

CALIFORNIA ENERGY COMMISSION

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California Energy Commission

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DATE: June 29, 2012

TO: Interested Parties

FROM: Mary Dyas, Compliance Project Manager

**SUBJECT: El Segundo Power Redevelopment Project (00-AFC-14C)
Staff Analysis of Proposed Modifications**

On April 17, 2012, the California Energy Commission (Energy Commission) received an amendment petition from El Segundo Energy Center LLC (ESEC or project owner) to modify the Energy Commission's Final Decision for the El Segundo Power Redevelopment Project (ESPR), docket No. 00-AFC-14C. Staff prepared an analysis of the proposed changes, and a copy is enclosed for your information and review.

The original 630-megawatt (MW) ESPR was certified by the Energy Commission on February 2, 2005. A subsequent amendment to convert the ESPR to a nominal 560-megawatt (MW) rapid response combined-cycle facility using dry-cooling and zero liquid discharge technology was approved by the Energy Commission on June 30, 2010. The facility is located at 301 Vista Del Mar, El Segundo, approximately two miles south of the Los Angeles International Airport in Los Angeles County. The construction of the project was started on June 6, 2011 and is 25% complete.

The modifications proposed in the petition are based on changes in the anticipated aqueous ammonia flow rate to the gas turbine selective catalytic reduction system during certain transient operating modes. In addition, the project owner has determined that it is not viable to construct and operate an ammonia pipeline from the neighboring Chevron Refinery. The ESPR project will only receive aqueous ammonia deliveries to the existing onsite storage tank by tanker truck.

The proposed modifications include:

1. A change to the range of ammonia injection rates specified in Air Quality Condition of Certification **AQ-2** to comport with estimated operational parameters of the Siemens turbines and to ensure compliance with maximum permitted levels of NO_x.
2. The elimination of a venturi scrubber on the ammonia storage tank to control emissions during refilling of the tank by pipeline, as provided in Air Quality Condition of Certification **AQ-31**, which is no longer necessary.
3. The project owner requests that the name of the project be changed from the El Segundo Power Redevelopment Project to the El Segundo Energy Center Project.

Energy Commission staff reviewed the petition and assessed the impacts of this proposal on environmental quality, public health and safety, and proposes revisions to existing conditions of certification for Air Quality and Hazardous Materials Management. It is staff's opinion that, with the implementation of revised conditions, the project will remain in compliance with applicable laws, ordinances, regulations, and standards and that the proposed modifications will not result in a significant adverse direct or cumulative impact to the environment (Title 20, California Code of Regulations, Section 1769).

Staff has also determined that the petitioner's request to change the name of the project from the El Segundo Power Redevelopment Project to the El Segundo Energy Center Project is administrative and therefore recommends approval of the name change.

The amendment petition and staff's analysis has been posted on the Energy Commission's webpage at <http://www.energy.ca.gov/sitingcases/ElSegundo/compliance/index.html>. The Energy Commission's Order will also be posted on the webpage if the petition to amend is approved. Energy Commission staff intends to recommend approval of the petition at the August 8, 2012, Business Meeting of the Energy Commission. If you have comments on the proposed modifications, please submit them to me at the address below prior to July 29, 2012.

Mary Dyas, Compliance Project Manager
California Energy Commission
1516 9th Street, MS-2000
Sacramento, CA 95814

Comments may be submitted by fax to (916) 654-3882, or by e-mail to mdyas@energy.ca.gov. If you have any questions, please contact me at (916) 651-8891.

For further information on how to participate in this proceeding, please contact the Energy Commission Public Adviser's Office, at (916) 654-4489, or toll free in California at (800) 822-6228, or by e-mail at publicadviser@energy.state.ca.us. News media inquiries should be directed to the Energy Commission Media Office at (916) 654-4989, or by e-mail at mediaoffice@energy.state.ca.us.

