

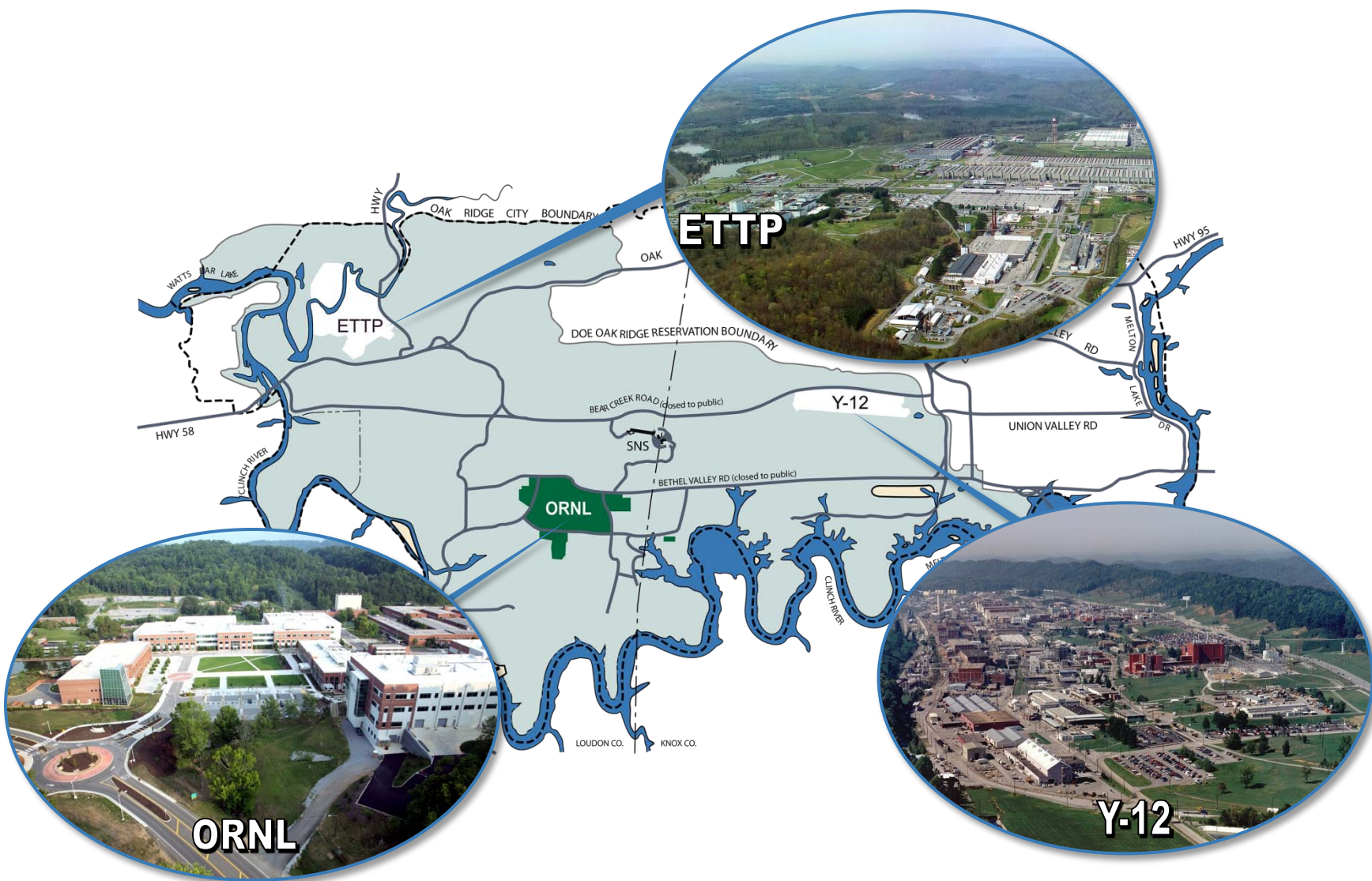
# Oak Ridge National Laboratory U.S Challenges, Progress and Future of ARRA D&D Projects

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# Since 1990, over \$12 Billion have been invested in Oak Ridge cleanup



