



## RAMCO CHULA VISTA II PEAKER GENERATING STATION (01-EP-3)

### STAFF SUPPLEMENTAL ASSESSMENT FILED JUNE 12, 2001

On June 11, 2001, the City of Chula Vista submitted written comments regarding the RAMCO Chula Vista II Peaker Generation Station (01-EP-3). Staff has reviewed these comments and provides the following response.

#### **Comments Contained in the Letter**

**Comment:** The fact that this plant will not be completed until September 30, 2001, at the earliest and will not be operating in time to meet the need addressed in under the executive order suggests that it should not (be) expedited, and the community should be given the time it needs to thoroughly review the applicants requests in context with the other energy projects within the region.

The Governor's Executive Order, D-28-01, specifically requires the Energy Commission to expedite the processing of Applications for Certification for peaking and renewable powerplants which can be constructed and become operational by September 30, 2001. The proposed RAMCO Chula Vista II facility meets this criteria and qualifies for expedited processing under the Governor's Emergency Orders.

**Comment:** The City has already approved a maximum 49-megawatt peak load electrical power generating facility at the site...there are dramatically different circumstances surrounding this second plant. The project was approved under the City of Chula Vista's normal permitting process with appropriate environmental review and land use approvals.

As identified in the staff assessment, the proposed facility is consistent with the land uses in the area, including the Chula Vista I facility approved by the City under a mitigated negative declaration. The site is and surrounding facilities are within the Southwest Redevelopment District and are zoned IL-Light Industrial. The City categorizes power facilities as Public/Quasi which is consistent with an IL zoning designation. Staff believes the original Conditional Use Permit (CUP) issued by the City is applicable to the entire property and RAMCO has agreed to abide by the CUP requirements. Public Resources Code, section 25500 provides the Commission with the exclusive authority to certify all sites and related facilities in the state. This section further states that the issuance of a certificate by the Commission shall be in lieu of any permit, certificate or similar document required by any state, local, or regional agency.

The City indicates that the Chula Vista I facility was "...approved under the City of Chula Vista's normal permitting process with appropriate environmental review and land use approvals." This appears to be the City's only citation as to why the circumstances of the City's approval of the Chula Vista I facility are "substantially different" than the Commission's approval of the Chula Vista II project.

**Comment:** The CEC's February 2001 report to the Governor identified the San Diego area as one that might benefit from peaker plants but indicated that, "all potential sites in the area (are) questionable," due to limited supplies of natural gas.

The Commission held a hearing on the status of California's Natural Gas Supply on June 5, 2001. At the hearing, information was provided by SoCal Gas and staff which indicates that the supply of natural gas is being increased by the 175 MM cfd by the winter of 2002, and that additional projects are underway which will also increase the availability of natural gas in Southern California. Since SDG&E has no gas storage and relies on the SoCal Gas system for supply, an increase in the availability of natural gas to SoCal Gas should also result in an increase in the supply available to SDG&E.

#### **a. Cumulative Air Impacts**

The City believes the project should be placed on hold until the results of the San Diego Air Pollution Control District's cumulative analysis is complete. The District has, with the exception of one component, completed this analysis. Still underway is the cumulative analysis of the proposed projects with the Larkspur facility operating on oil. This analysis should be completed by 9 a.m. on June 13, 2001, and will be available to the Commission at its Business Meeting.

At the June 11, 2001, Commission Business Meeting issues were raised by the City regarding the air quality analysis done for the Chula Vista II project. Specifically, questions were raised regarding cumulative impact analysis which included the following factors:

- Background or ambient air quality used in the analysis
- Inclusion of all plants proposed for the area
- Inclusion of fuel oil use at the Larkspur site

The San Diego Air Pollution Control District has reviewed the initial data, is providing modeling with the Larkspur Energy Facility utilizing fuel oil, and provided clarification regarding the issues raised regarding the use of the South Bay plant as a part of the background against which modeling is done.

Background data is inclusive of air quality information from a variety of locations, taken at regular intervals over a long time period, and is inclusive of all real measured conditions and impacts. This data is the actual ambient air quality environment against which proposed or new projects are modeled.

Additional questions were raised regarding 13 days of fuel oil burning at the South Bay facility due to gas supply curtailment in December 2000 and January 2001. This situation is incorporated into the background data and was considered in modeling the potential impacts of the Chula Vista II project along with the cumulative impacts of the other new projects in the area (see attached June 11, 2001 letter from Daniel Speer of the SDAPCD). Specifically, modeling including worst case scenarios, indicated that "...California and Federal standards for CO and NO<sub>2</sub> will not be exceeded due to the operation of these facilities as proposed." (Speer, p. 2, June 11, 2001). Modeling of the PM<sub>10</sub> impacts of the RAMCO and all other projects also indicated that neither California or Federal PM<sub>10</sub> standards would be exceeded.

SDAPCD verbally reported the cumulative toxics analysis for the projects as being well within acceptable limits. Health risks, and acute non-cancer impacts are below the acceptable level of 1.0, reaching a levels of .77 and .148 respectively. For the Cancer health risk, the combined projects rated 1.16 where 10.0 is the standard. (D. Speer, personal communication 6-12-01).

An additional model is being developed analyzing the impacts with the Larkspur Energy Facility operating on fuel oil instead of natural gas. This modeling, though not yet complete, is not expected to make significant changes to NO<sub>x</sub>, CO, SO<sub>2</sub>, or PM<sub>10</sub> (Personal Communication, D. Speer, June 12, 2001). This data will be appended upon receipt from SDAPCD, expected June 13, 2001.

Concerns regarding cumulative impacts of the increased numbers of electric facilities usually center around the existence of two plants, South Bay and the new Otay Mesa facility. According to Matt Layton, CEC and confirmed by D. Speer of the APCD, emission plumes from these two large plants do not interact. This helps to reduce the local cumulative impacts of key pollutants and PM<sub>10</sub>, though regional air quality analysis reflects the combined impacts.

External to the plant operations is the concern regarding gas supply in the San Diego region. As previously noted, in December 2000 and January 2001 the South Bay facility was forced to operate for 13 days using fuel oil instead of gas. This was due to curtailment of the gas supply. In testimony before the CEC on June 5, 2001, Michael Murray of Sempra Energy indicated that events of last winter causing brief curtailment were more a result of market place actions catching the industry by surprise, having expected no sharp increase in demand. This foreknowledge, increased storage, coupled with infrastructure improvements to the transmission system in Southern California, should greatly alleviate the potential for curtailment of customers in the region.