Enclosure

Mail List #: 7046

STAFF ANALYSIS

EL SEGUNDO POWER REDEVELOPMENT PROJECT

PETITION TO AMEND

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EL SEGUNDO POWER REDEVELOPMENT PROJECT (00-AFC-14C)
PETITION TO AMEND ENERGY COMMISSION DECISION
EXECUTIVE SUMMARY
Prepared by Mary Dyas

INTRODUCTION

On April 17, 2012, the California Energy Commission (Energy Commission) received an amendment petition from El Segundo Energy Center LLC (ESEC or project owner) to modify the Energy Commission's 2005 Decision for the El Segundo Power Redevelopment Project (ESPR), docket No. 00-AFC-14C. The original 630-megawatt (MW) ESPR project was certified by the Energy Commission on February 2, 2005. A subsequent amendment to convert the ESPR to a nominal 560-megawatt (MW) rapid response combined-cycle facility using dry-cooling and zero liquid discharge technology, was approved by the Energy Commission on June 30, 2010. The facility is located at 301 Vista Del Mar, El Segundo, approximately two miles south of the Los Angeles International Airport in Los Angeles County. The construction of the project was started in October 2009 and is approximately 25% complete.

The purpose of the Energy Commission's review process is to assess any impacts the proposed modifications would have on environmental quality and public health and safety. The process includes an evaluation of the consistency of the proposed changes with the Energy Commission's Decision (Decision), and if the project, as modified, will remain in compliance with applicable laws, ordinances, regulations, and standards (LORS) (Title 20, Calif. Code of Regulations, section 1769).

This Staff Analysis contains the Energy Commission staff's evaluation of the affected technical areas including Air Quality and Hazardous Materials Management.

DESCRIPTION OF PROPOSED MODIFICATIONS

The modifications proposed in the petition are based on changes in the anticipated aqueous ammonia flow rate to the gas turbine selective catalytic reduction system during certain transient operating modes, in order to control nitrogen oxide to permitted levels. In addition, the project owner has determined that it is not viable to construct and operate an ammonia pipeline from the neighboring Chevron Refinery. The ESPR project will only receive aqueous ammonia deliveries to the existing onsite storage tank by tanker truck.

The proposed modifications include:

1. A change to the range of ammonia injection rates specified in Air Quality Condition of Certification **AQ-2** to comport with estimated operational parameters of the Siemens turbines and to ensure compliance with maximum permitted levels of NO_x.

2. The elimination of a venturi scrubber on the ammonia storage tank to control emissions during refilling of the tank by pipeline, as provided in Air Quality Condition of Certification **AQ-31**, which is no longer necessary.
3. The project owner requests that the name of the project be changed from the El Segundo Power Redevelopment Project to the El Segundo Energy Center Project.

NECESSITY FOR THE PROPOSED MODIFICATIONS

The primary purpose and need for this amendment is based on the shift in the estimated range of aqueous ammonia injection rates which is directly related to final design information provided by the turbine manufacturer. It is necessary to change the permissible range of aqueous ammonia injection rates in accordance with this new information so that the new ESPR Project units can maintain compliance with permit limits of 2.0 ppm NO_x during certain transient operating conditions.

Also, the option for delivery of aqueous ammonia via pipeline from the Chevron Refinery is no longer viable, given the decreased demand for ammonia by the ESPR Project that is now evident. Therefore, it is appropriate for the proposed ammonia pipeline to be eliminated as part of the ESPR Project.

STAFF'S ASSESSMENT OF THE PROPOSED PROJECT CHANGES

The technical areas contained in this Staff Analysis indicate recommended staff changes to the original and amended Decisions and conditions of certification. Staff believes that by requiring the proposed changes to the existing conditions, the potential impacts of the proposed changes would be reduced to less than significant levels. A summary of staff's conclusions reached in each technical area are summarized in the following table. The details of the proposed condition changes can be found under the appropriate technical headings in this Staff Analysis.

Energy Commission technical staff reviewed the petition to amend for potential environmental effects and consistency with applicable LORS. Staff has determined that the technical or environmental areas of Biological Resources, Cultural Resources, Facility design, Geological and Paleontological Resources, Land Use, Public Health, Noise and Vibration, Socioeconomics, Soil and Water Resources, Traffic and Transportation, Transmission Line Safety and Nuisance, Transmission System Engineering, Visual Resources, Waste Management, and Worker Safety and Fire Protection are not affected by the proposed changes, and no revisions or new conditions of certification are needed to ensure the project remains in compliance with all applicable LORS and existing conditions of certification in the Decision.

Staff has determined that the technical areas of Air Quality and Hazardous Materials Management would be affected by the proposed project changes and have proposed or revised conditions of certification in order to assure compliance with LORS and/or to reduce potential environmental impacts to a less than significant level.

