

Offset Packages for Licensed Power Plant Projects

Delta Energy Center:

All banked ERCs

- **NOx:** 151.3 tons
- **ROG:** 273.8 tons
- **PM10:** 376.7 tons
 - 280.4 tons SO₂ – interpollutant trade

High Desert Power Plant:

- **NOx:** Offset interbasin and interpollutant, total liability of 267 tpy at 1.3:1 offset ratio
 - 134 tpy NOx ERC from Southern California International Airport (base closure of George Air Force Base), the rest covered by interbasin offsets identified in VOC description at 1.6:1 interpollutant offset ratio and the 1.3:1 pollutant/interbasin offset ratio mentioned above giving a total 2.1:1 offset ratio
- **VOC:** Interbasin, total liability of 168 tpy at 1.3:1 offset ratio
 - 151 tpy VOC ERC from Southern California International Airport (base closure of George Air Force Base), interbasin offsets used for both NOx and VOC liabilities
 - 229 tpy VOC ERC from General Motors in Van Nuys
 - 73 tpy VOC ERC from Mobil Oil Corporation in Torrance
 - 43 tpy VOC ERC from Chemoil Refining in Carson
 - 118 tpy VOC ERC from Crown Cork and Seal in Los Angeles
 - 40 tpy VOC ERC from BASF Corp. in Orange Co.
- **PM10:** Total liability of 234 tpy at 1:1 pollutant offset ratio
 - Unbanked emission reductions from road paving
 - 14 tpy ERC from Southern California International Airport
 - 262 tpy emission reduction from road paving at City of Adelanto (0.7 miles of road)
- **SOx:** Did not trigger offsets
- **CO:** Exempt using MDAQMD Rule 1305(D)

La Paloma:

All banked ERCs

Within 15 miles: Aera Energy LLC in Belridge area

Outside 15 miles: San Joaquin Valley Energy Partners in Chowchilla and El Nido; GWF Power Systems in Mendota; and Newark Sierra PaperBoard in Stockton

- **NOx:** 278.2 tpy;
 - 47.0 tpy NOx ERCs within 15 miles supplied at 1.2:1;
 - 364.7 tpy NOx ERCs within 15 miles supplied at 1.5:1;
- **VOC:** 39.7 tpy
 - 60 tpy VOC ERCs within 15 miles provided at 1.2:1

- **PM10:** 284.4 tpy;
 - 50 tpy PM10 ERCs within 15 miles supplied at 1.2:1;
 - 49.3 tpy PM10 ERCs outside 15 miles supplied at 1.5:1;
 - Portion of PM10 offset liability (209.9 tpy) covered with NOx ERCs supplied at an interpollutant offset ratio of 2.22:1
 - 508 tpy NOx ERCs at 2.42:1 (overall ratio)
 - 555 tpy NOx ERCs at 2.72:1 (overall ratio)
- **SOx:** 60.0 tpy
 - 72.0 tpy SOx ERCs within 15 miles supplied at 1.2:1
- **CO:** Exempt from offsets using provisions of Rule 2201, Section 4.2.1.1

Los Medanos Energy Center:

- **NOx:** 176.18 tpy (153.2 tpy at 1.15:1 ratio)
 - 73.62 tpy NOx ERC #518 from Owens-Brockway
 - 215.73 tpy NOx ERC from Owens-Brockway
- **CO:** None required
 - Annual emissions limited to 487.5 tpy (100 tpy PSD offset threshold)
- **VOC:** 112.25 tpy (97.61 tpy at 1.15:1 ratio)
 - 10.78 tpy VOC ERC from Owens-Brockway
 - 144 tpy VOC ERC from Quebecor Printing
- **SOx:** None required
 - Annual emissions limited to 39.86 tpy (100 tpy PSD offset threshold)
- **PM10:** 123.55 tpy (123.55 tpy at 1:1 ratio)
 - 42.8 tpy PM10 ERC #518 from Owens-Brockway
 - 55.33 tpy PM10 ERC from Owens-Brockway
 - 46.3 tpy SOx ERC #518 from Owens-Brockway (4:1 interpollutant ratio)
 - 57.2 tpy SOx ERC from Owens-Brockway (4:1 interpollutant ratio)

Moss Landing:

- **NOx:** 420.64 tpy
 - 20.169 tpy from Firestone Business Park at 1.2:1
 - 1.268 tpy from Estate of Robert E. McDonald III
 - 52.622 tpy from PG&E at 1.15:1
 - >500 tpy Confidential/Pending
- **VOC:** 354.197 tpy
 - 187.650 tpy from Firestone Business Park at 1.2:1
 - 18 tpy from Firestone Tire at 1.2:1
 - 0.283 tpy from Estate of Robert E. McDonald III at 1.2:1
 - 1.973 tpy from PG&E at 1.5:1
 - 300 tpy from Quebecor at 2.0:1
 - >30 tpy Confidential/pending
- **SOx:** 90.743 tpy
 - 2.556 from Firestone Business Park at 1.2:1
 - 0.846 PG&E at 1.5:1
 - >150 tpy Confidential/pending

