

Integrating Safety Into Security Operations to support D&D Activities at ETTP

Brenda Tilley, Manager

BJC Security & Emergency Services

Mike Tillery, Manager

WSI-OR ETTP Protective Force

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**This document is approved for
public release per review by:**

**Dave Lannom 7/31/09
BJC ETTP Classification &
Information Control Office**

Bio – Brenda Tilley

- Brenda Tilley has 26 years of Security experience working as a DOE contractor at the East Tennessee Technology Park (formerly Oak Ridge Gaseous Diffusion Plant).
- She is the Bechtel Jacobs Company (BJC) Manager of Security & Emergency Services, serving in this capacity since April 1998.

Brenda is responsible for the development and implementation of integrated programs for Safeguards and Security, Fire Protection Technical Services and Emergency Management, with a staff of 53.

BJC Security procures Protective Force services (staff of 125) at ETTP via a Memorandum of Agreement with Wackenhut Services Inc. Oak Ridge.

BJC also procures selected Security services: clearances, badging, information security (staff of 10) via a MOA with Protection Strategies, Inc.

Bio – Mike Tillery

- Mike Tillery manages the East Tennessee Technology Park (ETTP) Protective Force for Wackenhut Services Inc, Oak Ridge.
- He has 24 years service with Protective Force services in Oak Ridge, hiring in as a security police officer in 1984. He worked his way through the ranks to his current position and has worked at three of the four sites in Oak Ridge during his career.
- He began at the Oak Ridge National Laboratory (ORNL), transferred to Oak Ridge Protective Force (providing service to DOE-Oak Ridge facilities), and was promoted to the position of Major at ETTP in 2003.
- Mike was promoted to his current position as Manager of the ETTP Protective Force in 2004.

ETTP



ETTP

In addition to BJC, other site occupants:

- City of Oak Ridge Fire Department
- CROET (Community Reuse Organization of East Tennessee)
 - Commercial facilities/operations
 - Railroad
- ORNL (Classified CRADA)
- USEC (United States Enrichment Corporation)
- Y-12 EOC

Non-K-25 Project Activities

- Burial Ground Excavation
- Other Gaseous Diffusion Process Buildings
 - Pre-demolition and demolition
- Maintenance/Support buildings demolition
- Transition to City of Oak Ridge
 - Water Plant/water lines
 - Sewer lines
 - Utilities

K-25 Building



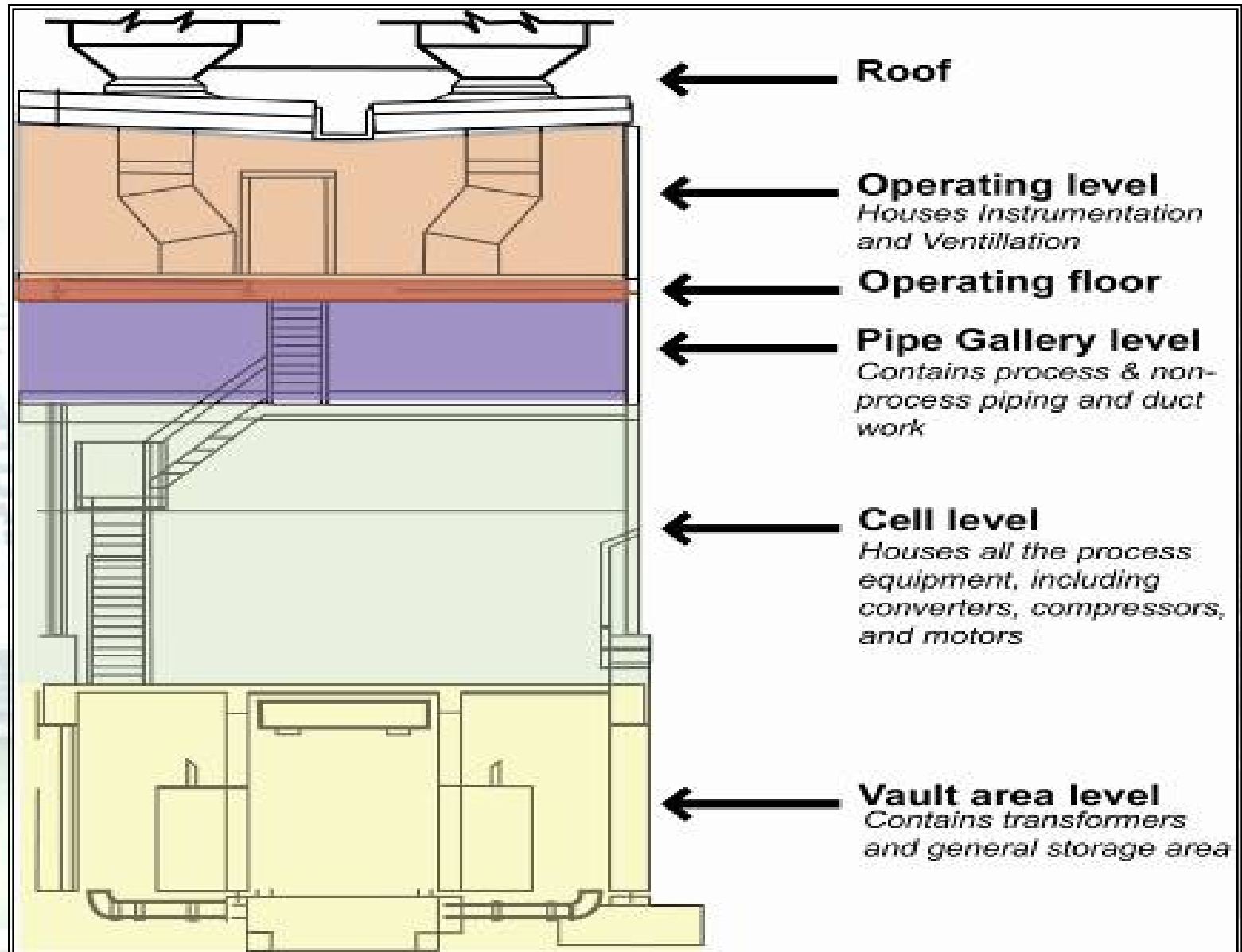
K-25 Building - “U” shaped, covering 1,640,000 ft²