## **b. Natural Gas Consumption**

The City asserts that the Chula Vista I project will use “two to three times as much natural gas as the Otay Mesa plant to generate a comparable amount of electricity.

Staff believes that the City’s comparison of the Chula Vista II project’s fuel efficiency to the Otay Mesa project fuel efficiency is invalid. The Otay Mesa project is a large (510 MW) baseload facility, intended to be operated for long periods at full load. The Chula Vista II project, on the other hand, is a much smaller (one-eighth the output) 62.4 MW project, and is intended to operate as a peaker. As such, it can be called on to start quickly, operate for a few hours, and then shut down as system conditions warrant. Otay Mesa could not perform satisfactorily under a similar operating regimen.

## **c. Environmental Impact Inequities**

The City states that “staff and the communities are concerned about increases in chemical, noise and thermal pollution and “what appears to be a trend to relax environmental restrictions in favor of relief from system reliability issues...” The City further states that the “CEC is relaxing the NOx standards to allow the proposed facility to operate between September 30, 2001 and June 30, 2002.”

Staff is also very concerned with the potential for environmental impacts from power plant which are permitted by the Commission. The Governor’s Emergency Order D-28-01 requires that all agencies involved in the expeditious implementation of the Emergency Orders follow substantive requirements designed to achieve environmental protection and the protection of public health and safety to the maximum extent consistent with the prompt execution of the executive orders.

Staff performed a “fatal flaw” analysis of the environmental, engineering, and system impacts of the Chula Vista II project. The results of this analysis are contained in staff’s assessment of the project filed on June 5. The analysis is consistent with requirements of the Emergency Order. Staff’s assessment concluded there were no unmitigated impacts associated with the Chula Vista II project and recommended Commission approval. Staff still supports this conclusion.

Further, the City’s assertion that the CEC “relaxed” NOx standards to allow the proposed facility to operate is false. Projects eligible for emergency siting may, upon a showing of cause, be allowed to operate at 25 ppm NOx until equipment for reducing NOx emissions is available. If an Applicant proposes this alternative, they must install equipment to reduce NOx emission to 5 ppm by June 1, 2002. This requirement is the result of discussions between the California Air Resources Board, local air districts, and the U.S. Environmental Protection Agency and is not, as the City asserts, a relaxation of standards for the Chula Vista II project by the Energy Commission.

#### **d. Public Convenience and Necessity**

The City believes that the proposed Chula Vista II facility is not in compliance with “applicable state, local or regional standards and that the Commission must make a finding of public convenience and necessity before approving this project.

As previously stated, staff believes the project is in compliance with all applicable laws, ordinances, regulations and standards and recommends Commission adoption.

#### **Additional Requirements**

The City of Chula Vista has requested the Commission make the approval of the proposed Chula Vista II project contingent upon the implementation of six conditions. Staff has reviewed the City’s proposed conditions and offers the following comments.

**Condition 1:** All conditions adopted by the Agency for Phase I will be incorporated and adopted for Phase II.

Staff believes that implementation of the Special Use Conditions placed on the Chula Vista I project by the City are appropriate for the Chula Vista II project and proposes the following modification to condition Land-1.

**LAND-1** The project permitted under this emergency process will conform to all applicable local, state and federal land use requirements, including general plan policies, zoning regulations, local development standards, easement requirements, encroachment permits, truck and vehicle circulation plan requirements, Federal Aviation Administration approval, and the Federal Emergency Management Agency National Flood Insurance Program. *The applicant shall also comply with the Special Use Conditions placed on the Chula Vista I project by the City of Chula Vista.*

**Verification:** Prior to start of construction, the project owner will submit to the CPM documentation verifying compliance with the above referenced land use requirements

**Condition 2:** The sound wall built on the south side of the property will be built around the entire perimeter of the site to buffer the sound effects in all directions.

Staff agrees with the proposed comment and recommends the addition of the following condition:

**NOISE-5** To further mitigate the potential noise impacts of the project, the owner shall extend the existing sound wall on the south side of the project site to the

entire perimeter of the project. The sound wall installed as a result of this condition shall be permanent in nature and painted to blend with the landscape.

**Verification:** Prior to project start, the owner shall notify the CPM, in writing, that the permanent sound wall has been constructed and painted.

**Condition 3:** The term of the CEC approval be limited to three (3) years. If approved for a period longer than three (3) years, reduce NOx emissions to 2 ppm.

Staff does not believe the project life should be limited to three years, or that a 2 ppm NOx emission limit is warranted.

**Condition 4:** The applicant should be required to make a significant contribution to local renewable energy projects or mobile air emissions retrofit funding to at least partially mitigate adverse air impacts. Require that if the applicant violates 2001 emissions standards and is not required to pay a penalty to the APCD or comparable authority then the applicant shall pay the penalty amount to the City of Chula Vista for Chula Vista/South Bay regional air pollution mitigation projects.

Staff does not believe the City has provided justification which would warrant the imposition of the above conditions. The project will receive a valid air permit from the San Diego Air Pollution Control District which specifies the mitigation required to offset any project impacts.

**Condition 5:** The Selective Catalytic Reduction (SCR) pollution control equipment would be installed at the earliest possible specified date. The proposed June 1, 2002 date is too relaxed a standard.

Staff believes the applicant intends to install SCR as soon as possible but not later than June 1, 2002.

**Condition 6:** Any future applications of this type by Ramco or any other entity should be processed locally or at least in a more extensive CEC process that includes a more complete CEQA review and public process.

Staff believes that this comment is beyond the scope of the project currently before the Commission and, in fact, is in conflict with Public Resources Code section 25500 and the Governor's Emergency Orders.

## **ATTACHMENTS**





OFFICE OF THE CITY MANAGER

California Energy Commission  
C/O Bob Eller, Siting Project Manager  
Systems Assessment and Facility Siting Division1  
516 Ninth Street, MS-3000  
Sacramento, CA 95814

June 11, 2001

RE: RAMCO Chula Vista II Peaker Generation Station (01-EP-3)

Dear Commissioners and Staff:

The purpose of this letter is to express the City of Chula Vista's opposition to the proposed certification of the Ramco peaker plant unit number 2, proposed to be located at 3497 Main Street in Chula Vista. The City appreciates the gravity of the current energy crisis and the fact that the Governor has expedited the siting of peaker plants as way of alleviating the crisis. However, the City believes that the proposed peaker facility is not a solution to this summer's reliability and supply problems and imposes undue impacts on the region under the circumstances.

