Utility Gas Supply Interconnection

May 23, 2019
End-to-End Interconnection Process

1. Developer Intake
2. Capacity Study
3. Prelim Engineer Study
4. Detailed Engineer Study
5. Construction / Ops
• Contact utility and submit interconnection request form
• Request form provides all info needed to assess project viability
• Utility determines point of injection location
PG&E
• Website: https://www.pge.com/biomethane
• Email: biomethane@pge.com
• Contact: Ken Brennan, Kenneth.Brennan@pge.com, 925-244-3542

SoCalGas/SDG&E
• Websites: https://www.socalgas.com/for-your-business/energy-market-services/new-or-expanded-interconnection-receipt-points and www.sdge.com/rng
• Email: gasstudyrequests@semprautilities.com
• Contact: Jerry McPherson, JMcPherson@SempraUtilities.com, 213-244-3972

Southwest Gas
• Website: https://www.swgas.com/en/california-rates-and-regulation
• Industrial Services: https://www.swgas.com/en/industrial-services
• Email: KeyAccountManagement@swgas.com
• Contact: Maria Rushing, Maria.stosich-rushing@swgas.com, 702-249-4655
Developer Intake Phase

PG&E

- **Interconnection Request**: [Capacity Study Requests](#)
- Gas Quality Rule: [Gas Rule 21](#)

SoCalGas/SDG&E

- **Interconnection Request**: [Gas Supplier Interconnection Project Fact Sheet](#)
- Interconnection Tariff: [Gas Rule 39](#)
- Gas Quality Rule: [Gas Rule 30](#)
- Toolkit: [RNG Toolkit](#)

Southwest Gas

- **Interconnection Request**: [RNG Supplier Interconnect Project Fact Sheet](#)
- Gas Quality Rule and Interconnection Tariff: [Gas Rule 22](#)
Developer Intake Phase

General project information necessary to investigate the viability of the project:

- Contact Information for producer and developer
- Project site location
- Desired project start date
- Forecasted operating profile (days/week, seasonality)
- Build-out volume minimum and maximum
- Source of gas supply (biogas feedstock type)
- Other questions about biogas production and processing
Questions?
What is the nearest pipeline system with sufficient takeaway capacity to receive the supplier’s full build-out gas deliveries on a 24x7 basis?
Capacity Study Phase

What is the nearest pipeline system with sufficient takeaway capacity to receive the supplier’s full build-out gas deliveries on a 24x7 basis?

Desktop planning assessment includes:
• Hourly customer demand
• Maximum and normal operating pressures
• Known large volume customer impacts
• Is the pipeline scheduled for retirement?
• Are there anticipated or possible pipeline changes?

Cost of study
• PG&E and Southwest Gas: no charge
• SoCalGas/SDG&E: minimal charge (<$5K)
Time required:
- PG&E: 3 weeks
- SoCalGas: 6 weeks
- Southwest Gas: 8 weeks (completed during Prelim Engineering Study)

Deliverable:
- Determine nearest pipeline with takeaway capacity
- If not closest pipe, where can the gas be injected?
- Operating pressure
- Estimated length of pipeline
- Diameter of receiving pipeline
- SoCalGas/SDG&E - estimated cost of pipeline extension
SoCalGas/SDG&E:
Execute Consulting Services Agreement - Exhibit A
Interconnect Capacity Study & Exhibit B Confidentiality Agreement
Questions?
• Developer and utility engineering teams discuss project design and cost estimate in order to determine economic viability.
• If viable, then continue development into detailed engineering.
Scope

• Utility engineers and developer to discuss the project in more detail, and the utility will develop a preliminary design

• The utility will provide an initial cost estimate for the point of receipt station and any pipeline extension
Preliminary Engineering Study Phase

Deliverables
• Confirm results of capacity study
• Assess interchangeability of gas
• Determine BTU district work (maintain accurate customer billing)
• Provide initial cost estimates
• Preliminary design work completed
• SoCalGas/SDG&E: plot plan and environmental drawings

Contracting
• PG&E and Southwest Gas: No contract required at this stage except for funding agreements
• SoCalGas/SDG&E: Execute Consulting Services Agreement - Exhibit A-1 Preliminary Engineering Study
Preliminary Engineering Study Phase

Funding
- All work performed at actual cost
- Engineering advances
  - PG&E: $50K initial, as needed thereafter
  - SoCalGas/SDG&E: $65K - $75K estimate trued-up to actual
  - Southwest Gas: no supplier costs for preliminary engineering study

Cost (depending on complexity)
- PG&E: $50K - $80K
- SoCalGas/SDG&E: $65K - $75K
- Southwest Gas: costs charged in detailed engineering design phase
Preliminary Engineering Study Phase