- **PM10:** 274.883 tpy
 - 11.78 tpy from Firestone Business Park at 1.2:1
 - 0.455 tpy from Estate of Robert E. McDonald III at 1.2:1
 - 4.228 tpy from PG&E at 1.5:1
 - >300 tpy Confidential/pending

Note: Interpollutant ratios expected are:

VOC:NOx 1.0:1.0

SOx:PM10 1.0:1.0

Sutter Power Plant:

- **NOx:** 209.6 tons:
 - 22.5% agricultural derived ERCs; 77.5% from stationary shutdowns
- **ROG:** 88.5 tons:
 - 65.5% agricultural derived; 34.4% from stationary shutdowns
- **PM10:** 103 tons:
 - 64.9% agricultural derived; 35.1% from stationary shutdowns

Offset Packages for Proposed Power Plant Projects

Blythe:

- **NO_x**: 219 tpy
 - 26.7 tpy from Bio-Gen Plant Closure
 - 300 tpy confidential Company (pending?)
- **VOC**: 96.8 tpy
 - 3.1 tpy from Bio-Gen Plant Closure
 - Remainder from NO_x for VOC interpollutant trading
- **PM₁₀**: 269 tpy
 - 269 tpy City of Blythe paving of local unpaved roads (pending?)

Contra Costa:

- **NO_x**: 200.5 tpy
 - 299 tpy owned by SeCal (proponent)
- **VOC**: 153.6 tpy
 - 5.5 tpy owned by SeCal (proponent)
 - Remainder will be purchased from the bank
- **PM₁₀**: 1124.1 tpy
 - 17 tpy owned by SeCal (proponent)
 - Remainder may be from SO₂ credit at a 3:1 or 4:1 ratio
- **SO₂**: 48.5 tpy
 - 158 tpy owned by SeCal (proponent)

Elk Hills:

All banked ERCs

- **NO_x**: 159.0 tpy
 - 132.5 tpy Occidental of Elk Hills
- **VOC**: 26.7 tpy
 - 22.2 tpy Occidental of Elk Hills
- **SO₂**: 34.5 tpy
 - 28.7 tpy Chevron Pipeline
- **PM₁₀**: 385.7 tpy
 - 159.4 tpy NO_x ERCs from Occidental of Elk Hills (2.42:1 ratio)

Metcalf Energy Center:

- **NO_x**: 212.75 tpy
 - Offset ratio of 1.15:1
 - 1.31 tpy from Folgers Coffee
 - 6.42 tpy from Frito Lay
 - 32.24 tpy from Glorietta Foods
 - 6.5 tpy from Raisch Products
 - 166.28 tpy of VOCs from Quebecor Facility at 1:1 interpollutant ratio

- **VOC:** 28 tpy
 - Offset ratio of 1:1
 - 28 tpy from Quebecor Facility
- **PM10:** 91.3 tpy
 - Offset ratio of 1:1
 - 7.7 tpy from Folgers Coffee
 - 7.64 tpy from Frito Lay
 - 1.54 tpy from Glorietta Foods
 - 12.33 tpy from Raisch Products
 - 124.2 tpy of VOCs from Quebecor Facility at 2:1 interpollutant ratio

Morro Bay Power Plant:

- **NOx:** 292.3 tpy
 - 245.7 tpy NOx ERCs from shutdown of existing utility boilers
 - 8.19 tpy NOx ERCs held by applicant Duke Energy
 - 22.92 tpy NOx ERCs from Chevron
 - 15.49 tpy VOC ERCs from Chevron at 1:1 interpollutant ratio
- **CO:** 917.4 tpy
 - 918.3 tpy CO ERCs from shutdown of existing utility boilers
 - 2.62 tpy CO ERCs from Chevron
- **VOC:** 77.6 tpy
 - 60.9 tpy VOC ERCs from shutdown of existing utility boilers
 - 32.89 tpy VOC ERCs from Chevron
- **SO₂:** 23.0 tpy
 - 6.64 tpy SO₂ ERCs from shutdown of existing utility boilers
 - 194.93 tpy SO₂ ERCs held by applicant Duke Energy
 - 1.23 tpy SO₂ ERCs from Chevron
- **PM10:** 203.2 tpy
 - 84.2 tpy PM10 ERCs from shutdown of existing utility boilers
 - 17.22 tpy PM10 ERCs held by applicant Duke Energy
 - 1.91 tpy PM10 ERCs from Chevron
 - 99.86 tpy SO₂ ERCs held by applicant Duke Energy at 1:1 interpollutant ratio

Mountainview Power Plant:

AFC does not specify source of offsets

Offset package not in house but is at CEC as confidential ATT

- **NOx:** 125.13 tpy
 - Offset ratio 1:1
 - Proposed to acquire RECLAIM Trading Credits (RTCs) for NOx
- **VOC:** 73 tpy
 - Offset ratio 1.2:1
 - VOC ERCs total purchased 98.92 tpy from various companies
- **SO₂:** 29.93 tpy
 - Offset ratio 1.2:1
 - SO₂ ERCs total purchased 137.79 tpy from various companies

