NAS Infrastructure Management

ATO Technical Operations

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at The National Academies

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NAS Buildings and Building Systems

- **NAS building and building systems infrastructure is made up of:**
  - 9,000 General National Airspace unstaffed facilities
  - Power systems
    - 3800 engine generators
    - 587 uninterruptible power supply systems
  - 21 Air Route Traffic Control Centers (ARTCCs)
  - 3 Center Radar Approach Control (CERAPs)
  - 1 Combined facility (ATCT/TRACON/CERAP)
  - 519 Terminal facilities
  - 3 Automated Flight Service Stations (Alaska)
  - 14 Flight Service Stations (Alaska)

Surveillance

Navigation Aids

Communications

Facility Assessments

Facility Condition Index (FCI)

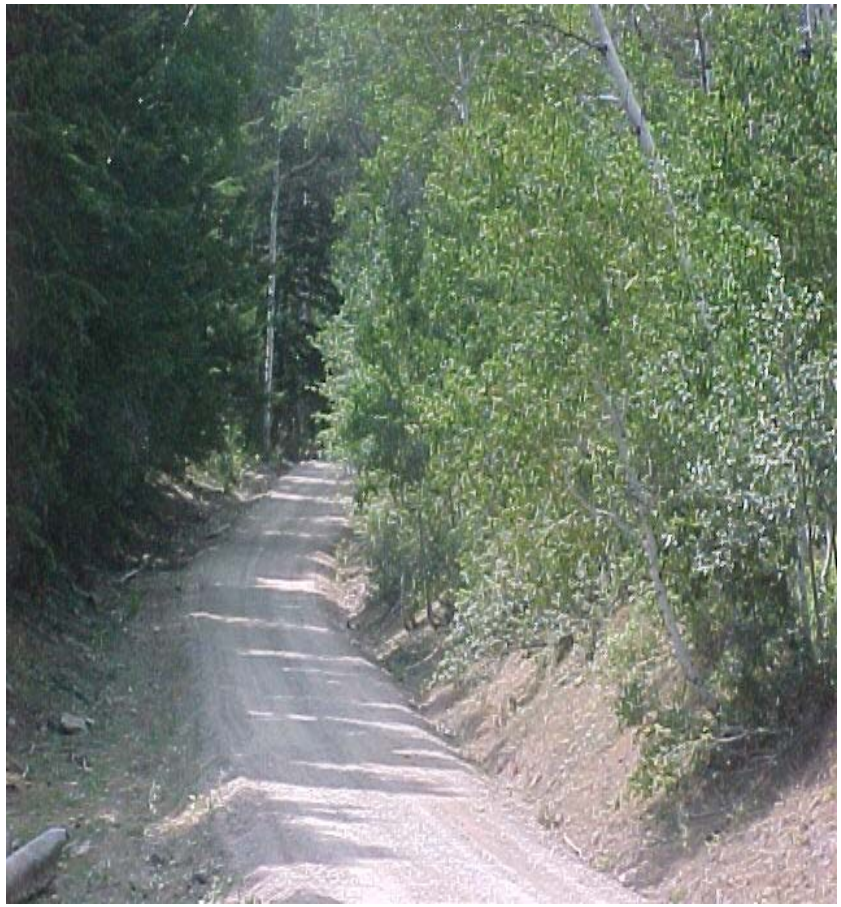
$$FCI = \frac{\text{Dollar value of backlog (Maintenance \& repair)}}{\text{Current replacement value}}$$

