

**Construction Emissions Monitoring Plan**

**For**

**Sunrise Powerlink Transmission Project**



Dated December 22, 2009  
Submitted January 21, 2010

# Construction Emissions Monitoring Plan

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## **Purpose and Objective**

This document describes the *Construction Emissions Monitoring Plan* (“Plan”) for the Sunrise Powerlink Transmission Project. It is expected that the Plan, as described below, will satisfactorily track and verify the effectiveness of mitigation measures and internal emission reductions during Project construction as presented in the Mitigation Program dated June 9, 2009 to address Mitigation Measures AQ-1b, AQ-1h, AQ-APM-4 and AQ-APM-5 (the language for these measures is included at the end of the Plan).

## **Overview**

On June 9, 2009, San Diego Gas & Electric (SDG&E) submitted an *Air Quality Mitigation Program for Construction Emissions* (“Mitigation Program”) to the California Public Utilities Commission (CPUC) and the Bureau of Land Management (BLM). The Mitigation Program provided details on planned procedures to implement Mitigation Measures AQ-1b, AQ-1h, AQ-APM-4, and AQ-APM-5 for the construction of the Sunrise Powerlink Transmission Project (“Project”). The Mitigation Program also included emission calculation refinements for the Final Environmentally Superior Southern Route (FESSR), and proposed use of internal emissions reductions during project construction.

To track and verify the effectiveness of the mitigation measures and project internal emission reductions detailed in the Mitigation Program, SDG&E has prepared this Plan applicable to equipment exhaust from off-road equipment, helicopters, and on-road vehicle use during construction. The original Plan (dated 8/24/2009) was submitted to the CPUC on September 8, 2009; comments were received in a written review on September 29, 2009. A revised Plan (“Revision 1”) addressing the CPUC’s comments was submitted on October 26, 2009; comments on Revision 1 were received via email on November 5, 2009. A revised Plan (“Revision 2”) addressing the CPUC’s comments contained in the November 5, 2009 communication was submitted on November 23, 2009; comments on Revision 2 were received via email on December 21, 2009. This revised Plan (“Revision 3”) addresses the CPUC’s comments contained in the December 21, 2009 communication.

## **Off-Road Construction Equipment**

Off-road construction equipment includes graders, bulldozers, compressors, rock drills and other equipment types listed in the appendices to the *Air Quality Mitigation Program for Construction Emissions*.

For diesel-fired construction equipment with capacity greater than 50 hp (per Mitigation Measure AQ-1b), the intent of the Plan is to verify log hours for EPA Tier 3-certified equipment to the extent that such equipment will be available, and for EPA Tier 2-certified equipment when Tier 3-certified equipment is not available. If neither EPA Tier 2 nor Tier 3 equipment can be procured for a construction task, the monitoring will verify that EPA Tier 1 equipment with capacity greater than 100 hp has diesel particulate filters installed on engines. The monitoring will also verify that usage of gasoline or electric equipment is also recorded, when such equipment is used in place of diesel-fueled equipment.

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SDG&E will coordinate with construction contractors and monitors to implement a tracking system for equipment use. Either SDG&E or contractors will be responsible for each component of the tracking system as follows:

1. **Equipment Inventory (Contractor)** – The contractor will provide SDG&E with an equipment inventory list prior to construction of each project link. Information recorded on the inventory list will include:
  - Equipment description (bulldozer, grader, etc.);
  - Vehicle manufacturer, model, and model year;
  - Engine horsepower rating and fuel type used;
  - Company vehicle ID # (designated by contractor or SDG&E), license plate number, and engine serial number;
  - EPA engine family ID # for the engine;
  - Verification of diesel particulate filter if Tier 1 engine;
  - Location (Link) scheduled for use;
  
2. **Equipment Tier Compliance Verification (SDG&E)** – SDG&E’s Compliance Lead or designated representative will review the equipment inventory list and will look up the EPA tier number for each engine family number provided in the equipment inventory list. The SDG&E Compliance Lead or designated representative will contact the contractor if changes are needed to the equipment inventory list.
  
3. **Equipment Usage Tracking (Contractor)** – The contractor at each site will log equipment usage by tracking hour-meters installed on the equipment. For equipment not equipped with hour-meters, the contractor will maintain records of equipment operation. The contractor will record any equipment additions or removals from the inventory list on a weekly basis. The contractor will submit the equipment usage log and the record of any inventory changes to SDG&E’s Compliance Lead or designated representative on a weekly basis.
  
4. **Preparation and Submittal of Equipment Usage Reports (SDG&E)** – SDG&E’s Compliance Lead or designated representative will review the equipment usage logs and verify the EPA tier numbers of any equipment used that was not in the original inventory. The Compliance Lead or representative will aggregate the information contained in the equipment inventories and weekly usage logs into a single report containing the following information by project link:
  - Equipment descriptions and company tracking numbers;
  - EPA engine family ID numbers and associated certification tier numbers;
  - Engine horsepower ratings and fuel type used;
  - Operating location and operating hours for each vehicle used in the reporting quarter;
  - Total overall project off-road equipment operation;

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- Brake horsepower-hour (bhp-hr) totals for each equipment tier;
- Quarterly trend for off-road equipment operation relative to 74,706,064 bhp-hr total for the overall project ;
- Percentage of horsepower-hours logged with each equipment tier;
- Tier 3 off-road equipment usage (bhp-hr) vs. 60% activity target; and
- Number of workers used each day.

