INTRODUCTION

This Supplemental Staff Assessment (SSA) presents minor changes to the staff Conditions of Certification (CoCs) proposed for the Genesis Solar Energy Project (GSEP), and provides a summary of the applicant’s new 1-hour federal Nitrogen Dioxide (NO₂) standard air dispersion modeling analysis, which do not impact the staff’s findings as presented in the Revised Staff Assessment. The substantive requirements under the staff conditions have not changed. The minor revisions to the proposed staff conditions are shown below in underline/strikeout.

The format revisions in staff’s conditions are completed to address consistency issues among current projects being licensed by the Energy Commission. The applicant provided comments (TT 2010n) on the Conditions of Certification that have been addressed, in some cases with minor modifications, as considered acceptable by staff.

The Mojave Desert Air Quality Management District (District) has not yet completed its Final Determination of Compliance (FDOC), which will be addressing consistency issues with the conditions for the Heat Transfer Fluid piping system among other issues. The District intends to publish the FDOC on or around July 16th 2010. Staff will provide the revised District conditions in a second Supplemental Staff Assessment shortly thereafter.

PROPOSED PROJECT

ASSESSMENT OF IMPACTS AND DISCUSSION OF MITIGATION

Dispersion Modeling Assessment

Operational Impacts and Mitigation

Operational Modeling Analysis

The applicant provided, on June 18th 2010, a modeling analysis of operating period emissions¹ to show compliance with the new federal 1-hour NO₂ standard (TTEC 2010x). This modeling analysis, using the AERMOD dispersion model, includes the use of the NOx_OLM modeling option. The NOx_OLM option considers that the emissions of NOx are initially primarily in the form of NO that over time oxidizes, primarily through a reaction with ozone, to NO₂. The initial NO₂/NOx ratio was set at the default value of 0.1 and the conversion of the rest of the NOx to NO₂ is assumed to be limited by the hourly ambient ozone concentration. For this modeling analysis the applicant obtained hourly monitored ozone concentrations from Blythe for the same time period as the

¹ The United States Environmental Protection Agency does not require modeling analyses to be performed for project construction emissions.
meteorological data\textsuperscript{2} and ran the model for the years 2004 through 2006. The final NO\textsubscript{2} impacts were determined by adding the three year average of the eight highest daily 1-hour maximum concentrations to the three year average 98\textsuperscript{th} percentile background concentration that the applicant determined for the years 2004 through 2006 in Palm Springs. Even though the analysis used the statistical approach described above, it should be conservative for the following reasons:

- The 1-hour NO\textsubscript{2} background is based on 2004 to 2006, and NO\textsubscript{2} concentrations have been dropping over time.
- The 1-hour NO\textsubscript{2} background is based on Palm Springs monitoring data\textsuperscript{3}, which is located in a highly developed suburban area and is also located much closer to the Los Angeles metropolitan area and so, should be conservative in comparison to the rural, remote GSEP project site.
- The emission inputs used in the modeling assessment assume that all emission sources are active 24 hours per day. The emergency generator and fire pump engines, which create the bulk of the determined impacts, will have very limited testing operation and would not normally be expected to be operated/tested during the nighttime hours that have been found to have the highest NO\textsubscript{2} impacts.

Staff reviewed this modeling analysis and found the procedures and inputs to be acceptable. \textbf{Air Quality Table 11 Addendum} presents the applicant’s 1-hour NO\textsubscript{2} modeling results for the 1-hour federal standard.

\begin{table}[h]
\centering
\begin{tabular}{|c|c|c|c|c|c|}
\hline
Pollutants & Avg. Period & Project Impact \textsuperscript{a} & Background & Total Impact & Standard & Percent of Standard \\
\hline
NO\textsubscript{2} & 1-hr Fed & 81.5 & 96.5 & 178 & 188 & 95\% \\
\hline
\end{tabular}
\caption{Air Quality Table 11 Addendum Project Operation Emission Impacts}
\end{table}

This modeling analysis indicates that the project would not cause an exceedance of the federal 1-hour NO\textsubscript{2} standard.

