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September 19, 2007

DOCKET
06-AFC-6
DATE SEP 19 2007
RECD. SEP 19 2007

Mr. Bill Pfanner
Siting Project Manager
California Energy Commission
1516 Ninth Street, MS-15
Sacramento, CA 95814-5504

RE: Eastshore Energy, LLC Preliminary Staff Assessment Comments
Eastshore Energy Center (06-AFC-6)

Dear Bill:

On behalf of the Eastshore Energy, LLC, please find attached 12 copies and one original of comments on the Preliminary Staff Assessment (PSA) in response to CEC staff's PSA dated August 17, 2007.

Please call me if you have any questions.

Sincerely,

CH2M HILL

David Stein.
AFC Project Manager

c: Project File
Proof of Service List

Listed below, for CEC staff's consideration, are Eastshore Energy, LLC's comments on the Preliminary Staff Assessment (PSA) for the Eastshore Energy Center (Eastshore) project (06-AFC-06).

GENERAL COMMENT

In order to address Eastshore Energy, LLC's need to meet contractual deadlines related to delivering electricity to PG&E under the Purchase Power Agreement, Eastshore Energy, LLC respectively requests that for all Conditions of Certification (COCs), the timeline specifications should be followed by "or fewer days if mutually agreed between project owner and CPM" in order to allow shorter submittal and review times that may be mutually agreed upon between the Eastshore Energy, LLC and the CEC CPM.

EXECUTIVE SUMMARY

Page 1-2, 4th paragraph, the 2nd and 3rd lines reference that two transmission line routes are being considered. Since only one transmission line route is proposed, the text needs to be changed as follows:

~~Two~~ The transmission line route~~s are being evaluated. One route~~ will follows the existing PG&E 12-kV distribution lines south along Clawiter Road, overcross State Route 92 and interconnect into the PG&E Eastshore substation, approximately 1.1 miles south of the site. ~~and the other parallels the Southern Pacific Railroad right-of-way (ROW)~~.

Page 1-7, under the discussion of "Land Use", Eastshore Energy, LLC strongly disagrees with the CEC staff assertions regarding potential impairment of the Hayward Executive Airport, potential nonconformance with City of Hayward LORS and the suggestion that there is a potential adverse cumulative effect of the Russell City Energy Center (RCEC) and Eastshore projects. Eastshore will be prepared to strenuously rebut these assertions during the evidentiary hearing.

Page 1-7, 1st paragraph, line 7 under the discussion of "Land Use", the reference to "other TFRs" should be expanded to specifically list each TFR by number and date. In addition, each TFR referenced should be included as an attachment to either the Land Use or Traffic and Transportation sections of the PSA.

Page 1-8, under the discussion of "Traffic and Transportation", Eastshore Energy, LLC strongly disagrees with the CEC staff assertions regarding the potential hazard to helicopters, potential impairment of the Hayward Executive Airport and the suggestion that there is a potential adverse cumulative effect of the RCEC and Eastshore Projects. Eastshore will be prepared to strenuously rebut these assertions during the evidentiary hearing.

Page 1-9, under the discussion of "Alternatives" Eastshore Energy, LLC strongly disagrees with the CEC staff assertions regarding the potential aviation impacts. Eastshore will be prepared to strenuously rebut these assertions during the evidentiary hearing.

Page 1-10, under the discussion of "Noteworthy Public Benefits", the text references black-start capability. Eastshore is proposing provisions for future black-start functionality, and will install it at a later date if requested to do so by PG&E.

Page 1-11, under the discussion of "Recommendations and Schedule", please see comments on Land Use and Traffic and Transportation, above.

INTRODUCTION

No comments.

PROJECT DESCRIPTION

Page 3-2, under the discussion of "Project Location", 1st paragraph, line 7 Eastshore will only be leasing and using about 1.52-acres of the 4.65-acre Berkeley Farm parcel.

Page 3-3, under the discussion of "Power Plant Equipment and Linear Facilities", 2nd paragraph, line 3, this discussion should add the parenthetical "(one per engine)" after the words "oxidation catalyst" to clarify that there is one oxidation catalyst for each engine.

Page 3-3, line 4 under the discussion of Water Supply, the noted one gpm water usage rate should be characterized as an average annual rate.

Page 3-3, under the discussion of "Wastewater Discharge", Eastshore will be replacing the on-site sewer system, and installing a new site sewer main that will tie into the existing City of Hayward system on Clawiter Road.

AIR QUALITY

PM_{10} Emission Rate

Based upon discussions with the engine manufacturer and review of source test data from several sites, the manufacturer has agreed to lower the PM_{10} emission rate guarantee to 1.9 lb/hr per engine, at normal operating conditions and 100% load. Eastshore has notified the BAAQMD that it can accept a 1.9 lb/hr per engine PM_{10} limit based on the lower guarantee. Using this lower value, the maximum permitted annual PM_{10} emissions would be reduced from 64.4 tons/year to 56.4 tons/year. The proposed PM_{10} emission limit during the PM_{10} nonattainment period would be reduced from 10.2 tons to 9.1 tons. With this revision, the PM_{10} mitigation that would now be required is three times 9.1 tons, or 27.3 tons/year. Note that, because the nonattainment period PM_{10} limit in Condition AQ-SC8 is modeled based upon lower, expected actual operating hours, the equivalent PM_{10} emission rate at proposed, permitted normal operations (about 1,333 hours over four months) and 100% load is equivalent to approximately 0.81 lb/hr. This is about 43% of the manufacturer guarantee.

Particulate emissions from gas-fired engines are tied primarily to gas quality (including sulfur content of fuel and hydrocarbon content), lube oil usage and proper engine maintenance. Unlike with other pollutants such as NOx, add-on controls for particulate emissions are not feasible.

Even though actual particulate emissions are likely to be lower than 1.9 lb/hr, these lower levels have not been guaranteed by Wartsila. Acceptance of lower emission rates than those

that have been guaranteed may put the requisite financing of the project in jeopardy. The Wartsila 20V34SG engine has limited operating history in the Western US. The particulate emissions performance over the operating life of the engines at the Eastshore site will not be known for several years. There is a paucity of data from Wartsila engines or any other engines that can be used to establish a regulatory emission limit for particulate matter. Furthermore, there is considerable uncertainty inherent in particulate test methodologies. These uncertainty factors are built into the manufacturer guarantee. Because financing for this project is contingent upon the ability to meet manufacturer or agency mandated emission limits, Eastshore cannot arbitrarily accept the unreasonable risk of setting lower particulate emission limits for this project.

The ARB guidance referenced in the CEC comments is strictly a survey of existing control technologies, and represents guidance (or recommendations) to air districts. The guidance document is advisory only and does not establish emission limits. A 0.02 g/bhp-hr particulate emission limit has not been proven achievable following BAAQMD and ARB best available control technology (BACT) requirements. The 0.02 g/bhp-hp value is strictly a recommendation based upon a particulate emission standard developed for diesel (not gas-fired) engines. Sufficient source test data from lean burn gas engines in this size range does not exist to support BAAQMD establishment of a numerical particulate emission limit that is below the manufacturer guarantee.

Air Quality Mitigation

Eastshore proposes to mitigate particulate emissions using BAAQMD emission reduction credits (ERCs) as a first preference or through a wood stove mitigation program if sufficient ERCS are not available. By estimating particulate matter emissions using the manufacturer guarantee, and by securing 27.3 tons/year of PM_{10} ERCs, Eastshore will be providing excess emission reductions (by about a factor of two) that are substantially more than expected actual particulate emissions. ERCs used and retired for the Eastshore project will no longer be available to other projects. These excess emission reductions will result in a significant air quality benefit.

Pages 4.1-1, 4.1-26, and 4.1-44 under the discussion of "Additional NOx and POC Offsets", Eastshore recommends that any CEQA mitigation be targeted to apply only on the specific days when there is a 1-hour or 8-hour state or federal ozone standard exceedance during the ozone season (from June 1 to September 30) at the nearest representative monitoring station, since emissions of small quantities of ozone precursors (relative to the regional emission inventory) during periods of attainment does not constitute a potentially significant impact under CEQA. The nearest stations are currently the Hayward, San Leandro and Fremont stations. The approach to calculate the mitigation amount (in tons/year) should be specified clearly in condition AQ SC-7 as discussed below. Eastshore recommends that total pounds of NOx plus POC in excess of 830 lb/day on actual nonattainment days be converted to tons and an ERC in the corresponding amount surrendered annually.

Page 4.1-15, 1st bullet at the top of the page, please note that there will be only one gas-fired heater.

