Air-Cooled Binary Geothermal Power Plant

- **Generator**
- **Turbine**
- **Condenser**
- **Vaporizer**
- **Preheater**
- **Motive Fluid Pump**
- **Injection Pump**

**Flow Paths:**
- **Geothermal Fluid**
- **Motive Fluid (Liquid)**
- **Motive Fluid (Vapor)**

**Production Well**

**Injection Well**

- **Hot Geothermal Fluid**
- **Cooled Geothermal Fluid**

Diagram courtesy of ORMAT Technologies, Inc.
Typical Binary Geothermal Complex

Motive fluid pump, air cooler fans, brine re-injection pump, fire suppression system, etc.

<table>
<thead>
<tr>
<th></th>
<th>G1</th>
<th>G2</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross generation</td>
<td>10 MW</td>
<td>10 MW</td>
<td>20 MW</td>
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<td>Metered net generation</td>
<td>10-1= 9 MW</td>
<td>10-1-2 = 7 MW</td>
<td>16 MW</td>
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<tr>
<td>Theoretic adjusted</td>
<td>10-1-1= 8 MW</td>
<td>10-1-1= 8 MW</td>
<td>16 MW</td>
</tr>
<tr>
<td>De-facto case under</td>
<td>10-1-1=8 MW</td>
<td>10-1-2=7 MW</td>
<td>15 MW</td>
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<tr>
<td>WREGIS Advice Letter</td>
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The Fundamental Challenges

- CAISO does not support real-time meter adjustments via external communication
  - e.g. to adjust the G1 and G2 meters to allow real-time netting out of each plant’s share of the production load
- Any after-the-fact adjustment of WREGIS reporting will create discrepancies between energy delivered and RECs generated
  - Will violate California’s rules for RPS Portfolio Content Category 1 (=bundled energy and REC)