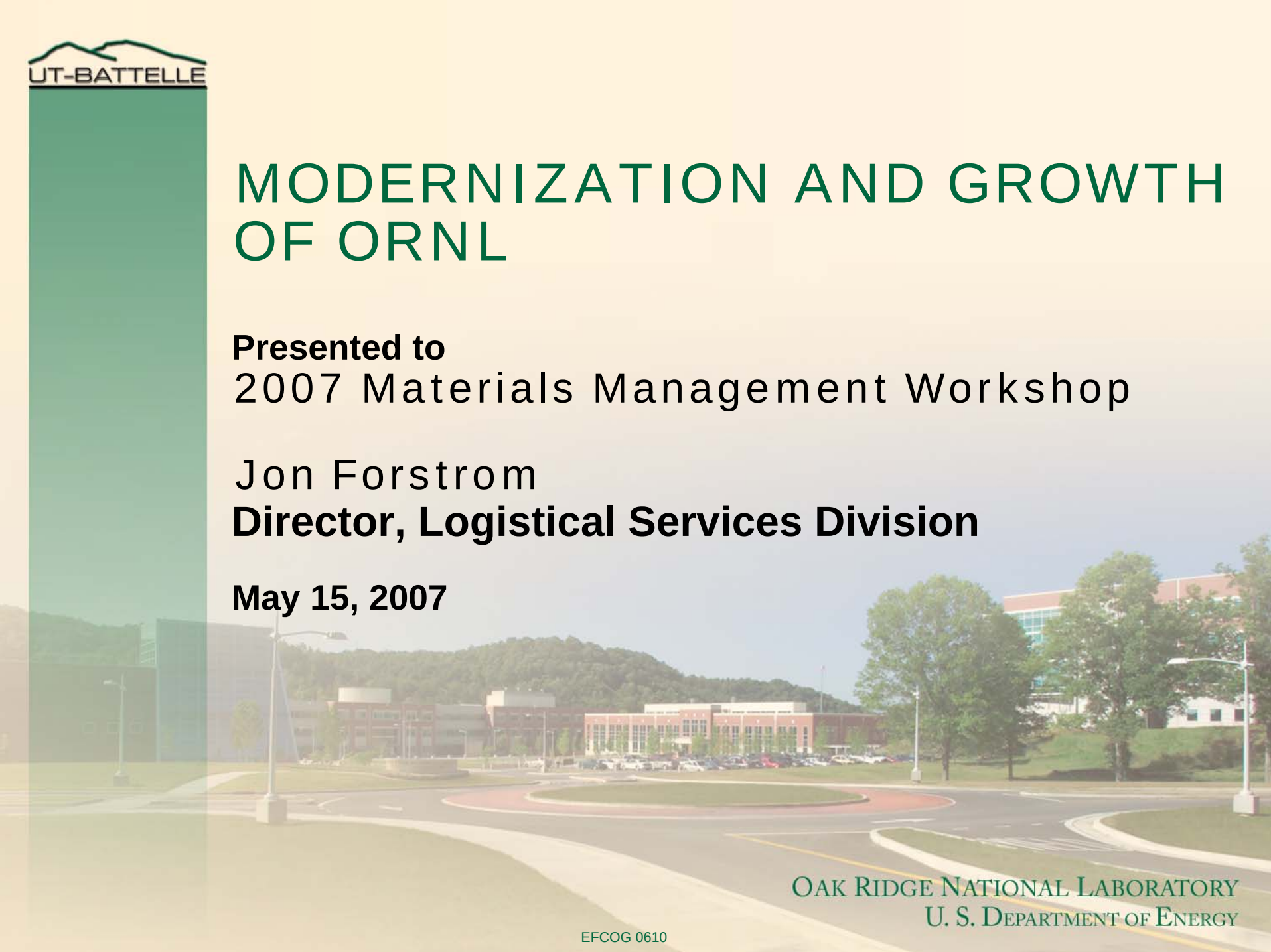
UT-BATTELLE

MODERNIZATION AND GROWTH OF ORNL

Presented to