Page 4.1-26, under the discussion of "Mitigation of $PM_{10}/PM_{2.5}$", SO_2 ERCs for PM_{10}, because Eastshore does not currently hold PM_{10} ERCs, flexibility is needed to allow Eastshore to obtain ERCs from the market as a preference, rather than through a woodstove/fireplace replacement program. PM_{10} emission reduction credits (ERCs) may not be available in sufficient quantities to meet Condition AQ SC-8. Since BAAQMD rule 2-2-303.1 acknowledges the acceptability of interpollutant offsetting of PM_{10} increases with SO_2 ERCs, COC AQ-SC-8 should be revised to allow Eastshore to use SO_2 ERCs to mitigate PM_{10} emissions, at the current BAAQMD-accepted conversion ratio of 3:1.

Eastshore provided a detailed justification for the 3:1 ratio in data response number 8 of Eastshore Data Response Set 1A (February 26, 2007). Eastshore also contacted the BAAQMD ERC Banking contact, David Burnell, and confirmed that the default regional conversion ratio of 3:1 is used by BAAQMD. BAAQMD staff was not aware of any plans to change the default value. Therefore, the BAAQMD default 3:1 ratio should be used for this project.

Pages 4.1-28 and 4.1-44, under the discussion of "SO_2 Mitigation", CEC staff proposed 6.6 tons/year SO_2 mitigation based upon the role of SO_2 in secondary $PM_{10}/PM_{2.5}$ formation. The approach for providing SO_2 mitigation as a $PM_{10}/PM_{2.5}$ precursor should be consistent with the approach for providing PM_{10} mitigation. That is, the SO_2 mitigation amount should equal SO_2 emissions during the PM_{10} nonattainment period. From expected actual operations, SO_2 emissions calculated for the four-month non-attainment period equals 1.0 tons. The SO_2 mitigation amount would be three times that amount of 3.0 tons/year. COC AQ-SC8 should be updated to require 3.0 tons/year of SO_2 mitigation, and to include a limit of 1.0 tons SO_2 during the PM_{10} nonattainment period.

Page 4.1-39, COC AQ-SC1, please change the verification to 45 days.

Page 4.1-40, COC AQ-SC2, please change the verification to 45 days prior for submittal and CPM comments within 21 days.

Page 4.1-41, COC AQ-SC4, Step 3, it is likely that construction of the transmission line would involve placement of a limited number of new transmission poles and would not involve massive grading. These limited construction activities would generate only minimal dust. Since the transmission line will be constructed by PG&E, the AQCMM may not have authority to stop the transmission line construction

Page 4.1-44, COC AQ-SC7, this condition should provide further clarity on the mechanics of the condition. Eastshore proposes to mitigate for days when there is an actual air quality standard violation, calculate overage based on actual emissions - 830 lb/day, and surrender an ERC for accumulated overages with annual compliance summary. Eastshore agrees to go to the specified geographic areas on a best efforts basis, but if Eastshore is unable to

locate and purchase ERCs within this geography, then Eastshore needs to have access to entire BAAQMD bank. Suggested changes to COC AQ-SC7 are offered below:

> **AQ-SC7** The project owner shall calculate for each calendar day the total daily NOx and POC emissions from the facility and surrender NOx or POC emission reduction credits (ERCs) in a sufficient quantity to mitigate the quantity of total NOx and POC emissions in excess of 830 lb per day ***on actual ozone nonattainment days*** during the June through October ozone nonattainment season. The quantity of ERCs to be surrendered shall be the difference between 830 lb per day and any actual daily emissions over 830 lb per day ***on actual ozone nonattainment days***, reconciled annually. ***The project owner shall use good faith efforts to obtain ~~T~~the*** emission reduction credits ~~shall originate~~ from sources in the areas surrounding Oakland, Hayward, Fremont, San Jose, and San Francisco. ***If the project owner demonstrates to the satisfaction of the CPM that it has conducted a good faith effort to obtain the requisite ERCs from the aforementioned areas and is unable to do so, the Project Owner shall be permitted to surrender banked ERCs from any location within the BAAQMD.***
>
> **Verification:** The project owner shall submit to the CPM evidence of surrendering the necessary emission reduction credits with the annual compliance summary.

Page 4.1-44, COC AQ-SC8, Eastshore proposes a lower amount of PM_{10} based on agreement to a lower annual PM_{10} limit. Eastshore agrees to go to the specified geographic areas on a best efforts basis, but if Eastshore is are unable to locate and purchase ERCs within this geography, then Eastshore will need to have access to entire BAAQMD bank.

Page 4.1-44, COC AQ-SC8 should be revised to require 27.3 tons/year PM_{10} mitigation from PM_{10} or SO_2 ERCs, with a limit of 9.1 tons PM_{10} during the 4-month nonattainment period.

Page 4.1-44, under the discussion of the Location of and schedule for obtaining ERCs, Eastshore will make a best faith effort to obtain PM_{10} or SO_2 ERCs from sources in the areas surrounding Oakland, Hayward, Fremont, San Jose and San Francisco. However, any geographical constraint may heavily impact Eastshore's ability to procure ERCs prior to construction. The market for PM_{10} and SO_2 ERCs is limited. Currently, there may be market supply of PM_{10} and SO_2 ERCs from sources in the Concord to Antioch region. Condition AQ-SC-8 should be modified to allow purchase of ERCs from other regions in the BAAQMD as needed.

Also, because market ERCs may not be available, and the wood stove and fireplace program may be needed to fulfill the mitigation requirement, Eastshore should be allowed up to 24 months from start of construction to provide ERCs.

Page 4.1-45, under the discussion of "Offsets from the Wood Stove Program", the scheduling requirement to offset particulate matter using the wood stove program is not practical. The program requires individuals to come forward over time to obtain rebates. If

needed to achieve PM_{10} reductions and market ERCs cannot be procured, the program must extend beyond the plant commissioning period. Condition AQ-SC8 should be revised to allow the wood stove program to contribute to mitigation for up to two years from the first date of construction:

- 15% within six months after start of construction
- 30% within nine months after start of construction
- 50% within 12 months after start of construction
- 80% within 18 months after start of construction
- 100% within 24 months after start of construction

Eastshore proposes the following changes to COC AQ-SC-8 based on the above discussion:

AQ-SC8 The project owner shall obtain and surrender emission reduction credits (ERCs) to offset ~~30.6~~ ***27.3*** tons per year of PM10 emissions and ~~6.6~~ ***3.0*** tons per year of SO_2 emissions. ***The project owner shall use good faith efforts to obtain the*** ~~The~~ emission reduction credits ~~shall originate~~ from sources in the areas surrounding Oakland, Hayward, Fremont, San Jose, and San Francisco. ***If the project owner demonstrates to the satisfaction of the CPM that it has conducted a good faith effort to obtain the requisite ERCs from the aforementioned areas and is unable to do so, the Project Owner shall be permitted to surrender banked ERCs from any location within the BAAQMD.*** PM10 emissions during the November through February nonattainment season shall not exceed ~~10.2~~ ***9.1*** tons ***and SO_2 emissions shall not exceed 1.0 tons*** except as provided below. ***SO_2 ERCs may be substituted for PM_{10} ERCs at a ratio of 3:1.*** Compliance with this condition will be established by use of the most recent District approved source test data, and the average load-based (grams/bhp-hr) PM_{10} emission rate from all engines tested.

The project owner shall notify the CPM within 10 days of exceeding the PM_{10} emission limit in this condition. The owner shall surrender additional ERCs or other CPM-approved mitigation for any excess emission (equaling the difference between calculated actual emissions and the emission limit) within 60 days of the date that actual emissions exceed the limits in this condition. ***Additional mitigation provided will establish a new, higher emission limitation.***

If using a good faith effort, sufficient ERCs cannot be obtained and surrendered by start of construction, ~~F~~***fireplace*** or wood burning stove retrofits ***for Hayward residents*** may be used to satisfy any additional mitigation requirement and shall be credited using the following factors for each certified unit retrofit: 2 lb $PM_{10}/PM_{2.5}$ per year per fireplace without insert, 19 lb PM10/PM2.5 per year per fireplace with insert, and 24 lb PM10/PM2.5 per year per wood stove. ***The program may be made available to all residents in the cities of Fremont, Newark, Union City, San Leandro, Oakland, Emeryville, Albany, Piedmont, Berkeley, Alameda, and the***

unincorporated communities of San Lorenzo and Castro Valley, and in Alameda County west of the Oakland/East Bay Hills after twelve (12) months from the start date of the fireplace retrofit / woodstove replacement program. The emission reductions from any fireplace or wood-burning stove retrofits must occur ***in accordance with the following schedule:***
~~prior to initial commissioning activities.~~

a) *achieving 15% of the additional mitigation needed within six (6) months after start of construction,*
b) *achieving 30% of the additional mitigation needed within nine (9) months after start of construction*
c) *achieving 50% of the additional mitigation needed within twelve (12) months after start of construction*
d) *achieving 80% of the additional mitigation needed within eighteen (18) months after start of construction*
e) *achieving 100% of the additional mitigation needed within twenty-four (24) months after start of construction.*

During the twenty-four month period following start of construction ERCs may also be used to supply additional mitigation.

