

DOCKET

07-AFC-5

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STATE OF CALIFORNIA
Energy Resources Conservation
and Development Commission

In the Matter of:

APPLICATION FOR CERTIFICATION)
FOR THE IVANPAH SOLAR)
ELECTRIC)
GENERATING SYSTEM)
)
_____)

DOCKET NO. 07-AFC-5

REBUTTAL BRIEF
Basin and Range Watch

April 15, 2010

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REBUTTAL BRIEF

We would like to thank the Energy Commission, Bureau of Land Management, and the Applicant for hearing public concerns over this important project. Basin and Range Watch fully supports renewable energy integration into the state's mix of generation, including solar thermal energy. But proper planning should precede approval of any and every project.

Certification of the Mitigated Ivanpah 3 Project as now proposed would be a precedent-setting decision with wide ramifications for the California Desert Conservation Area and deserts of the greater Southwest U.S. Significant impacts remain to desert tortoise, special status species, rare plants, visual resources, and we believe other resources such as cultural, soils, water, recreational, and land use.

Basin and Range Watch continues to maintain that making "statements of overriding considerations" will not prevent significant damage to the environment. Instead, we recommend denying the application so that more time can be given to better planning of renewable energy resources on public and private lands and how these forms of energy generation can be integrated into society. Solar thermal and other forms of renewable energy are valuable and needed technologies that should be employed, but not at the cost of irreplaceable intact desert ecosystems on public lands.

Air Quality

Questions persist about emissions and dust control, especially particulate matter released over so large an area during construction.

Facility Design

We maintain that the proposed design has many experimental and untested features, as explored in our Opening Brief, which will only be examined during operation of the plant. Instead, the applicant should be seeking grants before building a large-scale project to test this type of design in smaller formats in harsh desert environments that may prove to be harmful to the engineering, i.e. floodwaters, wind and dust storms, mountain shading, and monsoonal clouds/rain.

Basin and Range Watch supports the central receiver solar thermal technology, but recommends that smaller facilities be tested under extreme East Mojave Desert conditions before large utility-scale developments are implemented.

Hazardous Materials

Questions still remain about chemicals in any type of evaporation “pit” or pond, how make-up water will be recycled, what liners will be used in the ponds, and whether any chemicals will enter the groundwater.

Noise

The Applicant states in their Opening Brief at page 11:

“Construction of the Ivanpah Solar Project is expected to be similar to other power plants in terms of schedule, equipment used, and other types of activities. The noise level will vary during the construction period, depending upon the construction phase. Construction noise is not anticipated to be noticeable in Primm, with the potential exception of pile driving, which (if required) is not anticipated to exceed current noise exposure levels.”

The project is dissimilar to other power plants in that it is very large, so noise will cumulatively be greater, and possibly affect nearby wildlife such as Bighorn sheep and birds. “Pile-driving” presumably of heliostat poles into the ground could result in loud noise over many months, if not years, affecting recreationists, wildlife, and the nearby Primm Golf Course.

Power Plant Efficiency

Many features of the Project design are actually older 1980s technology for solar thermal, and thus cannot be said to rate as highly efficient. Plus burning 5% natural gas inefficiently in boilers should be considered. The low 28% capacity factor will translate into the power plant producing very little power, on the order of 110 MW, not justifying its expense and large footprint on a relatively pristine desert ecosystem.

Power Plant Reliability

The Project will be intermittent and will not be dispatchable, and so will have effects on the grid, that cumulatively along with other large-scale projects will have to be dealt with. We would still request a state-wide plan be developed before allowing large projects such as these to impact ratepayers and the environment.

Project Description

In Applicant’s Opening Brief at page 16 the Low Impact Design is discussed:

“Use of LID attempts to offset the inevitable consequences of development and changes in land cover by preserving or mimicking natural hydrology. It is a source control option that minimizes stormwater pollution by recognizing that the greatest efficiencies are gained by minimizing stormwater runoff generation.”

