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NETA ACCREDITED COMPANY

CRITICALITY OF INSPECTIONS & MAINTENANCE ON BUS DUCT SYSTEMS

The need for inspections and regular maintenance of bus duct systems cannot be overstated. Far too often, these critical and essential passive systems that deliver generator power are neglected and ignored. A lack of regular maintenance can ultimately result in costly repairs and unplanned outages.

Routine bus duct system inspections are recommended to ensure moisture intrusion, high temperatures, dust and dirt, and equipment failures are identified and repaired quickly. Regular inspections are the key to maintaining peak operating conditions that help to avoid expensive repair work and downtime.

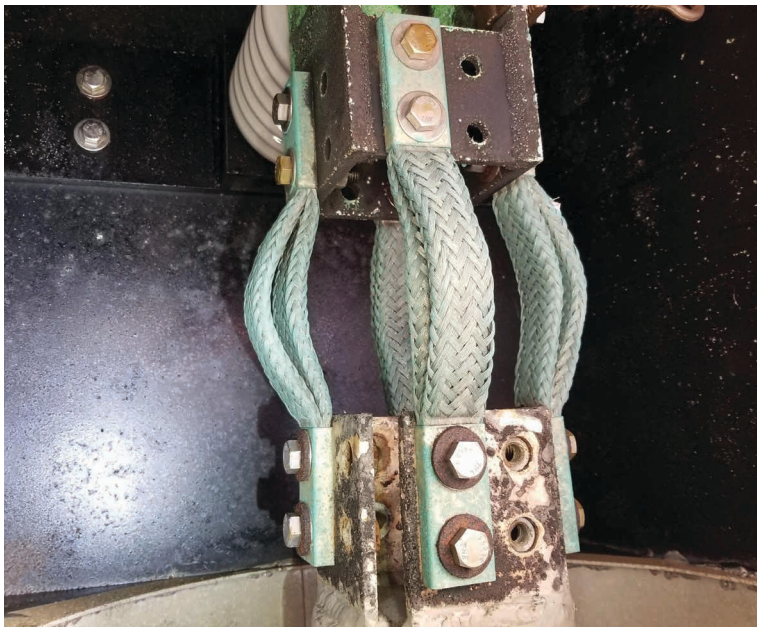
COMMON BUS FAILURES

Moisture Intrusion

- Moisture is by far the most common cause of bus system failures. Corrosion and damage to heaters and other components can lead to major repair and costly downtime.

Moisture Casing Cracks

- Moisture accumulation in cracks or fissures can result in phase-to-ground faults



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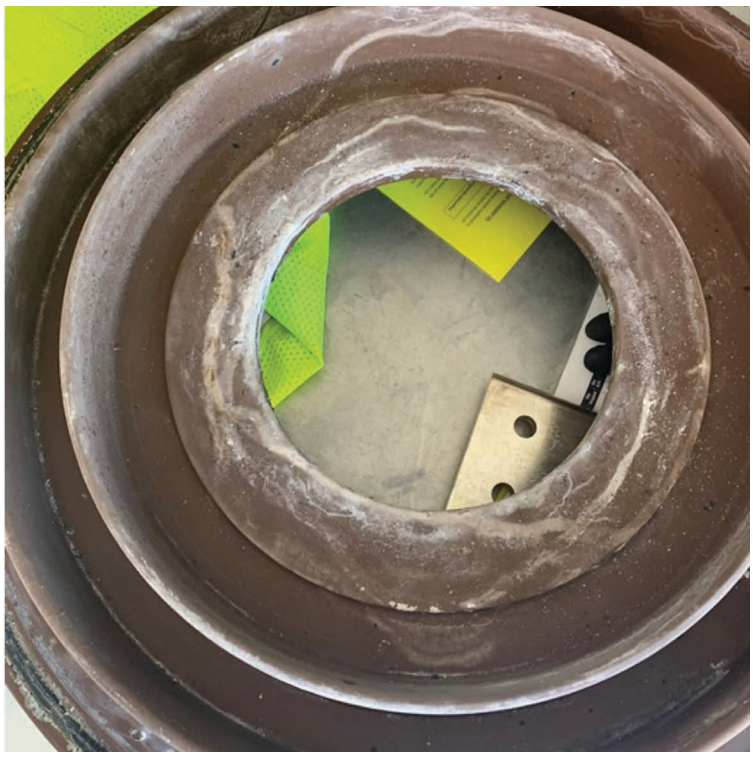
COMMON BUS FAILURES CONT'D



Expansion Below Cracking

- Cracked expansion bellows due to excessive movement, enabling moisture and debris to enter the bus to become trapped.

