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Document Title:	Air Quality Construction Mitigation Plan Amended Carlsbad Energy Center Project
Description:	This AQCMP provides the detail steps to be taken and the reporting requirements necessary to ensure compliance with the AQ-SC1, AQ-SC2, AQ-SC3, AQ-SC4, AQ-SC5 and AQ-SC12. This AQCMP has been prepared to address Phase II activities of the Amended CECP including site preparation, construction and commissioning of the Amended CECP as modified by the PTA.
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AQ-SC2

Air Quality Construction Mitigation Plan Amended Carlsbad Energy Center Project

(07-AFC-06C)

San Diego County, California

Prepared for

Carlsbad Energy Center LLC

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January 2016

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Contents

Acronyms and Abbreviations

AQCMM	Air Quality Construction Mitigation Manager
AQCMP	Air Quality Construction Mitigation Plan
CEC	California Energy Commission
Amended CECP	Amended Carlsbad Energy Center Project
COC	Conditions of Certification
CPM	Compliance Project Manager
EPS	Encina Power Station
hp	horsepower
I-5	Interstate-5
MCR	Monthly Compliance Report
NCTD	North County Transit District
Project Owner	Carlsbad Energy Center LLC
PTA	Petition to Amend
SDG&E	San Diego Gas and Electric

SECTION 1.0

Introduction

Carlsbad Energy Center LLC ("Project Owner") has prepared this Air Quality Construction Mitigation Plan (AQCMP) for the Amended Carlsbad Energy Center Project ("Amended CECP" or "Project") in San Diego County, California. This AQCMP is applicable to the activities associated with the Petition to Amend (PTA), as submitted by the Project Owner in April of 2014. This AQCMP has been prepared in accordance with Condition of Certification (COC) AQ-SC2, in the California Energy Commission's (CEC's) Amended CECP Final Decision (07-AFC-06C; July 2015).

This AQCMP provides the detail steps to be taken and the reporting requirements necessary to ensure compliance with the AQ-SC1, AQ-SC2, AQ-SC3, AQ-SC4, AQ-SC5 and AQ-SC12. This AQCMP has been prepared to address Phase II activities of the Amended CECP including site preparation, construction and commissioning of the Amended CECP as modified by the PTA.

An AQCMP was submitted in October 2014 for CECP Phase I Tank demolition/removal activities for Tanks 5, 6, and 7, in support of the relevant COCs adopted by the CEC in its June 2012 Final Decision (07-AFC-06C). The AQCMP was updated in July 2015 for Amended CECP Phase I demolition of Tanks 1, 2, and 4, and as needed soil remediation in the tank basins, in support of the COCs proposed by the CEC in its June 2015 Amended CECP Presiding Member's Proposed Decision (07-AFC-06C). After CEC Compliance Project Manager (CPM) approval in December 2014 and July 2015, respectively, compliance measures, as prescribed in the approved current AQCMP, have been monitored at the site and reported on in monthly compliance reports (MCR) submitted to the CEC CPM. CECP Phase I activities commenced in February 2014 and Amended CECP Phase I activities commenced in July 2015.

As stated in COC AQ-SC2, prior to the start of ground disturbance for Amended CECP construction, the Project Owner is hereby submitting this AQCMP to the CPM for approval. The CPM will notify the Project Owner of any necessary modifications to the plan within 30 days from the date of receipt. The AQCMP must be approved by the CPM before the start of ground disturbance for Amended CECP construction.

1.1 Project Background

The Amended CECP is being constructed to meet the electrical resource needs for the San Diego County Region as identified by the California Independent System Operator, the CEC, the California Public Utilities Commission, and San Diego Gas and Electric (SDG&E). This includes contributing electricity to reserves that will ensure a reliable energy supply and local and regional electrical transmission grid support in San Diego County and the southern California region.

1.2 Project Location

The Amended CECP site is located in Carlsbad, San Diego County, California (Figure 1). The site address is 4600 Carlsbad Boulevard, Carlsbad, California 92008. The Amended CECP site is located on a portion of the approximately 95-acre EPS property located in Township 12 South, Range 4 West, Section 7, in San Diego County. Elevation of the Amended CECP site varies between approximately 32 and 50 feet above mean sea level. The Amended CECP site is located within the northeastern portion of the existing EPS property, and is bordered to the east by I-5, to the south by the SDG&E maintenance yard and Cannon Substation, to the west by the Pacific Ocean, and to the north by the Agua Hedionda Lagoon. The Project site is bisected by the North County Transit District (NCTD) Railroad Right-of-Way that runs north and south through EPS. Cabrillo Power I operates a private rail crossing under a license agreement with NCTD, enabling internal vehicle traffic to cross the rail line. The predominant land use in the vicinity of the site is industrial. Residential, commercial, agricultural, and open space land uses are also situated nearby.