Staff has also determined that the petitioner’s request to change the name of the project from the El Segundo Power Redevelopment Project to the El Segundo Energy Center Project is administrative and therefore recommends approval. Staff acknowledges ESEC’s statement that change in the project’s name reflects the prior Energy Commission-approved change in ownership and is consistent with the owner’s name.

**EXECUTIVE SUMMARY Table 1
Summary of Technical Area Response to Petition**

TECHNICAL AREAS REVIEWED	STAFF RESPONSE	
	Technical Area Not Affected	Process As Amendment*
Air Quality		X
Biological Resources	X	
Cultural Resources	X	
Geological Hazards & Resources	X	
Hazardous Materials Management		X
Facility Design	X	
Land Use	X	
Noise and Vibration	X	
Paleontological Resources	X	
Public Health	X	
Socioeconomics	X	
Soil and Water Resources	X	
Traffic and Transportation	X	
Transmission Line Safety & Nuisance	X	
Transmission System Engineering	X	
Visual Resources	X	
Waste Management	X	
Worker Safety and Fire Protection	X	

* New or revised conditions of certification recommended by staff

STAFF RECOMMENDATIONS AND CONCLUSIONS

Staff concludes that, with the implementation of revised and new conditions of certification, the following required findings mandated by Title 20, section 1769(a)(3) of the California Code of Regulations can be made, and staff will recommend approval of the petition to the Energy Commission:

- A. There will be no new or additional unmitigated significant environmental impacts associated with the proposed changes;
- B. The facility will remain in compliance with all applicable laws, ordinances, regulations and standards;

- C. The changes will be beneficial to the project owner and the public as the proposed project changes would eliminate the potential venting of ammonia from a venturi scrubber – an environmental benefit.
- D. There has been a substantial change in circumstances since the Energy Commission certification justifying the changes.

EL SEGUNDO POWER REDEVELOPMENT PROJECT (00-AFC-14C)
PETITION TO AMEND ENERGY COMMISSION DECISION
AIR QUALITY

Prepared by Wenjun Qian, Ph.D.

SUMMARY OF CONCLUSIONS

Staff finds that with the adoption of the attached Conditions of Certification, the modified El Segundo Power Redevelopment Project (ESPRP or project) would conform with applicable federal, state and South Coast Air Quality Management District (SCAQMD or District) air quality laws, ordinances, regulations and standards (LORS), and that the modified ESPRP would not result in significant air quality-related impacts.

INTRODUCTION

On April 16, 2012, the Energy Commission (CEC) received an amendment petition from El Segundo Energy Center LLC (ESEC or project owner) to modify the Energy Commission's 2005 Decision for the El Segundo Power Redevelopment Project (00-AFC-14C). The project owner has been provided final design information by its gas turbine supplier, Siemens, which is different from the preliminary design information that was available in 2007 when the project owner filed the last Petition to Amend (PTA) the Energy Commission's 2005 Decision. The project owner has determined that it is not viable to construct and operate an ammonia pipeline from the neighboring Chevron Refinery, as proposed in 2007 PTA. The current amendment request includes these two modifications related to Air Quality:

- Change the range of ammonia injection rates in Condition of Certification **AQ-2** to be consistent with final design information for the Siemens turbines, and
- Delete Condition of Certification **AQ-31** to eliminate the requirement of venting through a venturi scrubber on the ammonia storage tank as the facility would not refill ammonia via pipeline, but would continue to use ammonia tanker trucks.

The project owner also requests to change the name of the project from the El Segundo Power Redevelopment Project to the El Segundo Energy Center Project to reflect the name of the current owner. This modification will not have an impact on Air Quality thus will not be analyzed in this section.

The ESPRP was originally certified to be 630 megawatts (MW) by the Energy Commission on February 2, 2005. In June 2010, the Energy Commission approved an amendment to replace the approved turbines and once-through cooling system with a rapid response combined cycle (R2C2) design and dry-cooling, changing the nominal plant capacity from 630 MW to 560 MW. The amended project construction has commenced.

LAWS, ORDINANCES, REGULATIONS AND STANDARDS (LORS) COMPLIANCE

The 2005 Decision (CEC 2005) and 2010 Amended Decision (CEC 2010a) certifying the ESPRP concluded that the project complied with all applicable LORS. Staff has not identified additional applicable LORS relative to the currently proposed project amendment. Continued operation of the tanker trucks would continue to be subject to SCAQMD Rule 413.1. This rule establishes a sulfur content limit for diesel fuel of 0.05 percent by weight, as well as record keeping requirements and test methods.

