



# K-25 Welder Fatality

Lockheed Martin Energy Systems

This document has been reviewed and confirmed to be UNCLASSIFIED and contains no UCNI.

Name: Dave Lannom

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UCOR eDC/RO ID: 30140



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# Fatal Welder Fire Incident

February 13, 1997

K-33 Gaseous Diffusion Building  
At the  
East Tennessee Technology Park  
(ETTP)



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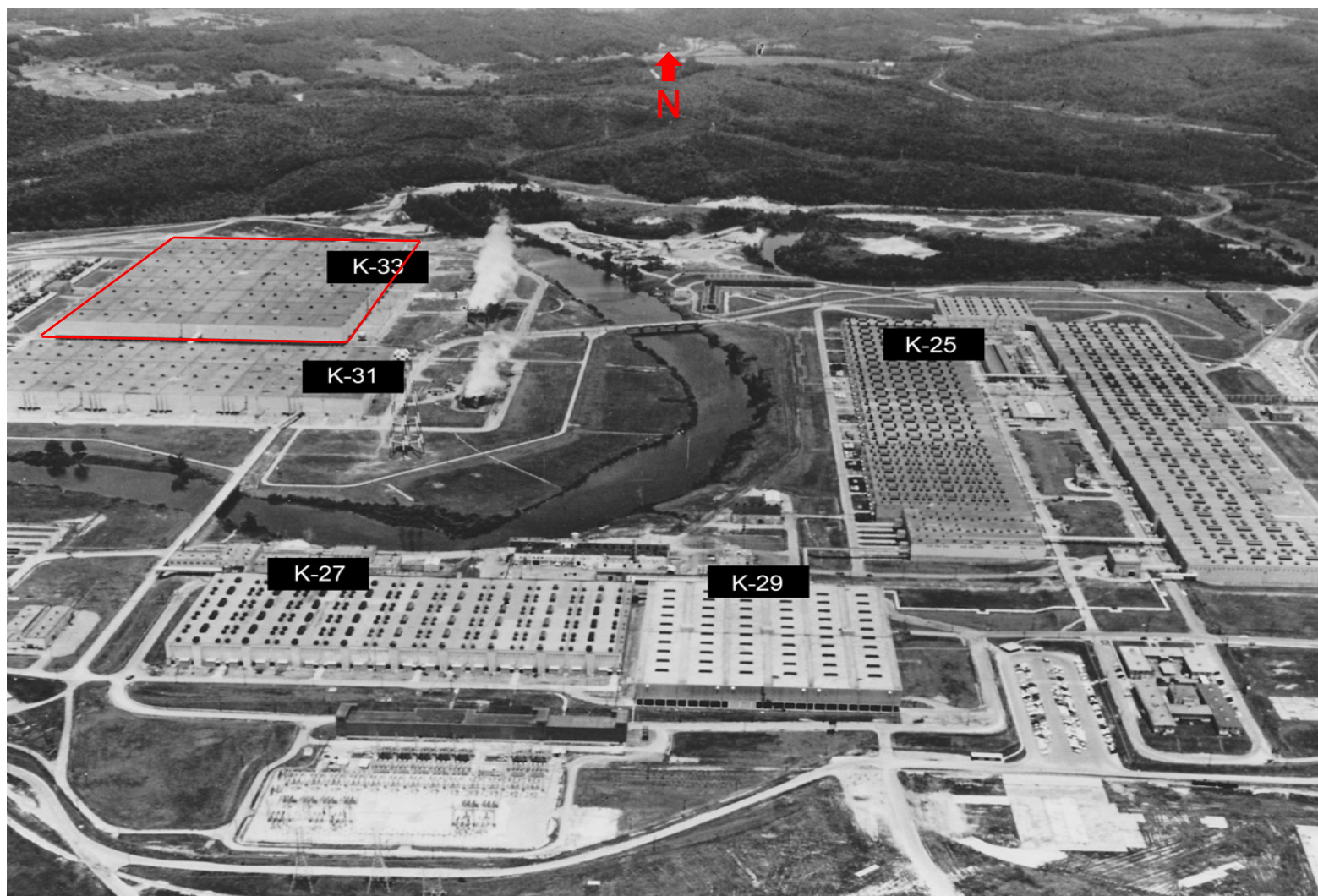
# ETTP Fire Department Demographics