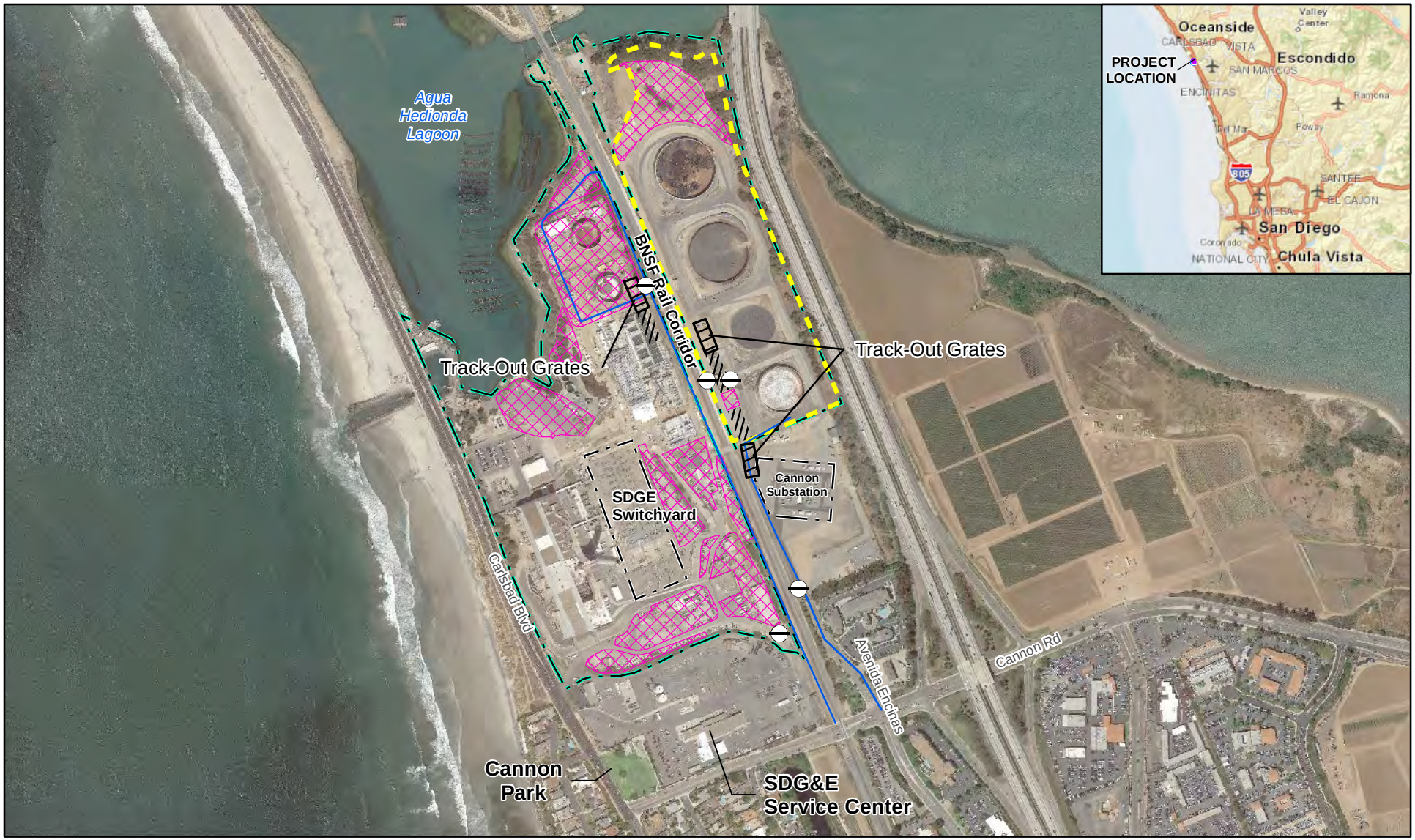
1.3 Project Description

The Amended CECP has been divided into four phases as follows:

- **Phase I** – Above grade demolition/removal activities for Tanks 1, 2, 4, 5, 6 and 7 including soil remediation in the tank basins, as needed, and berm removal between Tanks 4 and 5, 5 and 6, and 6 and 7. This phase includes below grade demolition, soil disturbance and excavations associated with berm removal and soil remediation activities. Above grade demolition and removal of Tanks 5, 6 and 7 and is being accomplished under the existing CEC License for CECP.
- **Phase II** – Site preparation, construction, commissioning, and operation of the Amended CECP as modified by the PTA.
- **Phase III** – Retirement and decommissioning of the EPS facility.
- **Phase IV** – Demolition of the EPS facility. Phase IV specifically excludes below grade demolition and site remediation, which will be accomplished under the authority of San Diego County Environmental Health Department (site remediation) and the City of Carlsbad (redevelopment of the site for future use) subsequent to the completion of Phase IV.

Construction equipment used will be typical of construction work and will include excavation equipment (such as track hoes, front-end loaders and back-hoes), off-road forklifts, man-lifts small diesel generators, delivery trucks, 10-wheel dump trucks, semi-tractor trailer trucks, cranes, cement trucks, and construction crew support trucks. Oversized loads will be delivered on multiple axel trucks with escort vehicles. If construction were to occur after dark, portable, diesel powered construction lights will be provided.

Water for dust control will be pulled from existing fire hydrant(s) at EPS. The average construction workforce is expected range in size from 150 to 250 workers at any one time with an anticipated peak of 279 workers. Construction activities are anticipated to occur over an approximately 24-month period.



Aerial Imagery Source: Google Earth Pro, 2015

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Figure 1
Air Quality Construction Mitigation Plan
Amended Carlsbad Energy Center Project

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SECTION 2.0

Conditions of Certification

The CEC issued COC AQ-SC2 which requires preparation and implementation of an AQCMP as follows:

> **AQ-SC2:** Air Quality Construction/Demolition Mitigation Plan (AQCMP): The project owner shall provide an AQCMP, for approval, which details the steps that will be taken and the reporting requirements necessary to ensure compliance with conditions AQ-SC3, AQ-SC4, and AQ-SC5.
>
> **Verification**: At least 60 days prior to the start of any ground disturbance, the project owner shall submit the AQCMP to the CPM for approval. The CPM will notify the project owner of any necessary modifications to the plan within 30 days from the date of receipt. The AQCMP must be approved by the CPM before the start of ground disturbance.

Table 2-1 provides a list of the Air Quality COCs applicable to the AQCMP for Amended CECP construction. A full description of applicable COCs is provided in Appendix A.

TABLE 2-1
Applicable Conditions of Certification

COC	Condition of Certification
AQ-SC1	Air Quality Construction Mitigation Manager (AQCMM)
AQ-SC2	Air Quality Construction Mitigation Plan (AQCMP)
AQ-SC3	Construction Fugitive Dust Control
AQ-SC4	Dust Plume Response Requirement
AQ-SC5	Diesel-Fueled Engine Control
AQ-SC-12	Schedule for Start and Conclusion of Work Phases

SECTION 3.0

Air Quality Construction Mitigation Manager

COC AQ-SC1 describes the requirements and responsibilities of the Air Quality Construction Mitigation Manager (AQCMM). The AQCMM, or an AQCMM Delegate, will be responsible for ensuring that the required construction mitigation measures of this AQCMP are successfully implemented throughout Phase II activities.