Shelter Replacement

HVAC Replacement

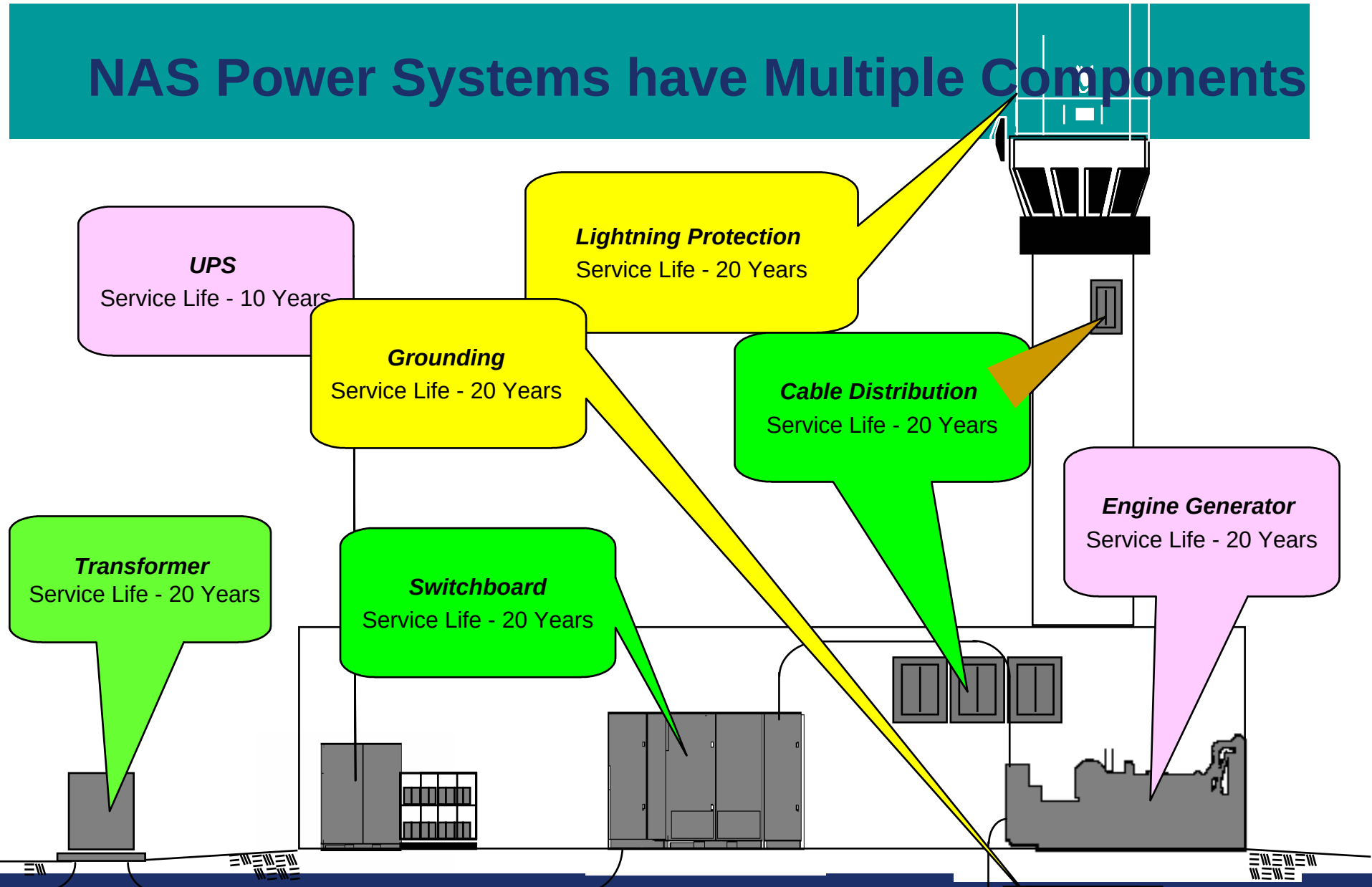
Structural Towers

Access Roads

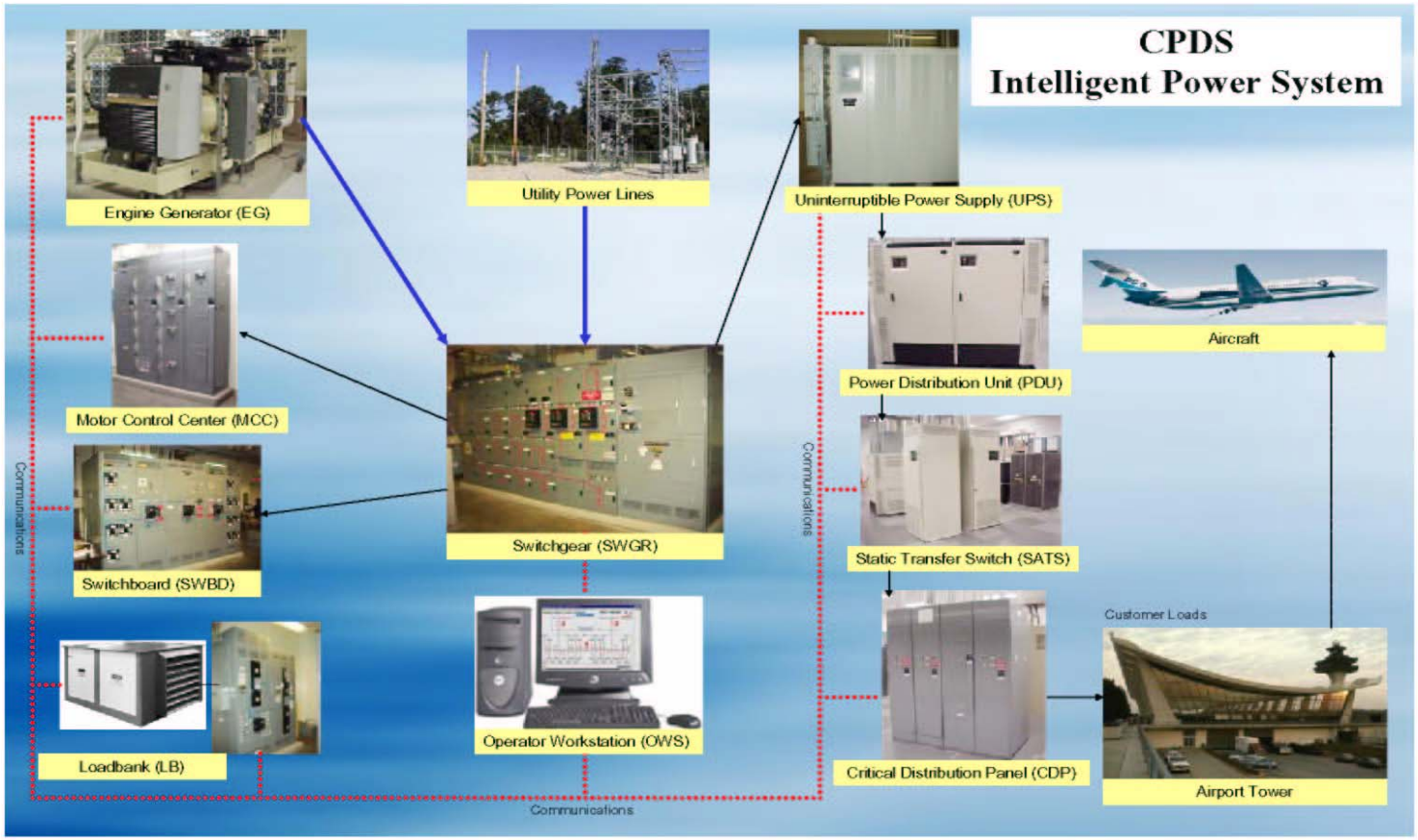


Roofing

NAS Power Systems have Multiple Components