Torn Bellows

- Torn and improperly installed rubber bellows allow moisture and contaminants to enter the bus system, causing damage and risking major repairs.

Debris Accumulation

- Dust and other forms of intrusive debris can become conductive and will act as a sponge when exposed to moisture, degrading insulation integrity and leading to damage.

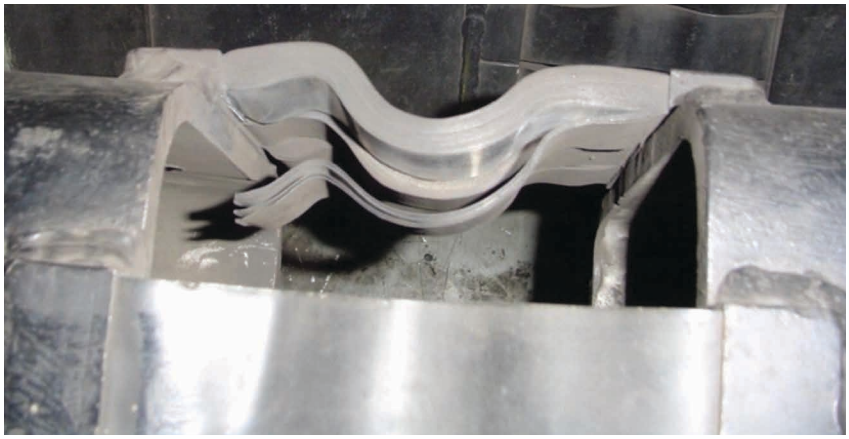
COMMON BUS FAILURES CONT'D

Damaged and Rotted Gaskets

- Damaged and dry-rotted gaskets can no longer perform as designed. Stripped and rusted hardware allow water to enter the bus duct, causing even more problems.

Damaged Insulators and Flex Links

- Cracked insulating support assemblies lose dielectric and mechanical properties. Without repair, they can lead to arcing and additional mechanical failures in the future. Damaged flex links can become loose and cause arcing and phase-to-ground faults.

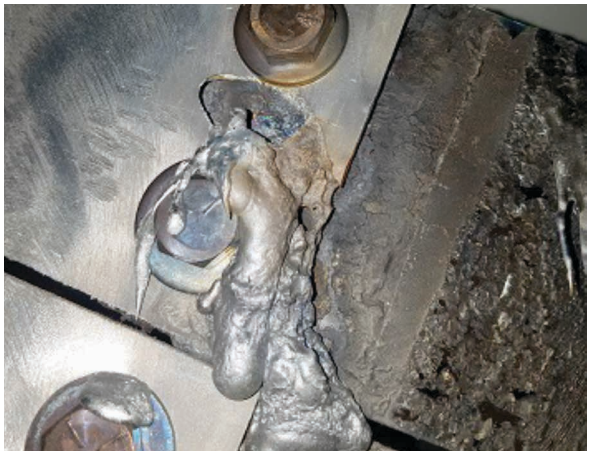


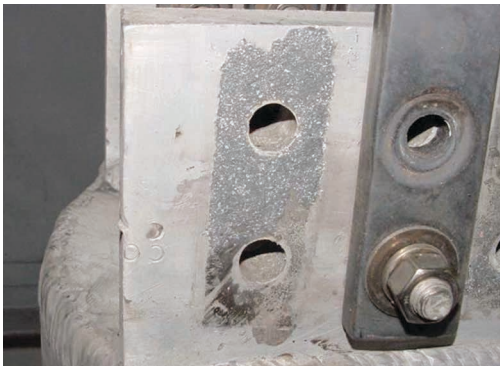
Bolted Connection Failure

- Improper bolting or lack of maintenance at connection points can damage contact surfaces and create heating issues. Degradation of plated joints can create high resistance connections, leading to thermal runaway and failure.

The Need for Inspections

Often, plant maintenance programs make an incorrect assumption that IPBD systems are self-maintained with little human intervention needed. However, IPBD systems should be treated with utmost importance, being inspected, cleaned, monitored, and maintained on a regular basis for optimal performance.



MAINTENANCE PROGRAM RECOMMENDATIONS

CONTACT RMS ENERGY FOR A COMPREHENSIVE INSPECTION, CLEANING AND MAINTENANCE PLAN FOR YOUR BUS DUCT SYSTEM.

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- **Conduct comprehensive IPBD system inspection and assessment**
- **Conduct routine electrical testing**
- **Replace and repair damaged components**
  - Damaged or poorly installed bellows
  - Gaskets and hardware
  - Flexible braids
  - Damaged insulators
  - Non-functional heaters
  - Clean duct walls and surfaces
  - Repair cracked welds

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