- The K-25 Building was constructed in 1943-1945
- Primary operations were discontinued in 1963
- Only Limited maintenance conducted beyond 1980's

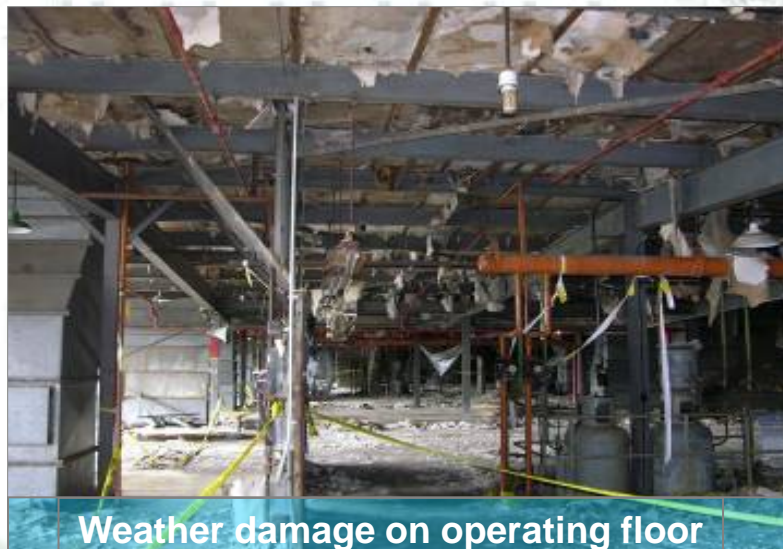
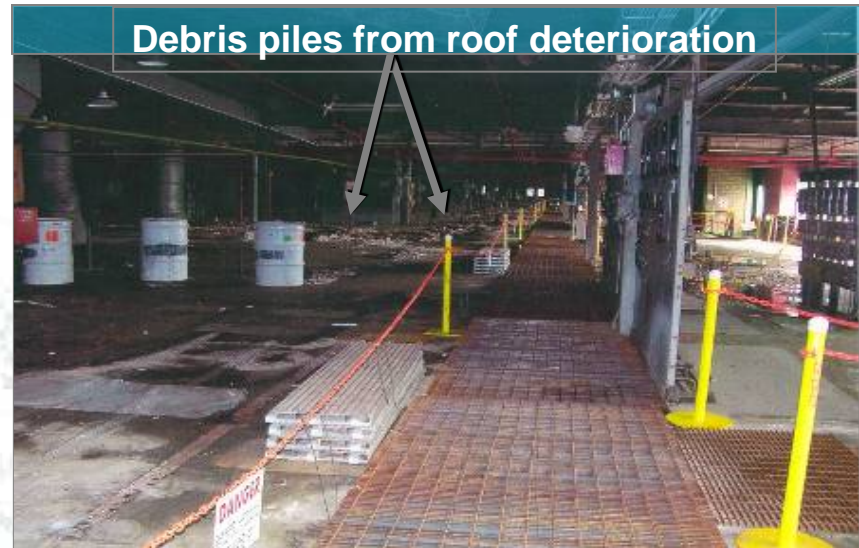
Challenge