# Oak Ridge Focus: Solving complex and difficult environmental problems created during World War II and the Cold War

- 140 acres of buried waste
  - 40 million pounds of uranium
  - 6 million curies of radioactivity
- 1,035 contaminated sites/facilities
  - 5 watersheds
  - 6 non-FFA projects
- 8 shutdown reactors
- 400 facilities in deteriorating condition
- Water-rich environment that promotes contaminant transport



# Key Cleanup Accomplishments

ORNL	Y-12	ETTP
<ul style="list-style-type: none"><li>• 150,000 ft<sup>2</sup> demolished</li><li>• &gt; 1M gal underground storage tanks closed</li><li>• 110 acres of burial grounds capped</li><li>• \$30M legacy materials disposed</li><li>• Initiated shipments of remote-handled and contact-handled waste to WIPP from TWPC</li><li>• Initiated facility modifications for U-233 downblend</li></ul>	<ul style="list-style-type: none"><li>• 1.2M ft<sup>2</sup> demolished</li><li>• S-3 waste disposal ponds closed</li><li>• Miles of Hg-contaminated stream cleaned up</li><li>• On-site CERCLA disposal cell constructed</li><li>• Boneyard/Burnyard area cleaned up</li></ul>	<ul style="list-style-type: none"><li>• 1.5M ft<sup>2</sup> demolished</li><li>• 4.5M ft<sup>2</sup> cleaned out for reuse</li><li>• 11 facilities and 5 land parcels to industry</li><li>• 6,000 UF<sub>6</sub> cylinders relocated</li><li>• 48,000 tons of scrap metal cleaned up</li><li>• 35M pounds of waste processed at TSCA incinerator</li></ul>