SETTING

Since the June 2010 Revised Staff Assessment (RSA, CEC 2010b) of the proposed changes of the project to Siemens turbines and dry cooling, the area's attainment status for federal short-term NO₂ Ambient Air Quality Standard (AAQS) has changed. On February 17, 2012, US EPA designated all of California as "unclassifiable/attainment" for the federal short-term NO₂ standard. **Air Quality Table 1** summarizes the attainment status of the South Coast Air Basin for various applicable current state and federal Ambient Air Quality Standards. These changes do not affect the analysis and conclusions herein but are provided to depict the current setting.

**Air Quality Table 1
Federal and State Attainment Status
South Coast Air Basin**

Pollutants	Attainment Status	
	Federal	State
Ozone	Nonattainment	Nonattainment
CO	Unclassifiable/Attainment	Attainment
NO ₂	Unclassifiable/Attainment	Nonattainment
SO ₂	Attainment	Attainment
PM10	Nonattainment	Nonattainment
PM2.5	Nonattainment	Nonattainment

Source: ARB 2011, US EPA 2012

ANALYSIS

AMMONIA FLOW RATE CHANGE

The project owner requests to change the ammonia injection rates to the gas turbine selective catalytic reduction (SCR) system during certain transient operating modes based on the final design information now available from the gas turbine manufacturer, Siemens.

Currently, Condition of Certification **AQ-2** limits the ammonia injection rates to the SCR system to between 4.8 gallons per hour and 11.5 gallons per hour. This range of

ammonia injection rates was originally anticipated based on preliminary design information provided by the gas turbine manufacturer, Siemens. It was assumed that the maximum gas turbine outlet/pre-SCR nitrogen oxides (NOx) concentration would be 9 ppm @ 15% oxygen (O₂). This range of the ammonia injection rates was expected to be adequate to ensure the NOx concentration coming out of the plant exhaust stack post-SCR system would be less than the maximum permit limit of 2.0 ppm @ 15% O₂ and ammonia slip would be controlled to be less than the maximum permit limit of 5.0 ppm @ 15% O₂. Ammonia slip is a term for the un-reacted ammonia passing through the SCR.

Final design information provided recently by Siemens shows that the gas turbine NOx outlet actually could be as high as 25 ppm @ 15% O₂ during some transient operating modes. At this gas turbine outlet NOx level, the 29% aqueous ammonia injection rate would need to be 48.9 gallons per hour for each gas turbine/SCR unit in order to control NOx levels to the permitted level of 2.0 ppm @ 15% O₂. A compliance margin of 50% needs to be added to this maximum flow rate to account for possible short term spikes in NOx levels. Thus the project owner requests the maximum aqueous ammonia flow rate to be revised to an upper limit of 75 gallons per hour.

In addition, the project owner proposes to change the minimum allowable aqueous ammonia flow rate. The project owner anticipates that there will often be times during steady-state operation when the gas turbine outlet NOx concentration could be very low (well below 9 ppm @ 15% O₂), which would require less ammonia injection into the SCR. The project owner at first thought there is no need for a minimum ammonia flow rate limit since compliance with the NOx limit will be done with the continuous emissions monitoring system (CEMS) and compliance with the ammonia slip limit will be assessed with a calculation approach using SCR inlet/outlet NOx levels. The project owner consulted with SCAQMD staff and now understands that a minimum ammonia flow rate must remain in the permit for Title V monitoring purposes. The project owner now proposes a minimum aqueous ammonia flow rate of 1 gallon/hour, which they believe would cover the range of operating conditions and associated ammonia flow rates to comply with NOx emission limits.

The project owner expects that extending the range of allowed ammonia flow rate would provide greater flexibility in maintaining NOx emission levels while still minimizing ammonia slip to the degree practicable. This change in range of allowable ammonia flow rates will not change the NOx allowable emissions level of 2.0 ppm @ 15% O₂ nor permitted stack ammonia slip level of 5.0 ppm @ 15% O₂.