\section*{REVISED PROPOSED CONDITIONS OF CERTIFICATION}

The staff recommended CoCs with proposed revisions are provided below. The other proposed staff conditions remain as provided in the Revised Staff Assessment.

\section*{STAFF CONDITIONS OF CERTIFICATION}

\textbf{AQ-SC3} Construction Fugitive Dust Control: The AQCMM shall submit documentation to the CPM in each Monthly Compliance Report that demonstrates compliance with the Air Quality Construction Mitigation Plan (AQCMP) mitigation measures for the purposes of minimizing fugitive dust emission

\textsuperscript{2} The surface meteorological data used in the modeling analysis is also from a Blythe monitoring station.

\textsuperscript{3} Blythe does not have 1-hour NO\textsubscript{2} monitoring data for this period, so Palm Springs was used as a reasonable worst-case.
creation from construction activities and preventing all fugitive dust plumes that would not comply with the performance standards identified in AQ-SC4 from leaving the project site. The following fugitive dust mitigation measures shall be included in the Air Quality Construction Mitigation Plan (AQCMP) required by AQ-SC2, and any deviation from the AQCMP mitigation measures shall require prior CPM notification and approval.

**Verification:** The AQCMM shall provide the CPM a Monthly Compliance Report to include the following to demonstrate control of fugitive dust emissions:

A. a summary of all actions taken to maintain compliance with this condition;

B. copies of any complaints filed with the District in relation to project construction; and

C. any other documentation deemed necessary by the CPM, and AQCMM to verify compliance with this condition. Such information may be provided via electronic format or disk at the project owner’s discretion.

The following fugitive dust mitigation measures shall be included in the Air Quality Construction Mitigation Plan (AQCMP) required by AQ-SC2.

a. The main access roads through the facility to the power block areas will be either paved or stabilized using soil binders, or equivalent methods, to provide a stabilized surface that is similar for the purposes of dust control to paving, that may or may not include a crushed rock (gravel or similar material with fines removed) top layer, prior to initiating construction in the main power block area, and delivery areas for operations materials (chemicals, replacement parts, etc.) will be paved or treated prior to taking initial deliveries.

b. All unpaved construction roads and unpaved operation and maintenance site roads, as they are being constructed, shall be stabilized with a non-toxic soil stabilizer or soil weighting agent that can be determined to be both as efficient as or more efficient for fugitive dust control as ARB approved soil stabilizers, and that shall not increase any other environmental impacts; including loss of vegetation to areas beyond where the soil stabilizers are being applied for dust control. All other disturbed areas in the project and linear construction sites shall be watered as frequently as necessary during grading (consistent with BIO-7); and after active construction activities shall be stabilized with a non-toxic soil stabilizer or soil weighting agent, or alternative approved soil stabilizing methods, in order to comply with the dust mitigation objectives of Condition of Certification AQ-SC4. The frequency of watering can be reduced or eliminated during periods of precipitation.

c. No vehicle shall exceed 10 miles per hour on unpaved areas within the construction site, with the exception that vehicles may travel up to 25 miles per hour on stabilized unpaved roads as long as such speeds do not create visible dust emissions.

d. Visible speed limit signs shall be posted at the construction site entrances.

e. All construction equipment vehicle tires shall be inspected and washed as necessary to be cleaned free of dirt prior to entering paved roadways.
f. Gravel ramps of at least 20 feet in length must be provided at the tire washing/cleaning station.

g. All unpaved exits from the construction site shall be graveled or treated to prevent track-out to public roadways.

h. All construction vehicles shall enter the construction site through the treated entrance roadways, unless an alternative route has been submitted to and approved by the CPM.

i. Construction areas adjacent to any paved roadway below the grade of the surrounding construction area or otherwise directly impacted by sediment from site drainage shall be provided with sandbags or other equivalently effective measures to prevent run-off to roadways, or other similar run-off control measures as specified in the Storm Water Pollution Prevention Plan (SWPPP), only when such SWPPP measures are necessary so that this condition does not conflict with the requirements of the SWPPP.

j. All paved roads within the construction site shall be swept daily or as needed (less during periods of precipitation) on days when construction activity occurs to prevent the accumulation of dirt and debris.

