Staff Summary

Innovative Crude Oil Production Method Application

Grade Water and Power, LLC (GWP)

E&B Natural Resources Management Corp (E&B)

Poso Creek Oil Field Solar Electricity Project

Kern County, California

Date of Application: 04/08/2020, Date Posted for Public Comment: 05/20/2020

Date Approved: TBD

Project Summary

Under the Low Carbon Fuel Standard (LCFS), a crude oil producer or transporter, or its designated joint applicant may generate credits for oil that has been produced using innovative methods and delivered to California refineries for processing. Pursuant to section 94589(c)(2) of the LCFS regulation, Grade Water and Power, LLC (GWP), as the sole owner of Poso Creek Solar Partner's, LLC (PCSP), and E&B Natural Resources Management Corp (E&B) have submitted a joint application for a proposed solar electricity project at E&B's Poso Creek Oil Field in Kern County, California.

E&B has elected to transfer the right to opt-in for credit generation to GWP, which will own and operate the Poso Creek Solar Project (Solar Project). The project is scheduled to be fully operational at the end of April 2020, and is estimated to generate approximately 46,194 MWh of solar electricity in the first year of operation. Actual solar production data will be metered and recorded accurately and independently by a third-party provider, Cenergy. All solar electricity generated by the project will be directly consumed onsite by E&B's crude oil production equipment at the oil field.

Photovoltaic Power Generation

The Solar Project is a 22.86 MW direct current (DC)/18 MW alternating current (AC) project, which consists of 62,640 solar photovoltaic (PV) modules, and 144 inverters converting the DC solar power to AC power used directly for E&B's oil production equipment at the Oil Field. The project incorporates a single-axis tracking system to optimize power production.

The Solar Project is designed with an automatic relay system that communicates with the inverters to curtail based on electricity consumption at the oil field. The relay system is backed up with a Pacific Gas and Electric (PG&E) approved battery-backup system.

In addition, there is a fail-safe in a direct line that will trip off the Solar Project should it ever lose communications between the relays and inverters. As a result, the Solar Project will never export to PG&E's distribution or transmission network and, if it ever did back-feed, it will be shut down automatically in less than two seconds.

Estimate of Innovative Method Credits

The Solar Project will generate LCFS credits arising from the generation and use of solar electrical power onsite for crude oil production. The amount of solar electricity generated is estimated by the PVsyst software, which is widely recognized in the solar industry, based on the system equipment specifications, historical weather data in the region and estimated system losses based on system design. Estimated emissions reduction from solar electricity directly supplied to the oil field is 23,605 metric tons CO_2e per year, which exceeds regulatory threshold level of 5,000 metric tons CO2e per year. Therefore, this project meets the eligibility criteria for the LCFS innovative crude oil production method provision.

Materials Provided by the Applicants

The applicants have provided all the required application documentation, including a description of the innovative method, engineering drawings that illustrate the innovative method and clearly identify system boundaries and relevant process equipment, and a map including global positioning system coordinates for the facilities. The applicants have also shown that the project will meet the minimum threshold requirement for innovative method, and attest to the accuracy of the information submitted in the application to represent the intended long term, steady-state operation of the solar electricity project. The applicants have designated confidential business information (CBI) in the application, and provided a redacted version for public posting.

Reporting and Verification Requirements for Credit Issuance

Credit issuance based on 2020 data and thereafter requires third-party verification pursuant to section 95500(e). The method for calculating the net GHG reductions and credits described in this document requires ongoing monitoring and recordkeeping for the Solar Project.

The applicants must report quarterly (through a Project Report) and maintain records for at least ten years showing the following:

1. The volume (barrels) of crude oil produced or transported using the approved innovative method and the crude name(s) under which it is marketed
2. If the crude oil produced or transported with an approved innovative method is marketed as part of a crude blend that is not wholly refined in California, the name of the blend and the volume fraction that the crude produced with the innovative method contributes to the blend
3. Documentation showing the innovative crude was supplied to one or more California refinery, the total volume (barrels) of innovative crude supplied to California refineries, and the total volume (barrels) of innovative crude exported from California
4. Metered data on the solar electricity generated and supplied by the Solar Project to the crude oil production facilities during the quarter (kWh)

5. Metered data on total electricity consumed for crude oil production at the oil field during the quarter (kWh); and
6. An attestation letter stating that all solar electricity was supplied directly for crude oil production and that the solar electricity reported for generating LCFS credit did not produce renewable energy certificates or other environmental attributes recognized or credited by any other jurisdiction or regulatory program, other than the market-based compliance mechanism set forth in title 17, California Code of Regulations Chapter 1, Subchapter 10, article 5 (commencing with section 95800)

Staff Analysis

Staff reviewed the joint application from GWP and E&B, and finds that the application meets the requirements of the Innovative Crude Oil Production Methods Credit Program per 95489(c) of the regulation. Staff is soliciting public comments on the proposed Solar Project. Staff may approve the project if all the comments received during the comment period are addressed satisfactorily by the applicants. If approved, this project would be eligible for credits for GHG reductions occurring in Q2, 2020 and beyond. The actual amount of credits will be determined and issued after the verification of data and calculations. The applicants may elect to receive credits quarterly or annually.