The fact that this plant will not be completed until September 30, 2001 at the earliest, and will not be operating in time to meet the need addressed under the executive order suggests that it should not expedited, and the community should be given the time it needs to thoroughly review the applicants requests in context with the other energy projects within the region. There may now be six (6) peak load power generators on the Otay Mesa River rim area within a mile or two of the Otay Mesa and South Bay generating plants: two (2) (dual fuel) generators at the Larkspur facility; the two (2) Cal-Peak plants and should this plant be approved (2) at the Main Street site in Chula Vista.

The City has already approved a maximum 49-megawatt peak load electrical power generating facility at the site. The facility is nearing completion and should be operational in the very near future. Although this first facility was approved only eight (8) months ago, there are dramatically different circumstances surrounding this second plant. The project was approved under the City of Chula Vista's normal permitting process with appropriate environmental review and land use approvals.

The CEC's February 2001 report to the Governor for 2001 to 2003 identified the San Diego area as one that might benefit from peaker plants but indicated that, "all potential sites in the area [are] questionable," due to limited supplies of natural gas. The report went on to say that, "the backbone natural gas system in the San Diego area is at its

limit.” As the CEC knows natural gas curtailments caused the South Bay Plant to convert to more polluting fuel for parts of this past December and January. The City believes that CEC staff was correct in their February 2001 Report, and recognized that the 150-megawatts of proposed peaking capacity that is already scheduled to be on line by July 1, 2001, within a mile or two from the existing 709-megawatt power plant, is more than sufficient to meet the voltage and other local “load” needs these facilities can provide given the areas natural gas and transmission limitations. It should also be noted that the applicant indicated that the 2<sup>nd</sup> unit was not originally contemplated to be built in the foreseeable future, however, they reconsidered their development schedule **after** the Governor’s expedited review process was in place.

Given the recent approval of the 510-megawatt Otay Mesa plant and the greater need for the 709-megawatt South Bay power plant to be rebuilt on the Bay front, there is a legitimate concern that the South Bay region is being asked to shoulder an unfair and disproportionate share of the energy crisis burden for the greater San Diego area. The City respectfully requests that the CEC decline to approve the applicant’s request for expansion at the 3497 Main street location and submits the following concerns:

#### **a. Cumulative Impacts**

The San Diego Air Pollution Control District (APCD) conducted an air quality analysis on the first peaker plant unit and incorporated it as part of the project description with the cumulative impact issue addressed. The unit was found to be in compliance with the air basin standards and the CEQA process. However, with respect to the second RAMCO peaker unit, the APCD is presently in the process of preparing a report regarding the cumulative impacts of power plants in the South Bay air basin. Under the normal CEQA review process, the project would be required to be placed on hold until the final results of the APCD report were made available. However, with the 21-day review process now in place, the CEQA process has been suspended and thus not permitting the results of the cumulative analysis to be known in a timely basis to properly evaluate the project.

#### **b. Natural Gas Consumption**

Another major concern relates to the less efficient use of natural gas occurring at a time when there are growing concerns about the limitations of the natural gas delivery system and the overall supply of natural gas for the region. Approval of yet another peak load facility in the region adds another relatively inefficient natural gas user as compared to the production of electrical power by larger natural gas and combined cycle plants. The recently approved Otay Mesa plant is a combined cycle unit that produces approximately 510-megawatts of power. The data supplied in the applications for the Otay Mesa facility and the two Main Street peaking facilities, illustrates that the proposed Main Street facilities would use two to three times as much natural gas as would the Otay Mesa plant to generate a comparable amount of electricity. The City is not suggesting that peaker plants do not serve some purpose to enhance system reliability, but is indicating that after balancing all considerations the proposed peaker

plant does not appear to be the most fuel-efficient or environmentally appropriate generation solution.

The CEC's staff report recognizes the limitations on natural gas supply in the area. The City believes that the CEC report appropriately considered the potential impacts this and the other peaker plants in the immediate area will have on the curtailment of natural gas for the South Bay facility and the resulting degradation in air quality that will result if it is forced to run on more polluting fuels.

The efficient use of natural gas and diversification of our power sources is critical to the Governor's stated goals of reducing costs, eliminating blackouts and keeping the utilities solvent. By concentrating on re-powering and potentially increasing the productivity of existing larger plants in an environmentally appropriate way we can generate more power with less impact to the environment and our local communities while using far less natural gas.

### **c. Environmental Impact Inequities**

A great deal of information on chemical, thermal and noise pollution controls as well as fuel consumption and transmission requirements are available for the City's review on individual facilities based on a project by project basis. However, staff has not had the time to develop nor is there data or an analysis available indicating expectations of what the likely impact to the system and region will be as each project is proposed.

Additionally, while existing CEC, APCD and other regulatory controls are referenced by the project applicant as the communities' protection against excessive increases in chemical, noise and thermal pollution staff and the communities are concerned about what appears to be a trend to relax environmental restrictions in favor of relief from system reliability issues and higher costs for consumers. As an example, the 709-megawatt South Bay Power Plant experienced 13 days of natural gas curtailment this past December and January long before any of the six less efficient natural gas peaker plants and the 510-megawatt Otay Mesa natural gas facility have come on line. The plant was required to burn oil during this period, with significant adverse impact on local air quality. CEC is relaxing the NOx standard to allow the proposed facility to operate between September 30, 2001 and June 30, 2002.

Staff does not raise these issues to challenge whether reliability and hardship caused by higher energy costs are in fact legitimate concerns but whether or not Chula Vista and the residents of the Otay region are being asked to shoulder a disproportionate share of the burden to address those issues on behalf of the region.

### **d. Public Convenience and Necessity**

One of the CEC considerations in certifying an application is its compliance with applicable state, local or regional standards, ordinances or laws. If compliance cannot be found, under Public Resources Code Section 25525 the CEC must determine that the facility is "required for the public convenience and necessity and that there are not

more prudent and necessary means of achieving such public convenience and necessity.” The City’s view is that this finding cannot be made.

The project will not be completed in time to service the “summer emergency” needs identified by the Governor as the basis for the expedited process. This facility will not be up and running by either the original date for “emergency” facility operations of July 1, 2001 or the expanded date of September 30, 2001. In fact, without further reductions in air quality regulations that allow the plant to operate without a catalytic converter increase the generation of NOx approximately five fold, the facility would not operate before next summer. It therefore does not provide the “urgent” need for “reliability” that was expressed to staff by the CEC and the applicant at the time staff recommended approval of the first plant. Staff believes that before next summer the second generator at San Onofre Plant will have come back on line, the fourth generator at the South Bay Plant will have completed its air quality retrofits and be back on line, the APCD will have had sufficient time to complete their cumulative impacts report, and residents and businesses will have had a chance to demonstrate how well they respond to the energy conservation incentives, tiered pricing increases and variety of programs already approved by the state.

