

Date: December 24, 2012

To: Randy Kwok & Gay Powell, PG&E

From: [REDACTED]

Re: PGE 2K12114190 (EEGA 2355) Not Approved

**Background:**

ED selected PGE 2K12114190 for ex ante review in September 2012. The IOU provided project documentation to ED in October 2012. The initial project documentation provided to ED described the proposed project as the installation of a new multi-stage anaerobic reactor system (MARS) that will produce methane from the destruction of chemical oxygen demand (COD). Cheese whey waste and other fats, oils, and greases contribute to COD in plant effluent. By recovering the methane that is produced as part of this process and using it for fuel in the plant's boilers, a substantial volume of natural gas purchases was expected to be offset.

The IOU estimated net annual savings of 747,555 therms and an increase of 284,129 kWh, associated with this project. The incentive was estimated to be \$747,555.

ED representatives worked directly with the IOU implementation team to ascertain more details about the project. During the course of discussions and correspondence, ED learned that the applicant currently processes the simple sugars from the waste stream in an expanded granular sludge bed (EGSB) and generates biogas from the EGSB that is used as fuel in the facility boilers. The EGSB is unable to process the complex sugars consisting of fats, oil and grease (FOG), and the proposed MARS would have the capability to process both the simple and complex sugars from the waste stream.

The applicant currently separates the FOG from the waste stream and ships it to a waste water treatment plant operated by a municipal utility. ED further investigated what happens to the FOG waste at the municipal utility waste water treatment plant. ED determined that the municipal utility waste water treatment plant processes FOG in an anaerobic reactor system creating biogas that is used for on-site power generation that produces 90% of the waste water treatment plant's electricity.

**Conclusion:**

The IOU project proposal would displace the FOG processed at the waste water treatment plant to in-house processing at the applicant's facility. This will decrease electricity generation at the waste water treatment plant and require them to procure electricity from the grid. From the system perspective, the net benefit to the applicant would be the displacement of natural gas they are currently purchasing from the IOU with methane that will be produced from the proposed project to process FOG. This benefit has to be compared with increased electricity purchases from the IOU that the waste water treatment plant will have to make to substitute for the loss of power produced using free biogas from processing the FOG. The net btu change is unlikely to be positive because the source btu for additional electricity purchases will have to be calculated at about 10,000 btus/kWh rate. The baseline condition though is electricity production from available free fuel. While ED did not conduct a full comprehensive analysis, it appears that displacing electricity generation from free fuel is unlikely to be a beneficial from the societal

perspective. ED does not find any net benefit from the proposed project and the project is therefore not approved.

ED's findings for this project were discussed during a recent ED/IOU call. ED stated that there have been other projects with similar issues identified in recent ED evaluation efforts. ED requests that the IOU be more diligent in defining the benefit of projects at the system level as opposed to drawing boundaries for analysis at the site level. The project boundary should include all affected facilities when outsourcing and insourcing of production is involved.