The AQCMM will work with the construction contractor's Construction Manager to ensure that all construction workers are aware of and follow the requirements of the AQCMP. A single AQCMM or an AQCMM Delegate, will be responsible for overseeing the work associated with Amended CECP Phase II activities. In accordance with the requirements of COC AQ-SC1, the Project Owner submitted the names, resumes, qualifications, and contact information for the onsite AQCMM and the AQCMM Delegates to the CEC CPM for approval prior to the Phase II work. The AQCMM and Delegates are included in Table 2-1.

Contact information for the construction contractor's Construction Manager responsible for the implementation of the AQCMP is provided in Table 2-1.

TABLE 3-1
Onsite Contact Information for Amended CECP Phase II Construction Activities

Title	Organization	Contact
Construction Manager	Project Owner	Name: Chuck Hicklin Title: Project Manager Address: NRG Energy Inc. 696 W. 10th Street Pittsburg, CA 94565 Phone: (925) 427-3544 Cell: (925) 324-3558
Compliance Project Manager	CEC	Name: Jonathan Fong Title: Compliance Project Manager Address: 15165 Ninth St, MS-2000 Sacramento, CA 95814-5512 Phone: 916-654-5005
Air Quality Construction Mitigation Manager	CH2M HILL	Andrea White
Air Quality Construction Mitigation Manager – Delegate	CH2M HILL	Elizabeth Rehoreg
Air Quality Construction Mitigation Manager – Delegate	CH2M HILL	Elizabeth Schwing
Air Quality Construction Mitigation Manager – Delegate	American Integrated Services, Inc.	Alexander Chinchilla
Air Quality Construction Mitigation Manager – Delegate	American Integrated Services, Inc.	Cyril Yong

SECTION 4

Construction Emission Control Measures

Because the majority of the Project site and access roads are paved, fugitive dust is anticipated to be limited. The primary source of emissions will be construction equipment as discussed in Section 5.

4.1 Fugitive Dust Control Plan

Based on COC AQ-SC3, the following fugitive dust control measures will be implemented to prevent all fugitive dust plumes from leaving the Project site and linear facility routes during the Amended CECP Phase II construction activities:

- All unpaved roads and disturbed areas in the Project and laydown construction/demolition sites shall be watered as frequently as necessary to comply with the dust mitigation objectives of AQ-SC4. The frequency of watering may be reduced or eliminated during periods of precipitation.
- No vehicle shall exceed 10 miles per hour on unpaved areas within the Project and laydown construction/demolition sites.
- The construction/demolition site entrances shall be posted with visible speed limit signs.
- All construction/demolition equipment vehicle tires shall be inspected and washed as necessary to be cleaned and free of dirt prior to entering paved roadways.
- Gravel ramps of at least 20 feet in length must be provided at the tire washing/cleaning station.
- All unpaved exits from the construction/demolition site shall be graveled or treated to prevent track-out to public roadways.
- All construction/demolition vehicles shall enter the construction/demolition site through the treated entrance roadways, unless an alternative route has been submitted to and approved by the CPM.
- Construction/demolition areas adjacent to any paved roadway shall be provided with sandbags or other measures as specified in the Storm Water Pollution Prevention Plan to prevent runoff to roadways.
- All paved roads within the construction/demolition site shall be swept at least twice daily (or less during periods of precipitation) on days when construction/demolition activity occurs to prevent the accumulation of dirt and debris.
- At least the first 500 feet of any public roadway exiting the construction/demolition site shall be swept visually clean, using wet sweepers or air filtered dry vacuum sweepers, at least twice daily (or less during periods of precipitation) on days when construction/demolition activity occurs or on days when dirt or runoff from the construction/demolition site is visible on the public roadways.
- All soil storage piles and disturbed areas that remain inactive for longer than 10 days shall be covered or shall be treated with appropriate dust suppressant compounds.
- All vehicles that are used to transport solid bulk material on public roadways and that have the potential to cause visible emissions shall be provided with a cover or the materials shall be sufficiently wetted and loaded onto the trucks in a manner to provide at least two feet of freeboard.
- Wind erosion control techniques (such as windbreaks, water, chemical dust suppressants, and/or vegetation) shall be used on all construction/demolition areas that may be disturbed as necessary to comply with the dust mitigation objectives of AQ-SC4. Any windbreaks installed to comply with this condition shall remain in place until the soil is stabilized or permanently covered with vegetation.
- Disturbed areas will be re-vegetated as soon as practical.

- Haul trucks used during the Encina Power Station demolition shall be limited to traveling on paved or graveled surfaces at all times within the boundary of the Encina Power Station property (this activity is not planned as part of Amended CECP Phase II).

The above requirements are incorporated in this AQCMP. The fugitive dust requirements listed above for COC AQ-SC3 may be replaced with as stringent or more stringent methods as required by SDAPCD Rule 55.

4.2 Fugitive Dust Sources

Fugitive dust may be generated from ground preparations activities, such as grading. Fugitive dust may also be generated from the travel of equipment and vehicles on paved and unpaved surfaces at the site.

4.3 Dust Plume Response Requirement

In accordance with CEC COC AQ-SC4, the AQCMM or an AQCMM Delegate shall monitor all construction/demolition activities for visible dust plumes with the potential to be transported off the Project site, 200 feet beyond the centerline of the construction of linear facilities, within 100 feet upwind of any regularly occupied structures, or within 50 feet upwind of I-5.

In the event that the mitigation measures outlined in Section 3.1 are not effective in reducing the offsite visible dust plumes (with the exception of visible emissions within 50 feet upwind of the I-5 freeway), the following additional fugitive dust response measures will be implemented during Project construction to comply with CEC COC AQ-SC4:

Step 1: Within 15 minutes of making such a determination, the AQCMM or AQCMM Delegate shall direct more intensive application of the existing mitigation methods, such as additional soil wetting.

Step 2: If Step 1 fails to result in adequate mitigation within 30 minutes of the original determination, the AQCMM or delegate shall direct implementation of additional methods of dust suppression, such as application of additional soil wetting, soil stabilizers, visqueen, or a geotech fabric.