2007 Materials Management Workshop

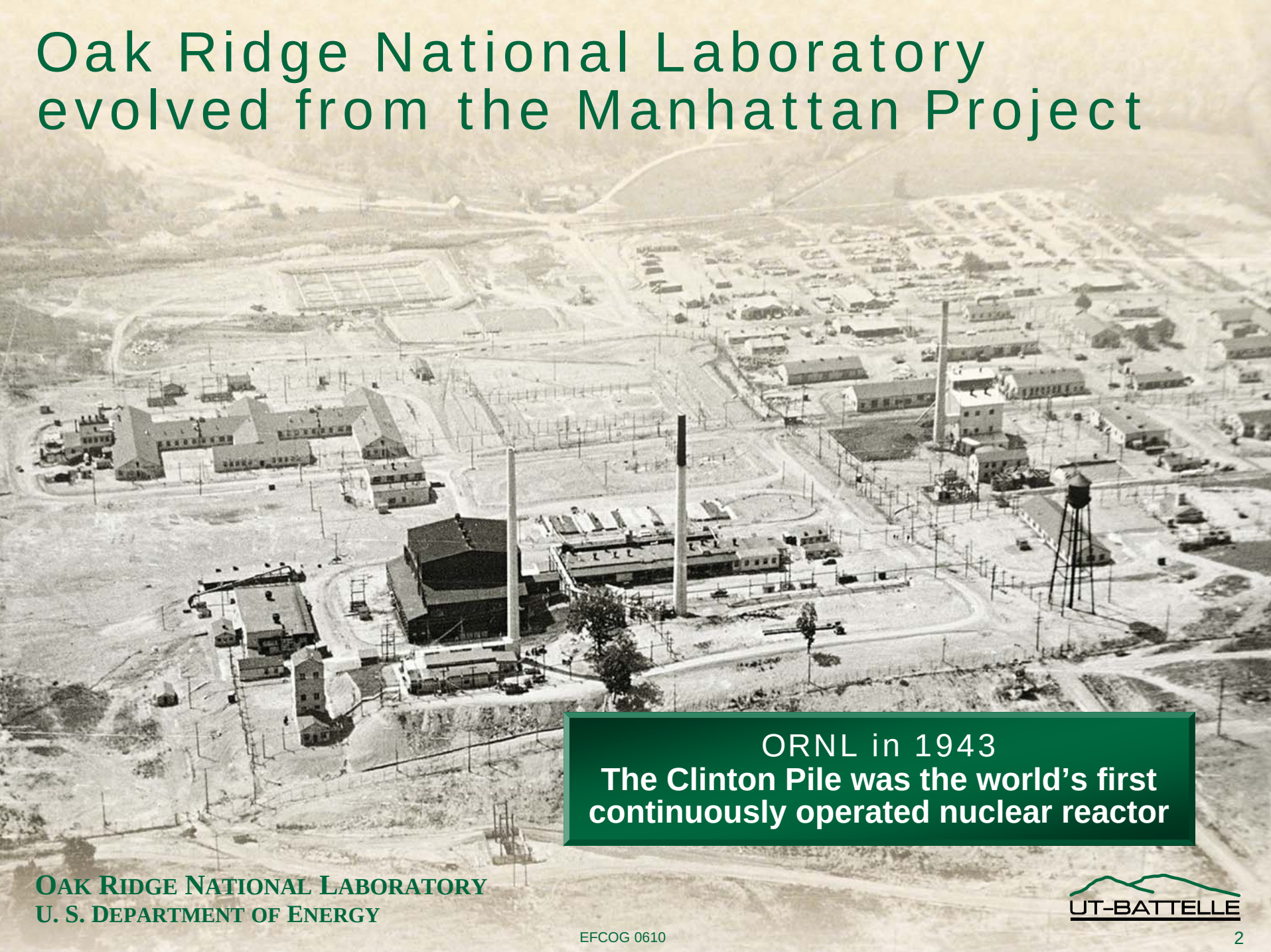
Jon Forstrom
Director, Logistical Services Division