Verification: The project owner shall submit to the CPM prior to initiating construction evidence of surrendering the emission reduction credits or evidence that sufficient emission reductions from any fireplace or wood stove retrofit program will be achieved ***in accordance with the specified schedule.*** ~~prior to initial commissioning.~~

BIOLOGICAL RESOURCES

Page 4.2-9, under the discussion of "Sensitive Habitats", 2nd paragraph Attachment BIO-1 includes recent information from PG&E regarding the preliminary locations of transmission poles and structures that demonstrate the transmission line construction will not impact identified wetlands or burrowing owl habitat and should adequately address Staff's concern. However, if necessary, Eastshore would agree to a COC that requires that the transmission line not cross or otherwise impact identified wetlands on Eastshore substation property or burrowing owl habitat.

Page 4.2-13, under the discussion of "Cumulative Impacts", 3rd paragraph, last sentence, please add the phrase "unless CEC staff-proposed mitigation measures are implemented".

Page 4.2-15, under the discussion of "Conclusions", please delete the last two sentences and, if necessary, replace with a COC addressing concern as noted in the comment above regarding Page 4.2-9 above.

CULTURAL RESOURCES

Refer to the comment under General Comments above.

HAZARDOUS MATERIALS MANAGEMENT

General Comment: Please insert the "Verification" for each COC.

Page 4.4-10, CEC staff modeled a cover with no more than 24 square inches (12" x 12") opening between cover and containment walls". Since 12" x 12" is 144 square inches, please confirm whether 24 or 144 square inches used?

Page 4.4-19, COC HAZ-2, please change to CalARP since an RMP is not required (see page 4.4-9, 2nd paragraph) and eliminate reference to a submittal to EPA. Please change verification timeline from 60 days prior to 30 days prior.

Page 4.4-20, COCs HAZ-3 - HAZ-6, please change verification timeline from 60 days prior to 30 days prior.

Page 4.4-21, COC HAZ-7, delete "At least 30 days prior" from first sentence. Add "Verification" before 2nd paragraph (after numbered list).

Page 4.4-43, in Appendix C a drain with 3.14 square feet (452 square inches) was used in the Off-site Consequence Analysis (OCA). This conflicts with both numbers in the comment on page 4.4-10 above. Please clarify the assumed dimensions of the cover opening through which vapors would pass from below the cover.

LAND USE

General Comment: Figure 7 is missing. Please confirm that this figure is identical to Figure 6 in Traffic & Transportation.

General Comment: Eastshore strongly disagrees with the CEC staff assertions regarding potential impairment of the Hayward Executive Airport, potential nonconformance with City of Hayward LORS and the suggestion that there is a potential adverse cumulative effect of the Russell City Energy Center and Eastshore Projects. Eastshore will be prepared to strenuously rebut these assertions during the evidentiary hearing.

Page 4.5-11, 1st paragraph, all TFRs referenced by CEC staff in this section should be included in their entirety as an appendix to this section. A specific citation to the 3000 foot/3 mile radius should be provided and the reference document included in an appendix to this section.

Page 4.5-1, under the discussion of "Summary of Conclusions", please refer to comments on the Executive Summary above.

LAND-1 - Please change the verification timeline from 90 days prior to 45 days prior.

NOISE AND VIBRATION

Page 4.6-6/-7, Staff's calculations that support the values in Tables 2 and 3 should be included in an appendix to this section.

Page 4.6-9, top of page, staff's calculations that document the L_{90} should be included in an appendix to this section.

Page 4.6-9, under the discussion of "CEQA Impacts", as Eastshore will not be operating continuously, during the large majority of days it will not contribute to elevated background noise levels to the degree staff suggests.

Page 4.6-13/-14, COC NOISE-4, the 1st paragraph, should be change from "measured near monitoring location R1" to "measured at or near to monitoring location R1".

NOISE-4 Verification: Eastshore requests flexibility on testing with 30 days, e.g., "or when otherwise approved by the CPM".

PUBLIC HEALTH

Page 4.7-20, COC PUBLIC HEALTH-1 - The proposed condition would impose substantial cost for comprehensive air toxics that is unwarranted and unreasonable. Collection of large amounts of data is not necessary when the air toxics emission factor database has already been deemed adequate by the BAAQMD for emissions estimating purposes. The CEC has an active and well-funded Public Interest Energy Research (PIER) program for conducting energy-related environmental research. The appropriate forum for completion of the extensive measurement programs such as the one outlined in the Staff proposal is the PIER program, not the compliance program of an individual power project.

Eastshore has discussed this condition with BAAQMD staff and recommends that the CEC adopt a condition that is consistent with the FDOC. For the FDOC, BAAQMD will propose a revision to AQ-23 that will extend testing to several additional compounds that are health risk drivers. The additional compounds include acetaldehyde, benzene, toluene, xylene, and polycyclic aromatic hydrocarbons. Since other substances have a negligible contribution to the overall health risk, substantial variation in the emissions of these substances could occur without a significant impact ton the overall risk calculation. Therefore collection of data for these substances is unnecessary. The required testing should be consistent in both scope and timing with BAAQMD requirements for testing on a single engine so as to avoid unnecessary and burdensome duplication of effort. The test program will include collection of triplicate samples for each air toxic. In the unlikely event that results yield unacceptable risk, Eastshore would agree to retest the originally tested engine and a second engine.

A proposed revision to PUBLIC HEALTH-1 is provided below:

> **PUBLIC HEALTH-1** The project owner shall, within one year of starting commercial operations, provide the results of a source test on ~~all fourteen~~ ***a single*** engine exhaust stacks and a human health risk assessment (HRA) to the Compliance Project Manager (CPM). The source test and human health risk assessment shall be conducted according to protocols reviewed and commented on by the Bay Area Air

Quality Management District and reviewed and approved by the CPM, and shall be ~~submitted to the CPM~~ ***completed within 136 days of*** ~~not less than 120 days prior to the one-year anniversary of~~ start***up***~~ing commercial operations~~. The source test and HRA shall ~~include the quantitative analysis and assessment of all criteria air pollutants and all toxic air contaminants~~ ***be consistent with the requirements of Conditions AQ-22 and AQ-23.***~~assessed in the AFC's and staff's health risk assessments, including speciation of all PAHs emitted in the gaseous and particulate phases~~. The source test results and human health risk assessment shall confirm that the theoretical maximum cancer risk at the point of maximum impact is less than 10 in one million and the acute and chronic Hazard Indices are less than 1.0. If projected risk based on source test results is above any of these health risk metrics, the Project Owner shall repeat the measurement program on the original engine and a second engine and perform a revised risk assessment on the combined data set within 60 days of submitting the results. ~~. If the health risk assessment shows a cancer risk greater than 10 in one million or a Hazard Index greater than 1.0, operation of the power plant shall be restricted to the number of engines that the CPM determines will represent a risk of less than 10 in one million or a Hazard Index of less than 1.0 until the project owner can certify that the risk of operating all engines conforms to this Condition.~~

Verification: ***The project owner shall notify the District and the CPM at least seven working days before conducting the source tests required in this condition. Source test results shall be submitted to the District and to the CPM within 60 days of the date of the tests. The project owner shall provide evidence of the District's approval of all source test procedures to the CPM prior to executing the tests. A***
~~At least 120 days prior to the one-year anniversary of starting commercial operations, the project owner shall provide a copy of the source test and~~ human health risk assessment ***in accordance with condition AQ-22 shall be submitted to*** ~~protocols to~~ the BAAQMD for review and comment and to the CPM for review and approval ***within 60 days of completion of source tests***. ~~Not less than thirty (30) days after the source test has been completed or not later than one year after the date of starting commercial operations, whichever is sooner, the project owner shall provide the final source test results and the human health risk assessment to the BAAQMD for review and comment and to the CPM for approval.~~

SOCIOECONOMICS

Page 4.8-14, COC SOCIO-1, please change the verification timing to 30 days prior to commencement of operations.

