2.1 INTRODUCTION

No new significant environmental impacts, beyond those already covered in the Draft EIR, Recirculated Draft EIR, and 2nd Recirculated Draft EIR were raised during the comment periods for each of these documents. Responses to comments received during the comment periods do not involve any new significant impacts or "significant new information" that would require recirculation of the 2nd Recirculated Draft EIR pursuant to CEQA Guidelines Section 15088.5.

CEQA Guidelines Section 15088.5 states that: *New information added to an EIR is not "significant" unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect (including a feasible project alternative) that the project's proponents have declined to implement.*

Sections 2.0 and 3.0 of this Final EIR include information that has been added to the EIR since the close of the public review period in the form of responses to comments and errata.

2.2 LIST OF COMMENTERS

Table 2-1 lists the comments on the Draft EIR that were submitted to Shasta County during the 45-day public review period for the Draft EIR. Table 2-2 lists the comments on the Recirculated Draft EIR that were submitted to Shasta County during the 45-day public review period for the Recirculated Draft EIR. Table 2-3 lists the comments on the 2nd Recirculated Draft EIR that were submitted to Shasta County during the 45-day public review period for the 2nd Recirculated Draft EIR.

The assigned comment letter or number, letter date, letter author, and affiliation, if presented in the comment letter or if representing a public agency, are also listed. Letters received from public agencies are coded with letters (A, B, C, etc.), while letters received from private organizations or members of the public are coded with numbers (1, 2, 3, etc.).

TABLE 2-1 LIST OF COMMENTERS ON THE DRAFT EIR

RESPONSE LETTER/ NUMBER	INDIVIDUAL OR SIGNATORY	AFFILIATION	DATE
A	Michelle Millette	California Department of Transportation (Caltrans)	9-20-2010
B	Daniel L. Warner	California Regional Water Quality Control Board, Central Valley Region	8-11-2010
1	Marlene Battertow	Resident of Redding, CA	9-2-2010
2	Randy Compton	Resident of Round Mountain, CA	9-20-2010
3	Pat Lind	Resident of the City of Shasta Lake, CA	9-20-2010
4	Mauro Oliveira	Member of the Battle Creek Alliance	9-19-2010
5	Lonn Maier	Pacific Gas and Electric Company	9-21-2010
6	Virginia Phelps	Resident of Palo Cedro, CA	9-18-2010
7	John W. Snider, RN	Resident of Cottonwood, CA	9-20-2010
8	David C. Brown, P.E.	Sierra Pacific Industries	9-19-2010
9	Marily Woodhouse	Member of the Battle Creek Alliance	9-19-2010
10	Kevin P. Bundy	Center for Biological Diversity	9-17-2010
11	Thomas A. Enslow	Adams, Broadwell, Joseph and Cardozo	9-20-2010
12	Petra Pless, D.Env.	Pless Environmental, Inc.	9-18-2010

TABLE 2-2 LIST OF COMMENTERS ON THE RECIRCULATED DRAFT EIR

RESPONSE LETTER/ NUMBER	INDIVIDUAL OR SIGNATORY	AFFILIATION	DATE
13	Thomas A. Enslow	Adams, Broadwell, Joseph and Cardozo	10-14-11
14	Kevin P. Bundy	Center for Biological Diversity	10-14-11
15	David C. Brown, P.E.	Sierra Pacific Industries	10-17-11
C	Diana Post	Department of Resources, Recycling and Recovery	10-19-11

TABLE 2-3 LIST OF COMMENTERS ON THE 2ND RECIRCULATED DRAFT EIR

RESPONSE LETTER/ NUMBER	INDIVIDUAL OR SIGNATORY	AFFILIATION	DATE
D	James Herota	Central Valley Flood Protection Board	2-24-12
16	Kevin P. Bundy	Center for Biological Diversity	3-30-12
17	Thomas A. Enslow	Adams, Broadwell, Joseph and Cardozo	4-2-12
18	David C. Brown, P.E.	Sierra Pacific Industries	3-29-12

2.3 COMMENTS AND RESPONSES

REQUIREMENTS FOR RESPONDING TO COMMENTS ON A DRAFT EIR

CEQA Guidelines Section 15088 requires that lead agencies evaluate and respond to all comments on the Draft EIR that regard an environmental issue. The written response must address the significant environmental issue raised and provide a detailed response, especially when specific comments or suggestions (e.g., additional mitigation measures) are not accepted. In addition, the written response must be a good faith and reasoned analysis. However, lead agencies need only to respond to significant environmental issues associated with the project and do not need to provide all the information requested by the commenter, as long as a good faith effort at full disclosure is made in the EIR (CEQA Guidelines Section 15204).

CEQA Guidelines Section 15204 recommends that commenters provide detailed comments that focus on the sufficiency of the Draft EIR in identifying and analyzing the possible environmental impacts of the project and ways to avoid or mitigate the significant effects of the project, and that commenters provide evidence supporting their comments. Pursuant to CEQA Guidelines Section 15064, an effect shall not be considered significant in the absence of substantial evidence.

CEQA Guidelines Section 15088 also recommends that revisions to the Draft EIR be noted as a revision in the Draft EIR or as a separate section of the Final EIR. Chapter 3.0 of this Final EIR identifies all revisions to the SPI Cogeneration Power Project Draft EIR, Recirculated Draft EIR, and 2nd Recirculated Draft EIR.

RESPONSES TO COMMENT LETTERS

Written comments on the Draft EIR, Recirculated Draft EIR, and 2nd Recirculated Draft EIR are reproduced on the following pages, along with responses to those comments. To assist in referencing comments and responses, the following coding system is used:

- Those comments received from government agencies are represented by a lettered response while comments received by individuals or private firms are represented by a numbered response.
- Each letter is lettered (i.e., Letter A) and each comment within each letter is numbered (i.e., comment A-1, comment A-2).

Where changes to the Draft EIR text, Recirculated Draft EIR text, or 2nd Recirculated Draft EIR text result from the response to comments, those changes are included in the response and identified with revision marks (<u>underline</u> for new text, ~~strike out~~ for deleted text).

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY ARNOLD SCHWARZENEGGER, Governor

DEPARTMENT OF TRANSPORTATION
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IGR/CEQA Review
Sha-5-6.7 & 273-7.54
Use Permit 07-021
Sierra Pacific Industries
Cogeneration Power Project
DEIR
SCH# 2009072011

September 20, 2010

Mr. Lio Salazar
Shasta County
Department of Resource Management
Planning Division
1855 Placer Street
Redding, CA 96001

SEP 20 2010

Dear Mr. Salazar:

Thank you for the opportunity to review the Draft Environmental Impact Report (DEIR) for the use permit to add the construction and operation of a cogeneration plant to the existing lumber mill facilities submitted on behalf of Sierra Pacific Industries. The project is located adjacent to the east side of State Route (SR) 273 approximately one-half mile north of the intersection of SR 273 and Ox Yoke Road.

A-1

The DEIR identifies that the project will require an additional 23 truck trips per day. Impacts in the Existing plus Project condition do not result in a significant impact. The DEIR identifies that in the Cumulative plus Project condition, the project will result in a significant impact. Mitigation Measures 3.10-1 and 2 adequately address the impacts.

The impact discussion concludes that since the improvements require a permit from Caltrans that Shasta County cannot guarantee that these improvements will be ultimately constructed. Additionally, the DEIR states that the improvements are not part of a funded traffic improvement program being implemented by Caltrans. Similar conclusions were made in the Panorama Planned Development DEIR. Caltrans disagrees with the DEIR conclusion that the County cannot assure that the improvements will ultimately be built. Although there is not currently a program to collect funds for improvements to the Riverside interchange, these future improvements are included in the Shasta County Regional Transportation Plan (RTP). The City of Anderson has also conducted a zone of benefit analysis for the interchange.

A-2

Caltrans recommends that the cumulative impacts mitigation measures be amended to state that if fee programs are adopted, the project will be responsible for contributing on a fair share basis for interchange improvements at the Riverside Drive/I-5 interchange to clearly indicate that the project is responsible for fair share contribution for cumulative impacts. A-3

We disagree that if a fee program does not exist that mitigation funds cannot be collected because there is no plan or guarantee that the affected jurisdiction will complete the mitigation. The needed improvements identified in the DEIR are either already included in the Shasta County RTP or in relevant plans and programs that the Shasta County Regional Transportation Planning Agency (RTPA) has been involved. Several local traffic improvement plans and programs exist from the City of Anderson, Shasta County Department of Public Works, and Caltrans. Although the needed improvements are not fully funded, the RTPA prioritizes and leverages fund sources as they become available to complete the improvements. Based on existing plans and programs backed by dedicated revenue streams, the needed mitigation projects identified in the DEIR will be built eventually. In the absence of a zone of benefit, all projects are still required by CEQA to mitigate their impacts. In the absence of a funded program, mitigation will continue to be negotiated project-by-project and jurisdiction-by-jurisdiction. The mitigation funds can be held by the County or the affected agency.

Whether the needed improvements are within the County jurisdiction or not, many local agencies (cities and counties) and private developers fund and build state highway improvements projects, either through the encroachment permit process, or if the project is more complex, through the Caltrans Planning Division's Oversight Project Manager. An example is the existing signalized intersection at Gas Point/I-5 southbound ramp intersection completed by the County within Caltrans' jurisdiction. Regardless of who funds and builds a state highway project, Caltrans is the owner-operator of the state highway system and maintains strict oversight and administration of those projects. A-4

As the previous example verifies, we disagree with the statements in the DEIR that the County cannot build the improvements or be certain that the improvements will be built because it is not in their jurisdiction. The forefront issue should be whether there is an obligation to mitigate the project's impacts, which the document recognizes, and to correctly identify that there are methods to insure and monitor their construction through conditions of approval, development agreements, and cooperative agreements. The recommended mitigation measures that include the requirements of other agencies, such as Caltrans, the California Department of Fish and Game, the Regional Water Quality Control Board, the US Army Corps of Engineers, or involvement by Shasta County or the City of Anderson, is fully enforceable through permit conditions, agreements, or other legally-binding instruments under the control of the County consistent with Section 15126.4 of the CEQA Guidelines.

If the County maintains that it cannot guarantee that the interchange improvements will be constructed, then Caltrans recommends that the DEIR include a mitigation measure that states, A-5

> The cumulative condition transportation mitigation shall be negotiated between Shasta County (County) and Caltrans. The desired results of the negotiated traffic mitigation would be that the

project applicants/developer(s) shall contribute a fair share amount for all needed improvements to State facilities or other facilities as mutually agreed upon by Caltrans and the County. The fair share contribution shall be determined by the County based on the traffic study or may be modified based on subsequent traffic studies prepared for a zone of benefit. The fair share calculation shall also be determined and verified in consultation with the Shasta County Regional Transportation Planning Agency, which includes Shasta County and the City of Anderson. The fair share funds shall be held by the County. As the interchange improvements identified in the EIR are proposed, designed, and planned for construction with oversight by the responsible agency, the County will offer the developer's contribution to the appropriate agency. If the identified improvements are not constructed, or if findings are not made to demonstrate the improvements will be made, the County may agree in consultation with Caltrans and the RTPA to redirect the developer's fund contributions to other improvements within Shasta County required to mitigate the project's impacts. This mechanism will ensure that the collected mitigation funds will be spent on the measures identified in the EIR or on alternative improvements that will equally reduce the project's transportation impacts.

A-5

Caltrans will continue to work diligently with the County and the Shasta County Regional Transportation Planning Agency in a positive manner to maintain the regional transportation system. If you have any questions, please do not hesitate to call me or my staff at (530) 229-0517.

Sincerely,

Michelle Millette

MICHELLE MILLETTE, Chief
Office of Community Planning
Caltrans District 2

c: State Clearinghouse

Response to Letter A: Michelle Millette, California Department of Transportation

Response A-1: The commenter provides a summary of the proposed project, states that the DEIR identifies significant impacts to cumulative plus project traffic conditions, and states that Mitigation Measures 3.10-1 and 3.10-2 adequately address the impacts. This comment has been noted and no further response is required.

Response A-2: The commenter states that Caltrans disagrees with the County's conclusion that the County cannot guarantee that the improvements identified in Mitigation Measures 3.10-1 and 3.10-2 will ultimately be constructed.

The commenter further states that Riverside interchange improvements are identified in the 2010 Shasta County Regional Transportation Plan (Shasta RTP), but acknowledges that there is no program in place for implementation or to collect funds for those improvements. The commenter also notes that the City of Anderson undertook a Zone of Benefit analysis for the affected area.

A lead agency is not required to impose mitigation fees to fund public improvements that outside its jurisdiction and that are not included in a fee program by the agency with the authority to make the improvements. (*Tracy First v. City of Tracy* (2009) 177 CA4th 912) Further, a commitment to pay fees is not adequate mitigation if there is no evidence that mitigation will actually result. (*Gray v. County of Madera* (2008) 167 CA4th 1099).

The 2010 Shasta RTP identifies improvements to the I-5 Riverside interchange as a safety improvement project in Table 5-21. According to Table 5-21 of the RTP the long term costs of the I-5 Riverside interchange improvements are estimated to be $17,200,000. Table 5-21 also indicates that the project "…cannot be funded. New funding sources will need to be identified or improvement will be developer funded." While the I-5 Riverside interchange improvements are identified in the Shasta RTP, they are neither funded nor programmed for implementation, and are outside the jurisdiction of Shasta County.

Approval of the improvements identified in Mitigation Measures 3.10-1 and 3.10-2 would require Caltrans approval, rather than Shasta County approval. Caltrans does not dispute this fact and thus, the improvements would lie outside Shasta County's jurisdiction. Furthermore, there is no funding program in place that would permit the lead agency (Shasta County), or the agency with approval authority (Caltrans) to collect a "fair share" contribution from the developer to carry out the proposed mitigation measures. While it's true the City of Anderson conducted a zone of benefit analysis, no zone of benefit area or funding program was adopted by the City. Since there is no funded implementation program in place relative to the suggested improvements, Shasta County cannot guarantee that the collection of the applicant's fair-share contribution towards these

improvements will actually result in the construction of the identified intersection improvements. Accordingly, while the DEIR has identified appropriate mitigation for impacts on the Riverside interchange, the impact conclusion remains significant and unavoidable as identified on page 3.10-15 of the DEIR.

Response A-3: The commenter recommends that the cumulative traffic impact mitigation measures be amended to state that if fee programs are adopted, the project will be responsible for contributing fair-share costs for the improvements.

For purposes of CEQA, an assessment of a proportionate fair share fee is appropriate as a form of mitigation when it is linked directly to a specific fee program (*Anderson First Coalition v. City of Anderson* (2005) 130 CA4th 1173). The County is not required to impose mitigation fees to fund public improvements that are not within the County's jurisdiction and that are not included in a mitigation program by the agency with the authority to make the improvements. (*Tracy First v. City of Tracy* (2009) 177 CA4th 912) Further, a commitment to pay fees is not adequate mitigation if there is no evidence that mitigation will actually result. (*Gray v. County of Madera* (2008) 167 CA4th 1099).

Mitigation Measures 3.10-1 and 3.10-2, as presented in the DEIR, identify potential mitigation for cumulative traffic impacts occurring at the Northbound Ramp/Riverside Avenue intersection and the I-5 Southbound Ramp/Riverside Avenue intersection, however, as noted in Response A-4 above, approval of the improvements identified in Mitigation Measures 3.10-1 and 3.10-2 would be through Caltrans rather than Shasta County. Since there is no funding program or implementation plan in place and to the lead agency's knowledge no such program or plan is pending, the County cannot require the developer to commit to an unknown amount of funding at an unspecified time in the future. As a result, the impact remains significant and unavoidable, as identified on page 3.10-15 of the DEIR. No changes to the DEIR are required.

Response A-4: The commenter expresses disagreement with the assertion that mitigation funds cannot be collected because there is no plan or guarantee in place that the identified improvements will actually be constructed by another agency in the future.

Mitigation Measures 3.10-1 and 3.10-2 identify improvements to the I-5 Northbound Ramp/Riverside Avenue intersection and the I-5 Southbound Ramp/Riverside Avenue intersection that would result in acceptable LOS at these intersections under cumulative plus project conditions. These Mitigation Measures also identify the project applicant's fair-share contribution towards identified improvements at these intersections.

As discussed above in Responses A-2 and A-3, the assessment of a proportionate fair share fee is appropriate as a form of mitigation when it is linked directly to a

fee program. However, no fee program for improvement of these intersections currently exists. Further, the County is not required to impose mitigation fees to fund public improvements that are not included in a mitigation (fee) program by the agency with the authority to make the improvements.

Notwithstanding, County Ordinance No. 665 contains general impact fees, including fees for traffic, to be assessed against new development in the South County Region. The current traffic impact fee for new industrial development is $1,639.73 per 1000-square-feet of floor area. The project will be required to pay this fee as a condition of approval. The impact fee study adopted with the ordinance does not currently identify 1-5 Riverside interchange improvements. However, the County may consider using 665 funds for improvements at the I-5 Riverside interchange to reduce any cumulative impacts of this project on the impacted interchange, if such improvements are either identified in an updated IFS or other public facility master plans providing similar facilities as may be adopted from time to time by the Shasta County Board of Supervisors. Nevertheless, for the reasons stated above, the cumulative impacts of the project to the I-5 Northbound Ramp/Riverside Avenue intersection and the I-5 Southbound Ramp/Riverside Avenue intersection will remain significant and unavoidable because the interchange is outside of the County's jurisdiction and there are no funding programs in place, which would guarantee the necessary improvements to mitigate this cumulatively considerable impact to less than significant.

Response A-5: The commenter provides suggested mitigation language that would require the project proponent to make a fair share payment towards intersection improvements. The commenter is referred to Responses A-2 through A-4 above. As noted above, the assessment of a proportionate fair share fee is appropriate as a form of mitigation when it is linked directly to a fee program. However, no fee program for improvement of these intersections currently exists. Further, the County is not required to impose mitigation fees to fund public improvements that are not included in a mitigation (fee) program by the agency with the authority to make the improvements.

Notwithstanding, County Ordinance No. 665 contains general impact fees, including fees for traffic, to be assessed against new development in the South County Region. The current traffic impact fee for new industrial development is $1,639.73 per 1000-square-feet of floor area. The project will be required to pay this fee as a condition of approval. The impact fee study adopted with the ordinance does not currently identify 1-5 Riverside interchange improvements. However, the County may consider using 665 funds for improvements at the I-5 Riverside interchange to reduce any cumulative impacts of this project on the impacted interchange, if such improvements are either identified in an updated

IFS or other public facility master plans providing similar facilities as may be adopted from time to time by the Shasta County Board of Supervisors.

Linda S. Adams
Secretary for
Environmental
Protection

California Regional Water Quality Control Board
Central Valley Region
Katherine Hart, Chair

415 Knollcrest Drive, Suite 100, Redding, California 96002
(530) 224-4845 • Fax (530) 224-4857
http://www.waterboards.ca.gov/centralvalley

Arnold
Schwarzenegger
Governor

11 August, 2010

State Clearinghouse
P.O. Box 3044
Sacramento, CA 95812-3044

DRAFT ENVIRONMENTAL IMPACT REPORT, SIERRA PACIFIC INDUSTRIES COGENERATION POWER PROJECT, SCH# 2009072011, ANDERSON, SHASTA COUNTY

We have reviewed the Draft Environmental Impact Report for the Sierra Pacific Cogeneration Power Project in the City of Anderson. The applicant proposes to construct and operate a new cogeneration power facility, including a new fuel shed, boiler building, cooling tower, electrostatic precipitator, ash silo and electric substation, on the SPI Anderson sawmill site. To protect water quality from potential project impacts, the property owner must comply with appropriate permits and regulations of the Central Valley Regional Water Quality Control Board (Regional Water Board). We have comments regarding general aspects of the project: B-1

Wastewater Disposal
The Draft EIR does not provide a description or volume of wastewater that will be generated and discharged from the facility. B-2

The Regional Water Board will require the owner to obtain updated Waste Discharge Requirements (WDRs) for the discharge of wastewater.

Ash Disposal
A byproduct of the wood-waste burning is ash. An Ash Management/Disposal Plan that provides proposed guidelines for storage, transportation, and disposal of ash to prevent discharge to surface or groundwater will be required by the Regional Water Board. B-3

Antidegradation Analysis
The Discharger must provide an Antidegradation Analysis that explains how the proposed discharge would comply with the State and Federal Antidegradation policies, with respect to both surface and groundwater quality. B-4

State Water Board Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings and the degradation is in the public interest.

Construction Storm Water
The Construction Storm Water Permit is a General Permit that is implemented and enforced by the Regional Water Board. If construction activities result in a land disturbance of one or more acres, the property owner must obtain coverage under the state's Construction Storm Water Permit Order No. 99-08-DWQ. Effective 1 July 2010 all dischargers are required to obtain coverage under Construction General Permit Order 2009-0009-DWQ adopted on 2 September 2009. The Storm Water Permit is required for construction activities where clearing, grading, filling, and excavation result in a **land** B-5

disturbance of one or more acres. Construction activities that result in a land disturbance of less than one acre, but are part of a larger common plan of development, also require a Storm Water Permit. A Storm Water Pollution Prevention Plan (SWPPP) must be prepared and implemented prior to construction activities. The SWPPP is used to identify potential pollutants (such as sediment and earthen materials, chemicals, construction materials, etc.) and describes best management practices that will be employed at the site to eliminate or reduce those pollutants from entering surface waters. Information regarding the construction Storm Water Permit can be obtained from the Central Valley Water Board's Redding office or website:
http://www.waterboards.ca.gov/water_issues/programs/stormwater/

B-5

Army Corps of Engineers and State Water Quality Certification

The proposed project may require a 404 permit from the US Army Corps of Engineers and a 401 water quality certification from the State Water Resources control Board. The Federal 404 permit is required for activities involving a discharge (such as fill or dredged material) to waters of the United States. "Waters" include wetlands, riparian zones, streambeds, rivers lakes, and oceans. These projects also require a water quality certification (per Section 401 of the Clean Water Act) verifying that the project does not violate state water quality standards. The water quality certification may specify conditions that must be satisfied during construction. The Army Corps of Engineers contact for Shasta County is Matt Kelley (telephone: 530-223-9537). The application for the 401 Water Quality Certification can be obtained from the Regional Water Quality Control Board office in Redding or from our website at:
http://www.waterboards.ca.gov/centralcoast/water_issues/programs/401wqcert/

B-6

If you have any questions regarding the above comments, please contact the undersigned staff person at (530) 224-4848 or at the letterhead address above.

Daniel L. Warner
Water Resource Control Engineer
North Regulatory Unit

cc: Shasta County Department of Resources Management, Planning Division, 1855 Placer Street, Suite 103, Redding, CA 96001
De Novo Planning Group, 4630 Brand Way, Sacramento, CA 95819
Sierra Pacific Industries, Anderson Division, P.O. Box 496014, Redding, CA 96049-6014

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Response to Letter B: Daniel Warner, Central Valley Regional Water Quality Control Board

Response B-1: The commenter provides a brief summary of the proposed project and states that the property owner must comply with appropriate permits and regulations of the Central Valley Regional Water Quality Control Board (Regional Water Board). This comment has been noted.

Response B-2: The commenter states that the Draft EIR does not provide a description or volume of wastewater that will be generated and discharged from the facility. The commenter also states that the Regional Water Board will require the owner to obtain updated Waste Discharge Requirements for the discharge of wastewater.

The proposed project would not result in an increased discharge of wastewater from the project site. The applicant currently operates under an approved National Pollutant Discharge Elimination System (NPDES) permit for the facility that is planned to remain unchanged.

An expanded discussion of the cooling tower water system and the boiler water/steam system is provided on pages 2.0-11 and 2.0-12 of the Recirculated Draft EIR. As described in the Recirculated Draft EIR, the proposed Cogen Facility would essentially have two separate water systems. One is the cooling tower system and the other is the boiler water/steam system. The water systems are separated by the main condenser, boiler water/steam is on the shell side and the tower cooling water is on the tube side of the main condenser.

Cooling Tower System

The proposed Cogen Facility would continue to employ a cooling tower system similar to existing conditions. The cooling tower system is an open loop system used to remove excess heat from and condense the steam that has gone through the steam turbine. The cooling tower water is circulated by pumps through the tube side of a shell and tube heat exchanger (the main condenser) and back to the tower where the circulating water is exposed to the cooling tower air flow. The water is cooled by the evaporation of a portion of the circulating water and the remainder returns to the tower basin. It is then pumped back to the steam condenser to start the heat removal process over again. As a result of this recirculation and heat removal process the water volume is reduced due to evaporation (in the cooling tower). Two things occur as a result of this water loss, (1) the concentration of the dissolved minerals and the suspended solids in the circulating water increases, and (2) water must be added to maintain a constant system volume of water. To counter the effect of increased dissolved mineral and suspended solid concentrations in the circulating tower water, a relatively small portion of the tower water is removed (bleed or blowdown water) from the system and sent to the onsite ponds and make-up water is added. This bleed water/ make-up water cycle creates a constant level of dissolved minerals and

suspended solids in the recirculating tower water. This process is called "cycling" up the concentration of the tower water and is the primary method that is used to minimize water use in the tower system. The number of "cycles of concentration" is primarily determined by the makeup water chemistry and the chemical treatment of the cooling tower water.

The cooling tower water is treated for its corrosion/scaling tendencies and for biological fouling potential. At the proposed Cogen facility, SPI will use the same or similar two products that are currently being used at the existing biomass co-generation facility. One product is used to reduce the corrosion and scaling potential and the other is an oxidizing biocide to address potential biological fouling. The compound used to reduce corrosion and scaling is product SPI-402. The cooling tower bleed will contain a concentration of SPI-402 that is approximately 56 to 111 ppm. The concentration of Phosphonate, measured for dosage control, in the cooling tower bleed from SPI-402 will be approximately 4 to 8 ppm. The compound used to limit biological fouling is Sodium Hypochlorite (bleach). The cooling tower bleed will contain a concentration of Sodium Hypochlorite (bleach) that is approximately 2 to 4 ppm as product. The concentration of free chlorine from Sodium Hypochlorite in the cooling tower bleed will be approximately 0.2 to 0.5 ppm.

The cooling tower bleed is not treated after discharge from the tower system and is directed to the onsite ponds in accordance with existing National Pollutant Discharge Elimination System (NPDES) permit requirements. The cooling tower system bleed water that is sent to the onsite ponds contains the same dissolved minerals as the makeup water that is added to the system during initial fill and operation, only at a higher concentration due to the tower water being "cycled up." These minerals include silica, iron, calcium & magnesium hardness, and alkalinity, as well as increased ph (over makeup water). Also present in the bleed water is a corrosion/scale treatment product and very low level of free chlorine (from biological control product).

Anticipated volume of bleed water from the new cooling tower system is a maximum of 100 to 150 gpm. It will likely be significantly less than this due to the fact that the 100 to 150 gpm bleed rate is based on 100% power operation of the turbine system. With SPI operations supplying steam to the dry kiln operation, 100% turbine output will be a rare condition.

Boiler Water/Steam System

The boiler water/steam system uses pretreated water in a boiler to generate steam that is directed to the turbine to generate electricity and also directed to the dry kiln system to provide heat to dry lumber. After the steam leaves the turbine it is condensed in the main condenser by transferring heat to the cooling tower circulating water. The steam sent to the dry kilns is returned as water (condensate) to the boiler system for reuse. The condensed boiler water is then

returned to the boiler to be reheated into steam. There is a small portion of the boiler water that is removed from the system as part of the boiler chemistry control program (continuous blowdown). It is planned to direct this collected water (as well as other system drains) back to the cooling tower system as a water makeup source, thus reducing the amount of raw water needed by the tower system.

In summary, the only water from the boiler and cooling tower operations that will leave the Cogen Facility system by design is the cooling tower bleed. This water is not treated after discharge from the tower system and is directed to the onsite ponds in accordance with existing National Pollutant Discharge Elimination System (NPDES) permits.

Response B-3: The commenter states that an Ash Management/Disposal Plan that provides proposed guidelines for storage, transportation, and disposal of ash to prevent discharge to surface or groundwater will be required by the Regional Water Board. This comment is noted. The DEIR contains a description of the applicant's proposed ash handling procedures on page 2.0-5. As noted on page 2.0-5, ash from the proposed project would be disked into adjacent agricultural lands as a soil amendment, used as an amendment in bagged soil and compost products, used as a cement amendment, or it would be sent to the Anderson landfill.

Response B-4: The commenter states that the Discharger must provide an Antidegradation Analysis that explains how the proposed discharge would comply with the State and Federal Antidegradation policies. This comment is noted. Impact 3.7-1 in the DEIR addresses the potential for the project to result in violations of water quality standards or waste discharge requirements. Mitigation Measure 3.7-1 requires the project applicant to prepare a Stormwater Pollution Prevention Plan (SWPPP) prior to construction activities, which would include best management practices to reduce runoff pollutants during construction activities. Mitigation Measure 3.7-2 requires the project applicant to maintain an updated NPDES permit, which would reduce impacts to surface waters in the project area. During review of any updates or changes to the applicant's NPDES permit, the Regional Water Quality Control Board must determine if an Antidegradation analysis is required, pursuant to 40 CFR 131.12 and State Board Resolution No. 68-16. If such a requirement is determined to be applicable to the NPDES permit application, the applicant shall be required to prepare and submit an Antidegradation analysis to the satisfaction of the Regional Water Quality Control Board. Mitigation Measure 3.7-2 has been amended to reflect and clarify this potential requirement. The revisions to Mitigation Measure 3.7-2 are shown in Chapter 3.0 of this Final EIR.

Response B-5: The commenter states that a SWPPP must be prepared and implemented prior to construction activities, and provides information on SWPPP requirements and resources. This comment is noted. The preparation and implementation of a

SWPPP prior to construction activities is required by Mitigation Measure 3.7-1 in the DEIR.

Response B-6: The commenter states that the proposed project may require a 404 permit from the US Army Corps of Engineers and a 401 water quality certification from the State Water Resources Control Board. These permits would be required for activities involving a discharge to waters of the United States.

This comment has been noted. The proposed project would not result in discharges to waters of the United States. As described throughout Section 3.7 of the DEIR, all stormwater and process water generated on the project site would be retained within the existing log ponds, consistent with current practices and the environmental baseline conditions.

8996 Seahaven Cir.
Redding, Ca 96001
Aug. 29, 2010

Dept. of Resource Management
1855 Placer St. Suite 103
Redding, Ca 96001

RECEIVED
SHASTA COUNTY
SEP 02 2010
DEPT OF RESOURCE MGMT
PLANNING DIVISION

Attn: Lio Salazar
Associate Planner

I've received the notice of Sierra Pacific's plan to build their Cogeneration plant near property which I own on Spring Gulch Rd. I believe the paragraph which lists the "significant environmental effects" says it all:

degradation of visual character, adverse traffic circulation effects, adverse emissions of air pollutants, adverse emissions of greenhouse gas -

1-1

Of course these are not acceptable! I believe very strongly, that if this plan is even considered by the County, there should be an open meeting so that residents can be heard. And that residents in the area should be informed. (My renters on Spring Gulch were not.)

1-2

Sincerely,
Marlene J. Batterton

Response to Letter 1: Marlene Battertow

Response 1-1: The commenter acknowledges being an owner of property in the vicinity of the project site and lists some of the significant and unavoidable impacts identified in the DEIR. This comment has been noted.

Response 1-2: The commenter states that the significant and unavoidable impacts identified in the DEIR are not acceptable. The commenter further states that an open meeting should be held prior to County consideration of project approval, so that members of the public can be heard on the issue.

This comment has been noted. Consideration of the proposed project (which may result in approval or denial) will be held during a properly noticed public hearing before the Shasta County Planning Commission. The exact date and time of this hearing has not been determined as of the writing of this Final EIR. The commenter has been added to the project's distribution list and will be notified when the public hearing to consider approval of the project and certification of this EIR has been scheduled. The commenter and other members of the public will be granted an opportunity to speak on the project before the Planning Commission makes an approval/denial decision.

P 1 of 2

9-20-2010

Lio Salazar, Shasta County Department of Resource Management
1855 Placer St., Ste. 103
Redding, CA 96001

Comment on Use Permit 07-021 Sierra Pacific Industries Cogeneration Power Project

Mr. Salazar,

I have lived in the eastern Shasta Co. town of Round Mountain since 1953. My intimate relationship with this unique and wondrous environment we share began at a very young age exploring the woods of Round Mountain, broadened with becoming a Boy Scout, avid fisherman, hunter, hiker and eventual timber faller. The degradation to this environment I have witnessed during these past 50 years is very disturbing and the clear cutting allowed in the past decade is, in my eyes, criminal. The native forests have been decimated along with the wildlife. The creeks that I once fished are now diminished to the point they should no longer be fished or they are planted with weak, hatchery-raised fish. In my youth the Sacramento River and tributaries feeding the river provided healthy salmon and steelhead people would catch to help feed their families but now those tributaries are diminished, the river is polluted and the fish are unsafe for consumption. If this progression of environmental destruction can in some form be defined as "progress", our future is certainly bleak. This environmental degradation I speak of has been well documented as scientists monitor the worldwide loss of 30,000 species of plants and animals per year in the "Sixth Great Extinction" which is due to irresponsible, selfish and foolish human activity. Following are questions I believe should be answered before SPI is allowed to expand their biomass plant and included are satellite images of the massive destruction to the native forests in our county.

