May 21, 2010

Alan Solomon
Project Manager
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

RE: **Palen Solar Power Project, Docket No. 09-AFC-7**
Responses to Questions from the April 28, 29 and May 7, 2010 CEC Workshops
Technical Area: Worker Safety, Hazardous Materials and Soil and Water

Dear Mr. Solomon:

Attached please find the following Responses to Questions from the April 28, 29 and May 7, 2010 CEC Workshops for the Palen Solar Power Project.

If you have any questions on this submittal, please feel free to contact me directly.

Sincerely,

Alice Harron
Senior Director, Development

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PALEN SOLAR POWER PROJECT (09-AFC-7)
APRIL 28, 29 & May 7, 2010 CEC WORKSHOP REQUESTS

Date: May 21, 2010

At the Staff Assessment Workshops on April 28-29, 2010, several requests for information were made by Dr. Alvin Greenberg to clarify his analysis on Worker Safety and Hazardous Materials. In addition, several items were requested at the Soil & Water Workshop on May 7, 2010. The following materials are provided to address these requests.

Technical Areas: Worker Safety and Hazardous Materials

WORKSHOP REQUEST-1

Information Required:

Clarify the Applicant's plans for fire protection equipment and prevention onsite during construction.

Response:

PSI will have sufficient capacity firewater storage tank and portable equipment installed onsite prior to and for the duration of construction to comply with the applicable Fire Code. Additional details will be provided in the project's Construction Fire Prevention Plan, in accordance with proposed Condition of Certification WORKER SAFETY-1. A draft of this plan will be provided to the Riverside County Fire Dept for review and to the CEC CPM for approval.

WORKSHOP REQUEST-2

Information Required:

Clarify the Applicant's plans for fire protection equipment and prevention onsite during operation.

Response:

Operations - Fire Protection and Prevention Program

Fire protection at the PSPP during operations will include measures relating to safeguarding human life, preventing personnel injury, preserving property, and minimizing downtime due to fire or explosion. Fire protection measures will include fire prevention methods to prevent the inception of fires. Of concern are adequate exits, fire-safe construction, reduction of ignition sources, control of fuel sources, and proper maintenance of fire water supply and sprinkler systems.

Fire suppression facilities will be designed by a Fire Protection Engineer and fire protection equipment will be installed and maintained in accordance with applicable NFPA standards and recommendations. Project facilities also will be designed and operated in conformance with Uniform Fire Code requirements for safe storage, dispensing, use, and handling of hazardous materials, as well as meeting state and local requirements for preparation of hazardous materials release plans and inventories.

An important consideration is that all systems and equipment at the plant will undergo extensive evaluation for operating safety, reliability, and hazard identification. Fire protection and detection systems are incorporated into the plant design. Hazards are eliminated through careful design and when dealing with chemicals, energy, or other normal operating hazards, protection and detection are built into the systems. For instance, smoke, heat, and flame detectors will be included into the critical plant control systems. Automatic deluge and sprinkler systems are included in occupied areas like the control room. Flow valves, isolation valves and other prevention measures are incorporated to contain and control qualities of exposure in the solar field areas. A Fire Risk Evaluation Plan (FREP) will be created that identifies and addresses the design criteria specific to fire protection systems and codes.

Administrative controls, like inspection, observation, and periodic testing will be used to ensure that abnormal conditions are eliminated or identified before they create potential risk or exposure. Operators conduct routine frequent rounds to inspect piping, valves and systems to identify and minimize leaks. Equipment is periodically tested to ensure automatic operation of detection and fire protection equipment and systems.

The operations phase Fire Prevention Plan will include:

- Scope, purpose, and applicability
- Identification of potential fire hazards
- Description and training and proper handling and storage of potential fire hazards
- Identification of potential ignition sources
- Control and training in the means to control potential ignition sources
- Identification and training of persons responsible for equipment and systems maintenance
- Identification of the locations and training in the use of the types of portable fire extinguishers
- Description of the automatic sprinkler fire suppression system
- Description and training of operators in the firewater system, including firewater/service water tank, firewater loop piping, electric and diesel engine-powered pumps
- Description and training in use of the foam trucks
- Identification of the local fire department, including contact information
- Training of operations personnel in fire fighting
- Description of the housekeeping procedures
- Description of the recordkeeping requirements.