Step 3: If Steps 1 and 2 fail to result in effective mitigation within 1 hour of the original determination, the AQCMM or AQCMM Delegate shall direct a temporary shutdown of the activity causing the emissions. The activity shall not restart until the AQCMM or AQCMM Delegate is satisfied that appropriate additional mitigation or other site conditions have changed so that visual dust plumes will not result upon restarting the activity that caused the shut-down. The owner/operator may appeal to the CPM any directive from the AQCMM or AQCMM Delegate to shut down an activity, provided that the shutdown shall go into effect within one hour of the original determination, unless overruled by the CPM before that time.

In the event the mitigation measures outlined in Section 3.1 of this plan are not effective in reducing the offsite visible dust plumes within 50 feet upwind of I-5, the following fugitive dust response measures will be implemented in order to comply with CEC COC AQ-SC4:

Step 1: Immediately cease the activities causing the visible dust plumes if any obscuration of visibility is occurring to drivers on I-5. The AQCMM or AQCMM Delegate shall direct more intensive application of the existing mitigation methods immediately if the visible plumes are seen within 50 feet of I-5 but are not causing obscuration of visibility to drivers.

Step 2: The AQCMM or AQCMM Delegate shall direct implementation of additional methods for dust suppression and monitor the start-up and/or continuation of the dust causing activities to ensure that the additional mitigation is effective.

Step 3: The AQCMM or AQCMM Delegate shall direct a temporary shutdown of the activity causing the emissions if Step 2 specified above fails to result in effective mitigation. The activity shall not restart until the AQCMM or AQCMM Delegate is satisfied that appropriate additional mitigation or other site

conditions have changed so that visual dust plumes that could impact visibility on I-5 will not occur upon restarting the shut-down fugitive dust source.

The following describes in more detail the additional techniques that may be used to limit visible dust emissions from activities that cause fugitive dust emissions:

- **Pre-Activity:** The work site may be pre-watered before construction/demolition begins as need to reduce fugitive dust as directed by the AQCMM or AQCMM Delegate.
- **Unpaved Access and Haul Roads and Laydown Areas:** If application of water is inadequate to control dust, chemical suppressants may be applied to unpaved access and haul roads and laydown areas for the duration of the construction/demolition period.
- **Inactive Operations:** During inactive periods (such as after work hours, weekends, and holidays), any storage piles and disturbed surface areas that remain inactive for longer than 10 days will be covered, or other dust suppressants will be applied, and vehicle access will be restricted.
- **Wind Erosion Control:** Wind erosion control techniques (such as placement of gravel or chemical dust suppressants) shall be used on construction areas that may be disturbed and are contributing to visible fugitive dust emissions. Installed wind erosion control measure(s) shall remain in place until the soil is stabilized.

SECTION 5

Diesel-Fueled Engine Control

To comply with CEC COC AQ-SC5, the following diesel-fueled engine control measures will be implemented during Amended CECP construction activities:

- All diesel-fueled engines used in the construction/demolition of the facility shall have clearly visible tags, issued by the on-site AQCMM, showing that the engine meets the conditions set forth herein (see Appendix B).
- All construction/demolition diesel engines with a rating of 50 horsepower (hp) or higher shall meet, at a minimum, the Tier 4 or Tier 4i California Emission Standards for Off-Road Compression- Ignition Engines, as specified in California Code of Regulations, Title 13, section 2423(b)(1), unless a good faith effort to the satisfaction of the CPM that is certified by the on-site AQCMM demonstrates that such engine is not available for a particular item of equipment. In the event that a Tier 4 or Tier 4i engine is not available for any off-road equipment larger than 50 hp, that equipment shall be equipped with a Tier 3 engine or an engine that is equipped with retrofit controls to reduce exhaust emissions of nitrogen oxides and diesel particulate matter to no more than Tier 3 levels, unless certified by engine manufacturers or the on-site AQCMM that the use of such devices is not practical for specific engine types. For purposes of this condition (AQ-SC5), the use of such devices is not practical for the following, as well as other, reasons:
    1. There is no available retrofit control device that has been verified by either the California Air Resources Board or U.S. Environmental Protection Agency to control the engine in question to Tier 3 equivalent emission levels and the highest level of available control using retrofit or Tier 2 engines is being used for the engine in question; or
    2. The construction/demolition equipment is intended to be on site for ten working days or less.
    3. The CPM may grant relief from this requirement if the AQCMM can demonstrate a good faith effort to comply with this requirement and that compliance is not practicable.
- The use of a retrofit control device may be terminated immediately, provided that the CPM is informed within 10 working days of the termination and that a replacement equipment meeting the emission requirements as described above (Tier 4 or Tier 4i) occurs within 10 working days of the retrofit termination. If the equipment would be needed to continue working at the site for more than 15 days after the use of the retrofit control device is terminated, it may do so if the AQCMM or AQCMM designee demonstrates that one of the following conditions exists:
    1. The use of the retrofit control device is excessively reducing the normal availability of the construction/demolition equipment due to increased down time for maintenance, and/or reduced power output due to an excessive increase in back pressure.
    2. The retrofit control device is causing or is reasonably expected to cause significant engine damage.
    3. The retrofit control device is causing or is reasonably expected to cause a significant risk to workers or the public.
    4. Any other seriously detrimental cause which has the approval of the CPM prior to implementation of the termination.
- All heavy earth-moving equipment and heavy duty construction/demolition-related trucks with engines meeting the requirements above shall be properly maintained and the engines tuned to the engine manufacturer‘s specifications.

- All diesel heavy construction/demolition equipment shall not idle for more than 5 minutes. Vehicles that need to idle as part of their normal operation (such as concrete trucks) are exempted from this requirement.
- Construction/demolition equipment will employ electric motors when feasible.