2-1

P 2 of 2

1. During the previous 10 year period, what percentage of the fuel consumed in the operations of Shasta Co. cogeneration plants came from clear cut logging operations ? 2-2

2. How much carbon is released into the atmosphere in the clear cutting of an average 30 acre plot in the Big Bend area, including all machinery and trucks needed to haul the biomass to the generator? 2-3

3. How many years will it take an area that has been clear cut and replanted to once again provide an equal quantity of biomass as the initial clear cut? 2-4

4. Who exactly has prepared the calculations on where the fuel for this expansion will come from in the future? 2-5

5. Is there enough fuel on SPI lands to supply the needs of this expansion? 2-6

6. Will biomass that has been killed with herbicides be burned in this plant? 2-7

7. What types of pollutants are produced from burning fuel that has retained the herbicide used to kill it? 2-8

Thanks for answering my concerns.

Ray Compton

Randy Compton
P. O. Box 48
Round Mountain, Ca. 96084
530 337-6166

Response to Letter 2: Randy Compton

Response 2-1: The commenter states that he has been a resident of Round Mountain since 1953 and provides background information on his observed changes to forests and other biological resources in the region over the years. This comment has been noted.

Response 2-2: The commenter asks what percentage of the fuel consumed in the operations of Shasta County cogeneration plants during the previous 10 years came from clear cut logging operations. This comment does not address the adequacy of the Draft EIR. Additionally, it should be noted that the project applicant is not requesting to increase any clear cut logging operations associated with the proposed project. This comment has been forwarded to the County decision-makers for their consideration.

Response 2-3: The commenter asks how much carbon is released into the atmosphere in the clear cutting of an average 30-acre plot in the Big Bend area, including all machinery and trucks needed to haul the biomass to the generator.

The project does not result in, nor does it propose, any additional tree removal, logging or tree harvesting. No new logging activities are proposed or required in order to meet the fuel demands of the proposed project.

No changes to the in-woods fuel management or timber harvest levels are proposed as part of the project. However, for background information purposes, in-woods fuel for the proposed project would come exclusively from California forests. California forest owners who may provide fuel for the proposed project include SPI, other private owners of timberland, and publicly owned timberland. Timber harvesting on federal public land is subject to the National Environmental Policy Act (NEPA). The NEPA process is similar to the CEQA process in that it requires analysis of alternatives to the project, identification of potential impacts of the project and the alternatives, and mitigation measures to lessen those impacts. All commercial management of state public and private forestland is under the authority of the Z'berg Nejedly Forest Practice Act (FPA). The FPA is implemented through the California Forest Practice Rules (CFPR) in a manner consistent with other laws including the Timberland Productivity Act, CEQA, the Porter Cologne Water Quality Act, and the California Endangered Species Act. Prior to timber operations occurring on private forestland in California, a Timber Harvest Plan (THP) must be submitted by a Registered Professional Forester and approved by the Director of the State Board of Forestry, certifying that the THP is in compliance with the California Forest Practice Rules.

The proposed project would not result in any changes to an adopted THP, nor would it result in any changes to existing or approved timber harvest practices on private or public lands. Therefore, the impacts associated with clear cutting 30

acres of forest land are outside the scope of this EIR. All of the impacts related to carbon release and the generation of GHGs as a result of project approval and operation have been thoroughly addressed in Section 2.0 of the Second Recirculated Draft EIR. The GHG analysis under Impact 2.1 in the 2nd RDEIR includes a quantified analysis of GHG emissions associated with the transport of biomass materials to the project site, in addition to the GHG emissions that would be generated by operation of the proposed cogeneration facility. This comment has been forwarded to the County decision-makers for their consideration.

Response 2-4: The commenter asks how many years it will take an area that has been clear cut and replanted to once again provide an equal quantity of biomass as the initial clear cut. The commenter is referred to Response 2-3. The proposed project would not result in increased logging or clear cutting activities. Therefore, this question is outside of the scope of this EIR analysis and no changes to the DEIR are required. This comment has been forwarded to the County decision-makers for this consideration.

Response 2-5: The commenter asks who has prepared the calculations on where the fuel for this expansion will come from in the future. Prior to pursuing the permits for the proposed cogeneration facility, a fuel supply feasibility assessment was conducted by SPI. Additional information is provided below under Response 2-6.

Response 2-6: The commenter asks if there is enough fuel on SPI lands to supply the needs of this expansion.

The fuel supply feasibility assessment was conducted by SPI using the 2008 sawmill production values for the SPI Anderson Plant (SPIA) and the SPI Shasta Lake Plant (SPISL). The 2008 sawmill production values reflected one of the most depressed lumber markets of the last 40 years, according to SPI. The fuel supply feasibility study evaluated the volume of wood residuals (chips, bark, sawdust, shavings and hog fuel) produced by SPIA and SPISL in 2008 (green tons) coupled with the fuel efficiency of the proposed boiler (green tons/hr). It was concluded that these two facilities alone provide an adequate source of fuel for the proposed cogeneration facility.

While the fuel feasibility assessment indicated that SPIA and SPISL could reliably fuel the proposed cogeneration facility, regardless of external fuel supplies, SPI also attempted a good-faith estimate of what a likely biomass fuel mix might consist of; accounting for the dynamic market conditions for wood residuals and pricing of other fuel sources (in-woods chips, agricultural waste and urban fuel), which can change from month to month. For example, as the market price for sawmill residuals (bark, chips and shavings) becomes stronger; the likelihood of sawmill residuals being substituted with another fuel (in-wood chips, agricultural and urban fuel) would increase. The ultimate mix of fuel would be dependent on the dynamics of the market and is impossible to know with certainty now or in the

future. Section 2.0 of the Recirculated Draft EIR includes an expanded discussion of the potential fuel mix for the proposed project, and identifies potential fuel sources for the project.

Response 2-7: The commenter asks if biomass that has been killed with herbicides will be burned in this plant. The in-woods fuel delivered to the cogeneration facility currently does not, and in the future will not, contain any detectable herbicide residues. This is due to the fact that the herbicides used for improving conifer tree growth photo degrade and biologically degrade before those woody materials are ever processed in the woods.

Response 2-8: The commenter asks what types of pollutants are produced from burning fuel that has retained the herbicide used to kill it. The commenter is referred to Response 2-7, above. Additionally, Section 3.2 of the Draft EIR includes a detailed analysis of the air quality impacts and emissions associated with project operations, including the potential for the proposed project to expose sensitive receptors to toxic air contaminants. A Health Risk Assessment (HRA) was prepared for the EIR, and is included as Appendix C of the DEIR. The above-referenced analysis and HRA concluded that the project would result in less than significant impacts related to human health.

Pat Lind
415 Fort Peck St.
City of Shasta Lake, Ca, 96019

September 20, 2010

Dear Planning Division of Shasta County

I am writing as a concerned citizen with regards to the planned cogeneration plant in Anderson. The EIA did not mention where the wood for the burning will come from and this is an important factor since the other cogeneration plant in Anderson already has permission to burn 20 % "trash wood" as railroad ties that contain cancer causing creosote. No wood containing creosote should be allowed to be burned since this is toxic waste! If waste as brush is burned it needs to be considered that the brush was treated with herbicides. The exact amount of wood needed for the operation and where the wood will come from needs to be stated. 3-1

The biological resource section of the EIA does not mention the cumulative affect of this plant on promoting clear cutting and all the negative impact this causes like CO2 pollution, loss of forest diversity, too densely planted few tree specie plantations that end up being a fire danger. The short rotation ages of 60 to 80 years in clear cuts by Sierra Pacific never allows for fire resistant tree stands to establish. So will this plant promote even shorter rotation ages? 3-2

The Biological resource section also falls short with listing any amphibian species or plant specie lists. A statement that an Osprey nest is only 500 feet from the site and that only during pile driving during construction would the noise level be a disturbance for the bird does not take into consideration noise during plant operation which would probably be 24 hours a day. This noise arises with continual wood transport by noisy and dirty diesel trucks, wood unloading, woodcutting and noise of the plant producing energy with turbans or such. If we do not know what these impacts might be for the Osprey these impacts should at least be mentioned. Burning will bring dust; fine particle soot, and smells that could impact birds or other species like fish and amphibians. 3-3

Where will all the ashes be deposited?

The issue of light pollution, increase in traffic and noise needs to be considered as possible significant impacts for certain fragile species. Will wood waiting to be burned be treated with anything to preserve it and if so with what? 3-4

Air pollutants that will increase dust and siltation of the riverbed can affect the river and creeks. Also air pollutants will increase river eutrophication. These impacts where not mentioned? Why?

Only 1000 feet away from the site is the Sacramento River and the plant lies in a wet meadow that has several springs, which feed the pools. What type of wood will be in the pools and what type of contaminants could find its way to the pools and river? In other words what type of substances will the plant use for maintenance and daily operation? 3-5

It was noted that Chinook salmon and Steelhead trout spawn immediately east of the project site and this was seen as potentially significant indirect impact due to "uncontrolled runoff" during the construction phase. Mitigating measures deemed necessary only during the building phase where, a storm water prevention plan and erosion and sediment control. This does not take operation of the plant and use of 3-6

chemicals or amount of water needed for cooling the plant into consideration. Where will the cool water go to and what contaminants does it have? 3-6

What water temperature will the cooling water have if returned to the river?

The plant is in a flood zone what kind of runoff protection is needed and how can they prevent the wet meadow from seeping contaminants back into the ground water and river? 3-7

The ground water is very high at the site and no mention of contaminates during normal operation. 3-8

I have great concerns that this plant should be receiving tax payers money and being termed a Green Energy Plant where in fact research shows that wood burning is a huge CO2 emitter and dioxins emitter, fine particles and other cancer causing agents are released. In most of Europe wood burning has been outlawed in cities.

In 1988 the Environmental Services Inc. prepared a report for the U.S. Dept. Of Energy on Biomass Energy Program and it shows wood smoke deaths and cancer victims (Greene, 1988). It showed that wood burning was a hazard to public health. Wood smoke is chemically active in the body 40 times longer than tobacco (Joel Schwartz, Ph.D. Harvard School of Public Health, E Magazine, Oct 2002. 3-9

All combustion results in fine micro particulates especially wood produces many more smoke and fine particulate air pollutants than cleaner fuels. Particulate pollution is soot or aerosols. Also wood burning is not carbon neutral since cloud formation depends on small amounts of aerosols around which water vapor condenses, forming tiny water droplets that rise as they release heat and form clouds. Aerosols that contain black carbon decrees cloud cover and have a warming affect. The black carbon absorbs suns radiation, warming the surrounding atmosphere and reducing the formation of clouds and thus with fewer clouds we have less reflection of sunrays and absorption of radiation and more warming. Dr. Ilan Koren of the Weizmann institute Environmental Studies and Energy Research Dep. and Dr. Yoram Kaufman of the NASA Space Flight Center. 3-10

The EIA falls short of listing plant and animal specie lists, combustion technology, type of fuel and where it will come from, plant capacity and what contaminants will be used during operation and maintenance. Also not mentioned is were the waste product as ash will end up and how will the ground water and river be protected from waste products and air pollution? 3-11

Sincerely
Pat Lind
Pat Lind

Response to Letter 3: Pat Lind

Response 3-1: The commenter states that the EIR did not mention where the wood for the proposed project would come from. The commenter also states that wood containing creosote (such as railroad ties) should not be burned in the boiler.

The commenter is directed to pages 2.0-5-2.0-7 in Section 2.0 of the Recirculated Draft EIR, which include a detailed discussion of the biomass fuel supply sources for the proposed project. As stated on page 2.0-5, urban fuels would not include railroad ties or any other treated or painted wood. Page 2.0-9 of the Recirculated Draft EIR describes the applicant's Fuel Acceptance Plan (which is included as Appendix A of the Recirculated Draft EIR).

Response 3-2: The commenter states that the EIR does not mention the cumulative effect on promoting clear cutting and the negative impacts associated with clear cut logging. The commenter is referred to Response 2-3. The project does not result in, nor does it propose, any additional tree removal, logging or tree harvesting. No new logging activities are proposed or required in order to meet the fuel demands of the proposed project.

Response 3-3: The commenter states that the EIR Biological Resources section does not list amphibian or plant species, and states that the project may result in impacts to the existing Osprey nest near the project site. The commenter also inquires about where the ash from the boiler would be deposited.

Table 3.3-1 in the Draft EIR identifies all of the special-status species that have been documented within a 5-mile radius of the project site. The project site is not suitable habitat for any special-status species, and as described in Section 3.3 of the DEIR, the proposed project would not result in any adverse impacts to special-status species or habitat.

Potential impacts to the existing Osprey nest are thoroughly addressed under Impact 3.3-4 in the DEIR. The nest has been reported to be in this area by the CNDDB since 1990, and it has been noted to have been used repeatedly since that time by nesting Osprey. The Noise Study prepared for the EIR, which is included as Appendix F to the DEIR specifically addressed potential operational and construction impacts to the Osprey nest. The location of the nest is shown in DEIR Figures 3.8-2 and 3.8-3. As described under Impact 3.3-4, noise levels at the Osprey nest would not increase above the existing baseline condition. The noise analysis accounted for operation of the proposed cogeneration facility, as well as traffic noise from increased truck trips to the facility. This issue has been thoroughly addressed in the DEIR and impacts to the Osprey nest were determined to be less than significant.

Page 2.0-5 of the DEIR describes how the ash from the proposed facility will be disposed of. No changes to the DEIR analysis are required.

Response 3-4: The commenter states that the issues of light pollution, increases in traffic, and increased noise need to be considered as possible significant impacts for certain fragile species. The commenter also asks if wood waiting to be burned would be treated to preserve it and if air pollutants would affect surface waters in the project area.

Impacts associated with light pollution are addressed under Impact 3.1-3 in the DEIR. Mitigation Measure 3.1-2 requires the project applicant to prepare a lighting plan prior to issuance of the Conditional Use Permit. The lighting plan must demonstrate that light is directed downward and that the project would not result in light spillage from the SPI property beyond the existing conditions. There are no special-status species located on the project site that would be adversely impacted by the proposed project's lighting.

Traffic impacts associated with the proposed project are addressed in Section 3.10 of the DEIR. The proposed project may result in a daily increase of six passenger vehicles per day and 23 truck trips per day, as described on page 3.10-7 of the DEIR. There is no evidence to suggest that this increase in vehicle trips would have an adverse impact on a special-status species.

The commenter is referred to Response 3-3 regarding potential noise impacts to special-status species.

Biomass materials stored at the project site prior to burning will not be treated with any preservatives.

Air pollutants, including particulate matter and other criteria pollutants generated by the proposed project are thoroughly addressed under Impact 3.2-2 of the DEIR. As described throughout the Impact 3.3-2 discussion, the proposed project would exceed applicable Shasta County Air Quality Management District (SCAQMD) thresholds for NOx, CO, PM10, VOC/ROG and Beryllium. Mitigation Measure 3.2-3 requires the project applicant to use banked Emission Reduction Credits (ERCs) to offset project impacts related to NOx, CO, PM10 and VOC/ROG. There are no ERCs available for Beryllium, and impacts associated with Beryllium were found to be significant and unavoidable. The use of ERCs would reduce levels of the above-mentioned pollutants throughout the air basin to offset the emissions generated by the proposed project. Additionally, the project has incorporated Best Available Control Technology (BACT) into the facility design to reduce emissions levels to the greatest extent feasible. A detailed BACT discussion is included in Section 3.2 of the DEIR and the applicant's PSD report, which is included as Appendix B to the DEIR. The commenter is also referred to Response 11-22, which provides

additional details regarding screening that was conducted for Class I areas in the vicinity of the project site.

Response 3-5: The commenter asks what type of wood will be stored in the onsite ponds, and what types of substances will be used by the plant for daily operations that may impact water quality in the Sacramento River.

Wood and other biomass materials will not be located or stored in the onsite ponds, nor will the project result in any direct discharges of water or process water to the Sacramento River. The commenter is referred to Response B-2, which includes a detailed discussion of the treatment and use of process water associated with project operations. As described under Response B-2, the proposed project must operate in accordance with existing National Pollutant Discharge Elimination System (NPDES) permit requirements.

Response 3-6: The commenter asks where the cooling tower water will go and what contaminants will be present in the process water. The commenter is referred to Response B-2 and to pages 2.0-11 and 2.0-12 of the Recirculated Draft EIR. The information on these pages describes the chemicals that will be used in the process water, and describes how all process water will be managed on-site, consistent with existing NPDES permit requirements. This information is also included in Chapter 3.0, Errata, of this Final EIR.

Response 3-7: The commenter states that the project site is located in a flood zone, and asks what type of runoff protection is needed to ensure the project does not result in contamination of groundwater and nearby surface waters.

As described on page 3.7-2, and shown on Figure 3.7-1 of the DEIR, the vast majority of the SPI Anderson property is located within FEMA Zone X. Flood Zone X is equivalent to the 500-year flood zone, and has a 0.2% annual chance of flooding. Flood Zone X is considered to be at low risk of flooding. The onsite ponds and the entire area proposed for project operations are located within FEMA Zone X.

Mitigation Measure 3.7-1 requires the preparation and implementation of a State approved Stormwater Pollution Prevention Plan (SWPPP) that includes numerous measures and best management practices (BMPs) to control stormwater runoff and pollutants. Additionally, Mitigation Measure 3.7-2 requires the project applicant to maintain a current and approved NPDES permit. NPDES permits regulate industrial discharges, stormwater runoff, dewatering operations and groundwater cleanup discharges. NPDES permits are issued for five years or less, and are therefore, required to be updated regularly. The Central Valley Regional Water Quality Control Board is responsible for monitoring pollutant discharges and groundwater contamination that may occur as a result of project operations.

Response 3-8: The commenter states that groundwater is high at the site and there is no mention of contaminants during normal operations. The commenter is referred to Response B-2, which describes chemicals used for process water, and response 3-7, which describes requirements to mitigate potential water quality impacts.

Response 3-9: The commenter expresses concern over the use of tax-payer money for the project and states that wood burning is a major source of GHGs and results in public health impacts.

The DEIR does not state that public money would be used to fund the proposed project. Funding sources for the project are outside of the scope of CEQA, and are not addressed in the EIR. This comment has been noted and has been forwarded to the County decision makers for their consideration.

The commenter's statements regarding adverse health impacts associated with wood burning do not address the adequacy of the analysis contained in the EIR. The EIR includes a detailed analysis and quantification of air emissions impacts in Section 3.2. Additionally, Section 3.2 includes impact discussion 3.4-4, which addresses the potential for the proposed project to expose sensitive receptors to toxic air contaminants. A Health Risk Assessment (HRA) was prepared for the EIR, and is included as Appendix C of the DEIR. The above-referenced analysis and HRA concluded that the project would result in less than significant impacts related to human health.

Response 3-10: The commenter states that combustion results in fine micro particulates. The commenter also states that wood burning is not carbon neutral. The commenter does not address the adequacy of the analysis contained in the EIR. Section 3.2 of the Draft EIR addresses potential project impacts associated with particulate matter, under Impact 3.2-1. Additionally, Section 2.0 of the 2nd Recirculated Draft EIR addresses potential global warming impacts. The commenter is referred to Responses 16-5 and 16-6 for additional information regarding carbon emissions from the project. This comment has been noted and has been forwarded to the County decision makers for their consideration.

Response 3-11: The commenter summarizes the issues raised in comments 3-1 through 3-10. The commenter is referred to Responses 3-1 through 3-10.

RECEIVED
SEP 20 2010
COUNTY OF SHASTA
PERMIT COUNTER

Lio Salazar, Shasta County Department of Resource Management
1855 Placer St., Ste. 103
Redding, CA 96001

Sept. 19, 2010

Comment on Use Permit 07-021 Sierra Pacific Industries Cogeneration Power Project

I, Mauro Oliveira, would like to submit the following comments on behalf of myself and as a member of the Battle Creek Alliance. I have been a resident of Shasta County since 2000.

Before I get into the comments on the plant itself, I am now tending to the timber operations that supply the plant for the plant's TRUE scope of damage is both at input and at output. Input is the fuel, how the fuel is obtained, the extraction's cost on the environment /society and the fuel's distance from the plant (gHg emissions of trucking etc.). The output is the type and range of the emissions the plant gives off. CEQA, NEPA and International scientific findings, bodies etc. ALL POINT to the range of the emissions being global and have taken on prioritory and urgency AS THE EMISSIONS PERTAIN TO GREENHOUSE GASES.

The Anderson plant is fed by nearby timber operations of Sierra Pacific Industries and SPI operations are predominately clearcutting and timber operations that resemble clearcutting like "retention" and other logging that removes nearly all the trees. SPI's clearcutting operations include herbicide use as high as 70,000 pounds in Shasta County and similar amounts in surrounding counties. The CUMULATIVE IMPACT of clearcut logging in the region of the Andersonplant is evident in this photograph of Shasta county 2009. NO DOUBT much of the Andeson plant would be supplied by AT LEAST the southern part (if not all) of the boundaries of this photograph. Similar spacing and density of clearcutting is observed IN ALL COUNTIES WHERE SPI DOES "BUSINESS".

The Center for Biological Diversity and individuals are currently

4-1

in litigation with CAL FIRE and SPI over clearcutting greenhouse gas issues from clearcutting operations. I am one of those individuals, and I most certainly will do the same, over the same issues, with this plant expansion should it go forward. Ghg emissions are a serious and possible deadly threat to civilization as we know it and the expansion of this plant comes at a time when public opinion is distrustful of corporations that damage the environment and governments that let them. 4-1

The expansion of this plant comes when the realities of bio-mass burning have burst to the surface and the truth is available for all to see. ***The depth of betrayel to future generations this plant expansion portrays is unforgivable.***

CEQA and Greenhouse Gas Emissions

Governor Schwarzenegger issued Executive Order S-3-05 in June of 2005, which set the target of reducing greenhouse gas emissions to 80% below 1990 levels by 2050. Then in 2006, California made into law the California Global Warming Solutions Act of 2006 ("AB 32"). This act requires reduction of State greenhouse gas emissions to 1990 levels by 2020, which is what climatologists and other scientific organizations around the world had deemed necessary to stabilize the climate. However, since then, scientists have concluded that unprecedented loss of Arctic sea ice, land and ocean sourced methane releases and record temperatures (and a continuous stream of other negative data) are alarming indicators that deeper reductions in greenhouse gases must be implemented to prevent devastating impacts.

In California, CEQA is the primary mechanism citizens and the government have to avoid greenhouse gas emissions. Along with CEQA, Senate Bill 97 (2007) requires the Office of Planning and Research ("OPR") to prepare guidelines "for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions as required by [CEQA], including, but not limited to, effects associated with transportation or energy consumption." (SB 97, codified as Pub. Res. Code § 21083.05, emphasis added.) SB 97 "confirm[s] that GHG emissions are a significant adverse effect under" CEQA. (Senate Bill Analysis for SB 97.) As recognized in the Senate Bill Analysis for SB 97, "[t]he analysis of GHG impacts under laws like CEQA, and its federal counterpart NEPA, is not new, nor did it commence with the passage of the California Global Warming Solutions Act of 2006." (Id.) 4-2

Because most greenhouse gas emissions remain in the atmosphere for decades or centuries, effectively addressing the problem of global warming will depend on how rapidly California and the rest of the world reduce these emissions. Although research indicates that some climatic impacts are now unavoidable, aggressive reductions in emissions can avoid drastic global warming impacts otherwise predicted for the end of the century, including temperature rises between 8 and 10.5° F; 90% loss of the Sierra snowpack; 22-30 inches of sea level rise; and a 4-6 fold increase in heat-related deaths in major urban centers. (California Climate Change Center publication, Cayan, et al. 2007, Our Changing Climate: Assessing the Risks to California.)

It is a well accepted scientific fact that greenhouse gas concentrations in the atmosphere are at dangerous levels and contributing greatly to climactic effects such as abrupt weather patterns including flooding, killer storms, record temperatures and sea level rises that are already threatening tiny island nations and coastal cities worldwide. Climatologists stress that immediate reductions in both emissions and concentrations are necessary to avoid the worst impacts of climate change. In this context, and in light of the State's greenhouse gas emission goals, project-specific emissions of greenhouse gases must be considered cumulatively significant.

In January 2008, the California Air Pollution Control Officers Association ("CAPCOA") released a white paper titled "Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act." CAPCOA is an association of air pollution control officers representing all thirty-five local

air quality agencies and air districts in California. In its white paper, CAPCOA described and analyzed a range of approaches to determine the significance of the impacts from a project's greenhouse gas emissions. Under CAPCOA's recommended analysis, the only two thresholds deemed both highly effective at reducing greenhouse gas emissions and highly consistent with AB 32 and Executive Order S-3-05 emission reduction targets were a threshold of zero, or a 900-ton CO2 equivalent threshold. (CAPCOA White Paper, p. 57.)

On June 17, 2008, the Office of Planning and Research issued a technical advisory titled "CEQA AND CLIMATE CHANGE: Addressing Climate Change Through California Environmental Quality Act (CEQA) Review." The technical advisory notes that "[l]ead agencies should make a good-faith effort, based on available information, to calculate, model, or estimate the amount of CO2 and other GHG emissions from a project, including the emissions associated with vehicular traffic, energy consumption, water usage, and construction activities."

On March 6, 2009, the Attorney General's Office similarly concluded that:
Lead agencies should make a good-faith effort, based on available information, to calculate, model, or estimate the amount of CO2 and other GHG emissions from a project . . . .
Unlike more localized, ambient air pollutants which dissipate or break down over a relatively short period of time (hours, days or weeks), GHGs accumulate in the atmosphere, persisting for decades and in some cases millennia. The overwhelming scientific consensus is that in order to avoid disruptive and potentially catastrophic climate change, then it's not enough simply to stabilize our annual GHG emissions. The science tells us that we must immediately and substantially reduce these emissions. 4-2

The decisions that we make today do matter. Putting off the problem will only increase the costs of any solution. Moreover, delay may put a solution out of reach at any price. The experts tell us that the later we put off taking real action to reduce our GHG emissions, the less likely we will be able to stabilize atmospheric concentrations at a level that will avoid dangerous climate change. [Agencies should] evaluate at least one alternative that would ensure that the [agency] contributes to a lower-carbon future. (See Climate Change, the California Environmental Quality Act, and General Plan Updates: Straightforward Answers to Some Frequently Asked Questions California Attorney General's Office [Rev. 3/06/09] (emphasis added).)

Moreover, in a PowerPoint presentation at the Board of Forestry's February 2009 meeting, representatives of the California Resources Agency explained that the following must be considered when calculating GHG emissions associated with THPs:

- Type of Forest Management (clear-cutting or other types of logging management)
- Age of forest at issue, tree type
- Store of carbon in biomass, soil, and old growth
- Rate new growth sequesters carbon
- Changes to system overall
- Reduction of carbon stores v. rate of carbon uptake
- Increases and decreases in carbon to environmental setting
- Cumulative impacts

On December 30, 2009, the California Resources Agency, pursuant to SB 97, adopted CEQA Guidelines for greenhouse gas emissions that had been prepared and developed by OPR. (See California Natural Resources Agency, Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB 97 (Dec. 2009), available at http://ceres.ca.gov/ceqa/guidelines/.) For example, Guideline 15064.4 declares that a "lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project." (Id.) Guideline 15064.4 sets forth factors a lead agency should consider in reaching a signifi-

cance determination, and states that a "lead agency should consider . . . [t]he extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting . . . ." (Id.) The Final Statement of Reasons for the CEQA greenhouse gas Guidelines explains: "[15064.4(b)'s] reference to the 'existing environmental setting' reflects existing law requiring that impacts be compared to the environment as it currently exists." (See California Natural Resources Agency, Final Statement of Reasons for Regulatory Action, Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB 97 (Dec. 2009) at 24, available at http://ceres.ca.gov/ceqa/guidelines/).

Although no appellate cases interpret the duty to analyze the cumulative impact of greenhouse gases on climate change under CEQA, California courts have looked to case law interpreting NEPA as "strongly persuasive" authority as to the meaning of CEQA. (No Oil, Inc. v City of Los Angeles (1974) 13 Cal. 3d 68, 86, fn 21.)

4-2

In Center for Biological Diversity v. NHTSA, (2008) 538 F.3d at 1218, the Ninth Circuit found that "the impact of greenhouse gas emissions on climate change is precisely the kind of cumulative impacts analysis that NEPA requires agencies to conduct." As the Ninth Circuit stated: [W]e cannot afford to ignore even modest contributions to global warming. If global warming is the result of the cumulative contributions of myriad sources, any one modest in itself, is there not a danger of losing the forest by closing our eyes to the felling of the individual trees? (Id. at 1217.)

SPI's THPs, Clearcutting, Carbon, and CEQA

SPI employs a form of logging called "clearcutting" which causes significant emissions of greenhouse gases. As stated by Dr. Mark Harmon, a professor of Forest Science at Oregon State University:

Timber harvest, clear cutting in particular, removes more carbon from the forest than any other disturbance (including fire). The result is that harvesting forests generally reduces carbon stores and results in a net release of carbon to the atmosphere.

SPI and CAL FIRE acknowledge that the carbon dioxide emissions resulting from SPI THPs that feed the Anderson plant will be in the thousands of tons EACH. Nevertheless, SPI and CAL FIRE have consistently concluded that these emissions would be less than significant.

SPI and CAL FIRE's analysis suffers from numerous legal and logical infirmities. For instance, SPI and CAL FIRE fail to calculate the project-specific greenhouse gas emissions that are associated with SPI THPs that feed the Anderson plant.

4-3

Under SPI and CAL FIRE's approach for estimating the emissions from a given THP, the only variable that matters is the number of board feet being harvested. This disregards important aspects of the THP that affect emissions, such as the type of logging being conducted (clearcutting versus uneven-aged management), the physical structure of the forest stand being harvested, vegetation and other carbon pools not included in the harvest estimate, the distance of the operation from a sawmill, and whether the logging debris from a particular THP is in fact sent to a biomass plant.

While SPI and CAL FIRE fail to carry out a project-specific analysis of the greenhouse gas emissions flowing from a particular THP, a statement by SPI highlights the importance of such an analysis:
A key concept in any analysis of GHGs and forest management is that results depend greatly on the forest type, the origin and type of forest soils, the forest's location on the planet (which determines forest type and growing conditions) and the past management the relevant forest has received. Management history directly influences a

forests current condition. It is misleading to attempt to generalize expected outcomes from management across differing forest types, locations, and soils.

In addition, to the degree SPI and CAL FIRE calculate greenhouse gas impacts from SPI THPs at all, they lower the estimate of such emissions based on assumptions that are uncertain, unenforceable and of questionable efficacy:

- ignoring the carbon sequestration that would have occurred had the forest not been clear-cut;
- assuming emissions reductions from future tree growth, but providing no provisions to ensure that such reductions will actually take place or are enforceable;
- assuming emissions reductions due to storage of carbon in wood products and landfills despite providing no assurances that such reductions will occur;
- assuming no emissions are associated with the transport and manufacture of wood products; and
- assuming that emissions that are certain to occur can nonetheless be disregarded if such emissions might not transpire within the first 100 years after harvest.

Many of these assumptions that SPI and CAL FIRE rely on are essentially offered as mitigation, but are not binding or enforceable as CEQA requires, and thus cannot in fact be relied upon for a determination that impacts will be reduced below significance. An agency approving a project application must ensure that mitigation measures are "fully enforceable through permit conditions, agreements, or other measures." (CEQA § 21081.6(b).) "The purpose of these requirements is to ensure that feasible mitigation measures will actually be implemented as a condition of development, and not merely adopted and then neglected or disregarded." (Fed'n of Hillside & Canyon Ass'ns v. City of Los Angeles (2000) 83 Cal. App. 4th 1252, 1261.)

Furthermore, SPI and CAL FIRE, by failing to acknowledge the above assumptions as mitigations, improperly frame SPI projects that feed the Anderson plant. In other words, instead of first calculating the emissions associated with the timber operations, and then proceeding to explain how those emissions will be avoided or mitigated, SPI and CAL FIRE instead conflate their "mitigations" into the project. This prevents informed decision-making and violates CEQA because only by failing to address their assumptions as mitigation can SPI and CAL FIRE attempt to justify their conclusion that emissions from the THP are insignificant.

4-3

While each of the unenforceable "mitigations" calls into question the analysis of SPI and CAL FIRE regarding the significance of the emissions from SPI THPs, the future growth analysis (of seedlings planted on site post-harvest) conducted by SPI and CAL FIRE is particularly troubling. For instance, much like the calculations for emissions, the growth rates used by SPI and CAL FIRE are based on operations-wide averages and do not account for site quality. The soil in the area of this THP is erosive in cleared areas, such as roads, and the tree growth rate is very slow, even without the added stresses of hotter temperatures and less rain.

SPI and CAL FIRE also fail to account for the important temporal nature of emission impacts. As the U.S. Environmental Protection Agency recently noted in a greenhouse gas rulemaking, because "a substantial portion of CO2 emitted into the atmosphere is not removed by natural processes for millennia, each unit of CO2 not emitted into the atmosphere avoids essentially permanent climate change on centennial time scales." 74 Fed. Reg. 49453, 49589 (September 28, 2009). Similarly, sequestration efforts become less meaningful the longer they are delayed, and "could result in substantially higher costs of stabilizing CO2 concentrations." 74 Fed. Reg. at 49613. In other words, it is preferable to remove a given ton of carbon in Year 1 rather than in Year 4, or Year 15, and so on, because by the later date, the carbon will have wrought much more damage. Furthermore, climate science emphasizes the importance of near-term reductions in order to avoid triggering climatic tipping points. So even if over the course of a hundred years an equivalent amount of carbon dioxide as that released by SPI THPs is ultimately reabsorbed by new tree growth on the project site (a dubious proposition at best, especially in light of the sequestration that is foregone when a forest is logged), that utterly fails to address or mitigate the significant near-term impacts from the release of that carbon dioxide. In the research paper entitled "Carbon

storage and fluxes in ponderosa pine forests at different developmental stages" (Global Change Biology (2001) 7, 755-777) B.E. Law, et al, wrote: "Simulations showed the period of regrowth required to replace carbon lost during and after a stand-replacing fire (O) or a clearcut (Y) to be between 50 and 100 years." SPI states that it will return to log the plantations that replace the diverse forests in 80 years or less.