<u>Operations - Fire Protection System</u>

Fire protection systems are provided to limit personnel injury, property loss, and downtime resulting from a fire. The systems include a fire protection water system, portable fire extinguishers and a foam agent. Firewater pumps, hydrant locations as well as on-site fire water piping will be designed in accordance with the local design standards and NFPA standards not limited to NFPA 850, 24 and 13. The fire protection system will be designed and certified by a California registered fire protection engineer.

The Project's fire protection water system will be supplied from a one (1) million gallon firewater/service water storage tank in each power block area. One (1) electric motor and one (1) diesel fueled engine backup firewater pump will deliver water at 5000 gpm to the fire protection loop piping. A smaller electric motor-driven jockey pump will maintain pressure in the piping network.

Fire water will be supplied from a fire water piping network about each power block. The piping will be configured in loops such that failure in any section of the loop can be quickly isolated so as not to interrupt water flow to other sections of the loops. Sectional valves will be fire rated and listed valves with post indicators. Fire hydrants will be placed at intervals throughout the area and will be supplied by the loop. Hose stations and hose cabinets will be placed as required.

The water supply loop will also supply firewater to a deluge system at each unit transformer, as well as to the HTF expansion tank, circulating pump area, and sprinkler systems at the steam turbine generator, lube oil tank, water treatment area and in the administration building. The fire water piping system will also provide protection to the Shared Facilities Area, specifically the Main Office and Assembly Building.

HTF Fire Suppression:

The Heat Transfer Fluid (HTF) is a eutectic mixture of about 73.5% diphenyl oxide and 26.5% biphenyl. The HTF will freeze at 53.6 degrees Fahrenheit, flammable (flash point) at 230 degrees Fahrenheit, boiling point 494.6 degrees Fahrenheit and auto ignition at 1139 degrees Fahrenheit. Several special measures are required and will be incorporated in the design and operation of the plant to mitigate freezing, fire and contamination risks.

Fire protection for the solar field will be provided by zoned isolation of the HTF header piping in the event of a rupture that results in a fire. HTF fires will be suppressed and extinguished with an adequate foam agent. Two (2) fire fighting foam trucks will be on site and centrally located near the assembly hall.

Fire detection within the solar fields will be identified visually by operations personnel monitoring solar field operations.

Operations personnel will be trained / qualified in fire fighting methods and will be the first responders.

The fire protection panel will be located in each power block control room. Activation of any fire detection device will be annunciated at the panel and will be immediately known to the operators.

WORKSHOP REQUEST-4

Information Required:

> Submit an update to HAZ-MAT Appendix A to provide all chemicals planned to be stored onsite as well as maximum quantities for each chemical.

Response:

Please see attached TABLE 5.6-3 revised for an updated list of the hazardous materials likely to be used at the Palen Solar Power Project based on the current understanding of the project design and process requirements.

WORKSHOP REQUEST-6

Information Required:

> The Applicant requested a modification to HAZ-4 to require isolation valves at the end of each loop such that the maximum HTF volume between valves is 1,250 gallons rather than 600 gallons. CEC requested an explanation of how long it would take 1,250 gallons of Heat Transfer Fluid (Therminol) to burn.

Response:

Starting and maintaining a fire requires three things: an ignition source, a fuel supply and sufficient oxygen to support combustion. For an ignition source, we would assume that therminol is sprayed on the hot surface of the collector tube assembly. If the leak merely drips, the therminol will not come into contact with a surface hot enough for ignition. Assuming that a spraying leak is detected, the mirrors will be defocused and the loop will be isolated. The mirror assemblies will be defocused immediately to prevent warping of the collector tubes. Warping would occur if there was improper heat dissipation due to compromised or irregular HTF flow through the collector tube. With the mirrors defocused and the loop isolated, the fluid working pressure of the loop will immediately begin to decrease due to a combination of the removal of the heat source, isolation of the loop from pump pressurization and the pressure loss in the loop due to the leak. This depressurization of the loop will likely cause the leak to seal or dramatically reduce the leakage to the point that the flame will self extinguish. Under this leak scenario, there is no credible way for all of the 1,250 gallons of therminol to burn.

