



DRAFT OUTLINE – FOR DISCUSSION PURPOSES ONLY

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

REQUEST FOR PROPOSAL – MAIN TOPICS

Technical Assessment of the Beneficial Use of Flare Gas

PURPOSE

The purpose of this RFP is to obtain proposals from potential qualified consultants with technical expertise and experience in alternative technologies to reduce routine flaring from oil and gas sites, landfills, and wastewater treatment plants and prepare a technical assessment that should examine the emission reduction benefits, the cost impacts, potential revenue, hurdles, system problems, and incentives of using gas that would otherwise be flared. The assessment will focus on sites not currently utilizing a large percentage of gas beneficially and shall include four sites (either actual sites or representative facilities): a large landfill, a small wastewater treatment plant, and two oil and gas sites (one remote and one either urban or an aggregate of existing facilities).

Total funding for this RFP is a maximum of \$75,000. The successful bidder for this RFP will be compensated on a fixed-price basis upon completion of tasks described in the Statement of Work.

BACKGROUND/INFORMATION

On January 4, 2019, the South Coast Air Quality Management District (South Coast AQMD) adopted Rule 1118.1 – Control of Emissions from Non-Refinery Flares. Rule 1118.1 applies to facilities that operate non-refinery flares located at landfills, wastewater treatment plants, oil and gas production facilities, organic liquid loading stations, and tank farms. Rule 1118.1 established requirements to reduce NO_x and VOC emissions from non-refinery flares and to encourage alternatives to flaring (e.g., increase beneficial use), such as energy generation, transportation fuels, or pipeline injection. To encourage beneficial use of flare gas, and discourage routine flaring, the rule establishes an industry specific capacity threshold for existing flares. The capacity thresholds serve as a metric to identify routine flaring and applies to open flares and flares that combust digester gas, landfill gas, and gas produced from oil and gas production facilities. Flares that operate greater than the capacity threshold are required to either reduce flaring below the capacity threshold (e.g., implement beneficial use of the gas that would otherwise be flared) or replace the flare with a unit complying with the lower NO_x emissions limits.

Upon adoption of the rule, Governing Board directed staff to conduct a technology assessment of various technologies, techniques, approaches, and associated costs to beneficially use gas to reduce flaring and to report a summary of the technology assessment to the Stationary Source Committee within 24 months of rule adoption and amend the requirements for flaring produced gas if deemed appropriate. This RFP seeks a qualified contractor to conduct that technology assessment.

Contractor shall not duplicate existing reports, documents or deliverables prepared previously by Contractor or other entities but can build upon existing data to create a unique and expanded

Technology Assessment for the beneficial use of flare gas at four specific facilities within the South Coast AQMD jurisdiction.

STATEMENT OF WORK & SCHEDULE OF DELIVERABLES OBJECTIVE

The objective of this RFP is to solicit one engineering contractor with strong technical expertise and experience in technologies that utilize gas produced from oil and gas sites, landfill, and waste water treatment plants, including emission impacts; costs and revenue streams from utilizing gas, costs of gas clean up, regulatory restrictions, and incentives. The contractor shall identify cost-effective and reliable technologies that promotes energy production or transportation fuels and conduct a wholistic emission impact assessment.

As part of the process of reviewing South Coast AQMD data, the contractor shall perform all of each specific tasks written below:

Task 1- Technology Assessment

The contractor shall conduct an independent technology assessment, starting with technologies most applicable to the type of flare gas generated and can be installed for facility taking into consideration existing site-specific conditions. The technology assessment will evaluate:

- Emissions data profiles (lifecycle analysis)
 - Emission savings
 - Emissions generated
- Cost and potential revenue
- Hurdles?
- Potential systems problems (safety/reliability)?
- Incentives?

How do these change as you change the use of the gas/energy generated?

Industries Assessed

The technology assessment will be conducted for four specific sites provided by South Coast AQMD (*NOTE: SITES WILL BE POINT OF DISCUSSION WITH THE WORKING GROUP*): The sites will include:

- Large landfill,
- Small wastewater treatment plant, and
- Two Oil and gas sites.

The contractor shall review facility-specific and site-specific data used in the assessment with each facility to ensure that the data are accurate and correct. If any data, or preliminary findings, are designated by the facility as confidential, or competitively sensitive information, the contractor shall not share those facility-specific or site-specific data with other facilities, or third parties, except with the South Coast AQMD as required.