In sum, carbon emissions in the near-term can cause dramatically greater environmental damage than the same emissions later; the environmental impacts of carbon emissions in the near-term cannot be mitigated by future reductions; and the benefits of reducing and mitigating emissions in the near-term can dramatically outweigh the benefits of carbon sequestration in the future. Thus, feasible opportunities to reduce emissions now cannot be ignored based on the mistaken premise that emissions generated in the near term might be mitigated or offset by tree growth decades in the future. The timing of carbon releases and sequestration must be properly considered and accounted for when determining and addressing the emissions associated with THPs that feed the Anderson plant. Neither SPI nor CAL FIRE conduct essential analysis on the THPs that feed the Anderson plant. As a consequence, no near-term emissions mitigations or reductions are considered in, must less required by, the final THPs that feed the Anderson plant.

4-3

Emissions Comparison Data :

BURNING WOOD IS "DIRTIER" THAN BURNING COAL (on per kwh generated basis)

PLANT	FUEL	CO2 /MW (tpy)	NOx /MW (tpy)	PM /MW (tpy)
Boardman (PGE)[1]	Coal	9067	3.38	0.59
PVEC [2]	NG	3130	0.23	0.12
BIOMASS PLANTS IN MASSACHUSETTS				
Russell Biomass[3]	Wood	12, 644	3.9	1.69
Increase over Coal		(+39%)	(+31%)	(+186%)
Increase over NG		(+304%)	(+1596%)	(+1309%)
PRE Biomass[4]	Wood	11,312	3.49	1.15
Increase over Coal		(+25%)	(+15%)	(+95%)
Increase over NG		(+262%)	(+1417%)	(+858%)
Palmer[5] C&D		12,415	3.53	0.71
Increase over Coal		(+37%)	(+4%)	(+20%)
Increase over NG		(+297%)	(+1435%)	(+492%)

4-4

Comparison to coal (% above coal emissions)=[biomass level-coal level]/[coal level]

Comparison to natural gas (% above NG)= [biomass level-NG level]/[NG level]

N.B. All the numbers were taken from proposals or environmental statements from the power producers. All the numbers reflect use of pollution controls.

Summary documentation of non-ghg AND ghg related adverse effects of Biomass plants

Burning biomass for energy is "dirtier" than burning coal. Burning biomass emits large amounts of air

pollution, and endangers human health.

· Biomass burning is dirtier than burning coal. Per unit of power generated, burning wood emits 1.25-3.0 times as much carbon CO2 (the most important greenhouse gas) as coal.

· Biomass burning emits more PM [particulate matter] as coal, a pollutant associated with asthma, heart disease, and cancer.

· Wood or trash burning biomass incinerators typically increase ground level ozone. Burning biomass produces hundreds of tons of nitrogen oxides (NOx) and volatile organic compounds (VOCs), two ingredients of the ground-level ozone that causes asthma in children and exacerbates other pulmonary and cardiac disease problems.

· Biomass energy is woefully inefficient, averaging only 26% efficiency. Thus, 76% of the energy in the wood burned is wasted. However, 100% of the wood burned generates pollution.
Burning biomass to generate electricity is not carbon neutral. Under current or proposed laws biomass burning will dramatically increase greenhouse gases because the emissions are higher than coal per unit of power produced, and, because of the "biomass loophole", the CO2 emissions from these plants are reported by EPA on e-grid as zero.

4-4

· CO2 is CO2. Every molecule has the same negative effect regardless of the source, whether it is from a tailpipe or a smokestack

· So called "biogenic" carbon in the atmosphere causes just as much harm as every other type of CO2. The amount of carbon in the biosphere is fixed. It is the percentage in the atmosphere in the next 20-30 years that will determine what happens to the world climate. Human burning of biomass is not part of the "normal" carbon cycle.

· We can't grow the trees fast enough. The assumption used to be that the trees could grow back fast enough that burning would not cause a significant rise in atmospheric CO2 levels. That is not true. In April, 2009 the EPA reversed itself and invalidated that concept by stating that:

"...for a given amount of CO2 released today, ... 30 percent will be removed over a few centuries, and the remaining 20 percent will only slowly decay over time such that it will take many thousands of years to remove from the atmosphere." Federal Register, Vol 74, p 18899, 4/24/2009.

· "Maintaining the exemption for CO2 under the protocol [Kyoto] wrongly treats all biomass sources as carbon neutral, even if the source involves clearing forests for electricity. For example, the clearing of long-established forests to burn wood or to grow energy crops is counted as a 100% reduction in emissions despite causing large carbon emissions. Replacing fossil fuels with bioenergy does not by itself reduce carbon emissions." Searchinger, et.al., Science 326: 527, 2009.

Greenhouse gas emissions from biomass incinerators are significant and will undermine initial efforts to cut US greenhouse gas emissions.

· If the renewable energy targets for 2020 are met then the burning of wood and trash will cause the emissions of 700,000,000 tons of CO2 each year.

4-5

· This CO2 won't be "counted" because biomass is considered a "renewable energy source" by all the Congressional climate bills. This means the CO2 is ignored by the law and is not regulated.

· This "loophole" effectively reduces the CO2 emissions reductions in 2020 from 17% to less than 5%. This is a serious setback in efforts to control climate change before irreversible thresholds or biological tipping points are breached.

Biomass harvesting over-exploits forests and degrades their vital ability to remove carbon from the atmosphere

· A single 50-megawatt biomass plant burns about 650,000 tons of trees a year, over a ton of wood a minute.

· Biomass plants don't just burn forestry "waste" (tops and branches) – they burn whole trees which are then chipped.

· Mature trees sequester more carbon than newly planted trees, even though young trees appear to grow faster.

· Cutting and burning a tree is a "double whammy" for the environment. The tree is no longer taking CO2 out of the atmosphere and burning the wood produces an acute spike in CO2 levels.

4-5

Biomass energy wastes water and pollutes rivers

· A large-scale biomass plant requires close to a million gallons a day of water for cooling.

· Hundreds of thousands of gallons of this water are vaporized in the cooling process.

· Plant cooling needs and water takings are greatest in summer when high temperatures already reduce river flows and stress native fish.

· Impacts of water takings will worsen as climate warming and droughts further stress rivers.

· Logging impacts water quality. Equipment tears up soils, leading to erosion and siltation in streams.

· Heavily contaminated boiler "blow down" (rinse water) is pumped back into rivers at unnaturally high temperatures, making waters too warm and polluted for native coldwater fish.

BIOMASS COMBUSTION IS NOT CARBON NEUTRAL

To be considered carbon neutral in the context of being a solution for climate change, any type of electrical power generation cannot emit more than minimal amounts of carbon dioxide.

For years biomass combustion has been "assumed" to be carbon neutral by EPA and IPCC. In a FOIA request by EcoLaw for all documents, e-mail, papers, meeting transcripts and data to substantiate this assumption, in 1.5 GB of material EPA only provided documents which repeatedly used the words assumed or assumption without appropriate scientific documentation, e.g. "combustion of biomass emits greenhouse gases….[but] the CO2 emissions from these activities are not included in the national emissions totals. It is assumed that the C released during the consumption of biomass …causes no net addition of CO2 to the atmosphere."

4-6

Current science provides evidence that the assumption is not valid:
Searchinger, et. al. write the following:

> "However, exempting emissions from bio-energy use is improper for greenhouse gas regulations. Replacing fossil fuels with bio- energy does not by itself reduce carbon

emissions, because the CO 2 released by tail- pipes and smokestacks is roughly the same per unit of energy regardless of the source "

"Thus, maintaining the exemption for CO 2 emitted by bioenergy use under the protocol (IPCC) wrongly treats bioenergy from all biomass sources as carbon neutral. For example, the clearing of long-established forests to burn wood or to grow energy crops is counted as a 100% reduction in energy emissions despite causing large releases of carbon."

"However, harvesting existing forests for electricity adds net carbon to the air. That remains true even if limited harvest rates leave the carbon stocks of regrowing forests unchanged, because those stocks would otherwise increase and contribute to the terrestrial carbon sink."

Lussayert, et. al. note:

"The potential consequences were downplayed in the carbon-neutrality hypothesis."

Eric Johnson in his article on carbon neutrality notes that under the current accounting schemes:

"If carbon neutrality is presumed, it makes no difference to a carbon footprint if a forest is standing or if it has been chopped down for fuel wood."

Ingerson in an extensive study noted:

"Wood fuels are often considered "carbon-neutral," but when evaluating the potential for long-term carbon storage in harvested wood, burning must be treated like any other wood loss because it definitely accelerates the release of carbon." [P 14].

"Wood has a lower hydrogen content than fossil fuels, which causes it to release more carbon per unit of heat." [P 20]

"But timing still matters. If the source forest regenerated instantly, biomass would earn its "carbon-neutral" label, but the longer it takes to regenerate forest carbon after a biomass harvest, the longer that carbon dioxide remains in the atmosphere exerting its heating effect." [P21]

4-6

Oregon Wild noted:

"After logging an old-growth forest, the site remains a net source of carbon for more than 20 years, and depending on the conditions, the site does not rebuild pre-logging carbon stores for a century or more."

EPA Endangerment Ruling :

"Indeed, for a given amount of CO2 released today, about half will be taken up by the oceans and terrestrial vegetation over the next 30 years, a further 30 percent will be removed over a few centuries, and the remaining 20 percent will only slowly decay over time such that it will take many thousands of years to remove from the atmosphere."

The assumption of carbon neutrality is no longer valid. It cannot be used as a basis for policy decsions.

Indirect Emissions from Biofuels: How Important?

Jerry M. Melillo,1,* John M. Reilly,2 David W. Kicklighter,1 Angelo C. Gurgel,2,3 Timothy W. Cronin,1,2 Sergey Paltsev,2 Benjamin S. Felzer,1,4 Xiaodong Wang,2,5 Andrei P. Sokolov,2 C. Adam Schlosser2 ; Science 4 December 2009: Vol. 326. no. 5958, pp. 1397 - 1399 DOI: 10.1126/science.1180251

Abstract:

A global biofuels program will lead to intense pressures on land supply and can increase greenhouse gas emissions from land-use changes. Using linked economic and terrestrial biogeochemistry models, we examined direct and indirect effects of possible land-use changes from an expanded global cellulosic bioenergy program on greenhouse gas emissions over the 21st century. Our model predicts that indirect land use will be responsible for substantially more carbon loss (up to twice as much) than direct land use; however, because of predicted increases in fertilizer use, nitrous oxide emissions will be more important than carbon losses themselves in terms of warming potential. A global greenhouse gas emissions policy that protects forests and encourages best practices for nitrogen fertilizer use can dramatically reduce emissions associated with biofuels production.

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Land Clearing and the Biofuel Carbon Debt

4-6

Joseph Fargione,1 Jason Hill,2,3 David Tilman,2* Stephen Polasky,2,3 Peter Hawthorne2 , Science 29 February 2008: Vol. 319. no. 5867, pp. 1235 – 1238; DOI: 10.1126/science.1152747 Abstract:

Increasing energy use, climate change, and carbon dioxide (CO_2) emissions from fossil fuels make switching to low-carbon fuels a high priority. Biofuels are a potential low-carbon energy source, but whether biofuels offer carbon savings depends on how they are produced. Converting rainforests, peatlands, savannas, or grasslands to produce food crop–based biofuels in Brazil, Southeast Asia, and the United States creates a "biofuel carbon debt" by releasing 17 to 420 times more CO_2 than the annual greenhouse gas (GHG) reductions that these biofuels would provide by displacing fossil fuels. In contrast, biofuels made from waste biomass or from biomass grown on degraded and abandoned agricultural lands planted with perennials incur little or no carbon debt and can offer immediate and sustained GHG advantages.

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HEALTH AND ENVIRONMENTAL EFFECTS of INCINERATORS

Health Effects from Living Near an Incinerator: Review & Bibliography

A UK study found that there was an increased risk of lethal congenital anomaly such as spina bifida and heart defects for women living near incinerators(72a). Two other studies (72bc) showed a significant increase in the risk of sarcoma, correlated both with the level and the length of environmental modeled exposure to dioxin-like substances. The risk excess is also evident in females, and, for both sexes taken together, for cancers of the connective and other soft tissue. Another study found that exposure to high levels of dioxin was correlated to significantly lower boy to girl birth ratio (72d). An ATSDR investigation found an increased pattern of respira-

tory problems in community residents living near an incinerator(72e). In addition, residents complained about irritation of the airways and poor motor coordination. Another study's results indicated a significantly increased risk of mortality among women living in the vicinity of the incinerators compared with those living far away, for all causes, colon and breast cancer, diabetes, and cardiovascular diseases(72f).

(72) (a) Adverse pregnancy outcomes around incinerators and crematoriums in Cumbria, north west England, 1956–93 ; T J B Dummer, H O Dickinson, L Parker; J Epidemiol Community Health 2003;57:456-461; & (b) Sarcoma risk and dioxin emissions from incinerators and industrial plants: a population-based case-control study (Italy), P. Zambon et al, Environmental Health 2007, 6:19, http://www.ehjournal.net/content/6/1/19; & (c) Risk of soft tissue sarcomas and residence in the neighbourhood of an incinerator of industrial wastes, P. Comba et al, Occup Environ Med 2003;60:680-683; & (d) Birth Sex Ratio and Dioxin exposure, P. Mocarelli et al, The Lancet, May, 2000; (e) & Agency for Toxic Substances and Disease Registry, U.S. DOH, 1994, http://www.atsdr.cdc.gov/testimony/testimony-1994-07-08.html ; & (f) Incinerator and Spatial Exposure Distribution: An Example of Small Area Study in Italy, A Ranzi et al, Epidemiology: November 2006 - Volume 17 - Issue 6 - pp S114-

Biomass Incinerator Ash Impacts (& coal plant or waste incinerator ash toxic effects)

Biomass Ash has varying levels of toxic metals depending on the fuel source and area the fuel was grown. The primary concerns are the levels of cadmium, mercury, and lead. Cadmium levels are often problematic, and mercury can also be high, averaging 1.9 parts per million in fly ash in one study. Much of the mercury in wood waste is in emissions, but can also be high in ash, where mercury is concentrated by as much as a factor of 40 compared to the fuel stock level. Ash with significant levels of toxic metals must be treated as toxic waste.

Waste incinerator ash usually has much higher levels of toxics, depending on the waste stream content. (see later doc.)

4-6

From waste to raw material—the route from biomass to wood ash for cadmium and other heavy metals; M. Narodoslawsky and I. ObernbergerCorresponding Author Contact Information

Institute for Chemical Engineering, Graz University of Technology, Inffeldgasse 25, A-8010, Graz, Austria accepted 21 February 1996. Available online 20 March 1998.

Abstract

Energetic utilization of biomass is considered an environmentally safe way of providing energy, especially for process heat and district- heating purposes. The main advantage of energy from biomass is the CO2-neutrality of this energy-production process. However, this process produces a solid by-products, namely ash, that has to be considered. This ash contains nutrients like calcium, potassium and phosphorus that should be recycled to forest or agricultural soils, thus closing not only the carbon cycle but also the fluxes of mineral materials caused by these technologies. The problem is, however, that besides nutrients, the ash also contains heavy metals. Cadmium poses a special risk to the use of wood ash in agriculture. It pollutes a large fraction of the ash generated in a biomass combustion plant, namely the cyclone fly-ash and, to an even higher degree, the filter fly-ash or (where flue gas condensation is installed) the condensation sludge. A medium-term solution to the recycling of solid residues from biomass combustion is blending cyclone fly-ash and bottom ash and using the mixture in agriculture. Although a large part of nutrients might be recycled in this manner, care has to be taken of the relatively high amount of cadmium in this material. A new technology currently under development takes advantage of the different temperatures in a biomass combustion plant. This technology enables concentration of cadmium (and other volatile heavy metals) in a very small portion of the whole ash flux from a plant and the concentrations of environmentally relevant substances in the remainder of the ash is kept low. In this manner,

wood ash from the process industry or district heating systems might be transformed from waste to raw material for agricultural use. S115

ALKALI DEPOSITS FOUND IN BIOMASS POWER PLANTS

www.tmiles.com/alkali/alkali.htm#EXECUTIVE SUMMARY

Alkali in the ash of annual crop biomass fuels creates serious fouling and slagging in conventional boilers. Even with the use of sorbents and other additives, power plants can only fire limited amounts of these fuels in combination with wood. The National Renewable Energy Laboratory (NREL), U. S. Department of Energy, and the biomass power industry carried out eight full-scale firing tests and several laboratory experiments to study the nature and occurrence of deposits with the goal of increasing the quantities of these biofuels that can be used. This report describes the results of the laboratory and power plant tests that included: tracking and analyzing fuels and deposits by various methods; recording operating conditions; and extensive laboratory testing.

THE FOLLOWING LETTER BY Stewart Farber, MS Public Health is credible data, insight and information to be added to this official record. I request that this letter and any information attached to it be added to the public record.

I am an environmental radiation monitoring scientist [A.B. Brown University in Chemistry, Master of Science in Public Health from UMASS Amherst in Air Pollution Control]. Professionally, I have been involved in conducting and assessing environmental radiation monitoring studies for over 20 years.

In the early 1990s, I initiated a study by radiation scientists all over the US who documented the levels of natural and man-made radioactivity in wood ash gathered from domestic wood burning of both hardwoods and softwoods from the East Coast to Georgia, South Carolina, Idaho, and California. 4-6

The study was initiated by a Feature Article I authored to the Health Physics Society's Newsletter [Volume XVIII, No. 4] titled "Preliminary Study of Cs-137 [Cesium-137] Uptake by Trees and Its Implications for BRC, Waste Disposal, and Dosimetry]. The Health Physics Society is an International Society of over 5,000 radiation safety scientists involved in environmental, medical, and industrial radiation protection.

This initial study, noted above, documents the presence of radioactive Cs-137, a man-made radioactive isotope, in a small number of wood ash samples from around New England. My initial Article called for actual measurements of Cs-137 in wood ash to be measured since concentrations of man made Cs-137 were found to be quite variable. I measured one sample of wood ash from trees harvested near Warren, VT distant from any source of the release of radioactive Cs-137 from any industrial source of radioactivity. This first measurement in Warren, VT was 10 times higher than a wood ash sample from burning trees cut down in Southern Vermont near the Vermont Yankee Nuclear Power Station. This finding of higher Cs-137 in more Northern Vermont to levels 10 times lower in Southern Vermont shows how variable the concentration of radioactive Cs-137 can be in trees, and how the resulting content of Cs-137 in wood ash could vary accordingly.

In this initial Article, I called for scientists all over the US to make Cs-137 measurements in wood ash to document then current levels, and to send the data to me to compile. As background, Cs-137 was created and dispersed worldwide in the environment primarily from the open air testing of atomic bombs by the United States and the former Soviet Union from the 1940s into the 1960s. When radioactive Uranium-235 or Plutonium-238 is fissioned in the explosion of an atomic or hydrogen bomb, the major amount of radioactivity from long half life fission products deposited in the environment is from Cesium-137 and Strontium-90. Both isotopes have a half life of about 30 years. A half life of 30 years means that both Cs-137 and Sr-90 decline by a factor of

about 2 every 30 years.

Data in my initial study clearly indicate that radioactive Cs-137 is present in wood ash samples gathered from all over the US. The highest average concentrations [in declining averages based on the samples analyzed] were measured in Maine, New Hampshire, Rhode Island, Connecticut, Vermont, and Massachusetts. Six samples analyzed in California were 50 times lower documenting how the higher measurements of Cs-137 were primarily seen in the Eastern US.

The results of this research were presented on October 21st, 1992 at the 5th Annual National Biofuels Conference, which was organized by the United States Environmental Protection Agency and other Federal and State environmental agencies and organizations. I was an invited speaker at this Biofuels Conference, and participated in a panel discussing the significance of radioactivity in wood ash to the use of biofuels. Radioactive Cs-137 levels in a sample as measured in 1991 will have declined by about 34% to the present.

A wood burning power plant represents an industrial process which brings very large quantities of wood [which contains radioactive Cs-137, Strontium-90, and a long list of natural radioactive isotopes at varying concentrations depending on the wood supply] and concentrates it in one location. This concentrated presence of radioisotopes, as present in the biomass, is upon combustion released into the stack gas emissions from the facility, and into the ash generated and disposed of by the biomass power plant either as a waste product, or as a fertilizer as a soil amendment.

The radioactivity present in wood ash or in the stack gas releases from industrial wood burning power generation using biomass has to my knowledge not been measured and assessed. However, there is no disputing that both man made and natural radioactivity will be present in both the stack releases and in the ash. Both sources of release represent a pathway by which radioactivity can reach people and the environment in a more concentrated manner. 4-6

It is appropriate that any applicant proposing to build a 50 MW[e] wood burning power plant make a basic set of measurements to assess the radioactivity content of the wood which will be used to feed the boilers, of the Cs-137 which might be released in the stack gas emissions once the facility begins operation, and which will be present in the thousands of tons of bottom and fly ash which will be disposed of in various ways. Only in this manner, will it be possible to characterize in a basic way what radiation exposure may result from the operation of a biomass fueled power plant.

Respectfully yours,
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Cesium-137 in Wood Ash -Results of Nationwide Survey, Stewart Farber, Consulting Scientist; Presented at the 5th Annual National Biofuels Conference, Newton, MA; October 21, 1992 38 pages including Attachments

Mercury in Biomass Feedstock and Combustion Residuals; Water, Air, & Soil Pollution, Peter Thy1 Contact Information and Bryan M. Jenkins2

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Abstract An exploratory survey of the mercury content of some common California biomass feedstocks shows that the concentrations are well below EPA toxicity levels with representative feedstock concentrations of 20 ppb for rice straw, 28 ppb for wheat straw, and 32 ppb for whole-tree wood chips. The temporal variability for rice straw (17–20 ppb) is near the analytical uncertainty (□2 ppb). Saline-irrigated feedstock does not contain greatly higher mercury contents (17–38 ppb) compared to normally irrigated feedstock. Water leaching has likewise no detectable effects on mercury mobility, despite an up to 30% increase in the Hg concentrations attributable to mass losses during leaching. Combustion at temperatures of at least 575°C results in complete volatilization of mercury leaving solid ash and slag residuals

with mercury contents at or near the lower limit of detection (5 ppb).

The mercury strongly concentrated in fly ash can reach concentrations up

to 40 times (<1,166 ppb) the corresponding fuel concentrations.

Incinerators with names like "gasification," "pyrolysis," "plasma arc," and "waste-to-energy" all emit dioxins and other harmful pollutants, despite industry claims that they are "green" technologies.

Dozens of start-up companies are working to site a new generation of toxic "incinerators in disguise" in communities throughout the world. These are incinerators with names like gasification, pyrolysis, and plasma arc that are promoted by waste companies as "safe" and "green" for community health and the environment. Many of today's incinerator companies claim that they can safely, cost-effectively and sustainably turn any type of material such as household trash, tires, medical waste, biomass, refuse-derived-fuel and hazardous waste into electricity and fuels like ethanol and bio-diesel. Some companies go so far as to claim that their technology is "zero emissions" or "pollution-free" and not, in fact, incineration at all. However, all of these technologies emit dioxins and other harmful pollutants into the air, soil and water, and they are defined as incineration by the U.S. Environmental Protection Agency and the European Union. 4-6

Incinerator technologies such as plasma, pyrolysis and gasification do have some different processes when compared to conventional mass-burn incineration. While mass-burn incinerators combust the waste in a single chamber, these incinerators typically heat the waste materials at high temperatures in one chamber with less oxygen present, and then burn the waste gases in a separate chamber connected to a smoke stack. Regardless of the technology used, the core destructive impacts of all types of incinerators remain the same.

Incinerators negatively impact public health, local economies, the climate and the environment. The short track record of pyrolysis, plasma and gasification incinerator technologies has shown even higher costs, less dependability, and inconsistent energy generation. In addition, data show that dioxins, furans and other toxins are formed in these systems, and in some cases, toxins are formed in higher quantities than in conventional mass-burn incinerators.

Burning waste has many negative environmental, social and health consequences.

Waste incinerators do all of the following:

* Poison our environment, bodies, and food supply with toxic chemicals. Incinerators produce a variety of toxic discharges to the air, water and ground that are significant sources of a range of powerful pollutants, including dioxin and other chlorinated organic compounds that are well-known for their toxic impacts on human health and the environment. Many of these toxins enter the food supply and concentrate up through the food chain.

* Produce toxic byproducts. In addition to air and water emissions, incinerators create toxic ash or slag that must then be landfilled. This ash contains heavy metals, dioxins, and other pollutants, making it too toxic to reuse, although industry often tries to do so.

* Undermine waste prevention and recycling. The use of incinerators feeds a system in which a constant flow of resources needs to be pulled out of the Earth, processed in factories, shipped around the world, and burned in our communities. This one-way linear system of resource extraction, production, transportation, consumption and disposal is a system in crisis. We simply cannot sustain this pattern indefinitely on a finite planet.

*Contribute to global climate change. Incinerators emit significant quantities of direct greenhouse gases, including carbon dioxide and nitrous oxide, that contribute to global climate change. They are also large sources of indirect greenhouse gases, including carbon monoxide, nitrogen oxide, non-methane volatile organic compounds, and sulfur dioxide. In fact, incinerators emit more CO2 per megawatt-hour than any fossil fuel-based power source - including coal-fired power plants! But their greatest contribution to climate change is through undermining waste prevention and recycling programs, and encouraging increased resource extraction.

*Waste energy and destroy vast quantities of resources. People selling "waste-to-energy" incinerators claim that generating energy by burning trash is a win-win solution to our waste and energy crises. The truth, however, is that incinerators actually waste energy. When burning materials that could be reused, recycled, or composted, incinerators destroy the energy-saving potential of putting those materials to better use. Recycling, for instance, saves 3 to 5 times the energy that waste incinerator power plants generate. Incinerators are also net energy losers when the embodied energy of the burned materials is taken into account. For these reasons, "waste-to-energy" plants would be more aptly named "waste-of-energy" plants.

*Drain money from local economies to pay for expensive, imported technology, and provide far fewer jobs than zero waste programs. Incinerators are bad for local economies. As the most expensive waste handling option, they compete with recycling and composting for financing and materials, and they only sustain 1 job for every 10 at a recycling facility.

*Hide the evidence of dirty and unsustainable industries. Incinerators allow dirty industries to get rid of their toxic waste and hide the impacts of their practices. These industries depend on incineration to fuel our continued use of this system of unsustainable production and consumption.

*Violate the principles of environmental justice. Incinerators are disproportionately sited in poor or rural communities and areas of least political power. There are currently hundreds of proposals to build incinerators in Africa, Asia, Latin America and elsewhere.

Better alternatives to incinerating materials exist, and many communities where people are organized into strong grassroots movements have been able to defeat incinerators. Most things can and should be safely and economically recycled or reused, and we also need to simply use less and redesign our products so that they are toxic-free and built to last. This is the heart of a zero waste strategy that eliminates the negative environmental, social and health impacts of incinerator use.

Facts on myths about cleanness and greenness of Biomass:

4-6

1) Biomass burning for electrical generation is about 30% dirtier than coal combustion per unit of energy produced. Bad for climate change and definitely not green?.

2) The particulate matter released in biomass combustion is very damaging to human biology. PM-2.5 particles (2.5 microns) and nano particles (less than a micron) will be emitted by thousands of tons into the air. Asthmatics, people with emphysema and cardio-pulmonary diseases will be severely impacted. New medical information suggests that such material can even cause premature births. These diseases are expensive to treat and would exacerbate our already burgeoning health care costs. Preventing dirtier air is the better choice.

3) Previous assumptions about burning trees were that the younger fast growing trees sequestered more carbon than the older ones (200+ years). Recent studies in Canada and Alaska indicate that the opposite is true. Older trees store more carbon than younger ones and it takes a minimum of 20 years of new growth till the younger trees begin to sequester carbon and at least 100 years before the forest sequesters what is lost through clearcutting and the soil disturbance associated with it. Much of the carbon held in a forest is held in the humus in forest soils. This would be cutting off our noses to spite our forest face.

4-6

4) The economics of biomass burning are totally distorted and out of phase with normal "free-market" economics. Recent federal grants and subsidies in the so-called ?Stimulus Package? are the cause of the proliferation of these plants. There are many people looking to make lots of money quickly. Plants that are begun in 2010 and are completed by 2013 will recover about 30% of their capital costs, courtesy of the American taxpayer. Here we go again-enriching a few at the great expense of the many!

5) Companies can also claim ZERO carbon emissions because there is a loophole in the "renewable energy rules" at the EPA that exempt counting the emission of CO2 in biomass burners. This is a deadly and dangerous rule based on false assumptions. Dr. Sammons and anyone who took a high school chemistry class knows that two things are always emitted from the combustion of organic matter-CARBON DIOXIDE and WATER. Claims to the contrary are *false and foolishly dangerous *during our discussion of global climate change and possible human influences. Liberty Green has made such claims in Indiana. Biomass burners must be treated on an equal footing with other forms of combustion to electricity plants. No exemptions based on false assumptions!

COMMENTS MADE SEPTEMBER 19th 2010, by Mauro Oliveira, BOX 225 Montgomery Creek, in Shasta County, California

Response to Letter 4: Mauro Oliveira, Battle Creek Alliance

Response 4-1: The commenter states that logging and clear cutting activities may have adverse impacts related to greenhouse gases. The commenter further states that the Center for Biological Diversity and other individuals are currently in litigation with CAL FIRE and SPI over clear cutting greenhouse gas issues.

This comment has been noted. As described throughout this EIR, no new logging activities are proposed as part of this project.

Response 4-2: The commenter provides background information related to greenhouse gases, including existing regulations and agency publication citations. The commenter does not address the EIR analysis or adequacy of the EIR in this comment, therefore, no response is required. The information in this comment has been included in the project's administrative record and forwarded to County decision-makers for their consideration.

Response 4-3: The commenter provides information regarding CEQA analyses for unspecified Timber Harvest Plans prepared by CAL FIRE and SPI. The commenter appears to be referring to separate projects, which are outside of the scope of this EIR. This comment does not address this EIR or provide any comments regarding the adequacy of this EIR, therefore, no response is required. The information in this comment has been included in the project's administrative record and forwarded to County decision-makers for their consideration.

Response 4-4: The commenter provides information that asserts that burning biomass is "dirtier" than burning coal for the production of electricity. The commenter provides additional information regarding potential greenhouse gas and air quality impacts associated with burning biomass to generate electricity. This comment does not address this EIR or provide any comments regarding the adequacy of this EIR, therefore, no response is required. The information in this comment has been included in the project's administrative record and forwarded to County decision-makers for their consideration. Section 3.2 of the Draft EIR and Section 2.0 of the 2nd Recirculated Draft EIR provide a detailed quantitative analysis of potential air quality and greenhouse gas impacts associated with the proposed project, respectively, and include mitigation measures to reduce potentially significant air quality impacts to the greatest extent feasible.

Response 4-5: The commenter provides information that asserts that biomass incinerators will undermine efforts to cut greenhouse gas emissions, and generally states that biomass energy production may result in water quality impacts and deplete water supplies. This comment does not address this EIR or provide any comments regarding the adequacy of this EIR, therefore, no response is required. The information in this comment has been included in the project's administrative record and forwarded to County decision-makers for their consideration. Project

impacts to greenhouse gases are addressed in Section 2.0 of the 2nd Recirculated Draft EIR, and project impacts related to water use and water quality are addressed in Section 3.7 of the Draft EIR.

Response 4-6: The commenter provides statements and citations from previously published reports and studies related to environmental, health, and economic impacts associated with biomass energy production. This comment does not address this EIR or provide any comments regarding the adequacy of this EIR. Therefore, no response is required. The information in this comment has been included in the project's administrative record and forwarded to County decision-makers for their consideration.

Pacific Gas and Electric Company®

Lonn Maier
Supervisor
Environmental
Planning &
Permitting

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September 21, 2010

Mr. Lio Salazar, Associate Planner
Shasta County Department of Resource Management, Planning Division
1855 Placer Street, Suite 103
Redding, CA 96001

Re: Draft Environmental Impact Report for the Sierra Pacific Industries Power Plant
State Clearing House #2009072011

Mr. Salazar,

We are in receipt of the Notice of Availability for Sierra Pacific Industries Power Plant, dated August 6, 2010. The project will be built near the town of Anderson, California and consists of a replacement cogeneration powerplant that may provide up to 24 megawatts of power for distribution to the California electrical grid.

In reviewing the draft EIR, it is not known if a new or reconstructed transmission line will be required to convey the surplus power from the plant to a substation or other grid interconnection. If a new or reconstructed/upgraded transmission line is required, it will need to included and assessed in either the final EIR or in a supplemental EIR for PG&E to facilitate construction of such facilities. If as separate permitting effort is made by PG&E, the approval of our facilities may not meet the schedule requirements of the powerplant.

5-1

If you need further information, please contact me at (916) 923-7020.

Sincerely,

Lonn Maier

Lonn Maier, Supervisor
Environmental Planning and Permitting

1

Response to Letter 5: Lonn Maier, Pacific Gas and Electric Company

Response 5-1: The commenter states that it is not known if a new or reconstructed transmission line will be required to convey surplus power from the proposed project to the PG&E power grid.

