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Title: Examples of Aging and Failing Infrastructure

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Los Alamos
NATIONAL LABORATORY

Examples of Aging and Failing Infrastructure

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SM-39 Facility: Windows, No High Bay HVAC, and Concrete

Over 100 failing windows

Concrete dock aging; posts support dock canopy

LANSCE

TA-53-0003, Sectors A, J, and B thru H, Air Handling Units (AHU)

LANSCE TA-53 Cooling Tower Pipe Distribution System

Pump House

Pipe Runs the length of LINAC (left) and to distant accelerator Target Areas (right)

LANSCE Proton Storage Ring, Air Handling Units (AHU), and Chillers

- Outdated (40+ years old) AHUs and 15 year-old Chillers

AHU

Chiller

LANSCE More aged AHUs

LANSCE Sector-E Chillers and Refrigerant Monitoring System

- 20+ year old chillers and support systems: outdated and nearing end of service life

Chiller (Water-Cooled)

Refrigerant Monitor/Alarm System

LANSCE Area C AHU and Return (Exhaust) Air Fan/Stack

- Outdated (40+ years old) AHU and Return (Exhaust) Fan

AHU

Return (Exhaust) Air Fan/ Stack

LANSCE Various Heating Units

- Aged (40+ years old) heating units

TA22 Storage Facilities

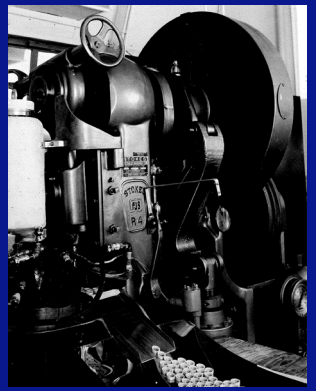
- Building 5 and 10 = temporary sheds with inadequate/nonexistent climate controls for WR materials/packaging

Building 5

Building 10

TA22 Storage Facility – Current Inadequate Assets Building 5

Originally Used for Production Processes



Container Kit Assembly for Products

Warehousing

TA22 Storage Facility – Current Inadequate Assets Building 110

- Missing lights (flashlights required for entry), fire suppression, and HVAC

Skylight as only lighting and no insulation or electrical

Only fire suppression: Fire extinguisher by door

Certified WR Materials

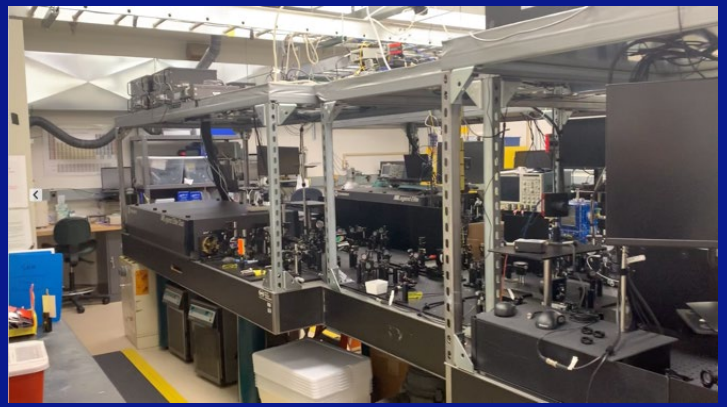
Vermin

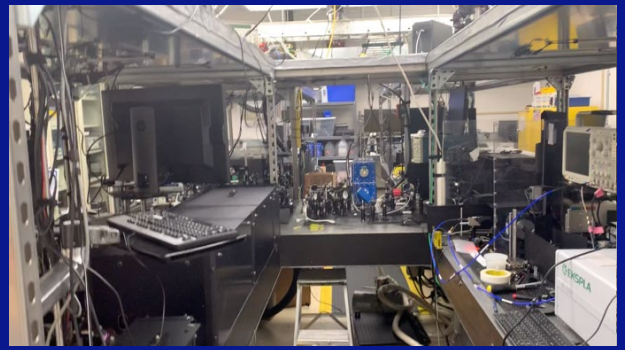
Burning Grounds

- Infrastructure surpassed useful life: constant disrepair
- Underground piping suspect, lid of sand filter antiquated
- Moveable enclosure over flash pad in poor condition
- Many manual system checks required

TA-40 Explosives and Lasers Facility

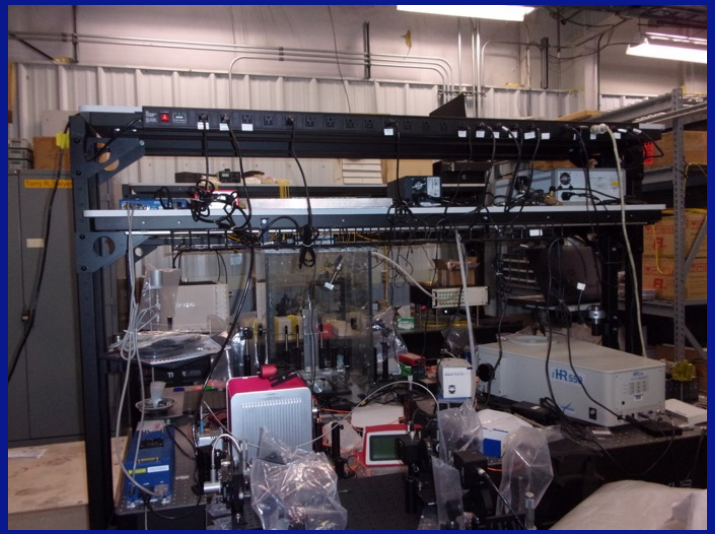
- Crowded laser labs for performing high explosives (HE) experiments not in the HE area
- Front door leads to office cubicles
- 3 to 4 concurrent experiments with different laser hazards makes safety a challenge



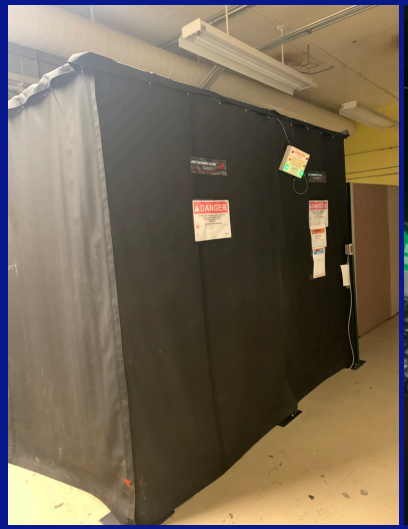


TA-40 Explosives and Lasers Facility

Optics development co-located with firing led to damages: $500k scope and $200k laser when port breached in large shot



Experiments using Class 4 lasers on HE in 10’x12’x8’ laser barrier tent (outside HE area)



TA-40 Explosives and Lasers Facility: Drivers

Temporary laser barriers added to exterior entry to laser laboratory

Temporary shed added to get chillers to dump heat load outside

TA-55 Zone 1 Fans

- Fans are 42 years old: beyond expected service life

TA-55 Zone 2 Fans

- Over 42 years old and beyond expected service life

Zone 2 Bleed Off Fans

TA-55 PF-4 Unit Substations 607 and 608

- Substations provide power to Motor Control Centers and facility power conductors

TA-55 PF-4 Motor Control Center 611 and 612

- Provide power to selected loads in PF-4 and its support buildings
- Need revitalization

Motor Control Center 611 (Left) and 612 (Right)

RANT Crane

- Loads payloads of TRU waste package transporters and transuranic packaged transporters
- Recent maintenance issues with crane
- Limited redundancy in system – concern of limiting waste shipments

TA-11 K-Site Environmental Testing Facility Degradation

Sigma: External

Sigma: Internal