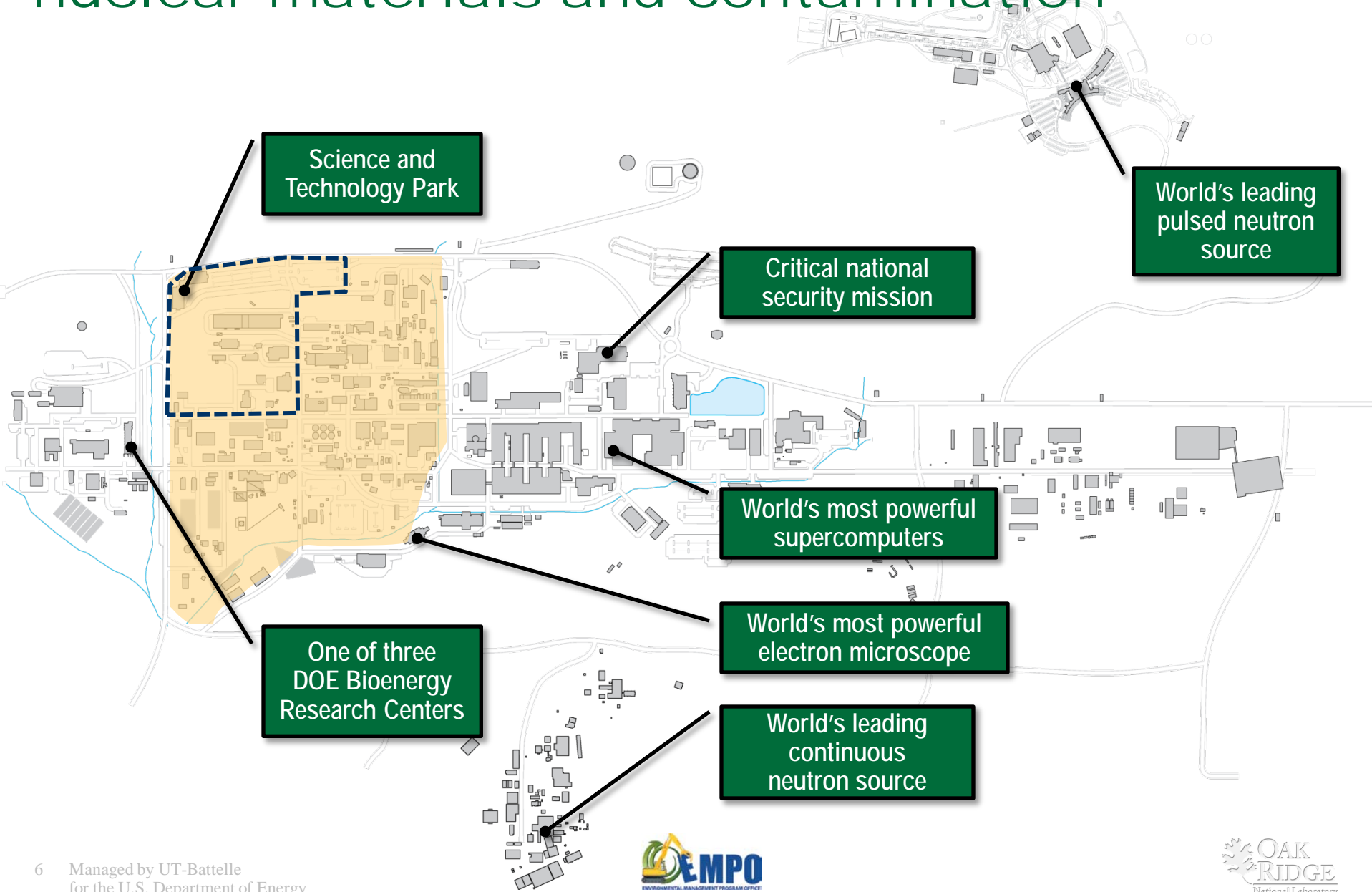


# ORNL: Leading key DOE science missions

Unique cleanup challenges: Large number and variety of radiological sources and contamination in the ORNL Central Campus, threatening co-located missions, workers, and guests.