The City of Chula Vista respectfully requests that the Commission decline to certify the Ramco facility expansion application on the grounds that the City has outlined above. Should the CEC decide to not find in favor of the City on these grounds or any other appropriate findings available to the Commission, the City recommends that CEC approval of the proposed expansion be contingent on the following:

1. All conditions adopted by the Agency for Phase I will be incorporated and adopted for Phase II.
2. The sound wall built on the south side of the property will be built around the entire perimeter of the site to buffer the sound effects in all directions.
3. The term of the CEC approval be limited to three (3) years. If approved for a period longer than three (3) years, reduce the NOx emissions to 2 PPM.
4. The Applicant should be required to make a significant contribution to local renewable energy projects or mobile air emissions retrofit funding to at least partially mitigate adverse air impacts. Require that if the applicant violates 2001 emissions standards and is not required to pay a penalty to the APCD or comparable authority, then the applicant shall be required to pay the penalty amount to the City of Chula Vista for Chula Vista/South Bay regional air pollution mitigation projects.
5. The Selective Catalytic Reduction (SCR) pollution control equipment should be installed at the earliest possible specified date. The proposed June 1, 2002 date is too relaxed a standard.

6. Any future applications of this type by Ramco or any other entity should be processed locally or at least in a more extensive CEC process that includes a more complete CEQA review and public process.

Also, attached for your review is a copy of Chula Vista staff's specific comments to the CEC staff report and the Resolution adopted by Council authorizing these comments. If you have any questions please feel free to contact me at (619) 691-5122.

Respectfully,

Michael T. Meacham  
Michael T. Meacham  
Special Operations Manager  
City of Chula Vista



(Attachment I)

CITY OF CHULA VISTA  
COMMENTS TO RAMCO CHULA VISTA II PEAKER GENERATION  
STATION (01-EP-3) ASSESSMENT FOR EMERGENCY PERMIT

The following are the City's direct comments to the staff report on RAMCO Peaker Plant:

(Page no. references at the end of each numbered comment are to the CEC staff report).

1. CEC staff proposes NOx reduction to 5ppm by no later than June 1, 2002. In the interim, the plant will run at 25 ppm. NOx emissions should be reduced sooner. If the permit is for longer than 3 years, the 5-ppm standard should be exceeded. [p.1]
2. The notion that peaker plants are necessary to keep electricity reserves above 7% (the threshold for shutting off interruptible business consumers) is based on a projection of high temperatures with only a 10% chance of occurring. This is a poorly defined emergency to warrant such an extraordinary permitting process. CEC staff has indicated verbally that the peak summer season will last until October 13<sup>th</sup>. This plant won't be ready until September 30<sup>th</sup>, if then. By next summer many repaired and new more efficient plants will be on-line and we will be in a better position to determine the extent to which conservation and other more temporary (and benign) measures have worked to minimize reliability issues. The ISO has already indicated that consumers conserved 11% of the state's total generation in May long before the proposed increases and tiered rates have had a chance to further increase conservation levels. Under these circumstances, the Commission cannot find that "all reasonable conservation, allocation and service restriction measures may not alleviate an energy supply emergency." It must make this finding to properly to invoke its emergency authority to approve the project under this expedited process. [p.2-3]
3. The CEC staff report states as follows: "Although it is impossible to accurately calculate the likelihood of system outages, such outages are certainly plausible and are much greater without new generation resources in most California service areas." There is no back-up evidence offered for this conjecture or an application of this statement to the San Diego service area or the proposed project. Under such circumstances, the expedited process should not apply. [p.3]
4. The CEC staff report discusses "heat wave" risks and the benefits of air-conditioning to offset these risks. The report notes that new peaker plants will reduce these risks and create fewer problems than they reduce. Again, there is no project specific analysis of these assertions. (p.3)

5. On-site back-up generators are dismissed as “isolated from the grid”. But to the extent they reduce demand on the grid they too should enhance system reliability. Was any study done of available capacity in the San Diego service area as opposed to statewide? [p. 5]
6. Differences in air emissions between a combined cycle and simple cycle plant are cryptically outlined on p. 5. Peaker plant capacity is not identified so one can’t really compare. [p.5] The RAMCO plant is not specifically discussed at all.

Assessment Comments continued...

7. APCD preliminary results suggest cumulative impacts will not “violate air quality standards” But the actual APCD report is not to be made available until June 11<sup>th</sup>. The City and the public needs more time to review and analyze this report to understand its findings and to comment on them to the CEC. CEC can’t make an informed decision without full consideration of this report. [p. 6]
8. Land Use: The report’s discussion of land use issues is inadequate. It refers only to “citizen groups” and not to the formal opposition adopted by the Chula Vista City Council on June 5, 2001. Exclusive jurisdiction is declared as if the local jurisdiction’s comments do not matter. But the project must comply with local laws, ordinances regulations and standards (LORS). According to City LORS, a CUP and OPA would be required for this use. The City Council has indicated it would not make the required findings to support a CUP based on changes circumstances and knowledge since their previous approval of Unit #1. These findings are (1) That the proposed use at the location is necessary or desirable to provide a service or facility which will contribute to the general well being of the neighborhood or the community; (2) that such use will not under the circumstances of the particular case, be detrimental to the health, safety, or general welfare of persons residing or working in the vicinity or injurious to property or improvements in the vicinity. (3) that the proposed use will comply with the regulation and conditions specified in the code for such use; (4) that the granting of this special use permit will not adversely affect the general plan of the City or the adopted plan of any government agency. Therefore, LORS compliance cannot be established. Where LORS compliance does not exist, the CEC must find under PRC 25525 that the facility is “required for the public convenience and necessity and that there are not more prudent and necessary means of achieving such public convenience and necessity.” This finding cannot be made here where the project will not be completed in time to meet summer peak demands and other measures with lower adverse impacts may prove successful in the interim. [pp 12-18]
9. Environmental Justice. This issue is framed in terms of impacts on minority and low-income populations in the immediate vicinity. The report indicates that project mitigation measures will avoid “significant adverse impacts” so no injustice will occur. But it is the South Bay (with a number of areas that tend to

have higher minority populations and more lower income residents than other parts of the service area) that is being asked to bear the brunt of the peaker plant installations in the service area. [p.18-19]