Minimization of stormwater generation would be difficult at this location, which was apparently chosen based on proximity to existing transmission lines and natural gas pipeline, with little regard for the large, high-energy drainages coming off Clark Mountain adjacent to the Project. Fences around the Project will likely block flood debris and cause failure of the LID design.

Basic Project Objectives

Applicant's Opening Brief at page 24 states:

“To minimize infrastructure needs and reduce environmental impacts by locating the plant near existing and planned infrastructure, including: California Independent System Operator (CAISO) transmission lines, a source of natural gas, and an adequate water supply.”

Environmental impacts have not been minimized by placing the Project on a healthy, little-disturbed Mojave Desert ecosystem with a viable desert tortoise population, an unusually high density and diversity of rare plants, many wildlife sensitive species, proximity to Clark Mountain California endemic breeding bird populations, a popular recreational area, and proximity to a National Park unit and wilderness areas.

“To assist California in repositioning its generation asset portfolio to use more renewable energy in conformance with state policy, including the policy objectives set forth in SB 1078 (California Renewable Portfolio Standard Program) and AB 32 (California Global Warming Solutions Act of 2006).” (Ibid. at 24)

So little power will be generated by the Project after transmission loss, mountain shading, and East Mojave Monsoonal factors, that the benefits towards meeting California's Renewable Portfolio Standard will not balance the loss of public land and natural diversity.

Soil and Water Resources

The Project will most likely cause impacts to drainages, changing wash directions or even blocking washes with debris build-up at fences.

Groundwater amounts for Ivanpah Basin are still in need of study, as estimates vary widely. Cumulative impacts need to be considered with many future planned projects in the region.

Applicant's Opening Brief at page 30 says:

“For example, while some soil disturbance will occur during construction, site rehabilitation and revegetation will be conducted as soon as practical upon completion of construction.”

We estimate that large areas of soil will be disturbed and compacted by grading, roads, regular driving on paths, pile-driving of heliostats, flood-management, dust control, herbicide application, and vegetation cutting. Even after 30 years the area will be very disturbed compared to present.

Biological Resources

Waters of the State will not be maintained by the Project’s Low Impact Design, due to fencing, blocking of natural flows, flood debris damming, heliostats present in wash beds, and the many facilities blocking several washes.

The environmental baseline for the site is said by the Applicant to be disturbed (Opening Brief at page 69-70), yet cattle grazing is light and easily removed and the area restored quickly; off-road activity is confined to existing dirt roads. The large balance of the valley is open undeveloped desert, which is good habitat for tortoise and other wildlife. The Applicant ignores the many wild undeveloped features of the area, including surrounding wilderness areas and the National Park unit, indicators of undisturbed and wild lands.

Relocation/Translocation of desert tortoise causes impacts to individuals and populations of tortoise and should not be used cursorily as a management tool. Recent efforts have resulted in high mortality rates. Removal of 5.1 square miles of good tortoise habitat is a significant impact to the Northeastern population of tortoise, and will additionally impact nearby populations with moved tortoises and edge effects of habitat disturbance.

Impacts to rare plants will be significant under CEQA.

Cultural Resources

Native Tribes should be given the time and opportunity for site visits to interpret the Project site significance for themselves.

Land Use

The Project goes against San Bernardino County and BLM land use plans, impacting scenic quality, recreation.

Traffic

The Project will have impacts, especially during construction, to the already very over-crowded Interstate 15. Glare may be distracting to drivers in a presently often dangerous driving zone. The applicant should be required to evaluate glare hazards.

Visual Resources

The Project will have very significant impacts to Ivanpah Valley, both to drivers on I-15 and to recreationists across the area. Many drivers on the highway are tourists visiting the many national parks in the California Desert, who include Las Vegas as a travel destination or air flight center. Sight-seeing is a popular activity, especially to many people who have never been to a desert before.

The Applicant appears to underestimate the number of visitors to wilderness areas and remote sections of Mojave National Preserve, and undervalues wild scenery where industrial developments are small in size and distant, as seen in photographs from various locations (Exhibit 800).

Visiting historic mines is a popular tourist activity, as evidenced by the high number of books on the subject.

