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places & experiences

## **Customer Views on Demand Response**

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- **Introduction to GGP**
- **Energy Management Evolution at GGP**
- **Demand Response Experience**
  - **Participation in Demand Response**
  - **Scope and Load Curtailment**
  - **Benefits from Participation**
  - **Role of our Demand Response Providers**
- **Recommendations**
- **Q&A**

- Headquartered in Chicago, IL
- Have been in the shopping center business for over fifty years (1954)
- One of the nation's largest REITs
- Owns, develops, operates, and/or manages shopping malls in 44 states and master planned communities in 3 states
- Marquee properties include Water Tower Place in Chicago and South Street Seaport in New York



- Energy Director position created in November 2005
- Procurement became the first area of review
- Operations managers / consumption reduction / tools
- Demand management
  - Enterprise-wide EMS
  - Peak demand management



- Decision to Participate
  - New stream of revenue that could help offset our electricity costs
  - Enables us to fully utilize our energy management systems
  - Proactive bid management and optimization through our DR provider ensures we're maximizing our revenue
  - Evaluated several demand response providers
- Potential Risks
  - Possible penalties for non- or under-performance in some markets
  - No perceived risk with consumers

**...Overall, the benefits outweighed the risks**



# Demand Response Scope and Load Curtailment

- Demand Response Scope
  - Programs: Capacity and Reserves
  - # of Shopping Malls: 50
  - Regions: New England, New York, PJM, California, ERCOT and others
- Curtailment Measures
  - Lighting
  - Cycle and/or shut down HVAC units
  - Change chilled water temperature
  - Turn off water fountains
  - Utilize emergency generation where appropriate
- Curtailment Process
  - Varies by site but in general:
    - Demand response provider and GGP national operations contacts mall personnel
    - Mall personnel either uses their energy management system to adjust energy usage or manually lowers their energy usage based on their curtailment plan
    - Currently exploring opportunities for more automated load curtailment

- Energy Management Benefits
  - Ability to use meter data to give us more information on when we are using the most energy, how to lower our usage, and how to manage our demand and peak demand
  - Facility managers now more conscious of their energy usage and conservation and are now proactively saving energy
- Revenue Benefits
  - Utilize demand response revenue to help offset electricity costs
  - Able to get some money back on rising T&D portion of electricity bill
- Environmental Benefits
  - Through our malls' participation, we are able to help make sure the lights stay on for our consumers in their homes

- Market knowledge and expertise
  - Enrolled facilities in territories we did not know there were programs
  - Ability to enroll in alternative programs like Reserves that increase revenue potential
  - Advocate for new markets and programs
  - Choose appropriate program types/baseline calculations to minimize risk
- Proactive bid optimization and account management
  - Ability to increase our bids, thus increasing our revenue through analyzing actual event or test data
  - Bid strategies based on market rules, market conditions and risk factors
- Curtailment plan development
  - Development of curtailment plans that achieve the highest kW reduction with the least impact
  - Allow us to choose which measures to take during curtailment plan development



# Partnering with Demand Response Providers

- Representation in emerging markets to shape market rules so businesses like GGP can participate (as opposed to large industrial only)
- Notification, testing and awareness keep demand response in focus so GGP is always ready to respond
- Aggregation allows GGP to participate in some markets where its load alone may not be enough to register
- Representation in alternative energy efficiency markets like White Certificates or Other Demand Resources
- Proprietary bid strategies remove much of the risk of under-performance, especially in markets like California
- Proactive bid management mitigates risk and maximizes opportunity by using meter data after tests or events to ensure future bids are in line with real-life capability

- **Reduce conflict between ISOs and utilities**
- **Make interval data available to end-users**





## Q & A

**Thank you!**

**Questions?**

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