k. At least the first 500 feet of any paved public roadway exiting the construction site or exiting other unpaved roads en route from the construction site or construction staging areas shall be swept as needed (less during periods of precipitation) on days when construction activity occurs or on any other day when dirt or runoff resulting from the construction site activities is visible on the public paved roadways.

l. All soil storage piles and disturbed areas that remain inactive for longer than 10 days shall be covered, or shall be treated with appropriate dust suppressant compounds.

m. All vehicles that are used to transport solid bulk material on public roadways and that have potential to cause visible emissions shall be provided with a cover, or the materials shall be sufficiently wetted and loaded onto the trucks in a manner to provide at least one foot of freeboard.

n. Wind erosion control techniques (such as windbreaks, water, chemical dust suppressants, and/or vegetation) shall be used on all construction areas that may be disturbed. Any windbreaks installed to comply with this condition shall remain in place until the soil is stabilized or permanently covered with vegetation.

**Verification:** The AQCMM shall provide the CPM a Monthly Compliance Report to include the following to demonstrate control of fugitive dust emissions:

A. a summary of all actions taken to maintain compliance with this condition;

B. copies of any complaints filed with the District in relation to project construction; and

C. any other documentation deemed necessary by the CPM or AQCMM to verify compliance with this condition. Such information may be provided via electronic format or disk at the project owner’s discretion.
AQ-SC4 Dust Plume Response Requirement: The AQCMM or an AQCMM Delegate shall monitor all construction activities for visible dust plumes. Observations of visible dust plumes that have the potential to be transported (A) off the project site and within 400 feet upwind of any regularly occupied structures not owned by the project owner or (B) 200 feet beyond the centerline of the construction of linear facilities indicate that existing mitigation measures are not resulting in effective mitigation. The AQCMP shall include a section detailing how the additional mitigation measures will be accomplished within the time limits specified. The AQCMM or Delegate shall implement the following procedures for additional mitigation measures in the event that such visible dust plumes are observed:

Verification: The AQCMM shall provide the CPM a Monthly Compliance Report to include:

A. a summary of all actions taken to maintain compliance with this condition;

B. copies of any complaints filed with the District in relation to project construction; and

C. Any other documentation deemed necessary by the CPM and AQCMM to verify compliance with this condition. Such information may be provided via electronic format or disk at the project owner’s discretion.

The AQCMP shall include the following additional mitigation measure implementation procedures that will be used to ensure that the performance standards of this condition are met:

The AQCMM or Delegate shall implement the following procedures for additional mitigation measures in the event that visible dust plumes as defined above are observed:

Step 1: The AQCMM or Delegate shall direct more intensive application of the existing mitigation methods within 15 minutes of making such a determination.

Step 2: The AQCMM or Delegate shall direct implementation of additional methods of dust suppression if Step 1, specified above, fails to result in adequate mitigation within 30 minutes of the original determination.

Step 3: The AQCMM or Delegate shall direct a temporary shutdown of the activity causing the emissions if Step 2, specified above, fails to result in effective mitigation within one hour of the original determination. The activity shall not restart until the AQCMM or Delegate is satisfied that appropriate additional mitigation or other site conditions have changed so that visual dust plumes will not result upon restarting the shutdown source. The owner/operator may appeal to the CPM any directive from the AQCMM or Delegate to shut down an activity, if the shutdown shall go into effect within one hour of the original determination, unless overruled by the CPM before that time.
\textbf{Verification:} The AQCMM shall provide the CPM a Monthly Compliance Report to include:

A. a summary of all actions taken to maintain compliance with this condition;

B. copies of any complaints filed with the District in relation to project construction; and

C. Any other documentation deemed necessary by the CPM or AQCMM to verify compliance with this condition. Such information may be provided via electronic format or disk at the project owner’s discretion.