Critical Power Distribution System (CPDS) Have Multiple Complex Subsystems



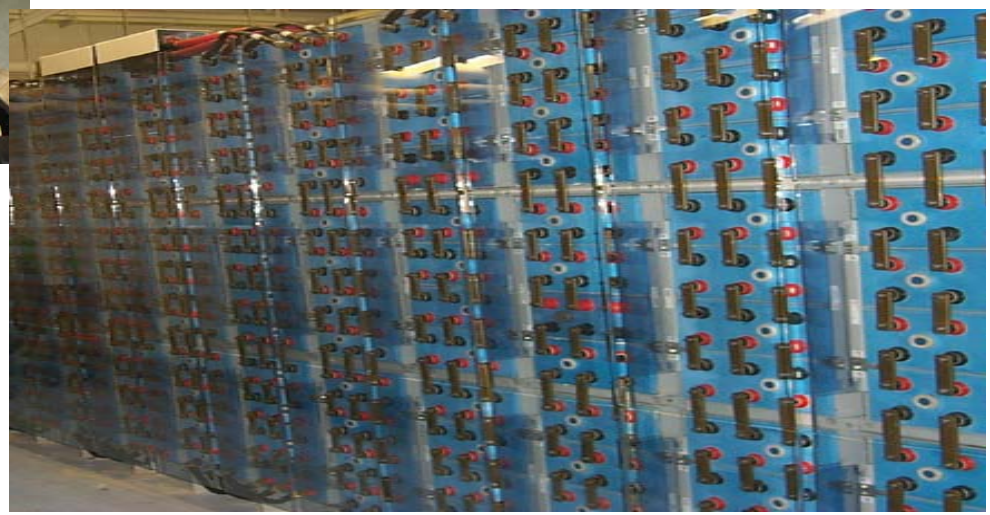
Both GNAS and ARTCC Batteries Must Be Replaced before They Fail