SECTION 6

Reporting Requirements

A Monthly Compliance Report (MCR) will be prepared by the AQCMM or AQCMM Delegate for submittal to the CEC CPM, who will also otherwise be notified if any of the mitigation measures are not providing a level of protection appropriate for eliminating adverse impacts to air quality. This report may be provided via electronic format or disk at the owner's discretion. The MCR will include the following information to meet the requirements of AQ-SC3 (Construction Fugitive Dust Control):

- A written summary or checklist of all actions taken to maintain compliance with the dust control measures. See Appendix C for example checklist.
- A figure of the site identifying the location of track-out control measures and posted speed limit signs.
- Copies of any complaints filed with the San Diego County Air Pollution Control District in relation to Project construction/demolition. Any other documentation deemed necessary by the CPM and AQCMM to verify compliance with the COCs.

Written documentation of the steps taken to comply with AQ-SC4 when dust emissions are visible will be included in the MCR. An example of the summary used to comply with AQ-SC4 is included in Appendix D. The written documentation will be completed and signed by the AQCMM or an AQCMM Delegate to confirm that attention has been given to each requirement on each day when emissions-generating construction activities may have occurred. Any deviation from the dust control mitigation measures shall require prior CPM notification and approval.

The MCR will additionally include the following information to meet the requirements of AQ-SC5 (Diesel-Fueled Engine Control):

- A summary of all actions taken to control diesel construction/demolition related emissions;
- A list of all heavy equipment used on site during that month, including the owner of that equipment and a letter from each owner indicating that equipment has been properly maintained; and
- Any other documentation deemed necessary by the CPM and AQCMM to verify compliance with this condition.

The diesel construction equipment information and mitigation determinations will be summarized in tables that will be a part of the monthly compliance reports. An example format for the monthly compliance report is included in Appendix D. Any deviation from the diesel mitigation measures shall require prior CPM notification and approval.

In accordance with COC AQ-SC12, the Amended CECP construction activities (PTA described activities) shall not be conducted concurrently: ASTS 5, 6, and 7 demolition (licensed CECP activity); ASTS 1, 2, and 4 demolition and berm removal (PTR described activities); or the EPS demolition (PTA and Encina Power Station Demolition Plan described activities). To demonstrate compliance with COC AQ-SC12 the start and conclusion of these work activities will be documented in the monthly compliance reports submitted in compliance with COC COM-6.

Appendix A
CEC Conditions of Certification

APPENDX A

Air Quality Conditions of Certification for the Amended Carlsbad Energy Center Project

Conditions of Certification	
AQ-SC1	Air Quality Construction/Demolition Mitigation Manager (AQCMM): The project owner shall designate and retain an on-site AQCMM who shall be responsible for directing and documenting compliance with conditions AQSC3, AQ-SC4, and AQ-SC5 for the entire project site and linear facility construction/demolition. The on-site AQCMM may delegate responsibilities to one or more AQCMM Delegates. The AQCMM and AQCMM Delegates shall have full access to all areas of construction on the project site and linear facilities and shall have the authority to stop any or all construction/demolition activities as warranted by applicable construction/demolition mitigation conditions. The AQCMM and AQCMM Delegates may have other responsibilities in addition to those described in this condition. The AQCMM shall not be terminated without written consent of the Compliance Project Manager (CPM). **Verification**: At least 60 days prior to the start of ground disturbance, the project owner shall submit to the CPM for approval the name, resume, qualifications, and contact information for the on-site AQCMM and all AQCMM Delegates. The AQCMM and all Delegates must be approved by the CPM before the start of ground disturbance.
AQ-SC2	Air Quality Construction/Demolition Mitigation Plan (AQCMP): The project owner shall provide an AQCMP, for approval, which details the steps that will be taken and the reporting requirements necessary to ensure compliance with conditions AQ-SC3, AQ-SC4, and AQ-SC5. **Verification**: At least 60 days prior to the start of any ground disturbance, the project owner shall submit the AQCMP to the CPM for approval. The CPM will notify the project owner of any necessary modifications to the plan within 30 days from the date of receipt. The AQCMP must be approved by the CPM before the start of ground disturbance.
AQ-SC3	Construction Fugitive Dust Control: The AQCMM shall submit documentation to the CPM in each Monthly Compliance Report (MCR) that demonstrates compliance with the following mitigation measures for the purposes of preventing all fugitive dust plumes from leaving the project site and linear facility routes. Any deviation from the following mitigation measures shall require prior CPM notification and approval. a) All unpaved roads and disturbed areas in the project and laydown construction/demolition sites shall be watered as frequently as necessary to comply with the dust mitigation objectives of AQ-SC4. The frequency of watering may be reduced or eliminated during periods of precipitation. b) No vehicle shall exceed ten miles per hour on unpaved areas within the project and laydown construction/demolition sites. c) The construction/demolition site entrances shall be posted with visible speed limit signs. d) All construction/demolition equipment vehicle tires shall be inspected and washed as necessary to be cleaned and free of dirt prior to entering paved roadways. e) Gravel ramps of at least 20 feet in length must be provided at the tire washing/cleaning station. f) All unpaved exits from the construction/demolition site shall be graveled or treated to prevent track-out to public roadways. g) All construction/demolition vehicles shall enter the construction/demolition site through the treated entrance roadways, unless an alternative route has been submitted to and approved by the CPM. h) Construction/demolition areas adjacent to any paved roadway shall be provided with sandbags or other measures as specified in the Storm Water Pollution Prevention Plan (SWPPP) to prevent runoff to roadways. i) All paved roads within the construction/demolition site shall be swept at least twice daily (or less during periods of precipitation) on days when construction/demolition activity occurs to prevent the accumulation of dirt and debris. j) At least the first 500 feet of any public roadway exiting the construction/demolition site shall be swept visually clean, using wet sweepers or air filtered dry vacuum sweepers, at least twice daily (or less during periods of precipitation) on days when construction/demolition activity occurs or on any other day when dirt or runoff from the construction/demolition site is visible on the public roadways. k) All soil storage piles and disturbed areas that remain inactive for longer than ten days shall be covered or shall be treated with appropriate dust suppressant compounds. l) All vehicles that are used to transport solid bulk material on public roadways and that have the potential to cause visible emissions shall be provided with a cover or the materials shall be sufficiently wetted and loaded onto the trucks in a manner to provide at least two feet of freeboard.