May 15, 2007



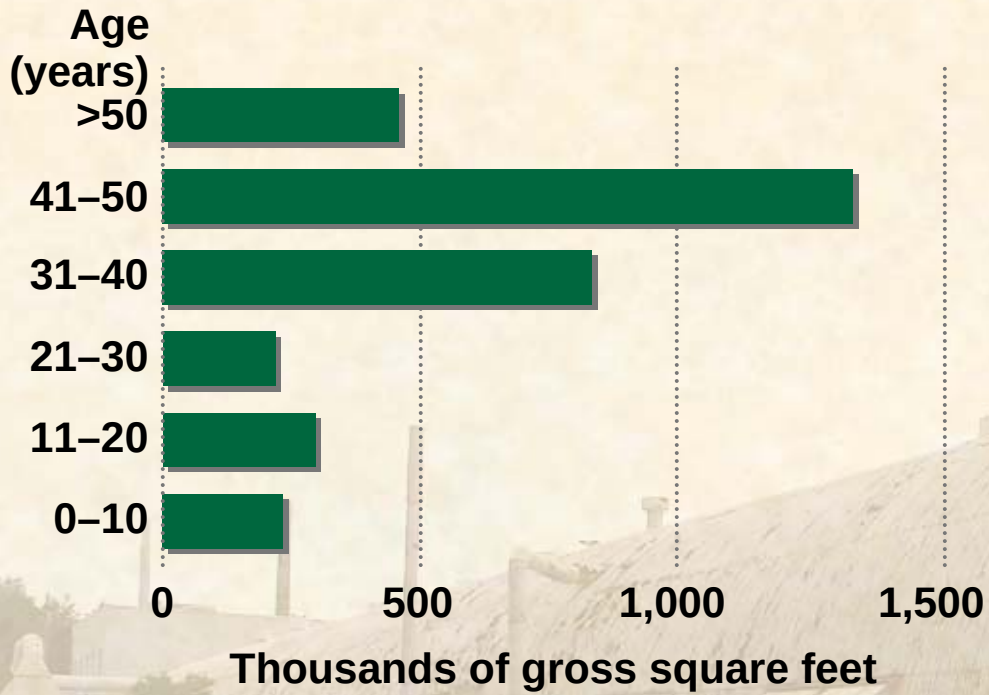
OAK RIDGE NATIONAL LABORATORY
U. S. DEPARTMENT OF ENERGY

Oak Ridge National Laboratory evolved from the Manhattan Project



ORNL in 1943
The Clinton Pile was the world's first continuously operated nuclear reactor

In 2000, most of ORNL's facilities were at least 40 years old



- **Outdated facilities didn't provide the needed functionality**
- **Recruiting and maintaining staff in deteriorating facilities was difficult**
- **Impacting safety and reliability**
- **Operating and maintenance costs were very high**

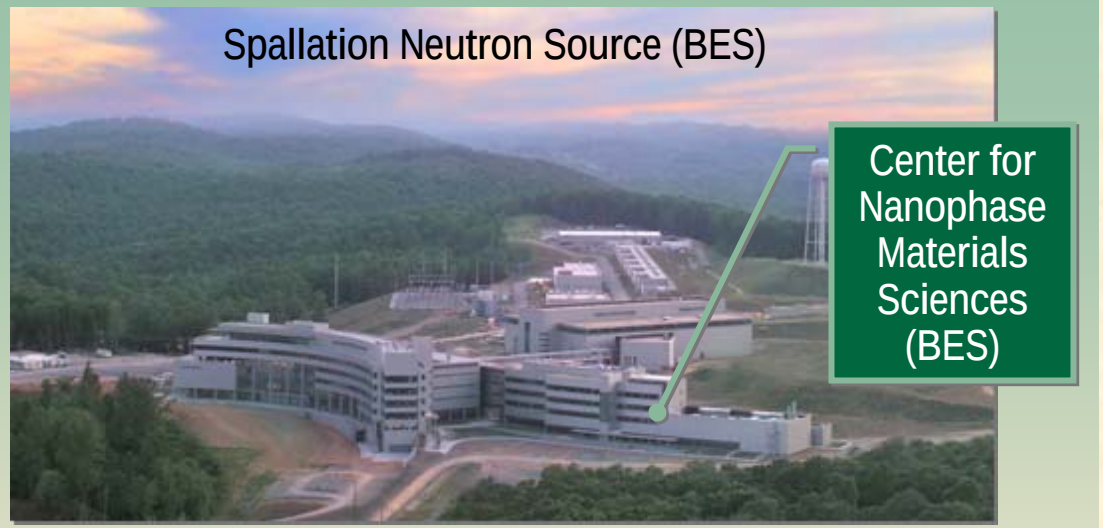
ORNL was maintaining 4.4 million square feet of space at a cost of about $60 million/year

