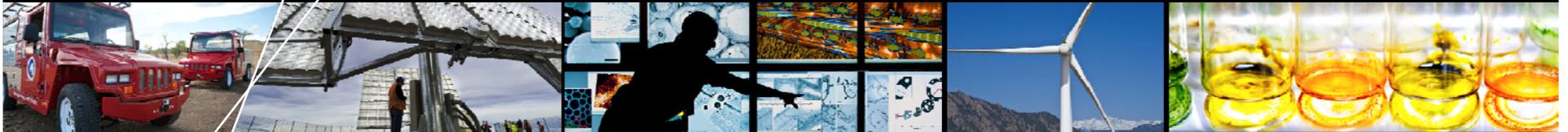




U.S. DEPARTMENT OF  
**ENERGY** | Energy Efficiency &  
Renewable Energy



# Owner Commitment: *Project Manager Perspective*



**NASA Net Zero Workshop**  
**Eric Telesmanich**

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# Owner Commitment – PM Prospective

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- **Project Requirements**

- Develop Realistic Obtainable Requirements
- Obtain Design-Builders Acceptance (Subcontract Award)
- Manage to Requirements (Substantiation)

Note: Applies to Energy Requirements & All Other Requirements

# Project Requirements - Realistic

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- **Develop Realistic Obtainable Requirements**
  - Energy (EUI – 25kBTU/sf/yr)
    - In-House Staff of Energy Gurus
    - Publications
    - Guides
    - Owner Commitment on Plug Loads
  - Conflicting Requirements
    - Scope vs. Budget
    - EUI vs. Density (See Table)
  - Define Occupant Program
    - Special Use Rooms
      - ✓ Data Center

# Project Requirements - Realistic

Floor Area (ft <sup>2</sup> )	Number of People																
	640	650	660	670	680	690	700	710	720	730	740	750	760	770	780	790	800
170,000	31.8	32.35	32.85	33.35	33.85	34.34	34.84	35.34	35.84	36.33	36.83	37.33	37.83	38.33	38.82	39.32	39.82
180,000	30.09	30.56	31.03	31.50	31.97	32.44	32.91	33.38	33.85	34.32	34.79	35.26	35.73	36.20	36.67	37.14	37.61
190,000	28.50	28.95	29.39	29.84	30.28	30.73	31.17	31.62	32.06	32.51	32.96	33.40	<p>Final Design at 822 Occupants Normalized to 32.1 kBtu/ft<sup>2</sup></p>				
200,000	27.08	27.50	27.92	28.35	28.77	29.19	29.62	30.04	30.46	30.88	31.31	31.73					
210,000	25.79	26.19	26.59	27.00	27.40	27.80	28.21	28.61	29.01	29.41	29.82	30.22					
220,000	24.62	25.00	25.38	25.77	26.15	26.54	26.92	27.31	27.69	28.08	28.46	28.85	29.23	29.62	30.00	30.38	30.77
230,000	23.55	23.91	24.28	24.65	25.02	25.38	25.75	26.12	26.49	26.86	27.22	27.59	27.96	28.33	28.70	29.06	29.43
240,000	22.56	22.92	23.27	23.62	23.97	24.33	24.68	25.03	25.38	25.74	26.09	26.44	26.79	27.15	27.50	27.85	28.21
250,000	21.66	22.00	22.34	22.68	23.02	23.35	23.69	24.03	24.37	24.71	25.05	25.38	25.72	26.06	26.40	26.74	27.08
260,000	20.83	21.15	21.48	21.80	22.13	22.46	22.78	23.11	23.43	23.76	24.08	24.41	24.73	25.06	25.38	25.71	26.04
270,000	20.06	20.37	20.68	21.00	21.31	21.62	21.94	22.25	22.56	22.88	23.19	23.50	23.82	24.13	24.44	24.76	25.07
280,000	19.34	19.64	19.95	20.25	20.55	20.85	21.15	21.46	21.76	22.06	22.36	22.66	22.97	23.27	23.57	23.87	24.18
290,000	18.67	18.97	19.26	19.55	19.84	20.13	20.42	20.72	21.01	21.30	21.59	21.88	22.18	22.47	22.76	23.05	23.34
300,000	18.05	18.33	18.62	18.90	19.18	19.46	19.74	20.03	20.31	20.59	20.87	21.15	21.44	21.72	22.00	22.28	22.56
310,000	17.47	17.74	18.01	18.29	18.56	18.83	19.11	19.38	19.65	19.93	20.20	20.47	20.74	21.02	21.29	21.56	21.84
320,000	16.92	17.19	17.45	17.72	17.98	18.25	18.51	18.77	19.04	19.30	19.57	19.83	20.10	20.36	20.63	20.89	21.15