\textbf{AQ-SC5} Diesel-Fueled Engine Control: The AQCMM shall submit to the CPM, in the Monthly Compliance Report, a construction mitigation report that demonstrates compliance with the AQCMP mitigation measures for purposes of controlling diesel construction-related emissions. The following off-road diesel construction equipment mitigation measures shall be included in the Air Quality Construction Mitigation Plan (AQCMP) required by \textbf{AQ-SC2}, and any deviation from the AQCMP mitigation measures shall require prior and CPM notification and approval.

\textbf{Verification:} The AQCMM shall include in the Monthly Compliance Report the following to demonstrate control of diesel construction-related emissions:

A. A summary of all actions taken to maintain compliance with this condition;

B. A list of all heavy equipment used on site during that month, including the owner of that equipment and a letter from each owner indicating that equipment has been properly maintained; and

C. Any other documentation deemed necessary by the CPM, and the AQCMM to verify compliance with this condition, including any District permits necessary for temporary stationary diesel engines, or ARB certification for state registered portable equipment. Such information may be provided via electronic format or disk at the project owner’s discretion.

The following off-road diesel construction equipment mitigation measures shall be included in the Air Quality Construction Mitigation Plan (AQCMP) required by \textbf{AQ-SC2}.

a. All diesel-fueled engines used in the construction of the facility shall have clearly visible tags issued by the on-site AQCMM showing that the engine meets the conditions set forth herein.

b. All construction diesel engines with a rating of 50 hp or higher and lower than 750 hp shall meet, at a minimum, the Tier 3 California Emission Standards for Off-Road Compression-Ignition Engines, as specified in California Code of Regulations, Title 13, section 2423(b)(1), unless a good faith effort to the satisfaction of the CPM that is certified by the on-site AQCMM demonstrates that such engine is not available for a particular item of equipment. Engines larger than 750 hp shall meet Tier 2 engine standards. In the event that a Tier 3 engine is not available for any off-road equipment larger than 50,400 hp and smaller than 750 hp, that equipment shall be equipped with a Tier 2 engine, or an engine that is equipped with retrofit controls to reduce exhaust emissions of nitrogen oxides (NOx) and diesel particulate matter.
(DPM) to no more than Tier 2 levels unless certified by engine manufacturers or the on-site AQCMM that the use of such devices is not practical for specific engine types. For purposes of this condition, the use of such devices is “not practical” for the following, as well as other, reasons.

1. There is no available retrofit control device that has been verified by either the California Air Resources Board or U.S. Environmental Protection Agency to control the engine in question to Tier 2 equivalent emission levels and the highest level of available control using retrofit or Tier 1 engines is being used for the engine in question; or

2. The construction equipment is intended to be on site for 10 days or less.

3. The CPM may grant relief from this requirement if the AQCMM can demonstrate a good faith effort to comply with this requirement and that compliance is not practical.

c. The use of a retrofit control device may be terminated immediately, provided that the CPM is informed within 10 working days of the termination and that a replacement for the equipment item in question meeting the controls required in item “b” occurs within 10 days of termination of the use, if the equipment would be needed to continue working at this site for more than 15 days after the use of the retrofit control device is terminated, if one of the following conditions exists:

1. The use of the retrofit control device is excessively reducing the normal availability of the construction equipment due to increased down time for maintenance, and/or reduced power output due to an excessive increase in back pressure.

2. The retrofit control device is causing or is reasonably expected to cause engine damage.

3. The retrofit control device is causing or is reasonably expected to cause a substantial risk to workers or the public.

4. Any other seriously detrimental cause which has the approval of the CPM prior to implementation of the termination.

d. All heavy earth-moving equipment and heavy duty construction-related trucks with engines meeting the requirements of (b) above shall be properly maintained and the engines tuned to the engine manufacturer’s specifications.

e. All diesel heavy construction equipment shall not idle for more than five minutes. Vehicles that need to idle as part of their normal operation (such as concrete trucks) are exempted from this requirement.

f. Construction equipment will employ electric motors when feasible.

Verification: The AQCMM shall include in the Monthly Compliance Report the following to demonstrate control of diesel construction-related emissions:
A. A summary of all actions taken to maintain compliance with this condition;

B. A list of all heavy equipment used on site during that month, including the owner of that equipment and a letter from each owner indicating that equipment has been properly maintained; and

C. Any other documentation deemed necessary by the CPM or AQCMM to verify compliance with this condition, including any District permits necessary for temporary stationary diesel engines, or ARB certification for state registered portable equipment. Such information may be provided via electronic format or disk at the project owner's discretion.