SOIL AND WATER RESOURCES

General Comment, for all SOIL & WATER COCs, please add "verification" to separate COC requirement from verification step.

Page 4.9-21, COC SOIL & WATER-2, last paragraph, please change 90 days prior to 45 days prior and change 60 days prior to 30 days prior.

Page 4.9-23, COC SOIL & WATER-4, please change 60 days prior to 30 days prior.

Page 4.9-24, COC SOIL & WATER-6, please change 60 days prior to 30 days prior.

TRAFFIC AND TRANSPORTATION

General Comment. Eastshore strongly disagrees with the CEC staff conclusions regarding the potential hazard to helicopters, potential impairment of the Hayward Executive Airport and the suggestion that there is a potential adverse cumulative effect of the RCEC and Eastshore Projects. Eastshore will be prepared to strenuously rebut these assertions during the evidentiary hearing.

Page 4.10-35, COC TRANS-1, please change verification from 90 days prior to 45 days prior.

Page 4.10-36, COC TRANS-2, please change verification from 90 days prior to 45 days prior.

Page 4.10-5, there appears to be a table numbering error. Table 2 and 3 are not included in the PSA. The Table 2 reference may be referring to Table 4. Table numbering should be confirmed and corrected. If tables were omitted they should be included in the FSA.

Page 4.10-7, last sentence of the first paragraph, please rephrase this sentence to say "LOS F represents the worst condition and is unacceptable." Gridlock is the worst example of LOS F, but there are many examples of LOS F conditions that are not gridlock. In the last sentence of the second paragraph, the sentence should be rephrased to read "Caltrans considers LOS D to be the limit of acceptable operation for state routes", since level of service characterize operational conditions.

Page 4.10-8, Table 4 does not conform to the Eastshore AFC page 8.10-11 and Supplemental Information package page 27.

- For the first five segments, it has not been specified that V/C ratio and LOS are AM or PM.
- For Clawiter Road segments, it has been indicated that Clawiter Road was an arterial, not a minor arterial. Also, the V/C ratios and the LOS do not match what was provided. If CEC staff has completed their own independent assessment of V/C ratios then the supporting analysis should be provided in an appendix to this section.
- For Depot Road segments, it has been indicated that Depot Road was an arterial, not a connector. Please confirm the use of the word connector, instead of collector. Also, the V/C ratios and the LOS do not match what was provided.

- For Industrial Boulevard segments, it has been indicated that Industrial Boulevard was an arterial, not a major arterial. Also, the V/C rations and the LOS do not match what was provided.

Page 4.10-11, please see comments on Table 5, below.

Page 4.10-12, the second sentence of first paragraph was not provided in WKS-12, but WKS-9.

Page 4.10-12, there is no mention of a preparation of a Pedestrian Traffic Management Plan as such. The Traffic Management Plan (as proposed) was intended to take care of issues related to pedestrians' safety.

Page 4.10-13, in Table 5, the column header "Average Daily Trips" does not come from information provided by Eastshore. Eastshore provided the number of construction workers, but when calculated, the average daily trips (ADTs) are 226, not 228. The truck ADTs is not provided, but when calculated, is equal to 16, not 18. In WKS-59, it has been noted that the maximum number of truck trips is 24 trucks/day which makes the peak daily truck trips equal to 48. Finally, the source of the heavy truck numbers was not clear. Please verify and confirm the sources of the table.

Page 4.10-15, in the second sentence, deliveries restricted to off-peak hours are for heavy construction material and hazardous materials deliveries only.

Page 4.10-18, in the workforce traffic section, six additional vehicle trips will occur during the remainder of the day, not four. Also, there is already a Table 6 on Page 4.10-14.

Page 4.10-22 under the discussion of "Aviation Hazards" and Appendix TT-1, the quantitative analyses performed by Eastshore and CEC staff differs in approach but the predicted magnitude and vertical extent of the vertical velocities expected from operation of Eastshore differs by approximately 100 feet. Both CEC Staff and Eastshore agree that the worst-case vertical extent of thermal plumes is below the minimum 500 foot aircraft flight level. Therefore, both Eastshore and CEC Staff agree that the plant does not pose a significant threat to aircraft flying above 500 feet nor would the presence of the plant significantly influence the potential for an aircraft accident during normal operations.

Page 4.10-30, Table 8: the Supplemental Information package dated May 4, 2007, page 28, identified the workers' average round trips as 292, not 290.

TRANSMISSION LINE SAFETY AND NUISANCE

Refer to the comment under General Comments above.

VISUAL RESOURCES

Pages 4.12-26, -27, and -28, COCs VIS-2, VIS-3, and VIS-4, please change from 90 days prior to 45 days prior.

WASTE MANAGEMENT

Page 4.13-12, COC WASTE-6, please change 60 days prior to 30 days prior to construction.

WORKER SAFETY/FIRE PROTECTION

COC WORKER SAFETY-6, this condition requiring an upgrade to the fire department's signal system is not consistent with the RCEC Presiding Member's Proposed Decision (PMPD). It also does not really limit the mitigation to only the "Opticom" system, but to "any other appropriate mitigation negotiated by the parties". Since the Hayward Fire Department indicates they are fully equipped to respond and no impacts or requirements were noted in the RCEC PMPD, this condition should be deleted.

FACILITY DESIGN

Refer to the comments under Project Description above.

Page 5.1-5, COC GEN-1, please clarify this COC to state that the CBSC in effect for the design is that version published at least 180 days prior to Owner's submittal of the design document to the CBO. In addition to transmission engineering not being subject to CBSC, the gas line design, construction, and operation will be completed by PG&E and will be done in accordance with 49 Code of Federal Regulations (CFR 192) and California Public Utilities Commission General Order No. 112.

Page 5.1-7, Table 1, the "natural gas metering station structure, foundations, and connections" design will be completed by PG&E, and as a result, Eastshore has no control over PG&E.

Page 5.1-8, COC GEN-4, comparable to the Transmission System Engineering carve-out, there needs to also be one for the gas line and its metering station. Last full paragraph at bottom: Eastshore requests to adjust the RE's ability to stop work to situations where the Owner does not make a prompt and good faith effort to correct the deficiency within 5 working days of notification by the RE.

Page 5.1-9, COC GEN-5, comparable to the Transmission System Engineering carve-out, there needs to also be one for the gas line and its metering station. GEN-5: should clarify that the "design engineer" and the "civil engineer" could be the same person.

Page 5.1-12, COC GEN-6, comparable to the Transmission System Engineering carve-out, there needs to also be one for the gas line and its metering station.

Page 5.1-14, COC CIVIL-4, the following initial sentence seems incorrect: "After completion of finished grading and erosion and sedimentation control and drainage work, the project owner shall obtain the CBO's approval of the final grading plans (including final changes) for the erosion and sedimentation control work." Approval of the plans should precede the work.

Page 5.1-15, Item 4, please change from "turbine/generator pedestal" to "engine/generator foundations".

Page 5.1-17, COC STRUCT-4, is Table 3-E the relevant cite, or Table 3-D? Confirm. Also, plans for hazardous materials storage will need to be approved by the Fire Marshall under RMP/other procedures.

Page 5.1-19, COC MECH-3, please clarify the meaning of "increment of construction" as used in 2nd sentence of the 2nd paragraph. Eastshore expects that what is being requested is typical installation inspection points per normal inspection plans and procedures for HVAC equipment.

Page 5.1-19, COC ELEC-1, similar to previous, clarify "start of any increment of construction".

GEOLOGY AND PALEONTOLOLOGY

General Comment: The Eastshore site has low paleontological resource potential. Fill with no paleontological potential overlies Holocene alluvium and Bay sediments at the site. The AFC proposed an abbreviated set of mitigation measures, stressing that there will be no monitoring in areas where the ground has been previously disturbed, or in areas underlain by fill. However, the CEC has applied the boiler plate COCs that would apply for a site with paleontologically sensitive sediment which is overly conservative for this site. Based upon the site conditions, any Paleontological Resources Mitigation and Monitoring Program (PRMMP) would establish a "monitoring program" that calls for no monitoring in sediments that have low paleontological sensitivity and, which for this site would end up with no monitoring at this site.

POWER PLANT EFFICIENCY

No comments.

POWER PLANT RELIABILITY

No comments.

TRANSMISSION SYSTEM ENGINEERING

General Comment: Please correct the references to SFERPP in the Local System Effect section where this is used in place of Eastshore (mostly in the tables in the appendices).