Air Quality Conditions of Certification for the Amended Carlsbad Energy Center Project

Conditions of Certification	
	m) Wind erosion control techniques (such as windbreaks, water, chemical dust suppressants, and/or vegetation) shall be used on all construction/demolition areas that may be disturbed. Any windbreaks installed to comply with this condition shall remain in place until the soil is stabilized or permanently covered with vegetation. n) Disturbed areas will be re-vegetated as soon as practical. o) Haul trucks used during the Encina Power Station demolition shall be limited to traveling on paved or graveled surfaces at all times within the boundary of the Encina Power Station property. The fugitive dust requirements listed in this condition may be replaced with as stringent or more stringent methods as required by SDAPCD Rule 55. **Verification**: The project owner shall include in the MCR: (1) a summary of all actions taken to maintain compliance with this condition, (2) copies of any complaints filed with the air district in relation to project construction/demolition, and (3) any other documentation deemed necessary by the CPM and AQCMM to verify compliance with this condition. Such information may be provided via electronic format or disk at the project owner's discretion.
AQ-SC4	Dust Plume Response Requirement: The AQCMM or Delegate shall monitor all construction/demolition activities for visible dust plumes. Observations of visible dust plumes that have the potential to be transported: (1) off the project site, (2) 200 feet beyond the centerline of the construction of linear facilities, (3) within 100 feet upwind of any regularly occupied structures not owned by the project owner, or (4) within 50 feet upwind of the I-5 freeway indicate that existing mitigation measures are not resulting in effective mitigation. The AQCMM or Delegate shall implement the following procedures for additional mitigation measures in the event that such visible dust plumes, other than those occurring upwind of the I-5 Freeway, are observed: Step 1: The AQCMM or Delegate shall direct more intensive application of the existing mitigation methods within 15 minutes of making such a determination. Step 2: The AQCMM or Delegate shall direct implementation of additional methods of dust suppression if Step 1 specified above fails to result in adequate mitigation within 30 minutes of the original determination. Step 3: The AQCMM or Delegate shall direct a temporary shutdown of the activity causing the emissions if Step 2 specified above fails to result in effective mitigation within one hour of the original determination. The activity shall not restart until the AQCMM or Delegate is satisfied that appropriate additional mitigation or other site conditions have changed so that visual dust plumes will not result upon restarting the shut-down source. The owner/operator may appeal to the CPM any directive from the AQCMM or Delegate to shut down an activity, provided that the shutdown shall go into effect within one hour of the original determination, unless overruled by the CPM before that time. The AQCMM or Delegate shall implement the following procedures for additional mitigation measures in the event that such visible dust plumes occurring within 50 feet upwind of the I-5 Freeway are observed: Step 1: The AQCMM or Delegate shall immediately cease the activities causing the visible dust plumes if any obscuration of visibility is occurring to drivers on the I-5 freeway. The AQCMM or Delegate shall direct more intensive application of the existing mitigation methods immediately if the visible plumes are seen within 50 feet of the I-5 freeway but are not causing obscuration of visibility to drivers. Step 2: The AQCMM or Delegate shall direct implementation of additional methods of dust suppression and monitor the start-up and/or continuation of the dust causing activities to ensure that the additional mitigation is effective. Step 3: The AQCMM or Delegate shall direct a temporary shutdown of the activity causing the emissions if Step 2 specified above fails to result in effective mitigation. The activity shall not restart until the AQCMM or Delegate is satisfied that appropriate additional mitigation or other site conditions have changed so that visual dust plumes that could impact visibility on the I-5 Freeway will not occur upon restarting the shut-down fugitive dust source. **Verification**: The AQCMP shall include a section detailing how the additional mitigation measures will be accomplished within the time limits or directions specified.
AQ-SC5	Diesel-Fueled Engine Control: The AQCMM shall submit to the CPM, in the Monthly Compliance Report, a construction/demolition mitigation report that demonstrates compliance with the AQCMP mitigation measures for purposes of controlling diesel construction/demolition-related emissions. The following off-road diesel construction/demolition equipment mitigation measures shall be included in the Air Quality Construction Mitigation Plan (AQCMP) required by AQ-SC2, and any deviation from the AQCMP mitigation measures shall require prior CPM notification and approval.

APPENDX A

Air Quality Conditions of Certification for the Amended Carlsbad Energy Center Project