The Mitigated Ivanpah 3 Project will still have three towers 459 feet tall, higher than the nearby Metamorphic Hill. Years of construction, including noisy pile-driving of hundreds of thousands of poles, will increase the industrial effect on this setting from its largely natural one at present. Brilliant, sharp glare will result in unnatural effects at times.

Regional cumulative visual effects will be significant.

Cumulative Impacts

Staff is correct in using a wide geographic scope to evaluate the cumulative impacts of the many renewable energy projects foreseeable in the Mojave Desert. The size and number of solar and wind projects on public lands is unprecedented, and needs a new scope of analysis.

Solar Photovoltaic Distributed Generation is a Viable Alternative

We do not contend that no additional central station power plants are needed in California, and maintain that proper siting of solar thermal power plants on disturbed lands next to or in load centers and existing transmission lines should be prioritized over

remote locations.

On March 11, 2010, the California Public Utilities Commission (CPUC) authorized the use of tradable renewable energy credits (TRECs) for use in the California Renewables Portfolio standard (RPS) program. The use of TRECs for Renewables Portfolio Standard compliance will provide more options and flexibility for Renewables Portfolio Standard-obligated electricity sellers to comply with RPS mandates in both the near and longer term. "The ability to sell renewable energy credits associated with distributed generation will provide incentives for greater rooftop solar and other distributed generation." (http://docs.cpuc.ca.gov/PUBLISHED/NEWS_RELEASE/114807.htm)

Distributed generation such as rooftop photovoltaic need not be counted as is "conservation" rather than "generation" for purposes of the RPS. Even if not counted towards the RPS, distributed generation can be treated as "demand reduction," and still help reach California's renewable goals.

In 2005 the San Diego Regional Renewable Energy Study Group found that the total technical potential for residential and commercial rooftop photovoltaic was 4,114 MW. System peak demand in this area for 2004 was 4,065 MW. (http://www.renewablesg.org/docs/Web/Ch2_Solar_PV_Electric.pdf)

In 2003, the U. S. Department of Energy--Energy Efficiency and Renewable Energy Solar Energy Technologies Program stated that "...PV systems built in the 'brownfields'—the estimated 5 million acres of abandoned industrial sites in our nation's cities—could supply 90% of America's current electricity." (http://www1.eere.energy.gov/solar/printable_versions/myths.html)

In other words, the "DG fails as RPS" argument is by choice, not by the nature of the power generation, which is exactly like all other power generation.

The state could greatly help reduce the impacts of climate change and greenhouse gas emissions by immediately (1) removing the arbitrary caps on rooftop system sizes so more DG can be built (2) funding AB 811 loans so that more residents can install rooftop PV, (3) implementing a strong feed in tariff so that utilities pay for the power residents produce from their rooftops (which then puts it into the RPS calculations), and (4) start counting net metered power as clean power generation for purposes of RPS, which it is.

The RPS requirement also applies to Electric Service Providers –such as companies that provide retail electricity service directly to customers who have chosen not to receive service from the utility that serves their geographic area, which thus can apply in a

Distributed Generation.

In the 2009 CPUC 33% RPS Implementation Analysis Preliminary Results Report advised that California must start implementing mitigation strategies if achieving a 33% RPS by the year 2020 is the most important policy priority.

In 2009, the CPUC recommended that to meet the current 20% RPS by 2010 target, four major new transmission lines are needed at a cost of \$4 billion. To meet a 33% RPS by 2020 target, seven additional lines at a cost of \$12 billion would be required.

<http://www.cpuc.ca.gov/NR/rdonlyres/B123F7A9-17BD-461E-AC34-973B906CAE8E/0/ExecutiveSummary33percentRPSImplementationAnalysis.pdf>)

CPUC said: “California’s current procurement path is focused almost solely on central station renewable generation that is dependent on new transmission. In order to mitigate the risk that one resource zone would fail to develop, thereby delaying the achievement of a 33% RPS by several years, the state should consider a procurement strategy that adequately considers the time and risk, in addition to price, associated with particular renewable generation resources.” (ibid.) Two options recommended in this scenario would be distributed solar photovoltaics, which is not dependent on new transmission, and pursuing concentrating solar power projects in pre-permitted land that would be set aside for a renewable energy park. Basin and Range Watch recommends that the latter be brownfields and disused land in the outer urban perimeter next to existing transmission.