Page 5.5-1, regarding the sentence that reads, "PG&E transmission system... require analysis by PG&E and approval by California ISO", PG&E has completed the design of the 1.2 mile tie line has as of mid-August, 2007 and all the structures and the route has been finalized. Please refer to Attachment BIO-1.

Page 5.5-4, under the discussion of "Project Description", please correct this discussion as follows: 80-foot pole structures will support the 115 kV transmission lines, the 85-foot pole structures will support the 115 kV transmission lines with 12 kV distribution lines, and a 90-foot pole structure will be placed on the south side and 60-foot on the north side of Highway 92. This information is based on the design of the 1.2 mile tie-line completed by PG&E as of mid-August 2007. Please refer to Attachment Bio-1.

Page 5.5-5, under the discussion of the "Status of California ISO Review", in the first sentence the PSA states that the Facility Study (FS) has been reviewed and concurred with by the CA ISO, but in the last sentence the PSA states that the CEC is not certain of the status of the FS. The FS has already been reviewed and approved by all parties, therefore the reference to Staff uncertainty should be deleted.

Page 5.5-6, middle of the page, Eastshore has the following comments:

a. The CEC should not allocate the incremental loss savings to Eastshore in the case with both RCEC and Eastshore. Since Eastshore is scheduled to come on line first, Eastshore should be assigned all of its loss savings and RCEC should be assigned the incremental savings.

b. The value of the emission offsets should be valued.

Pages 5.5-7 through 5.5-12, COCs TSE-1 through TSE-7, the requirements provided in condition of certification for TSE are reasonable and should not present any problems for Tierra Energy and its subcontractors to satisfy or meet with proper planning and project management procedures.

ALTERNATIVES

General Comment - The Alternatives analysis fails to acknowledge that Eastshore has executed a contract with PG&E that requires delivery of power by May 2009. Due to the significant schedule delays that would be imposed by the implementation of any of the alternative sites identified by Staff, each of the alternative sites effectively constitutes the "No Project" alternative. A detailed explanation was provided in Eastshore's "Response to Committee Question In Revised Scheduling Order On Alternatives" docketed May 4, 2007 and incorporated herein by reference.

Page 6-3, under the discussion of "Potential Significant Environmental Impacts", Eastshore disagrees that the project plumes would pose an aviation safety risk or a disruption to the operation of the Hayward airport. Eastshore will be prepared to strenuously rebut these assertions at the evidentiary hearings.

Page 6-4, under the discussion of Site Alternatives to the Project, Eastshore has reviewed the information included in this section regarding project alternatives. Table 6-1 provides a discussion of each alternative and identifies the reasons why each site was either carried forward or eliminated from further consideration. Table 6-2 provides Eastshore's comments on whether the alternatives considered in the CEC staff comparative analysis were properly chosen.

Table 6-1: Alternative Site Information and Justification for Inclusion in the CEC Alternatives Analysis: **Alternative Site Information – All Sites Considered in the Tierra and CEC Alternatives Analyses**

Alternative Site [1]	Address/APN	Parcel Size (acres)	Comments
Tierra Site 1 - PG&E land adjacent to Eastshore Substation		<15 acres	**Carried Forward.** Although Tierra identified that this site does not have sufficient space to accommodate the Wartsila configuration, the CEC staff carried this site forward since it reduced the potential aviation safety and airport operation issues.
Tierra Site 2 - Pallet Yard	3862 Depot Road; APN 439-0070-009	8.72 acres	**Carried Forward.** Eastshore Energy, LLC looked at this site as part of their evaluation of alternative sites; however the site had gone into a purchase/lease agreement to another party, and was no longer available. Also, the potential aviation safety and airport operation issues are similar to the proposed project.
Tierra Site 3 – Industrial Site	Behind 3664 Depot Road; APN: 439-0070-002-1	3.58 acres	**Eliminated.** Eliminated from further consideration because the site does not meet the minimum lot size requirement of 6.22 acres.
Tierra Site 4 – Industrial Building	26599 Corporate Avenue	4.4 acres	**Eliminated.** Eliminated from further consideration because the site does not meet the minimum lot size requirement of 6.22 acres.
Tierra Site 5 – Industrial Campus	26460-26464 Corporate Avenue	12.4 acres	**Carried Forward.** Eastshore found this site to be unsuitable because of the high property and demolition costs, however the CEC staff carried this alternative site forward because the site was of adequate size, is within close proximity to linear connections, and could reduce the potential aviation safety and airport operation issues.
Tierra Site 6 - City of Hayward Water Pollution Control Facility	3700 Enterprise Avenue	39.86 acres	**Eliminated.** Eliminated from further consideration because the site is proposed to provide construction laydown and parking for the RCEC project.
CEC Site A	Western end of Stevenson Road, Fremont		**Eliminated.** Eliminated from further consideration because the site was taken off the market and no longer available.
CEC Site B	Cargill Facility, off Central		**Eliminated.** Eliminated from further consideration because of considerable

[1] The Tierra Sites were re-numbered by the CEC staff since originally Site #1 was the Proposed Project site and this table only addresses the alternative sites considered in the CEC PSA.

Table 6-1: Alternative Site Information and Justification for Inclusion in the CEC Alternatives Analysis: **Alternative Site Information – All Sites Considered in the Tierra and CEC Alternatives Analyses**

Alternative Site [1]	Address/APN	Parcel Size (acres)	Comments
	Avenue in Newark		commercial/office space development in the immediate vicinity of the site
CEC Site C	Former Alameda Naval Air Station, City of Alameda		**Eliminated.** Eliminated from further consideration because the Alameda Point General Plan identifies future uses as light industry, marine-related industry, and research and development and therefore a power plant could not be considered consistent with these uses.
CEC Site D	Borden Chemical Facility, 41100 Boyce Road, Fremont		**Carried Forward.** CEC staff determined that this site was large enough to accommodate the Eastshore Energy Center, it would connect into the Newark Substation, it would require a zoning variance to allow the 70ft stacks, would require longer transmission line and gas connections, and would be visible the proposed Bay Trail along Boyce Road. Due to the further distance from the Hayward Executive Airport, this site would reduce the potential aviation safety and airport operation issues.
CEC Site E	Northwest of the Intersection of Grimmer Boulevard and Old Warm Springs Boulevard, Fremont		**Carried Forward.** CEC staff determined that this site was large enough to accommodate the Eastshore Energy Center, it would connect into the Newark Substation, it would require a zoning variance to allow the 70ft stacks, and would require longer transmission line and gas connections. Due to the further distance from the Hayward Executive Airport, this site would reduce the potential aviation safety and airport operation issues.

Table 6-2: Discussion of Alternative Sites Considered in PSA: **Alternative Site Information – Sites Analyzed in CEC PSA Alternatives Analysis**

Alternative Site [2]	Address/APN	Parcel Size (acres)	Comments Related to those sites Considered in the PSA Alternatives Section
Tierra Site 1 - PG&E land adjacent to Eastshore Substation		<15 acres	**Background:** Although Tierra identified that this site does not have sufficient space to accommodate the Wartsila configuration, the CEC staff carried this site forward since it reduced the potential aviation safety and airport operation issues. **Eastshore Energy Center Response:** PG&E sent a letter to Tierra Energy stating that this site was not available, and therefore CEC staff should not have considered this a viable alternative site.
Tierra Site 2 - Pallet Yard	3862 Depot Road; APN 439-0070-009	8.72 acres	**Background:** Eastshore Energy, LLC looked at this site as part of their evaluation of alternative sites; however the site had gone into a purchase/lease agreement to another party, and was no longer available. In addition the CEC determined that the potential aviation safety and airport operation issues are similar to the proposed project. **Eastshore Energy Center Response:** Because the property was no longer available, CEC staff should not have considered this a viable alternative site.
CEC Site D	Borden Chemical Facility, 41100 Boyce Road, Fremont		**Background:** CEC staff determined that this site was large enough to accommodate the Eastshore Energy Center, it would connect into the Newark Substation, it would require a zoning variance to allow the 70ft stacks, would require longer transmission line and gas connections, and would be visible the proposed Bay Trail along Boyce Road. Due to the further distance from the Hayward Executive Airport, this site would reduce the potential aviation safety and airport operation issues. **Eastshore Energy Center Response:** This site does not meet the Eastshore Energy Center's Project objective of connecting to the Eastshore Substation. Therefore, CEC staff should have considered this equivalent to the no project alternative.
CEC Site E	Northwest of the Intersection of Grimmer Boulevard and Old Warm Springs Boulevard,		**Background:** CEC staff determined that this site was large enough to accommodate the Eastshore Energy Center, it would connect into the Newark Substation, it would require a zoning variance to allow the 70ft stacks, and would require longer transmission line and gas connections. Due to the further distance from the Hayward Executive Airport, this site

[2] The sites listed in this table are those sites that CEC staff carried forward as part of the alternative sites analysis presented in the PSA.