- Ensure safety of Security personnel during D&D activities
 - Protection of Special Nuclear Material and Classified Matter
 - SNM dispersed throughout the mile-long building
 - Classified Matter: Equipment, Materials, Hardware

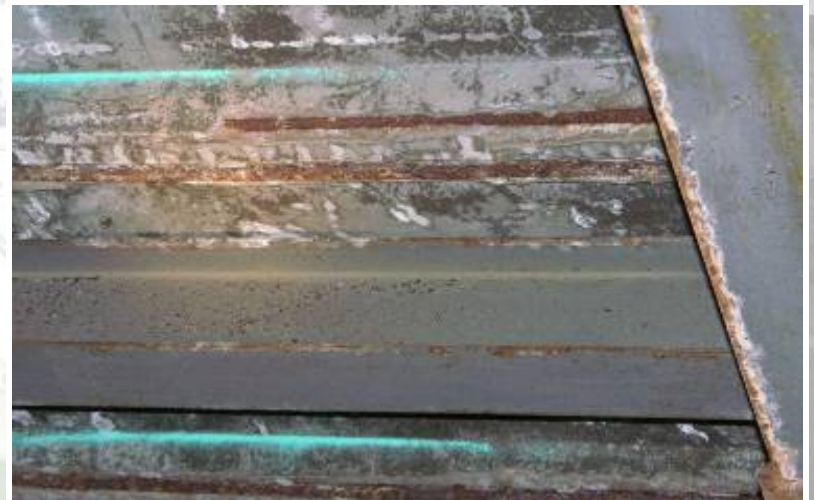
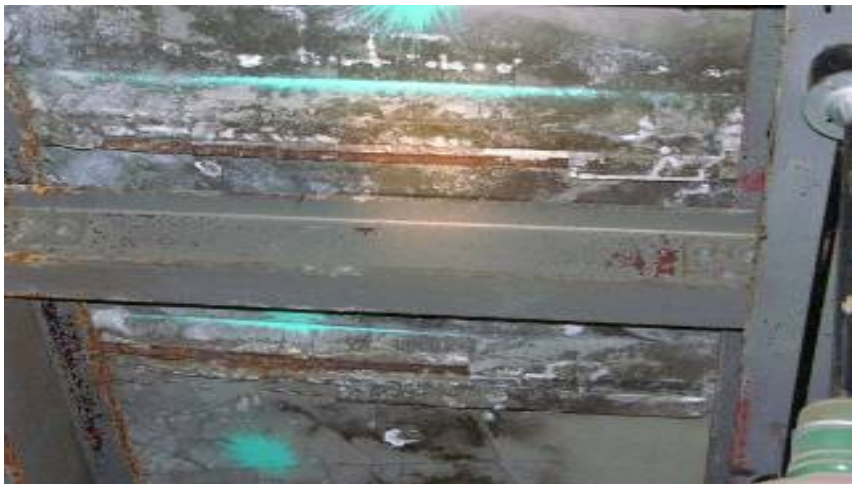
K-25 Building Elevations



K-25 Building Deteriorating Conditions



Damaged Operating Floor Panels



Impacts of K-25 Building Conditions

- **Building deterioration impacted access**
 - Roof decking
 - Operating floor concrete panels
 - Cell floor
- **Required revised decommission approach**
 - Restrict operating floor access
 - Design/construct new criticality detection system
 - Design/construct new Assay and Segmentation Shops
 - Provide overhead protection on cell floor
 - Mitigate corbel and beam damage
 - Maximize the use of heavy equipment, minimize the use of manual labor
 - Establish a robust “criticality incredibility” and characterization program

