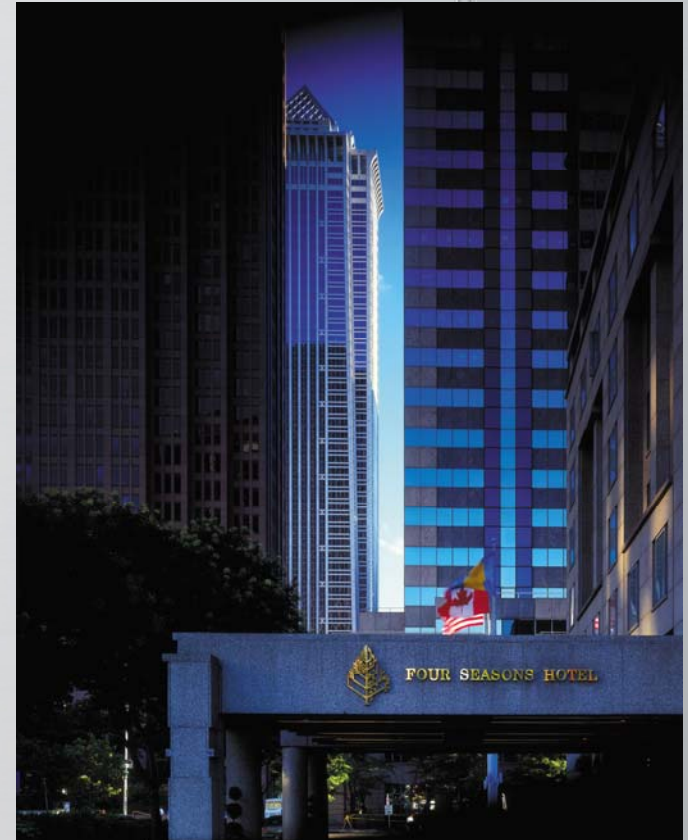


# Four Seasons Hotel Philadelphia

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The Comfort and Cost of  
Cogen



# Four Seasons Hotel Philadelphia

- 330,000 square feet
- 364 Rooms
- Three Restaurants On-Site
- Laundry On-Premises
- Indoor Pool and Spa

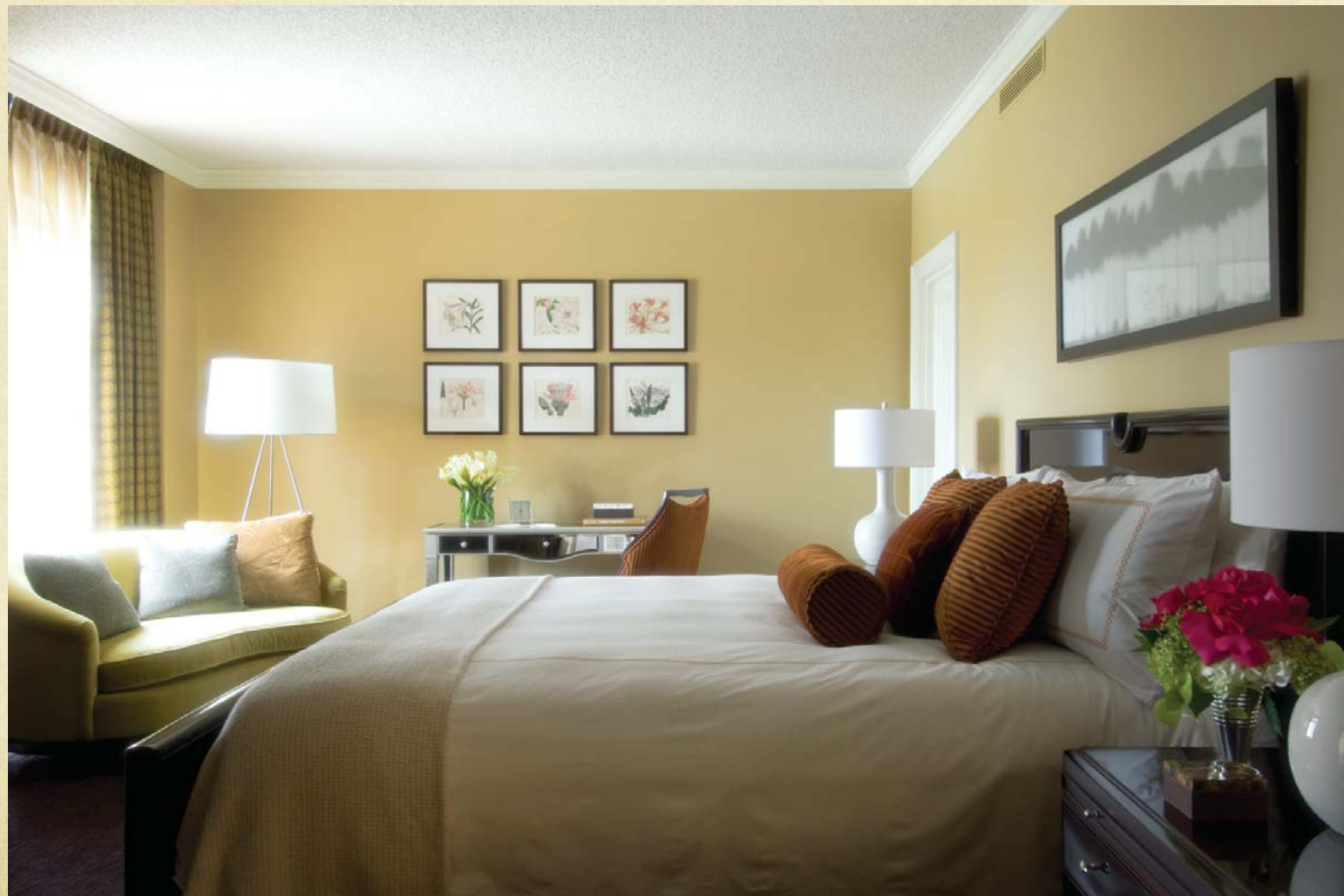
# Utility Network

- Hydronic Heating and Chilled Water
  - Sub-metered off of adjacent office building
- Domestic Water Heating
  - District Steam utility
- Electric
  - PECO Grid