Under the unlikely worst-case leak event in the form of a guillotine rupture of a collector tube, defocusing of the mirror assemblies and isolation of the header would quickly reduce loop pressure. However, due to the high working fluid temperature, the therminol would still be very hot and have the ability to flow. Depending upon the actual leak configuration, this would cause most but not all of the therminol to drain from the header in approximately 15 minutes. As the header drains, ambient air will be drawn into the header cooling the remaining therminol over time and causing it to become extremely viscous thereby reducing its ability to flow freely from the tube. In the unlikely event that the large volume 1,250 gallons of HTF were to drain from the header, only with adequate oxygen would it be expected to burn. The duration of the burn would be very rapid or in approximately the 15 minutes required to drain the header. To reiterate, therminol would not burn unless it drains from the header and reaches an oxygen source and is ignited. As therminol cools it becomes viscous and flows decrease, reducing the likelihood of the entire loop emptying. In the event the entire loop empties the HTF would burn off rapidly.

WORKSHOP REQUEST-7

Information Required:

Describe how PSPP's security plans address potential cyber-security threats.

Response:

None of the power plant control systems are designed to allow for remote access from the internet. SCE will follow appropriate CAISO industry standards on their design for the Red Bluff Substation. PSI will follow all SCE and CAISO requirements on power plant controls and access to the grid.

WORKSHOP REQUEST-11

Information Required:

Submit the Report of Waste Discharge permit application to both CEC and the RWQCB in time for evaporation pond analysis to be completed in the Revised SA.

Response:

The ROWD will be submitted separately by May 25, 2010.

WORKSHOP REQUEST-12

Information Required:

Provide revised language for Soil & Water-10 to address constructability/performance criteria concerns for a 3:1 channel slope.

Response:

The following revised language is offered for Condition Soil & Water -10 to allow more design flexibility on the slope of drainage channels.

Design and construction criteria for the use of soil cement on the site shall be prepared by the Owner/Developer's engineer in conjunction with the design methodology established by the Geotechnical Engineer of Record. The design and construction criteria shall be based on local and/or regional requirements and specifications. The design and construction criteria, the Geotechnical design for the soil cement, the site specific specifications for the soil cement, the method of installation for the soil cement, and the local or regional standards being used for the design criteria shall be provided to the CEC CPM for review and comment prior to any field installation of soil cement. The slope requirements that are proposed for use (3:1 or 4:1), and the associated method of installation (i.e. 8 inch lift versus slope application) shall be fully documented for review and approval by the CBO prior to any field installation of soil cement.

Table 5.6-3R Summary of Special Handling Precautions for Large Quantity Hazardous Materials (Rev.1)

Hazardous Material and CAS No.[1]	Relative Toxicity[2] and Hazard Class[3]	RQ[4] pounds (kg)	Permissible Exposure Limit (PEL)	Storage Description; Capacity	Storage Practices and Special Handling Precautions
Sulfuric Acid, 29.5% solution CAS No. 7664-93-9	High toxicity; Hazard class – Corrosive, water reactive	1,000 lbs	PEL: 1 milligram per cubic meter (mg/m^3)	Contained in batteries; 2,000 gal total inventory	Isolated from incompatible chemicals and secondary containment
Carbon Dioxide CAS No. 124-38-9	Low toxicity; Hazard class – Nonflammable gas	Not Applicable	TLV: 5,000 ppm (9,000 mg/m^3) TWA	Carbon steel tank; 15 tons maximum onsite inventory	Carbon steel tank with crash posts
Therminol VP-1 Biphenyl (26.5%) CAS No. 92-52-4 Diphenyl ether (73.5%) CAS No. 101-84-8	Moderate toxicity, Hazard class – Irritant; Combustible Liquid (Class III-B)	Biphenyl = 100 lbs (45.4 kg) Diphenyl ether = Not applicable	Biphenyl = PEL: 0.2 milliliters per cubic meter (ml/m^3) (8-hr TWA) TLV: 0.2 ml/m^3 (1 mg/m^3) (8-hr TWA) Diphenyl ether = TLV: 1 ml/m^3 (8-hr TWA) TLV: 2 ml/m^3 (15-min TWA) PEL: 1 ml/m^3 (7 mg/m^3) (15-min TWA)	1.3 million gal in system, no additional onsite storage	Continuous monitoring of pressure in piping network; routine inspections (sight, sound, smell) by operations staff; isolation valves throughout piping network to minimize fluid loss in the event of a leak; prompt clean up and repair
Lube Oil CAS No. 64742-65-0	Low toxicity Hazard class – NA	Not applicable	None established	Carbon steel tanks, 10,000 gallons in equipment and piping, additional maintenance inventory of up to 550 gallons in 55-gallon steel drums	Secondary containment area for each tank and for maintenance inventory