10. The proposed term of certification is “for life of the project”. How is this defined? What if the project is not operated for a certain period of time, is it considered “abandoned” with a new permit required? Where did these “life of project” criteria come from. The three-year “report” of compliance requirement is not a sufficient limitation; it should be replaced with a three-year permit limitation. [p. 30]

2)

RESOLUTION NO. \_\_\_\_\_

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF CHULA VISTA AND THE CHULA VISTA REDEVELOPMENT AGENCY DIRECTING STAFF TO COMMUNICATE THE CITY'S POSITION AND CONCERNS REGARDING THE APPLICATION FROM RAMCO, INC. REQUESTING A 62 MW EXPANSION OF THEIR ELECTRICAL POWER GENERATING STATION AT 3497 MAIN STREET IN THE SOUTHWEST REDEVELOPMENT PROJECT AREA

WHEREAS, on September 26, 2000 the City Council and Redevelopment Agency approved a Special Use Permit (SUP) and an Owner Participation Agreement (OPA) allowing for the development of a maximum 49 MW peak load electrical power generating facility at 3497 Main Street in the Southwest Redevelopment Area; and

WHEREAS, the previous project was approved under the City of Chula Vista's normal permitting process with appropriate environmental review and land use approvals; and

WHEREAS, the current facility is nearing completion and should be operational in the very near future; and

WHEREAS, RAMCO, Inc., the new owner of the Main Street power plant is proposing to expand the existing facility with a second phase; and

WHEREAS, the proposed expansion includes the installation of an additional 62 MW natural gas-fired combustion turbine generator; and

WHEREAS, the applicant is processing these plans through the California Energy Commission (CEC) pursuant to Governor Davis' 21-day emergency plant siting procedure; and

WHEREAS, under this process the proposed expansion is exempt from CEQA review and the CEC has asserted authority as the exclusive permitting authority over the project; and

WHEREAS, the CEC has scheduled a public hearing in Sacramento on June 11<sup>th</sup> to make a final determination on the application after having held a community meeting on May 29<sup>th</sup> to receive public input; and

WHEREAS, the City Council has comments and concerns regarding the proposed project.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Chula Vista and the Chula Vista Redevelopment Agency hereby direct Staff to Communicate the City's position and concerns regarding the application from RAMCO, Inc. for the expansion of their electrical power generating station at 3497 Main Street consistent with City Council deliberations and instructions, in a final form prepared by Staff and approved by the City Attorney.

Presented by

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**Chris Salomone**

Director of Community Development

Approved as to form by

Glen Googins for John Kaheny

**John M. Kaheny**

City Attorney



June 4, 2001

TO: Michael Lake  
Chief, Engineering Division

FROM: Judith Lake  
Chief, Monitoring and Technical Services

CUMULATIVE IMPACTS ANALYSIS FOR CRITERIA  
POLLUTANTS IN OTAY MESA AREA

You have requested clarification regarding the appropriateness of adding air quality impacts associated with operation of the South Bay power plant to the cumulative impact analysis for the five new peaker turbines and the Otay Mesa Generating Facility performed by Ralph DeSiena.

The analysis prepared by Ralph DeSiena indicates the inclusion as background of ambient air quality data for the period of 1996-1998. The South Bay power plant was operational throughout this time period. Adding additional air quality impacts for existing equipment is inappropriate and counter to our long established policies and practices. The effect of doing so is to "double count" emissions from such equipment. This is not consistent with EPA guidance or the standard practices of air regulatory agencies. The conclusion of Ralph DeSiena's analysis, that the projects would not cause exceedances of ambient air quality standards, has been reached using methods consistent with standard District practice and applicable EPA guidance.

If you have any questions regarding this matter or I can provide additional assistance, please let me know.



June 11, 2001

MR BOB ELLER  
CALIFORNIA ENERGY COMMISSION  
1516 9<sup>TH</sup> ST  
SACRAMENTO CA 95814-5540

Cumulative Criteria Pollutant Impact of New Energy Projects in the Chula Vista/Otay Mesa Area of San Diego County

Enclosed is an air quality impact analysis (AQIA) prepared by the San Diego County Air Pollution Control District for the cumulative criteria pollutant impacts from five new small power plants and the Otay Mesa Generating Facility in the Chula Vista/Otay Mesa Area. Impacts from the South Bay Power Plant are considered included by utilization of background air quality from the District's local air monitoring station data.

This cumulative analysis assumes these plants operating at full capacity and fueled exclusively on natural gas. Results indicate emissions from the subject installations will not result in an exceedance of applicable California and Federal Ambient Air Quality Standards.

The District is now in the process of completing this same analysis with the Larkspur installation operating on oil, which has been proposed for the project as standby for use during natural gas curtailment. The results of this additional analysis will be forwarded as soon as they are finalized.

If you have any questions please call me at (858) 650-4607, Ralph DeSiena at (858) 650-4641 or Michael Lake at (858) 650-4590.

DANIEL A. SPEER  
Senior Air Pollution Control Engineer

DS:el

Enclosure



MAY 24, 2001

**To:** ALTA STENGEL, ARTHUR CARBONELL, EARNIE DAVIS,  
MECHANICAL ENGINEERING SECTION

**From:** Ralph DeSiena, Monitoring and Technical Services Section

**OTAY MESA PEAKER PROJECTS AND OTAY MESA GENERATING PROJECT  
CUMULATIVE IMPACTS ANALYSIS FOR CRITERIA POLLUTANTS**

I have performed modeling in support of a cumulative impact analysis for five proposed gas fired peaker turbines (approximately 50 MW each) and the Otay Mesa Generating Facility (510 MW) in the Chula Vista/Otay Mesa region. The ISC model was used to determine predicted maximum cumulative 1-Hour and 8-Hour CO concentrations, 1-Hour and Annual NO<sub>2</sub> concentrations and 24-Hour and Annual PM10 concentrations in the project vicinity. The modeling scenario assumed all facilities operating on gas at full load with control equipment operating. The modeling was performed in accordance with District guidance. Regulatory default settings were used and building downwash was considered. The Good Engineering Practice (GEP) stack height was used for all modeling performed. Three years of meteorological data (1993-1995) for Miramar NAS, CA were used for the modeling. The receptor grid was sufficiently dense (5000 Receptors) to identify maximum impacts. USGS digital terrain data was used to determine receptor elevations. The modeling assumed 24 Hr/day and 365 days/year operations for all facilities.

