Understanding Time-of-Use and Demand
Agenda

• Rate Overview
  – How do Time Of Use Rates Work?
  – What is Demand?

• Tips on Managing Demand
Business Rates

- SDG&E has 2 standard business rates:
  - Small Businesses with less than 20 kilowatts (kW) of demand have the A rate
    - This pricing plan has a customer charge and a flat electricity rate
  - Mid-sized Businesses with 20 kW or more of demand have the AL-TOU (Time of Use) rate
    - This pricing plan has a customer charge, demand charges and a varying electricity rate
How Do Time-Of-Use Rates Work?

The electricity price that you are charged depends on the time of day your business uses energy as well as by season.

There are three time periods that have different prices. The time periods are:

- On-peak (highest price)
- Semi-peak (lower price)
- Off-peak (lowest price)
How Do Time-Of-Use Rates Work?

Time periods vary in winter and summer

**Summer** – May 1 to October 31

- On-Peak: 11am – 6pm (Mon. to Fri.)
- Semi-Peak: 6am – 11am, 6pm – 10pm (Mon. to Fri.)
- Off-Peak: 10pm – 6am (Mon. to Fri.), weekends and holidays

**Winter** – November 1 to April 30

- On-Peak: 5pm – 8pm (Mon. to Fri.)
- Semi-Peak: 6am – 5pm, 8pm – 10pm (Mon. to Fri.)
- Off-Peak: 10pm – 6am (Mon. to Fri.), weekends and holidays

*Note:* These time periods may change later this year. More information will be coming out on this.
What is Demand?

The maximum amount of energy your business might need at any given point in time.

Jack and Jill each have a 5 gallon bucket. In this example the 5 gallon bucket is equal to kilowatt hours (kWh)

Jack fills up his bucket in one minute.

Jill fills up her bucket slowly over 5 minutes.

The rate at which Jack and Jill fill up their buckets = Demand (kW)
What is Demand?

Another example:

If your business used ten 60W light bulbs for one hour or one 60W light bulb for 10 hours, your total energy would be the same (kWh).

Your demand, however, would be much greater in the ten 60W bulb scenario, as you are using all of the energy in just one hour.

Note: On you SDG&E bill, you will see demand charges for Non-Coincident Demand and On-Peak/Generation Demand
Non-Coincident Demand Charges Example Using ALTOU*

- Non-Coincident Demand measures the business’s peak demand regardless of the time of day
  - Recovers costs such as local distribution systems sized to meet customers’ specific load requirements
  - Is priced at ~$24 per kW of demand
  - Is the highest kW demand peak for any 15-minute interval in the billing month, or 50% of the highest peak in the last 11 months.
  - Can occur any time, day or night

*Note*: ALTOU is the common rate for businesses using over 20kW in demand.
On-Peak and Generation Demand Charges Example Using ALTOU*

- **On-Peak and Generation Demand**
  - Recovers SDG&E’s cost of building out the electric infrastructure to meet the peak demand during the electric system peak
  - Is priced at ~$21 per kW in summer and ~$8 per kW of demand in winter
  - Is the highest kW demand peak for any 15-minute interval that occurs during the on-peak time period.
  - On-peak period varies by winter and summer seasons.
    - Summer: May 1 – October 31 - 11:00 AM to 6:00 PM (Mon to Fri)
    - Winter: November 1 – April 30 – 5:00 PM to 8:00 PM (Mon to Fri)

*Note*: ALTOU is the common rate for businesses using over 20 kW in demand.
Tips on Managing Demand

No shifting of electricity demand

Max Demand 22 kW

Successful shifting of electricity demand

4 kW Reduction

Max Demand 18 kW

Electricity demand is a measure of how much energy is used at any single time. By shifting when equipment is used you can lower the overall demand.
Finding Your Energy Demand on Your SDG&E Bill