Table 5.6-3R Summary of Special Handling Precautions for Large Quantity Hazardous Materials (Rev.1)

Hazardous Material and CAS No.[1]	Relative Toxicity[2] and Hazard Class[3]	RQ[4] pounds (kg)	Permissible Exposure Limit (PEL)	Storage Description; Capacity	Storage Practices and Special Handling Precautions
Mineral Insulating Oil CAS No. 8042-47-5	Low toxicity Hazard class – NA	Not applicable	None established	Carbon steel transformers; total onsite inventory of 36,000 gallons	Used only in transformers, secondary containment for each transformer
Diesel Fuel CAS No. 68476-34-6	Low toxicity; Hazard class – Combustible Liquid	Not applicable	PEL: none established TLV: 100 mg/m^3 (ACGIH)	Carbon steel tank (1,150 gallon [generator & fire water pump engine])	Stored only in fuel tank of emergency engine, secondary containment
Hydrogen	Low toxicity; Hazard class – Flammable gas	Not applicable	None Established	In generator cooling loop and “tube trailer”; piping system inventory 350 pounds; plus 650 lbs in storage trailer	Pressure safety tank, crash posts, pressure relief valves
Nitrogen CAS No. 7727-37-9	Low toxicity; Hazard class – Non-Flammable Gas	Not applicable	None established	Carbon steel tank; 7,500 lbs total inventory	Carbon steel tank with crash posts
Hydraulic fluid CAS No. 64741-89-5	Low to moderate toxicity; Hazard class – Class IIIB Combustible Liquid	Not applicable	TWA (oil mist): 5 mg/m^3 STEL: 10 mg/m^3	Carbon steel tanks and sumps; 500 gallons in equipment, maintenance inventory of 110 gallons in 55-gallon steel drums	Found only in equipment with a small maintenance inventory; maintenance inventory stored within secondary containment
Welding gas Acetylene CAS No. 74-86-2	Moderate toxicity; Hazard class – Toxic	10,000 lbs	PEL: none established	Steel cylinders; 200 cubic feet each, 800 cubic feet total on site	Inventory management, isolated from incompatible chemicals

Table 5.6-3R Summary of Special Handling Precautions for Large Quantity Hazardous Materials (Rev.1)

Hazardous Material and CAS No.[1]	Relative Toxicity[2] and Hazard Class[3]	RQ[4] pounds (kg)	Permissible Exposure Limit (PEL)	Storage Description; Capacity	Storage Practices and Special Handling Precautions
Welding gas Oxygen CAS No. 7782-44-7	Low toxicity; Hazard class – Oxidizer	Not applicable	PEL: none established	Steel cylinders; 200 cubic feet each, 800 cubic feet total on site	Inventory management, isolated from incompatible chemicals
Welding gas Argon CAS No. 7440-37-1	Low toxicity; Hazard class – Non-flammable Gas	Not applicable	PEL: none established	Steel cylinders; 200 cubic feet each, 800 cubic feet total on site	Inventory management
Activated Carbon CAS No. 7440-44-0	Non-toxic (when unsaturated), low to moderate toxicity when saturated, depending on the adsorbed material; Hazard class – combustible solid	Not Applicable	TWA (total particulate): 15 mg/m^3 TWA (respirable fraction): 5 mg/m^3 TLV (graphite, all forms except graphite fibers): 2 mg/m3 TWA	Used in two x 2,000-lb canisters, 4,000 lbs total inventory, no additional storage	No excess inventory stored on site, prompt disposal when spent
Calcium Hypochlorite 100% CAS No. 7778-54-3	Moderate toxicity; Hazard Class – Corrosive, Irritant	10 lbs	PEL: none established Acute oral toxicity (LD50): 850 mg/kg [Rat].	Minimal onsite storage for water treatment, not expected to exceed 50 lbs	Inventory management, isolated from incompatible chemicals
Water treatment chemical Sodium Carbonate (soda ash)	Low toxicity; Hazard class – Irritant	Not Applicable	TBD	10 tons	Stored in steel silos. Inventory management, isolated from incompatible chemicals