# Hospitality Industry

**HEAT** is the lifeblood of the hospitality  
industry

# Personal Comfort and Laundry

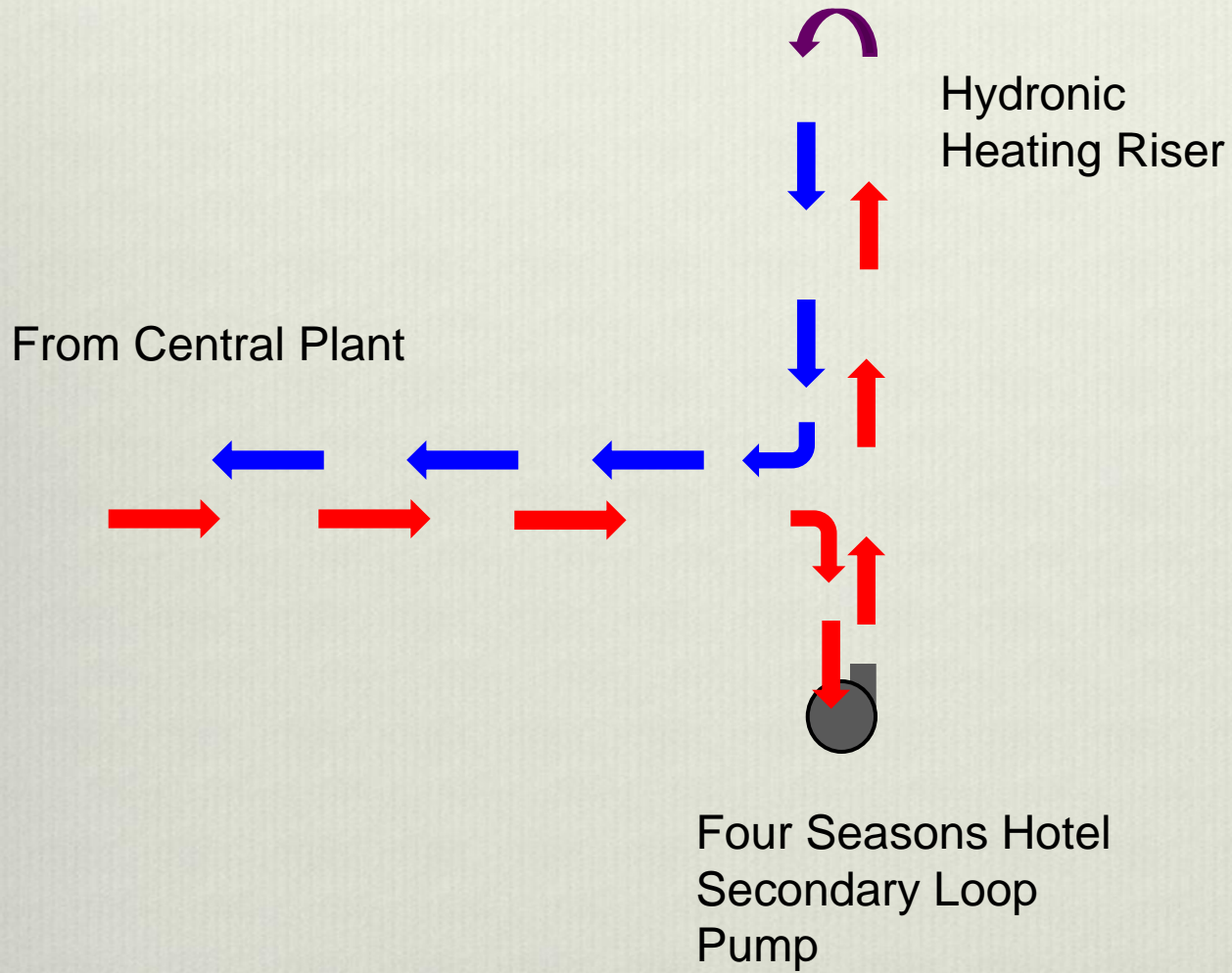


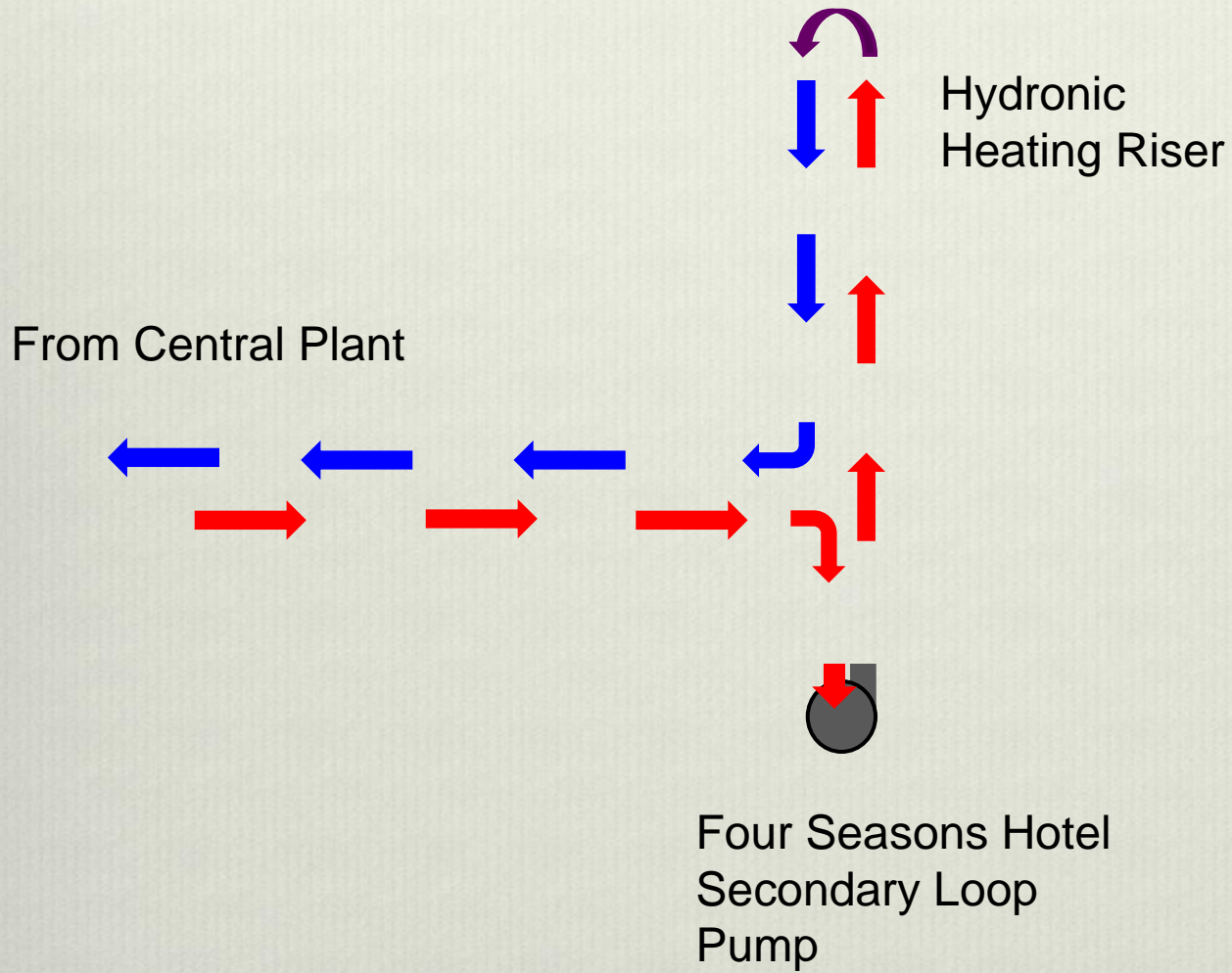
# Dining

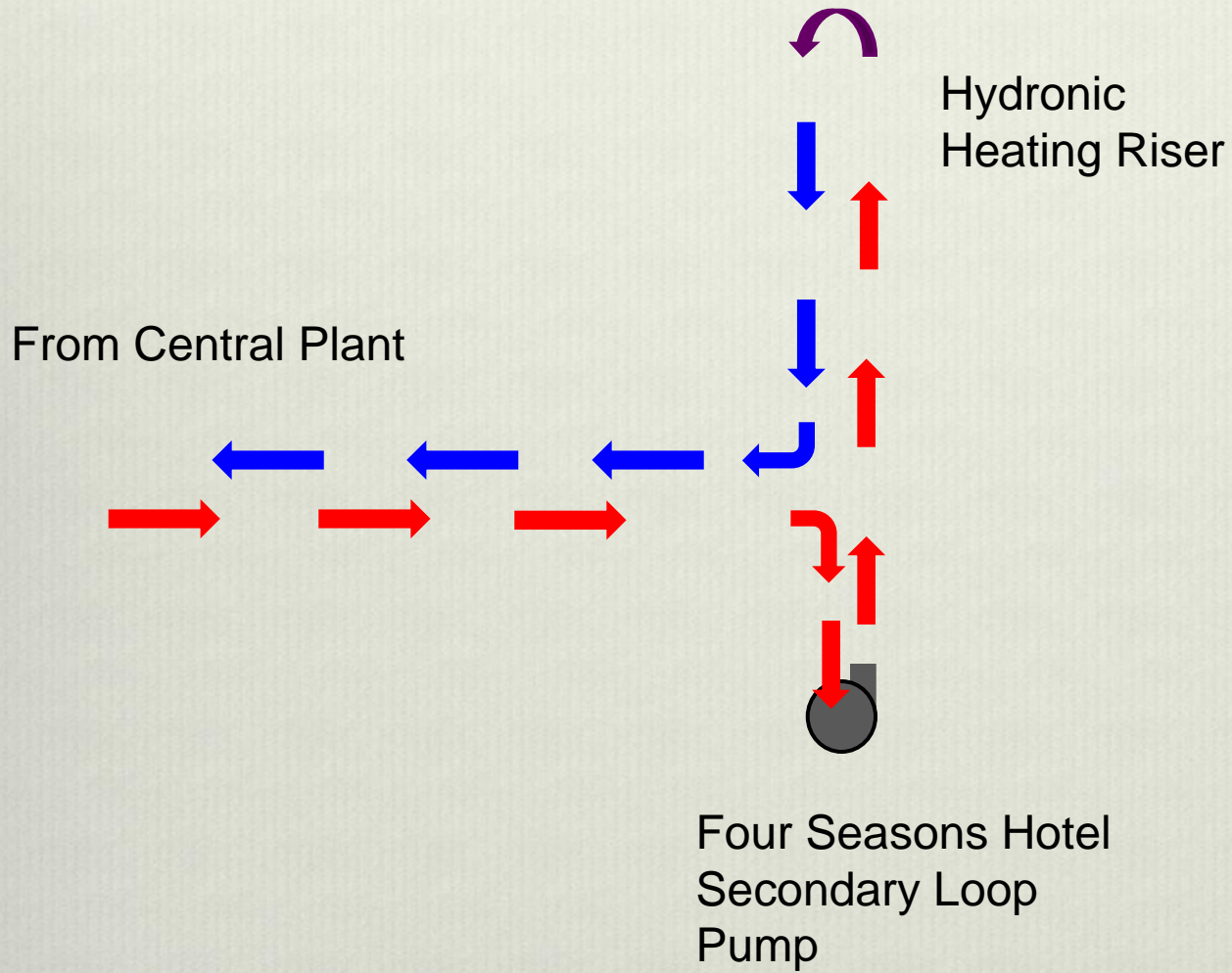