Beneficial Use Technologies:

The assessment will evaluate commercially available and future technologies that can utilize flare gas beneficially, including, but not limited to:

- Commercially available technologies:
 - Micro-turbines/Turbines

- Engines
- Fuel cells
- Compressing gas to CNG or LNG
- Near-future technologies (e.g., Sierra Energy FastOx Gasification)
- Long-term future technologies (e.g. SoCalGas projects)

Potential Uses for Gas/Generated Energy

The technical assessment will evaluate uses for the gas that would otherwise be flared and/or the uses for the energy generated, including, but not limited to:

- Transportation Fuel (gas cleanup included in cost)
- Pipeline Injection (gas cleanup included in cost)
- Energy Generation
 - Combined heat and power
 - Battery storage (excess power)
 - Microgrid (distributed generation)

Potential Hurdles

The technical assessment will also evaluate and discuss any potential hurdles to using the gas beneficially, including, but not limited to:

- Regulatory Hurdles
 - California Public Utilities Commission (CPUC) (1 MW restriction)
 - Permitting
 - California Environmental Quality Act (CEQA)
 - Land use (local) approval – political will
 - Other regulations? (e.g., state GHG)
- Other Hurdles
 - Infrastructure
 - Electric grid
 - Pipeline
 - Utilities charges + restrictions (demand charge)
 - On-site gas cleanup
 - Transmission

The assessment should also include any solutions and suggestions as to pathways forward to overcome existing hurdles, such as regulatory changes.

Cost Considerations

The assessment will evaluate the costs of installing beneficial use technology and/or using the gas beneficially, including the revenue potential.

- Cost of technology/other charges
 - Utility demand charge
- Potential revenue

Other Incentives

Lastly, the assessment will look at existing incentives to beneficially using flare gas, including, but not limited to:

- Funding/incentive opportunities
 - CARB's Low Carbon Fuel Standard (LCFS) for Renewable Natural Gas
 - U.S. EPA Renewable Gas Standard/Renewable Identification Numbers (RINs)
 - SoCalGas Tariff Program
 - Sales tax exemption for beneficial use projects
- Green House Gas (GHG) Incentives
 - California's Global Warming Solutions Act of 2006 (AB32)
 - Senate Bill 100 – zero carbon electricity by 2045
 - Executive Order B-55-18 Carbon Neutrality by 2045 and achieve and maintain net negative GHG emissions
 - World bank Zero Routine Flaring by 2030 Initiative
- Others
 - Emission reduction programs (RFPs)
 - Rebate programs (like solar)
 - Partnerships with other entities
 - Potential future developments for energy/fuel incentives

Conclusions

The technology assessment should include recommendations on the feasibility, cost, and emissions impacts of beneficially using flare gas at the four specific facilities. The conclusion should also include any recommended actions to remove hurdles or encourage beneficial use at facilities that currently are not using a significant percentage of their flare gas beneficially. Staff is seeking a thorough guidance document that industry could reference for new ideas and incentives to handle gas more beneficially in the future.

Task 2 – Potential Field Visits

The contractor shall conduct field visit(s) if necessary to gather site-specific information to assess the technological feasibility of gas injection, energy production or other renewable gas technology to reduce flare gas.

During that visit, the contractor shall gather site specific information (e.g. operating conditions) from the facility's representatives to conduct site-specific feasibility assessment. The field visits are necessary to assess both physical and operational factors that would impact the feasibility and the cost of additional emission control equipment.

Task 3 – Submit Progress Report and Final Report

The contractor shall submit one progress report and one final report of findings and recommendations to the South Coast AQMD, according to the schedule in Table 2. For tasks 1, and 2, the progress report shall be submitted by 5:00 p.m. October 2, 2020, and the final report shall be submitted by 5:00 p.m. December 2, 2020.

The contractor(s) shall obtain prior approval from the South Coast AQMD based on a report outline and incorporate comments from South Coast AQMD staff before finalizing the interim or final reports.

REQUIRED QUALIFICATIONS

- A. The South Coast AQMD requests submittal of detailed expertise and capabilities from contractors who meet a combination of the technical qualifications listed below. Individuals can team to submit a joint bid if they have complementary expertise and qualifications that collectively meet the requirements. Statements of qualifications should include evidence documenting experience, expertise, and capabilities in gas handling and beneficial use technologies.
- B. Bidder(s) shall be selected for contract award based on the best combinations of qualifications. Persons or firms who bid on this RFP must possess qualifications, education and experience documenting experience, expertise, and capabilities in gas handling and energy production from gas produced at oil and gas sites, landfills, and waste water treatment plants, such as transportation fuel, combined heat and power (CHP), and fuel cells. In addition, expertise in incentives for utilizing gas beneficially including, CARB's Low Carbon Fuel Standard (LCFS), U.S. EPA' Renewable Gas Standard Renewable Identification Numbers (RINS), etc. and regulatory requirements including California Public Utilities Commission's restrictions and permitting and CEQA requirements.