Table 5.6-3R Summary of Special Handling Precautions for Large Quantity Hazardous Materials (Rev.1)

Hazardous Material and CAS No.[1]	Relative Toxicity[2] and Hazard Class[3]	RQ[4] pounds (kg)	Permissible Exposure Limit (PEL)	Storage Description; Capacity	Storage Practices and Special Handling Precautions
Water treatment chemical Lime (calcium oxide)	Moderate toxicity; Hazard class - Irritant	Not Applicable	TBD	10 tons	Stored in steel silos. Inventory management, isolated from incompatible chemicals
Water treatment chemical Magnesium Chloride	Non-toxic; Hazard class – NA	Not Applicable	TBD	500 gallons	Inventory management
Water treatment chemical Sodium Bisulfate (aka sodium hydrogen sulfate)	Low toxicity; Hazard class – Irritant	Not Applicable	Sodium bisulfite = PEL: none established: TLV: 5 mg/m^3 TWA	500 gallons	Inventory management, isolated from incompatible chemicals
Boiler water treatment chemical Ferric Sulfate (35% solution) CAS Number 10028-22-5	Moderate toxicity; Hazard class - Irritant	1,000 lbs	TBD	10,000 gallons	Inventory management, isolated from incompatible chemicals and secondary containment

Table 5.6-3R Summary of Special Handling Precautions for Large Quantity Hazardous Materials (Rev.1)

Hazardous Material and CAS No.[1]	Relative Toxicity[2] and Hazard Class[3]	RQ[4] pounds (kg)	Permissible Exposure Limit (PEL)	Storage Description; Capacity	Storage Practices and Special Handling Precautions
Water treatment chemical NALCO Tri-Act 1800 *or equivalent* Cyclohexlyamine (5 – 10%) Monoehtanolamine (10 – 30%) Methoxyproplyamine (10 – 30%)	High toxicity; Hazard class – Corrosive, Class II Combustible liquid	Not Applicable	Cyclohexlyamine = TLV: 10 ppm (41 mg/m^3) Monoethanolamine = TLV: 3 ppm (7.5 mg/m^3) TWA: 3 ppm (7.5 mg/m^3) STEL: 6 ppm (15 mg/m^3) Methoxyproplyamine = TLV: 5 ppm TWA STEL: 15 ppm	Plastic totes, 2 x 400 gallons	Inventory management, isolated from incompatible chemicals and secondary containment
Water treatment chemical NALCO Elimin-Ox Carbohydazide (5 - 10%) *or equivalent*	Moderate toxicity; Hazard class – Sensitizer	Not Applicable	Carbohydazide = PEL: none established	Plastic totes, 2 x 400 gallons	Inventory management, isolated from incompatible chemicals and secondary containment
Water treatment chemical NALCO 3D Trasar 3DT185 Phosphoric Acid (60 -100%) *or equivalent*	High toxicity; Hazard class – Corrosive	Not Applicable	Phosphoric acid = PEL: 1 mg/m^3 (TWA) TLV: 1 mg/m^3 (TWA), STEL: 3 mg/m^3	Plastic totes, 2 x 400 gallons	Inventory management, isolated from incompatible chemicals and secondary containment

Table 5.6-3R Summary of Special Handling Precautions for Large Quantity Hazardous Materials (Rev.1)