With each report, SDG&E will provide a copy of the EPA engine certification for each engine family number. SDG&E's Compliance Lead or designated representative will verify the accuracy of information in the equipment usage report prior to submittal. Reports will be submitted to the CPUC and BLM on a quarterly basis.

SDG&E will take several corrective actions in the event quarterly trends for off-road equipment operation usage exceed projected quarterly figures derived from the project totals:

- Provide written explanations for exceedance of projected quarterly off-road equipment operation horsepower-hours usage that are due to temporary peaks in construction activities during the reporting quarter; and
- Work with construction contractors to revise projections of equipment operation hours and Tier 3 usage for quarters following exceedances as necessary to maintain quarterly trends at or under the target figures derived from the project totals.

### **Helicopters**

Helicopters will be used for transmission tower construction and to ferry workers to remote construction sites. For helicopters, the following will be tracked by project link by the contractors and SDG&E:

- Description of helicopter equipment used and hours of operation;
- Rating of helicopter engines, or maximum rated fuel usage; and
- Quarterly trend for helicopter equipment usage relative to 497,514 gallons fuel used overall project total.

The helicopter usage logs will be maintained on a weekly basis. The SDG&E Compliance Manager will provide logs of helicopter usage to the CPUC quarterly.

### **On-Road Vehicles**

On-road construction equipment includes heavy-duty diesel-fueled vehicles that will be used to deliver equipment and construction materials, and to remove materials such as soil from construction areas.

The following will be tracked by project link by the contractors and SDG&E for on-road vehicle deliveries:

- Log of heavy-duty diesel truck deliveries to staging areas;
- Origin and destination of the deliveries;

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- Deliveries VMT; and
- Quarterly trend for heavy-duty truck deliveries relative to 1,900,000 VMT overall project total.

The on-road vehicle usage logs will be maintained on a weekly basis. The SDG&E Compliance Lead or designated representative will provide logs and trend analysis reports of on-road vehicle usage to the CPUC quarterly. SDG&E will take corrective actions as necessary and provide written documentation to ensure the targets identified in Section 4 are met.

### **Applicable Mitigation Measures**

#### **AQ-1b – Use low-emission construction equipment.**

SDG&E shall maintain construction equipment per manufacturing specifications and use low-emission equipment described here. All off-road and portable construction diesel engines not registered under the CARB Statewide Portable Equipment Registration Program, which have a rating of 50 horsepower (hp) or more, shall meet, at a minimum, the Tier 2 California Emission Standards for Off-Road Compression-Ignition Engines as specified in California Code of Regulations, Title 13, Sec. 2423(b)(1) unless that such engine is not available for a particular item of equipment. In the event a Tier 2 engine is not available for any off-road engine larger than 100 hp, that engine shall be equipped with a Tier 1 engine. If any engine larger than 100 hp does not meet Tier 1 standards, that engine shall be equipped with a catalyzed diesel particulate filter (soot filter), unless the engine manufacturer indicates that the use of such devices is not practical for that particular engine type. SDG&E shall substitute small electric-powered equipment for diesel- and gasoline-powered construction equipment where feasible.

#### **AQ-1h – Obtain NO<sub>x</sub> and particulate matter emission offsets.**

SDG&E shall obtain and hold for the duration of construction NO<sub>x</sub> emission reduction credits or fund incentive programs approved by ICAPCD and SDAPCD at sufficient levels to offset the construction emissions of NO<sub>x</sub> that exceed the ozone nonattainment area federal General Conformity Rule applicability threshold. SDG&E shall secure 99 tons per year of NO<sub>x</sub> reductions and 276 tons per year of particulate matter reductions in Imperial County, and SDG&E shall secure 212 tons per year of NO<sub>x</sub> reductions in San Diego County to satisfy this requirement. The emission reduction credits or incentive program shall comply with ICAPCD and SDAPCD rules and regulations, and the credits or reductions shall be obtained by SDG&E prior to commencing construction.

#### **AQ-APM-4**

If suitable park-and-ride facilities are available in the project vicinity, construction workers will be encouraged to carpool to the job site to the extent feasible. The ability to develop an effective carpool program for the Proposed Project would depend upon the proximity of carpool facilities to the job site, the geographical commute departure points of construction workers, and the

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extent to which carpooling would not adversely affect worker show-up time and the project's construction schedule.

### **AQ-APM-5**

To the extent feasible, unnecessary construction vehicle and idling time will be minimized. The ability to limit construction vehicle idling time is dependent upon the sequence of construction activities and when and where vehicles are needed or staged. Certain vehicles, such as large diesel-powered vehicles, have extended warm-up times following start-up that limit their availability for use following start-up. Where such diesel-powered vehicles are required for repetitive construction tasks, these vehicles may require more idling time. The project will apply a "common sense" approach to vehicle use; if a vehicle is not required for use immediately or continuously for construction activities, its engine will be shut off. Construction foremen will include briefings to crews on vehicle use as a part of pre-construction conferences. Those briefings will include discussion of a "common sense" to vehicle use.