AMMONIA DELIVERY METHOD: PIPELINE ELIMINATION

Aqueous ammonia is stored in an existing 20,000-gallon capacity, double-walled underground storage tank equipped with leak detectors, pressure relief valves and gauges for temperature and pressure. As described in the 2005 Decision, the project uses an existing ammonia tank to serve the new SCR units of the new combined cycle plant. This tank also serves the currently operating units at El Segundo Generating Station which were not licensed by the Energy Commission. The ammonia tank is filled via periodic tanker truck deliveries.

Previously, the project owner anticipated that ammonia truck deliveries would need to increase in order to serve both the new combined cycle plant and the continued ammonia demand of the existing generating Units 3 and 4. The project owner proposed to construct an ammonia supply pipeline from the Chevron El Segundo Refinery located across Vista del Mar Boulevard, east of the facility, to minimize the anticipated increased tanker truck deliveries. The 2010 Amended Decision approved construction of the proposed ammonia pipeline from the Chevron El Segundo Refinery. Ammonia delivery via tanker truck was retained to be used as necessary during any pipeline outages.

According to the 2010 Amended Decision Conditions of Certification ESPRP air permits, and standard ammonia delivery practices, ammonia vapors in the storage tank which are displaced during filling from the tanker truck are routed to the tanker truck through a 'closed loop' vapor return system. It is not possible to implement such a 'closed loop' arrangement during filling from the pipeline. Instead, the 2010 Amended Decision Condition of Certification **AQ-31** requires installation of a two-stage venturi scrubber on the tank so that it can control the ammonia vapors during filling of the tank through the pipeline. This type of scrubber would be a highly efficient control device for ammonia vapors.

Since the 2005 Decision, significant changes to the plant design, operating scenarios, and regulations have collectively negated the benefits of pipeline ammonia delivery. The amended plant design includes the use of Siemens Rapid Response Combined Cycle (R2C2) technology; the project owner describes the project as "...a peaking plant with the efficiency of a base-loaded plant." (AECOM 2012). Thus the plant would not have the same ammonia demand as a base-loaded plant. Furthermore, the California Water Resources Control Board's Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling (Policy) requires that El Segundo Generating Station Units 3 and 4 come into compliance with the Policy. The project owner has indicated that it would shutdown and replace these units (as feasible) to comply with the Policy, which would eliminate the ammonia demand from these units in the near future. Unit 3 will retire by 2013 as part of the emissions offset package specified in the Energy Commission's 2010 Amended Decision and in the RECLAIM/Title V Permit to Construct. Unit 4 currently has restricted availability to operate (up to an estimated 40 percent capacity factor) due to the PM2.5 cap of 100 tons/year placed on the facility. Unit 4 is currently scheduled to retire by December 31, 2015 to comply with State OTC Policy.

Based on the above factors, the project owner now proposes to eliminate the construction of a new ammonia supply pipeline for delivery of ammonia to the project. This change would eliminate the necessity of installing a venturi scrubber on the existing ammonia storage tank to control the emissions during delivery of ammonia through a pipeline. Ammonia would continue to be delivered by tanker truck.

Potential air quality impacts could be associated with either construction or operations related to the proposed changes. The elimination of the ammonia pipeline construction would eliminate corresponding construction emissions. Similarly, emissions associated with installing a two-stage venturi scrubber on the storage tank would also be eliminated. Therefore, the project as amended would have a slightly lower impact on air quality related to construction emissions.

During operations, ammonia venting from the storage tank would no longer occur since ammonia vapors would be vented back to the tanker truck during ammonia tank refilling. Elimination of the ammonia pipeline would result in approximately one to two truck trips per week to meet the ammonia demand for ESPRP and Unit 4 as compared to a previously assumed two trips per year to support ammonia demand during potential ammonia pipeline maintenance/outages. These numbers are less than the baseline conditions at the time of original filing of the AFC where the truck deliveries for Unit 3 and 4 under base-loaded operations were as much as three truck deliveries per week.

Operational fuel combustion exhaust emissions from the tanker truck would increase under the proposed change compared to pipeline deliveries. However, in comparison to the entirety of emissions associated with the project operation, the emissions associated with one to two additional truck trips each week would be negligible. Truck trips will be reduced to approximately one per week when Unit 4 retires by the end of 2015.