- 21 Career Emergency Responders, 5 Officers & 16 Specialists
- 2 Type 1 Engines, 1 Type 1 Aerial, 1 Heavy Rescue, 2 Ambulances
- Fire Suppression, EMS, HAZ/MAT Technician, System IT&M
- 542 Sprinkler systems, 275 hydrants, Gamewell Fire Alarm
- Dedicated Fire Water Distribution System @ 150 psi (separate from sanitary water system)
- 5 Fixed Fire Pumps, 2 Elevated Water Tanks



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# Oak Ridge Gaseous Diffusion Buildings



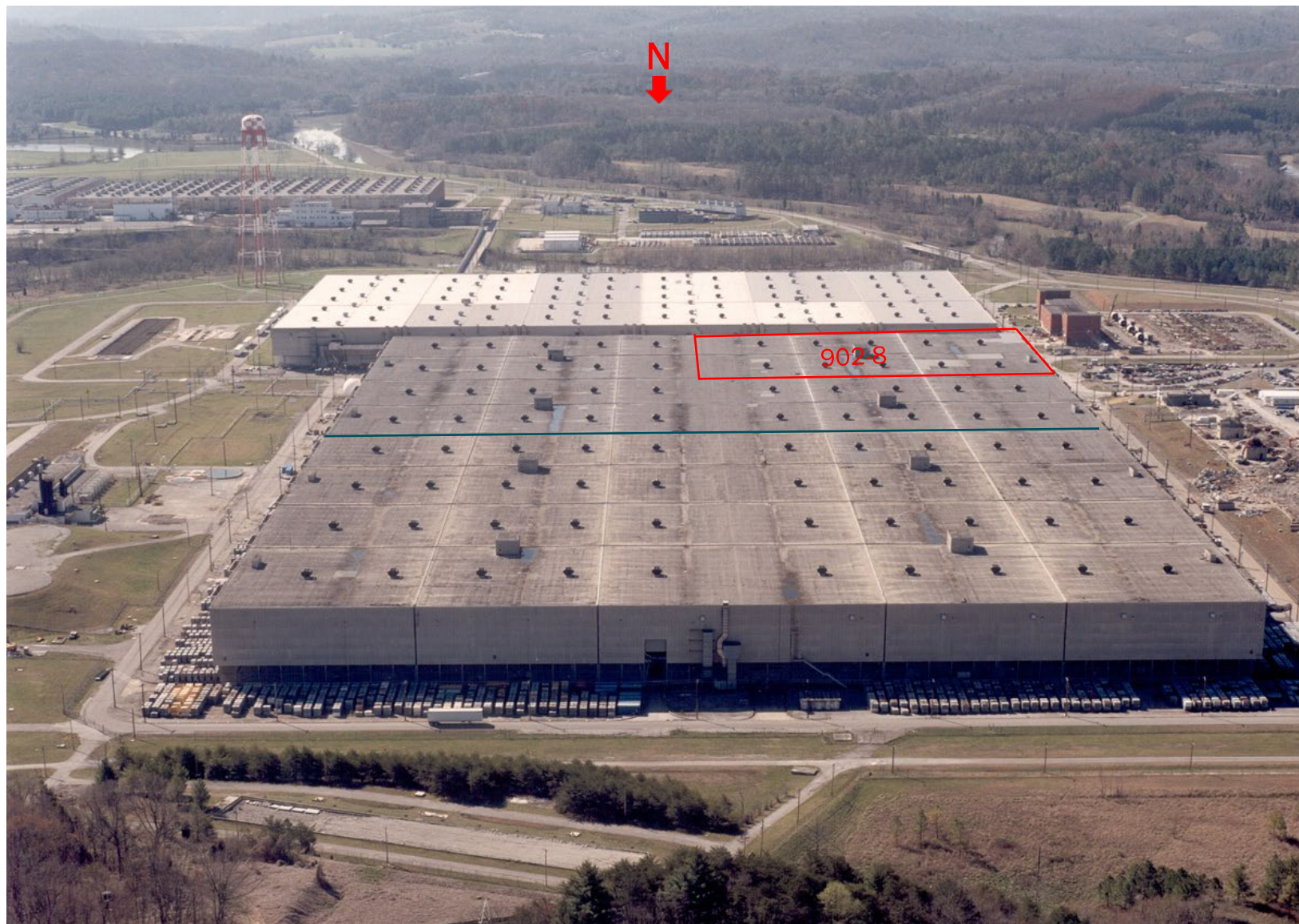
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## Background