GNAS Battery Bank

"Wet Cells"

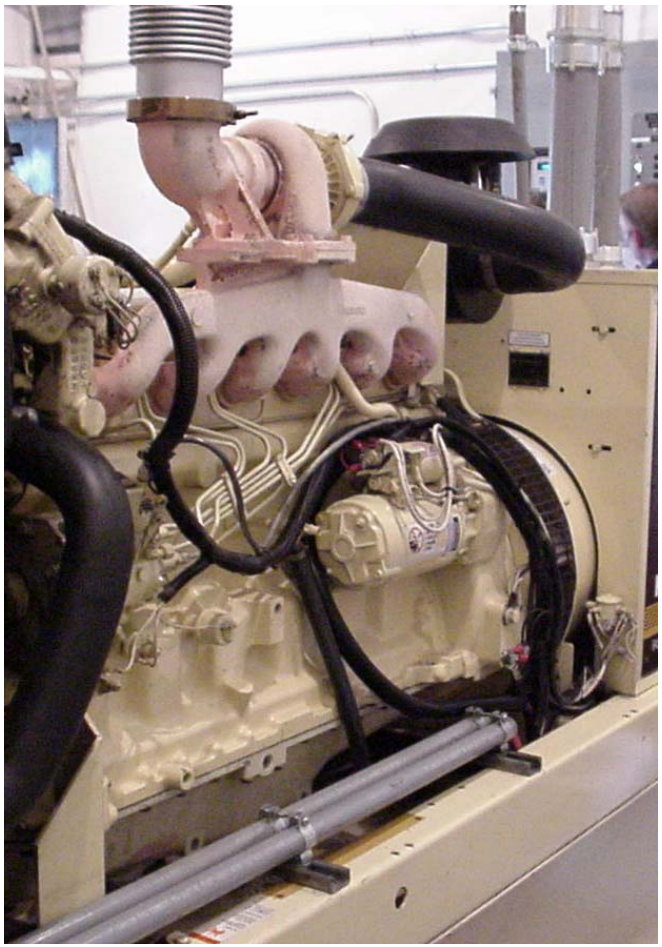
ARTCC UPS Batteries

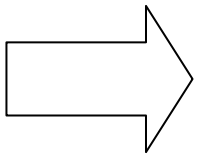
"VRLA Cells"