Transite Removal



Corbel Repair



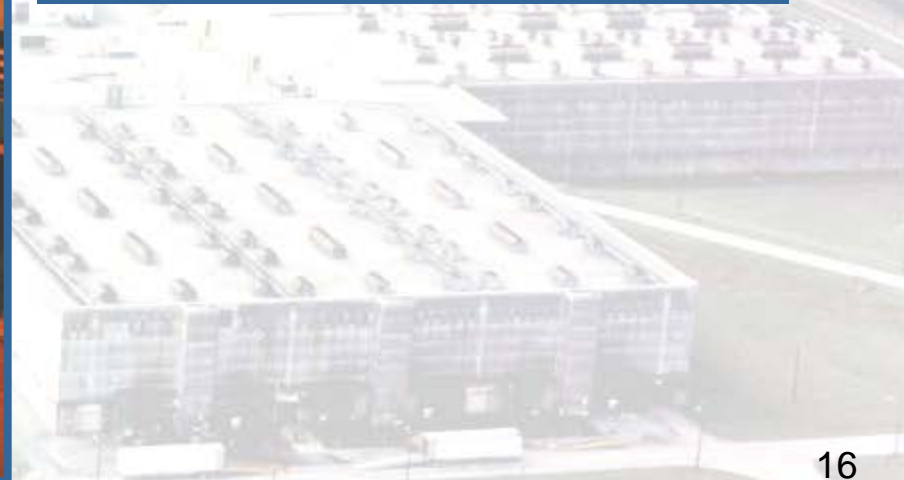
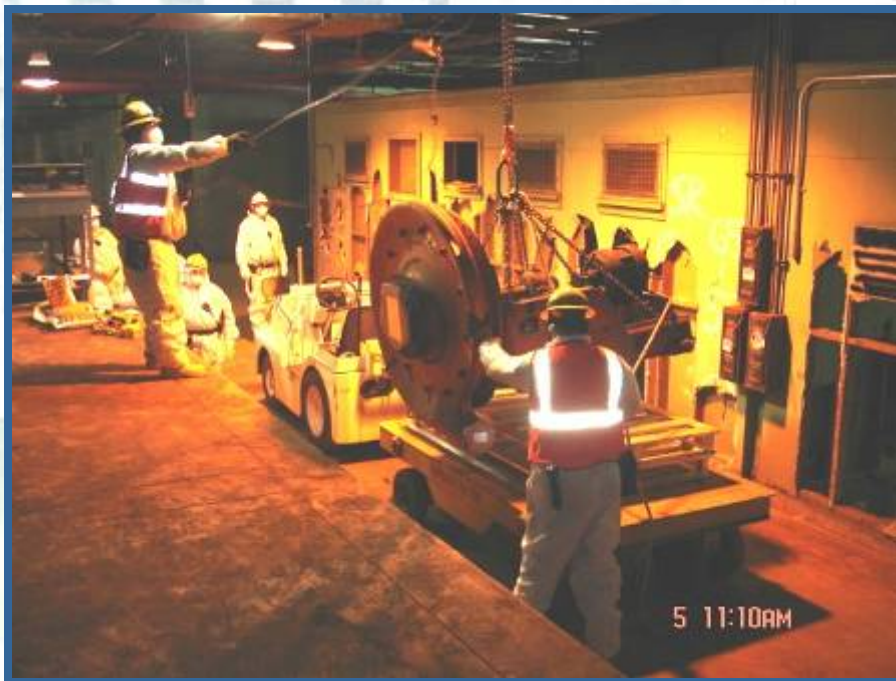
Crews installing a corbel repair

Nets and Barrier Installation



Crews installing protective nets and barriers

Foaming and Component Removal



Vent/Purge/Drain, Inspection & Foaming



Stakeholders/Decision Makers

- Department of Energy (DOE)
 - Oak Ridge Office
 - Headquarters
- Bechtel Jacobs Company (BJC)
- Wackenhut Services Inc, Oak Ridge (WSI)
- State of Tennessee
- Environmental Protection Agency

Changes/Modifications

- Physical Separation of Facility (K-25 and auxiliary buildings)
 - Establishment of a “Controlled” Limited Area (CLA) pushed security controls from building perimeter to CLA perimeter
 - Perimeter fence installed encompassing ~200 acres
 - Two ingress/egress portals
 - X-ray machines, metal detectors, SNM detectors

Changes/Modifications

- Pro Force assignments
 - Modification of interior and exterior building patrols
 - Adaptation to working conditions
 - Standing water/interior freezing
 - Mold/mildew
 - Extreme heat
 - Inaccessible areas
 - Work hour restrictions – rotation of assignments every 2 hours

