

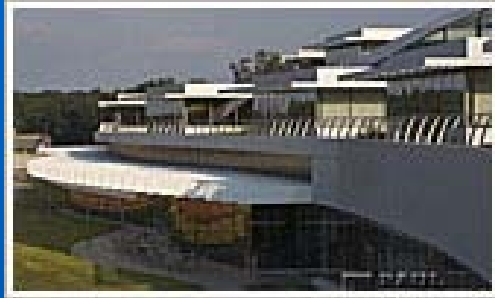
OBO Industry Advisory Panel

Commissioning New Facilities

A Case Study

July 07

Janelia Farm Research Center (JFRC)



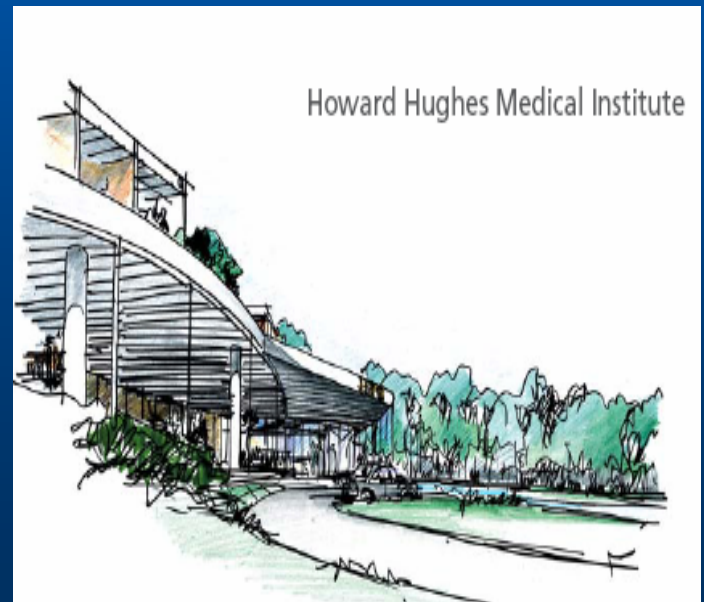
- 1 M Sq. Ft. Biomedical Research Facility w/ Hotel and Residence
- Self Sustaining
 - 6 MW Alternate Power Supply
 - 2 Redundant Multi-fuel 1500 HP Boilers, 1 - 900 HP Boiler
 - 5 (1200T) Chillers
 - Natural Gas with 45,000 Gal Propane UST
 - Dual Electrical Feed
- Green Facility
 - Energy Efficient
 - Boilers (7PPM Nitrous Oxide)
 - Chillers .6 HP/Ton
 - Generators – Low Emission / Catalytic Converters
 - VFD – AHU, Pumps, Cooling Towers

Highly Successful Commissioning
Process and Execution

Commissioning: JFRC

Planning Phase:

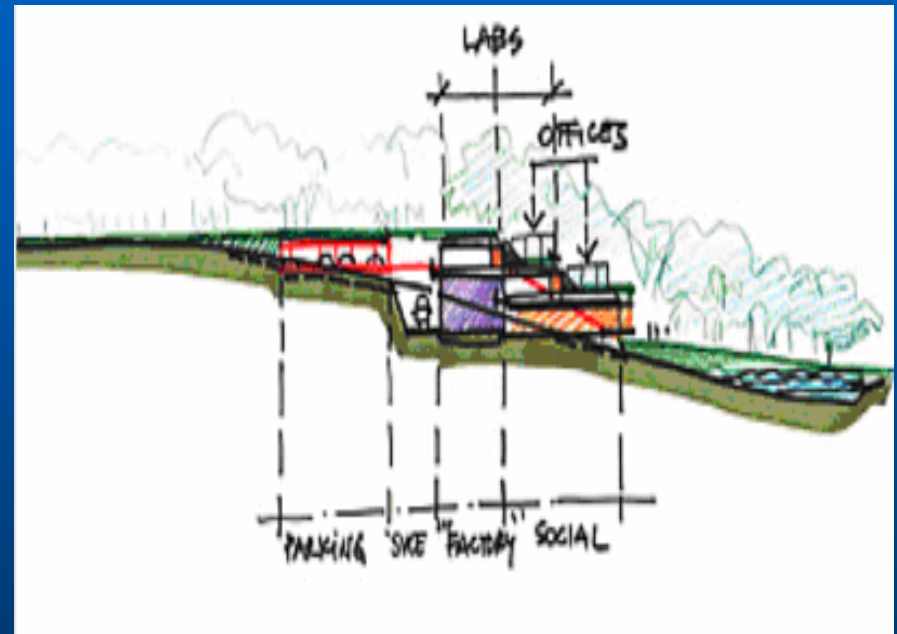
- Corporate Facility Management
 - Construction Management
 - Commissioning
 - Facility Management Oversight
- Independent Commissioning Agent
 - Commissioning Scope
 - Schedule
 - Preliminary Evaluation Approach



Commissioning: JFRC

Design Phase:

- Temporary Conditioning Plan
 - Seasonal Operations
 - Without Control Systems
- Preventive Maintenance Plan
- Computerized Maintenance Management System
 - Data Structure
 - Facility System Identification
 - Preliminary Annual Work Plan



Above: Design Sketch

Commissioning: JFRC

Construction Phase:

- HHMI CM/FM onsite
- ICA Onsite:
 - Data Collection
 - Annual Work Plan (Integrated Systems Data)
 - System Evaluation
- O&M Onsite:
 - MEP Install
 - Mechanical System Hand-off
 - Operations and Maintenance
 - Performance Test and Evaluation
 - Ramp-up Staff



Above: JFRC Construction

Commissioning: JFRC

Turnover:

- O&M System Familiarization
- Transition
 - Commissioning Participation
 - Document Transfer
 - Training
(Onsite/Manufacturer)
- Full Operations



Above: Operations Engineer in JFRC Boiler Room

Commissioning: JFRC

Lessons Learned:

- Commissioning – Finite Period
O&M – Extended Duration
- Early Identification of Operational Issues and Occupant Expectations
- Fast Track challenges Quality Control
- Enhanced Integrated System Familiarization
- Importance of CM – FM Teaming