DC Systems Replace Standby Generators

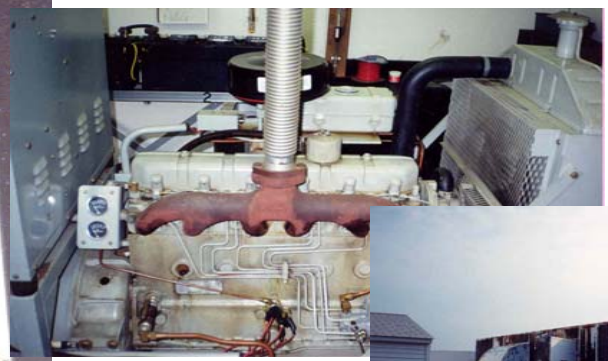
Before

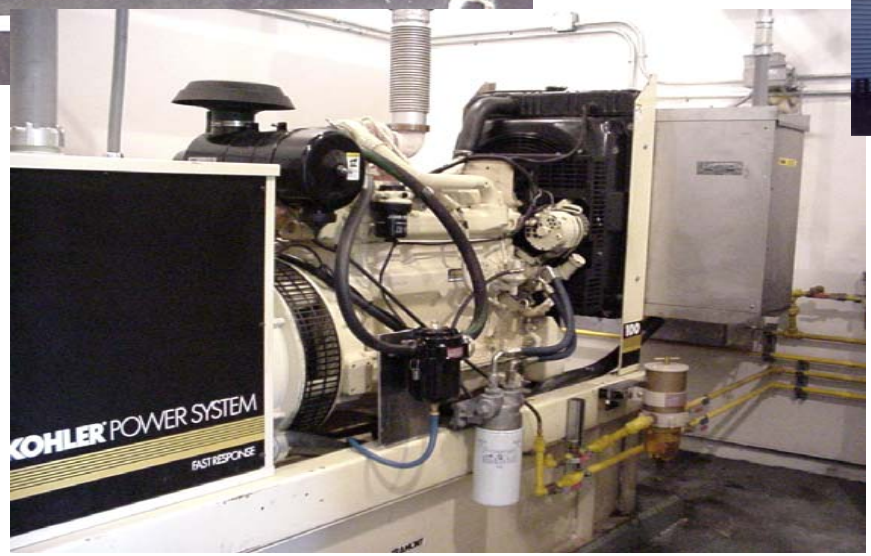




After

Legacy Engine Generators: Overdue To Be Replaced

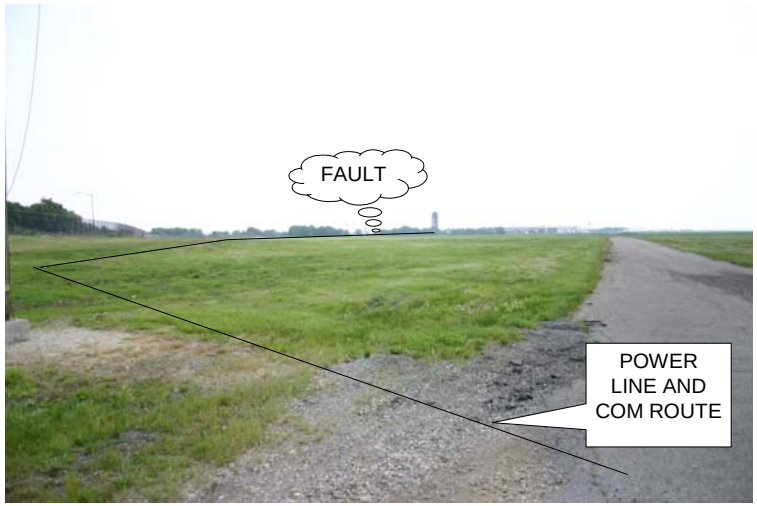


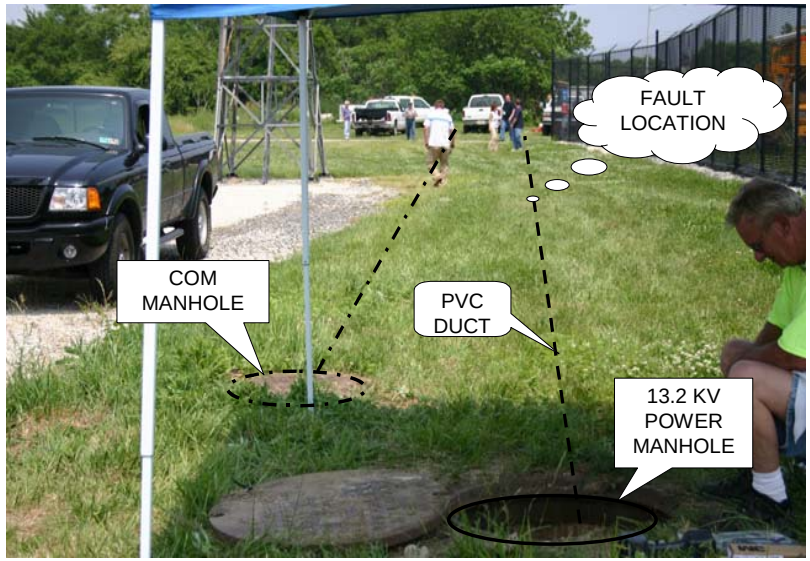


Current engine generator

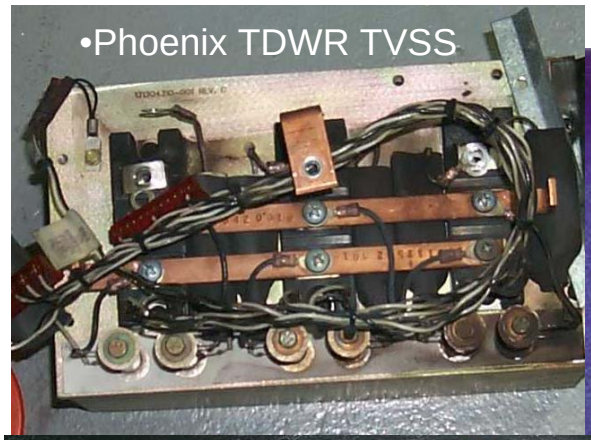
Airport Buried Power Cable: Failure Causes Delays