# Key ORNL missions are at risk due to legacy nuclear materials and contamination



# Modernization has changed the ORNL landscape

**East Campus**



**West Campus**



**Melton Valley Nuclear Campus**



**Chestnut Ridge Campus**

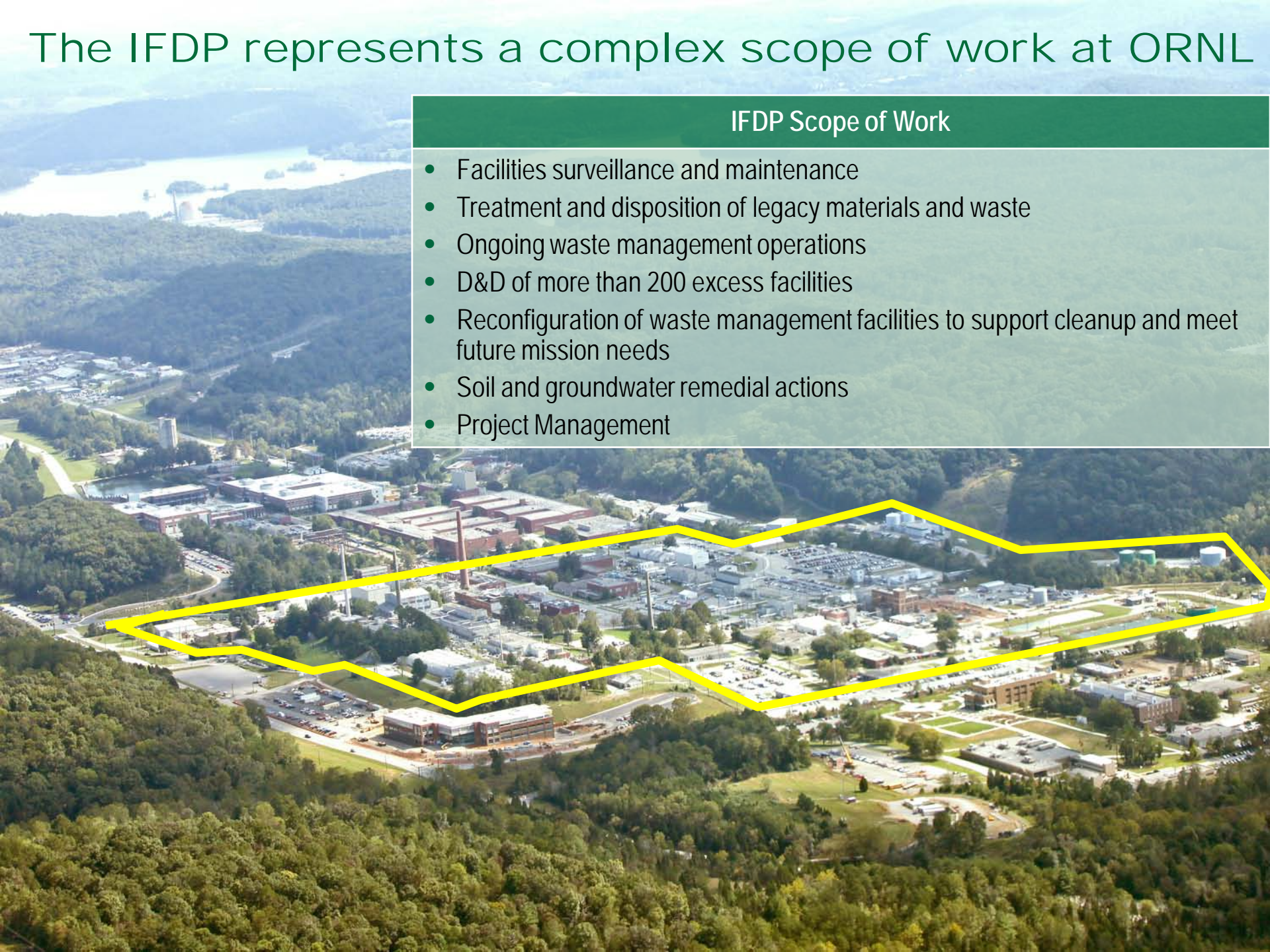
**But Central Campus remains a blight**

- Risk to staff and mission
- Excess Materials and Facilities
- Area needed for S&T Park