The proposed project does not include the construction of a new transmission line to convey surplus power from the site to the PG&E power grid. If it is determined by PG&E and SPI that a new or reconstructed transmission line is required, additional CEQA analysis would be required. Approval of the proposed project and certification of the EIR would not include approval for a new or reconstructed power line. At the time of preparation of this Final EIR, it is assumed that a new or reconstructed power transmission line would not be required.

Sept. 18, 2010

Shasta County Planning Commission
Lio Salazar
1855 Placer St, Ste 103
Redding, CA 96001

Regarding the Proposed SPI biomass plant in Anderson, CA

My concerns regarding the proposed biomass plant in Anderson are based primarily on the questions where will all the material for burning come from & will the real costs be included. 6-1

David Suzuki is a biologist and an environmentalist and the recipient of 22 honorary degrees. In one of his TV series he explains that we are biological beings, dependent on the Earth for our survival, inseparable from the forests and the rest of the natural world. Wherever we are, air and water move through us. What we do to them, anywhere on the planet, we eventually end up doing to ourselves. We have both a sense of the importance of wilderness and an attitude that it is limitless and therefore we needn't worry. But we do need to worry because the Earth's resources are not limitless. 6-2

In a letter dated 2009 Charles D. Connor, President & CEO of the American Lung Association, warns of the harm pollutants do to the healthy lungs. Forests cleanse air and water. How will the cost of forest loss at the site and then the burning of the trees be factored in? Will SPI get renewable energy credit for cutting trees for the burn pile? Board of Forestry member Gary Nakamura has stated that there are no specific hardwood retention goals for the Northern District (Fresno north, basically). Does that mean that oak trees that take hundreds of years to grow large will just end up as biomass fuel? Since oaks are the direct and indirect food source for most wildlife, what impacts will the loss of so many trees have on wildlife and biodiversity? Research into public agency records shows that few Timber Harvest Plans are monitored, except by the timber company itself. Since we are so dependent upon forests can we afford to use them for fuel? 6-3

Virginia Phelps

Virginia Phelps
21778 Belmont Dr.
Palo Cedro, CA 96073

Response to Letter 6: Virginia Phelps

Response 6-1: The commenter states that her concerns regarding the project are based primarily on where the biomass material will come from and if the "real" costs will be included. This comment has been noted, and further responses are provided below.

Response 6-2: The commenter references a TV episode including statements from a biologist. This comment does not address this EIR or provide any comments regarding the adequacy of this EIR, therefore, no response is required. The information in this comment has been included in the project's administrative record and forwarded to County decision-makers for their consideration.

Response 6-3: The commenter provides questions regarding tree loss associated with Timber Harvest Plans and asks if SPI will get renewable energy credit for cutting trees for the burn pile.

As stated previously in this Final EIR, the proposed project would not result in the expansion of any approved timber harvesting operations, nor would it result in new timber harvesting operations. All sources of mill waste and in-woods biomass fuel for the proposed project would come from forest management activities conducted in compliance with applicable federal, state, and local regulations, as described in greater detail in Section 2.0 of the Recirculated Draft EIR. SPI is proposing to sell excess electricity from the proposed project to the local power grid, which is maintained by PG&E. Once electricity from the project is transferred to the power grid, it will be available for sale through the California Independent System operator (Cal ISO). The State of California considers biomass electricity to be a renewable source of electricity; therefore, it is assumed that electricity generated by the project will be purchased by California public and municipal utilities to help demonstrate their compliance with California's renewable energy portfolio requirements. SPI would not receive "renewable energy credit" for operating the proposed biomass facility under California's existing greenhouse gas regulatory scheme.

To: Shasta County Department of Resources Management
1855 Placer Street
Suite 103 Attn. Lio Salazar
Redding CA 96001

Sept 20, 2010

RECEIVED
SEP 20 2010
COUNTY OF SHASTA
PERMIT COUNTER

From John W. Snider RN
20352 Gas Point Road
Cottonwood, CA 96022
347-4042

Re: Sierra Pacific Biomass Expansion Draft EIR

I am a lifelong resident of Anderson/Cottonwood and have watched with concern as the biomass industry in this area has turned into toxic waste disposal.

I would like to see only chemical free wood burned at all biomass plants. This was the plan when Wheelabrator began operation, followed a few years later by burning chipped railroad ties under the assertion that Wheelabrator had "the right to change with changing times."

Before Wheelabrator introduced railroad tie burning the emissions from their stacks appeared to be steam. After railroad ties were introduced smoke was seen. Now, smoke is nearly always seen and during winter months with little wind the dirty morning sky originating at Wheelabrator exposes the amount of pollution it emits. Some winter days the black snake in the sky from Wheelabrator to Corning can be seen at sunrise. On days the wind drifts to Redding there is a black cloud. See attached photo.

I mention Wheelabrator because (Bill Carlson who used to manage Wheelabrator says) Sierra Pacific will compete with Wheelabrator for wood to burn, this would include railroad ties. We can expect that during times when there is not enough chemical free wood to burn that Sierra Pacific along with Wheelabrator will increase the types and amounts of chemical containing wood products to maintain electricity output. 7-1

At the very least during times of local stagnant air flow and inversion layers keeping emission lowest to the ground they should only burn chemical free wood. This valley has no air circulation in winter months for days to weeks at a time, and these are the times residents can take on the worst poisoning these plants can offer by burning chemicals.

I do not believe that the chemicals in railroad ties disappear during incineration/burning. There should have never been and there should no longer be chemical containing wood burned in biomass plants. Certainly they can not be called green, they are chemical waste disposal plants to the extent of the percentage of chemical containing fuel they burn.

I beg you to require biomass to limit their health impact on the public. Our lungs can not afford for biomass to burn railroad ties and biomass should take a responsible path to agree to run at less than full capacity or even close if they don't have enough clean, green fuel.

Sincerely yours,

John W. Snider

Response to Letter 7: John W. Snider, RN

Response 7-1: The commenter states that he is a lifelong resident of Anderson/Cottonwood, and states that the project should not be allowed to burn treated wood waste, including railroad ties.

As described in the Draft EIR Project Description on page 2.0-4, the proposed project would not burn any chemically treated wood, including railroad ties. This requirement will also be included in the project's Conditional Use Permit.

Sierra Pacific Industries

P.O. Box 496028 • Redding, California 96049-6028 • (530) 378-8000

September 19, 2010

RECEIVED
SEP 20 2010
COUNTY OF SHASTA
PERMIT COUNTER

Lio Salazar
Shasta County Department of Resource Management
Planning Division
1855 Placer Street – Suite 103
Redding, CA 96001

via Email and Courier

Re: Use Permit 07-021 Draft Environmental Impact Report comments
SPI – Anderson

Mr. Salazar:

This letter is intended to address concerns with the Draft Environmental Impact Report (DEIR) circulated for public review August 6, 2010.

Impact 3.1-2 *"Project Implementation may result in substantial adverse effects on scenic vistas and resources or substantial degradation of visual character."*

The proposed mitigation requires all non-reflective and painted or finished surfaces to be neutral earth-tones to reduce their visual contrast with the surrounding landscape. As the project description indicates, the existing landscape (not solely vegetation) is an industrial facility comprising of a series of buildings, structures, portable equipment and an adjacent river corridor. We would respectfully request that the mitigation be re-worded to allow for the non-reflective painted and finished surfaces to be consistent with the surrounding landscape. This re-wording appears to align with the intent of General Plan objective SH-2 that the development will 'relate to the dominant character of the corridor…', which includes the existing dominant industrial facility. 8-1

Impact 3.2-3 *"Project implementation may conflict with, or obstruct, the applicable air quality plan, cause a violation of air quality standards, contribute substantially to an existing air quality violation, or result in a cumulatively considerable net increase of a criteria pollutant in a non-attainment area."* 8-2

The Authority to Construct application provided by the applicant and made a part of the DEIR indicates in section 3.2.5 the following:

Sections 40918, 40919, 40920, and 40920.5 of the California Health & Saftey (H&S) Code require areas that are designated as being in nonattainment with respect to one or more criteria pollutant State or Federal standards to achieve "no net increase" in emissions (i.e., offsets) of those pollutants and their precursors. Although Shasta County has been designated a nonattainment area with respect to the State ozone and PM10 ambient air quality standards, it has further been classified as having "moderate air pollution." Areas that are not classified has having "extreme air pollution" are allowed, by H&S Section 40918.5, to not include a no-netincrease permitting program in their attainment plan, which the AQMD did in 1997 by repealing Parts 302 and 303 of AQMD Rule 2:1. Thus, no offsets are required by the AQMD new source review air permitting program.

8-2

There is no current AQMD Rule 2:1 Part 302 or 303 that would otherwise provide a specific requirement for offsets. While there is an ERC program, this is not to be construed as requiring offsets for new projects that meet the new performance standards. The mitigation measure requiring offsets is without regulatory basis.

With "no offsets", the development would not "*conflict with, or obstruct, the applicable air quality plan, cause a violation of air quality standards, contribute substantially to an existing air quality violation*"... however, the development would "*..result in a cumulatively considerable net increase of a criteria pollutant in a non-attainment area.*" This in itself, as indicated in the DEIR would be **significant and unavoidable** and remain unchanged as the resulting level of significance.

Impact 3.7-1 "*Violate any water quality standards or waste discharge requirements.*"

Mitigation measure 3.7-1 indicates "The Project applicant shall prepare a State approved Stormwater Pollution Prevention Plan (SWPPP)...". The State does not approve SWPPP plans, rather they are part of the EPA NPDES Program, implemented by the State that requires a 'certified' SWPPP. We respectfully request that the mitigation be re-worded to indicate "The Project applicant shall prepare a **certified** Stormwater Pollution Prevention Plan..."

8-3

SPI Anderson – DEIR Comments Page 2 of 3

Impact 3.10-2 *"Project implementation would result in unacceptable levels of service at study area intersections under Cumulative Plus Project Conditions."*

It is noted and concerning that cumulative "Project Only Volume" of trips at the I-5 SB (12 trips of 2,539 total trips) and I-5 NB (6 trips of 2,396 total trips) ramps are considered 'significant' and "cumulatively considerable". These 18 total trips compared to the 4,935 total ramp trips reflect less than a half percent (0.5%) and should not be considered to be 'cumulatively considerable'. 8-4

In the event this impact remains as cumulatively considerable in the EIR, we respectfully request that all impact-fees be paid at the time of actual project funding and approval to coincide with actual development of improvements.

Sincerely,

David C. Brown, P.E.
Environmental Affairs & Compliance Manager
Sierra Pacific Industries

Cc: Cedric Twight, SPI Land Development
Shane Young, SPI Anderson Division Manager
Eric Albright, ENVIRON

Response to Letter 8: David C. Brown, P.E., Sierra Pacific Industries

Response 8-1: The commenter (project applicant) states that the area surrounding the proposed facility is industrial in nature, and requests that Mitigation Measure 3.1-1 be revised to require the proposed project to match the surrounding industrial facilities.

The commenter is correct that the proposed facility would be constructed within an existing industrial area that is void of natural vegetation and natural habitat. However, the proposed structures are significantly taller than the existing industrial structures on the SPI Anderson property, and as such, would be visible from a wider area than the existing structures, including from the vantage point of residential and recreational uses in the vicinity of the project site. The tallest existing structure on the site is the existing structure at the site is the 75-foot tall electrostatic precipitator (ESP), while the proposed boiler would be 115 feet tall. Since the existing industrial facilities on the site constitute the environmental baseline condition, and the addition of similarly sized structures within this industrial property would not adversely impact the existing visual character of the site, it is reasonable to allow newly proposed structures shorter than 75 feet in height to match the existing industrial surroundings. However, newly proposed structures in excess of 75 feet in height would be more visually intrusive to the surrounding areas than the existing project facilities.

The following text changes (in underline format) have been made to Mitigation Measure 3.1-1:

Any structures built as part of the SPI Cogeneration Facility that exceed the height of the tallest existing structure at the site (75 feet) shall include surfaces that are non-reflective and painted or finished in neutral earth-tones to reduce their visual contrast with the surrounding landscape, excepting any components, fittings and/or equipment the function or safe operation of which would be compromised by the application of a coating or other method of reducing glare and/or visual contrast. The final exterior design and colors used on the proposed structures shall be reviewed and approved by the Shasta County Department of Resource Management prior to issuance of building permits.

This minor change to MM 3.1-1 would not increase the severity of the impact resulting from project implementation, which would remain significant and unavoidable.

Response 8-2: The commenter (project applicant) requests that Mitigation Measure 3.2-3, which requires the use of emissions reduction credits to offset project air quality impacts associated with NOx, CO, PM_{10}, and ROG/NOx, be removed from the Draft EIR.

The Draft EIR concluded that impacts associated with the above-referenced pollutants would be reduced to a less than significant level if the emissions were offset by withdrawing emission reductions credits currently banked by SPI through the Shasta County Air Quality Management District. If this mitigation measure were eliminated, the impacts associated with these emissions would become significant.

Shasta County has determined that the use of banked emissions reduction credits is the appropriate mitigation measure to offset this potentially significant impact. Mitigation Measure 3.2-3 will remain unchanged, and the project applicant will be required to comply with this measure as a condition of approval for the project.

Response 8-3: The commenter (project applicant) requests a minor modification to the language included in Mitigation Measure 3.7-1 to clarify that the Stormwater Pollution Prevention Plan (SWPPP) is part of the EPA NPDES program, and doesn't directly receive State approval. The following changes have been made to Mitigation Measure 3.7-1:

The project applicant shall prepare and submit a ~~State approved~~ certified Stormwater Pollution Prevention Plan (SWPPP) to the Central Valley Regional Water Quality Control Board that includes specific types and sources of stormwater pollutants, determines the location and nature of potential impacts, and specifies appropriate control measures to eliminate any potentially significant impacts on receiving water quality from stormwater runoff in compliance with the State Water Resources Control Board's General Construction NPDES Permit, Water Quality Order No. 2009-0009-DWQ (during construction), and the State Board's General Industrial NPDES Permit, Water Quality Order No. 97-03-DWQ, or State Board's Individual NPDES Permit program (during operation). The SWPPP shall ~~require~~ identify treatment Best Management Practices (BMPs) that incorporate, at a minimum, the required hydraulic sizing design criteria for volume and flow to treat projected stormwater runoff. The SWPPP shall comply with the most current standards established by the Central Valley RWQCB. BMPs shall be selected from a menu according to site requirements ~~and shall be subject to approval by the Central Valley RWQCB~~.

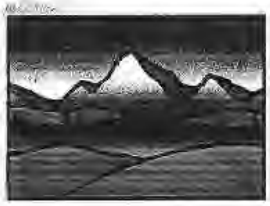
The remainder of this Mitigation Measure is unchanged.

Response 8-4: The commenter states that the 12 vehicle trips that will be added to I-5 southbound ramp at Riverside Avenue and the 6 vehicle trips to be added to the I-5 northbound ramp at Riverside Avenue will contribute less than one-half percent (0.5%) of the total ramp trips and therefore, should not be considered significant and cumulatively considerable. The threshold used to determine whether a delay would be significant is 5 seconds. Because both the ramps at Riverside Avenue would meet the peak hour signal warrant volume under both AM and PM peak hour conditions, and because the addition of project generated traffic would

increase the delay at the intersections by more than 5 seconds under AM and PM peak hour periods, the impact is considered cumulatively considerable.

As such, the commenter requests that all traffic impact fees be required to be paid at the time of actual project funding and approval to coincide with actual development of the roadway improvements.

The applicant is also directed to responses A-2 through A-5.



Battle Creek Alliance
P.O. Box 225, Montgomery Creek, CA 96065
(530) 474-5803
trees@thebattlecreekalliance.org

SEP 20 2010

Lio Salazar, Shasta County Department of Resource Management
1855 Placer St., Ste. 103
Redding, CA 96001

Sept. 19, 2010

Comment on Use Permit 07-021 Sierra Pacific Industries Cogeneration Power Project

I, Marily Woodhouse, would like to submit the following comments on behalf of myself as an individual, as well as for the Battle Creek Alliance (BCA). I have been a resident of Shasta County since 1989. The BCA is dedicated to preserving and protecting the public trust resources of water, soil, air, climate and wildlife. 9-1

Cumulative Impacts to surrounding forests not addressed in the DEIR

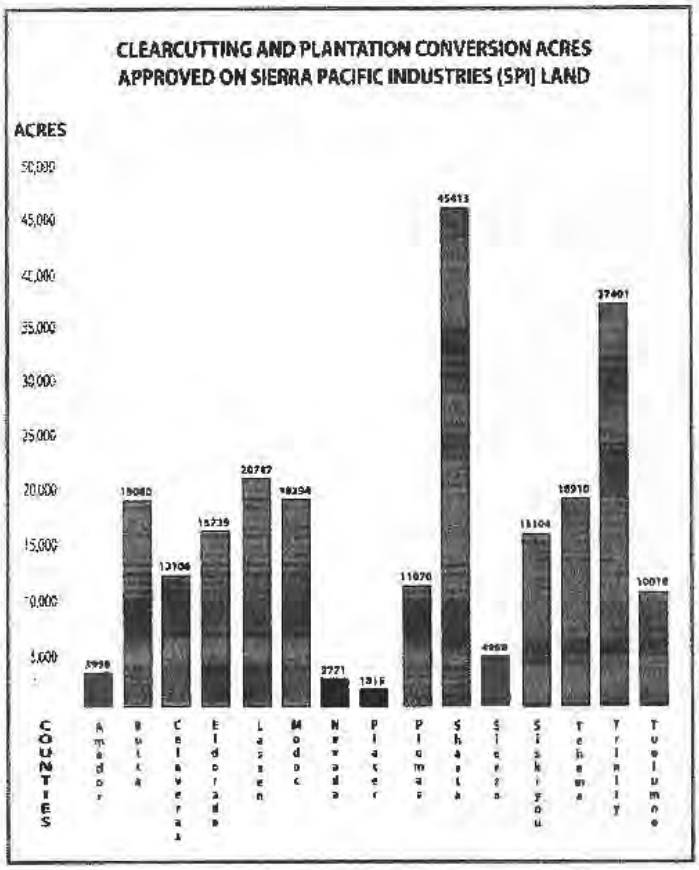
Attached Exhibits A and B are aerial images of the eastern part of Shasta County. As noted on Exhibit B, all of the regularly spaced brown holes are clearcuts that are approximately 20 acres in size. The majority of these have been cut by SPI in the 12 years since 1998. SPI's self-expressed intent in its timber harvest plans is to return within 10 years and cut the areas between the clearcuts (called the "adjacencies"). In fact, SPI has 2 proposed plans to do just that in the Battle Creek watershed. 9-2

The DEIR claims that this plant won't increase logging, yet there are no facts or data to back this up. An unsupported conclusion does not conform to CEQA's requirements regarding cumulative impacts. Section 15355 of the CEQA Guidelines defines "cumulative impacts" as:
"Two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts."
"Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time." [CEQA Guidelines, § 15355, subd. (b).] 9-3

The purpose of the DEIR's cumulative impacts analysis is to prevent a public agency from committing resources to an irreversible course of action without understanding the long-term consequences of its decision.

Between 1998 and 2006, SPI was given approval by the lead agency that oversees timber harvest plans, CAL FIRE, to cut over 45,000 acres of its land in Shasta County alone. 9-4

1



We do not have the figures for approvals from 2006 to 2010, but currently there are 48 plans in the pre-approval stage on CAL FIRE's site for Shasta and the surrounding counties of Tehama, Siskiyou, Trinity and Lassen. 29 of these plans, or 60%, are SPI's. The 29 plans cover 17,025 acres.
(http://www.fire.ca.gov/ResourceManagement/THPStatusUpload/THPStatusTable.html)

The 45,413 plus the proposed 17,025 acres equals 62,438 acres, aside from the unknown number of acres from 2006-2010. Increasing the demand for biomass fuels, especially when the timber market is in a depressed state, will surely give a financial incentive to SPI to clearcut more land. The EIR must address the additional cumulative impacts that are related to clearcutting/logging in detail. Without these details, the description of this project is deficient in the amount of information needed to evaluate the real impacts that it will cause.

2

9-4

According to www.massenvironmentalenergy.org :

"Logging will have to increase significantly to provide wood for biomass plants

- The "waste" wood generated by current logging operations will not provide enough wood for proposed plants, meaning logging levels will have to increase significantly to meet fuel needs. According to a state study, a 50-MW plant will require 650,000 tons of wood per year, far in excess of waste wood generated at current logging levels. A realistic cutting level for non-merchantable wood that can be used as biomass fuel is 10 - 20 tons per acre. At this level, it would require 32,500 - 65,000 acres to be cut each year to provide wood for just one 50-MW plant. Large scale cutting and burning will produce only a small increase in energy supply.

- Energy generation using biomass is on average 24% efficient – 76% of the energy in the fuel is blown off as waste heat. 9-5

Biomass is not carbon neutral and will dramatically increase production of greenhouse gases

- The "carbon neutrality" concept states that burning biomass results in net emissions of carbon dioxide close to zero, because biomass grows back and "locks up" into organic carbon the carbon dioxide released by burning.
- However, since the average age of trees in forests of Western Massachusetts is 75 – 100 years, it will take a similar amount of time to regrow trees that are burned for biomass and resequester their carbon. Scientists agree that society must reduce our carbon emissions immediately – we don't have 75 years. The best available science shows that forests lock up atmospheric carbon dioxide best when they are undisturbed by forestry operations."

What are the figures for the number of acres being cut per year vs. how many acres will need to be cut to supply SPI's proposed plant? 9-6

How much of the energy the proposed plant is estimated to produce will be blown off as waste heat? 9-7

Where is the analysis that considers what impacts these greenhouse gas producing activities, such as clearcutting, will have in the immediate future? 9-8

What are the figures for how many tons per acre will be needed to produce 1 MW of electricity? 9-9

By Mary S. Booth, Ph.D. with Richard Wiles: "Almost no one would support massive clear-cutting of America's forests as a way to slow global warming and promote renewable energy. Yet that is precisely what is destined to happen under the incentives created by current and proposed policies, at both the state and federal level. 9-10

The reason for this outcome, which would sharply increase greenhouse gas emissions while wiping out vast numbers of trees that today help draw carbon dioxide out of the atmosphere, is a fundamental flaw in current carbon accounting practices. This Enron-style accounting makes **a glaringly false assumption, that burning trees and other biomass fuels produces zero net carbon emissions."**

9-10

The following letter from Dr. Mark Harmon at Oregon State University addresses carbon accounting issues that are pertinent to SPI's clearcutting operations, and by extension, to their proposed plant. The EIR must include the best available science regarding carbon emissions and not perpetrate the myth that biomass fuels are "carbon neutral". The DEIR correctly concludes that the climate impacts of burning biomass for energy are cumulatively considerable and significant. But the DEIR incorrectly concludes that the impacts are unavoidable. The EIR must consider how to mitigate the impacts and correctly calculate the carbon emissions caused by the logging, transportation and burning that this project will entail.

To Whom It May Concern:

I have taken the time to look closely over the forest carbon calculator being developed by Cal Fire. I have over 20 years of professional experience on this topic; have developed numerous models to track carbon within the forest and wood products, have taught courses on the subject, and published numerous papers internationally on the topic of forest management and carbon.

9-11

I have major concerns about this carbon calculator. First, I believe I have found some specific errors in the programming. But secondly, and most importantly I believe that the entire basis of this calculator is flawed. It is flawed because it fails to address the fundamental dynamic of any forest carbon system. It does this by ignoring the dynamics of the dead and soil carbon. In doing so it creates artificial carbon sinks. Ignoring what is happening in the dead and soil carbon is simply not following the best science available of 20 years ago let alone today. I also found the losses assumed for site preparation completely unrealistic and far too low. The calculator ignores the initial starting point of wood products stores. On some lands perhaps there were no previous harvests. But on land on which there were harvests, then it is scientifically invalid to not account for these existing wood products stores.

I also have to say, many of the assumptions used in this carbon calculator are either unexplained or untenable. I doubt it would stand up to any serious scientific peer review.

Sincerely yours,

Mark E. Harmon, PhD

Professor and Richardson Chair Forest Science

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Department of Forest Ecosystems and Society

Oregon State University

Specific Comments

The Calculator

I very much doubt the validity of having a constant board-foot to cubic foot conversion. For one thing, this conversion is very dependent on tree size, with trees less than merchantable volume having no board-feet, but an actual carbon store. Hence carbon will suddenly appear and then be counted as uptake, when it was there all along.

I have tried to follow the calculations in the spreadsheet. Some of them appear to make little sense. Setting aside the problems with starting with board-foot or basal area at all, I don't see how the calculation of conifer CO2 delivered via harvest makes any sense. Here is the exact calculation:

=(((Inventory_Growth_Harvest!K6*(Inventory_Growth_Harvest!C15))*3.67*B7))

9-11

The board-foot volume is multiplied by the fraction of board-foot volume that is merchantable, converted from carbon to CO2 and the proportion in conifer versus hardwood is estimated. But I don't see a point at which the board-foot volume is actually converted to carbon!!! So this calculation does not make sense. This is probably why the figures on the annual tracking do not match those on the milling and wood products sheet.

The estimate of losses due to site preparation is far too low to be credible. While it is assumed incorrectly that hardwood slash decomposes immediately, there is no accounting for this loss at all! The lack of losses from woody slash in general makes absolutely no sense. Surely there would be more lost than 2 tonnes of CO2 per acre! Would this not depend on the amount of carbon harvested? Why would this be a constant? That makes no sense at all. Stumps are likely 1-2% of the total live store, but does than include the roots? Coarse roots are 15-25% of the live carbon store. So that would mean that if roots were removed or even part of the roots the losses would be more like 8-26% of the live material was left. What about losses from branches? None of this makes any sense and clearly biases the calculator to overestimate the net uptake of carbon.

The estimate of stores in wood products also makes little sense. An average from a 100-year window is used, but that would not make any sense for the harvests that took place at different times. If the amount harvested each time is constant, then it might crudely approximate the store assuming that the interval of harvests is constant. But if the

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amount or interval varies, the estimates would be highly flawed and misleading. It essentially leads to a system in which wood products have to accumulate. And the fact that there is an assumption of no previous harvests and hence no existing wood products store to be replaced further inflates the increases in wood products. This approach is unacceptably crude and invalid scientifically.

The sum of net emissions/sequestration is completely flawed because it fails to address the potential losses from dead wood and soil. Basically this system counts everything that increases and either underestimates losses or ignores carbon pools that have the potential to decrease. It this therefore completely biased and from a scientific perspective is completely invalid.

User Guide

As an explanation of the actual calculations use the user's guide was completely lacking. As a recognized expert in this area I have absolutely no idea what was actually done based on this documentation. The conversion of board feet to carbon is flawed, but it at least depends on understandable conversion factors. The conversion of basal area to carbon is largely impossible to determine without significant adjustments that are simply not specified in any manner. In contrast to the forest itself, there seems to be an excess of detail on harvesting related carbon costs. This indicates the people involved with the forest part of the calculator were either underrepresented or not very knowledgeable.

9-11

Introduction

The calculator excludes carbon associated with dead wood, the forest floor, and the mineral soil. This is not scientifically credible. It leads to a system that simply has to gain carbon and can not lose it. Thus the system is completely biased. No rational is offered for this or the consequences of this oversight.

Inventory Growth and Harvest

I don't see how board foot or basal area can be easily converted to carbon. The explanation is completely lacking and hence not transparent. Why is there no accounting for dead wood or soil? This is simply not scientifically acceptable at this point in time.

Milling and Wood Products

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Assuming that all the wood that is left on the site just disappears is completely unrealistic and completely unjustified. Moreover, this is not accounted for as a loss. There is no accounting for whether the site has had past harvests that would have stored wood products. Thus the net storage in wood products could be significantly overestimated, leading to a significantly biased result.

9-11

We would also like to include the following article in our comments. It presents many of the concerns we feel are not being addressed by the DEIR:

Burn Up the Biosphere and Call It Renewable Energy: The New Taxpayer Bailout That Will Make You Sick AND Poor

Just when you thought the biofuels bad dream was about over along comes the nightmare of "biomass."

by Rachel Smolker

Last week President Obama announced his plans to ensure that the mandate for biofuels, 36 billion gallons by 2022, voted into law in the Energy Independence and Security Act in 2007, is met, and to provide huge new supports through the USDA for the cutting, harvesting and transport of biomass (aka forests, plants) to be delivered to incinerators and burned as "renewable" electricity and heat.

The transportation biofuel mandate was adopted without clear consideration of the impacts of production on food, public health, direct and indirect land use, greenhouse gas emissions, soils, water or biodiversity. Since being passed into law, the critique of biofuels, particularly corn ethanol, has only grown deeper and more damning. Cellulosic fuels, not much available yet, will, according to mythology, avert these concerns because they are made from the inedible parts of plants. True, we do not eat forests, but creating huge new demands for wood is a recipe for disaster.

9-12

Lucky, technological hurdles have slowed the development of cellulosic fuels, but no such hurdles lie in the way of burning biomass for electricity and heat. Across the country, communities are being offered "green jobs" cutting, hauling and chipping their forests to feed the gaping maws of a new generation of "green energy" utilities being constructed or retrofitted in their neighborhoods. At least 200 new burners are proposed around the country. Further, many facilities that burn coal are seeking to co-fire biomass under the assumption that burning trees is a step up from burning coal. It's not.

To fully appreciate the magnitude of this race to burn up the biosphere, consider the scale - each demands on the order of 13 thousand tons of wood per year, delivered by a stream of diesel-fueled trucks, to produce one megawatt of electricity. According to the Energy Information Agency, in 2007 The U.S. produced 4348856 GWh of electricity. If we were to produce 10% of our electricity with biomass, my back of the envelope calculation suggests we would need about 760 million tons of wood. At a moderate harvest rate (20 tons per acre), that would mean cutting an area approximately the size of Florida each year. The impacts on air quality and human health from burning it would be staggering.

States like Massachussetts, where the community resistance has brought these figures to light, are facing 5 proposed new facilities which combined would produce 135-200 MW, an increase of a mere 1.3% in generating capacity for the state. This would require over 2 million tons of wood -- requiring cutting over the entire 844 thousand acres of public and private forest land in the state within 6 years. Similar outrageous proposals are on

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the table in virtually every state in the nation.
These demands are on a collision course with fast rising new industries producing pellets and chips for export, especially to the EU, where even larger biomass burners are being constructed, (120- 300 Megawatts), requiring millions of tons per year, largely imported!
It gets worse: there is a direct connection with the recent news that Arborgen is seeking to test genetically engineered eucalyptus in the U.S. (see NYT Jan 29) The greater the demand for biomass, the greater the likelihood that GE trees will gain a toehold and native forests will give way to industrial plantations of GE trees.
In communities where biomass burners are being proposed, often poor and hard pressed for job opportunities, citizens are waking to the realities: First of all, the promised "green jobs" are not as numerous or as lucrative as hoped. Further, the emissions from biomass burning are making it increasingly difficult to breathe! A number of medical professionals and associations have opposed biomass burning, pointing out that it results in large quantities of particulate matter, sulfur oxides, carbon monoxide, nitrogen oxides, volatile organic compounds, polycyclic aromatic hydrocarbons, and dioxin. For some contaminants, biomass emits more than coal. Biomass is often loosely defined to include not just wood, but also garbage, construction debris, tires, manure and much much more -- all of which contribute further to the stew of airborne (and ash-borne) toxins from incineration.
Community organizers are not standing by idly. This week in Scotsburg Indiana, over 800 angry citizens crammed a meeting of the Indiana Department of Environmental Management to voice opposition to the incinerator proposed by "Liberty Green". In Gretna Florida, a standing room only crowd showed up to oppose an ADAGE proposed incinerator -- the county commission had earlier voted to remove cameras from the meeting hall after their meeting was "disrupted" by angry citizens. In Massachussetts citizens have pulled together a town wide election to overturn the town board's vote to sell wastewater to cool the turbines of a biomass incinerator. In Michigan, a newly formed community group is rapidly pulling together to oppose several new biomass burners proposed for the state. People are not stupid.
We have been sold this entire "burning biomass as renewable energy" bill of goods on the assumption that burning wood (or other) is a step up from burning coal or other fossil fuels. The argument is that trees grow back (which is true, but ignores the consequences of soils becoming depleted, compacted and eroded). When they grow back, in theory they reabsorb the same amount of CO2 released when they were burned.
Unfortunately, this argument is flat out wrong, as recently detailed in an article published in Science entitled "Fixing A Critical Climate Accounting Error." The greenhouse gas emissions associated with cutting forest are considerable (which is why climate negotiations have spent massive time debating mechanisms for "reducing emissions from deforestation and degradation, or REDD). Those emissions can be counted at the cut, harvest and haul stage, or they can be measured at the smoke stack. But they must be counted because they do in fact exist! Unfortunately, under current policies, in renewable energy "lore", these emissions are ignored on all fronts and the "myth of carbon neutrality" is perpetuated. Based on figures from the Department of Energy, if the U.S. adopts a 20% renewable portfolio standard, by 2020 over 11% of our emissions would come from biomass burning, all uncounted, magically invisible and mistakenly rewarded.
Right now, virtually every policy intended to support renewable energy, here and around the globe, is resulting in massive new funding, subsidies and mandates to cut and burn more forests. In Europe, about two-thirds of "renewable energy" is from biomass burning, accounting for nearly 80% of growth in renewables from 1990-2005. In the U.S. more than twice as much "renewable energy" is produced from biomass as from wind and solar combined. In sum, when we support the development of renewable energy, we are mostly supporting the burning of the biosphere.
When Barack Obama tells us he wants to provide further supports for renewable energy, rather than blindly cheering, we should take to the streets screaming in outrage! Our tax dollars, via the American Recovery and Reinvestment Act are being used to pay up to 30% of capital costs for building biomass burners -- a great deal for the industry that could cost us up to about 8 billion. An additional 450-850 million similarly goes to support biomass burning via the USDA "Biomass Crop Assistance Program, which will pay growers, cutters and harvesters for providing the massive quantities of biomass. A production tax credit -- nearly a billion per year is up for reauthorization -- and this is just the tip of the subsidy iceberg. In sum, we are footing the bill with close

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9-12

to 10 billion per year of our tax dollars, to have our forests and farmlands pillaged and our health compromised under the guise of "renewable energy". Time to rethink the meaning of "renewable," and fast before every last scrap of living plant matter on earth goes up in smoke.
Deeply ironic is the fact that as this disaster is unfolding, separate channels are developing policies and incentives for marketing forest and agricultural lands carbon sequestration as part of the scheme for "offsets". The Peterson amendment to the American Clean Energy and Security Act is case in point – over 2 billion tons of carbon offsets -- almost entirely from forests and farms. This is called "having your cake and eating it too". If we want to enjoy the benefits of carbon sequestering ecosystems, (but hopefully not as an excuse for ongoing pollution as offsets do!), then we cannot also rely on those forests and farms to provide every twig and leaf and branch and scrap of "residue" to fuel a faux-green "bioeceonomy". Time for a reality check: what is nature for, anyway?
Rachel Smolker is codirector of Biofuelwatch, and an organizer with Climate SOS. She has a Ph.D. in behavioral ecology from the University of Michigan and worked as a field biologist before turning to activism. She is the daughter of Environmental Defense Fund cofounder, Robert Smolker, and she engaged in direct action at EDF offices to oppose their advocacy for carbon trade. She has written on the topic of bioenergy, carbon trade and climate justice.