A review of the Chula Vista monitoring station data for 1996-1998 indicated worst-case 1-Hour and 8-Hour background CO concentrations of 6.5 mg/m<sup>3</sup> and 4.4 mg/m<sup>3</sup> respectively. Worst-case 1-Hour and Annual NO<sub>2</sub> concentrations were 207  $\mu$ g/m<sup>3</sup> and 36  $\mu$ g/m<sup>3</sup> respectively. Worst-case 24-Hour, Annual Arithmetic and Annual Geometric concentrations were 62  $\mu$ g/m<sup>3</sup>, 28  $\mu$ g/m<sup>3</sup> and 27  $\mu$ g/m<sup>3</sup> respectively.

The results of the modeling including worst-case monitored background concentrations indicate that California and Federal standards for CO and NO<sub>2</sub> will not be exceeded due to the operation of these facilities as proposed. Tables 1 through 6 summarize the predicted impacts for All facilities, Otay Generating facility only and Peaker Turbines only.

**Table 1  
CO Impacts and Air Quality Standards –All Facilities**

| <b>Average Period</b> | <b>Predicted Impact mg /m<sup>3</sup></b> | <b>Background mg/m<sup>3</sup></b> | <b>Total Impact mg /m<sup>3</sup></b> | <b>California Standard mg /m<sup>3</sup></b> | <b>Federal Standard mg /m<sup>3</sup></b> |
|-----------------------|---|------------------------------------|---------------------------------------|--|---|
| 1-Hour                | 0.14                                      | 6.5                                | 6.64                                  | 23   | 40  |
| 8-Hour                | .09                                       | 4.4                                | 4.49                                  | 10   | 10  |

**Table 2  
CO Impacts and Air Quality Standards—Otay Generating**

| <b>Average Period</b> | <b>Predicted Impact mg /m<sup>3</sup></b> | <b>Background mg/m<sup>3</sup></b> | <b>Total Impact mg /m<sup>3</sup></b> | <b>California Standard mg /m<sup>3</sup></b> | <b>Federal Standard mg /m<sup>3</sup></b> |
|-----------------------|---|------------------------------------|---------------------------------------|--|---|
| 1-Hour                | .13                                       | 6.5                                | 6.63                                  | 23   | 40  |
| 8-Hour                | .07                                       | 4.4                                | 4.47                                  | 10   | 10  |

**Table 3  
CO Impacts and Air Quality Standards—Peaker Turbines**

| <b>Average Period</b> | <b>Predicted Impact mg /m<sup>3</sup></b> | <b>Background mg/m<sup>3</sup></b> | <b>Total Impact mg /m<sup>3</sup></b> | <b>California Standard mg /m<sup>3</sup></b> | <b>Federal Standard mg /m<sup>3</sup></b> |
|-----------------------|---|------------------------------------|---------------------------------------|--|---|
| 1-Hour                | .05                                       | 6.5                                | 13.5                                  | 23   | 40  |
| 8-Hour                | .03                                       | 4.4                                | 8.5                                   | 10   | 10  |

**Table 4  
NO<sub>2</sub> Impacts and Air Quality Standards—All Facilities**

| <b>Average Period</b> | <b><sup>1</sup>Predicted Impact ug/m<sup>3</sup></b> | <b>Background ug/m<sup>3</sup></b> | <b>Total Impact ug/m<sup>3</sup></b> | <b>California Standard ug/m<sup>3</sup></b> | <b>Federal Standard ug/m<sup>3</sup></b> |
|-----------------------|--|------------------------------------|--------------------------------------|---|--|
| 1-Hour                | 69.7   | 207                                | 276.7                                | 470   | None                                     |
| Annual                | 0.70   | 36                                 | 36.70                                | None  | 100                                      |

<sup>1</sup> Assumes NO<sub>x</sub> = NO<sub>2</sub>

**Table 5  
NO2 Impacts and Air Quality Standards—Otay Generating**

| <b>Average Period</b> | <b><sup>1</sup>Predicted Impact<br/>ug/m<sup>3</sup></b> | <b>Background<br/>ug/m<sup>3</sup></b> | <b>Total Impact<br/>ug/m<sup>3</sup></b> | <b>California Standard<br/>ug/m<sup>3</sup></b> | <b>Federal Standard<br/>ug/m<sup>3</sup></b> |
|-----------------------|--|--|--|---|--|
| 1-Hour                | 63.4   | 207                                    | 270.4                                    | 470   | None   |
| Annual                | 0.62   | 36                                     | 36.62                                    | None  | 100  |

<sup>1</sup> Assumes NO<sub>x</sub> = NO<sub>2</sub>

**Table 6  
NO2 Impacts and Air Quality Standards—Peaker Turbines**

| <b>Average Period</b> | <b><sup>1</sup>Predicted Impact<br/>ug/m<sup>3</sup></b> | <b>Background<br/>ug/m<sup>3</sup></b> | <b>Total Impact<br/>ug/m<sup>3</sup></b> | <b>California Standard<br/>ug/m<sup>3</sup></b> | <b>Federal Standard<br/>ug/m<sup>3</sup></b> |
|-----------------------|--|--|--|---|--|
| 1-Hour                | 21.2   | 207                                    | 228.2                                    | 470   | None   |
| Annual                | 0.10   | 36                                     | 36.10                                    | None  | 100  |

<sup>1</sup> Assumes NO<sub>x</sub> = NO<sub>2</sub>

Cumulative PM10 emissions were modeled assuming all facilities were operating 24/day and 365 days/year. Three years of meteorological data (1993-1995) for Miramar NAS, CA were used with the ISC model. The maximum predicted 24-Hour impact for all facilities and for all 3 years modeled was 23.11 ug/m<sup>3</sup>. The Maximum predicted impact for Otay Generating only and Peaker Turbines only was 21.38 ug/m<sup>3</sup> and 2.78 ug/m<sup>3</sup> respectively. Otay Generating contributed 92.5% of the maximum cumulative impact for all facilities. Since the 24-hour California Standard is exceeded by background concentrations in the project area an evaluation of whether addition exceedances would be caused by operation of these facilities would need to be conducted. Based upon the ISC modeling results this evaluation would require modeling all days within the period with 24-hour concentrations  $\geq 28$  ug/m<sup>3</sup> but  $\leq 50$  ug/m<sup>3</sup>, the California Standard. An alternative approach would be to perform this analysis using EPA's proposed new refined model, AERMOD, which tends to yield less conservative predicted impacts in complex terrain. This would likely reduce the number of days required for the analysis of additional California Standard exceedances resulting from the proposed operation of these facilities in the region.