# The IFDP represents a complex scope of work at ORNL

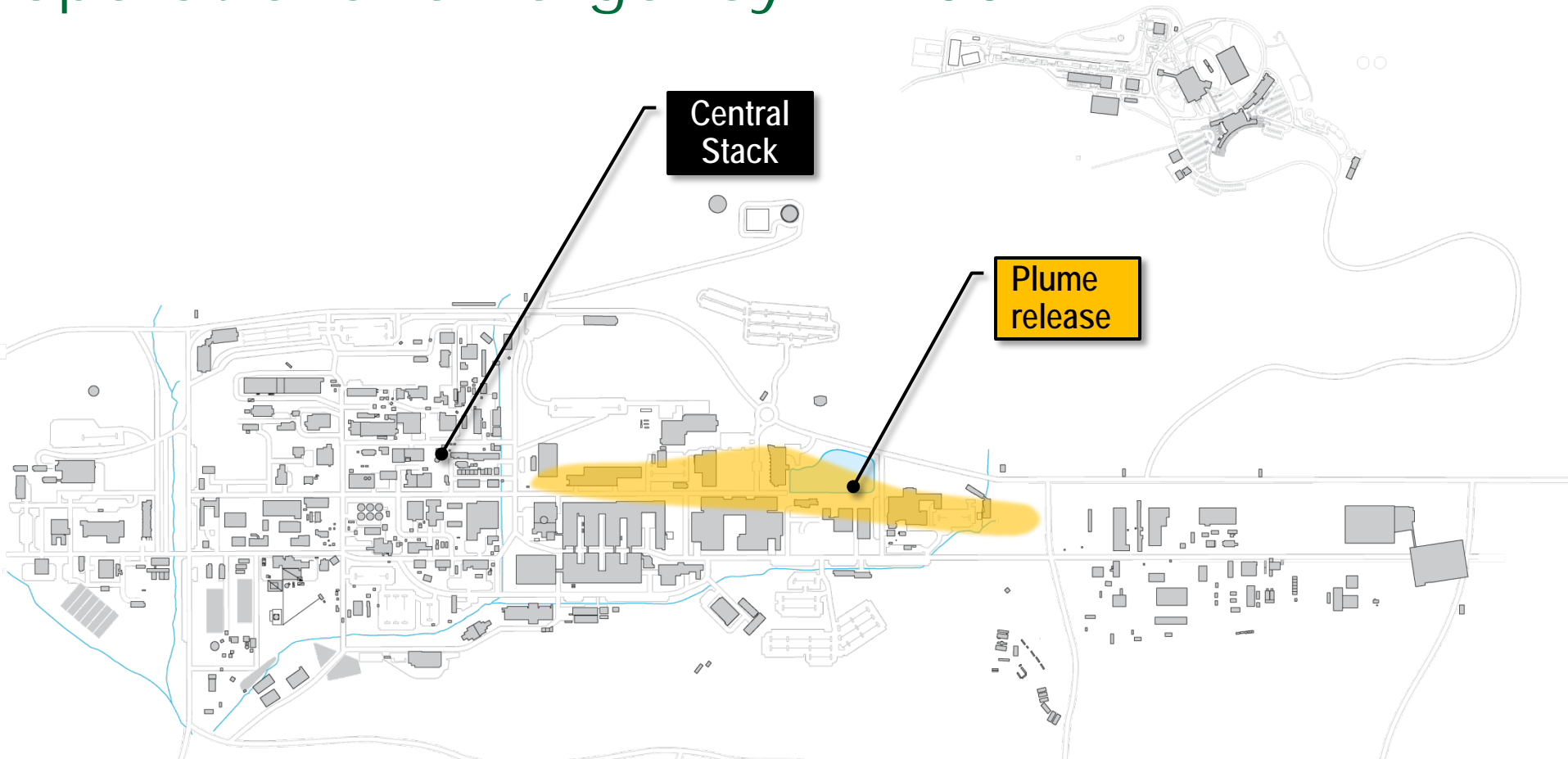
## IFDP Scope of Work

- Facilities surveillance and maintenance
- Treatment and disposition of legacy materials and waste
- Ongoing waste management operations
- D&D of more than 200 excess facilities
- Reconfiguration of waste management facilities to support cleanup and meet future mission needs
- Soil and groundwater remedial actions
- Project Management