CUMULATIVE IMPACTS

The proposed project amendment would not change any project mitigation measures designed to reduce potential air quality impacts from the project to less-than-significant levels. The proposed change in ammonia flow rates would not have any adverse impact to air quality and would ensure the NO_x and ammonia emissions comply with permit limits. The proposed change of ammonia delivery method would not cumulatively contribute to air quality impacts since the modification would decrease construction emissions and would only negligibly increase overall operational emissions. Thus staff expects no cumulative impacts would occur as a result of the proposed changes to the ESPRP.

CONCLUSIONS AND RECOMMENDATIONS

The requested project changes would conform with applicable Federal, State, and SCAQMD air quality laws, ordinances, regulations, and standards. The amended project would not cause significant air quality impacts, provided that the following Conditions of Certification (COC) are included. Staff recommends that the revised COCs be approved as shown below.

PROPOSED MODIFICATIONS TO CONDITIONS OF CERTIFICATION

Below is a list of those Conditions of Certification that must be revised from those in effect as of the 2010 Amended Decision (CEC 2010a). These changes make the Conditions of Certification consistent with current SCAQMD permit requirements. ~~Strikethrough~~ is used to indicate deleted language and **underline and bold** is used for new language.

AQ-2: The operator shall install and maintain a flow meter to accurately indicate the flow rate of the total hourly throughput of injected ammonia (NH₃) to the SCR in combined cycle turbines 5 and 7. The operator shall also install and maintain a device to continuously record the parameter being measured. The measuring device or gauge shall be accurate to within plus or minus 5 percent. It shall be calibrated once every twelve months. The ammonia injection rate shall remain between ~~1~~ **4.8** gallons per hour and ~~75~~ **44.5** gallons per hour.

Verification: The project owner shall make the site available for inspection by representatives of the District, California Air Resources Board (CARB), the United States Environmental Protection Agency (EPA) and the California Energy Commission (Commission).

~~**AQ-31:** The operator shall vent this equipment to the two-stage venturi scrubber described as Device C64 whenever the tank is undergoing loading of ammonia.~~

~~**Verification:** The project owner shall make the site available for inspection by representatives of the District, CARB, EPA and the Commission.~~

REFERENCES

- AECOM 2012, Petition to Amend - El Segundo Power Redevelopment Project, Ammonia Delivery Method, Permitted Ammonia Flow Rate and Project Name Change, April 2012.
- ARB 2011, California Air Resources Board, Air Designation Maps available on ARB website. <http://www.arb.ca.gov/desig/adm/adm.htm>. Accessed 2012.
- CEC 2005, California Energy Commission, El Segundo Power Redevelopment Project (00-AFC-14C) Commission Decision, February 2005.
- CEC 2010a, California Energy Commission, El Segundo Power Redevelopment Project (00-AFC-14C) Commission Decision to the Amendment, June 2010.
- CEC 2010b, California Energy Commission, El Segundo Power Redevelopment Project (00-AFC-14C) Revised Staff Analysis of the Proposed Change to Dry Cooling and Other Project Changes, June 14, 2010.
- U.S.EPA 2012, Environmental Protection Agency, The Green Book Nonattainment Areas for Criteria Pollutants. <http://www.epa.gov/oar/oaqps/greenbk/index.html>. Accessed 2012.

EL SEGUNDO POWER REDEVELOPMENT PROJECT (00-AFC-14C)
Petition to Amend ENERGY Commission Decision
Prepared by Geoff Lesh

SUMMARY OF CONCLUSIONS

Staff finds that with the adoption of the proposed changes to Condition of Certification HAZ-3, the modified El Segundo Power Redevelopment Project (ESPRP or project) would be consistent with applicable laws, ordinances, regulations and standards (LORS) identified in the Energy Commission's 2005 Decision, as amended, and that the modified ESPRP would not result in significant Hazardous Materials Management-related impacts.

INTRODUCTION

On April 16, 2012, the California Energy Commission (Energy Commission) received an amendment petition from El Segundo Energy Center LLC (ESEC or project owner) to modify the Energy Commission's Decision for the El Segundo Power Redevelopment Project (00-AFC-14C). The ESPRP project was originally certified to be 630 megawatts (MW) by the Energy Commission on February 2, 2005. In June 2010, the Energy Commission approved an amendment to replace the approved turbines and once-through cooling system with a rapid response combined cycle design and dry-cooling, changing the nominal plant capacity from 630 MW to 560 MW.