Table 6-2: Discussion of Alternative Sites Considered in PSA: **Alternative Site Information – Sites Analyzed in CEC PSA Alternatives Analysis**

Alternative Site [2]	Address/APN	Parcel Size (acres)	Comments Related to those sites Considered in the PSA Alternatives Section
	Fremont		would reduce the potential aviation safety and airport operation issues. **Eastshore Energy Center Response:** This site does not meet the Eastshore Energy Center's Project objective of connecting to the Eastshore Substation. Therefore, CEC staff should have considered this equivalent to the no project alternative.

Page 6-7, under the discussion of "Tierra Alternative Site 1", refer to comment on Page 6-3, above.

Page 6-8, under the discussion of "Tierra Alternative Site 2", refer to comment on Page 6-3, above.

Page 6-8, under the discussion of "Tierra Alternative Site 5", refer to comment on Page 6-3, above.

Alternatives Table 2", refers to comment on Page 6-3, above.

Page 6-15, under the discussion of "Conclusions and Recommendations", refer to comment on Page 6-3, above.

ENVIRONMENTAL JUSTICE

No comments.

GENERAL CONDITIONS

No comments.

ATTACHMENT BIO-1

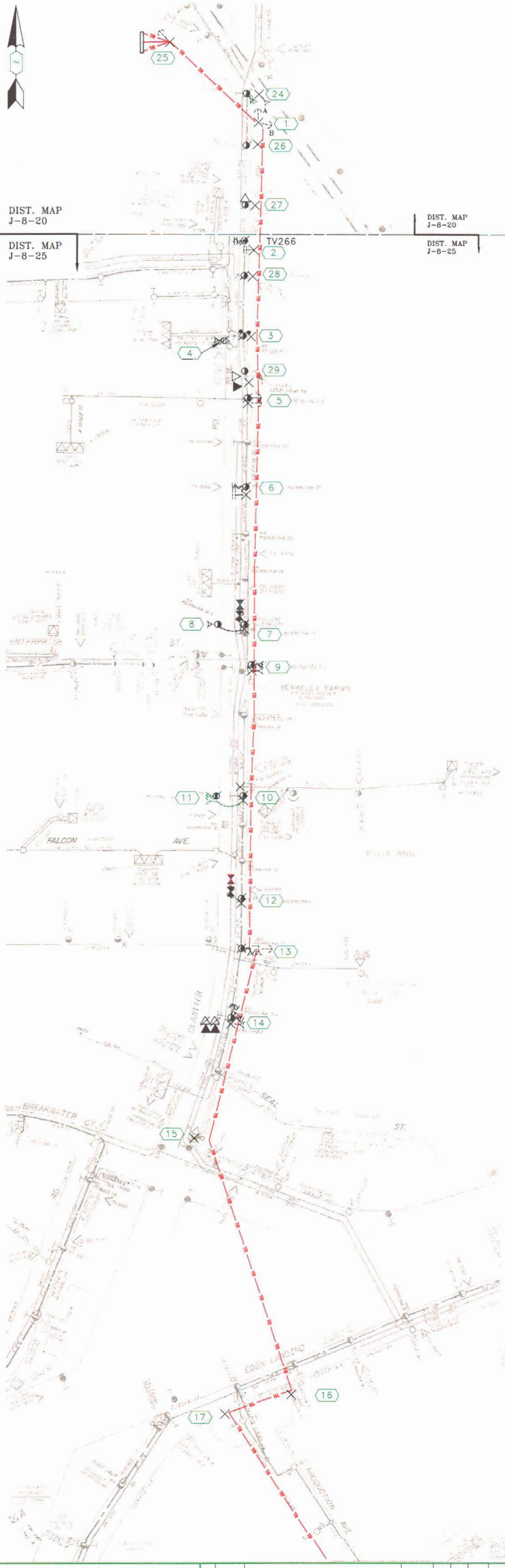
Eastshore Energy Center Generation Tie Line Description

PG&E proposes to construct the Eastshore Energy Center 115 kV generation tie line starting at the 115kV buss on the easterly side of PG&E's Eastshore Substation in the City of Hayward. From the buss, the tie line will run northerly to an approximately 45-foot tall tubular steel pole (TSP) and then to an approximately 35-foot tall three pole structure, both within the substation.

Leaving the substation property, the tie line will run northerly across private property within an easement over a driveway between two buildings to a TSP located on the northerly side and within the right of way of Investment Drive, then proceed westerly along Investment Drive to a TSP located on the westerly side of and within the right of way of Production Avenue, then proceeding northerly along Production Avenue to a TSP approximately 428 feet and then to a TSP located at the southwesterly corner of Production Avenue and Eden Landing Road. These TSPs are expected to be between 65 and 75 feet in height.

From the TSP at Production Avenue and Eden Landing Road, the tie line will run northerly, spanning Eden Landing Road and State Highway 92, to a TSP located within the existing PG&E electric distribution pole line located on the easterly side of Clawiter Road. This pole is expected to be approximately 90 feet tall.

The tie line will continue along the route of the existing distribution line two spans to a new, approximately 60-foot tall TSP, then continue over the existing distribution line, interspacing new wood poles, approximately 80-85 feet in height, along the existing distribution line every two or three spans for approximately 700 feet plus or minus until turning northwesterly one span to a new approximately 85-foot tall wood pole easterly of the Eastshore Energy Center buss. The tie line will then terminate at the Eastshore Energy Center buss. The attached drawings show the approximate locations of the proposed new TSPs and wood poles. All pole heights and locations are approximate and subject to change due to regulatory requirements or final engineering.



1
INSTALL: 85'-H2 SET 10' DEEP
DV-DE FRAMING (SEE DETAIL A)
MIN. 12' SEPARATION FROM DISTR.
ANC. "A"= 20M 25' LD.
D.G.=2-7/16"
ANC. "B"= 20M 25' LD.
D.G.=2-7/16"
JP-1 PG 070039JK
TOP PT CABLE @ 23'

2
55'/85' H2 SET 11' DEEP
T1 FRAMING (SEE DETAIL B)
MIN. 12' SEPARATION FROM DISTR.
OLD PG# PT ???????
JP-2 PG 070039JK
PG TO TOP/OU TO PTD
TOP PT CABLE @ 23'

3
55'/85' H1 SET 12.5' DEEP
T1 FRAMING (SEE DETAIL B)
MIN. 12' SEPARATION FROM DISTR.
OLD PG# PT 01514-1
JP-3 PG 070039JK
JOINT MEET REQUIRED
PT CABLE @ 23'

4
REMOVE SPAN GUYS, POLE & ANC.
OLD PG# PG 960106-1-A
JP-4 PG 070039JK

5
55'/85' H1 SET 12.5' DEEP
T1 FRAMING (SEE DETAIL B)
MIN. 12' SEPARATION FROM DISTR.
20M ANC. 25' LD.
D.E DIST. D.G.=1-7/16"
OLD PG# PG-960106-2-B
JP-5 PG 070039JK
TOP PT CABLE @ 23'

6
55'/85' H4 SET 12.5' DEEP
T1 FRAMING (SEE DETAIL B)
MIN. 12' SEPARATION FROM DISTR.
TRANSFER CAP BANK.
OLD PG# PG 990154-21
JP-6 PG 070039JK
PG TO TOP/OU TO PTD
PT CABLE @ 23'

7 3 ~~4~~
55'/85' H2 SET 12.5' DEEP
T1 FRAMING (SEE DETAIL B)
MIN. 12' SEPARATION FROM DISTR.
OLD PG# PG990154-17
JP-7 PG 070039JK
PG TO TOP/OU TO PTD
PT CABLE @ 23'

8
REMOVE SPAN GUYS
INSTALL: TRANS.. SPAN GUY=7/32"-100'
PRI. SPAN GUY=7/32"-100'
SEC. SPAN GUY=7/32"-100'
OLD PG# PG 990154-18-C
JP-8 PG 070039JK
PT TO LOWER SPAN GUY
TO 22 FT.