# Routine maintenance of stack triggered an operational emergency in 2002

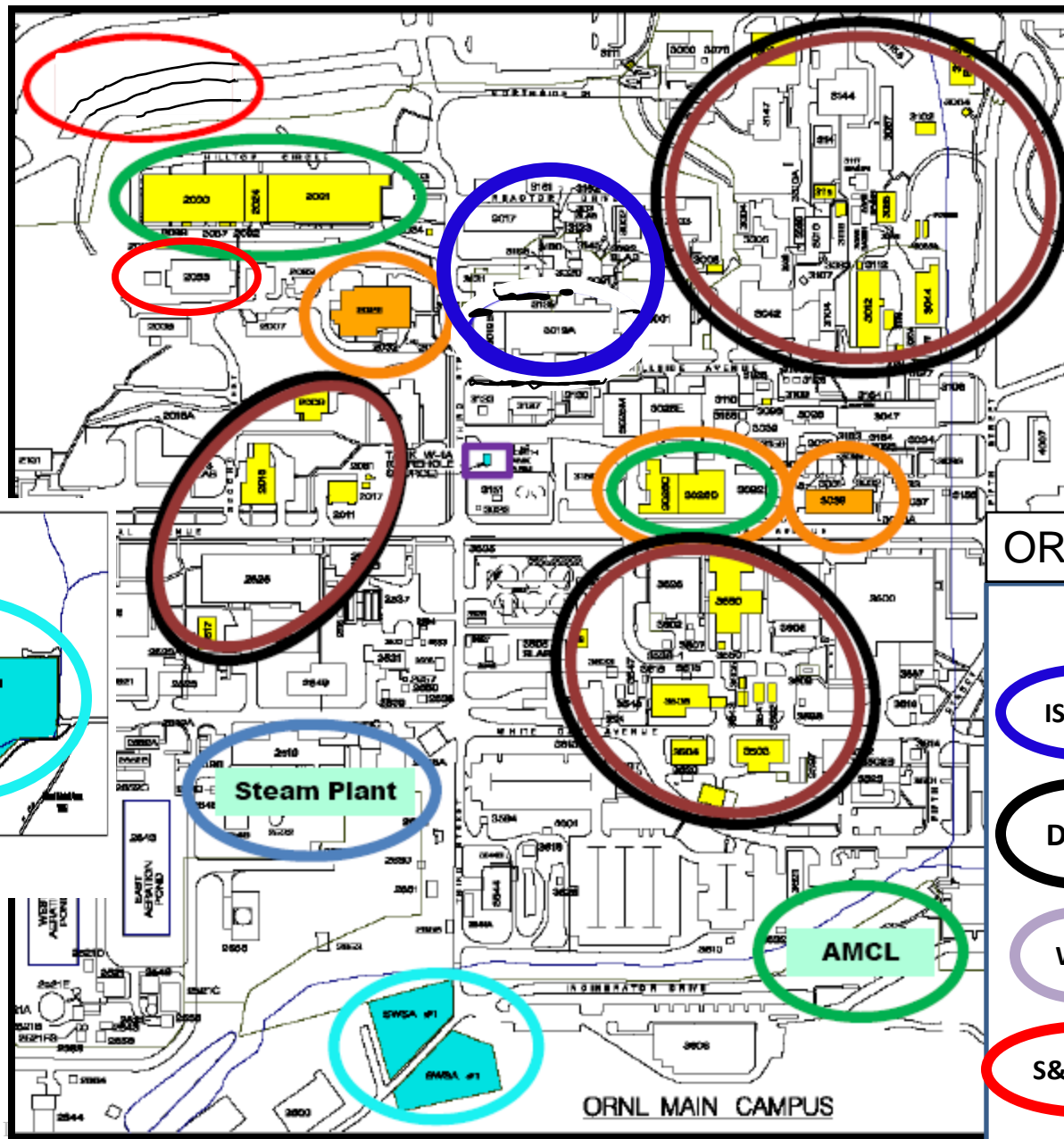


**A similar occurrence today would seriously impact DOE missions**

# \$357 Million of ARRA funded cleanup projects at ORNL have jump-started the IFDP

Project	Organization
3026C&D Wooden Superstructure D&D	UT-Battelle
2000 Complex D&D	UT-Battelle
Tank W-1A RA	Bechtel Jacobs
Melton Valley Sentinel Wells	Bechtel Jacobs
Facility Characterization	ORISE
ORNL Central Campus Facility Demolition and Legacy Material Disposition Project	ID/IQ TBD
ORNL Central Campus Hot Cell Demolition and Legacy Material Disposition Project	ID/IQ TBD
Bethel Valley Burial Grounds	LATA - Sharp Remediation Services
TRU Waste Processing Operations	Wastren Advantage, Inc

# Central Campus integration is essential!



**ORNL Cleanup**

- COMPLETE REMEDIAL ACTION
- COMPLETE D&D [APPLICABLE LEGACY WASTE DISPOSITION]
- LEGACY WASTE DISPOSITION

AREAS NOT SHOWN ON MAP:  
BY GROUND WATER EARLY ACTION  
MSRE SALT REMOVAL

**Modernized  
Laboratory  
Facilities**

## ORNL Site Organizations

- ISOTEK
- UT-B
- BJC
- D&D
- ORISE
- Hot Cell
- LATA-Sharp
- ES&H
- WSI
- WAI
- Johnson Controls
- S&T Park
- PSI



SWSA 3  
N.T.B.

