Overview

CREDITING EMISSION REDUCTIONS FROM PORTABLE EQUIPMENT

CASE STUDY
Crediting Emission Reductions from Portable Equipment
Portable Equipment Registration Programs

• Consistent with State law, CARB and local air districts operate portable equipment registration programs

• In lieu of obtaining traditional stationary source permits, these are voluntary programs to register and regulate portable equipment

• State Portable Equipment Registration Program
  – PERP regulations are found in Title 13, Section 2450, et seq

• District Portable Equipment Registration Program
  – District Rule 2280 (Portable Equipment Registration)

• Emissions limitations for portable equipment are specified in the applicable portable equipment registration regulations as well as the State portable diesel engine air toxic control measure
Portable Equipment Requirements

• A “Portable” emissions unit is defined as:
  - Any emissions unit that, by itself or in or on a piece of equipment, is designed to be and capable of being carried or moved from one location to another
  - Indications of portability include, but are not limited to, wheels, skids, carrying handles, dolly, trailer, platform, or mounting

• Portable equipment registered in the District PERP may:
  - Operate throughout the San Joaquin Valley Air Basin
  - Cannot reside at any single location for more than 6 consecutive months

• Portable equipment registered in the State PERP may:
  - Operate throughout the state without obtaining permits from any of California's 35 air districts
  - Cannot reside at any single location for more than 12 consecutive months
Crediting Emission Reductions from Portable Equipment

• Evaluating the banking of Emission Reduction Credits (ERCs) from portable equipment that are registered under the:
  – CARB Portable Equipment Registration Program (State PERP), or
  – San Joaquin Valley Air Pollution Control District Portable Equipment Registration Program (District PERP)

• Follow “traditional methodology” as generating ERCs for stationary sources
  – Portable equipment performs the same function and is operated in the same method/fashion as stationary source equipment, but not operated as part of a stationary source
  – Main operational difference being the authorization and ability to operate at various sites for a given duration of time
Calculating Emission Reductions from Portable Equipment

• Quantification of Emissions Reductions from Portable Equipment can be calculated using the same methodology as stationary source equipment
  – Actual Emission Reductions (AER) required to meet same integrity criteria for being Real, Quantifiable, Surplus, Permanent, and Enforceable as outlined in District Rule 2201, Section 3.2
  – Will use Baseline Period definition in District Rule 2201, Section 3.9
    • Only operating hours occurring within the San Joaquin Valley will be eligible
  – Records will be required, such as operating hours at each location
Case Study
Case Study - State PERP

• An owner of a portable Tier 3 diesel-fired engine with a State PERP operated within the boundaries of the District for a portion of the past 5 years, and has replaced their existing engine with a propane/natural gas-fired engine equipped with a 3-way catalyst system.

• The engine owner intends to continue to operate the engine to perform the same tasks and in the same manner as before the replacement.

• The owner has provided the District with records that show the number of hours the engine operated at each site for the past 5 years, and how long the equipment remained at a single site before it was relocated.

• The owner also provided the District with certified emission factors for both the diesel-fired and propane-fired IC engine.
Case Study - Integrity Check

• The District is able to make a determination that the Actual Emission Reductions (AERs) are Real, Quantifiable, Surplus, Permanent, and Enforceable as outlined in District Rule 2201, Section 3.2 with the following information/records:
  – Certified/guaranteed EFs for both diesel and propane engines
  – *Time spent operating within the District*
  – Actual diesel engine hours of operation during baseline period *in the District*
  – Proof of rendering diesel engine permanently inoperable
  – AER must be surplus of current engine requirements (Tier 4F certified engines)
## Case Study - AER Calculation

<table>
<thead>
<tr>
<th></th>
<th>Existing Engine</th>
<th>Replacement Engine</th>
<th>Tier 4 Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>EF (g-NOx/bhp-hr)</td>
<td>2.53</td>
<td>0.017</td>
<td>0.29</td>
</tr>
<tr>
<td>Horsepower</td>
<td>247</td>
<td>230</td>
<td>175 - 300</td>
</tr>
<tr>
<td>Hrs of Operation</td>
<td>2,500</td>
<td>n/a</td>
<td>- -</td>
</tr>
<tr>
<td>Hrs of Operation within District</td>
<td>2,000</td>
<td>2,000</td>
<td>- -</td>
</tr>
</tbody>
</table>

- AER = HAE - PE2, Where:
  - HAE = Surplus historical actual emissions within the District
    \[
    = 247 \text{ bhp} \times 0.29 \text{ g-NOx/bhp-hr} \times 2,000 \text{ hrs/yr} \div 453.6 \text{ g/lb} = 316 \text{ lb-NOx/yr}
    \]
  - PE2 = Post project potential emissions
    \[
    = 230 \text{ bhp} \times 0.017 \text{ g-NOx/bhp-hr} \times 2,000 \text{ hrs/yr} \div 453.6 \text{ g/lb} = 17 \text{ lb-NOx/yr}
    \]
  - AER = 316 lb-NOx/yr - 17 lb-NOx/yr = **299 lb-NOx/yr**

(Prior to ERC banking and discounting by the 10% Air Quality Improvement Deduction)
Next Steps

- Continue refining the portable ERC program guidelines
- Continue to identify and evaluate new methods to create surplus creditable emission reductions
- Continue to collaboratively work with EPA/CARB
Comments/Questions