

**DOCKET**

**08-AFC-13**

DATE JUL 29 2010

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**STATE OF CALIFORNIA**

**Energy Resources Conservation  
And Development Commission**

In the Matter of:  
The Application for Certification  
for the Calico Solar Power Project  
Licensing Case

Docket No. 08-AFC-13

**PREPARED DIRECT TESTIMONY OF DENNIS SKEELS  
BNSF RAILWAY COMPANY**

July 29, 2010

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PREPARED DIRECT TESTIMONY

OF

Dennis Skeels

Manager Signals California Division – BNSF

Q.1 Please state your name and occupation?

A.1 My name is Dennis Skeels. I am the Manager Signals, California Division, for BNSF Railway Company ("BNSF"). My resume is attached to this testimony.

Q.2 What is the purpose of your testimony in this proceeding?

A.2 I will testify on two areas of concern to BNSF:

- (1) transmission line safety and nuisance (induction); and
- (2) transportation (glint and glare).

Q.3 Why does BNSF have concerns regarding the Calico Solar Project?

A.3 BNSF is one of two Class 1 railroads operating in California. BNSF's mainline, which is traversed by as many as 80 trains per day, carries interstate commerce from the Ports of Los Angeles and Long Beach to U.S. Midwestern, Southwestern and Eastern markets. The proposed Project would surround both sides of several miles of BNSF's mainline tracks. Accordingly, BNSF has significant concerns that the construction and operation of the Project do not adversely impact BNSF operations or otherwise impose unacceptable safety risks to BNSF personnel and operations.

The consummation of the Project would require the granting of several licenses and permits from BNSF, which Applicant Calico Solar ("Calico Solar") has requested in a piecemeal fashion over the course of the past year. To date, none of these requested licenses or permits have been granted. Before BNSF can grant such licenses and permits, BNSF must be assured that its significant safety and operational concerns are addressed.

Q.4 What are BNSF's safety and operational concerns in relation to transmission line safety and nuisance (induction)?

A.4 First, I want to note that there are no site specific drawings or diagrams that identify precisely where Calico Solar plans on emplacing transmission lines. Accordingly, BNSF is concerned that the proposed proximity of the transmission line to BNSF's mainline may result in electrical induction on the rail. Electrical induction is a significant safety issue. In addition to the potential to cause significant health risks, to include death, electrical induction has the potential to significantly adversely impact rail operations. The proposed Project would include approximately 1.9 miles of new transmission line immediately adjacent to BNSF's mainline.

Q.5 Does BNSF have any prior experience regarding electrical induction problems?

A.5 Yes, we have. BNSF has experienced interference with signals, equipment malfunction, and employees being shocked in similar situations in other locations, and is concerned that the proposed configuration of these Project elements may raise a safety issue.

Q.6 Have you had the opportunity to review site specific studies addressing BNSF's concerns in relation to transmission lines and electrical induction at the Project?

A.6 No. I am not aware of any such site specific studies that address rail operations and safety issues.

Q.7 Given the absence of site specific studies, is there a Condition of Certification that would provide BNSF with comfort relating to potential induction issues caused by the emplacement of Calico Solar's transmission lines?

A.8 Yes. In the absence of any studies addressing induction issues which may be caused by the Project, BNSF has taken a conservative position, based on experience, with respect to the necessary setback of the transmission line to avoid any induction issues. BNSF believes that a 300' setback from the right of way should be maintained.

Q.9 Has Calico Solar agreed to a 300' setback?

A.9 Yes. Calico Solar has agreed to set back the proposed transmission line 300' from the BNSF right of way.

Q.10 Why does the setback need to be measured from the BNSF right of way, rather than from the actual emplacement of the rail line?

A.10 Because BNSF owns and operates within the entire right of way and must preserve its right to emplace additional lines throughout the right of way to meet demand, operational, and safety concerns in the future.

Q.11 Are there any other Conditions of Certification necessary in relation to transmission lines?

A.11 Yes. In addition, per BNSF requirements, in the location where the transmission line is proposed to cross the tracks, Calico Solar's transmission lines must cross the BNSF mainline at a 90-degree angle, and travel 300' from the far side of the right of way before returning to a parallel configuration. This is necessary to avoid electrical induction of the rail line, which is a critical safety requirement.

Q.12 What are BNSF's safety and operational concerns in relation to transportation (glint and glare)?

A.12 BNSF's mainline, along which the Project is proposed to be built, is curved. An essential signal for rail traffic is located in the vicinity near Hector Road. Signals are critical safety features. Calico Solar's Project certification application seeks authority to emplace up to 34,000 SunCatchers within a 6,215 acre tract that falls on both sides of BNSF's right of way.