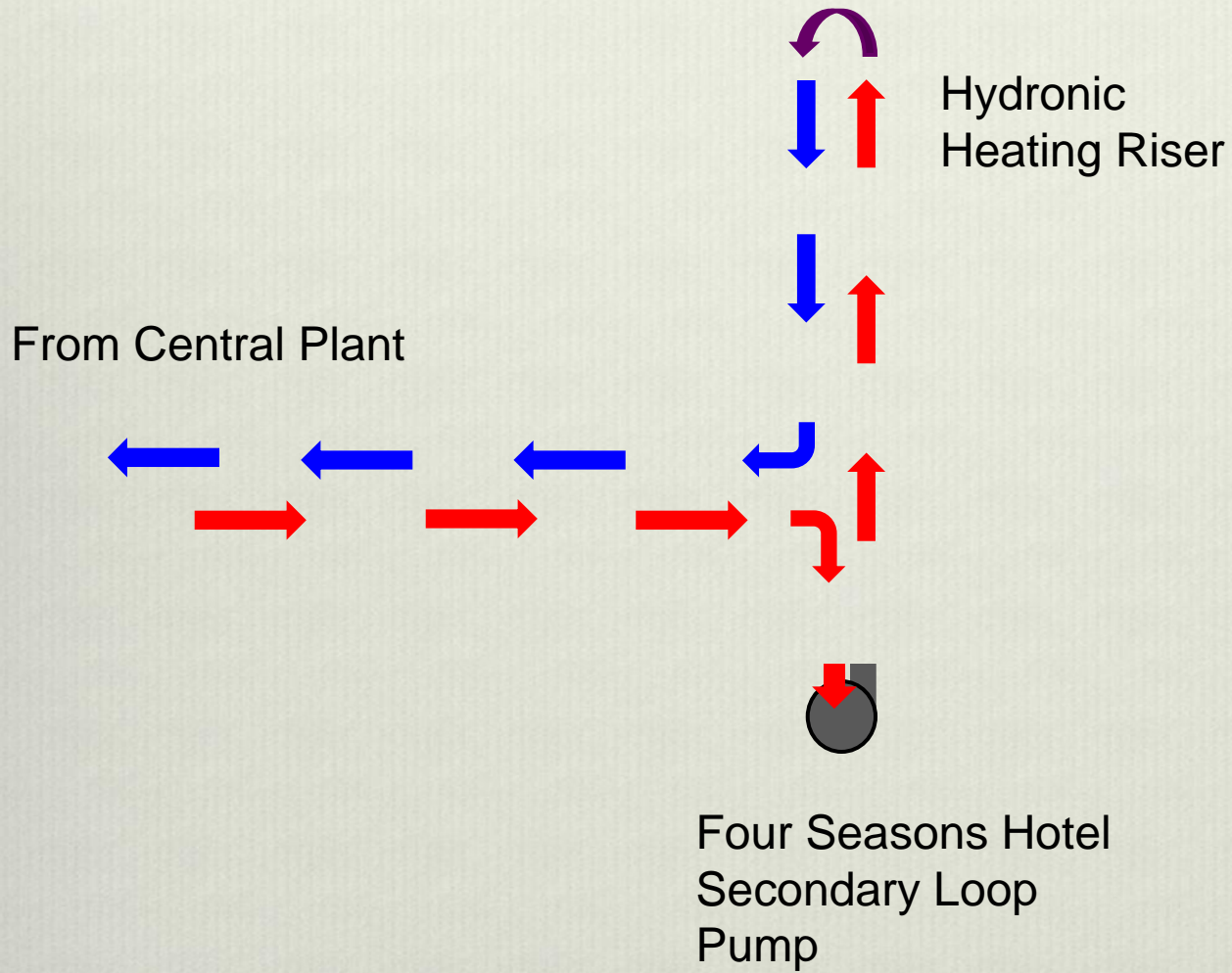
# Spa Services

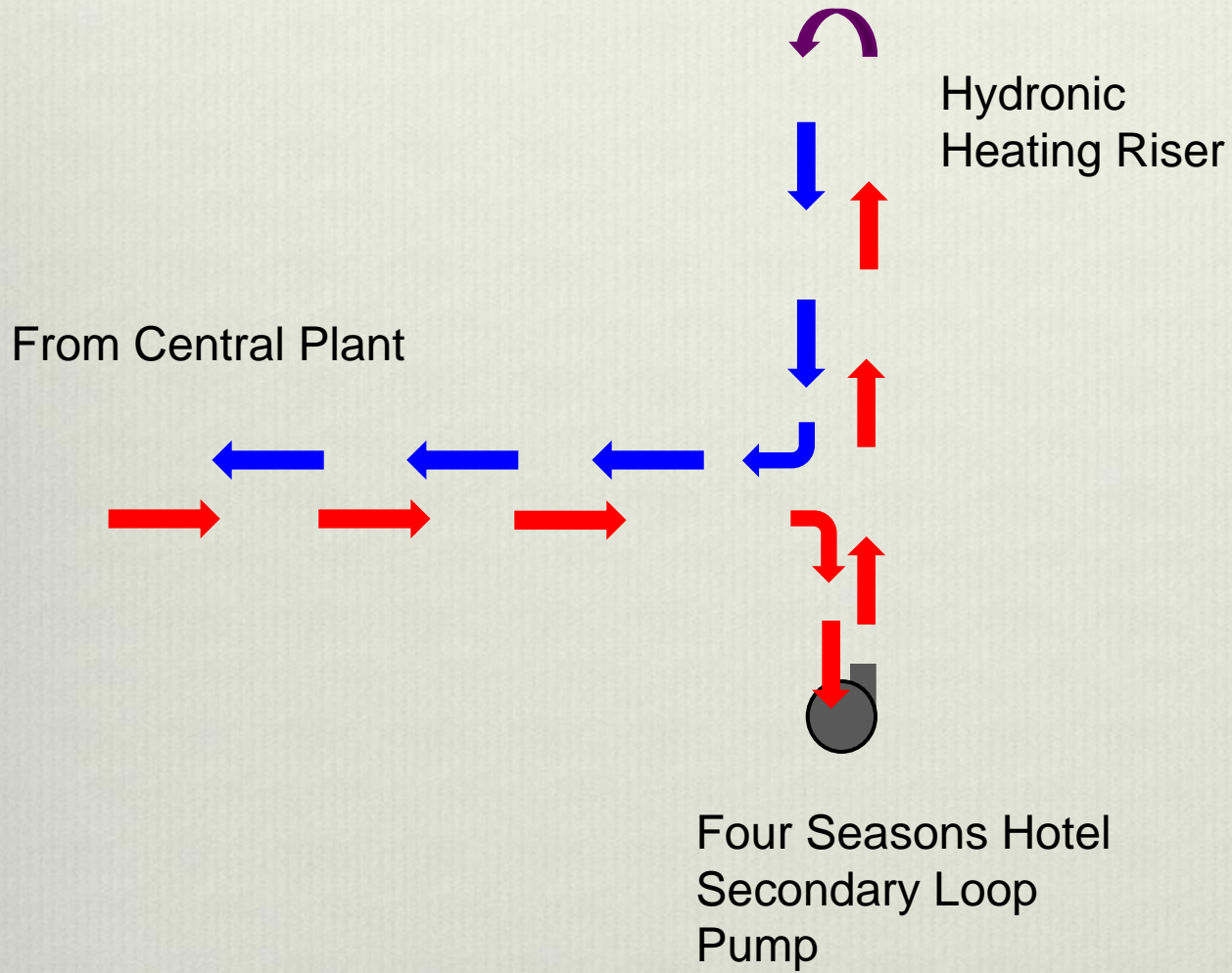


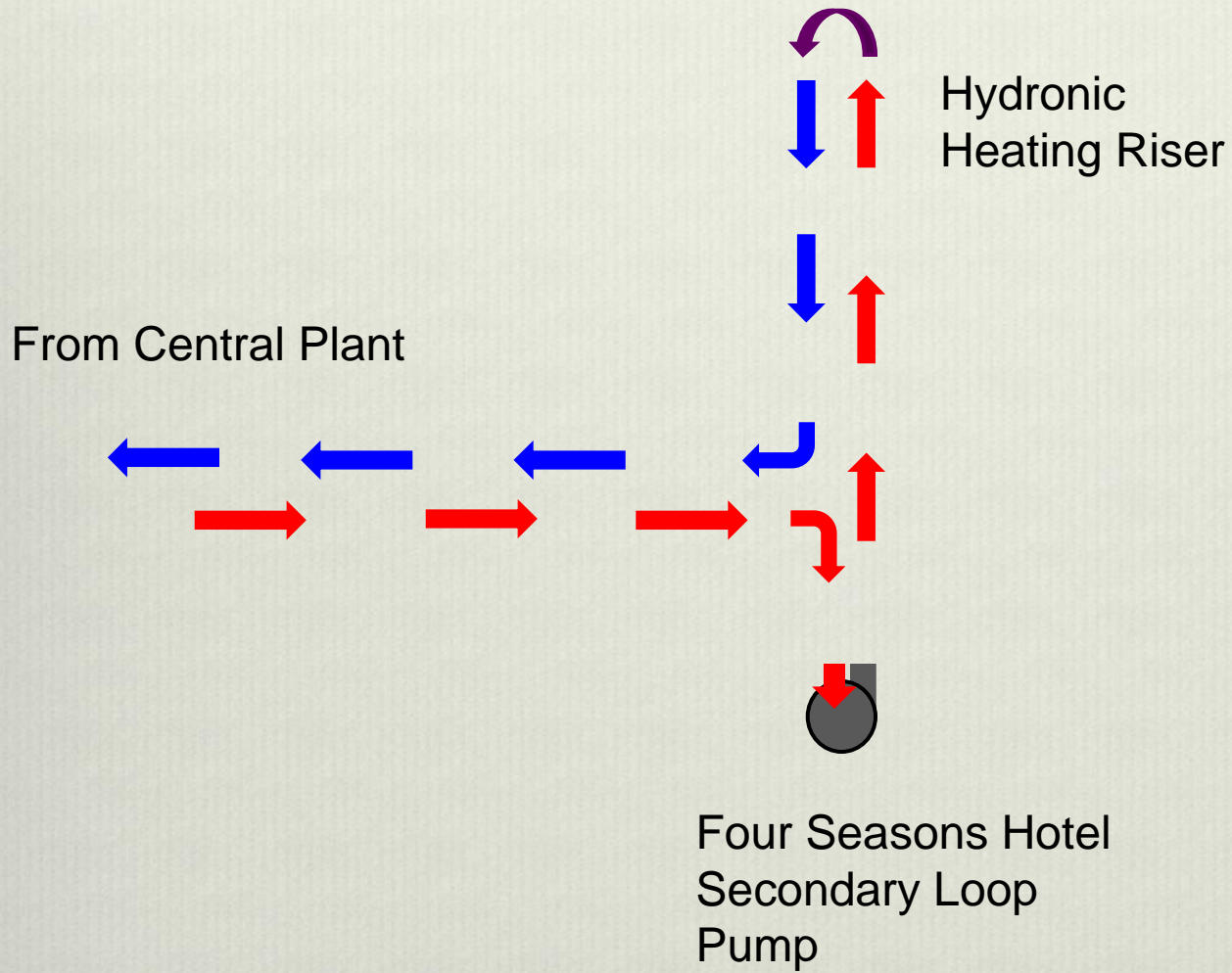


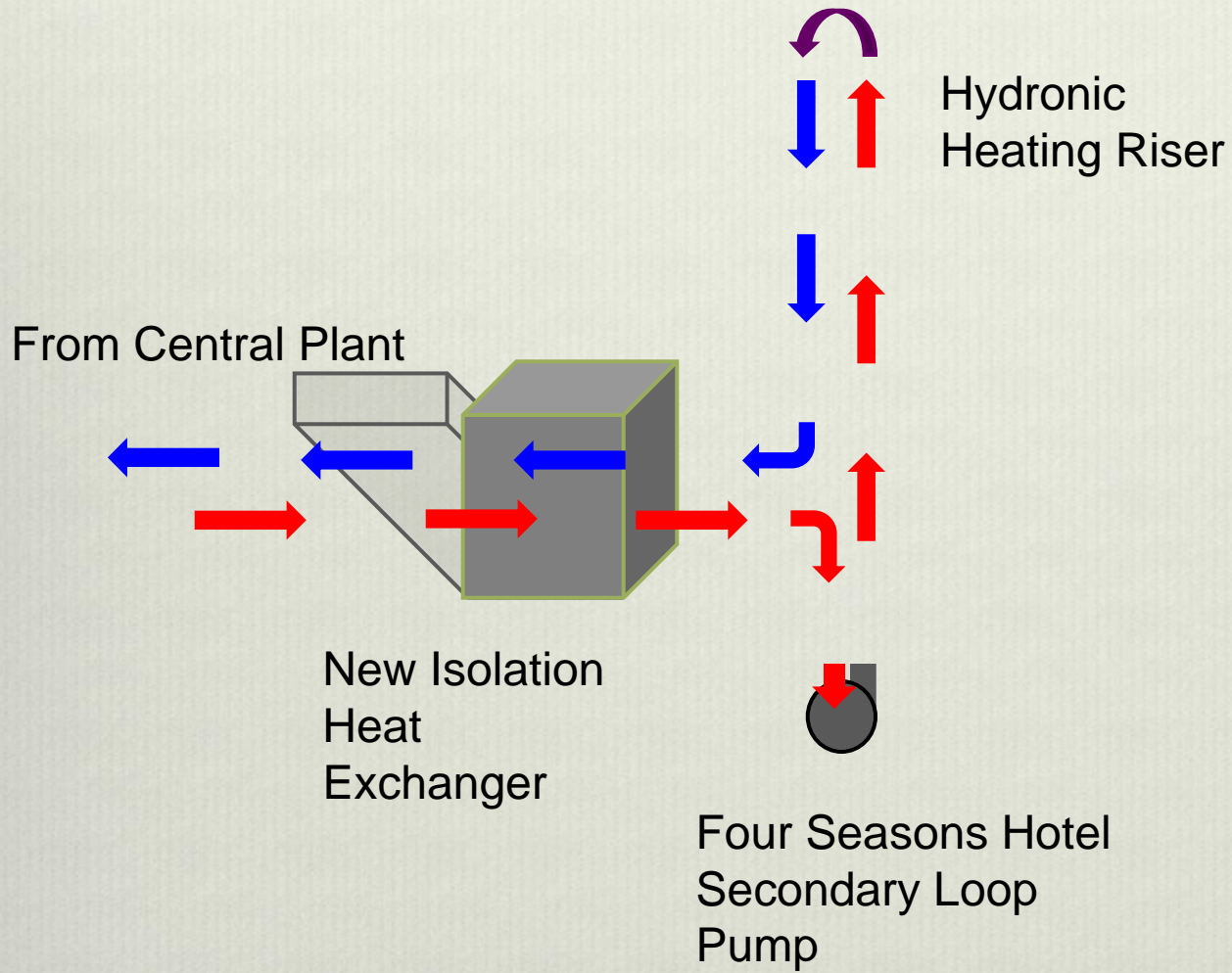


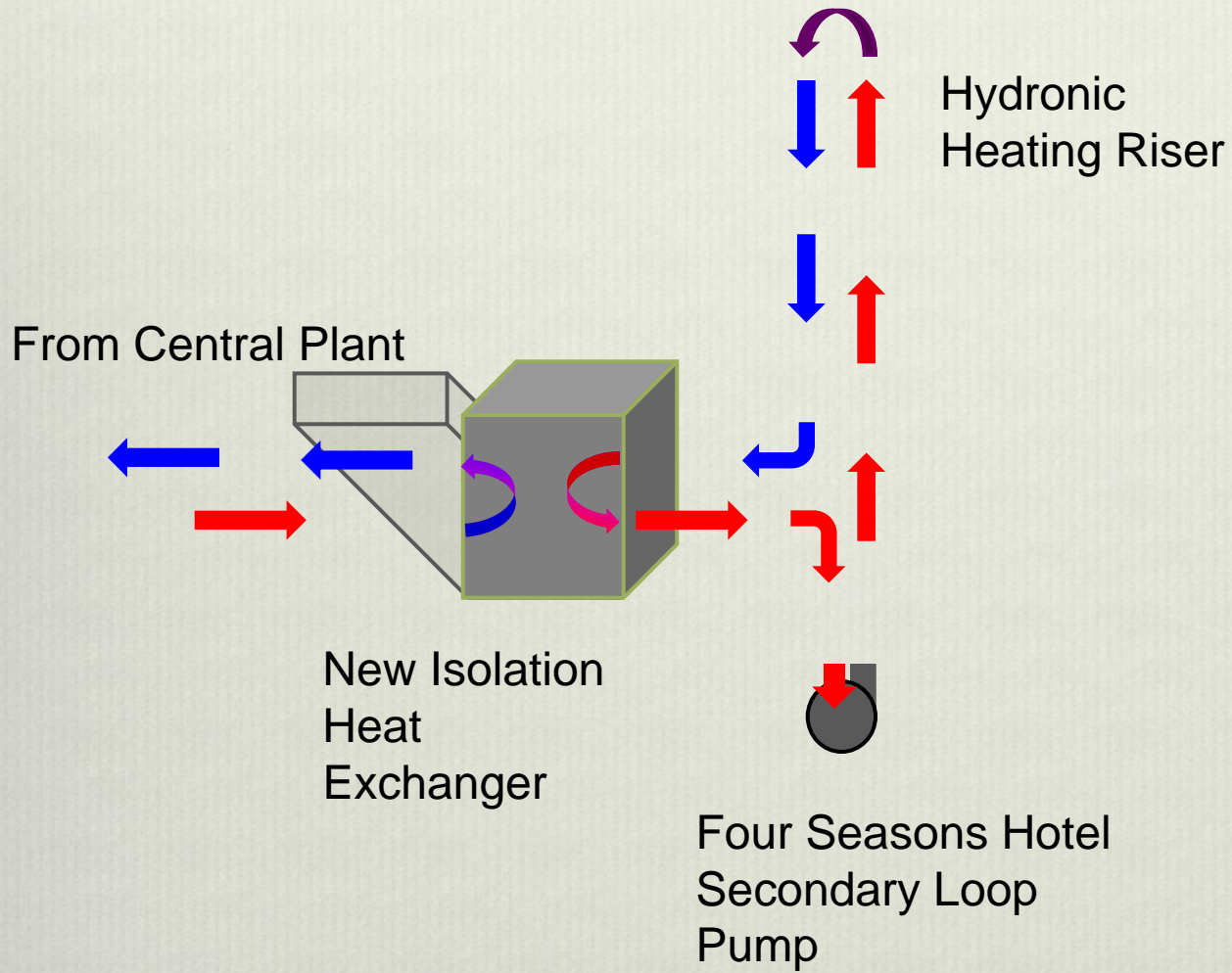


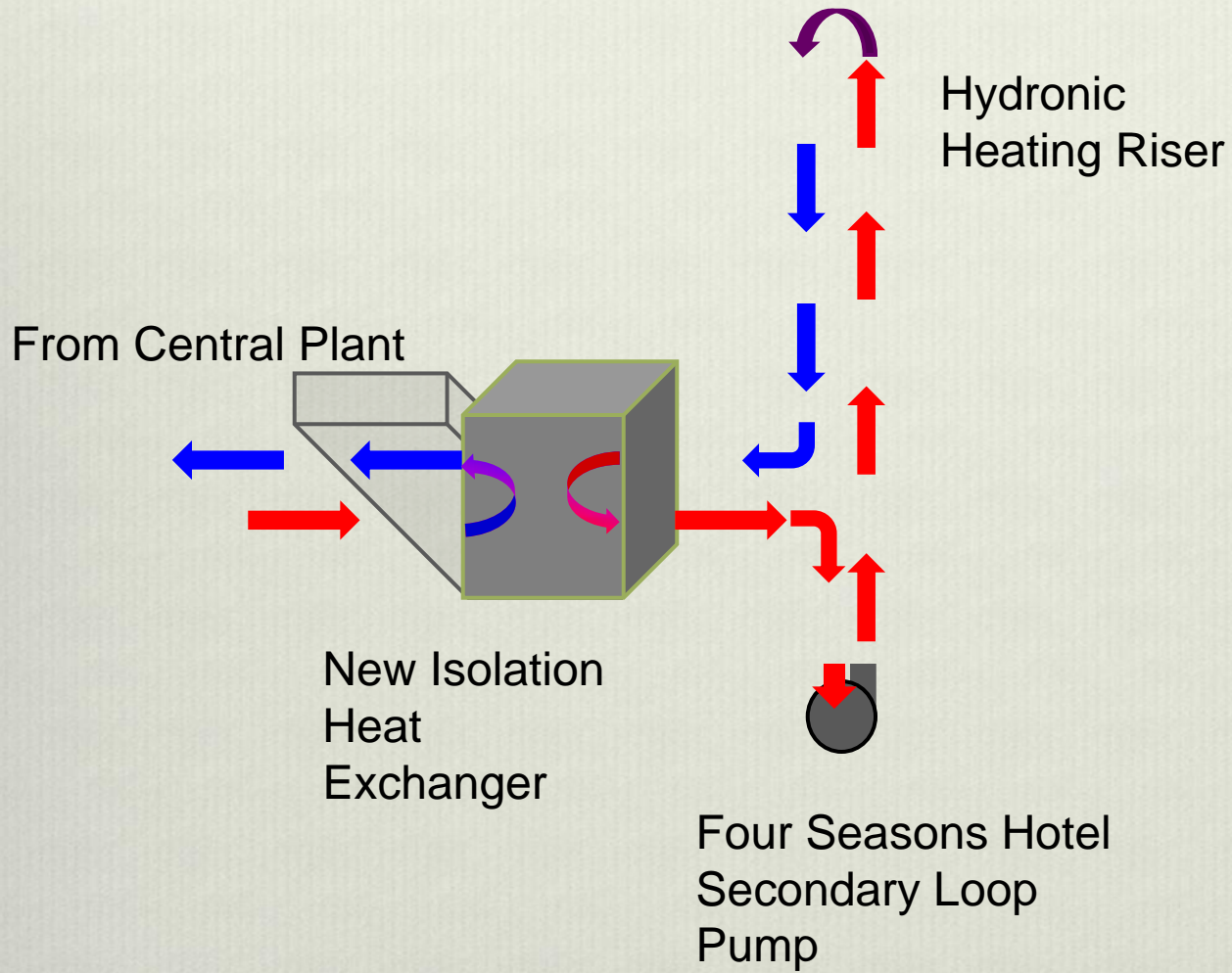