9-12

Monitoring

There seem to be no concrete proposals for monitoring the impacts to water quality and quantity or delineation of who will be responsible for enforcing standards. Exhibit C is a collection of SPI's history of violations. We believe this history provides ample reasons for being concerned, and about the need for a fully disclosed, concrete monitoring program that is conducted by non-SPI parties.

9-13

Associated Impacts

What will the air pollution percentages in tables 3.2-12, 3.2-11, 3.2-9 of the DEIR change to if the associated impacts of deforestation to fuel the plant are added in? To present an accurate and true picture of the impacts to air quality, these figures must be calculated and presented to the public.

9-14

Continued and/or increased clearcutting entails the use of many thousands of pounds of herbicides in the headwaters of watersheds. It also entails water drafting of millions of gallons of water from streams in those watersheds. These impacts have not been addressed in the DEIR.

Cost of Project

As the attached Exhibit D Agenda Item Document shows, SPI has applied for a $45 million loan from the State Bond Financing Program to finance this project. We believe that the public has the right to know how much this project will cost and how much money SPI is investing itself. There also needs to be an explanation of where the State money is coming from. Is it from bonds that are financed by taxpayers? Is it a form of government subsidy for a private company's project? In a county and state where education, health, fire and police services are being cut due to lack of funding, this is information that must be disclosed to insure informed and unbiased decision making.

9-15

9

On page 1 of the Exhibit D document under the heading "Project Description" there is the statement: The Company plans to construct a solid waste disposal and cogeneration unit that will burn biomass fuel (including non-treated wood and agricultural crop residues as well as urban wood-waste and other fuels). What are "other fuels"? These need to be described and there needs to be a written list of every type of waste that is allowed. Many biomass burners have been found to be burning extremely hazardous wastes. 9-16

In conclusion

There are many significant effects on the environment that this project would escalate. "Significant effect on the environment" is defined by the CEQA Guidelines as "a substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic and aesthetic significance." [CEQA Guidelines, §15382.] The focus of this analysis must be on significant adverse physical changes in the environment. [See CEQA Guidelines §§15064,15382.] Please consider all of these significant effects before making a decision. 9-17

Marily Woodhouse
32065 Rock Creek Rd.
Manton, CA 96059
(530) 474-5803

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Response to Letter 9: Marily Woodhouse, Battle Creek Alliance

Response 9-1: The commenter states that she is a member of the Battle Creek Alliance (BCA), has been a resident of Shasta County since 1989, and that the BCA is dedicated to preserving and protecting water, soil, air, climate and wildlife resources. This comment has been noted.

Response 9-2: The commenter references Exhibits A and B, which were included with the comment letter. The commenter states that these exhibits are aerial images of the eastern part of Shasta County, and show areas where clear cut logging has occurred. This comment has been noted and this information has been included in the administrative record. The CD included with this Final EIR includes the above-referenced exhibits.

Response 9-3: The commenter states that there are no facts or data provided in the DEIR to support the assertion that logging will not increase as a result of approval of the proposed project. The commenter provides citations regarding cumulative impact analysis requirements under CEQA.

As described in the DEIR and throughout this Final EIR, the proposed project would utilize biomass materials from existing SPI sources as well as other waste and residual sources. These materials include wood waste from existing SPI lumber processing facilities, agricultural wastes, urban wood waste, and in-forest materials from SPI sources. The proposed fuel sources for the project are described on pages 2.0-4 through 2.0-9 of the Recirculated DEIR, and are also described in greater detail under Response 2-6 in this Final EIR.

Any in-forest materials used by the proposed project would come from logging operations that are included in an approved Timber Harvest Plan (THP). The commenter is referred to Response 2-3 in this Final EIR, which includes a description of the regulatory requirements and legal authority of a THP, as well as the required environmental review and analysis for a THP. Implementation of the proposed project would not result in any changes or expansions to a previously-approved THP, nor would it result in any increased logging activity beyond that approved in a THP. Since no changes in approved timber harvest operations would result from, nor are proposed for, project implementation, the DEIR has correctly addressed all cumulative impacts associated with the project.

Response 9-4: The commenter provides information regarding previously approved and pending THPs in Shasta County. This comment is noted and the information has been included in the project's administrative record. As previously stated, no changes to a THP and no changes to approved logging plans are requested or required as part of the proposed project. The commenter is referred to Response 2-3 for additional information.

Response 9-5: The commenter asserts that logging levels would need to be increased in order to meet the fuel supply demands for the project, and states that biomass energy production is not carbon neutral. This comment has been noted. The commenter is referred to Response 2-6 in this Final EIR, which includes an expanded discussion of the project's fuel supply needs and sources for biomass materials. No additional logging will be required for the proposed project.

Response 9-6: The commenter asks about the figures for the number of acres being cut per year vs. how many would need to be cut to supply the proposed project. The commenter is referred to Responses 2-3 and 2-6 in this Final EIR.

Response 9-7: The commenter asks how much of the energy generated by the project would be blown off as waste heat. This comment does not address the adequacy of the EIR analysis. The Draft EIR includes a detailed analysis of the air quality impacts and emissions generated by the proposed project, and BACT has been incorporated into the project design. A detailed air quality and BACT analysis is also included as Appendix B to the Draft EIR. No further response is required.

Response 9-8: The commenter inquires about the analysis for impacts associated with greenhouse gases from clearcutting activities. The 2nd Recirculated Draft EIR includes a detailed and quantitative analysis of project-related greenhouse gas impacts (Section 2.0). As described throughout this Final EIR, there are no new clearcutting activities proposed as part of the project.

Response 9-9: The commenter asks how many tons per acre will be needed to produce 1 MW of electricity. The calculations for the proposed project's fuel supply needs are provided in Response 2-6 of this Final EIR.

Response 9-10: The commenter asserts that biomass fuels for energy production are not carbon neutral. This comment has been noted. The greenhouse gas and climate change analysis contained in the Draft EIR was revised and replaced by the GHG and climate change analysis contained in the 2nd Recirculated Draft EIR. The 2nd Recirculated Draft EIR was provided to this commenter during the 45-day public review period. No additional comments were received from this commenter. The commenter is also referred to Responses 16-5 and 16-6.

Response 9-11: The commenter provides information that reviews and critiques the forest carbon calculator being developed by Cal Fire. This calculator has no bearing or relationship to the proposed project, therefore, no response is required. This information has been forwarded to the County decision-makers for their consideration.

Response 9-12: The commenter provides an article that is critical of biomass fuels for energy production. This comment does not address the adequacy of the EIR, and therefore, no response is required. This article has been included in the project's

administrative record, and has been forwarded to the County decision-makers for their consideration.

Response 9-13: The commenter states that there seem to be no concrete proposals for monitoring water quality or identification of which party is responsible for enforcing standards. The commenter also provides (as Exhibit C to the comment letter) a collection of SPI water quality violations.

As described in Section 3.7 of the Draft EIR, the proposed project would not result in off-site discharge of any stormwater or process water. Mitigation measures 3.7-1 and 3.7-2 require the preparation of a SWPPP and an update to all applicable NPDES permits, which are monitored and enforced by the Central Valley Regional Water Quality Control Board and the U.S. EPA, respectively. No changes to the Draft EIR analysis or mitigation measures are required.

Response 9-14: The commenter asks if the air pollution percentages presented in Table 3.12-12, 3.2-11, and 3.2-9 in the DEIR will change if deforestation impacts are included in the calculations. The commenter also states that forest harvesting may result in the use of herbicides and water drafting from streams in forest watersheds.

The commenter is referred to Response 2-3 in this Final EIR. No additional logging activities would occur or would be permitted, nor is it proposed, as a result of implementation of this project.

Response 9-15: The commenter asks how much the project will cost and where the money will come from. The commenter has included Exhibit D to the comment letter, and states that the document shows SPI has applied for a $45 million loan from the State Bond Financing Program. The costs of the project and the funding sources are outside of the scope of CEQA and do not relate to the potential environmental impacts associated with the proposed project. This comment has been forwarded to the County decision-makers for their consideration, and no further response is required in this Final EIR.

Response 9-16: The commenter inquires about the fuels that will be burned in the proposed facility. The commenter is referred to Response 2-6 of this Final EIR and to pages 2.0-5 through 2.0-9 of the Recirculated Draft EIR. No hazardous materials would be burned by the proposed facility.

Response 9-17: The commenter states that the project would result in many significant effects on the environment. The Draft EIR fully discloses all significant and potentially significant environmental effects of the proposed project, and provides mitigation measures to reduce these impacts to the greatest extent feasible. This comment has been noted and has been forwarded to the County decision-makers for their consideration.

CENTER for BIOLOGICAL DIVERSITY

September 17, 2010

Via Federal Express

RECEIVED
SHASTA COUNTY
SEP 20 2010
DEPT OF RESOURCE MGMT
PLANNING DIVISION

Lio Salazar
Associate Planner
Shasta County Department of Resource Management
Planning Division
1855 Placer Street, Suite 103
Redding, CA 96001

Re: Use Permit 07-021 (Sierra Pacific Industries Cogeneration Power Project)
Draft Environmental Impact Report

Dear Mr. Salazar:

The Center for Biological Diversity (the "Center") submits the following comments concerning the Draft Environmental Impact Report ("EIR") prepared for Shasta County (the "County") for a 31-MW biomass-fired power plant and associated use permit (collectively the "Project") proposed by Sierra Pacific Industries ("SPI"). The Center is a non-profit environmental organization dedicated to the protection of imperiled species, their habitats, and the environment through science, policy, and environmental law. The Center has over 255,000 members and online activists throughout the United States. The goal of the Center's Climate Law Institute is to reduce U.S. greenhouse gas emissions and other air pollution to protect biological diversity, the environment, and public health. Specific objectives include securing protections for species threatened by the impacts of global warming, ensuring compliance with applicable law in order to reduce greenhouse gas emissions and other air pollution, and educating and mobilizing the public on global warming and air quality issues. 10-1

Before the County may approve the Project, it must certify an EIR that complies with the substantive and procedural requirements of the California Environmental Quality Act ("CEQA"). *See generally* Public Resources Code section 21000 *et seq.*; *see also* 14 Cal. Code Regs. § 15000 et seq. ("CEQA Guidelines"). An EIR is "the heart of CEQA." *Laurel Heights Improvement Ass'n v. Regents of University of California*, 47 Cal. 3d 376, 392 (1988) (citations omitted). It serves as "an environmental 'alarm bell' whose purpose it is to alert the public and its responsible officials to environmental changes before they have reached ecological points of no return. The EIR is also intended to demonstrate to an apprehensive citizenry that the agency has, in fact, analyzed and considered the ecological implications of its action. Because the EIR must be certified or rejected by public officials, it is a document of accountability." *Id.* (citations and internal quotations omitted). Where an EIR fails to fully and accurately inform decision-makers, 10-2

Arizona • California • Nevada • New Mexico • Alaska • Oregon • Montana • Illinois • Minnesota • Vermont • Washington, DC

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and the public, of the environmental consequences of proposed actions, it does not satisfy the basic goals of the statute. *See* Pub. Res. Code § 21061. 10-2

As explained in detail below, the EIR fails to meet CEQA's minimum standards. In particular, the EIR fails to provide an accurate and consistent description of the Project. As a result, neither decision-makers nor the public can meaningfully assess the Project's impacts or evaluate mitigation measures and alternatives to lessen those impacts. The EIR also fails to adequately disclose, analyze, and propose mitigation for the Project's admittedly significant greenhouse gas emissions and its contribution to climate change. For example, the EIR perpetuates the misleading and scientifically discredited assumption that greenhouse gas emissions from biomass generation are "carbon neutral"—and then, after conceding those impacts nonetheless remain significant, dismisses the possibility of mitigation without any analysis or discussion. The EIR treats foreseeable impacts to forest resources associated with an increase in demand for woody biomass fuels in the same conclusory and legally inadequate manner. 10-3

For all of these reasons, the EIR fails to comply with CEQA. The County therefore cannot approve this Project unless and until it recirculates a revised draft EIR that meets all applicable legal standards.

I. The EIR Fails to Accurately and Completely Describe the Project.

In order for an environmental document to adequately evaluate the environmental ramifications of a project, it must first provide a comprehensive description of the project itself. An EIR must describe a proposed project with sufficient detail and accuracy to permit informed decision-making. *See* CEQA Guidelines §15124. Indeed, "[a]n accurate, stable and finite project description is the *sine qua non* of an informative and legally sufficient EIR." *San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus*, 27 Cal. App. 4th 713, 730 (1994), quoting *County of Inyo v. City of Los Angeles*, 71 Cal. App. 3d 185, 193 (1977). As a result, courts have found that, even if an EIR is adequate in all other respects, the use of a "truncated project concept" violates CEQA and mandates the conclusion that the lead agency did not proceed in a manner required by law. *San Joaquin Raptor*, 27 Cal.App.4th at 730. Furthermore, "[a]n accurate project description is necessary for an intelligent evaluation of the potential environmental effects of a proposed activity." *Id.* (citation omitted). Thus, an inaccurate or incomplete project description renders the analysis of significant environmental impacts inherently unreliable. *See Communities for a Better Env't v. City of Richmond*, 184 Cal. App. 4th 70, 82-83 (2010) (approval of EIR based on inadequate project description constitutes legal error). 10-4

Here, the EIR's basic description of the Project is incomplete, confusing, and contradictory. Even the fundamental generating capacity of the Project is unclear. The EIR states that the Project will have a capacity of 31 MW (EIR at 2.0-3), but the air permit application (attached as Appendix B to the EIR) describes the plant as having a 23 MW capacity. (App. B at 3.) Nonetheless, both documents describe similar heat input

rates, and the emissions from the 23-MW plant discussed in the air permit application are attributed to the 31-MW plant discussed in the EIR.

This inconsistency renders analysis of the Project's environmental impacts impossible. For example, the EIR claims that the Project will consume 25 bone dry tons ("BDT") of fuel per hour and, running as close to constantly as possible, 219,000 BDT per year. In order to generate 31 MW of energy, however, the Project will likely need more fuel. Using conversion factors developed by the University of California, 1 BDT generates about 10,000 pounds of steam, which in turn generates about 1 MW of electricity.[1] Accordingly, the Project will require 31 BDT/hr, or 271,560 BDT/yr, to generate 31 MW of electricity. This represents an increase of about 20 percent in fuel consumption—and a concomitant, though undisclosed and unanalyzed, increase in emissions of greenhouse gases and other air pollutants.[2] 10-4

The EIR cannot cover up this contradiction by simply claiming that "[t]he final design of the biomass-fired boiler has not been determined." (EIR at 2.0-4.) If SPI's application for a use permit was not sufficiently developed to permit meaningful environmental review, the application should have been returned as incomplete. The County cannot analyze a 31 MW project based on emissions calculations for a 23 MW project, nor can it meaningfully assess environmental impacts where the basic characteristics of the piece of machinery at the very heart of the project—the boiler—are unknown. This is not a "final design" problem, but rather a basic project description problem. The County must revise and recirculate an EIR that discloses the impacts of the actual project under consideration—whatever project that happens to be.

In addition to offering contradictory descriptions of the Project's capacity, the EIR fails to include other essential information. For example, the EIR provides no information about the actual fuel mix—i.e., the relative percentages of agricultural waste, wood waste, and urban waste—proposed for use at the site. These fuels have widely varying characteristics and cannot be treated as interchangeable. In addition, the EIR provides no data as to the expected moisture content of fuels on delivery and combustion. It is highly unlikely that fuels will be delivered in "bone dry" condition, yet the EIR provides little information as to how moisture content will be controlled. Heat content, 10-5

[1] J.R. Shelly, University of California, Agriculture & Natural Resources, Woody Biomass Definitions and Conversion Factors (Dec. 6, 2007), *available at* http://groups.ucanr.org/WoodyBiomass/documents/InfoGuides12929.pdf (last visited Sept. 15, 2010) (attached as Ex. 1). According to the EIR, the Project boiler would have a maximum steam generation rate of 250,000 pounds per hour (EIR at 2.0-4), and thus a maximum generating capacity of 25 MWh.

[2] This discrepancy casts further doubt on already dubious assertions in the air permit application that this Project can "avoid PSD review" despite emissions of criteria pollutants in excess of statutory thresholds. (App. B at 7, 19.) The air permit for this Project must be based on emissions calculations derived from the boiler's actual capacity, not from an artificial project designed to "avoid" applicable regulatory requirements.

combustion efficiency, and total resulting emissions will therefore vary with the actual moisture content of the fuel mix proposed for use here.[3]

Because the EIR offers no real information as to the proposed fuel mix, it can offer no assurance that emissions will be as predicted. Furthermore, the EIR fails to discuss whether other fuels—such as tires, railroad ties, and treated lumber—could foreseeably be added to the fuel mix at some point in the future, as has occurred with other "biomass" facilities. The EIR thus fails to provide an adequate description of the Project. 10-5

II. The EIR Fails to Disclose, Analyze, and Propose Mitigation for the Project's Significant Greenhouse Gas Emissions and its Cumulative Contribution to Climate Change.

The discussion of a proposed project's environmental impacts is the core of an EIR. *See* CEQA Guidelines § 15126.2(a) ("[a]n EIR shall identify and focus on the significant environmental effects of the proposed project"). As explained below, the EIR fails to analyze and provide mitigation for the Project's concededly significant greenhouse gas emissions and climate change impacts. These inadequacies go to the heart of CEQA's informational purpose—and thus require that the DEIR be revised to provide a complete and accurate analysis of the proposed Project's significant environmental impacts and feasible mitigation for those impacts, as required by law. *See* CEQA Guidelines, § 15002(a)(1) (listing as one of the "basic purposes" of CEQA to "[i]nform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities"). 10-6

A. The EIR Fails to Describe the Regulatory Background.

The EIR's description of the regulatory framework governing greenhouse gas emissions is incomplete. For example, the EIR fails to acknowledge that greenhouse gases are on the brink of being regulated as dangerous "pollutants" under the Clean Air Act. The Environmental Protection Agency has issued several findings and rules to this effect within the past year, beginning with a finding that greenhouse gases emitted by cars and light trucks cause or contribute to pollution that endangers public health and welfare. Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act; Final Rule, 74 Fed. Reg. 66,496 (Dec. 15, 2009). Based on this "Endangerment Finding," EPA adopted greenhouse gas emission standards for passenger cars and trucks. Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards; Final Rule, 75 Fed. Reg. 25,324 (May, 7, 2010). EPA also determined that as of January 2, 2011, this "Vehicle Rule" would render greenhouse gases "subject to regulation" for purposes of the Clean Air Act's Prevention of Significant Deterioration ("PSD") and Title V permitting programs for stationary sources of air pollution. Reconsideration of Interpretation of Regulations That 10-7

[3] *See* U.S. Dept. of Energy, Biomass Energy Data Book: Edition 2 (Dec. 2009) at 176 (excerpt attached as Ex. 2).

Determine Pollutants Covered by Clean Air Act Permitting Programs; Final Rule, 75 Fed. Reg. 17,004 (April 2, 2010). Finally, EPA adopted a rule "tailoring" the PSD and Title V programs to the largest stationary emitters of greenhouse gases, and phasing in permitting requirements for new and modified major sources of these pollutants. Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule; Final Rule, 75 Fed. Reg. 31,514 (June 3, 2010) ("Tailoring Rule").

This regulatory background has a direct bearing on this Project for two main reasons. First of all, EPA has incorrectly concluded that GHGs are not *already* "subject to regulation" for purposes of the PSD and Title V programs. Because the Project's greenhouse gas emissions are presently "subject to regulation," by virtue of the Endangerment Finding and other EPA actions, a PSD permit incorporating the best available control technology ("BACT") for these pollutants is required for the Project. *See* 42 U.S.C. §§ 7475, 7479(1). Second, EPA correctly declined to exempt biomass facilities from the PSD and Title V permitting programs in the Tailoring Rule. *See* 75 Fed. Reg. at 31,591. Even under the higher thresholds for applicability established in the Tailoring Rule, the Project would require PSD and Title V permits and a BACT demonstration for greenhouse gases.[4]

10-7

B. The EIR Falls to Accurately and Completely Quantify the Project's Greenhouse Gas Emissions.

CEQA requires that the County make a good-faith effort to quantify the Project's greenhouse gas emissions. *See* CEQA Guidelines § 15064.4(a). The calculations provided in the air permit and repeated in the EIR, however, appear to underestimate actual emissions.

10-8

First, as previously discussed, the emissions estimates in the air permit application are for a 23 MW facility, not a 31 MW facility, and therefore almost certainly understate the proposed Project's actual effects.[5] Furthermore, the characteristics of the actual blend of fuels proposed for combustion do not seem to be reflected in these calculations. The EIR and air permit application cite emissions factors set forth in 40 C.F.R., Part 98, but apparently use only the emissions factor for "wood and wood residuals." (App. B at 23 [citing factor of 207 lbs/mmBtu].) However, Table C-1 of 40 C.F.R Part 98, Subpart C,

[4] The Center is challenging EPA's interpretation of the "triggering date" for regulation, and certain other aspects of the Tailoring Rule, in two petitions currently pending before the D.C. Circuit Court of Appeals. *Center for Biological Diversity v. EPA* (D.C. Cir. No. 10-1115); *Center for Biological Diversity v. EPA* (D.C. Cir. No. 10-1205).

[5] For example, using the Energy Information Administration's emissions factor of 1.906 tons CO_2 per ton of wood or wood waste, and assuming fuel consumption of 271,560 BDT/yr (based on 31 MW capacity), the Project could emit 517,593 tons of CO_2 annually—far more than the 385,781 tons of CO_2 estimated by the EIR (EIR at 3.2-70). *See* U.S. EIA, *Voluntary Reporting of Greenhouse Gases Program: Fuel and Energy Source Codes and Emission Coefficients*, *at* http://www.eia.doe.gov/oiaf/1605/coefficients.html (last visited Sept. 17, 2010) (attached as Ex. 3).

5

also contains emissions factors for "agricultural byproducts" (118.17 kg/mmBtu, or 260.52 lbs/mmBtu) and "solid byproducts" (105.51 kg/mmBtu, or 232.61 lbs/mmBtu) that are higher than the factor for wood and wood residuals. Therefore, actual emissions from the plant will be higher to the extent agricultural and solid byproducts are used as fuel—which they likely will be. (*See* EIR at 2.0-4 [describing "various sources of agricultural and urban wood wastes," including nut shells and rice hulls].) Again, the EIR's failure to provide information concerning the actual biomass fuel mix renders analysis of the Project's true impacts impossible. This failure must be remedied in a revised and recirculated draft EIR.

10-8

C. Biomass Generation Is Not "Carbon Neutral."

The EIR ultimately—and correctly—concludes that the Project's climate change impacts are significant due to a conflict with California's greenhouse gas reduction goals. (EIR at 3.2-71.) Nonetheless, the EIR still advances two generalized and unsupported theories for why the Project should be regarded as "carbon neutral." (*Id.*) First, without any explanation, the EIR claims that biomass fuel is considered to be carbon neutral when "combusted in an energy production cycle" because the fuel "consumes CO_2 throughout its growth." (*Id.*) Second, the EIR claims combustion of biomass for energy offsets CO_2 and methane emissions associated with decomposition, landfilling, and other "alternative fates of disposal of the biomass wastes," and thus has a "'net negative' GHG emissions profile." (*Id.*)

10-9

These claims are unsound. As the Center and other organizations recently explained in comments responding to an EPA call for information on the treatment of biogenic greenhouse gas emissions under the Clean Air Act, biomass combustion cannot be considered "carbon neutral" on any time scale relevant to current efforts to avoid the worst impacts of climate change.[6] In particular, the notion—advanced in oblique terms in the EIR—that all biomass emissions are part of a "natural carbon cycle," and are thus "carbon neutral" by definition, defies not only science but also history and logic.[7] Moreover, the assertion that biomass combustion avoids even greater greenhouse gas emissions associated with decomposition of organic materials into methane lacks a sound

[6] *See, e.g.*, Center for Biological Diversity, Comments Re: Call for Information on Greenhouse Gas Emissions Associated with Bioenergy and Other Biogenic Sources, Docket No. EPA-HQ-OAR-2010-0560-0157 (Sept. 13, 2010) ("Center EPA Comments") (attached as Ex. 4) and references cited therein (attached as Ex. 4A-4D); Clean Air Task Force, et al., Comments Re: The Environmental Protection Agency's Call for Information: Information on Greenhouse Gas Emissions Associated with Bioenergy and Other Biogenic Sources, Docket No. EPA-HQ-OAR-2010-0560-0432 (Sept. 13, 2010) ("CATF EPA Comments") (attached as Ex. 5) and references cited therein; Rachel Smolker, Ph.D., Comment to EPA: Information on Greenhouse Gas Emissions Associated with Bioenergy and Other Biogenic Sources, Docket No. EPA-HQ-OAR-2010-0560-0173 (Sept. 13, 2010) ("Smolker Comments") (attached as Ex. 6).

[7] *See* Center EPA Comments (Ex. 4) at 4-10 and references cited therein.

scientific basis.[8] This latter assertion is particularly suspect given that biomass combustion increasingly relies on harvest and chipping of whole trees and brush, which are not "waste" but rather living plants that would continue to store and sequester additional carbon well into the future if left undisturbed.[9] According to the EIR, at least some portion of the Project's fuel will likely be derived from whole tree wood chips. (See EIR at 2.0-4 [listing "wood chips from trees" and wood from "wildland fire fuel reduction projects" among Project fuels].)

10-9

For the reasons set forth in the attached comment letters and studies, and the references cited therein, combustion of biomass in the Project's boiler cannot be considered "carbon neutral." Despite its ultimate—and ultimately correct—conclusion that the Project's impacts remain significant due to the impossibility of demonstrating carbon neutrality, the EIR's discussion of carbon neutrality remains somewhat misleading, and tends to downplay the Project's real environmental effects. This discussion should be corrected in a revised and recirculated draft EIR.

D. The EIR Fails to Propose Any Mitigation for the Project's Significant Climate Impacts.

The EIR completely fails to propose or discuss any mitigation measures that could reduce the Project's overall greenhouse gas emissions and its climate-related impacts. Instead, the EIR dismisses the possibility of feasible mitigation in a single conclusory sentence. (EIR at 3.2-72.) This is a clear violation of CEQA.

10-10

CEQA's plain text requires that an EIR "shall include . . . [m]itigation measures proposed to minimize the significant effects on the environment." Pub. Res. Code § 21100(b)(3); see also §§ 21002, 20112.1(a), 21151; CEQA Guidelines § 15126.4. Indeed, given the identified significant environmental impacts, the County cannot approve the Project unless it finds that "the mitigation measures or alternatives identified in the environmental impact report" are infeasible for specified reasons. Pub. Res. Code § 21081(a)(3). Moreover, CEQA requires that all feasible mitigation measures be adopted, even if significant impacts ultimately remain: "each public agency shall mitigate or avoid the significant effects on the environment of projects that it carries out or approves whenever it is feasible to do so." Pub. Res. Code § 21002.1(b). Indeed, mitigation of a project's significant impacts is one of the "most important" functions of

[8] *See* CATF EPA Comments (Ex. 5) at 43-46 and references cited therein.
[9] Studies of biomass fuel utilization and renewable energy policies in other states and at the federal level have concluded that increased demand for biomass fuel will shift the overall fuel mix from mill waste and logging residues to whole trees. *See, e.g.*, Mary S. Booth, Biomass Briefing (Oct. 2009) (attached as Ex. 7); Manomet Center for Conservation Sciences, Massachusetts Biomass Sustainability and Carbon Policy Study: Report to the Commonwealth of Massachusetts Department of Energy Resources (2010) ("Manomet Report") (attached as Ex. 8); Mary S. Booth and Richard Wiles, *Clearcut Disaster: Carbon Loophole Threatens U.S. Forests* (Environmental Working Group 2010) ("EWG Report") (attached in Ex. 4D, as Ex. 26 to Center EPA Comments).

CEQA. *Sierra Club v. Gilroy City Council*, 222 Cal. App. 3d 30, 41 (1990). A mere finding that impacts are significant and unavoidable is no substitute for meaningful analysis of impacts or incorporation of feasible mitigation measures or alternatives.

The CEQA Guidelines now specifically require a discussion of potentially feasible mitigation measures for greenhouse gas impacts. CEQA Guidelines § 15126.4(c). As the Court of Appeal in *Communities for a Better Environment v. City of Richmond* recently confirmed, greenhouse gas mitigation measures may not be put off for future study, but rather must be incorporated into a project and fully effective before approval is granted: "In our opinion, the novelty of greenhouse gas mitigation measures is one of the most important reasons 'that mitigation measures timely be set forth, that environmental information be complete and relevant, and that environmental decisions be made in an account-able arena.'" 184 Cal. App. 4th at 96 (quoting *Oro Fino Gold Mining Corp v. County of El Dorado*, 225 Cal. App. 3d 872, 885 (1990)).

It is therefore not enough for the County to simply declare, without any analysis, that there is no way to mitigate the Project's greenhouse gas emissions. The EIR's assertion that BACT for other pollutants will reduce greenhouse gas emissions (EIR at 3.2-70) "to a certain degree" is equally conclusory and unsupported. Without any analysis to support this claim, the degree to which any reductions may occur is not "certain" at all. CEQA demands facts and analysis, not bald and unsupported conclusions. *Citizens of Goleta Valley v. Board of Supervisors*, 52 Cal. 3d 553, 568 (1990). The EIR's failure to identify even one single potential mitigation measure renders it impossible for decision-makers to know whether the County considered and rejected mitigation measures (and the reasons why such undisclosed measures were rejected as infeasible), or whether the County simply skipped this step and failed to consider any measures whatsoever. Either way, this failure results in a fundamental violation of CEQA's essential informational purpose. 10-10

A revised and recirculated draft EIR must identify mitigation measures and must consider their feasibility in accordance with CEQA's requirements. There are a number of potential options available, provided that they meet CEQA's standards for certainty, effectiveness, and enforceability. *See* CEQA Guidelines § 15126.4. For example, the Attorney General has reached settlements in CEQA cases requiring industrial emitters to mitigate their greenhouse gas emissions.[10] Resources Agency's Final Statement of Reasons for adoption of recent CEQA Guidelines amendments addressing greenhouse gas impacts addresses the potential availability of offsets and off-site mitigation.[11] Other

[10] *See* Joanna D. Malaczynski and Timothy P. Duane, *Reducing Greenhouse Gas Emissions from Vehicle Miles Traveled: Integrating the California Environmental Quality Act with the California Global Warming Solutions Act*, 36 ECOLOGY L.Q. 71, 108-110 (2009) (discussing Conoco/Phillips settlement) (attached as Ex. 9).
[11] Cal. Nat. Res. Agency, Final Statement of Reasons for Regulatory Action: Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB97 (Dec. 2009) (attached as Ex. 10).

approaches, including energy efficient building retrofits and alternative energy installations, could potentially benefit the surrounding community while reducing greenhouse gas emissions.[12] Even a consortium of industry groups has offered suggestions for mitigating the greenhouse gas impacts of power plants.[13]

We cannot say at this point whether any of these approaches would be adequate or advisable. Rather, it is the County's burden, as lead agency, to identify potentially feasible mitigation measures in the EIR, to incorporate all feasible mitigation measures into the Project prior to approval, and to ensure that mitigation measures are effective and enforceable in accordance with CEQA's requirements. Because the public has not had an opportunity to participate in this crucial part of the CEQA process, the draft EIR must be revised and recirculated.

10-10

III. The EIR Fails to Disclose, Analyze, and Propose Mitigation for the Project's Foreseeable Impacts on Forest Resources.