Changes/Modifications

- Initial NDA and Segmentation Shops established inside building
- New shops constructed outside building allowing easier access, better working conditions and greater ability for Protective Force control during operations and containment, if required

Changes/Modifications

- Protective Force PPE
 - Different type of respirators used
 - Hardhats/steel-toed shoes
 - Changed to EURO sling on M-4 rifle
- Vehicles
 - Replaced Tahoes/Crown Vics with mini-vans
 - Use of “tiger trucks” inside the K-25 Building truck alleys

Vehicle Accidents



WSI Bargaining Unit & WSI Management personnel worked together to reduce number of Motor Vehicle Accidents (7 from 7/05 through 3/06)

Contributing factors:

- Confined space
- Congestion created by CLA Office/Break/Change-House trailers
- Equipment, machinery, containers (B-25, connex, etc.) staged adjacent to roadways
- Daily changes in road conditions and patrol routes

Vehicle Changes

- April 2006 transitioned from Tahoes & Crown Vics to mini-vans
 - Easier to maneuver in confined spaces
 - Ability to better observe obstacles when backing
- June 2006 WSI-OR implemented Vehicle Safety Magnet Program
 - Required operator of vehicle to place magnetic placard on rear of parked vehicle
 - Prior to operating vehicle, required “walk around” to observe for obstacles prior to removal of placard
 - Utilization of a spotter when available
- **Results:**
 - Three MVAs in past three years
 - Currently 430,000+ safe driving miles
 - 15 months without a vehicle accident

Additional Pro Force Supervision

- Additional Protective Force Lieutenants required for dedicated support and supervision
 - 2 Lieutenants: K-25 Building
 - 1 Lieutenant: EMWMF (BJC off-site classified landfill) and Haul Road (new road established for shipments to EMWMF)

Emergency Management Impacts

- Established new evacuation area inside CLA, but outside the IEZ
- Changed evacuation routes with increased Protective Force responsibility for evacuation and accountability
- Modified Assembly Stations to establish boundaries for personnel movement, controlled by Protective Force
 - Prevent access to personal vehicles in parking lots
 - Prevent diversion or theft of material (personnel leaving or going to POVs)
 - Assist with radiological monitoring prior to reentry

Emergency Management Impacts

- Temporary doffing stations created in the immediate vicinity of CLA Assembly Stations
- Size of areas controlled by Protective Force drastically increased
- Development of new procedures/plans and checklists used by PSS (24 hour Emergency Notification Office)
- Development of new training/drills/exercises for response to Segmentation Shop

Documentation

- Vulnerability Assessments
 - Numerous VA's required due to changes in project execution (West vs. East Side of K-25 Building)
- Multiple Security Plans
- Safety Plans
 - Tc99 Example
- Emergency Management Plans and Procedures
- Performance Tests

Ongoing Interfaces

- Bi-weekly meeting with DOE-ORO Security & Transportation, K-25 Project, BJC and WSI Security
- Monthly meeting with BJC President (Safety/Union Representatives)
- Weekly meeting with BJC Security Manager and Protective Force Manager
- Plan-of-day meetings (K-25 Project, EMWMF)
- Participation in EM drills/exercises, staffing of EOC
- Protective Force support to City of Oak Ridge FD Incident Command
- Interface in Continuity of Operations planning
- Safety walk-downs (BJC & WSI)
- Weekly Protective Force Safety meeting with bargaining unit Safety representatives

Progress: K-25 Building West Wing

- High Risk Equipment, etc. removed, foaming completed
- Utility deactivations completed
- Downgraded to a “radiological facility”
- West Wing declared “criticality incredible” 12-10-08
- Demolition began 12-16-08



Elevator shaft being demolished



Sewage lift station being demolished



Stairwells removed from west side

Demolition of West Wing



Demolition of West Wing



LESSONS LEARNED

- Frequent, ongoing dialogue with Project(s) a must
- Changes to project execution plans must be communicated ASAP
 - Impacts to Security/Protective Force PPE requirements, storage requirements, configuration of storage areas, Performance Testing, Emergency Management, etc.
- Immediate notifications to PSS of non K-25 Project “changed conditions” a necessity
- Worker involvement (to include Security Police Officers) crucial
- Security impacts must be considered “up front” to reduce potential for major cost and schedule impacts