While there are no drawings or diagrams that specify precisely where the SunCatchers will be emplaced, Calico Solar proposes to locate the nearest SunCatchers as close as 100' from the BNSF right of way, on both sides of the transcontinental mainline track, for approximately five miles.

Q.13 Why does the emplacement of the SunCatchers cause operational and safety concerns for BNSF?

A.13 Because daytime glint and glare from the 34,000 SunCatcher mirrors and associated structures, in particular when the mirrors are in offset tracking position, may significantly impact BNSF engineers' ability to see the signal. The situation would be exacerbated by the site elevations which Calico Solar has proposed.

Q.14 In addition to the safety concerns, are there federal regulations that govern signals?

A.14 Yes. BNSF is required by federal regulations to maintain visual contact with signals. If a train's contact with a signal is lost and cannot be regained, the engineer is required to stop the train. This often requires an emergency application of the brakes, risking derailment of the train. When a train has been stopped through emergency application of the brakes, BNSF General Code of Operating Rule 6.23 requires the engineer to inspect all cars, units, equipment and track pursuant to BNSF special instructions and rules. This can cause significant delays to rail operations with ramifications reaching from the Ports of Los Angeles and Long Beach to Chicago and beyond.

Q.15 Have you had an opportunity to review site specific studies relating to the potential impact to rail operations of glint and glare from the SunCatchers?

A. No. It appears that the Commission and Calico Solar have both considered potential impacts to motorists along I40 and I15. In that regard, there seems to be agreement that a Condition of Certification will be that any SunCatcher will be offset at least 360' from I40 or I15.

Q.16 Would a similar offset from the right of way address BNSF's concerns?

A.16. No. The limited studies available relate to motor vehicle traffic assume certain heights, elevations, and angles for both the SunCatchers and affected motorists. The heights, elevations, and angles relating to an engineer traveling along the curved track are not the same as those for the affected motorists. Thus, glint and glare are critical safety and operational issues for BNSF. While the SA/DEIS has begun to address glint and glare with respect to motorists on nearby roadways (SA/DEIS pp. C.13-13 – C.13-22), and BNSF understands that a Glint and Glare Study is currently being performed, neither currently addresses potential glare impacts to rail, nor are these studies specific to the Project site. In addition, the SSA Transportation section has not yet been released, and BNSF is therefore unable to make meaningful comments on the potential Glint and Glare analysis at this time.

Q.17 Based on these stated concerns, what is BNSF's proposal in relation to the glare and glint issue?

A.17 BNSF requests that the following Condition of Certification be incorporated into the Project:

Prior to the first SunCatcher disc being mounted on a pedestal, a site-specific Glare/Glint study shall be performed to address the Glare /Glint issues raised by BNSF with respect to the potential impact of the proposed Calico Solar SunCatchers on BNSF rail operations and the recommended mitigation measures, once approved by BNSF, shall be implemented by Calico Solar at its expense. The site specific study shall commence immediately upon BNSF's selection of the experts to perform the study. In the event the CEC's on-going Glare/Glint study resolves BNSF's Glare/Glint issues to BNSF's satisfaction, BNSF will advise the CEC and Calico Solar and the CEC site-specific Glare/Glint study and the implementation of its mitigation measures shall be deemed compliance with the above Condition of Approval.

Q.18 Has BNSF had discussions regarding BNSF's concerns with Calico Solar?

A.18 Yes, BNSF has had had several discussions, to include a face-to-face meeting. It is my understanding that Calico Solar supports BNSF's request for a Condition of Certification.

Q.19 Does this complete your direct testimony?

A.19 Yes, it does.



I swear under penalty of perjury that this testimony is true and correct to the best of my knowledge and belief.

Dated: July 29, 2010

Dennis Skeels

Dennis Skeels

Manager Signals

**Dennis Skeels**

**Curriculum Vitae**

As Manager of Signals for BNSF Railway Company California Division, Mr. Skeels is responsible for the installation, testing and maintenance of all signal apparatus in the state of California. His responsibilities include but are not limited to management of BNSF crossings, signals, detectors, power switches, electric locks and more.

(to be supplemented)



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**APPLICATION FOR CERTIFICATION**

*For the CALICO SOLAR (Formerly SES Solar One)*

**Docket No. 08-AFC-13**

**PROOF OF SERVICE**  
*(Revised 7/12/10)*

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\*indicates change

**DECLARATION OF SERVICE**

I, HARRIET VLETAS, declare that on July 30, 2010, I served and filed copies of the attached Prepared Testimony of Dennis Skeels, dated July 29, 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/solarone].

The documents have been sent to both 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:

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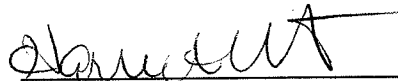
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I declare under penalty of perjury that the foregoing is true and correct, that I am employed in the county where this mailing occurred, and that I am over the age of 18 years and not a party to the proceeding.



Harriet Vletas