CEQA requires that an EIR consider not only a project's direct impacts, but also its foreseeable indirect impacts. As previously discussed, one of the major identified impacts of increasing biomass generation capacity is the concomitant expansion of logging and the increasing reliance of biomass facilities on fuels derived from whole trees.[14] The simple economics of expanded biomass capacity therefore make it entirely feasible that forest management operations will change in response. Yet the EIR dismisses this possibility in a few conclusory sentences. It is not enough for the EIR to state, without any analysis or support in the record, that "project implementation would not result in an increase in logging operations or tree removal in the region." (EIR at 4.0-10.) As previously discussed, the EIR lacks any information about the actual fuel mix for the facility, depriving this statement of any factual support. Accordingly, the EIR must be revised to incorporate a good-faith analysis of the potential for changes in timber and land management to meet the demand created by the Project, supported by adequate disclosures regarding the actual mix of fuels proposed for combustion. The revised draft EIR must then be recirculated for public and agency comment.

10-11

IV. Conclusion

For the foregoing reasons, the County may not approve the Project on the basis of this draft EIR. A revised draft EIR addressing these deficiencies, and the deficiencies

10-12

[12] *See* Cal. Unions for Reliable Energy, Additional Comments of the California Unions for Reliable Energy, *In Re: Informational Proceeding on Methods for Satisfaction of California Environmental Quality Act Requirements Relating to Greenhouse Gas Emission Impacts of Power Plants*, Cal. Energy Comm'n Docket No. 08-GHG OII-1 (Dec. 12, 2008) (attached as Ex. 11).
[13] AB 32 Implementation Group, Comments Re: Greenhouse Gas Emission Impacts of Power Plants, Cal. Energy Comm'n Docket No. 08-GHG OII-1 (Oct. 24, 2008) (attached as Ex. 12).
[14] *See, e.g.*, Manomet Report (Ex. 8); EWG Report (Ex. 4D).

pointed out in comments submitted by other organizations and individuals, must be prepared and recirculated before the Project can proceed.

Thank you for your consideration of our comments. Please include this letter and the attached exhibits, submitted as PDF files on an enclosed CD, in the administrative record of proceedings for this Project. Please also do not hesitate to contact me at (415) 436-9682 x313, or by email at kbundy@biologicaldiversity.org, with any questions or concerns. 10-12

Sincerely,

Kevin P. Bundy
Senior Attorney

Attachments

Exhibits to Center for Biological Diversity Comment Letter
Re: Use Permit 07-021 (Sierra Pacific Industries Cogeneration Power Project)
Draft Environmental Impact Report
September 17, 2010

Submitted as PDF files on enclosed CD

Exhibit	Title
1	J.R. Shelly, University of California, Agriculture & Natural Resources, Woody Biomass Definitions and Conversion Factors (Dec. 6, 2007).
2	U.S. Dept. of Energy, Biomass Energy Data Book: Edition 2 (Dec. 2009)
3	U.S. EIA, *Voluntary Reporting of Greenhouse Gases Program: Fuel and Energy Source Codes and Emission Coefficients, at* http://www.eia.doe.gov/oiaf/1605/coefficients.html (last visited Sept. 17, 2010).
4	Center for Biological Diversity, Comments Re: Call for Information on Greenhouse Gas Emissions Associated with Bioenergy and Other Biogenic Sources, Docket No. EPA-HQ-OAR-2010-0560-0157 (Sept. 13, 2010).
4A	Exhibits 1-8 to Center for Biological Diversity, Comments Re: Call for Information on Greenhouse Gas Emissions Associated with Bioenergy and Other Biogenic Sources, Docket No. EPA-HQ-OAR-2010-0560-0157 (Sept. 13, 2010).
4B	Exhibits 9-16 to Center for Biological Diversity, Comments Re: Call for Information on Greenhouse Gas Emissions Associated with Bioenergy and Other Biogenic Sources, Docket No. EPA-HQ-OAR-2010-0560-0157 (Sept. 13, 2010).
4C	Exhibits 17-21 to Center for Biological Diversity, Comments Re: Call for Information on Greenhouse Gas Emissions Associated with Bioenergy and Other Biogenic Sources, Docket No. EPA-HQ-OAR-2010-0560-0157 (Sept. 13, 2010).
4D	Exhibits 22-30 to Center for Biological Diversity, Comments Re: Call for Information on Greenhouse Gas Emissions Associated with Bioenergy and Other Biogenic Sources, Docket No. EPA-HQ-OAR-2010-0560-0157 (Sept. 13, 2010).
5	Clean Air Task Force, et al., Comments Re: The Environmental Protection Agency's Call for Information: Information on Greenhouse Gas Emissions Associated with Bioenergy and Other Biogenic Sources, Docket No. EPA-HQ-OAR-2010-0560-0432 (Sept. 13, 2010).
6	Rachel Smolker, Ph.D., Comment to EPA: Information on Greenhouse Gas Emissions Associated with Bioenergy and Other Biogenic Sources, Docket No. EPA-HQ-OAR-2010-0560-0173 (Sept. 13, 2010).
7	Mary S. Booth, Biomass Briefing (Oct. 2009).
8	Manomet Center for Conservation Sciences, Massachusetts Biomass Sustainability and Carbon Policy Study: Report to the Commonwealth of Massachusetts Department of Energy Resources (2010).

A-1

9	Joanna D. Malaczynski and Timothy P. Duane, *Reducing Greenhouse Gas Emissions from Vehicle Miles Traveled: Integrating the California Environmental Quality Act with the California Global Warming Solutions Act*, 36 ECOLOGY L.Q. 71 (2009).
10	Cal. Nat. Res. Agency, Final Statement of Reasons for Regulatory Action: Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB97 (Dec. 2009).
11	Cal. Unions for Reliable Energy, Additional Comments of the California Unions for Reliable Energy, *In Re: Informational Proceeding on Methods for Satisfaction of California Environmental Quality Act Requirements Relating to Greenhouse Gas Emission Impacts of Power Plants*, Cal. Energy Comm'n Docket No. 08-GHG OII-1 (Dec. 12, 2008).
12	AB 32 Implementation Group, Comments Re: Greenhouse Gas Emission Impacts of Power Plants, Cal. Energy Comm'n Docket No. 08-GHG OII-1 (Oct. 24, 2008).

A-2

Response to Letter 10: Kevin P. Bundy, Center for Biological Diversity

Response 10-1: The commenter provides background information on the Center for Biological Diversity and its primary organizational goals. This comment is noted.

Response 10-2: The commenter provides a summary of the purposes of CEQA and the function of an EIR under CEQA. This comment is noted.

Response 10-3: The commenter asserts that the EIR is inadequate by failing to provide an accurate project description, adequate mitigation measures, alternatives, or an adequate GHG analysis. The commenter's specific concerns outlined in this paragraph are detailed throughout this comment letter, and a full response to each issue raised is provided below.

Response 10-4: The commenter states that the EIR fails to accurately and completely describe the project. Specifically, the commenter cites inconsistencies between the EIR project description, which describes a 31 MW facility, and the air permit application (Appendix B of the Draft EIR), which describes a 23 MW facility.

The reference to a 23 MW facility in the Authority to Construct (air permit application), which is included as Appendix B of the Draft EIR is a typographical error. The Authority to Construct (ATC) correctly analyzes the proposed 31 MW facility. The supporting analysis and conclusions in both the Draft EIR and the ATC are valid and accurate, and analyze the proposed 31 MW facility.

The commenter also disagrees with the fuel calculations (bone dry tons [BDT] per year) needed to operate the proposed facility. The volume of fuel needed to operate the facility was estimated through input from the boiler manufacturer and from comparable SPI biomass cogeneration facilities located throughout California. The estimate of 220,000 BDT per year is an accurate and reasonable estimate for fuel consumption by the proposed project. No changes to the EIR analysis are required.

Response 10-5: The commenter states that the EIR lacks adequate information on the proposed fuel mix for the proposed project. Additional information regarding the proposed fuel mix for the project is included on pages 2.0-5 through 2.0-9 of the Recirculated Draft EIR. The Recirculated Draft EIR was provided to the commenter during the 45-day review period, and the commenter submitted similar comments related to this topic (see Comment Letter 14). A full response to the issues raised by the commenter regarding the proposed fuel mix is provided in Response 14-3.

Response 10-6: The commenter raises concerns related to the GHG and climate change analysis in the Draft EIR. The GHG and climate change analysis was subsequently revised, and a new GHG and climate change analysis was included in the Recirculated Draft EIR. The Recirculated Draft EIR was provided to the commenter during the 45-day review period, and the commenter submitted new comments related to this topic.

Following the receipt of comments on the Recirculated Draft EIR, Shasta County conducted additional analysis of the project's potential impacts related to GHGs and climate change. In light of the revised analysis, Shasta County released a 2nd Recirculated Draft EIR for public review. The 2nd Recirculated Draft EIR focused exclusively on GHGs and climate change. The commenter was provided a copy of the 2nd Recirculated Draft EIR during the 45-day public review period, and was invited to submit new comments related to the revised GHG analysis contained in the 2nd Recirculated Draft EIR.

Full responses to the GHG and climate change issues raised by the commenter on the 2nd Recirculated Draft EIR are provided following Letter 16, which was submitted by the commenter on March 30, 2012. Since the GHG and climate change analysis included in the 2nd Recirculated Draft EIR replaces the GHG and climate change analysis included in the Draft EIR and Recirculated Draft EIR, responses to GHG and climate change issues raised in letters submitted on the Draft EIR and Recirculated Draft EIR are not responded to in this Final EIR.

Response 10-7: The commenter raises concerns related to the GHG and climate change analysis in the Draft EIR. The commenter is referred to Response 10-6.

Response 10-8: The commenter raises concerns related to the GHG and climate change analysis in the Draft EIR. The commenter is referred to Response 10-6.

Response 10-9: The commenter raises concerns related to the GHG and climate change analysis in the Draft EIR. The commenter is referred to Response 10-6.

Response 10-10: The commenter raises concerns related to the GHG and climate change analysis in the Draft EIR. The commenter is referred to Response 10-6.

Response 10-11: The commenter states that the EIR fails to analyze the project's indirect impacts on forest resources and fails to accurately describe the fuel mix for the project. The commenter is referred to Response 2-6. Additionally, Section 2.0 of the Recirculated Draft EIR includes an expanded discussion of the potential fuel mix for the proposed project, and identifies potential fuel sources for the project. As described in Section 2.0 of the Recirculated Draft EIR, project implementation would not result in the additional harvesting of trees for biomass energy production, nor would it otherwise modify or alter existing forest management practices.

Response 10-12: The commenter states that a revised Draft EIR must be prepared for the project, and the commenter requests that the comment letter and all attachments be included in the administrative record for this project. As described above, a Recirculated Draft EIR and 2nd Recirculated Draft EIR have been prepared for this project, and both revised documents were sent directly to the commenter for review and consideration. All attachments associated with this comment letter

have been included in the administrative record for this project and are available for public review.

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VIA EMAIL AND OVERNIGHT DELIVERY

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Re: Comments on the Draft Environmental Impact Report for the Sierra Pacific Industries Cogeneration Power Project

Dear Mr. Salazar:

We are writing on behalf of Citizens for Responsible Industry to comment on the August 2010 Draft Environmental Impact Report ("DEIR") for the Sierra Pacific Cogeneration Power Project, State Clearinghouse No. 2009072011 ("Project"). The Project consists of the construction and operation of a new cogeneration power facility, including a new fuel shed, boiler building, turbine building, cooling tower, electrostatic precipitator, ash silo and electric substation. The boiler associated with the plant will burn biomass fuel consisting of sawmill wood waste, agricultural surplus, and urban wood waste. The Project applicant is Sierra Pacific Industries ("SPI" or "Sierra Pacific"). The Project is located on the SPI Anderson sawmill site on a 121.39-acre parcel in Shasta County, immediately northwest of the city limits of Anderson. 11-1

As explained more fully below, the DEIR does not comply with the requirements of the California Environmental Quality Act ("CEQA"). The County may not approve the Project until the errors in the DEIR are corrected and a revised document is recirculated for public review and comment

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I. INTRODUCTION

Citizens for Responsible Industry ("CRI" or the "Coalition") is an unincorporated association of individuals and labor unions that are concerned about public and worker health and safety risks and environmental and public service impacts from industrial development. The Coalition includes Plumbers and Pipefitters Local 228 and International Brotherhood of Electrical Workers Local 340, and their members and their families, and other individuals who live and work in Shasta County.

The members of CRI include individuals who build, maintain and operate industrial facilities in Shasta County, such as those proposed by the Project. Individual members of the Coalition work in industrial facilities and other areas impacted by the health and safety risks from industrial development. CRI members also live in and use areas that will suffer the public service and environmental impacts related to industrial development, including polluted air, water quality degradation, soil contamination, water supply limitations, traffic congestion, destruction of wildlife areas and exposure to hazardous materials. 11-2

Public service impacts and inadequately mitigated environmental impacts can also jeopardize future jobs by causing construction moratoriums, eliminating protected species and habitat, using limited fresh water, and putting added stresses on the public service and environmental carrying capacity of the State. This reduces future employment opportunities. In contrast, well-designed projects that ensure adequate public service capacity and minimize environmental harm improve long-term economic prospects.

Based on these concerns, the members of the Coalition have a strong interest in ensuring that projects comply with CEQA, as well as all applicable federal, state and local laws and regulations. While CRI recognizes the potential benefits of biomass as a renewable energy source, it is also cognizant of the health and safety and environmental risks associated with the intensive industrial processes involved in the Project.

As these comments will demonstrate, the DEIR fails to comply with the requirements of CEQA and may not be used as the basis for approving the Project.

It fails in significant aspects to perform its function as an informational document that is meant "to provide public agencies and the public in general with detailed information about the effect which a proposed project is likely to have on the environment" and "to list ways in which the significant effects of such a project might be minimized."[1]

Substantial evidence indicates that the Project is likely to cause significant adverse impacts. The DEIR is legally defective due to its failure to adequately identify, evaluate and mitigate these potentially significant impacts. The errors and deficiencies of the DEIR include the following:

- Inconsistencies between the DEIR and the Project's application for Authority to Construct/Permit to Operate submitted to the Shasta County Air Quality Management District ("Shasta County AQMD");
- Failure to adequately disclose, evaluate and mitigate the Project's construction and operational air quality impacts;
- Failure to mitigate the Project's significant greenhouse gas impacts;
- Failure to disclose, evaluate and mitigate potential hazardous material impacts from the Project's use of anhydrous ammonia; and
- Failure to adequately evaluate and mitigate railroad crossing safety impacts.

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The DEIR must be withdrawn and revised to address these errors and deficiencies. Because of the substantial omissions in the information disclosed in the DEIR, revisions necessary to comply with CEQA will be, by definition, significant. In addition, substantial revision will be required to address impacts that were not disclosed in the DEIR. Because these revisions are significant, the revised DEIR will need to be recirculated for additional public comment.[2]

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[1] *Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal.3d 376, 391.
[2] Pub. Resources Code § 21091.1; 14 Cal. Code Regs. ("CEQA Guidelines") § 15088.5; *Laurel Heights Improvement Assn. v. Regents of Univ. of Cal., supra*, 6 Cal.4th at 1129.

We prepared our comments with the assistance of a technical expert, Dr. Petra Pless. The comments of Dr. Pless, along with her *curriculum vitae*, are provided herein as Attachment A. Please note that the comments by Dr. Pless are submitted in addition to this letter, and thus should be evaluated and addressed separately.

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II. CEQA REQUIRES THE DISCLOSURE OF ALL POTENTIALLY SIGNIFICANT PROJECT IMPACTS AND THE INCORPORATION OF ALL FEASIBLE MITIGATION MEASURES NECESSARY TO REDUCE SUCH IMPACTS TO BELOW A LEVEL OF SIGNIFICANCE

CEQA has two basic purposes. First, CEQA is designed to inform decisionmakers and the public about the potential, significant environmental effects of a project.[3] Except in certain limited circumstances, CEQA requires that an agency analyze the potential environmental impacts of its proposed actions in an environmental impact report ("EIR").[4] An EIR's purpose is to inform the public and its responsible officials of the environmental consequences of their decisions before they are made. Thus, an EIR "protects not only the environment but also informed self-government."[5]

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To fulfill this function, the discussion of impacts in an EIR must be detailed, complete, and "reflect a good faith effort at full disclosure."[6] CEQA requires an EIR to disclose all potential direct and indirect, significant environmental impacts of a project.[7] In addition, an adequate EIR must contain the facts and analysis necessary to support its conclusions.[8]

The second purpose of CEQA is to require public agencies to avoid or reduce environmental damage when possible by requiring appropriate mitigation measures

[3] CEQA Guidelines § 15002, subd. (a)(1).
[4] See, e.g., Pub. Resources Code § 21100.
[5] *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 564.
[6] CEQA Guidelines § 15151; *San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App.4th 713, 721-722.
[7] Pub. Resources Code § 21100, subd. (b)(1); CEQA Guidelines § 15126.2, subd. (a).
[8] See *Citizens of Goleta Valley v. Board of Supervisors, supra*, 52 Cal.3d at 568.

and through the consideration of environmentally superior alternatives.[9] If an EIR identifies potentially significant impacts, it must then propose and evaluate mitigation measures to minimize these impacts.[10] CEQA imposes an affirmative obligation on agencies to avoid or reduce environmental harm by adopting feasible project alternatives or mitigation measures.[11] Without an adequate analysis and description of feasible mitigation measures, it would be impossible for agencies relying upon the EIR to meet this obligation.

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As discussed in detail below, the DEIR fails to meet either of these two key goals of CEQA. The DEIR fails to disclose and evaluate all potentially significant environmental impacts of the Project. It further fails to evaluate feasible mitigation measures available to minimize significant impacts. In addition, many of the mitigation measures that are proposed are unenforceable, vague or so undefined that it is impossible to evaluate their effectiveness.

III. THE DEIR IS INCONSISTENT WITH SPI'S PERMIT APPLICATION TO THE SHASTA COUNTY AIR QUALITY MANAGEMENT DISTRICT

The DEIR is legally deficient because it is inconsistent with Appendix B, SPI's Authority to Construct and Prevention of Significant Deterioration permit application ("PSD Application") to the Shasta County AQMD. The DEIR states that the analysis in its air quality section was derived from this PSD Application. The DEIR also incorporates the PSD Application as Appendix B to the DEIR. However, review of the DEIR and Appendix B shows that information contained in these documents differs considerably and that Appendix B does not support the DEIR's air quality section:

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- The DEIR's project description states that the Project's steam turbine/generator would produce up to 31 MW[12]; in contrast, Appendix B

[9] CEQA Guidelines § 15002, subds. (a)(2)-(3); see also, *Berkeley Keep Jets Over the Bay Committee v. Board of Port Commissioners* (2001) 91 Cal.App.4th 1344, 1354; *Citizens of Goleta Valley v. Board of Supervisors, supra,* 52 Cal.3d at 564; *Laurel Heights Improvement Assn. v. Regents of the University of California, supra,* 47 Cal.3d at 400.
[10] Pub. Resources Code §§ 21002.1, subd. (a), 21100, subd. (b)(3).
[11] Pub. Resources Code §§ 21002-21002.1.
[12] DEIR at p. 2.0-3 and 3.2-70.

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states that the Project would generate a maximum of 23 MW.[13] During the scoping meeting for the Project, the consultant to SPI also stated that the Project would generate 23 MW of power.[14]

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- The DEIR states that the Project would constitute a major modification under the federal Clean Air Act and would require a PSD permit.[15] In contrast, Appendix B states that the Project would be a minor modification under the federal Clean Air Act and therefore not subject to the PSD requirements.[16]

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- DEIR Mitigation Measure 3.2-3 requires Shasta County AQMD to "withdraw" sufficient emission reduction credits banked by SPI to offset the net increases of nitrogen oxides ("NOx"), carbon monoxide ("CO"), particulate matter equal to or smaller than 10 micrometers ("PM10"), and reactive organic gases ("ROG") generated by operation of the Project.[17] In contrast, Appendix B states that no offsets are required.[18]

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The DEIR's inconsistency with the PSD Application renders the DEIR legally inadequate. The courts have repeatedly held that "an accurate, stable and finite project description is the sine qua non of an informative and legally sufficient EIR."[19] The DEIR does not meet CEQA's requirements because it relies on the PSD Application, yet the application is wholly inconsistent with the DEIR. Without consistency between these documents, both the CEQA process and the permit application process will be fundamentally flawed. Moreover, these inconsistencies prevent the DEIR from serving as a vehicle for intelligent public participation in the decisionmaking process.[20] The DEIR and the permit application must be revised to resolve these discrepancies.

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[13] DEIR, Appendix B, p. 3.
[14] DEIR, Appendix A, De Novo Planning Group, Scoping Meeting Notes Sierra Pacific Cogeneration Power Plant EIR (July 21, 2009) at p. 2.
[15] DEIR at p. 3.2-12.
[16] DEIR, Appendix B at p. 1.
[17] DEIR at p. 3.2-48.
[18] DEIR, Appendix B at p. 10.
[19] *County of Inyo v. City of Los Angeles* (1977) 71 Cal.App.3d 185, 193.
[20] *Id.* at 197.

IV. THE DEIR FAILS TO ADEQUATELY DESCRIBE CRITICAL COMPONENTS OF THE PROJECT AND FAILS TO PROVIDE ADEQUATE DOCUMENTATION FOR ITS FINDINGS

The DEIR is further inadequate because it fails to describe several key Project components in sufficient detail and fails to disclose sufficient facts to support its findings. The failure to include all components of a project in the project description defeats CEQA's mandate for full public disclosure and consideration of potential impacts.[21] Only through an accurate view of the project may affected outsiders and public decision-makers balance the proposal's benefit against its environmental cost, consider mitigation measures, assess the advantage of terminating the proposal (i.e., the 'no project' alternative) and weigh other alternatives in the balance.[22] Without a complete project description, the environmental analysis in the DEIR is impermissibly narrow, thus understating the project's impacts and undermining public review and disclosure.[23]

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Moreover, in several cases the failure to provide key information resulted in conclusions unsupported by relevant disclosures of facts. CEQA requires conclusions in an EIR to be supported by substantial evidence.[24] Accordingly, an EIR must contain "facts and analysis, not just the bare conclusions of a public agency.[25]

A. The DEIR Fails to Adequately Describe the Biomass Storage and Handling Process

The DEIR fails to describe whether the biomass would arrive as chips that need no further sizing or whether it would be sized on site. The DEIR states that biomass sources for the Project would include SPI-owned or controlled facilities and timberlands including: (1) woodchips from trees; (2) brush and slash from timber harvest operations or wildland fire fuel reduction projects; and (3) agricultural and urban wood wastes, including orchard trees/branches, rice hulls, nut shells, tree

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[21] *Santiago County Water District v. County of Orange* (1981) 118 Cal.App.3d 818, 830.
[22] *County of Inyo v. City of Los Angeles* (1977) 71 Cal.App.3d 185, 193.
[23] See, e.g., *Laurel Heights Improvement Association v. Regents of the University of California* (1988) 47 Cal.3d 376.
[24] Pub. Resources Code § 21081.5; CEQA Guidelines § 15091, subd. (b).
[25] *Santiago Water District v. County of Orange* (1981) 118 Cal.App.3d 818, 831.

trimmings, chipped pallets, commercial and residential source separated material programs, and construction debris.[26] If some or all of this biomass would be sized on site, emissions associated with sizing biomass must be included in estimates of Project operational emissions.

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The DEIR further states that biomass would be stored on site in a fuel shed and, if the fuel shed becomes full, excess fuel would be stockpiled at the outdoor fuel pile. The outdoor fuel pile would be maintained by a front end loader or dozer, and would be moved to the fuel shed as necessary to turnover the fuel at least every 30 days. Storage of pre-sized biomass can lead to dry matter losses and changes in moisture content. Biological and chemical degradation and chemical oxidation processes of biomass can result in increased temperatures within the storage piles which can potentially lead to self-ignition. Further, bacteria and fungi can rapidly grow within the biomass storage pile and potentially pose health risks and generate offending odors. The effects are complex and depend on the particle size, moisture content, and type of the stored biomass and the size and ventilation of the storage piles.[27] The DEIR must be revised to discuss the storage and handling procedures for the different types of biomass, the effects of storage on biomass, and the potential hazards and generation of odors that may result from storing pre-sized biomass.

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B. The DEIR Fails to Provide an Adequate Description of the Project's Fuel Supply

The DEIR is further deficient because it provides an inadequate description of its fuel supply sources. The DEIR states the Project's boiler would consume 219,000 bone dry tons ("BDT") of biomass annually. The DEIR states that wood waste from SPI's Anderson lumber manufacturing facility will supply 80,000 BDT of the biomass per year, while the balance of 139,000 BDT per year would be trucked in from other sources within an average distance of 45 miles.[28]

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The DEIR, however, provides no documentation or evidence to support the estimate that the additional biomass will be shipped from sources within an

[26] *See* DEIR at p. 2.0-4.
[27] Pless Comments, citing Sjaak Van Loo and Jaap Koppejan, Handbook of Biomass Combustion and Co-firing, Earthscan, 2008, pp. 83-85.
[28] DEIR at pp. 2.0-5, 3.2-25.

average distance of 45 miles. It also fails to describe the available sources of fuel, the seasonal availability of biomass, or the percentages of various types of biomass that would be combusted.

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In other recent biomass projects, fuel supply has been a contested issue and at least one project has been withdrawn in part over fuel supply issues.[29] By failing to provide support for this information, the public and decision-makers are unable to independently review these claims or make an independent, reasoned judgment.[30]

It is further unclear whether the Project would result in harvesting of trees for the sole purpose of generating biomass for combustion in the Project's boiler. If this were the case, the harvesting of trees would have to be carefully evaluated in the greenhouse gas analysis for the Project. In addition, the DEIR would need to evaluate the Project's potential indirect impact of inducing additional logging, including clear-cutting, which harms sensitive wildlife species, impacts water and soil quality and increases global warming.

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The DEIR should be revised and recirculated to contain an adequate fuel supply analysis that demonstrates availability of biomass fuels, including the sources of fuel (including their location and distance), the seasonal availability, and the percentages of various biomasses that would be combusted.

C. The DEIR Fails to Adequately Discuss Wastewater Generation and Disposal

The DEIR is also deficient because it fails to adequately disclose the Project's wastewater generation and wastewater disposal process. The Project would operate a two-cell cooling tower with a flow rate of 27,600 gallons per minute. To avoid buildup of dissolved minerals, some of the recirculating cooling water must be drawn off and replenished with fresh water. This drawn off water is referred to as

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[29] Pless Comments, citing Valley Bio-Energy, Modesto, CA; San Joaquin Solar 1&2 Hybrid Power Project, Coalinga, CA; and Martifer Renewables, Letter to California Energy Commission, Re: San Joaquin Solar 1&2 Hybrid Power Project, 08-AFC-12 – Notice of Withdrawal, June 17, 2010 (stating: "*We are not able at this time to resolve some of our issues regarding project economics and biomass supply amongst other things*").

[30] See *Santiago Water District v. County of Orange* (1981) 118 Cal.App.3d 818, 831.

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"cooling tower blowdown." The DEIR, however, is silent on the quantity, chemical composition, and fate of the cooling tower blowdown wastewater. Furthermore, it is unclear whether SPI intends to discharge the blowdown to the Sacramento River or the City's wastewater treatment system, retain it in on-site ponds or treat it on-site. The DEIR also fails to provide any information regarding treatment of steam generation (boiler) process water and the quantity, chemical composition, and disposal of wastewater that would be produced by the steam generation process. Without such information, it is impossible to meaningfully evaluate the Project's potential wastewater impacts. 11-14

D. The DEIR's Analysis of Construction Emissions Is Not Adequately Documented

The DEIR is further deficient because it fails to adequately disclose the basis for its construction emissions analysis. Conclusory statements "unsupported by empirical or experimental data, scientific authorities, or explanatory information of any kind" are insufficient to support findings in an EIR.[31]

The DEIR estimates the Project's unmitigated *daily* construction emissions in pounds per day in Table 3.2-7. The DEIR claims that these estimates are based on URBEMIS 2007 modeling conducted by De Novo Planning in 2010.[32] The URBEMIS modeling runs provided in Appendix J to the DEIR, however, only calculates *annual* construction emissions. Annual construction emissions cannot be readily converted into maximum daily emissions because the amount of pollutants emitted daily during construction can vary greatly depending on the level of activity, the specific operations taking place, the equipment operated, and other variables. Thus, the daily emissions from construction presented in Table 3.2-7 are not supported by any documentation. As a result, the public is unable to independently review and meaningfully assess the Project's estimated daily construction emissions. 11-15

[31] *People v. County of Kern* (1974) 39 Cal.App.3d 830, 841-842.
[32] *See* DEIR, footnote to Table 3.2-7.

V. THE DEIR'S EVALUATION OF AIR QUALITY IMPACTS CONTAINS NUMEROUS ERRORS AND DEFICIENCIES

As described in more detail in the accompanying Pless Comments, the DEIR fails in many critical respects to adequately disclose, evaluate and mitigate the Project's air quality impacts.

A. The DEIR's Estimates of Construction Emissions Fail to Account for Cut-and-fill Activities

The DEIR's air quality analysis is flawed because it fails to adequately disclose and account for construction emissions from cut-and-fill activities.

The DEIR presents unmitigated daily construction emissions in Table 3.2-7 and concludes that emissions of CO, sulfur dioxide ("SO_2"), ROG, PM10 and particulate matter equal to or smaller than 2.5 micrometers ("PM2.5") would not exceed the Shasta County AQMD's significance thresholds for construction emissions. While the DEIR fails to provide URBEMIS 2007 printouts for *daily* construction emission estimates, the annual estimates provided in Appendix J indicate that the DEIR's Table 3.2-7 emission estimates did not include the Project's cut-and-fill activities.

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Cut-and-fill activities result in considerable emissions of fugitive dust particulate matter both on- and off-site. When these emissions are included, fugitive dust PM10 emissions generated during construction may well exceed the Shasta County AQMD's threshold of significance of 80 pounds per day. Thus, the DEIR should be revised to include documentation for daily emissions during construction including cut-and-fill activities and, if the threshold is exceeded, include adequate mitigation.

The DEIR's analysis of potential impacts from cut-and-fill activities is further inadequate because it fails to describe the extent of the activities. The DEIR states that the amount of over-excavation of incompetent materials (cut) at the Project site and replacement with recompacted engineered fill material necessary to meet the foundation specifications "is yet to be determined."[33]

[33] DEIR at p. 2.0-6.

An estimate of the amount of cut-and-fill, however, is critical to providing an adequate air quality analysis. For example, the analysis of construction emissions must include fugitive dust and equipment and haul truck exhaust emissions associated with cut-and-fill activities. Similarly, without knowing the amount of cut that would be transported off-site and the amount of engineered fill that would be transported to the site, the traffic impact analysis for Project construction is incomplete. Without providing at least a conservative estimate of the scope of cut-and-fill activities, an adequate evaluation of the impacts of Project construction on air quality and traffic is not possible. 11-16

CEQA places the burden of environmental investigation on the government rather than the public. Accordingly, the County may not avoid evaluating cut-and-fill impacts by hiding behind "its own failure to gather relevant data."[34] At a minimum, the DEIR should be revised to estimate the maximum amount of cut and fill that may be required and incorporate this conservative estimate into a revised air quality analysis.

B. The DEIR Lacks Foundation for Its Conclusion that Proposed Mitigation Measures Would Reduce the Project's Construction Emissions of NOx to a Less than Significant Level

The DEIR's air quality analysis is further inadequate because it fails to identify any evidence or analysis to support its conclusion that proposed mitigation measures would reduce nitrogen oxides ("NOx") construction emissions to a less than significant level. The DEIR finds that Project construction would result in 50.15 pounds per day of NOx emissions from equipment and vehicle exhaust. This more than doubles the Shasta County AQMD's NOx threshold of 25 pounds per day.[35] The DEIR, however, assumes that implementation of Mitigation Measure 3.2-2 would reduce these NOx emissions to a less than significant level.[36] 11-17

The DEIR's assumption that these mitigation measures would reduce NOx emissions to below 25 pounds a day, however, lacks any foundation. CEQA requires conclusions in an EIR to be supported by substantial evidence.[37] Conclusory

[34] *Sundstrom v. County of Mendocino* (1988) 202 Cal.App.3d 296, 311.
[35] DEIR at p. 3.2-21.
[36] DEIR at pp. 3.2-23 – 3.2-24.
[37] Pub. Resources Code § 21081.5; CEQA Guidelines § 15091, subd. (b).

statements "unsupported by empirical or experimental data, scientific authorities, or explanatory information of any kind" are insufficient to support a finding of insignificance.[38] Furthermore, an EIR must provide the reader with the analytic bridge between its ultimate findings and the facts in the record.[39]

Here, the DEIR fails to describe the analytic route it traveled in determining that implementation of Mitigation Measure 3.2-2 would reduce construction emissions of NOx to a less than significant level. The DEIR assumes that these measures would reduce combustion emissions during Project construction to below the Shasta County AQMD's thresholds, but fails to provide any quantitative analysis or other evidence to support this assumption. The DEIR must be revised to include such a quantitative analysis of the effectiveness of Mitigation Measure 3.2-2 in order to demonstrate that these measures are likely to reduce emissions to a less than significant level. 11-17

C. Mitigation Measures for Construction Emissions Are Vague and Unenforceable

The DEIR air quality analysis is also inadequate because it relies on vague and unenforceable mitigation measures to reduce construction emissions. Under CEQA, mitigation measures must be fully enforceable and capable of execution.[40] The purpose of these requirements under CEQA is "to ensure that feasible mitigation measures will actually be implemented as a condition of development, and not merely adopted and then neglected or discarded."[41] 11-18

Mitigation Measures 3.2-2 requires the applicant's contractor to "Limit the area subject to excavation, grading, and other construction activity at any given time."[42] However, this measure fails to provide any guidelines or standards for determining the amount of area allowed to be excavated, graded or constructed at the same time. Without such guidance, this mitigation measure is meaningless.