- **PM10:** 224.84 tpy
 - Offset ratio 1.2:1
 - PM10 ERCs total purchased 225.75 tpy from various companies
- **CO:** 251.12 tpy
 - Offset ratio 1.2:1
 - CO ERCs total purchased 251.67 tpy from various companies

Nueva Azalea Power Plant:

Information taken from Application for Certification

- **NOx:** 56.4 tons
 - Offset ratio 1:1
 - Propose to acquire RECLAIM Trading Credits (RTCs) for NOx
- **CO:** None required
 - Annual emissions limited to 16.6 tpy (29 tpy offset threshold)
- **VOC:** None required
 - Annual emissions limited to 3.6 tpy (4 tpy offset threshold)
- **SOx:** None required
 - Annual emissions limited to 3.5 tpy (4 tpy RECLAIM offset threshold)
- **PM10:** 112.1 tons
 - Propose to acquire Emission Reduction Credits (ERCs) for PM10
 - Propose interpollutant trade of VOCs for PM10 at ratio of 3:1 (this would make the offsetting requirement 336.3 tons VOC)

Note: States use of using mobile source credits is being considered

Otay Mesa:

- **NOx:** Total liability of 120 tpy
 - NOx ERCs supplied at 1.2:1 distance ratio
 - VOC ERCs supplied at 2:1 interpollutant offset ratio x 1.2:1 distance ratio
 - Consisting of purchased ERCs and MERCs
- **VOC:** Not required
- **PM10:** Not required by district rules; however CEC is recommending some mitigation in their Final Staff Assessment.
- **SO₂:** Not required

Pastoria Energy:

Offsets will be purchased from banked ERCs

- **NOx:** 308.25 tpy (with 1.5:1 distance ratio)
- **CO:** Not required
- **VOC:** 181.95 tpy (with 1.5:1 distance ratio)
- **SO₂:** 63.45 tpy (with 1.5:1 distance ratio)
- **PM10:** 342.00 tpy (with 1.5:1 distance ratio)
 - NOx ERCs required at 2.22:1 interpollutant ratio + 1.5:1 distance ratio (total 2.72:1)

Potrero Power Plant Unit 7:

The applicant plans to satisfy the required offsets using a combination of banked ERCs and pollutant reductions from existing power plant activities on site (specific ERC information is "confidential").

- **NOx:** 178.4 tons per year (tpy)
 - Offset liability is 205.2 tpy (based on an offset ratio of 1.15 to 1)
- **POC** (precursor organic compounds): 49.1 tpy
 - Offset liability is 56.7 tons per year (based on an offset ratio of 1.15 to 1)
 - *Credits for POC may be used to offset NOx emissions at a ratio of 1 to1.
- **PM10:** 110.5 tpy
 - Offset liability is 110.5 tpy (based on an offset ratio of 1 to 1)
- **SOx:** Did not trigger offsets (offset threshold is 100 tpy - projected SOx emissions are 51.9 tpy)

Sunrise:

All banked ERCs

- **NOx:** 145.1 tpy
 - Some <15 miles away (1.2:1 ratio)
 - Some > 15 miles away (1.5:1 ratio)
- **VOC:** 10.0 tpy
 - ERCs < 15 miles away (1.2:1 ratio)
- **CO:** Not required
- **PM10:** 20.6 tpy
 - ERCs <15 miles away (1.2:1 ratio)
- **SOx:** 7.9 tpy
 - ERCs <15 miles away (1.2:1 ratio)

Three Mountain Power:

- Not required, but has agreed to provide anyway
- PM10 may come from Bank or road paving at 1:1 ratio

United Golden Gate Power Plant:

Phase I project is not subject to emission offset requirements under Bay Area Air Quality Management District rules.

Western Midway Sunset Power Plant:

- **NOx:** 137.45 tpy (using GE turbines) or 143.61 tpy (using Westinghouse turbines)
 - NOx offsets to be provided by actual emissions reductions (AERs) from retrofit of existing cogeneration units
- **VOC:** 41.99 tpy (using GE turbines) or 43.95 tpy (using Westinghouse turbines)
 - VOC offsets to be provided with ERCs from Aera Energy western Kern County heavy oil production stationary source
- **CO:** Not required

- **PM10:** 77.05 tpy (using GE turbines) or 77.23 tpy (using Westinghouse turbines)
 - PM10 offsets to be provided by NOx AERs and ERCs at 2.22:1 interpollutant ratio
- **SOx:** 30.54 tpy (using GE turbines) or 30.2 tpy (using Westinghouse turbines)
 - SOx offsets to be provided with ERCs from Aera Energy western Kern County heavy oil production stationary source

Note: Distance ratio of 1:1 is used for all offsets