# Project Requirements – D-B Acceptance

- **Obtain Design-Builders Acceptance**
  - Problem
    - Fixed Budget
    - Too Much Scope
    - DOE “Expectations”
  - Solution
    - Implement Design-Build Acquisition
      - ✓ Hire Design-Build Implementation Services Provider
        - » RFP Prep/Award
        - » Implementation Services
    - Follow DBIA Best Practices
      - ✓ Prequalification/Qualification
      - ✓ Shortlist to 3
      - ✓ Stipends
      - ✓ Shortlist to Review Draft RFP
      - ✓ One-On-One Meetings
        - » “What does the RFP say?”
      - ✓ Award Fee Program
        - » “Modify the D-Bs Behavior

# Project Requirements – D-B Acceptance

- **Obtain Design Builders Acceptance**
  - Solution (Cont.)
    - Prioritize Requirements (RFP) (See Table)
      - ✓ Mission Critical
      - ✓ High Priority
      - ✓ Would Like to Have
    - Have Offerors Bid On Requirements
      - ✓ Must Include Mission Critical
      - ✓ As Many as Possible High Priority
      - ✓ Some Would like to Have
    - Select Apparent Winner
      - ✓ Utilizing Pre-Established Criteria
    - Negotiate
    - Award Subcontract
    - Celebrate

# Project Requirements – D-B Acceptance

## MISSION CRITICAL

Attain safe work performance/Safe Design Practices

### **LEED Platinum**

Energy Star “Plus”

## HIGHLY DESIRABLE

800 staff Capacity

### **25kBTU/sf/year**

Architectural integrity

Honor future staff needs

Measurable ASHRAE 90.1

Support culture and amenities

Expandable building

Ergonomics

Flexible workspace

Support future technologies

Documentation to produce a “How to” manual

“PR” campaign implemented in real-time

Allow secure collaboration with outsiders

Building information modeling

Substantial Completion by 2010

## IF POSSIBLE

**Net Zero/design approach**

**Most energy efficient building in the world**

**LEED Platinum Plus**

**ASHRAE 90.1 + 50%**

Visual displays of current energy efficiency

Support public tours

Achieve national and global recognition and awards

Support personnel turnover

**RFP also required maximum use of natural ventilation and 90% of floor space fully daylit**

**Full Performance RFP → No drawings in RFP = No change orders!**

# Project Requirements – Manage

- **Manage to Requirements**
  - Substantiation by Project Phase
    - Preliminary Design
    - Design Development
    - Construction Documents
    - Construction
    - Closeout
    - Warranty
      - ✓ Phase (and Payment) not complete until Substantiation is complete
  - Contract Requirements
    - “What does the contract say?”
  - Award Fee
    - Modify the D-Bs Behavior

# Project Requirements – “Reality”

## ■ “Expectations Letter”

- Project
  - D-B Acquisition
  - GMP
    - ✓ Fixed Budget (TEC = \$72.9M)
  - Others
- Energy
  - The RSF “Be designed to reduce the cost of adding future technologies in support of net zero energy performance.”
  - “The RSF aspires to achieve ASHRAE 2004 energy performance standard for commercial buildings by 50%.”

- Notes:
1. We really didn’t know what we wanted
    - RFP process define priority of what the owner wants...
  2. NREL Buildings Group started working on specific energy requirements
  3. Probably underfunded

# Project Requirements - Takeaway

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- **Project Requirements**
  - Develop Realistic Obtainable Requirements
    - Retain Experts
    - Test the “Market”
  - Obtain Design-Builders Acceptance
    - 2 Phase Award
    - Complete Risk Transfer
  - Manage to Requirements
    - What does the contract say?
    - Substantiation
    - Award Fee Program

Don't forget to celebrate

# Project Requirements

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- **Questions ?**
- **Link to RFP**
  - [http://www.nrel.gov/sustainable\\_nrel/pdfs/rsf\\_rfp\\_conceptual\\_docs.pdf](http://www.nrel.gov/sustainable_nrel/pdfs/rsf_rfp_conceptual_docs.pdf)