Cost reductions for PV are happening currently, making the distributed generation PV option competitive with large-scale solar thermal, especially when transmission costs are factored in.

The 2009 Integrated Energy Policy Report (IEPR) said that the ability to deliver resources to load is a key driver of renewable energy technology ultimate development.

Concerning land use planning the IEPR states:

“Since the 1950s, California’s land use patterns have emphasized suburban development of large residential tracts located far from city centers and places of work or business. This land use planning has resulted in many citizens purchasing more affordable housing in the suburbs and commuting long distances to the workplace. With transportation being a major contributor – approximately 40 percent – to GHG emissions in this state, smart

land use planning and growth are increasingly important strategies to combat declining air quality and the loss of open space and wildlife habitat and to improve the quality of life for California's residents. Nearly 26 million vehicles, most of which are powered by fossil fuels, along with a high rate of vehicle miles traveled, contribute significantly to California's GHG emissions and climate change issues. Projections show that the state cannot reduce GHG emissions to 80 percent of 1990 levels by 2050 unless vehicle miles traveled are reduced by at least 17 percent. (2009 Integrated Energy Policy Report page 39)

Further, "Indeed, 'smart growth' – applying development principles that make prudent use of resources and create low-impact communities demonstrating enlightened design and layout – was identified in the 2006 IEPR Update as the single largest opportunity to help California meet its statewide energy and climate change goals." (ibid.)

Building many large central station solar power plants in remote desert locations, far from cities, requiring long commutes for labor, will go against this important goal of reducing greenhouse gas emissions and meeting the RPS.

No Project Alternative

The Applicant states in their Opening Brief at page 58 that off-road activity and grazing already present on the Project site are threats to the desert tortoise, but neglect to compare the vastly increased threats to tortoise of large clearances, digging up of every burrow during relocation activities, fencing off of habitat, and fragmentation of habitat that the Project would entail. As the site exists today, disturbance is minimal and easily recoverable if Northern and Eastern Mojave Desert Management Plan (NEMO) goals are met.

A No Action Alternative could be chosen that amends the CDCA Land Use Plan to make the northwestern Ivanpah Valley unavailable for future solar development.

Conclusion

Because of the large and unavoidable impacts we recommend that the Project be denied certification, and alternatives chosen that are more sensitive to California's heritage of wild lands. Better planning needs to be undertaken before such important decisions are made concerning land management and renewable energy generation.

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**California Energy Resources Conservation
and Development Commission**

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APPLICATION FOR CERTIFICATION
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DECLARATION OF SERVICE

I, Laura Cunningham, declare that on April 15, 2010, I served and filed copies of the attached Rebuttal Brief, dated April 15, 2010. The original document, filed with the Docket Unit, is accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at: [www.energy.ca.gov/sitingcases/ivanpah]. The document has been sent to the other parties in this proceeding (as shown on the Proof of Service list) and to the Commission's Docket Unit, in the following manner:

(Check all that Apply)

FOR SERVICE TO ALL OTHER PARTIES:

sent electronically to all email addresses on the Proof of Service list;

by personal delivery or by depositing in the United States mail at with first-class postage thereon fully prepaid and addressed as provided on the Proof of Service list above to those addresses NOT marked "email preferred."

AND

FOR FILING WITH THE ENERGY COMMISSION:

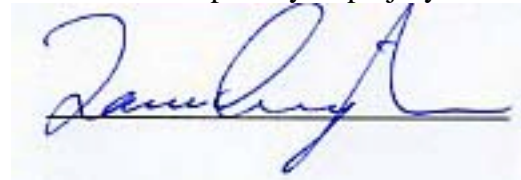
sending an original paper copy and one electronic copy, mailed and emailed respectively, to the address below (preferred method);

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I declare under penalty of perjury that the foregoing is true and correct.



Laura Cunningham

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