	Conditions of Certification
	a) All diesel-fueled engines used in the construction/demolition of the facility shall have clearly visible tags issued by the on-site AQCMM showing that the engine meets the conditions set forth herein. b) All construction/demolition diesel engines with a rating of 50 hp or higher shall meet, at a minimum, the Tier 4 or 4i California Emission Standards for Off-Road Compression-Ignition Engines, as specified in California Code of Regulations, Title 13, section 2423(b) (1), unless a good faith effort to the satisfaction of the CPM that is certified by the on-site AQCMM demonstrates that such engine is not available for a particular item of equipment. In the event that a Tier 4 or 4i engine is not available for any off-road equipment larger than 50 hp, that equipment shall be equipped with a Tier 3 engine, or an engine that is equipped with retrofit controls to reduce exhaust emissions of nitrogen oxides (NOx) and diesel particulate matter (DPM) to no more than Tier 3 levels unless certified by engine manufacturers or the on-site AQCMM that the use of such devices is not practical for specific engine types. For purposes of this condition, the use of such devices is "not practical" for the following, as well as other, reasons. 1. There is no available retrofit control device that has been verified by either the California Air Resources Board or U.S. Environmental Protection Agency to control the engine in question to Tier 3 equivalent emission levels and the highest level of available control using retrofit or Tier 2 engines is being used for the engine in question; or 2. The construction/demolition equipment is intended to be on site for ten working days or less. 3. The CPM may grant relief from this requirement if the AQCMM can demonstrate a good faith effort to comply with this requirement and that compliance is not practical. c) The use of a retrofit control device may be terminated immediately, provided that the CPM is informed within ten working days of the meeting the controls required in item "b" occurs within ten days of termination of the use, if the equipment would be needed to continue working at this site for more than 15 days after the use of the retrofit control device is terminated, if one of the following conditions exists: 1. The use of the retrofit control device is excessively reducing the normal availability of the construction/demolition equipment due to increased down time for maintenance, and/or reduced power output due to an excessive increase in back pressure. 2. The retrofit control device is causing or is reasonably expected to cause engine damage. 3. The retrofit control device is causing or is reasonably expected to cause a substantial risk to workers or the public. 4. Any other seriously detrimental cause which has the approval of the CPM prior to implementation of the termination. d) All heavy earth-moving equipment and heavy duty construction/demolition-related trucks with engines meeting the requirements of (b) above shall be properly maintained and the engines tuned to the engine manufacturer's specifications. e) All diesel heavy construction/demolition equipment shall not idle for more than five minutes. Vehicles that need to idle as part of their normal operation (such as concrete trucks) are exempted from this requirement. f) Construction/demolition equipment will employ electric motors when feasible. **Verification**: The AQCMM shall include in a table in the Monthly Compliance Report the following to demonstrate control of diesel construction/demolition-related emissions: A. A summary of all actions taken to control diesel construction/demolition-related emissions; B. A list of all heavy equipment used on site during that month, including the owner of that equipment and a letter from each owner indicating that equipment has been properly maintained; and C. Any other documentation deemed necessary by the CPM, and the AQCMM to verify compliance with this condition. Such information may be provided via electronic format or disk at the project owner's discretion.
AQ-SC12	The project owner shall not allow the overlap of specific construction and demolition phase activities. The following activities shall not be conducted concurrently with any of the other listed activities: 1. ASTs 5, 6, and 7 demolition (licensed CECP activity); 2. ASTs 1, 2, and 4 demolition and berm removal (PTR described activities); 3. Amended CECP construction (PTA described activities); and 4. EPS demolition (PTA and Encina Power Station Demolition Plan described activities).

	Conditions of Certification
	In addition, the gas turbines initial commissioning activity and the EPS demolition activity shall not be performed concurrently. **Verification**: The project owner shall identify the start and conclusion of the work phases described above in the Monthly Compliance Reports.

Appendix B
Example Diesel-Powered Construction Equipment Tag

Amended CECP APPROVED

EQUIPMENT HAS EPA/CARB
ENGINE CERTIFICATION ON FILE
DATE: _____
BY: _____

Appendix C
Example Air Quality Compliance Checklist

Air Quality Construction Mitigation Plan for the Carlsbad Energy Center Project, Phase I
(07-AFC-06C)

AQCMP or designee name: _____ AQCMP or designee signature:

Date: _____

Air Quality Construction Mitigation Manager or Designee to Complete Checklist Daily

On Going Requirements

Area Affected:	Requirement:	Implemented (Y/N):	Notes:
Construction site entrance	Post visible speed limit signs - identify location of signs in notes		
Construction Eq Vehicle tires	Inspected and washed as necessary to clean off dirt prior to leaving site		
Construction entrance	Enter only through treated entrance roadways unless alternative route approved by CPM		
Unpaved roads and disturbed areas in project and laydown area	Pre-water worksite before the construction begins at least daily, if application of water is inadequate to control dust, apply chemical suppressants (list what method of control used in Notes)		
Unpaved roads and disturbed areas in project and laydown area	Speed limit to 10 mph		
Construction areas adjacent to any paved roadways	Provided with sandbags or other measures in SWPPP to prevent runoff		
Tire washing / cleaning station	Gravel ramps 20 ft in length - identify location in notes		
Unpaved Exits	Gravel or treated to prevent track-out - identify location in notes		
Paved Areas	Swept at least twice daily (or less during periods of precipitation during active days of construction)		
Public Roadway existing construction site	500 feet of public roadway swept visually clean at least twice daily (or less during periods of precipitation) during active construction days or when dirt is visible		
Bulk transport vehicles on public roadways	Cover or wet materials load with at least 2 feet of freeboard		
Storage areas unactive for more than 10 days	Covered or treated with dust suppressants, and vehicle access will be restricted.		
Construction Areas that may be disturbed	Install wind erosions control techniques (such as gravel, windbreaks, water, chemical dust suppressants, and/or vegetation) until soil is stabilized or permanently covered w/ vegetation.		
Disturbed areas	Re-Vegetated as soon as possible		

1 The activity shall not restart until the AQCMM or AQCMM Delegate is satisfied that appropriate additional mitigation or other site conditions have changed so that visual dust plumes will not result upon restarting the activity that caused the shut-down. The owner/operator may appeal to the CPM any directive from the AQCMM or AQCMM Delegate to shut down an activity, provided that the shutdown shall go into effect within one hour of the original determination, unless overruled by the CPM before that time.

2 The activity shall not restart until the AQCMM or AQCMM Delegate is satisfied that appropriate additional mitigation or other site conditions have changed so that visual dust plumes that could impact visibility on I-5 will not occur upon restarting the activity that caused the shut-down.

Date:

Monitoring for Visible Dust Plumes with the potential to be transported off the project site:

Definition of Areas	**Requirement**	**Specific Location / Area:**
Identify Area	200 feet beyond the centerline of the construction of linear facilities	
Identify structures	within 100 feet upwind of any regularly occupied structures	
Identify distance / marker	50 feet upwind of I-5	

Reduce visible dust plumes to comply with CEC COC AQ-SC4 (with the exception of visible emissions within 50 feet upwind of the I-5 freeway)

Area Affected / Source:		**Date / Time Identified:**	
	Mitigation Measure Implemented:	**Time Implemented**	**Notes**
Step 1: Within 15 minutes of making such a determination, require more intensive application of existing method - such as additional soil wetting			
Step 2: If Step 1 fails to result in adequate mitigation within 30 minutes of the original determination, apply additional measures such as application of soil stabilizers, visqueen, or a geotech fabric.			
Step 3: If Steps 1 and 2 fail to result in effective mitigation within 1 hour of the original determination, the AQCMM or AQCMM Delegate shall direct a temporary shutdown of the activity causing the emissions. [1]			