Without performing this modeling some assumptions of the expected results may be made based upon the Otay Generating project analysis. The AERMOD modeling conducted for that analysis predicted a maximum 24-hr PM10 concentration of 4.96 ug/m<sup>3</sup> for this facility only. Therefore, all days within the modeled period with 24-hour concentrations  $\geq 45$  ug/m<sup>3</sup> but  $\leq 50$  ug/m<sup>3</sup> were individually modeled to determine whether additional California Standard violations occurred. The maximum predicted impact for all of these days was 1.6 ug/m<sup>3</sup> and the maximum background concentration was 48 ug/m<sup>3</sup>. Adjusting this predicted impact to include all facilities based upon the

above ISC results (Otay Generating = 92.5% of the total impact) and then adding that result to this background ( $1.7 + 48 = 49.7 \text{ } \mu\text{g}/\text{m}^3$ ) would not result in an exceedance of the California standard. This analysis can be verified by additional modeling using AERMOD if necessary. Results for the Annual standard analysis are presented in Table 7.

**Table 7**  
**PM10 Impacts and Air Quality Standards**

| <b>Average Period</b> | <b>Predicted Impact <math>\mu\text{g}/\text{m}^3</math></b> | <b>Background <math>\mu\text{g}/\text{m}^3</math></b> | <b>Total Impact <math>\mu\text{g}/\text{m}^3</math></b> | <b>California Standard <math>\mu\text{g}/\text{m}^3</math></b> | <b>Federal Standard <math>\mu\text{g}/\text{m}^3</math></b> |
|-----------------------|---|---|---|--|---|
| Annual Geometric      | <sup>1</sup> 0.70   | 27  | 27.7  | 30   |   |
| Annual Arithmetic     | 0.70  | 28  | 28.7  |  | 50  |

<sup>1</sup> Arithmetic Average

A summary of the modeling results and the emissions and emission release parameters for each facility used for this analysis are attached.

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|                                 | English Units    | Metric Units      |
|---------------------------------|------------------|-------------------|
| <b>NOX :</b>                    | 12.67 (lb/hr)    | 1.59642 (g/s)     |
| PM :                            | 4.54 (lb/hr)     | 0.57204 (g/s)     |
| CO :                            | 15.43 (lb/hr)    | 1.94418 (g/s)     |
| Emission Rate (Q4) :            | (lb/hr)          | (g/s)             |
| Emission Rate (Q5) :            | (lb/hr)          | (g/s)             |
| Emission Rate (Q6) :            | (lb/hr)          | (g/s)             |
| Emission Rate (Q7) :            | (lb/hr)          | (g/s)             |
| Emission Rate (Q8) :            | (lb/hr)          | (g/s)             |
| Emission Rate (Q9) :            | (lb/hr)          | (g/s)             |
| Emission Rate (Q10) :           | (lb/hr)          | (g/s)             |
| Emission Rate (Q11) :           | (lb/hr)          | (g/s)             |
| Emission Rate (Q12) :           | (lb/hr)          | (g/s)             |
| X-coordinate or Easting (XS) :  | 1622546.18 (ft)  | 494552.09 (m)     |
| Y-coordinate or Northing (YS) : | 11829998.02 (ft) | 3605783.5 (m)     |
| Source base elevation (ZS) :    | 25.2625 (ft)     | 7.7 (m)           |
| Source height (HS) :            | 39.9934 (ft)     | 12.1900 (m)       |
| Stack temperature (TS) :        | 789.53 (°F)      | 694.0000 (°K)     |
| Exit diameter (DS) :            | 19.685 (ft)      | 6.0000 (m)        |
| Exit velocity (VS) :            | 57.74278 (fps)   | 17.6000 (m/s)     |
| Exit flow rate (FS) :           | 1.0544E06 (acfm) | 497.62828 (acm/s) |

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|                                 | English Units    | Metric Units      |
|---------------------------------|------------------|-------------------|
| <b>NOX :</b>                    | 13.26 (lb/hr)    | 1.67076 (g/s)     |
| PM :                            | 4.75 (lb/hr)     | 0.5985 (g/s)      |
| CO :                            | 16.15 (lb/hr)    | 2.0349 (g/s)      |
| Emission Rate (Q4) :            | (lb/hr)          | (g/s)             |
| Emission Rate (Q5) :            | (lb/hr)          | (g/s)             |
| Emission Rate (Q6) :            | (lb/hr)          | (g/s)             |
| Emission Rate (Q7) :            | (lb/hr)          | (g/s)             |
| Emission Rate (Q8) :            | (lb/hr)          | (g/s)             |
| Emission Rate (Q9) :            | (lb/hr)          | (g/s)             |
| Emission Rate (Q10) :           | (lb/hr)          | (g/s)             |
| Emission Rate (Q11) :           | (lb/hr)          | (g/s)             |
| Emission Rate (Q12) :           | (lb/hr)          | (g/s)             |
| X-coordinate or Easting (XS) :  | 1622511.44 (ft)  | 494541.5 (m)      |
| Y-coordinate or Northing (YS) : | 11830304.78 (ft) | 3605877. (m)      |
| Source base elevation (ZS) :    | 42.6509 (ft)     | 13. (m)           |
| Source height (HS) :            | 39.9934 (ft)     | 12.19 (m)         |
| Stack temperature (TS) :        | 901.13 (°F)      | 756 (°K)          |
| Exit diameter (DS) :            | 22.3753 (ft)     | 6.82 (m)          |
| Exit velocity (VS) :            | 50.85302 (fps)   | 15.5 (m/s)        |
| Exit flow rate (FS) :           | 1.1998E06 (acfm) | 566.22668 (acm/s) |