AQ-SC7 The project owner shall provide a site Operations Dust Control Plan, including all applicable fugitive dust control measures identified in the verification of AQ-SC3 that would be applicable to minimizing fugitive dust emission creation from operation and maintenance activities and preventing all fugitive dust plumes that would not comply with the performance standards identified in AQ-SC4 from leaving the project site that:

A. describes the active operations and wind erosion control techniques such as windbreaks and chemical dust suppressants, including their ongoing maintenance procedures, that shall be used on areas that could be disturbed by vehicles or wind anywhere within the project boundaries; and

B. identifies the location of signs throughout the facility that will limit traveling on unpaved portion of roadways to solar equipment maintenance vehicles only. In addition, vehicle speed shall be limited to no more than 10 miles per hour on these unpaved roadways, with the exception that vehicles may travel up to 25 miles per hour on stabilized unpaved roads as long as such speeds do not create visible dust emissions.

The site operations fugitive dust control plan shall include the use of durable non-toxic soil stabilizers on all regularly used unpaved roads and disturbed off-road areas, or alternative methods for stabilizing disturbed off-road areas, within the project boundaries, and shall include the inspection and maintenance procedures that will be undertaken to ensure that the unpaved roads remain stabilized. The soil stabilizer used shall be a non-toxic soil stabilizer or soil weighting agent that can be determined to be as efficient as or more efficient for fugitive dust control than ARB approved soil stabilizers, and that shall not increase any other environmental impacts, including loss of vegetation to areas beyond where the soil stabilizers are being applied for dust control.

The performance and application of the fugitive dust controls shall also be measured against and meet the performance requirements of condition AQ-SC4. The measures and performance requirements of AQ-SC4 shall also be included in the operations dust control plan.

Verification: At least 30 days prior to start of commercial operation, the project owner shall submit to the CPM for review and approval a copy of the site Operations
Dust Control Plan that identifies the dust and erosion control procedures, including effectiveness and environmental data for the proposed soil stabilizer, that will be used during operation of the project and that identifies all locations of the speed limit signs. Within 60 days after commercial operation, the project owner shall provide to the CPM a report identifying the locations of all speed limit signs, and a copy of the project employee and contractor training manual that clearly identifies that project employees and contractors are required to comply with the dust and erosion control procedures and on-site speed limits.

AQ-SC8 The project owner shall provide the CPM copies of all District issued Authority-to-Construct (ATC) and Permit-to-Operate (PTO) documents for the facility.

The project owner shall submit to the CPM for review and approval any modification proposed by the project owner to any project federal air permit. The project owner shall submit to the CPM any modification to any federal air permit proposed by the District or U.S. Environmental Protection Agency (U.S. EPA), and any revised federal air permit issued by the District or U.S. EPA, for the project.

Verification: The project owner shall submit any ATC, PTO, and proposed federal air permit modifications to the CPM within 5 working days of its submittal either by 1) the project owner to an agency, or 2) receipt of proposed modifications from an agency. The project owner shall submit all modified ATC/PTO documents and all federal air permits to the CPM within 15 days of receipt.

REFERENCES


APPLICATION FOR CERTIFICATION FOR THE
GENESIS SOLAR ENERGY PROJECT

Docket No. 09-AFC-8

PROOF OF SERVICE
(Revised 6/7/10)

APPLICANT
Ryan O’Keefe, Vice President
Genesis Solar LLC
700 Universe Boulevard
Juno Beach, Florida 33408
E-mail service preferred Ryan.okeefe@nexteraenergy.com

Scott Busa/Project Director
Meg Russel/Project Manager
Duane McCloud/Lead Engineer
NextEra Energy
700 Universe Boulevard
Juno Beach, FL 33408
Scott.Busa@nexteraenergy.com
Meg.Russel@nexteraenergy.com
Duane.mccloud@nexteraenergy.com
E-mail service preferred
Matt Handel/Vice President
Matt.Handel@nexteraenergy.com
Email service preferred
Kenny Stein,
Environmental Services Manager
Kenneth.Stein@nexteraenergy.com