Hazardous Material and CAS No.[1]	Relative Toxicity[2] and Hazard Class[3]	RQ[4] pounds (kg)	Permissible Exposure Limit (PEL)	Storage Description; Capacity	Storage Practices and Special Handling Precautions
Water treatment chemical NALCO 3D Trasar 3DT177 *or equivalent* Phosphoric acid (30%)	Moderate toxicity; Hazard class – Irritant	Not Applicable	Phosphoric acid = PEL: 1 mg/m^3 (TWA) TLV: 1 mg/m^3 (TWA), STEL: 3 mg/m^3	Plastic totes, 2 x 400 gallons	Inventory management, isolated from incompatible chemicals and secondary containment
Water treatment chemical NALCO 3D Trasar 3DT190 *or equivalent*	Low toxicity; Hazard class – Irritant	Not Applicable	None established for mixture	Plastic totes, 2 x 400 gallons	Inventory management, isolated from incompatible chemicals and secondary containment
Water treatment chemical NALCO Acti-Brom (R) 7342 *or equivalent* Sodium bromide	Low toxicity; Hazard class – Irritant	Not Applicable	Sodium bromide = PEL: none established	Plastic totes, 2 x 400 gallons	Inventory management, isolated from incompatible chemicals and secondary containment
Water treatment chemical NALCO pHreedom® 5200M *or equivalent* Sodium salt of phosphonomethylated diamine	Low to moderate toxicity; Hazard class – Irritant	Not Applicable	Sodium salt of phosphonomethylated diamine = PEL: none established	Plastic totes, 2 x 400 gallons	Inventory management, isolated from incompatible chemicals and secondary containment
Water treatment chemical NALCO PCL-1346	Low toxicity; Hazard class – Irritant	Not Applicable	None established for mixture	Plastic totes, 2 x 400 gallons	Inventory management, isolated from incompatible chemicals and secondary containment

Table 5.6-3R Summary of Special Handling Precautions for Large Quantity Hazardous Materials (Rev.1)

Hazardous Material and CAS No.[1]	Relative Toxicity[2] and Hazard Class[3]	RQ[4] pounds (kg)	Permissible Exposure Limit (PEL)	Storage Description; Capacity	Storage Practices and Special Handling Precautions
Water treatment chemical NALCO Permacare (R) PC-7408 Sodium bisulfite	Low toxicity; Hazard class – Irritant	Not Applicable	Sodium bisulfite = PEL: none established: TLV: 5 mg/m^3 TWA	Plastic totes, 2 x 400 gallons	Inventory management, isolated from incompatible chemicals and secondary containment
Water treatment chemical NALCO BT-3000 *or equivalent* Sodium hydroxide Sodium tripolyphosphate	High toxicity; Hazard class – Corrosive	Not Applicable	Sodium hydroxide = PEL: 2 mg/m^3 Sodium tripolyphosphate = PEL: none established	Plastic totes, 2 x 400 gallons	Inventory management, isolated from incompatible chemicals and secondary containment
Boiler water treatment chemical, pH adjustment Sodium Hydroxide (50%) CAS Number 1310-73-2	High toxicity; Hazard class – Corrosive	1,000 lbs	Sodium hydroxide = PEL: 2 mg/m^3	10,000 gallons	Inventory management, isolated from incompatible chemicals and secondary containment
Water treatment chemical NALCO 8338 *or equivalent* Sodium nitrite Sodium tolytriazole Sodium hydroxide	Moderate toxicity; Hazard class – Toxic	Not Applicable	Sodium nitrite = PEL: none established Sodium tolytriazole = PEL: none established Sodium hydroxide = PEL: 2 mg/m^3	Plastic totes, 2 x 400 gallons	Inventory management, isolated from incompatible chemicals and secondary containment

Table 5.6-3R Summary of Special Handling Precautions for Large Quantity Hazardous Materials (Rev.1)

Hazardous Material and CAS No.[1]	Relative Toxicity[2] and Hazard Class[3]	RQ[4] pounds (kg)	Permissible Exposure Limit (PEL)	Storage Description; Capacity	Storage Practices and Special Handling Precautions
Water treatment chemical 93%-98% sulfuric acid CAS No. 7664-93-9	High toxicity; Hazard class – Corrosive, water reactive	1,000 lbs	PEL: 1 mg/m^3	1,000 gallons	Inventory management, isolated from incompatible chemicals and secondary containment
Water treatment chemical Sodium Hypochlorite (13% solution) CAS No. 7689-52-9	High toxicity; Hazard class – Poison-B, Corrosive	100 lbs	Workplace Environmental Exposure Limit (WEEL) - STEL: 2 mg/m3 PEL: 0.5 ppm (TWA), STEL: 1 ppm as Chlorine TLV: 1 ppm (TWA), STEL: 3 ppm as Chlorine	1,000 gallons	Inventory management, isolated from incompatible chemicals
Oxygen Scavenger Reagent Acetic Acid 60% CAS No. 64-19-7 Iodine 20% CAS No. 7553-56-2 De-ionized water 20% CAS No. 7732-18-5	Moderate toxicity; Hazard Class – Corrosive, Irritant	5,000 lbs	PEL: 10 ppm TWA PEL: 0.1 ppm N/A	Minimal onsite storage for water treatment, not expected to exceed 50 lbs	Inventory management, isolated from incompatible chemicals