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|                                 | English Units    | Metric Units      |
|---------------------------------|------------------|-------------------|
| <b>NOX :</b>                    | 29.8 (lb/hr)     | 3.7548 (g/s)      |
| PM :                            | 38.2 (lb/hr)     | 4.8132 (g/s)      |
| CO :                            | 58.8 (lb/hr)     | 7.4088 (g/s)      |
| Emission Rate (Q4) :            | (lb/hr)          | (g/s)             |
| Emission Rate (Q5) :            | (lb/hr)          | (g/s)             |
| Emission Rate (Q6) :            | (lb/hr)          | (g/s)             |
| Emission Rate (Q7) :            | (lb/hr)          | (g/s)             |
| Emission Rate (Q8) :            | (lb/hr)          | (g/s)             |
| Emission Rate (Q9) :            | (lb/hr)          | (g/s)             |
| Emission Rate (Q10) :           | (lb/hr)          | (g/s)             |
| Emission Rate (Q11) :           | (lb/hr)          | (g/s)             |
| Emission Rate (Q12) :           | (lb/hr)          | (g/s)             |
| X-coordinate or Easting (XS) :  | 1667321.24 (ft)  | 508199.53 (m)     |
| Y-coordinate or Northing (YS) : | 11823258.35 (ft) | 3603729.25 (m)    |
| Source base elevation (ZS) :    | 662.0735 (ft)    | 201.8 (m)         |
| Source height (HS) :            | 131. (ft)        | 39.9288 (m)       |
| Stack temperature (TS) :        | 207.05 (°F)      | 370.4 (°K)        |
| Exit diameter (DS) :            | 26.1811 (ft)     | 7.9800 (m)        |
| Exit velocity (VS) :            | 63.33989 (fps)   | 19.3060 (m/s)     |
| Exit flow rate (FS) :           | 2.0459E06 (acfm) | 965.57934 (acm/s) |

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|                                 | English Units    | Metric Units      |
|---------------------------------|------------------|-------------------|
| <b>NOX :</b>                    | 10.3 (lb/hr)     | 1.2978 (g/s)      |
| PM :                            | 3.33 (lb/hr)     | 0.41958 (g/s)     |
| CO :                            | 7.54 (lb/hr)     | 0.95004 (g/s)     |
| Emission Rate (Q4) :            | (lb/hr)          | (g/s)             |
| Emission Rate (Q5) :            | (lb/hr)          | (g/s)             |
| Emission Rate (Q6) :            | (lb/hr)          | (g/s)             |
| Emission Rate (Q7) :            | (lb/hr)          | (g/s)             |
| Emission Rate (Q8) :            | (lb/hr)          | (g/s)             |
| Emission Rate (Q9) :            | (lb/hr)          | (g/s)             |
| Emission Rate (Q10) :           | (lb/hr)          | (g/s)             |
| Emission Rate (Q11) :           | (lb/hr)          | (g/s)             |
| Emission Rate (Q12) :           | (lb/hr)          | (g/s)             |
| X-coordinate or Easting (XS) :  | 1657915.31 (ft)  | 505332.6 (m)      |
| Y-coordinate or Northing (YS) : | 11819478. (ft)   | 3602577. (m)      |
| Source base elevation (ZS) :    | 531.496 (ft)     | 162. (m)          |
| Source height (HS) :            | 50. (ft)         | 15.24 (m)         |
| Stack temperature (TS) :        | 700. (°F)        | 644.2600 (°K)     |
| Exit diameter (DS) :            | 12. (ft)         | 3.6576 (m)        |
| Exit velocity (VS) :            | 115.85626 (fps)  | 35.31299 (m/s)    |
| Exit flow rate (FS) :           | 786182.06 (acfm) | 371.03663 (acm/s) |

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|                                 | English Units    | Metric Units      |
|---------------------------------|------------------|-------------------|
| <b>NOX :</b>                    | 8.4 (lb/hr)      | 1.0584 (g/s)      |
| PM :                            | 4.07 (lb/hr)     | 0.51282 (g/s)     |
| CO :                            | 28.02 (lb/hr)    | 3.53052 (g/s)     |
| Emission Rate (Q4) :            | (lb/hr)          | (g/s)             |
| Emission Rate (Q5) :            | (lb/hr)          | (g/s)             |
| Emission Rate (Q6) :            | (lb/hr)          | (g/s)             |
| Emission Rate (Q7) :            | (lb/hr)          | (g/s)             |
| Emission Rate (Q8) :            | (lb/hr)          | (g/s)             |
| Emission Rate (Q9) :            | (lb/hr)          | (g/s)             |
| Emission Rate (Q10) :           | (lb/hr)          | (g/s)             |
| Emission Rate (Q11) :           | (lb/hr)          | (g/s)             |
| Emission Rate (Q12) :           | (lb/hr)          | (g/s)             |
| X-coordinate or Easting (XS) :  | 1657781.38 (ft)  | 505291.78 (m)     |
| Y-coordinate or Northing (YS) : | 11821279.19 (ft) | 3603126. (m)      |
| Source base elevation (ZS) :    | 528.2152 (ft)    | 161. (m)          |
| Source height (HS) :            | 60. (ft)         | 18.2880 (m)       |
| Stack temperature (TS) :        | 849.99 (°F)      | 727.5900 (°K)     |
| Exit diameter (DS) :            | 12. (ft)         | 3.6576 (m)        |
| Exit velocity (VS) :            | 88.39993 (fps)   | 26.9443 (m/s)     |
| Exit flow rate (FS) :           | 599867.79 (acfm) | 283.10609 (acm/s) |

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|                                 | English Units    | Metric Units      |
|---------------------------------|------------------|-------------------|
| <b>NOX :</b>                    | 8.4 (lb/hr)      | 1.0584 (g/s)      |
| PM :                            | 4.07 (lb/hr)     | 0.51282 (g/s)     |
| CO :                            | 28.02 (lb/hr)    | 3.53052 (g/s)     |
| Emission Rate (Q4) :            | (lb/hr)          | (g/s)             |
| Emission Rate (Q5) :            | (lb/hr)          | (g/s)             |
| Emission Rate (Q6) :            | (lb/hr)          | (g/s)             |
| Emission Rate (Q7) :            | (lb/hr)          | (g/s)             |
| Emission Rate (Q8) :            | (lb/hr)          | (g/s)             |
| Emission Rate (Q9) :            | (lb/hr)          | (g/s)             |
| Emission Rate (Q10) :           | (lb/hr)          | (g/s)             |
| Emission Rate (Q11) :           | (lb/hr)          | (g/s)             |
| Emission Rate (Q12) :           | (lb/hr)          | (g/s)             |
| X-coordinate or Easting (XS) :  | 1657975.97 (ft)  | 505351.09 (m)     |
| Y-coordinate or Northing (YS) : | 11821279.19 (ft) | 3603126. (m)      |
| Source base elevation (ZS) :    | 518.7008 (ft)    | 158.1 (m)         |
| Source height (HS) :            | 60. (ft)         | 18.2880 (m)       |
| Stack temperature (TS) :        | 849.99 (°F)      | 727.5900 (°K)     |
| Exit diameter (DS) :            | 12. (ft)         | 3.6576 (m)        |
| Exit velocity (VS) :            | 88.39993 (fps)   | 26.9443 (m/s)     |
| Exit flow rate (FS) :           | 599867.79 (acfm) | 283.10609 (acm/s) |

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