- Former Oak Ridge Gaseous Diffusion Plant
- Process Closed in 1985, Mission Changed in 1987
- Current Mission was Management of EM & EF
- K-33 Building Scheduled for Metal Mining by BNFL
- Transfer of Useable equipment to Portsmouth & Paducah
- Additional Funding & Intense Work Schedule



# K-33 Gaseous Diffusion Building



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# Alarm Receipt & Dispatch

- Gamewell Box 856 Struck @ 1111 hours for K-902-8 Cell Floor
- Second Box 849 Struck @ 1113 hours for K-902-8 Operating Floor
- PSS Advised Employee Injured in Cell #8, SW Section of Building
- Shift Commander and 2 Specialists Entered Pedestrian Door
- Remaining FD Responders and Emergency Squad Staged
- Difficulty Accessing Scene Due to Process Piping



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# Gaseous Diffusion Cell



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# Incident Assessment

- Severely & Totally Burned Worker
- High Contamination Zone
- Unknown Fire Source
- Oxy-Acetylene Source
- Access/Egress Complications
- Additional Staffing & Equipment
- Approximately 40 Degrees F.



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# Emergency Actions

- Relocate Staging to East Side of Building
- Establish Access Route from East
- Develop/Establish Egress Route
- Deploy Necessary Equipment and Personnel
- Prepare for Handling Contaminated Patient
- Deploy Medical Team to Staging Area
- Notify REAC/TS & Methodist Medical Center



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# Radiation Emergency Assistance Center/Training Site - REAC/TS

"The Radiation Emergency Assistance Center/Training Site (REAC/TS) is a world-renowned, U.S. Department of Energy (DOE) asset and a leader in emergency medical response to radiological/nuclear incidents, providing emergency response, advice and consultation for the National Nuclear Security Administration's (NNSA) Office of Counterterrorism and Counterproliferation. REAC/TS is operated for DOE by Oak Ridge Associated University (ORAU)."



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## Egress Route

- Side Panels of Cell 6 Were Removed Previously
- Packaged Patient on Long Spine Board
- 12 Workers used to Pass Patient Through Cell
- Placed Patient on Main Ambulance Stretcher
- Rolled Patient to East Elevator (300 + feet)
- 3 Minute Elevator Ride to Ground
- Pass Through Building Rad Boundary



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# Hospital Transport

- Consideration of Rotary Wing Transport
- Preparation of Ambulance
- Medical Staff Accompanies Ambulance Crew
- Treatment Enroute
- Treatment at Methodist Medical Center
  - Medical Treatment
  - Contamination Reduction



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## Patient Disposition

- Transferred to Intensive Care Unit for Stabilization
- Transferred to Erlanger Burn Center in Chattanooga at 1630
- Condition Deteriorated Throughout the Night
- Patient Expired at 1041 Hours, Friday, 2/14/1997 (Valentine's Day)
- Cause of Death: Acute Respiratory Distress Syndrome



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## **ETTP Fire Department Lessons Learned**

- More Focused Response Posture
  - Protective Clothing
  - Respiratory Equipment
  - First Aid Equipment
- Use of REAC/TS for Emergency Treatment
- Emergency Equipment Cache in Process Buildings
- Hotwork Extinguishers in Rad Zones



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