9 5 ~~4~~
55'/85' H2 SET 11' DEEP
TPD FRAMING (SEE DETAIL C)
MIN. 9' SEPARATION FROM DISTR.
20M ANC. 25' LD. TRANS.. D.G.=1-5/16"
DIST. D.G.=1-5/16"
D.E DIST. D.G.=1-7/16"
OLD PG# PG 960106-8-C
JP-9 PG 070039JK
PG TO TOP/OU TO PTD
PT CABLE @ 31'

10 3 ~~4~~
55'/85' H1 SET 12.5' DEEP
T1 FRAMING (SEE DETAIL B)
MIN. 12' SEPARATION FROM DISTR.
TRANS.. SPAN GUY=7/32"-100'
DIST. SPAN GUY=7/32"-100'
DIST. D.E. SPAN GUY=7/32'-100'
TRANSFER C/O 50489
OLD PG# PG 990154-14
JP-10 PG 070039JK
PG TO TOP/OU TO PTD &
REPLACE WALK
PT CABLE @ 23'

11
REMOVE SPAN GUYS
INSTALL: TRANS.. SPAN GUY=7/32"-100'
PRI. SPAN GUY=7/32"-100'
SEC. SPAN GUY=7/32"-100'
OLD PG# PT01932-1-A
JP-11, JA-A? PG 070039JK
PT TO LOWER SPAN GUY
TO 27 FT.

12
55'/85' H2 SET 12.5' DEEP
TPD FRAMING (SEE DETAIL C)
MIN. 11' SEPARATION FROM DISTR.
OLD PG# PG 990154-11
JP-12 PG 070039JK
PG TO TOP/OU TO PTD &
REPLACE SIDEWALK
PT CABLE @ 23'

13 6 ~~4~~
60'/80' H1 SET 10' DEEP
T1 FRAMING (SEE DETAIL B)
MIN. 11' SEPARATION FROM DISTR.
TRANS.. 15M ANC. 35' LD.
TRANS.. D.G.=1-7/32"
DIST. 15M ANC. 8" LD.
DIST. SW.G.=2-3/8"
OLD PG# PG 990154-10
JP-13 PG 070039JK
PG TO TOP/OU TO PTD
PT CABLE @ 23'

14 5 ~~4~~
60'/80' H1 SET 10' DEEP
T1 FRAMING (SEE DETAIL B)
MIN. 9' SEPARATION FROM DISTR.
20M ANC. 115' LD. TRANS.. D.G.=1-3/8"
DIST. D.G.=23/8"-5/16"
OLD PG# PG 990154-9-A
JP-14 JA-B PG 070039JK
PG TO TOP/OU TO PTD
PT CABLE @ 23'

15
STEEL POLE
TO DESIGNED BY
GO TRANSMISSION
ENGINEERING.

16
STEEL POLE
TO DESIGNED BY
GO TRANSMISSION
ENGINEERING.

17
STEEL POLE
TO DESIGNED BY
GO TRANSMISSION
ENGINEERING.

24
55'/55'-4
15M ANC. 20' LD.
D.G.=1-5/16"
OLD PG# PT-07788-2 &
PT-3333-A
JP-15 JA-C PG 070039JK
PG TO TOP/OU TO PTD
PT CABLE @ 26'

25
65 1 SET 9' DEEP
TPD FRAMING (SEE DETAIL C)

26
45'/45-2
OLD PG# PT-07788-1
JP-16 PG 070039JK
PG TO TOP/OU TO PTD
PT CABLE @ 24'

27
50'/50'-2
OLD PG# PG 040092-1
JP-17 PG 070039JK
PG TO TOP/OU TO PTD
PT CABLE @ 24'

28
50'/50'-2
OLD PG# PG 040092-1
JP-18 PG 070039JK
PG TO TOP/OU TO PTD
PT CABLE @ 24'

29
50'/50'-2
JP-19 PG 070039JK
PG TO TOP/OU TO PTD
PT CABLE @ 24'

PRELIMINARY - SUBJECT TO CHANGE

TIERRA ENERGY, LLC
CLAWITER RD.
HAYWARD

NO.	DATE	DESCRIPTION	ORDER #	DWN	CHKD	SUPV	APVD	BY

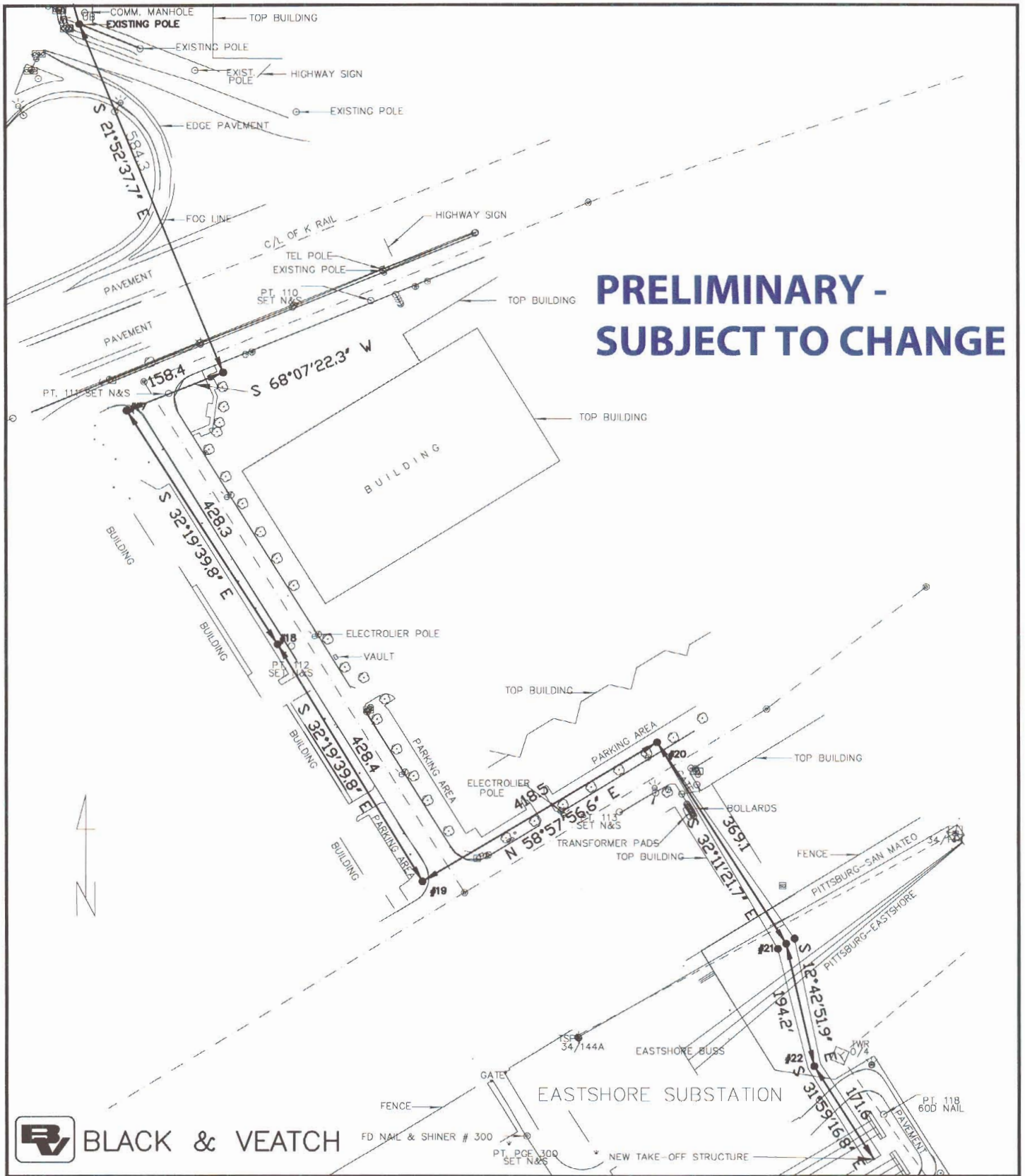
REVISIONS

EST: T. CLASSON
ADE: C. GIRANIS
SUPV: A. HADJIAN
REP: M. LIGHTSTONE
PLNR:
SCALE: NTS
DATE: 03/31/07

Transmission Engineering
850 Stillwater Rd.
West Sacramento, CA 95605
PHONE #: 916-760-1949 FAX #: 916-760-9861
PACIFIC GAS AND ELECTRIC COMPANY

CO:
SD:
NOTIF.:
Other:
SHT: 2 OF 3 SHEETS
PM: 30553830
REV. 0

INCH 0 1



PRELIMINARY - SUBJECT TO CHANGE

BLACK & VEATCH

ORDER	
SUPV.	–
DSGN.	B&V/SSB
DWN.	B&V/SSB
CHKD.	B&V/EPC
O.K.	
DATE	SCALE
07/01/07	1":200'