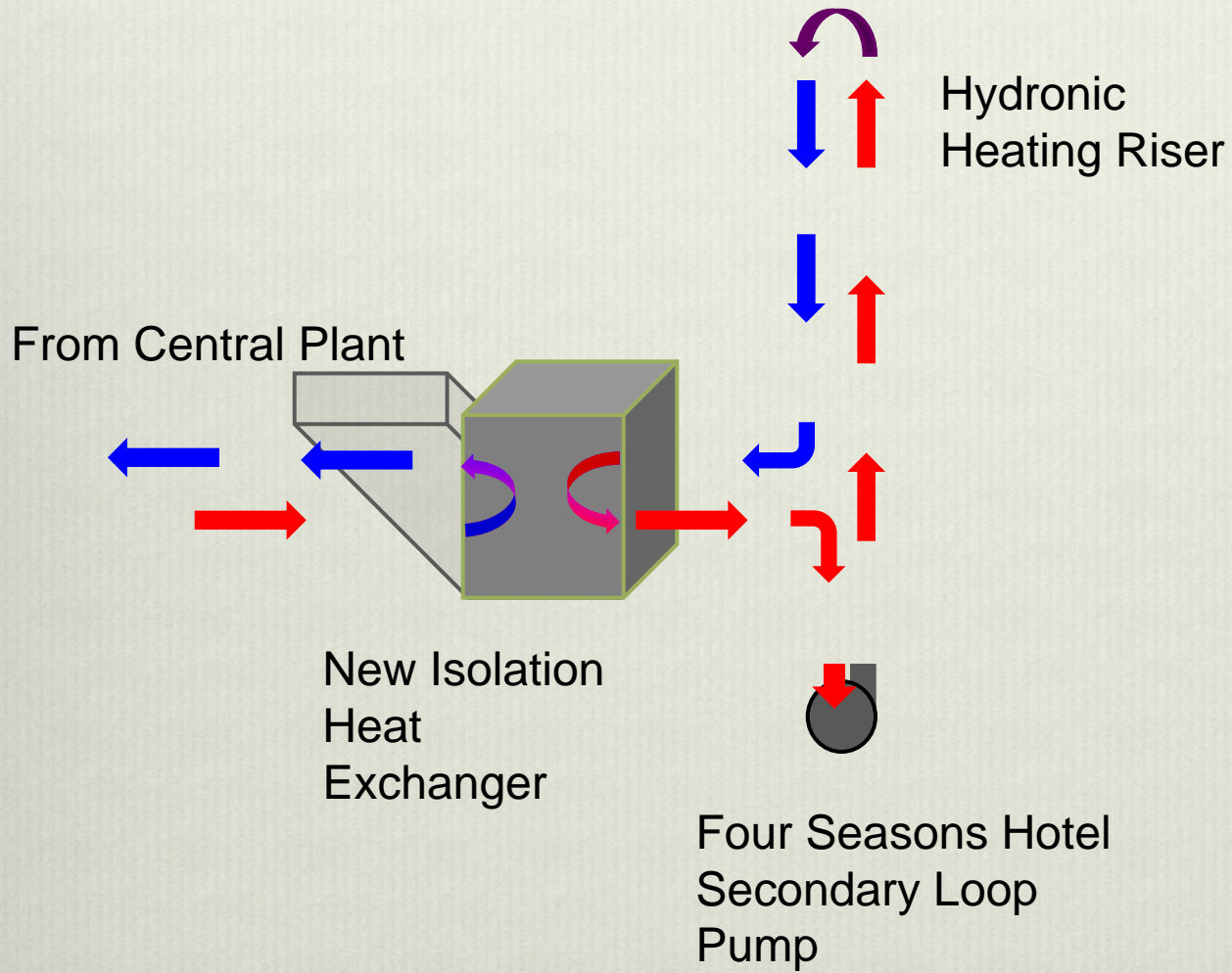


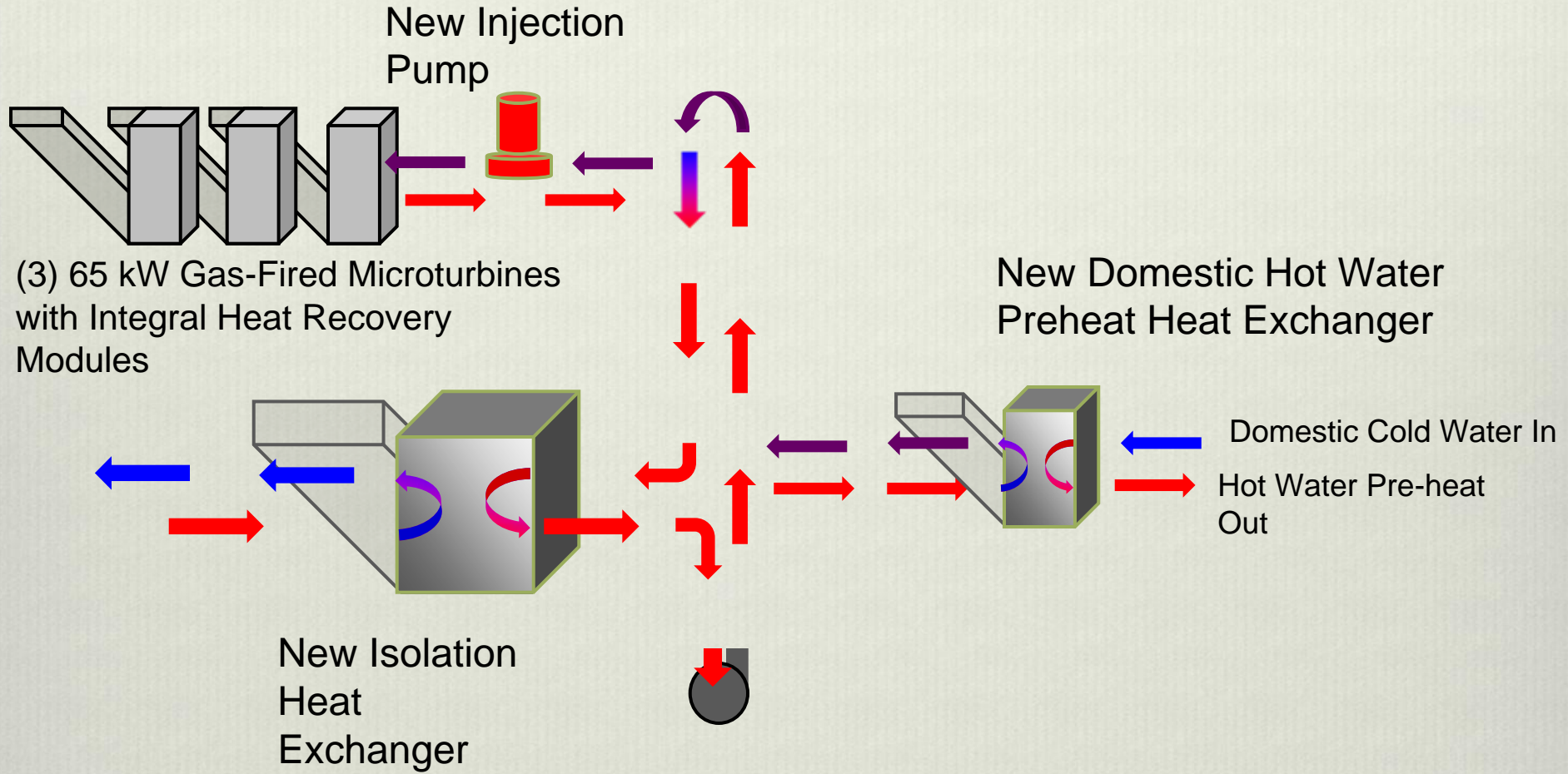












# Commissioning and Controls



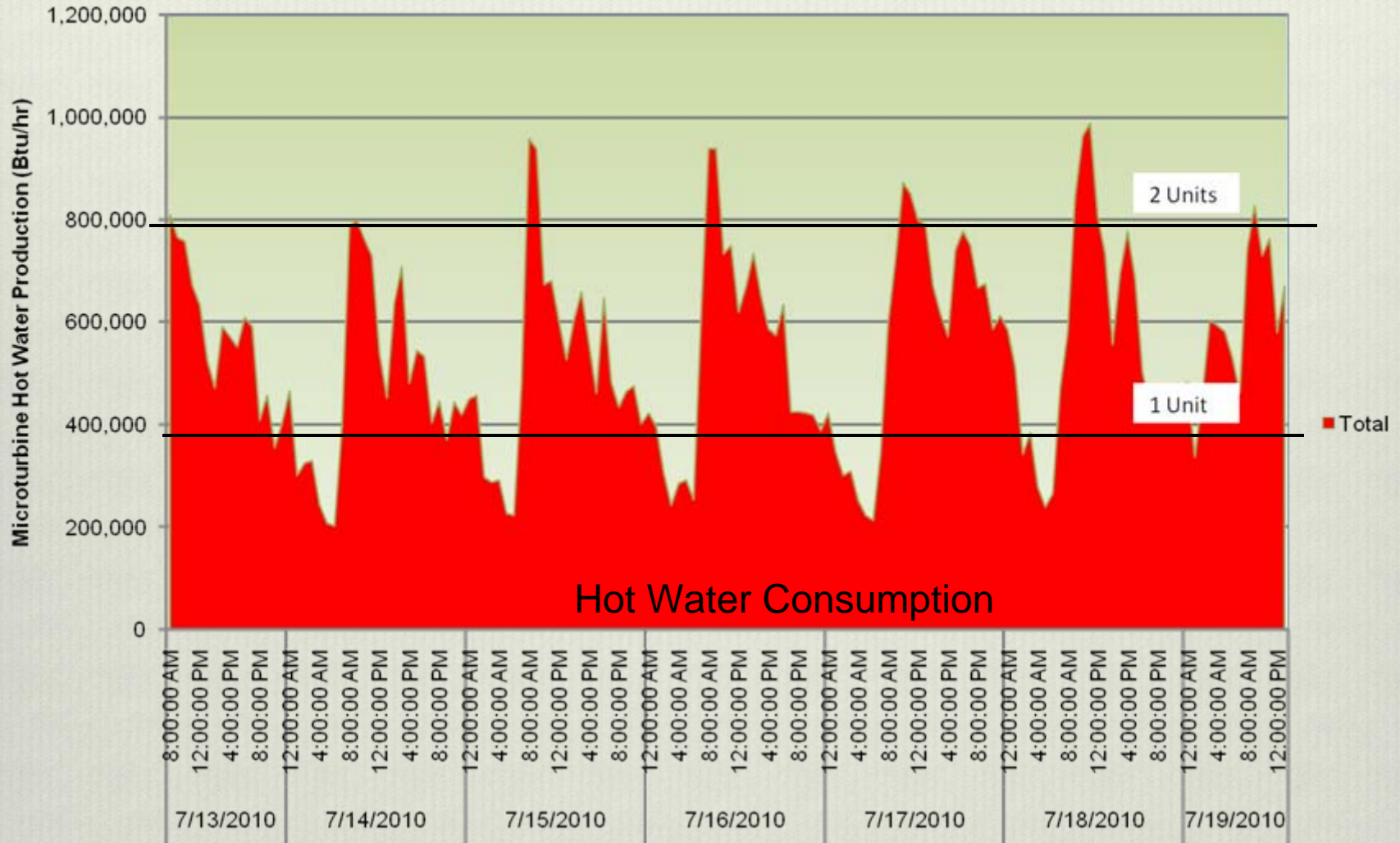
- ❖ *The factory of the future will have only two employees, a man and a dog. The man will be there