# 3026 demolition has significantly reduced ESH and mission risk

- Eliminates fire hazard
- Prevents hazardous material release from uncontrolled facility collapse
- Isolates facility and 40 yr old HEPA filter from stack



# 3026 Demolition Video

Link to [3026-DND-Movie-final-final.wmv](#) Video



ENVIRONMENTAL



OAK RIDGE NATIONAL LABORATORY

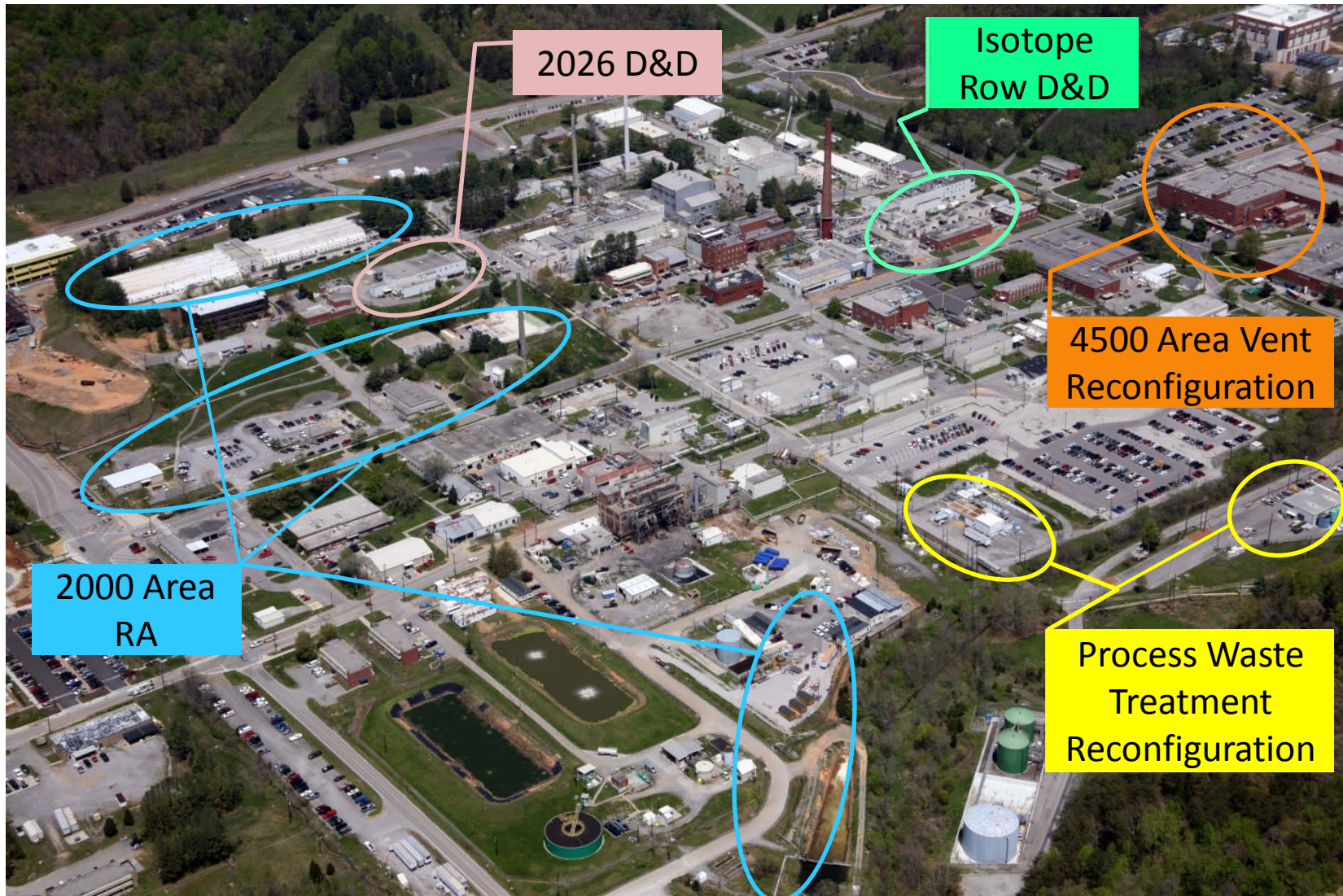
MANAGED BY UT-BATTELLE FOR THE DEPARTMENT OF ENERGY

# 2000 Complex D&D is underway

- Demolition contractor mobilized November 11, 2009
- Asbestos and rad abatement in progress
- Expect building demo in April