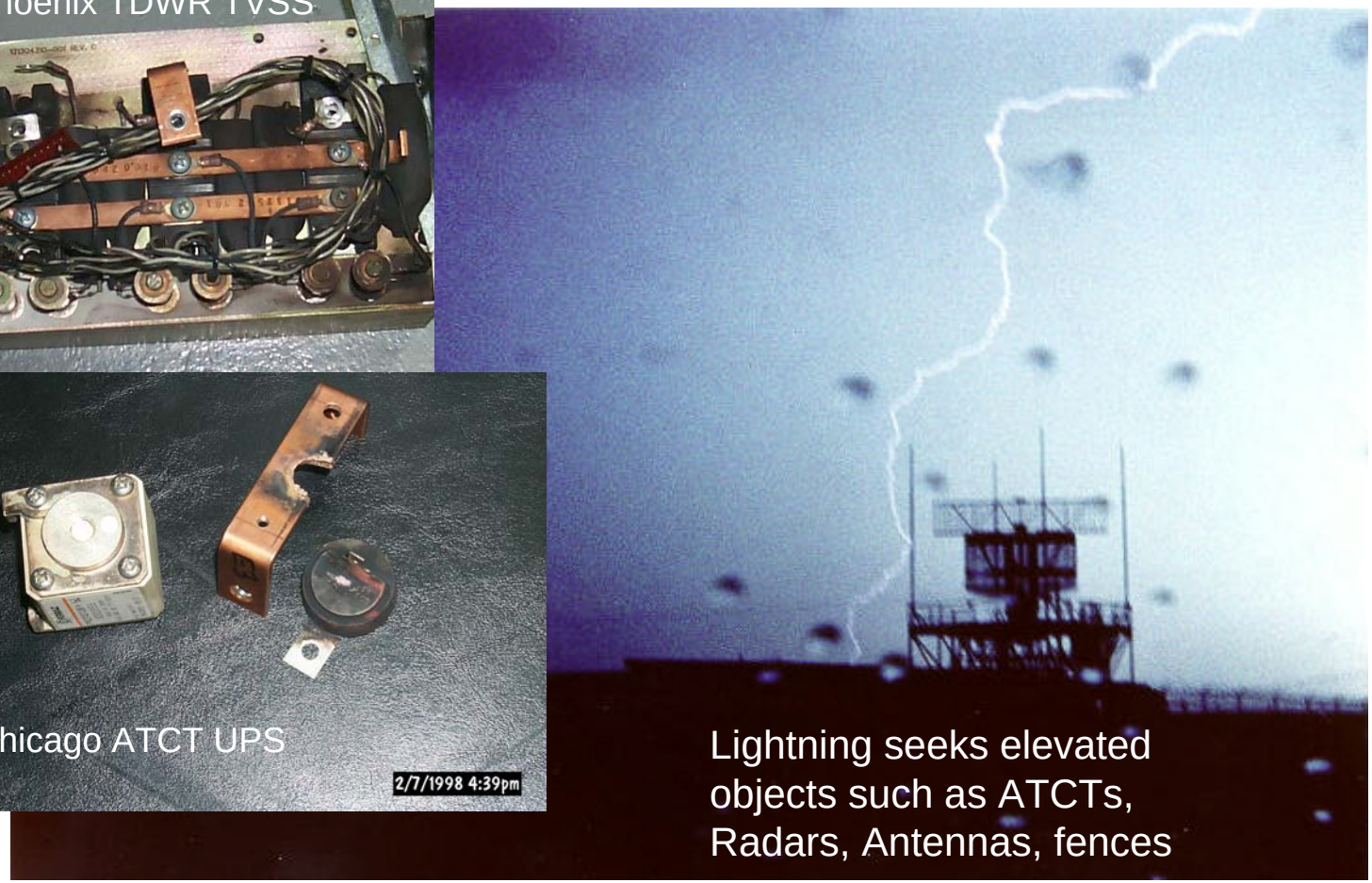
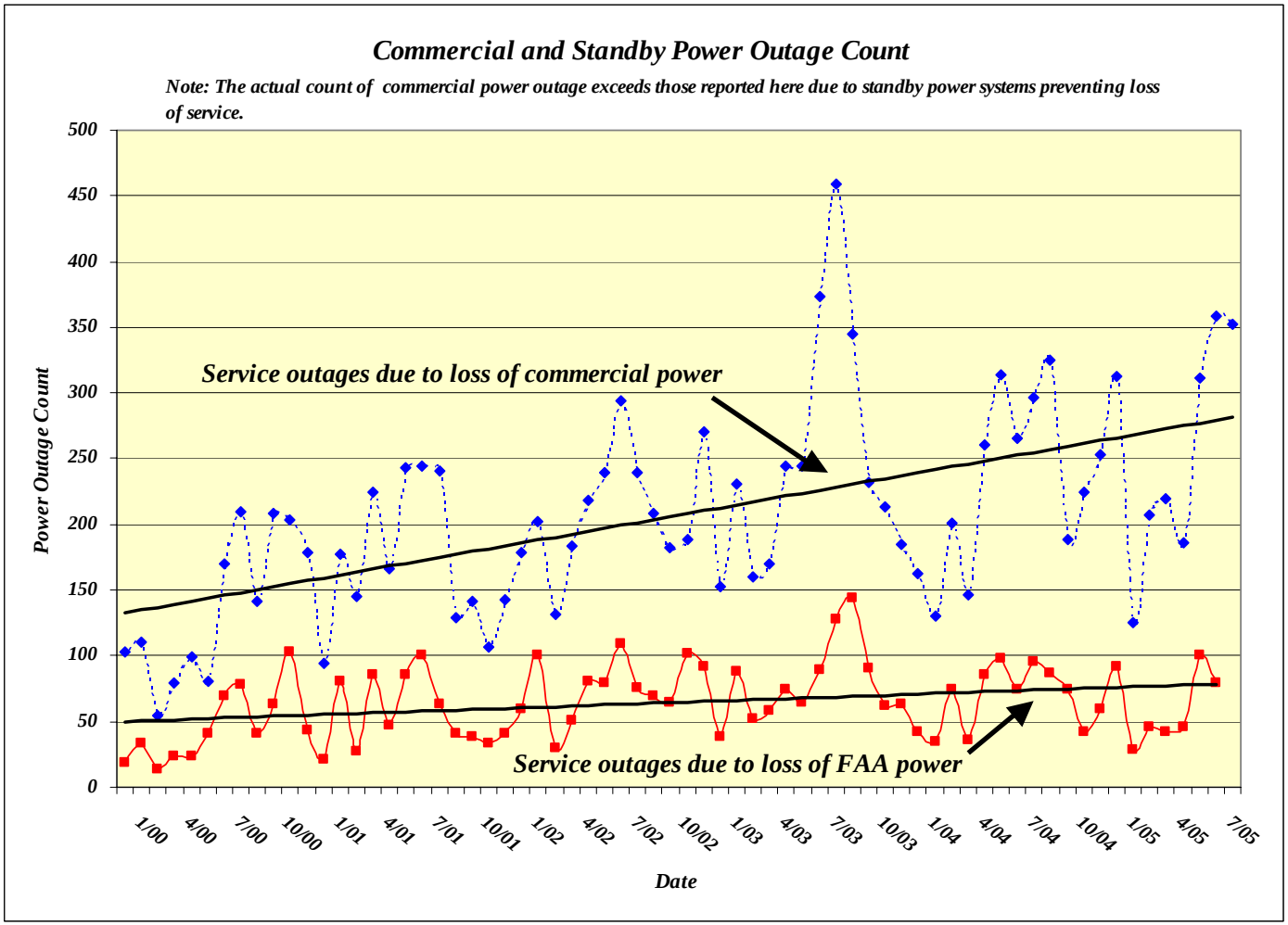
Philadelphia Airport Power and Data Cable Outage, July 2005





Proper Grounding Is Critical





Commercial and Standby power outages are increasing