by SM to recommend that the western El Paso Major wash be converted into a designated OHV trail? SM has no right to suggest where to put OHV trails. For this case, they propose putting a new trail into an area as ecologically sensitive as their proposed site that has caused so much attention. Additionally that wash is not a good place to ride; it has too much deep sand. Generally now the OHV ride in it, on the side of it around it, basically uncontrolled chaos.

    The first set of documentation by SM described this BLM land as 'un-defined' status. I have a hard time believing that this is an actual term the BLM uses. I had seen maps in the past that have designated this area as 'Marked Trails Only'. The problem with this is that BLM has never marked any trails in this area. Actually they have been oblivious to people building illegal roads or virtually anything else really.

I have noticed that the SM's survey crews have driven in various areas previously rarely used by OHV. These new trails have encouraged additional new OHV traffic. Another question I have, does SM have a restoration plan in place to restore the areas where their survey teams have damaged? This would include the proposed site and surrounding areas where these teams have traversed.

11. On the water issue I do not have much addition information to add other than SM's proposed mitigation plan is a resulting opportunity loss for any future similar mitigation programs that may be required in the future. You can only squeeze so much juice from a lemon.

12. The SM noise analysis treated the system as if inside an anechoic chamber, direct path space loss attenuation. The neglected many real life effects such as reflection and coherent combinations of the sound off of their 100' dry cooling system, or the mountains to the south, direction of the wind etc. It has been my observations that highway traffic noise becomes significantly louder on overcast days than clear days. Do not know if the sound reflects off the clouds or is somehow refracted downward, however it is a real effect.

13. There has been great attention given to the tortoises and ground squirrels. These are only a small fraction of the wild life in this area. Over the many years I have witnessed extreme cases of the predator prey cycles. Some years I have had to relocate up to 20 different rattlesnakes, while other years I will see none. I feel that drawing general ecological conclusions based solely on the observations of a few special species, and for an extremely short time intervals is sub optimal, and could be subject to error. One species that was did not see mentioned in the reporting and has been present in the area is bob-cat. They may not reside year round, but definitely traverse though this proposed site. Secondary effects that may being over looked is that when there are wild fires in the Sierras we will also get some displaced winged predators of prey that take refuge and feed in the area. I have seen a number of the depressed wary great noble birds prey during the times of fire in the past.

14. The transmission system has been 'submitted under confidential cover'. However I would be real interested in the effective % loss for delivering this power. Note that the existing power flowing on the line will be penalized as well. For instance if line current is doubled due to this plant, then the total loss is increased 4-times. I suspect that the argument of placing the site at this location for an extra 2% of sunshine will be negated by the increased transmission losses.

I have more comments that I plan to provide later, but this correspondence has already gotten too large to be effective. Once again I appreciate the opportunity to provide these comments.
Thank You
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