# CD-2/3 preparation underway for next set of projects



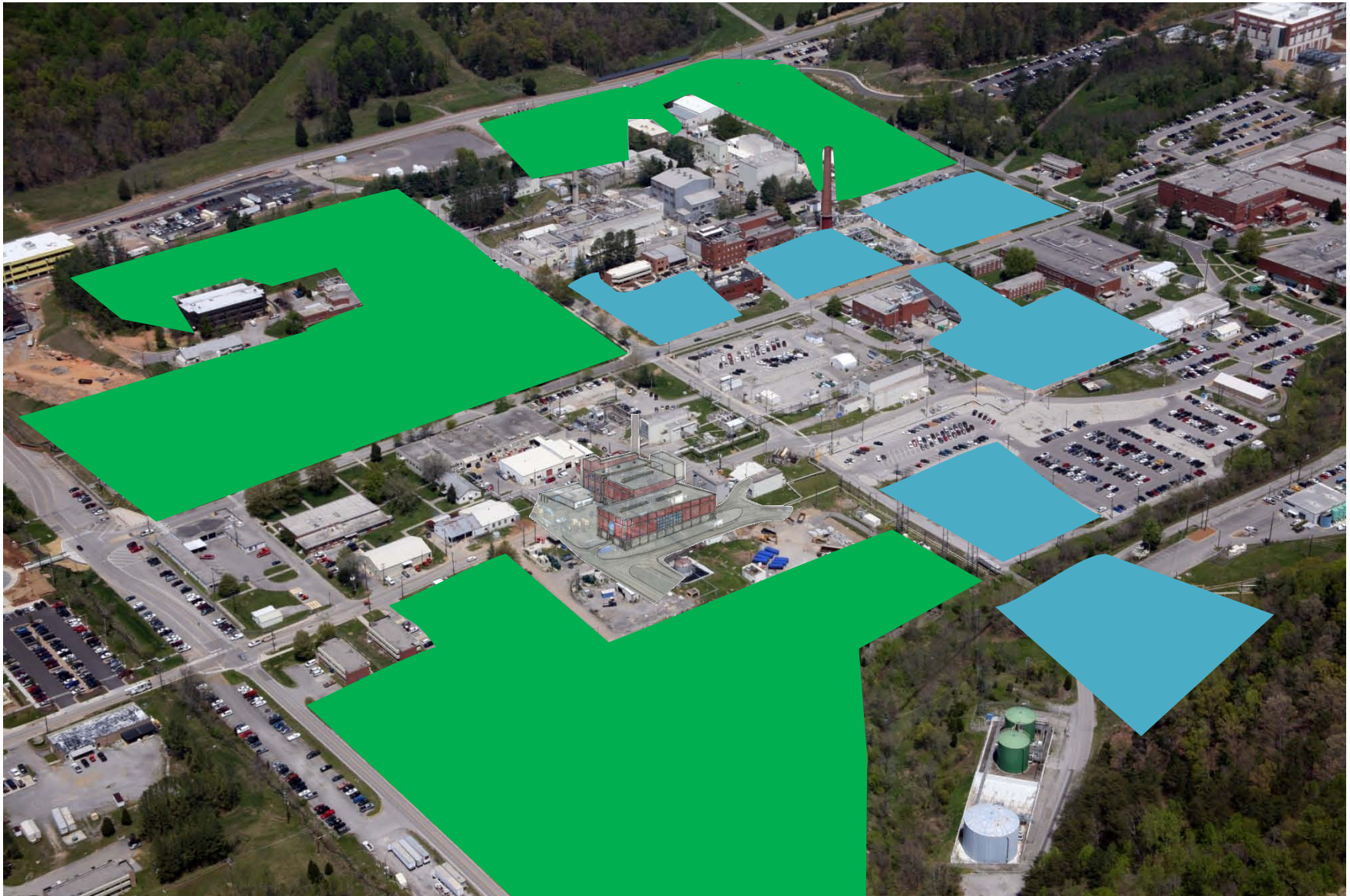
# ORNL Vision - 2015



Limited Development



Industrial Development



*30 Acres released for industrial development  
10 Acres released for limited development (e.g., parking)*



# A revitalized Central Campus will complete the transformation of ORNL



- New or expanded DOE R&D programs
- Partnerships for transfer of ORNL technologies to the marketplace