



# Practical Approaches to Achieving a High Performance Building to Cultivate Excellence

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Questions related to specific materials, methods, and services will be addressed at the conclusion of this presentation.

# Learning Objectives

- Break down the cost impact of facility design planning from a life-cycle perspective, comparing first (capital) costs and life-cycle (operation and maintenance) costs.
- Illustrate an effective collaborative process between the Owner and the design team.
- Discuss the value of the commissioning process in the high performance facility environment.
- Examine the results of effective planning and design; selecting high efficiency systems, and prioritizing commissioning.

# Your panel

Kyle McLeod



Owner

Jeff Tweeten



Energy  
Czar

Shane Doig



Commissioning  
Agent

Jeff Yirak



Engineer

# Has this ever happened to you?

- Owner
- A/E Design Team
- Commissioning Provider
- Operations & Maintenance Team



# What is a High Performance Building?

- Minimizes energy and resource use
- Most efficient systems for the available funds
- Operates per the design and Owner's expectation.

**“Biggest Bang  
for the Buck”**

# What are some challenges of achieving a High Performance School?

- Cost Impacts
  - First cost (capital)
  - Life-cycle cost (O & M)
- Operation and maintenance
- Systems understanding (O & M team & occupants)
- Team Communication



# How can the Owner help overcome these challenges?

- Communicate Owner's Project Requirements (OPR) – performance goals, design standards, etc.
- Review design submittals & communicate comments
- Hire commissioning provider early & give them “authority”
- Involve O & M staff early





## How can the Architect help overcome these challenges?

- Act fairly & responsibly
- Know the client
- Know the costs & maintain budget
- Facilitate full-team Communication



## How can the Engineer help overcome these challenges?

- Be an open-minded realist
- Know the client's requirements
- Know the pros, cons, & costs of system options & be able to explain them
- Advocate for early commissioning
- Assure that manufacturer training for O & M staff is included in the specs



## How can the Commissioning Provider help overcome these challenges?

- Help develop OPR
- Work closely with O & M staff
- Be involved early
- Provide constructability reviews
- Find solutions; continuous QC
- Team communication
- Have the Owner's authority



## How can the Contractor help overcome these Challenges?

- Drive and maintain the schedule
- Communication to subcontractors and full team
- Address hot button items from past projects – lessons learned
- “Safe, Warm, Dry”



## Lessons Learned

- Natural gas vs. all-electric buildings
- Solar photovoltaics
- Control systems – HVAC and lighting
- Role of the occupants
- After hours operation
- Post-occupancy reviews & tuning

## The takeaway

- COMMUNICATE!
- Collaborate, enable, and empower each other
- Effective use of funds

**“The Best You Can for the Project”**

Thank you! For more information...



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