Reduce visible dust plumes to comply with CEC COC AQ-SC4 within 50 feet upwind of the I-5 freeway

Area Affected / Source:		**Date / Time Identified:**	
	Mitigation Measure Implemented:	**Time Implemented**	**Notes**
Step 1: Immediately cease the activities causing the visible dust plumes if any obscuration of visibility is occurring to drivers on I-5. Direct more intensive application of the existing mitigation methods immediately if the visible plumes are seen within 50 feet of I-5 but are not causing obscuration of visibility to drivers.			
Step 2: Direct implementation of additional methods for dust suppression and monitor the start-up and/or continuation of the dust causing activities to ensure that the additional mitigation is effective.			
Step 3: Direct a temporary shutdown of the activity causing the emissions if Step 2 specified above fails to result in effective mitigation. [2]			

Air Quality Construction Mitigation Plan for the Carlsbad Energy Center Project, Phase I
(07-AFC-06C)

AQCMP or designee name: _____ AQCMP or designee signature: _____

Date: _____

Air Quality Construction Mitigation Manager or Designee to Complete Checklist Daily

On Going Diesel Requirements	**Date:**	**Notes:**
Complete Inventory sheet		
Confirm all equipment are ARB tagged on both sides and tags are visible.		
Make sure CEC approval tag is located on all equipment used onsite		
Documentation of engine tier is on file.		
Note tier 3 or document retrofit equipment on tier 2 engines, provide other document if not meet these requirements for all engines 50 hp or greater		
Monthly include a list of the owner of that equipment and a letter from each owner indicating that equipment has been properly maintained		
All diesel heavy construction equipment shall not idle for more than 5 minutes, to the extent practical. Vehicles that need to idle as part of their normal operation (such as concrete trucks) are exempted from this requirement		
A list of all other actions taken to control diesel construction related emissions		

Appendix D
Example Monthly Compliance Report Format

Example Air Quality Construction Compliance Summary

Amended Carlsbad Energy Center Project

PREPARED FOR: Carlsbad Energy Center LLC

DATE: Month Year

COMPLIANCE PERIOD: Month Year

This compliance memorandum summarizes the activities conducted in Month / Year to demonstrate compliance with the Air Quality Construction Mitigation Plan (AQCMP) for Phase II of the Amended Carlsbad Energy Center Project (Amended CECP). The compliance status for the items identified in this report are summarized herein and on a monthly basis based on notes from daily monitoring checklists.

Fugitive Dust Compliance Measures

For this compliance period during Phase II of the Amended CECP the following compliance measures are being implemented and monitored onsite using a compliance checklist:

- Observance of a visible dust plume (Yes or No)
- Complaints filed with the San Diego Air Pollution Control District (Yes or No)
- Deviations from the AQCMP (Yes or No)

Table 1 summarizes the fugitive dust control measures prescribed in the AQCMP monitored via daily checklists (checklists provided as Attachment A to this report). The location of speed limit signage and track-out best management practices are depicted in Figure 1.

TABLE 1
Fugitive Dust Control Measures
AQCMP 07-AFC-06C

Implementation Measure	Out of Compliance Trigger	In Compliance Trigger [a]	Results During Compliance Period
Post Visible Speed Limit Signs Limiting Speed to 10 MPH	No – No Signs Posted	Yes – Signs Posted	
Wheel Inspection and Wash Stations in Place	No - Track-Out into Roadways Not Managed	Yes - No Track-Out Observed	
Entrance and Exit Limited to Treated Roadways	No – Entrance and Exit Not Limited	Yes - Entrance and Exit Limited	
Dust Controlled from Disturbed Areas	No - Dust Plumes Originating from Active Construction Areas	Yes – No Dust Plumes Originating from Active Construction Areas	
SWPPP Implemented	No – SWPPP Not Implemented for Activities Near Roadways	Yes – SWPPP Implemented for Activities Near Roadways	
Track-Out Controlled with Gravel Ramps or Treatment for Unpaved Exits	No – Dirt Entering Roadways	Yes - No Dirt Entering Roadways	
Paved Area of Site Swept at Least Twice Daily	No - Dirt / Debris Accumulated	Yes – Site Clean	

TABLE 1
Fugitive Dust Control Measures
AQCMP 07-AFC-06C

Implementation Measure	Out of Compliance Trigger	In Compliance Trigger [a]	Results During Compliance Period
Dirt Visible on Public Roadways is Swept Clean	No – Visible Dirt within 500' of Roadway Entrance	Yes - No Dirt Observed	
Material Transferred Offsite is Covered, Treated and Loaded in Accordance with AQCMP	No – Visible Plumes from Material Transfer	Yes – No Visible Plumes from Material Transfer	
During Encina Power Station Demolition, haul trucks traveled on paved or graveled surfaces at all times within the boundary of the Encina Power Station property	No- Haul trucks traveled on unpaved dirt roads with no emission controls	Yes – Haul trucks traveled on paved or graveled surfaces	This activity is not planned as part of Amended CECP Phase II
Inactive Storage Areas are Treated	No – Dust Plumes Originating from Storage Areas	Yes - No Dust Plumes from Storage Areas	
Visible Dust Plumes Identified	No - Plume Identified and Not Controlled	Yes - Either No Plume Identified or Plume Identified and Controlled	

[a] Site is noted as in compliance if the activity did not occur during the compliance period.

Diesel Equipment Compliance Measures

For this compliance period the following compliance measures are being implemented:

- List of compliance measures implemented per the approved AQCMP during the compliance period.

Equipment onsite and used for ten (10) days or more during this compliance period are being recorded and are listed in Table 2. Documentation confirming that equipment used for ten (10) days or more during Phase II activities are the appropriate Tier, along with the appropriate letter from the equipment owner confirming maintenance is performed as required for the equipment listed in Table 2 are included as Attachment B to this report.

Table 2
Diesel Equipment

Date Arrived	CARB ID	S/N	Equipment	Engine Data	Equipment Owner	Diesel hp [1]	Tier
Equipment Submitted Under Previous Compliance Period							