UT-Battelle used a three-part strategy to acquire new infrastructure at ORNL

DOE **Major science facilities and infrastructure**	• **Expanding the frontiers of science and engineering** • **Single-purpose "machines"** • **Basic stewardship responsibility**
State **Joint institute with university partners**	• **Building collaborations for shared research opportunities** • **Training of faculty and students** • **Economic development for the state**
Private Sector **Light labs, office space, and utilities**	• **Public/private partnerships enabling access to private capital** • **Takes advantage of commercial practices – faster and cheaper**

Materials at the molecular scale

Delivered



Engineering Technology Facility (Private)

Advanced Microscopy Lab (GPP)

In progress

HFIR Cold Source (BES)

Planned

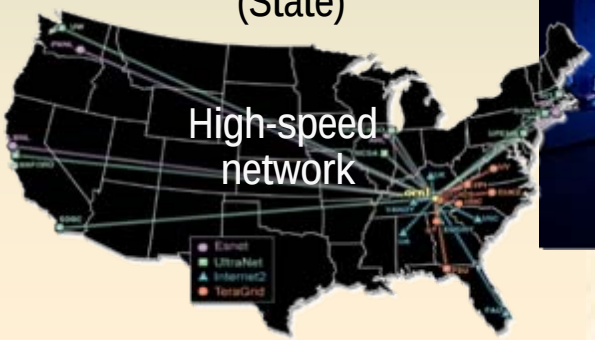
Joint Institute for Neutron Sciences (State)

Petascale simulation and modeling

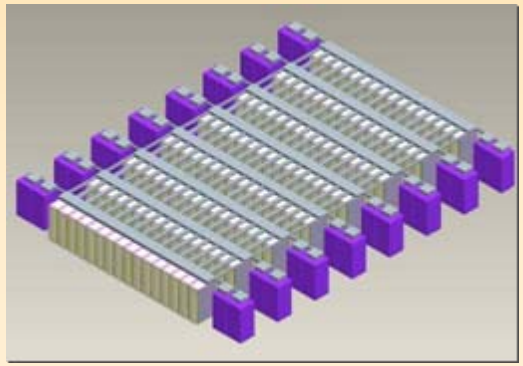
Delivered

Computational Sciences Building (Private)

Joint Institute for Computational Sciences (State)



In Progress



1-PF Cray Baker system (ASCR)

Systems approach to biology

Delivered

Functional Genomics Lab (BER)

Environmental and
Life Sciences Lab (GPP)

In Progress

Joint Institute for
Biological Sciences (State)

Planned

Expanded capabilities
for studying terrestrial
and aquatic ecosystems

Energy security and independence

Delivered

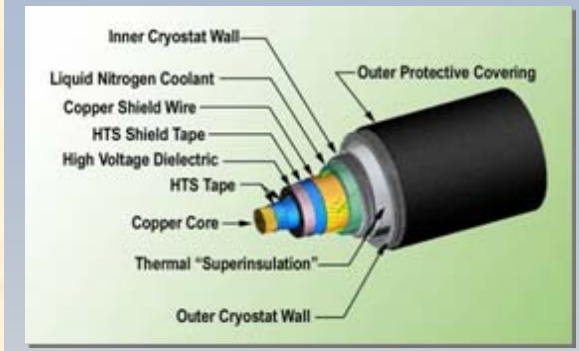
National Transportation Research Center (Private)

Energy Systems High-Bay (GPP)

National Transmission Technology Research Center (EERE)

Upgraded Offices (G&A)

Planned



4-km Superconducting Test Loop (EERE)

Support infrastructure . . .

Delivered

Research Offices (Private)

Conference Center
and Cafeteria (Line Item)

Oak Ridge Center for
Advanced Studies (State)

Multiprogram Research
Facility (Private)

Library Upgrade (GPP)

Planned

User Housing Facility (GPP)

ORNL's transformation is a great example of a working partnership

East Campus

Chestnut Ridge Campus

TVA

Battelle
The Business of Innovation

Melton Valley Nuclear Campus

West Campus

We believe we are creating a vibrant campus setting to support world-class R&D

Conference rooms and lobbies

Courtyard

Credit union

Signage

Conference center

Water feature

Entrance

Fitness center

Auditoriums

Coffee bar