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[38] *People v. County of Kern* (1974) 39 Cal.App.3d 830, 841-842.
[39] *Topanga Association for a Scenic Community v. County of Los Angeles* (1974) 11 Cal.3d 506; see CEQA Guidelines, § 15091.
[40] Pub. Resources Code § 21081.6(a), (b); *Federation of Hillside and Canyon Assns. v. City of Los Angeles* (2000) 83 Cal.App.4th 1259, 1261.
[41] Pub. Resources Code § 21002.1(b); *Federation of Hillside and Canyon Assns. v. City of Los Angeles* (2000) 83 Cal.App.4th 1259, 1261.
[42] DEIR at p. ES-7.

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Mitigation Measures 3.2-2 also requires the applicant's contractor to "Limit the hours of operation of heavy-duty equipment and/or the amount of equipment in use." This measure also fails to provide any guidelines or standards for determining when, and how long, heavy-duty equipment may be used during construction.[43] Again, this lack of guidance renders this mitigation measure meaningless. 11-18

These measures must be revised to provide sufficient detail to allow public review and to ensure meaningful implementation.

D. The DEIR Fails to Include Operational Emissions from All Emission Sources

The DEIR's air quality analysis is further deficient because it fails to consider operational emissions from all emission sources. The DEIR calculates the estimated vehicle emissions associated with trucks delivering biomass and employee vehicle traffic and estimated emissions from normal operation of the biomass boiler and cooling tower.[44] However, the Project would include several additional sources of emissions that were not included in the DEIR's analysis. The additional sources of operational emissions omitted from the DEIR's analysis include the following: (1) combustion emissions from the trucks moving fuel from the existing on-site planer and pole yard across the yard; (2) combustion emissions from the front end loader or dozer moving fuel into the fuel shed and maintaining the outdoor fuel pile; (3) emissions associated with refueling trucks and equipment on site; (4) fugitive dust emissions associated with biomass handling; and (5) fugitive dust emissions associated with ash handling and disposal. 11-19

The DEIR states that additional material handling operations associated with the Project would be enclosed and, as a result, fugitive dust emissions associated with the Project are "expected to be negligible."[45] In light of the inadequate description of the material handling operations discussed earlier, this conclusory statement lacks foundation and is speculative.

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[43] *Id.*
[44] DEIR, Table 3.2-8, p. 3.2-25, and Table 3.2-9, p. 3.2-26.
[45] DEIR at p. 3.2-26.

The DEIR should be revised to include emission estimates for all emission sources and, if necessary, require adequate mitigation. 11-19

E. The DEIR's Calculation of the Project's Net Annual Emission Increases Is Erroneous

The DEIR's air quality analysis is also deficient because it significantly understates the net annual emission increases associated with the Project. CEQA requires that an EIR must not only identify the impacts, but must also provide "information about how adverse the impacts will be."[46] By understating the Project's actual air quality impacts, the County and the general public are prevented from meaningfully weighing the impacts of the Project against the Project benefits when considering adoption of a statement of overriding considerations.

The DEIR calculates the cogeneration unit annual emissions and net annual emission increases associated with the Project based on the annual *average* heat input rate to the boiler of 425.4 MMBtu/hr and continuous operation (8,760 hours/year).[47] This determination is erroneous because annual emissions must be based on a boiler's "potential to emit," *i.e.*, the maximum heat input (or capacity) of the boiler, not an assumed annual average heat input. 11-20

Under the federal Clean Air Act, the potential to emit is defined as "the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the source to emit a pollutant, *provided the limitation or its effect on emissions is federally enforceable*, shall be treated as part of its design."[48] Thus, unless the permit would include a federally enforceable condition restricting emissions based on the boiler's *annual average* hourly heat input, net emissions must be calculated based on the boiler's *maximum* annual hourly heat input.

The DEIR, however, proposes no such enforceable condition. Moreover, review of the Permit to Operate issued by the Shasta County AQMD for the existing cogeneration facility shows that annual emission limitations are based on the

[46] *Santiago County Water Dist. v. County of Orange* (1981) 118 Cal.App.3d 818, 831.
[47] DEIR, Table 3.2-9 (*see* footnote 2), p. 3.2-26, and Table 3.2-11, p. 3.2-27.
[48] 40 C.F.R. § 52.21(b)(1)(i)(a) (2007).

maximum hourly heat input to the boiler.[49] Thus, the DEIR must be revised to disclose net emission increases based on the maximum heat input to the boiler of 468.0 MMBtu/hr. This corrected analysis results in a 10% increase in annual emissions from the boiler.[50] Net annual emission increases associated with the Project will be correspondingly higher. The DEIR must be revised accordingly and air quality modeling must be performed based on the revised net emission increase. 11-20

F. The DEIR Fails to Disclose and Evaluate the Project's Potentially Significant Impact on Compliance with Newly Adopted Standards for Nitrogen Dioxide

The DEIR's air quality analysis is also deficient because it fails to disclose and evaluate the Project's compliance with newly adopted standards for nitrogen dioxide ("NO_2"). On February 9, 2010, the U.S. Environmental Protection Agency ("U.S. EPA") published a new 1-hour national ambient air quality standard ("NAAQS") for NO_2 at a level of 100 parts per billion ("ppb") (approximately 188 $\mu g/m^3$).[51] This new standard became effective on April 12, 2010, which means that permits issued under U.S. EPA's PSD rules (40 CFR 52.21) on or after April 12, 2010, must contain a demonstration that allowable emissions from any new major stationary source or major modification will not cause or contribute to a violation of the new 1-hour NO_2 NAAQS. There are no exceptions under 40 CFR 52.21 in this case because the U.S. EPA has not adopted a grandfathering provision applicable to the 1-hour NO_2 NAAQS.[52] 11-21

The DEIR, however, fails to evaluate the Project's compliance with this rule. Neither the DEIR nor the PSD Report in the DEIR's Appendix B evaluates whether the Project's emission would cause or contribute to a violation of the new 1-hour NO_2 NAAQS. In fact, both documents fail to mention the new 1-hour NO_2 NAAQS, at all. Moreover, the Project's operational emissions for NO_2 exceed the U.S. EPA's interim Significant Impact Level ("SIL"). As a result additional impact analysis is

[49] Shasta County Air Quality Management District, Permit to Operate, Sierra Pacific Industries, Anderson Division, 80,000 lb/hr Wood Fired Boiler (116.4 MMBtu/hr) (Dec. 2008) Condition 24, p. 4.
[50] (468.0 MMBtu/hr) / (425.4 MMBtu/hr) = 1.10.
[51] 75 Fed. Reg. 6474-6537, February 9, 2010.
[52] U.S. Environmental Protection Agency, Memorandum from Stephen D. Page, Director, to Air Division Directors and Deputies, Regions I – X, Re: Applicability of the Federal Prevention of Significant Deterioration Permit Requirements to New and Revised National Ambient Air Quality Standards, April 1, 2010.

required to determine whether the cumulative impact of the Project's NO_2 emissions would result in a significant deterioration of air quality.

The U.S. EPA requires a new or modified facility to conduct comprehensive, multisource modeling unless the facility's estimated maximum emissions of a given pollutant are less than the pollutant's SIL. The SIL is a *de minimis* threshold applied to individual facilities that apply for a permit to emit a regulated pollutant in areas that are designated attainment.[53]

The SIL is used to determine whether a source may cause a violation of the PSD increment[54] or the NAAQS, or, in other words, would result in a significant deterioration of air quality. If an individual facility or a modification of a facility increases emissions greater than the established SILs, the permit applicant is required to perform additional analyses to determine if this will result in exceedance of the PSD increment. This analysis evaluates the cumulative impact of the proposed facility when added on to all other sources in the area.

11-21

The U.S. EPA has published guidance for determining compliance with the new 1-hour NO_2 NAAQS and has proposed an interim SIL equal to 4% of the 1-hour NAAQS of 100 ppb[55], *i.e.*, 4 ppb or about 8 $\mu g/m^3$.[56] The DEIR's Class II[57] air

[53] An attainment area is considered to have air quality as good as or better than the NAAQS. An area may be an attainment area for one pollutant and a non-attainment area for other pollutants.
[54] A PSD increment is the amount of pollution an area is allowed to increase. PSD increments prevent the air quality in clean areas from deteriorating to the level set by the NAAQS. The NAAQS is a maximum allowable concentration "ceiling." A PSD increment, on the other hand, is the maximum allowable increase in concentration that is allowed to occur above a baseline concentration for a pollutant. The baseline concentration is defined for each pollutant and, in general, is the ambient concentration existing at the time that the first complete PSD permit application affecting the area is submitted. Significant deterioration is said to occur when the amount of new pollution would exceed either the applicable PSD increment or the applicable NAAQS.
[55] U.S. Environmental Protection Agency, Memorandum from Stephen D. Page, Director, Office of Air Quality Planning and Standards to Regional Air Division Directors, Re: Guidance Concerning the Implementation of the 1-hour NO_2 NAAQS for the Prevention of Significant Deterioration Program, June 29, 2010.
[56] At standard ambient temperature of 25°C: (4 ppb) × (12.187) × (molecular weight of NO_2: 46.01) / (293.15°K) = 7.65 $\mu g/m^3$.
[57] Class II areas are essentially the entire country save for areas designated as Class I areas, which are National Parks, Wilderness Areas, and other areas where the smallest PSD increments have been imposed to allow the smallest degree of air quality deterioration. Class II areas have been deemed able to accommodate normal, well-managed industrial growth, and, therefore, have higher

quality impact analysis shows that the Project would result in a maximum increase of 14.0 µg/m³ NO_2 on a 1-hour basis[58], which exceeds the U.S. EPA-recommended interim 1-hour NO_2 SIL of 8 µg/m³ by almost 80 percent.[59]

11-21

Thus, the DEIR must be revised to include additional evaluation of the potential cumulative impacts of the Project's NO_2 emissions.

G. The DEIR Must Provide a Class I Impact Analysis

The DEIR's air quality analysis is also deficient because it fails to provide a Class I Impact Analysis. PSD guidance requires an analysis of potential impacts on air quality-related values ("AQRVs") in federal Class I areas within 100 kilometers (62.1 miles) of the proposed site from pollutants emitted by the Project subject to PSD review. In addition, Federal Land Managers generally require applications to also evaluate AQRV impacts for Class I areas within 200 kilometers (124 miles) of the site.

There are four Class I areas within 100 kilometers of the Project site requiring an AQRV analysis and four other areas that are within the expanded range of 200 kilometers as shown in Table 1.

11-22

Table 1: Class I areas within 250 kilometers of the Project site

Class I Area	Distance (km)	Distance (miles)
Yolla Bolly-Middle Eel Wilderness Area	57	35
Thousand Lakes Wilderness Area	62	39
Lassen Volcanic National Park	64	40
Caribou Wilderness Area	89	55
Marble Mountain Wilderness Area	116	72
Redwood National Park	147	91

PSD increments.
[58] DEIR, Appendix B, Table 4-4, p. 31.
[59] (14.0 µg/m³) / (7.65 µg/m³) = 1.8.

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Class I Area	Distance (km)	(miles)
Lava Beds National Monument	148	92
South Warner Wilderness Area	192	119

11-22

The AQRVs of concern include visibility, soil, flora, fauna and aquatic resources. The DEIR must be revised to include the respective analyses to comply with the PSD requirements under the federal Clean Air Act.

H. The DEIR Fails to Include Enforceable Restrictions on the Burning of Contaminated Urban Wood Waste, Railroad Ties and Tires

The DEIR is also inadequate because it fails to ensure that the Project's biofuel will not contain contaminated urban wood waste, railroad ties, tires or other waste that may result in undisclosed toxic and carcinogenic emissions. The DEIR assumes that the Project would burn only non-treated wood pulp, sawdust and other natural un-treated wood waste that is generated onsite by the existing sawmill operations; agricultural and timber wood wastes; and urban biomass fuel or urban wood waste. The DEIR also assumes that construction and demolition debris will only be used if it is a clean source separated material such as ground up wood that does not include such things as railroad ties, wallboard and general debris or any other treated or painted wood.[60] The DEIR, however, fails to include any conditions specifying a restriction on materials that can be burned as an enforceable mitigation measure for the Project.

11-23

During the scoping meeting on this Project, however, a public comment was made that there is another plant that was approved for biomass burning based on a similar proposal, but the plant now burns tires, railroad ties and other carcinogenic materials. The commentator asked if the Project's use permit would be conditioned on not allowing the burning of carcinogenic materials. In response the consultant refused to commit to the Project never burning such materials and stated that such

[60] DEIR at pp. 2.0-4, 3.6-13.

a condition is something that the County would determine.[61] The DEIR, however, fails to identify such a condition as a mitigation measure for the Project.

There is no question that the combustion of urban waste poses a significant risk of emitting hazardous chemicals. Construction and demolition ("C&D") wood waste may be contaminated with a variety of hazardous chemicals, including heavy metals such as copper, chromium, arsenic, cadmium, lead, mercury, zinc, and beryllium, and organic contaminants such as creosote, pentachlorophenol, dioxin, polychlorinated biphenyls, polycyclic aromatic hydrocarbons, solvents, and volatile organic compounds.[62] Incineration results in volatilization of metals during combustion and accumulation of metals in ash, which may result in health and environmental impacts.[63] Limited test data indicate that concentrations of arsenic and dioxin are doubled and quadrupled, respectively, when burning 50 percent C&D wood compared to burning only forest biomass.[64]

11-23

A critical element in minimizing air emissions, especially toxic air contaminants, is the elimination of copper-chromium-arsenic ("CCA")-treated and pentachlorophenol-treated ("penta-treated") wood and the minimization of painted wood in the C&D wood waste.[65] CCA is a major arsenic-based treatment chemical used to preserve wood. Although in the U.S. it is no longer used for residential uses, it is still used in industrial applications. Wood preservatives, especially CCA, accounted for most of the arsenic consumption in U.S. until about 2004. As a result, a large quantity of arsenic-treated wood is currently in use and is present in significant amounts in C&D waste. Its presence in the disposal sector is predicted to increase heavily in the near future.

The separation of uncontaminated wood products from C&D debris can be difficult. No statewide standards for the content of C&D waste exist and most waste management firms rely on their own standards and specifications to remove

[61] DEIR, Appendix A, De Novo Planning Group, Scoping Meeting Notes Sierra Pacific Cogeneration Power Plant EIR (July 21, 2009) at p. 2.
[62] Pless Comments citing, Ellen Moyer, Ph.D., P.E., Should Construction and Demolition Wood Be Burned? An Evaluation of NESCAUM's May 2006 Report, December 20, 2007.
[63] Pless Comments citing, Florida Center for Solid and Hazardous Waste Management, Final Report of Evaluation of Thermal Processes for CCA Wood Disposal in Existing Facilities, May 15, 2006.
[64] Pless Comments citing, Ellen Moyer, Should Construction and Demolition Wood Be Burned? An Evaluation of NESCAUM's May 2006 Report, December 20, 2007, p. 23.
[65] *Id.*

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the majority of the contaminants and non-burnables from the C&D waste.[66] The DEIR provides no description of the method or standards for separating out contaminated urban wood waste and no estimate of the amount of contaminated waste that may slip through the separation process.

Due to concerns regarding the release of hazardous substances, several states have restricted or banned the use of C&D wood waste as fuel for biomass plants and other purposes. For example, New Hampshire has banned the use of C&D debris regardless of whether it is clean, unadulterated waste from construction sites or pressure-treated and painted wood, for example, from demolition activities. The State of Massachusetts has implemented a moratorium on use of C&D waste. The City of Portland, Oregon, prohibits any use, including combustion, of painted or pressure-treated woods except in "incidental" quantities.[67] The Maine Department of Environmental Protection has published detailed specifications limiting the permissible fraction of non-combustible materials, plastics, CCA-treated wood, and asbestos in C&D wood waste and specifying fuel quality standards for arsenic, lead and PCBs in blended biomass fuel.[68] 11-23

The DEIR must be revised to require an enforceable permit condition excluding railroad ties, tires, and construction and demolition debris from combustion or must revise its emission estimates and health risk assessment to include those fuels. If such fuels are allowed, the resultant health risks must be disclosed to the community and maximum available control technology ("MACT") should be imposed to control and monitor the emissions.

VI. THE DEIR FAILS TO IDENTIFY AND REQUIRE MITIGATION MEASURES AVAILABLE TO ADDRESS GLOBAL WARMING 11-24

The DEIR finds that the Project's cumulative effects on climate change and global warming from the emission of greenhouse gases ("GHGs") are significant and

[66] Pless Comments.
[67] Pless Comments citing, Ron Kotrba, The Politics of 'Dirty' Wood, Biomass Magazine, April 2009.
[68] Pless Comments citing, Maine Department of Environmental Protection, Maine Solid Waste Management Rules: Chapter 418, Beneficial Use of Solid Wastes, June 16, 2006, pp. 13-14.

unavoidable.[69] Despite this finding of significance, the DEIR failed to require any mitigation, whatsoever, for the Project's GHG emissions. Instead, the DEIR makes the conclusory claim that no feasible mitigation measures are available[70] The DEIR, however, lacks any foundation for this claim.[71] The DEIR fails to identify or evaluate any potential mitigation measures and provides no analysis to support its conclusion that no feasible mitigation measures are available.[72]

The DEIR's failure to identify and evaluate potential mitigation measures for GHG emissions is a prima facie violation of CEQA. CEQA imposes an affirmative obligation on agencies to avoid or reduce environmental harm by adopting feasible project alternatives or mitigation measures.[73] If an EIR identifies potentially significant impacts, it must then propose and evaluate mitigation measures and alternatives sufficient to minimize these impacts.[74] This requirement is the heart of CEQA. Accordingly, an agency may only adopt a statement of overriding considerations only ***after*** it has imposed all feasible mitigation measures to reduce a project's impact to less than significant levels.[75]

11-24

[69] DEIR at p. ES-9, Impact 3.3-1. The DEIR states that biomass burning may be carbon neutral since it may use biomass material that would otherwise still release GHGs through open burning or decomposition in a landfill. (DEIR at p. 3.2-71.) The DEIR, however, recognizes that it is impossible to determine if the Project's burning of biomass fuel would, in fact, be carbon neutral or carbon positive compared to the potential alternative uses or disposal of the Project's biomass fuel. As a result the DEIR determines that the Project would likely result in significant GHG emissions. (*Id.*) In addition, biomass burning in cogeneration plants would only be carbon neutral compared to decomposition of biomass in landfills on a very long time scale (hundreds of years), if at all. GHG emissions resulting from the Project, on the other hand, will be felt most significantly in the short term. Given the general consensus that GHG emissions must be reduced immediately, reduction of GHG emissions hundreds of years from now will not mitigate the current threat of global warming. Accordingly, the DEIR correctly found that the Project's GHG emissions were significant.

[70] DEIR at p. ES-9.

[71] CEQA requires conclusions in an EIR to be supported by substantial evidence. (Pub. Resources Code § 21081.5; CEQA Guidelines § 15091, subd. (b).) Moreover, an EIR must disclose the analytic route the agency traveled from evidence to action." (*Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 733.)

[72] See DEIR at pp. 3.2-59 to 3.2-72, 4.0-4.

[73] Pub. Resources Code §§ 21002-21002.1; CEQA Guidelines § 15002, subds. (a)(2)-(3); see also, *Berkeley Keep Jets Over the Bay Committee v. Board of Port Commissioners* (2001) 91 Cal.App.4th 1344, 1354; *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 564; *Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal.3d 376, 400.

[74] Pub. Resources Code §§ 21002.1, subd. (a), 21100, subd. (b)(3).

[75] CEQA Guidelines §§ 15126.4, 15091, 15092(b)(2).

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Contrary to the DEIR's assumption, there are many feasible measures available for meaningful mitigation of the Project's GHG impacts. These include:

(1) Energy Audits and Retrofits at SPI Facilities: Mitigation could include offsetting the Project's GHG emissions through a comprehensive audit of existing Sierra Pacific facilities and processes to identify and implement energy saving measures, including improving the efficiency of existing equipment so that it uses less electricity or burns less fuel. Some of these energy measures could include replacing all SPI-owned haul trucks, on-site trucks, front end loaders or dozers with new energy-efficient models that comply with the most stringent U.S. EPA emission limits. Similar mitigation was adopted in a September 2007 agreement between the California Attorney General's office and ConocoPhillips, in which ConocoPhillips agreed to mitigate GHG emissions for a planned hydrogen facility by, among other measures, undertaking an energy efficiency audit and carbon emissions audit for all of its California facilities.[76]

11-25

(2) Community Energy Efficiency Building Retrofits: Mitigation could include offsetting the Project's GHG emissions by providing funding to programs that provide for energy efficiency retrofits of existing buildings and housings in Shasta County, with a particular focus on rental and low-income housing. These upgrades could include installation of a heat-reflecting "cool roof" and heat-reducing window awnings, high-efficiency air conditioning systems with programmable thermostats, and energy-saving fluorescent lighting fixtures that feature daylight and occupancy sensors. Indeed, new proposed power plants already provide mitigation funds for criteria pollutants and should be required to do the same for greenhouse gas emissions. As one example, the Chula Vista Energy Upgrade Project included $210,000 worth of mitigation funds "for energy efficiency and related improvements to local homes and business, . . . intended to directly benefit the residents potentially most affected by the proposed project."[77]

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[76] Pless Comments, citing ConocoPhillips and California Attorney General Settlement Agreement (Sept. 10, 2007).
[77] Pless Comments, citing Docket No. 07-AFC-4, Chula Vista Energy Upgrade Project, FSA Addendum at 3 (Sept. 30, 2008).

(3) Greening Local Farm Operations: Mitigation could include offsetting the Project's GHG emissions by funding the installation of anaerobic manure biodigesters to recover methane from animal manure in local farm operations. Methane is over 20 times more effective in trapping heat in the atmosphere than carbon dioxide.

(4) Fund Carbon Offset Programs: Mitigation could include providing funds to the Shasta County AQMD, Audubon Society, California Wildlife ReLeaf or other organizations to fund carbon reduction or sequestration projects. For example, the 2007 ConocoPhillips settlement included an agreement to mitigate and offset GHG emissions by providing: (1) $7 million to a Bay Area Air Quality Management District to create a fund for carbon offsets; (2) $200,000 to the Audubon Society for restoration of wetlands in the San Pablo Bay, for purposes of carbon sequestration; and (3) $2.8 million to California Wildlife ReLeaf for reforestation projects, estimated to sequester 1.5 million metric tons of CO2 over the lifetime of the forest.[78]

11-25

VII. THE DEIR FAILS TO ANALYZE POTENTIALLY SIGNIFICANT IMPACTS ON PUBLIC HEALTH AND SAFETY ASSOCIATED WITH TRANSPORT, STORAGE AND USE OF ANHYDROUS AMMONIA

The DEIR is legally inadequate because it fails to adequately disclose the Project's use of anhydrous ammonia and fails to evaluate the potential hazard risks from transporting, storing, and using this extremely hazardous substance. As discussed below, the Project will use and store a significant amount of Ammonia. Accidents spilling ammonia can occur during transport, unloading, storage and on-site use. These releases could result in significant impacts to residents and workers along the transportation route, to workers at the refinery and to residents and workers around the refinery.

11-26

The air quality section of the DEIR states that the Project's biomass-fired, stoker-type boiler would be equipped with the use of an integral selective non-catalytic reduction ("SNCR") to reduce NOx emissions.[79] In the SNCR process,

[78] Pless Comments, citing ConocoPhillips and California Attorney General Settlement Agreement (Sept. 10, 2007).
[79] DEIR at p. 3.2-36.

ammonia is mixed with the exhaust from the combustion device and the NOx in the exhaust reacts with the introduced ammonia to form nitrogen and water. The reagent is typically injected at the exit of the furnace to mix with the hot flue gases. The reagent can be anhydrous ammonia, aqueous ammonia or urea dissolved in water.[80] The DEIR is silent on which type of ammonia would be used; however Appendix B to the DEIR discloses that the Project's SNCR system would be injected with anhydrous ammonia.[81]

Ammonia is an extremely hazardous substance.[82] At low concentrations in air, ammonia irritates the eyes, nose and throat. At higher concentrations, it causes coughing, bronchial spasms, conjunctivitis, laryngitis, and pulmonary edema, possibly accompanied by a feeling of suffocation. Severe eye damage and death, generally from pulmonary edema, can result from exposures to over 2,000 ppm.[83]

Ammonia comes in various forms: (1) solid or liquid urea; (2) aqueous ammonia; and (3) anhydrous ammonia. Of these various types of ammonia that are commonly used in a SNCR system, anhydrous is by far the most dangerous. Yet anhydrous ammonia was selected for use in the Project's SNCR system with no analysis or evaluation in the DEIR whatsoever.

11-26

The DEIR's Hazards and Hazardous Materials section, for example, fails to even disclose that anhydrous ammonia will be transported to, stored and used at the Project.[84] Instead, the DEIR's Hazards and Hazardous Materials section incorrectly claims that the Project uses only "limited amounts of common hazardous materials," such as petroleum based fuels, oils and lubricants.[85] Given the danger associated with anhydrous ammonia, this section of the EIR should have contained a detailed description of the Project's use of ammonia and a meaningful analysis of

[80] DEIR at p. 3.2-31.
[81] DEIR, Appendix 3 at p. 3.
[82] Pless Comments, citing Tanner Industries, Storage and Handling of Anhydrous Ammonia, Revised May 1998.
[83] Pless Comments, citing Tanner Industries, Storage and Handling of Anhydrous Ammonia, Revised May 1998; Chemical Industries Association, Guidance for the Large Scale Storage of Fully Refrigerated Anhydrous Ammonia in the UK, June 1997; National Institute for Occupational Safety and Health, Criteria for Recommended Standard, Occupational Exposure to Ammonia, 1974.
[84] See DEIR at Section 3.6.
[85] DEIR at p. 3.6-14.

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the potential hazards associated with the Project's transport, storage and use of this hazardous substance.

Without an accurate description on which to base the DEIR's analysis, CEQA's objective of furthering public disclosure and informed environmental decisionmaking would be impossible and consideration of mitigation measures and alternatives would be rendered useless.[86] The DEIR should be revised to disclose the following information: type of ammonia, amount of ammonia, type of on-site storage; design details of on-site storage and containment, e.g., volume, throughput, material of construction, dimension, above ground or below ground; design of ammonia unloading system; process and instrument diagrams showing routing of ammonia through the plant; type of tanker trucks used to transport ammonia to the facility; unloading procedures; and point of origin and transportation routes. Because these key Project features are not described, the related impacts cannot be evaluated; mitigation measures cannot be imposed; and alternatives cannot be effectively evaluated.

11-26

The risks from transporting, storing and using anhydrous ammonia are generally considered significant when analyzed in CEQA documents.[87] This is because accidental releases of anhydrous ammonia during its transport, unloading, storage, and use at the site will result in significant impacts to off-site receptors and on-site workers. According to the U.S. EPA Risk Management Plan guidance documents, at a wind speed of 1.5 miles per hour, the release of 7,500 pounds of anhydrous ammonia in 10 minutes time from a pressurized system (*i.e.*, a

[86] *County of Inyo v. City of Los Angeles* (1977) 71 Cal.App.3d 185, 192-193, 197-198, 203.
[87] For example, the South Coast Air Quality Management District ("South Coast AQMD") evaluated the hazards of transporting both aqueous and anhydrous ammonia to the Redondo Generating Station's selective catalytic reduction system. The South Coast AQMD concluded that the consequences and probability of accidents involving anhydrous ammonia were significant and required instead the use of aqueous ammonia and off-peak delivery to mitigate impacts. (South Coast AQMD, Final Subsequent EIR: Anhydrous Ammonia Storage Tanks Installation at Redondo Generating Station (December 1992).) Many EIRs prepared for reformulated fuels projects at major refineries in California also evaluated the risks of transporting anhydrous ammonia. Most of these EIRs concluded that transportation impacts were significant and imposed mitigation, including stricter hiring policies for drivers, improved driver training, delivery restrictions during adverse weather conditions, enhanced vehicle inspection programs, enhanced vehicle maintenance programs, and off-peak hour transportation and delivery.

catastrophic leak) will have a plume with a toxic end point 3.2 miles downwind from the site of the leak.[88]

While the DEIR does not disclose how much anhydrous ammonia would be used and stored as a result of this Project, a likely estimate can be derived by looking at other cogeneration projects.[89] Typically, similarly-sized projects would receive approximately one delivery per month for a total of 50 truckloads per year and would store anhydrous ammonia in one 2,000-gallon pressurized steel tank.[90] A 2,000 gallon tank can store about 8500 pounds of anhydrous ammonia under pressure.

11-26

Based upon this estimate, a catastrophic leak of ammonia at the Project site could expose anyone between the leak and 3.2 miles downwind to dangerous concentrations of anhydrous ammonia. Here, the Verde Vale Elementary School is located only 0.38 miles to the southwest of the proposed cogeneration facility[91] and hundreds of residences and several places of worship are located within a 3-mile radius of the Project site, including the JGW RV Park within a ½ mile of the Project. The risks to these sensitive receptors must be disclosed and evaluated in a revised DEIR.

VIII. DEIR FAILS TO EVALUATE THE PROJECT'S IMPACT ON RAILROAD CROSSING SAFETY

11-27

The DEIR is also deficient because it fails to evaluate the Project's potential impact on railroad crossing safety. A letter to Shasta County from Daniel Kevin at the California Public Utilities Commission ("CPUC") indicated that the EIR should

[88] Pless Comments, citing U.S. Environmental Protection Agency studies.
[89] CEQA places the burden of environmental investigation on the government rather than the public. As a result an agency is not allowed to "hide behind its own failure to gather relevant data." (*Sundstrom v. County of Mendocino* (1988) 202 Cal.App.3d 296, 311.) "Deficiencies in the record may actually enlarge the scope of fair argument by lending a logical plausibility to a wider range of inferences." (*Id.*)
[90] Pless Comments, citing Modesto Irrigation District, Initial Study and Proposed Mitigated Negative Declaration, Valley Bio-Energy, LLC, 33-MW Biomass Energy Project, June 8, 2010 (proposed 33-MW biomass-fired, stoker-type boiler with a heat input of 402 MMBtu/hr generating 265,000 pounds per hour steam).
[91] DEIR at p. 3.2-6.

discuss traffic safety at the rail crossing locating at the intersection of Ox Yoke Road and Riverside Avenue.[92] The CPUC specifically requested that the DEIR look at the possibility of traffic queues extending across the tracks. The DEIR evaluates the traffic impact of the Project on the level of service at the intersection of Ox Yoke Road and Riverside Avenue, but fails to evaluate the Project's cumulative impact on safety at this crossing. Most glaringly, the DEIR fails to evaluate the specific safety question raised by the CPUC of whether the Project may contribute to traffic queues extending across the track. The DEIR also fails to disclose and evaluate the potential risk from the transportation of increased amounts of hazardous materials such as ammonia over this rail crossing as a result of the Project. The DEIR should be revised and recirculated to address these issues.

11-27

IX. THE COUNTY MUST PREPARE AND RECIRCULATE A REVISED DEIR AS A RESULT OF ITS INADEQUACIES

CEQA requires a lead agency to recirculate an EIR when significant, new information is added to the EIR following public review but before certification.[93] The CEQA Guidelines clarify that new information is significant if "the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project" including, for example, "a disclosure showing that ... [a] new significant environmental impact would result from the project."[94]

11-28

As discussed above, the proposed Project will have numerous impacts that are different and more severe than those described in the EIR, including impacts related to air quality, hazards and hazardous materials and train crossing safety. The EIR also lacks adequate mitigation for the significant impacts it identifies, such as global warming and construction emissions. A revised and recirculated EIR is required.

[92] DEIR at p. 3.10-1.
[93] Pub. Resources Code § 21092.1.
[94] CEQA Guidelines § 15088.5.

X. CONCLUSION

The proposed DEIR fails to fulfill its responsibilities under CEQA. The comments presented above identify numerous impacts that are undisclosed, erroneously evaluated or insufficiently mitigated. A revised DEIR must be prepared to correct these deficiencies. Because such revisions would be significant, the revised DEIR must be recirculated for public review and comment. 11-29

We urge the County to ensure that the Project's impacts are fully disclosed, evaluated and mitigated before the Project is allowed to proceed.

The Coalition and its individual members thank the County of Shasta for providing the opportunity to comment on this matter.

Sincerely,

Thomas A. Enslow

TAE:cnh
Attachments

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Response to Letter 11: Thomas A. Enslow, Adams Broadwell Joseph and Cardozo

Response 11-1: The commenter states that they are writing on behalf of Citizens for Responsible Industry, provides a summary of the project, and states that the DEIR does not fully comply with CEQA. Comment noted. The responses below address the individual comments raised in this comment letter.

Response 11-2: The commenter provides a description of Citizens for Responsible Industry. Comment noted.

Response 11-3: The commenter summarizes the issues raised in the comment letter and indicates that the comments were prepared with the assistance of Dr. Petra Pless, noting that Dr. Pless's comments and qualifications are attached. Dr. Pless's comments are addressed in the responses to Letter 12. Specific responses to each of the issues raised in this letter are provided below.