Table 5.6-3R Summary of Special Handling Precautions for Large Quantity Hazardous Materials (Rev.1)

Hazardous Material and CAS No.[1]	Relative Toxicity[2] and Hazard Class[3]	RQ[4] pounds (kg)	Permissible Exposure Limit (PEL)	Storage Description; Capacity	Storage Practices and Special Handling Precautions
Boiler water treatment oxygen scavenger Carbohydrazide CAS No. 497-18-7	High toxicity; Hazard class – Irritant	Not applicable	Carbohydazide = PEL: none established	600 gallons	Inventory management, isolated from incompatible chemicals
Herbicide Roundup® or equivalent CAS No. 38641-94-0	Low toxicity; Hazard class – Irritant	Not applicable	Isopropylamine salt of glyphosphate = no specific occupational exposure has been established	No onsite storage, brought on site by licensed contractor, used immediately	No excess inventory stored on site
Soil stabilizer Active ingredient: acrylic or vinyl acetate polymer or equivalent CAS No. Active ingredient is 'Not Hazardous'	Non-toxic; Hazard class – NA	Not applicable	None established	No onsite storage, supplied in 55-gallon drums or 400-gallon totes, used immediately	No excess inventory stored on site

[1] CAS No. – Chemical Abstracts Service registry number. This number is unique for each chemical.

[2] Low toxicity is used to describe materials with an NFPA Health rating of 0 or 1. Moderate toxicity is used describe materials with an NFPA rating of 2. High toxicity is used to describe materials with an NFPA rating of 3. Extreme toxicity is used to describe materials with an NFPA rating of 4.

[3] NA denotes materials that do not meet the criteria for any hazard class defined in the 1997 Uniform Fire Code.

[4] RQ - Reportable Quantity for hazardous substance as designated under section 102(a) defined under CERCLA. (To note: As previously discussed in the text, Table 5.6-3 includes those chemicals stored or used in excess of 55 gallons for liquids, 500 pounds for solids, and 200 cubic feet for compressed gases. These quantities coincide with the thresholds for reporting under California's HMBP requirements).

[5] RQ - Reportable Quantity for extremely hazardous substance as designated under section 302(a)(2) defined under CERCLA.

STATE OF CALIFORNIA
ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION

In the Matter of: **APPLICATION FOR CERTIFICATION** **for the *PALEN SOLAR POWER PROJECT***	**Docket No. 09-AFC-7** **PROOF OF SERVICE** ***(Revised 5/14/2010)***

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DECLARATION OF SERVICE

I, Carl Lindner, declare that on, May 21, 2010, I served and filed copies of the attached Responses to Questions from the April 28, 29 & May 7, 2010 CEC Workshops
Technical Areas: Worker Safety/Hazardous Materials and Soil/Water Resources

The original document, filed with the Docket Unit, is accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at:
[http://www.energy.ca.gov/sitingcases/solar_millennium_palen].

The document has been sent to the other parties in this proceeding (as shown on the Proof of Service list) and to the Commission's Docket Unit, in the following manner:

(*Check all that Apply*)

For service to all other parties:

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

__ by personal delivery or by overnight delivery service or depositing in the United States mail at Camarillo, California with postage or fees thereon fully prepaid and addressed as provided on the Proof of Service list above to those addresses **NOT** marked "email preferred."

AND

For filing with the Energy Commission:

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

OR

_____ depositing in the mail an original and 12 paper copies, along with 13 CDs, as follows:

CALIFORNIA ENERGY COMMISSION
Attn: Docket No. 09-AFC-7
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512

docket@energy.state.ca.us

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