Time required:
• PG&E: 4 months
• SoCalGas/SDG&E: 3 months
• Southwest Gas: 2 months (combined with Prelim Engineering Study)

Can a third party engineering firm perform station and design work under utility supervision?
• PG&E: Yes, if an approved program contractor
• SoCalGas/SDG&E: Yes, if done as part of interconnection agreements
• Southwest Gas: Yes, with prior notification and approved program contractor
Questions?
Continuation of the Preliminary Engineering Study and completion of design and other work to prepare for construction
Detailed Engineering Study Phase

Scope

• Complete engineering design and construction drawings
• Produce a final cost estimate of construction
• Prepare all permit applications and other documents
  necessary for construction

Contracting

• PG&E: Execution of the California Biomethane Interconnection and Operating Agreement (CBIOA), continued funding agreements
• SoCalGas/SDG&E: Execute the Consulting Services Agreement - Exhibit A-2 Detailed Engineering Study or Exhibit A-3 for ordering long lead time equipment
• Southwest Gas: Letter Agreement for Renewable Natural Gas Detailed Engineering Study
Cost (depending on complexity)

- **PG&E**: $350K - $600K
- **SoCalGas/SDG&E**: $325K - $600K
- **Southwest Gas**: $50K - $150K

Time required:

- **PG&E**: 5 months
- **SoCalGas/SDG&E**: 5 months
- **Southwest Gas**: 6 months
Questions?
Construction and Release to Operations

1. DEVELOPER INTAKE
2. CAPACITY STUDY
3. PRELIM ENGR STUDY
4. DETAILED ENGR STUDY
5. CONSTRUCTION / OPS

START

Project is constructed and is commissioned into service

END
Construction and Release to Operations

Contracting
• PG&E: Construction terms are contained in the CBIOA
• SoCalGas/SDG&E: Execute the California Production Interconnection Agreement
• Southwest Gas: Construction and Interconnection Agreement; Gas Purchasing Agreement

Cost
• Balance of final cost estimate due prior to construction
• Actual costs are trued-up upon completion of all related project work
Construction and Release to Operations

Time to construct point of receipt station
- PG&E: 3 months
- SoCalGas/SDG&E: 3 months
- Southwest Gas: 3 - 6 months

- Construction of pipeline extension depends on length of pipe, terrain, environmental, etc.

Commissioning (Release to Operations)
- Testing and verification that all facilities are operational and safe
- Gas quality testing protocols per tariffs
Can the facilities be constructed by a third party contractor?

- **PG&E**: The contractor and material vendors must be pre-approved, and standardized PG&E designs must be used.

- **SoCalGas/SDG&E**: Yes, pursuant to CPICSUA Self-build provisions and California Producer Agreement to Transfer Ownership.

- **Southwest Gas**: Yes. The contractor and materials vendors must be pre-approved, and Southwest Gas design standards must be used.
## Construction - Estimated Project Timeline

<table>
<thead>
<tr>
<th>Process Step</th>
<th>PG&amp;E</th>
<th>SoCalGas/SDG&amp;E</th>
<th>Southwest Gas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intake Process</td>
<td>2</td>
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<tr>
<td>Capacity Study</td>
<td>3</td>
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<tr>
<td>Preliminary Engineering</td>
<td>16</td>
<td>12</td>
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<tr>
<td>Detailed Engineering</td>
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<td>24</td>
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<tr>
<td><strong>Total Assess and Design</strong></td>
<td><strong>41</strong></td>
<td><strong>37</strong></td>
<td><strong>42</strong></td>
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<tr>
<td>Construction of POR</td>
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<tr>
<td><strong>Total Development Weeks</strong></td>
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<tr>
<td><strong>Total Development Months</strong></td>
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<td><strong>14</strong></td>
<td><strong>17</strong></td>
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## Construction - Estimated Project Costs

<table>
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<th>Southwest Gas</th>
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<tbody>
<tr>
<td>Intake Process</td>
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<tr>
<td>Capacity Study</td>
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<td>Preliminary Engineering</td>
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<td>$65K - $75K</td>
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<tr>
<td>Detailed Engineering</td>
<td>$350K - $600K</td>
<td>$325K - $600K</td>
<td>$50K - $150K</td>
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<tr>
<td><strong>Total Assess and Design</strong></td>
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<td>$392K - $680K</td>
<td>$50K - $150K</td>
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<tr>
<td><strong>Total Costs</strong></td>
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<td>$2092K to $2680K</td>
<td>$750K - $2150K</td>
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Questions?

Thank You!!