### Detail of Current Charges

**Electric Service**
- Rate: ALTOU-Commercial
- Climate Zone: Coastal
- Billing Period: 8/19/14 - 9/21/14
- Total Days: 33
- Meter Number:
- (Next scheduled read date Oct 21, 2014)
- Meter Constant: 1.000
- Billing Voltage Level: Secondary
- Circuit: 0738
- Block: 032A
- Total Usage: 6,472 kWh (Usage based on interval data)

#### ELECTRIC CHARGES

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time of Use Customer Charge</td>
<td>87.34</td>
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<tr>
<td><strong>Electricity Delivery</strong> (Details below)</td>
<td>6,472 kWh</td>
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<tr>
<td><strong>SUMMER USAGE</strong></td>
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<tr>
<td>On-Peak kWh used</td>
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<td>Rate/kWh</td>
<td>$.00527</td>
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<td>Charge</td>
<td>$8.70</td>
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<td>Semi-Peak kWh used</td>
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<td>Rate/kWh</td>
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<td>Charge</td>
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<tr>
<td>Off-Peak kWh used</td>
<td>3,152</td>
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<tr>
<td>Rate/kWh</td>
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<tr>
<td>Charge</td>
<td>$16.61</td>
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<tr>
<td><strong>Summer On-Peak Demand</strong></td>
<td>27.2 kW x $9.80</td>
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<tr>
<td><strong>Summer Non-Coincident Demand</strong></td>
<td>27.2 kW x $20.77</td>
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<tr>
<td>DWR Bond Charge</td>
<td>6,472 kWh x $.00513</td>
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<tr>
<td><strong>Electricity Generation</strong> (Details below)</td>
<td>6,472 kWh</td>
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<tr>
<td><strong>SUMMER USAGE</strong></td>
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<td>On-Peak kWh used</td>
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<td>Rate/kWh</td>
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<td>Charge</td>
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<td>Charge</td>
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<td>Off-Peak kWh used</td>
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<td>Rate/kWh</td>
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<td>Charge</td>
<td>$260.04</td>
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<td><strong>DWR Revenue Adjustment</strong></td>
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<tr>
<td><strong>Summer Generation Demand</strong></td>
<td>27.2 kW x $11.30</td>
</tr>
</tbody>
</table>

**Total Electric Charges $1,935.40**
Demand (kilowatts or kW)

- Watts ÷ 1,000 = kW
- Amps x Volts = Watts ÷ 1,000 = kW
- 1 Horsepower (HP) approximately = 746 watts
- 1,000 BTU = 293 watts
- Watt Meters
- "99" Read on the Smart Meter = kW
My Account – Energy Use
Daily Consumption (kWh)
My Account – Energy Use
Daily Maximum Demand (kW)

Bill Period End Date: 4/01/2015
My Account – Energy Use
15-Minute Maximum Demand (kW)

Daily Maximum Demand (kW) Meter:
3/16/2015

Max Demand for billing period
27.84 kW
Tips to Reduce Demand

• Get to know your load profile
• Stagger the use of equipment as much as possible
• Stagger start up times if your equipment has a high start up demand
• Use time clocks
• Replace older or over-sized compressors, motors or process equipment
• Reduce the use of compressed air as much as possible
• Use slower charging battery chargers when possible
• Lighting reduce or change to LED or Compact Fluorescent
• Unnecessary equipment
• Energy Management Systems
• Energy Storage/Peak Shaving Systems
Energy Solutions

• Direct Install Program
  – Energy saving opportunities and equipment upgrades for eligible small and mid-sized businesses

• Rebates and Incentives
  – Food Service and Refrigeration, Lighting and others

• Third Party Programs
  – Premium Efficiency Cooling, Healthcare & Lodging Energy Efficiency Programs and more

• Programmable Smart Thermostat Program

• Workshops and Training at our Energy Innovation Center

• www.sdge.com/business

• www.sdge.com/Good4Biz
Thank you!