As presented in the El Segundo Power Redevelopment Project (ESPRP) Petition to Amend (Petition) dated April 2012, the project owner is requesting permission to eliminate the construction of a new ammonia supply pipeline for delivery of ammonia to the project. This change would also eliminate the necessity of installing equipment on the existing ammonia storage tank to control the release of emissions during delivery of ammonia via pipeline.

The proposed Project modification eliminates the previously approved construction of the ammonia delivery pipeline, and provides for the continued delivery of ammonia only via tanker truck. Based on the elimination of the pipeline, the closed loop vapor exchange method utilized in tanker truck deliveries will control ammonia vapor emissions, and therefore the proposed addition of a two-stage venturi scrubber on the ammonia storage tank would be eliminated from the Project.

ANALYSIS

The project owner has requested that Conditions of Certification **HAZ-3** be modified. The project, as approved, includes Condition of Certification **HAZ-3** that requires the project owner to update the Risk Management Plan to expand its discussions to prevent and control accidental releases of ammonia from the pipeline. The existing facility RMP still requires minor updates to address Units 5, 6 and 7, such as incorporating new

pipings runs into schematics and drawings. Without the ammonia pipeline feeding directly to a storage tank, parts of the existing Condition of Certification **HAZ-3** are no longer necessary. With the proposed changes, tanker truck delivery of ammonia will continue. Ammonia delivery by truck is already addressed in the existing RMP and requires updating of the existing RMP as necessary relative to the new units, but eliminates discussion of the pipeline. Elimination of the ammonia pipeline changes the primary ammonia delivery method that would have been used for the Project once it is completed. It also eliminates the production of ammonia and associated operation, maintenance, and safety contingencies of a dedicated ammonia delivery pipeline by Chevron on the Chevron refinery specifically for ESEC.

Staff therefore concludes that the number of tanker truck deliveries of aqueous ammonia has been 3 per week in the past, is currently permitted for 1-2 per week, and when unit 4 is retired in 2015 it will become 1 per week. Staff finds that potential impacts to the public from the expected deliveries of one per week for the new project are less than significant. Staff also concludes that the following proposed modifications to Condition of Certification **HAZ-3** are appropriate, and would not cause significant impact.

CONCLUSIONS AND RECOMMENDATIONS

Staff has reviewed the PTA information for potential environmental effects and consistency with applicable laws, ordinances, regulations and standards (LORS). Based on this review, staff has determined that the amendment, with staff's proposed changes, would be consistent with the LORS identified in the Energy Commission 2005 Decision, as amended. Staff proposes the changes to Condition of Certification **HAZ-3**, as shown below.

PROPOSED MODIFICATIONS TO CONDITIONS OF CERTIFICATION

This section shows the condition of certification, **HAZ-3**, with proposed changes. Strikethrough is used to indicate deleted language and **underline and bold** is used for new language.

HAZ-3 The project owner shall revise the existing CalARP Program Risk Management Plan (RMP), **as needed to comply with the regulations.** Similarly, the project owner shall also revise its existing RMP pursuant to the USEPA RMP Program. ~~Both RMPs shall be expanded to include discussions to prevent and control the accidental release of ammonia from the pipeline. Those discussions shall elaborate on the various safety devices selected for the pipeline including double sleeve construction, provisions for backup safety devices, protective shut-in actions, emergency support systems, monitoring programs and personnel training, as a minimum. The shut-in actions shall include responses to pipeline overpressures and also leaks.~~

Verification: At least 45 days prior to startup of Units 5, 6, and 7, the project owner shall furnish a final copy of each updated RMP to the CPM, CESFD and CMBFD. An initial draft of the CalARP RMP shall be provided to the CPM and the CESFD for review and comments. The final CalARP RMP shall be approved by the CPM. Similarly, an initial draft of the EPA RMP shall be provided to the CPM and the CESFD for review and comments, at the time it is submitted to the EPA for review. The final copy of the EPA RMP shall reflect recommendations of the CPM and the CESFD.

REFERENCES

CEC 2005, California Energy Commission, El Segundo Power Redevelopment Project (00-AFC-14C). Commission Decision, dated February 2005.

CEC 2010a. California Energy Commission, El Segundo Power Redevelopment Project (00-AFC-14C). Commission Decision to the Amendment, dated June 2010.

ESPR 2012a. El Segundo Power Redevelopment Project (00-AFC-14C). Petition to Amend. Dated April 17, 2012.