to feed the dog. The dog will be there to keep the man from touching the equipment. ~Warren G. Bennis*

# Commissioning and Controls

- ❖ Thermal tracking or electric tracking?
- ❖ Pre-design measurement and verification
- ❖ Post-construction measurement and verification
- ❖ Monthly analysis for at least one year

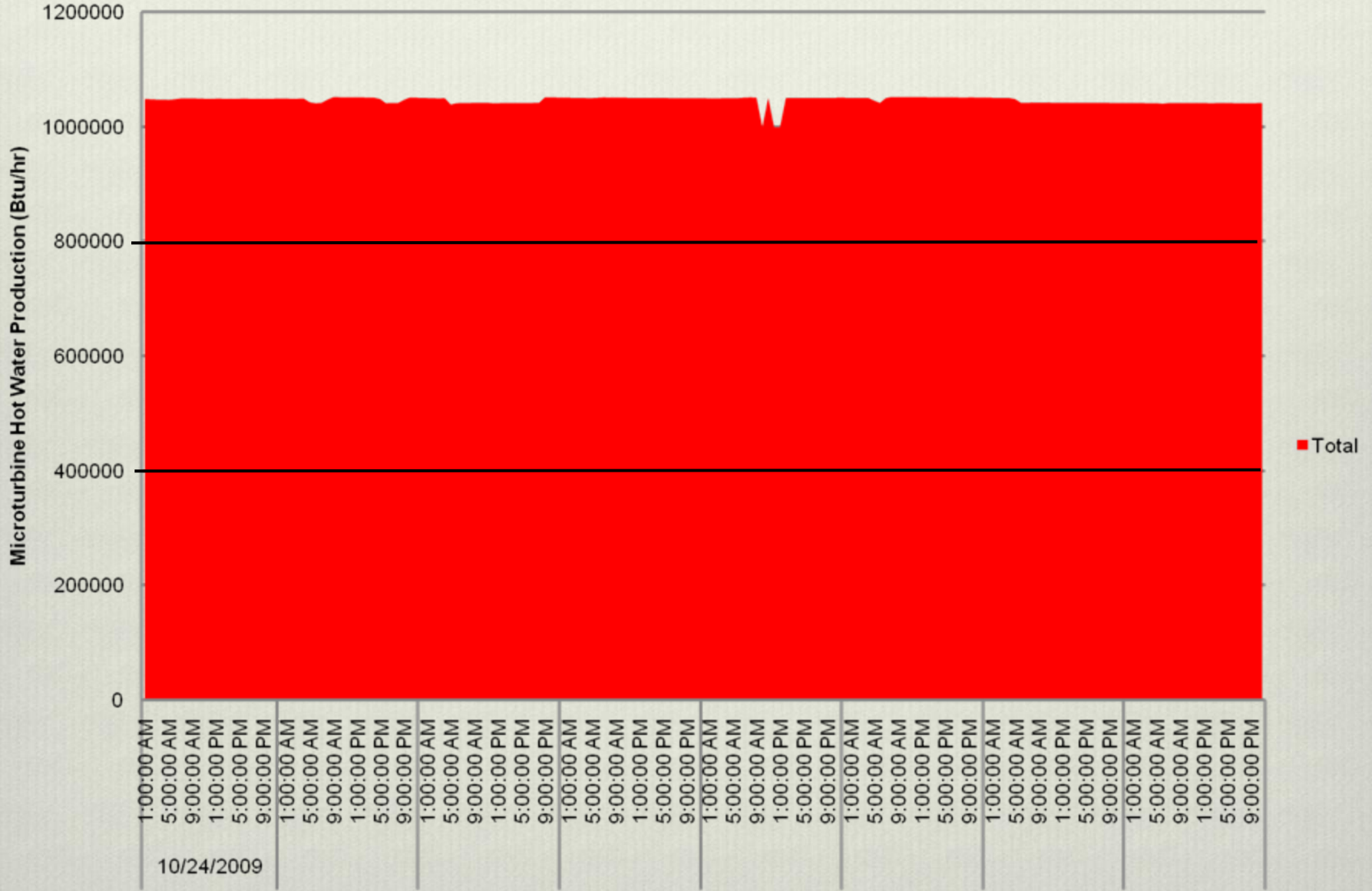
# Actual Hot Water Usage for 7/13/10 to 7/19/10 Four Seasons Hotel Philadelphia

3



# Actual Hot Water Usage 10/24/09 to 10/31/09

## Four Seasons Hotel Philadelphia



# Environmental Benefits

- ❖ Environmental equivalent of removing 70 cars from the road
- ❖ Reduce Carbon Dioxide generation by 425 tons per year
- ❖ Reduce district steam usage by 44% equal to saving 1,000 gallons of potable water per year

# Thank You

- **Engineering Staff of the Four Seasons  
Hotel Philadelphia**
- **Director of Engineering, Marvin Dixon**
- **Host Hotels & Resorts**
- **E-finity Distributed Generation**
- **Capstone Microturbines**
- **EPA CHP Partnership**
- **Philadelphia Gas Works (PGW)**