Mike Pappalardo
Permitting Manager
3368 Videra Drive
Eugene, OR 97405
mike.pappalardo@nexteraenergy.com

Kerry Hattevik/Director
West Region Regulatory Affairs
829 Arlington Boulevard
El Cajon, CA 94530
Kerry.Hattevik@nexteraenergy.com

APPLICANT’S CONSULTANTS
Tricia Bernhardt/Project Manager
Tetra Tech, EC
143 Union Boulevard, Ste 1010
Lakewood, CO 80228
Tricia.bernhardt@tteci.com

James Kimura, Project Engineer
Worley Parsons
2330 East Bidwell Street, Ste.150
Folsom, CA 95630
James.Kimura@WorleyParsons.com

COUNSEL FOR APPLICANT
Scott Galati
Galati & Blek, LLP
455 Capitol Mall, Ste. 350
Sacramento, CA 95814
sgalati@gb-lip.com

INTERESTED AGENCIES
California-ISO
e-recipient@caiso.com

Allison Shaffer, Project Manager
Bureau of Land Management
Palm Springs South Coast Field Office
1201 Bird Center Drive
Palm Springs, CA 92262
Allison_Shaffer@blm.gov

INTERVENORS
California Unions for Reliable Energy (CURE)
c/o: Tanya A. Gulessarian,
Rachael E. Koss,
Marc D. Joseph
Adams Broadwell Joeshp & Cardoza
601 Gateway Boulevard,
Ste 1000
South San Francisco, CA 94080
tglessarian@adamsbroadwell.com
rkoss@adamsbroadwell.com

Tom Budlong
3216 Mandeville Cyn Rd.
Los Angeles, CA 90049-1016
tombudlong@roadrunner.com

*Mr. Larry Silver
California Environmental Law Project
Counsel to Mr. Budlong
E-mail preferred larrysilver@celproject.net

Californians for Renewable Energy, Inc. (CARE)
Michael E. Boyd, President
5439 Soquel Drive
Soquel, CA 95073-2659
michaelboyd@sbcglobal.net

*Lisa T. Belenky, Senior Attorney
Center for Biological Diversity
351 California St., Suite 600
San Francisco, CA 94104
lbelenky@biologicaldiversity.org

*Ileene Anderson
Public Lands Desert Director
Center for Biological Diversity
PMB 447, 8033 Sunset Boulevard
Los Angeles, CA 90046
ianderson@biologicaldiversity.org

OTHER
Alfredo Figueroa
424 North Carlton
Blythe, CA 92225
lacunadeaztlan@aol.com

ENERGY COMMISSION
JAMES D. BOYD
Commissioner and Presiding Member
jboyd@energy.state.ca.us

ROBERT WEISENMILLER
Commissioner and Associate Member
rweisenm@energy.state.ca.us

*indicates change
DECLARATION OF SERVICE

I, Maria Santourdjian declare that on July 9, 2010, I served and filed copies of the attached Staff Assessment Supplement Air Quality Section for Genesis Solar Energy Project (09-AFC-8). 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: [http://ww.energy.ca.gov/sitingcases/genesis_solar].

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:

(Check all that Apply)

FOR SERVICE TO ALL OTHER PARTIES:

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

x by personal delivery;

x by delivering on this date, for mailing with the United States Postal Service with first-class postage thereon fully prepaid, to the name and address of the person served, for mailing that same day in the ordinary course of business; that the envelope was sealed and placed for collection and mailing on that date to those addresses NOT marked “email preferred.”

AND

FOR FILING WITH THE ENERGY COMMISSION:

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

OR

_____ depositing in the mail an original and 12 paper copies, as follows:

CALIFORNIA ENERGY COMMISSION
Attn: Docket No. 09-AFC-8
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512
docket@energy.state.ca.us

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.

Originally Signed by
Maria Santourdjian

*indicates change