TUBULAR STEEL POLE STAKING DETAILS

EASTSHORE 115 kV GENERATION TIE-LINE

ELECTRIC TRANSMISSION AND DISTRIBUTION ENGINEERING

PACIFIC GAS & ELECTRIC COMPANY

SAN FRANCISCO, CALIFORNIA

B/M	------
DWG. LIST	
SUPSDS	
SUPSD BY	
SHEET 1 OF 1 SHEETS	
DRAWING NUMBER	REV.
	0

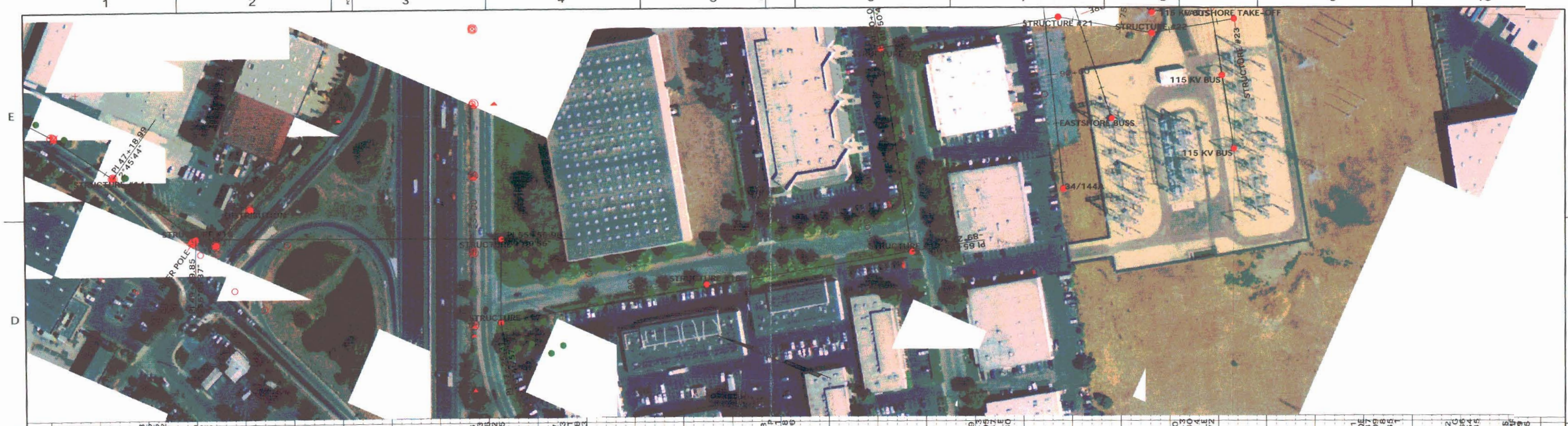
EASTSHORE GENERATION TIE-LINE 115 KV
ORDER #7063169
SINGLE CIRCUIT WITH 715.5 AAC "VIOLET"

Preliminary Design - Design for Right Angle Highway Crossing
August 1, 2007

	Structure Number	Structure Height (ft)	Pole Class	Structure Type	Span Length (ft)	Line Angle			Direction	Assembly Qty. (Parts included in assemblies are listed to the right)						Comments
						Degrees	Minutes	Seconds		715.5 AAC Deadend Assy.	715.5 AAC Suspension Assy.	715.5 AAC Post Assy.	OPGW Deadend Assy.	OPGW Suspension Assy.	715.5 AAC Post Jumper Assy.	
				TOTAL						**42**	**3**	**3**	**16**	**2**	**4**	
	Structure #14	60	0	T1		2	45	44	RT							To be designed by others.
					210.9											
OPGW	Structure #15	90	20	SVS-3		36	5	37	LT		3		4			
					626.1											Highway and Underbuild Crossing
	Structure #16	80	39	DVD-3		89	59	55	RT	6			2			Engineered Pole
					169.3											
	Structure #17	75	41	DVD-3		99	46	57	LT	6			2			Engineered Pole
					428.3											
	Structure #18	65	8	V1P		0	0	0	-			3		2		
					428.4											
	Structure #19	70	38	DVD-3		89	22	31	LT	6			2			Engineered Pole
					418.5											
	Structure #20	70	33	DVD-3		88	50	42	RT	6			4			Engineered Pole
					369.1											Pittsburg-San Mateo 230 kV Crossing Over
OPGW UB	Structure #21	35	8	Three Pole DE		19	28	30	RT	6			2		3	Could also be H-Frame
					194.2											Pittsburg-Eastshore 230 kV Crossing Over
	Structure #22	45	8	H1D-G		19	15	20	LT	6					1	Pole Design from Atlantic-Pleasant Grove 115 kV Transmisson Line
					171.7											Eastshore Bus 115 kV Crossing Under
	Eastshore Take-	45	0	Eastshore H-Frame		0	0	0	-	6						
				TOTAL						**42**	**3**	**3**	**16**	**2**	**4**	

PRELIMINARY - SUBJECT TO CHANGE

PLS-CADD DRAWING



BLACK & VEATCH

100.0 FT. HORIZ. SCALE
40.0 FT. VERT. SCALE

PRELIMINARY - SUBJECT TO CHANGE

REVISIONS

NO	DATE	DESCRIPTION	JOB NO.	DWN	CHKD	SUPV	ACCEPTED BY

REVISIONS

NO	DATE	DESCRIPTION	ORDER	DWN	CHKD	SUPV	ACCEPTED BY

ACCEPTED BY

ORDER
SUPV
DSGN
DWN
CHKD
OK
DATE
SCALES

TIERRA ENERGY CENTER TIE LINE
115 KV TRANSMISSION LINE

ELECTRIC T&D ENGINEERING DEPARTMENT
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

BILL OF MAT'L
DWG LIST
SUPSDS
SUPSD BY
SHEET NO. 1 OF 2
REV

Eastshore Generation Tie-Line 115 kV Transmission Line

Right of Way Width Calculations with 715.5 AAC conductor @ 3500 lbs., G.O. 95 Light, Initial

Job Order No. 7060591

Starting Tower No.	End Tower	Span	Blowout Distance from Center line (ft)	Blowout Distance from Center line +6' (ft)	R/W Width Required (ft)
Structure #14	Structure #15	210.862	7.67	13.67	27.34
Structure #15	Structure #16	626.111	15.17	21.17	42.34
Structure #16	Structure #17	169.346	2.06	8.06	16.12
Structure #17	Structure #18	428.336	8.3	14.3	28.6
Structure #18	Structure #19	428.365	8.34	14.34	28.68
Structure #19	Structure #20	418.452	6.02	12.02	24.04
Structure #20	Structure #21	369.069	15.13	21.13	42.26
Structure #21	Structure #22	194.192	16.43	22.43	44.86
Structure #22	Eastshore Take-off	171.724	14.03	20.03	40.06

Average R/W Width Required (ft)	Standard Deviation of R/W (ft)	Average + Standard Deviation (ft)
32.70	9.99	42.69

PRELIMINARY - SUBJECT TO CHANGE

BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION
OF THE STATE OF CALIFORNIA

APPLICATION FOR CERTIFICATION FOR THE EASTSHORE ENERGY CENTER IN CITY OF HAYWARD BY TIERRA ENERGY	Docket No. 06-AFC-6 PROOF OF SERVICE (Revised 07/02/2007)

INSTRUCTIONS: All parties shall either (1) send an original signed document plus 12 copies or (2) mail one original signed copy AND e-mail the document to the address for the Docket as shown below, AND (3) all parties shall also send a printed or electronic copy of the document, which includes a proof of service declaration to each of the individuals on the proof of service list shown below:

CALIFORNIA ENERGY COMMISSION
Attn: Docket No. 06-AFC-6
1516 Ninth Street, MS-4
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DECLARATION OF SERVICE

I, Jeannette Harris, declare that on September 19, 2007, I deposited copies of the attached Eastshore Energy Center (06-AFC-6) Preliminary Staff Assessment (PSA) Comments in the United States mail at Sacramento, CA with first-class postage thereon fully prepaid and addressed to those identified on the Proof of Service list above.

OR

Transmission via electronic mail was consistent with the requirements of the California Code of Regulations, title 20, sections 1209, 1209.5, and 1210. All electronic copies were sent to all those identified on the Proof of Service list above.

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

Jeannette Harris

Jeannette Harris