Response 11-4: The commenter provides an overview of the purposes of CEQA and states that the DEIR fails to disclose and evaluate all potentially significant project impacts and fails to evaluate feasible mitigation measures. The comment expands upon these issues in the following pages of the letter, and detailed responses to these issues are provided below.

Response 11-5: The commenter states that the EIR is inconsistent with SPI's permit application to the Shasta County Air Quality Management District. Specifically, the commenter cites inconsistencies between the EIR project description, which describes a 31 MW facility, and the air permit application (Appendix B of the Draft EIR), which describes a 23 MW facility.

The commenter is referred to Response 10-4. The reference to a 23 MW facility in the Authority to Construct (air permit application), which is included as Appendix B of the Draft EIR is a typographical error. The Authority to Construct and the Draft EIR correctly analyze the proposed 31 MW facility. The supporting analysis and conclusions in the ATC and Draft EIR are valid and accurate, and analyze the proposed 31 MW facility.

Response 11-6: The commenter notes that the DEIR states the project would constitute a major modification to the PSD permit under the federal Clean Air Act, and in contrast, Appendix B of the DEIR states that the project would constitute a minor modification.

This inconsistency has been noted and corrected in the PSD permit application. The DEIR correctly states that the project would constitute a major PSD permit modification, and the supporting DEIR analysis was prepared accordingly. A corrected version of the applicant's PSD permit application is available at the

Shasta County Department of Resource Management for review. This document is also available online through the Shasta County website.

Response 11-7: The commenter notes that the DEIR requires the Shasta County AQMD to "withdraw" sufficient emissions reductions credits to offset net increases in emissions generated by the project (Mitigation Measure 3.2-3). The commenter notes that the PSD permit application states that no offsets are required.

During preparation of the DEIR, Shasta County carefully reviewed the analysis and conclusions contained in the PSD permit application (Appendix B of the DEIR). The County concluded that the analysis of potential air quality emissions contained in the PSD application report was accurate and valid, and was suitable for use during preparation of the DEIR. The County did, however, disagree with the ultimate conclusion in the PSD permit application report regarding the need for mitigation of potentially significant air quality impacts. By exercising sound independent judgment, the County determined that the analysis contained in the PSD permit application indicated that a potentially significant impact related to air quality emissions could occur with project implementation. The County developed Mitigation Measure 3.2-3 to reduce these potential impacts to a less than significant level. Regardless of the conclusions contained in Appendix B of the DEIR, MM 3.2-3 must be implemented if the project is approved, and this mitigation measure will be included in the MMRP for the proposed project. The analysis and conclusions contained in the text of the DEIR supersede any conclusions contained in any of the DEIR appendices. Appendix B was included with the DEIR to show the analysis and supporting calculations that were utilized during preparation of the DEIR, not to provide conclusions on the significance of any potential environmental impacts.

Response 11-8: The commenter states that the DEIR's inconsistency with the PSD application renders the DEIR legally inadequate and states that the DEIR and permit application must be revised to resolve these discrepancies.

This comment has been noted. As described above under Responses 10-4 and 11-5, the reference to a 23 MW facility in the PSD application was a typographical error, and the PSD application did in fact analyze the potential air quality impacts associated with the proposed 31 MW facility. The project descriptions contained in the DEIR and the Recirculated DEIR provide an accurate, stable, and complete description of the project, which allows the DEIR to serve as a vehicle for intelligent public participation in the decision-making process. As described above, the inconsistencies between the DEIR and the PSD application have been resolved, and the revised PSD has been made available for public review.

Response 11-9: The commenter states that the DEIR fails to adequately describe critical components of the project and fails to provide adequate documentation of its findings. The following paragraphs and pages in the comment letter provide

additional detail related to this comment, and responses to the specific issues raised in the comment letter are provided below.

Response 11-10: The commenter states that the DEIR fails to adequately describe the biomass storage and handing process.

The project description contained in the DEIR was revised, expanded, and included in the Recirculated Draft EIR. Specifically, page 2.0-10 of the Recirculated DEIR describes the fuel handling and storage plans and procedures for the proposed project, and further states that providers of fuel for the project would be given specifications regarding the sizing and composition of materials to be used as fuel, thus no fuel sizing activities would take place onsite.

Response 11-11: The commenter states that the EIR must discuss biomass storage practices and procedures and that the EIR must address potential hazards and the generation of odors that may result from storing pre-sized biomass. As described above, fuel handling and storage is discussed in detail on page 2.0-10 of the Recirculated Draft EIR. As described in the Recirculated Draft EIR, fuel from the existing onsite sawmill would be transported by conveyor to the proposed fuel shed during normal operations, therefore no heavy equipment will be necessary to move this fuel to the fuel shed. Fuel from the existing onsite planer and pole yard would be gathered in overhead bins and moved across the yard by truck.

All fuel trucks delivering fuel to the proposed Cogen Facility, whether sawmill residuals, in-woods fuels, agricultural fuel or urban wood fuel, would be unloaded at a truck dump located adjacent to the fuel shed. The arriving fuels would then be mechanically pushed into the fuel shed with a front-end loader creating a composite mix to be burned in the boiler. Blending of the fuel to ensure a consistent fuel mix to the boiler is a critical component of maintaining optimal combustion within the boiler. All fuel received at the proposed Cogen Facility would be adequately sized for use in the proposed boiler based on specifications given to SPI by the boiler manufacturer and passed on to suppliers of different fuel sources.

Fuel would be managed to reduce degradation, to prevent overheating via rotation of the fuel, and to use the oldest fuel first, thereby maximizing the energy content of the fuel. In order to limit fuel exposure to adverse weather conditions (rain in the winter and heat in the summer), and minimize the generation of dust during fuel mixing, the proposed Cogen Facility would primarily utilize the fuel shed for storage and mixing. The proposed fuel shed would be approximately 100' wide x 180' long x 40' high. The new fuel shed is anticipated to store approximately 3,800 BDT's of fuel, which will be in addition to the 1,000 BDT's of fuel currently stored in the existing fuel shed. The combined fuel sheds, which are the primary storage areas, will have a capacity of approximately eight days of fuel; therefore the fuels will be rotated approximately every eight days.

The proposed Cogen Facility would also have an outdoor fuel stockpile, which would be utilized to store excess fuels that will not fit inside the fuel sheds and would include urban wood fuel, agricultural fuels, in-woods fuels and mill residuals. The outside fuel stockpile would be used to provide additional flexibility for receiving fuel deliveries and to allow for additional storage prior to holidays or extended mill shutdowns. The outside fuel stockpile would be rotated approximately every sixty days.

The amount of hours that mobile equipment (fuel loaders) will operate at the new Cogen Facility would be similar to the work hours necessary for operations at the existing biomass cogeneration facility. Currently fuel handling includes a full-time loader operator for management of the fuel from the sawmill, blending operations, and loading fuel onto the conveyors that feed the boiler. The proposed Cogen Facility will be designed to have reclaimers installed, which is an automated fuel handling system. The reclaimers have continually moving chains which mechanically move the fuel from the fuel house onto conveyors and into the boiler. The reclaimers would be a substitute for the duty of the loader operator to manually feed the fuel into the conveyors to the boiler. The hydraulic truck dump, being located closer to the fuel sheds, will similarly result in a reduction of the loader duties by eliminating the need to move delivered fuel as far as it is currently being moved for blending in the fuel house. The automation afforded by the reclaimers and the relocation of the truck dump will allow the loader operator to maintain his current work hours even with the increase in fuel consumption for the larger boiler.

The issue of potential fire hazards associated with outdoor fuel storage is addressed under Impact 3.11-1 on pages 3.9-8 and 3.9-9 of the DEIR. As described on these pages, the facility has an extensive network of fire suppression equipment, including water sources, sprinklers, fire hydrants, and adequate fire flow pressure. Additionally, as described in the DEIR, the project is required to prepare a Fire Safe Plan prior to issuance of a Conditional Use Permit. The Fire Safe Plan must be reviewed and approved by the Shasta County Fire Marshal. The DEIR has adequately addressed potential impacts related to fire hazards.

The issue of potential odors associated with outdoor biomass fuel storage is specifically addressed under Impact 3.2-2 on page 3.2-49 of the DEIR. This analysis concluded that outdoor fuel storage could result in potentially significant impacts related to odors, and Mitigation Measure 3.2-4 was developed to reduce this impact to a less than significant level. MM 3.2-4 includes requirements to limit the outdoor storage of fuels and to immediately burn or remove any fuels that show signs of rot, decomposition, or the generation of odors. This potential impact was adequately addressed in the DEIR, and the implementation of MM 3.2-4 would reduce this impact to a less than significant level.

Response 11-12: The commenter states that the DEIR fails to provide an adequate description of the project's fuel supply, including the location of fuel sources and types of fuel to be used.

The commenter is referred to Section 2.0 of the Recirculated Draft EIR, which includes a detailed and expanded discussion of the project's fuel supplies and source locations. Additionally, page 2.0-32 of the 2nd Recirculated DEIR includes information regarding the distances of fuel supply sources and the volume of fuel from each source location and source type that may be used in the biomass facility. Information regarding source locations and fuel volumes for each fuel type (sawmill residuals, in-forest materials, agricultural woody waste, and urban wood waste) are included in the 2nd Recirculated Draft EIR. The commenter was provided a copy of the 2nd Recirculated Draft EIR and did not comment on this topic.

Response 11-13: The commenter states that it is unclear whether the project would result in harvesting of trees for the sole purpose of generating biomass for combustion in the project's boiler.

The commenter is referred to Response 2-3. The project does not result in, nor does it propose, any additional tree removal, logging or tree harvesting. No new logging activities are proposed or required in order to meet the fuel demands of the proposed project. Trees would not be harvested for the sole purpose of generating biomass for combustion in the project's boiler.

Response 11-14: The commenter states that the DEIR fails to adequately discuss wastewater generation and disposal associated with cooling tower water and boiler water.

Detailed information on this topic was included in the Recirculated Draft EIR. As described in the Recirculated Draft EIR, the proposed Cogen Facility would essentially have two separate water systems. One is the cooling tower system and the other is the boiler water/steam system. The water systems are separated by the main condenser, boiler water/steam is on the shell side and the tower cooling water is on the tube side of the main condenser

Cooling Tower System

The proposed Cogen Facility would continue to employ a cooling tower system similar to existing conditions. The cooling tower system is an open loop system used to remove excess heat from and condense the steam that has gone through the steam turbine. The cooling tower water is circulated by pumps through the tube side of a shell and tube heat exchanger (the main condenser) and back to the tower where the circulating water is exposed to the cooling tower air flow. The water is cooled by the evaporation of a portion of the circulating water and the remainder returns to the tower basin. It is then pumped back to the steam

condenser to start the heat removal process over again. As a result of this recirculation and heat removal process the water volume is reduced due to evaporation (in the cooling tower). Two things occur as a result of this water loss, (1) the concentration of the dissolved minerals and the suspended solids in the circulating water increases, and (2) water must be added to maintain a constant system volume of water. To counter the effect of increased dissolved mineral and suspended solid concentrations in the circulating tower water, a relatively small portion of the tower water is removed (bleed or blowdown water) from the system and sent to the onsite ponds and make-up water is added. This bleed water/ make-up water cycle creates a constant level of dissolved minerals and suspended solids in the recirculating tower water. This process is called "cycling" up the concentration of the tower water and is the primary method that is used to minimize water use in the tower system. The number of "cycles of concentration" is primarily determined by the makeup water chemistry and the chemical treatment of the cooling tower water.

The cooling tower water is treated for its corrosion/scaling tendencies and for biological fouling potential. At the proposed Cogen facility, SPI will use the same or similar two products that are currently being used at the existing biomass co-generation facility. One product is used to reduce the corrosion and scaling potential and the other is an oxidizing biocide to address potential biological fouling. The compound used to reduce corrosion and scaling is product SPI-402. The cooling tower bleed will contain a concentration of SPI-402 that is approximately 56 to 111 ppm. The concentration of Phosphonate, measured for dosage control, in the cooling tower bleed from SPI-402 will be approximately 4 to 8 ppm. The compound used to limit biological fouling is Sodium Hypochlorite (bleach). The cooling tower bleed will contain a concentration of Sodium Hypochlorite (bleach) that is approximately 2 to 4 ppm as product. The concentration of free chlorine from Sodium Hypochlorite in the cooling tower bleed will be approximately 0.2 to 0.5 ppm.

The cooling tower bleed is not treated after discharge from the tower system and is directed to the onsite ponds in accordance with existing National Pollutant Discharge Elimination System (NPDES) permit requirements. The cooling tower system bleed water that is sent to the onsite ponds contains the same dissolved minerals as the makeup water that is added to the system during initial fill and operation, only at a higher concentration due to the tower water being "cycled up." These minerals include silica, iron, calcium & magnesium hardness, and alkalinity, as well as increased ph (over makeup water). Also present in the bleed water is a corrosion/scale treatment product and very low level of free chlorine (from biological control product).

Anticipated volume of bleed water from the new cooling tower system is a maximum of 100 to 150 gpm. It will likely be significantly less than this due to the

fact that the 100 to 150 gpm bleed rate is based on 100% power operation of the turbine system. With SPI operations supplying steam to the dry kiln operation, 100% turbine output will be a rare condition.

Boiler Water/Steam System

The boiler water/steam system uses pretreated water in a boiler to generate steam that is directed to the turbine to generate electricity and also directed to the dry kiln system to provide heat to dry lumber. After the steam leaves the turbine it is condensed in the main condenser by transferring heat to the cooling tower circulating water. The steam sent to the dry kilns is returned as water (condensate) to the boiler system for reuse. The condensed boiler water is then returned to the boiler to be reheated into steam. There is a small portion of the boiler water that is removed from the system as part of the boiler chemistry control program (continuous blowdown). It is planned to direct this collected water (as well as other system drains) back to the cooling tower system as a water makeup source, thus reducing the amount of raw water needed by the tower system.

In summary, the only water from the boiler and cooling tower operations that will leave the Cogen Facility system by design is the cooling tower bleed. This water is not treated after discharge from the tower system and is directed to the onsite ponds in accordance with existing National Pollutant Discharge Elimination System (NPDES) permits.

Response 11-15: The commenter states that the DEIR does not adequately document daily construction emissions. As noted by the commenter, DEIR Table 3.2-7 shows the daily unmitigated construction emissions, as modeled using the industry standard URBEMIS 2007 model. The commenter is correct that the model outputs for *annual* emissions totals were included in the DEIR Appendix. For reference, the *daily* construction emissions total URBEMIS worksheets have been included on the CD attached to this Final EIR. The results of the URBEMIS daily construction emissions calculations were accurately displayed and summarized in the DEIR text, specifically in Table 3.2-7.

Response 11-16: The commenter states that the DEIR failed to adequately address construction-related air quality impacts associated with onsite cut and fill activities.

At the time of preparation of the DEIR's construction air emissions analysis, detailed grading plans had not been prepared. While detailed grading plans have still not been prepared for the proposed project, estimates regarding the volume of cut and fill that would be required for construction have been developed through consultation with the project applicant. It is estimated that a maximum of 10,500 cubic yards of material may need to be excavated from the project site in

order to facilitate construction of the project. It is assumed that this excavated material would be transported from the project site.

The Errata section of this Final EIR includes changes to Impact 3.2-1 on pages 3.2-20 through 3.2-21 of the DEIR. Specifically, Table 3.2-7 has been updated to reflect projected construction emissions based on the assumption that 10,500 cubic yards of material would be excavated from the site, as shown below. Minor changes were also made to the inputs for the URBEMIS 2007 model run to more realistically reflect the anticipated timing of construction and the length of each construction phase. For example, when the model was run in 2010, it was assumed that mass site grading would occur over a two-month period. Given that the area to be disturbed for construction is less than five acres, a two-month time period for mass grading is likely a significant overestimate of the actual time that would be spent on mass grading activities. Therefore, the updated 2011 model run assumed a one-month phase for mass site grading. The updated URBEMIS construction emissions calculations are included as a CD attachment to this Final EIR.

TABLE 3.2-7: CONSTRUCTION EMISSIONS (UNMITIGATED)

POLLUTANT	CONSTRUCTION EMISSIONS (POUNDS PER DAY)	THRESHOLD A/B (POUNDS PER DAY)	OVER THRESHOLD A/B?
NOx	~~50.15~~ 37.39	25/137	Yes/No
CO	~~28.33~~ 20.47	500/NA	No/NA
SO_2	~~0.00~~ 0.02	80/NA	No/NA
ROG	~~6.10~~ 4.14	25/137	No/No
PM_{10}	~~50.12~~ 73.93	80/137	No/No
$PM_{2.5}$	~~12.25~~ 17.07	80/NA	No/NA

SOURCE: DE NOVO PLANNING GROUP, 2011 (URBEMIS 2007 MODELING)

As shown in the revised table above, the updated modeling for construction emissions does not result in any additional occurrence of construction emissions that exceed the Level "A" or "B" thresholds when compared to the original DEIR analysis. The updated URBEMIS construction emissions analysis and model results do not change any of the construction-related air quality impact conclusions contained in the DEIR, and no additional mitigation is required.

Response 11-17: The commenter states that the DEIR lacks foundation for its conclusion that mitigation measures would reduce construction emissions of NOx to a less than significant level. The commenter incorrectly asserts that the EIR claims that the implementation of Mitigation Measure 3.2-2 would reduce NOx emissions below 25 pounds per day.

Shasta County uses a two-tiered threshold for assessing the significance of air emissions impacts. For NOx emissions, the County Threshold "A" is 25 pounds per

day, and Threshold "B" is 137 pounds per day, as shown in Table AQ-4 of the Shasta County General Plan Air Quality Element. As shown in revised Table 3.2-7 of the DEIR (shown above in Response 11-16 and in Chapter 3.0 of this FEIR), the project's NOx emissions during construction would be 37.39 pounds per day, which is above Threshold "A", but below Threshold "B". The Shasta County AQMD maintains a list of Standard Mitigation Measures (SMM) and Best Available Mitigation Measures (BAMM). SMMs and BAMMs are applied on a project by project basis as determined by the AQMD. The Shasta County General Plan Air Quality Element provides guidance on the application of SMMs and BAMMs.

As described on page 6.5.013 of the Shasta County General Plan Air Quality Element, the sequence for applying SMM and BAMM is outlined below:

- Apply SMM and BAMM when a project exceeds Level "A" thresholds. The BAMM will be applied to any project which exceeds Level "A" thresholds. The appropriate type and number of BAMM applied to a project will be based on the unique characteristics of the project. BAMM will be selected from a list of measures kept updated by the Shasta County Planning Department and the AQMD.

- Apply SMM, BAMM, and special BAMM (when project exceeds Level "B" thresholds) based on their emissions reduction potential to lower project emissions below Level "B" thresholds. The AQMD will advise the Shasta County Planning Department (SCPD) of the efficiency of proposed emission measures as part of the effort to reduce project emissions below Level "B" thresholds.

- If application of the above procedures results in reducing project emissions below Level "B" thresholds, the project can proceed with an environmental determination of a Mitigated Negative Declaration, assuming other project impacts do not require more extensive environmental review.

- If project emissions cannot be reduced to below Level "B" thresholds, emission offsets will be required. The SCPD may seek the assistance of the AQMD regarding other efforts and measures that could be used to reduce unmitigated emissions exceeding the 137 pounds per day. If, after applying the emissions offsets, the project emissions still exceed the Level "B" thresholds, an EIR will be required before the project can be considered for action by the reviewing authority.

As described above, NOx emissions from the proposed project would exceed the Level "A" threshold, but would not exceed the Level "B" threshold. Therefore, the project is required to apply SMM and appropriate BAMM. The SMM and BAMM deemed appropriate by the AQMD is included in Mitigation Measure 3.2-2. As

further described above, the Shasta County General Plan states that if the application of SMM and BAMM reduce emissions below Level "B" thresholds, the project can proceed with a Mitigated Negative Declaration. Under CEQA, a Mitigated Negative Declaration can only be adopted for projects that have impacts that have been reduced to less than significant levels. Therefore, the General Plan has provided specific guidance that projects with emissions below Threshold "B" that have required SMM and BAMM implemented would have a less than significant impact under CEQA. In other words, for the project's construction emissions of NOx to be less than significant, the project need not demonstrate that Threshold "A" will be achieved, but rather, that SMM and BAMM is implemented.

The commenter asserts that the EIR claims that the implementation of MM 3.2-2 would reduce construction-related NOx emissions below 25 pounds per day. This is incorrect, and the EIR makes no such assertion. The EIR correctly states that the implementation of MM 3.2-2 would result in a less than significant impact for construction NOx emissions.

Response 11-18: The commenter states that the mitigation measures for construction emissions are vague and unenforceable.

Mitigation Measures 3.2-1 and 3.2-2 require the applicant to prepare and submit a construction emissions reduction plan for review and approval by the Shasta County AQMD prior to the commencement of construction activities. These mitigation measures provide guidance regarding the content of the construction emissions reduction plan. Additionally, the construction emissions reduction plan must implement appropriate SMM and BAMM, as determined by the AQMD. These mitigation measures provide numerous and very specific measures that must be implemented during construction. Implementation of the construction emissions reduction plan will be monitored by the AQMD. No changes to the DEIR are required.

Response 11-19: The commenter states that the DEIR fails to include operational emissions from all emission sources, including fuel handling activities.

The DEIR project description was expanded and included in the Recirculated DEIR. The Recirculated DEIR correctly and completely accounts for all sources of operational emissions associated with the proposed project. As described on page 2.0-10 of the Recirculated Draft EIR, the amount of hours that mobile equipment (fuel loaders) will operate at the new Cogen Facility would be similar to the work hours necessary for operations at the existing biomass cogeneration facility. Currently fuel handling includes a full-time loader operator for management of the fuel from the sawmill, blending operations, and loading fuel onto the conveyors that feed the boiler. The proposed Cogen Facility will be designed to have reclaimers installed, which is an automated fuel handling system. The reclaimers

have continually moving chains which mechanically move the fuel from the fuel house onto conveyors and into the boiler. The reclaimers would be a substitute for the duty of the loader operator to manually feed the fuel into the conveyors to the boiler. The hydraulic truck dump, being located closer to the fuel sheds, will similarly result in a reduction of the loader duties by eliminating the need to move delivered fuel as far as it is currently being moved for blending in the fuel house. The automation afforded by the reclaimers and the relocation of the truck dump will allow the loader operator to maintain his current work hours even with the increase in fuel consumption for the larger boiler. In other words, operational emissions associated with fuel handling activities would not increase over the existing baseline environmental condition. All other sources of operational emissions, such as biomass fuel transport and employee trips, have been fully accounted for, and included in, the DEIR air quality analysis.

Response 11-20: The commenter states that the DEIR's calculation of the project's net annual emission increase is erroneous due to the fact that calculations were based on the annual average heat input rate to the boiler, rather than the maximum heat input (or capacity) of the boiler.

As is stated in the Sierra Pacific Industries ATC/PSD Permit Application, Section 2.1, Physical Description; the biomass-fired boiler will have the following:

- A maximum annual average design heat input of approximately 425.4 million British thermal units per hour (MMBtu/hr),
- An hourly maximum of 468 MMBtu/hr (10 percent greater than the annual average), and
- A maximum 24-hour average of 446.7 MMBtu/hr (5 percent greater than the annual average).

Based on this information and the fact that the maximum annual average design heat input was used for emissions calculations, the Shasta County AQMD will apply a permit condition limiting the biomass-fired boiler to these annual, daily and hourly heat input rates. This permit condition will be applied to both the District Permit to Operate as well as the federally enforceable Title V Permit to Operate, which will also issued by the District. This requirement is further enforced through Mitigation Measure 3.2-4, which is included in the Errata section of this Final EIR.

This variable heat input rate is necessary because biomass fired boilers tend to run at a somewhat uneven firing and emissions rate due to inconsistencies in fuel moisture, fuel quality, fuel feed rate, and other operational issues like grate cleaning, fuel feed plugs, electric motor breakdowns etc.

The final ATC and permits will also contain continuous monitoring requirements for NOx and CO emissions, fuel feed rates etc.

Response 11-21: The commenter states that the DEIR fails to disclose and evaluate the project's compliance with newly adopted federal standards for nitrogen dioxide (NO_2). The commenter states that the U.S. EPA published a new 1-hour national ambient air quality standard for NO_2 at a level of 100 parts per billion (approximately 188 ug/m^3). The commenter further notes that the project's PSD report shows the project would result in a maximum increase of 14.0 ug/m^3 of NO_2, which is significantly below the newly adopted federal standards.

Since the project's NO_2 impacts are significantly below the federal 1-hour threshold, this is considered a less than significant impact, and no mitigation is required. The commenter further notes that the U.S. EPA has published recommended guidance that includes an Interim Significance Level (SIL). The SIL is significantly lower than the federal 1-hour NO_2 threshold. The U.S. EPA will determine if the project applicant is required to include a more detailed analysis of NO_2 in the PSD permit application air study. However, for the purposes of CEQA, this is a less than significant impact, as explained above. No changes to the DEIR are required.

Response 11-22: The commenter states that the DEIR must provide a Class I impact analysis. Class I impacts are discussed on page 19 of the PSD application, which was included as Appendix B of the DEIR. As described in this report, PSD guidance requires analysis of potential impacts to air quality and air quality related values (AQRVs) of concern (i.e., visibility, soil, flora, fauna, and aquatic resources) in Federal Class I areas within 100 km (62.1 miles) of the proposed site from pollutants emitted by the project subject to PSD review. However, for most applications the Federal Land Managers (FLMs) request analyses of AQRV impacts for additional Class I areas within 200 km (124 miles) of the site.

The locations of the proposed project and all nearby Class I areas are shown in Figure 5-1 of the PSD report, which was included as Appendix B of the DEIR. The Yolla Bolly – Middle Eel Wilderness Area is the Class I area nearest to the Anderson facility, approximately 57 km (35 miles) to the southeast. As shown in Table 5-1 of the PSD report (Appendix B of the DEIR), there are four Class I areas within 100 km, and an additional five Class I areas within 200 km.

In June 2008, the Federal Land Managers' Air Quality Related Values Work Group (FLAG) issued a draft revision of the Phase I report that provides guidance and recommendations for how AQRV analyses should be conducted. The draft report describes an initial screening criteria (often referred to as a "Q/D" analysis) that would exempt a source from AQRV impact review based on annual emission rates and distance from a Class I area. Proposed projects with total emission increases of NO_X, SO_2, PM_{10}, and sulfuric acid mist (H_2SO_4), in tons per year (the "Q" in Q/D), which, when divided by the distance to each Class I area, in kilometers (the "D" in Q/D), is 10 or less, would be exempt from AQRV analysis. Although the document

containing this screening method is a draft, FLMs have been allowing sources to use it to justify not presenting an AQRV analysis in permit applications.

An AQRV screening analysis was developed for the proposed project using the boiler's expected potential future emissions (Potential to Emit – or "PTE"). As prescribed by the screening methodology, the maximum hourly emission rates for each pollutant required by the screening analysis were converted to tons per year (by multiplying by 8,760 hr/yr and dividing by 2,000 lb/ton) and summed. The closest Class I area is the Yolla Bolly – Middle Eel Wilderness Area, approximately 57 km from SPI's Anderson facility. Table 5-2 of the PSD report summarizes the Q/D analysis; the result is a value of approximately 6, which is less than the FLM-prescribed threshold of 10. As a result, no AQRV analysis is presented. AQRV analysis reviewers at the National Park Service (NPS) and U.S. Forest Service (USFS) were provided with a preliminary Q/D analysis in advance of this permit application, and documentation of their concurrence are presented in Appendix D of the PSD report.

Response 11-23: The commenter states that the DEIR fails to include enforceable restrictions on the burning of contaminated urban wood waste, railroad ties and tires.

The commenter is referred to the discussion of the Fuel Acceptance Plan on page 2.0-9 of the Recirculated Draft EIR. The Cogen Facility will utilize an Urban Wood Fuel Acceptance Plan, as set forth in Appendix A of the Recirculated Draft EIR. The plan proposed for the proposed Cogen Facility is based on the Urban Wood Fuel Acceptance Plan that has been implemented in Placer County at SPI's Lincoln Cogeneration Facility and has been approved by the local Placer County Air Pollution Control District (PCAPCD) as an acceptable means of ensuring the quality of the urban wood fuel. The Urban Wood Fuel Acceptance Plan defines procedures for acceptance of urban wood fuel for use as a fuel for the Cogen Facility. The procedures are intended to ensure that the composition of the urban wood fuel remains consistent with that used during criteria and air toxics compliance source testing demonstrations; and that non-wood waste contaminants (such as plastics, rubber, paint, metals, paper, etc.) in the fuel are minimized to the greatest degree possible, and do not occur in significant quantities.

In addition to implementing the Urban Wood Fuel Acceptance Plan, the fuel contracts with urban wood fuel suppliers will include fuel specifications language, as specified in Appendix A of the Recirculated Draft EIR.

Response 11-24: The commenter raises concerns related to the GHG and climate change analysis in the Draft EIR. The GHG and climate change analysis was subsequently revised, and a new GHG and climate change analysis was included in the Recirculated Draft EIR. The Recirculated Draft EIR was provided to the commenter

during the 45-day review period, and the commenter submitted new comments related to this topic. Following the receipt of comments on the Recirculated Draft EIR, Shasta County conducted additional analysis of the project's potential impacts related to GHGs and climate change. In light of the revised analysis, Shasta County released a 2nd Recirculated Draft EIR for public review. The 2nd Recirculated Draft EIR focused exclusively on GHGs and climate change. The commenter was provided a copy of the 2nd Recirculated Draft EIR during the 45-day public review period, and was invited to submit new comments related to the revised GHG analysis contained in the 2nd Recirculated Draft EIR.

Full responses to the GHG and climate change issues raised by the commenter on the 2nd Recirculated Draft EIR are provided following Letter 17, which was submitted by the commenter on April 2, 2012. Since the GHG and climate change analysis included in the 2nd Recirculated Draft EIR replaces the GHG and climate change analysis included in the Draft EIR and Recirculated Draft EIR, responses to GHG and climate change issues raised in letters submitted on the Draft EIR and Recirculated Draft EIR are not responded to in this Final EIR.

Response 11-25: The commenter raises concerns related to the GHG and climate change analysis in the Draft EIR. The commenter is referred to Response 11-24.

Response 11-26: The commenter states that the DEIR fails to analyze the potentially significant impacts on public health and safety associated with transport, storage, and use of anhydrous ammonia.

As explained in the Errata section of this Final EIR, the project proposes to operate an ammonia injection system for controlling nitrogen oxide (NOx) emissions during combustion. Anhydrous Ammonia (ammonia) (CAS No. 7664-41-7) is subject to the California Accidental Release Prevention Program (CalARP) regulations (Title 19, CCR, Chapter 4.5). The existing facility is currently regulated under this program for the existing use of ammonia onsite. The details of the applicant's existing CalARP compliance program are available for review at the Shasta County Department of Resource Management.

The existing facility stores ammonia in three 600-gallon pressure vessels. At 90% full, the tank capacity is 540 gallons each, or 2,780 pounds. For the three tanks combined, the total is 8,370 pounds. The threshold quantity of storage that triggers the CalARP program is 500 pounds of anhydrous ammonia. At 10,000 pounds, the Federal Risk Management Program is triggered.

Generally speaking, the existing facility currently uses between 1,000 and 2,000 gallons of anhydrous ammonia in its combustion operations annually, or one to two refills of the existing tanks per year. The proposed project, based on a larger boiler capacity and increases in BACT controls, would reuse the same existing

tanks, and necessitate an increased frequency of re-fill activity, estimated to occur once per month.

Anhydrous ammonia used at the facility is purchased from a qualified distributor, transported in a pressure vessel truck, and directly filled into the onsite tanks. The transport, use and storage of anhydrous ammonia on the project site is an existing environmental baseline condition. Implementation of the proposed project would not increase the amount of ammonia stored on the site, not would it result in changes to the onsite ammonia storage system. This is a less than significant impact and additional analysis is not required.

Response 11-27: The commenter states that the DEIR fails to analyze safety impacts associated with rail crossings at the intersection of Ox Yoke Road and Riverside Avenue.

No rail crossing exists at the intersection of Ox Yoke Road and Riverside Avenue, thus, no rail safety impacts would occur at this intersection. The nearest rail crossing to the project site is located at the intersection of Ox Yoke Road and State Route 273. The traffic analysis prepared for this project included a list of study intersections that may be impacted by project traffic. The list of intersections that may be impacted by project traffic was developed through consultation with County Public Works staff. The vast majority of traffic accessing the project site, including all traffic carrying hazardous materials, such as ammonia, would travel to the project site via Interstate 5 and exit at Riverside Avenue. This travel route would not result in increased traffic at the intersection of Ox Yoke Road and State Route 273, where the nearest rail crossing is located. There is no impact related to this topic, and no further analysis is required.

Response 11-28: The commenter states that the County must prepare and recirculate a revised DEIR to address issues raised in the comment letter. This comment is noted. A Recirculated Draft EIR and 2nd Recirculated Draft EIR were prepared and each was circulated for a 45-day review period. The commenter was sent a copy of the both the Recirculated Draft EIR and 2nd Recirculated Draft EIR, and has submitted additional comments on these documents. All other issues raised by the commenter on the Draft EIR that were not addressed in the Recirculated Draft EIR or the 2nd Recirculated Draft EIR have been addressed in this Final EIR.

Response 11-29: The commenter states that the County must prepare and recirculate a revised DEIR to address issues raised in the comment letter. The commenter is referred to Response 11-28.