


LEVERAGING AI FOR OPERATIONAL EXCELLENCE

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DASH2 LABS

MAR 21, 2024

A decorative graphic in the bottom right corner consisting of a network of purple lines and dots, resembling a neural network or data flow diagram.



2



- >20 YEARS IN OPERATIONS, PROJECT MANAGEMENT MANUFACTURING
- PMP, LEAN 6 σ BLACK BELT
- MENS ET MANUS



DASH2 LABS

AGENDA

3

- WHY AI?
- TECH OVERVIEW
- CASE SCENARIOS & OPEN DISCUSSION
- DATA CULTURE
- SYMBIOSIS

WHY AI?

COMPRESSION RATIO?

5



THE CHALLENGES

6



SCATTERED
INFO AND
DATA



CORPORATE
KNOWLEDGE
LOSS



CHASM
BETWEEN
RAW DATA
&
INSIGHTS



VOLUMES
OF POLICY



SOLVING
COMPLEX
PROBLEMS

TECH OVERVIEW



8

GEN AI



IMAGINE IF ...

9



... THE FRUSTRATION OF SCOURING DIFFERENT FILES, FOLDERS, OR SOFTWARE FOR INFORMATION IS NO LONGER A THING.



... A WORLD WHERE ON-DEMAND ACTIONABLE INSIGHTS CAN BE DISCOVERED BY ANYONE AT ANY TIME WITHOUT HAVING TO BE A STATISTICIAN.



... YOU HAD ON-DEMAND ACCESS TO A VAST PROBLEM-SOLVING KNOWLEDGE BASE DISTILLED FROM THE EXPERTISE OF YOUR MOST SEASONED VETERANS



... YOU COULD INTERACT WITH A FILE, DOCUMENT OR SOFTWARE PRODUCT AS IF CONFERRING WITH AN ALL-KNOWING COLLEAGUE.

USE CASES & OPEN DISCUSSION







I need your advice on handling a 6-week EID delivery delay to prevent a 9-month setback in Rocket Motor Line A's schedule. I'm concerned about missing my scheduled AEDC test slot.



I see the **EID is now scheduled for delivery on May 6, 2024**. And that this component is needed on a **critical path schedule work package**, which is pushing your schedule day-for-day.



What are my options?



Harvest the **available EID (p/n: 129BX7Z)** from **Rocket Motor Line C (POC: John Mills; jmills@aerocorp.com)**. Line C will need **backfill by Jun 17, 2024**.







Please provide me information on the Rocket Motor Line C Active Risk: Material Contamination Risk



Certainly! Here's information for the active risk C.R.1 on Rocket Motor Line C: **Risk Designation:** C.R.1; **Manufacturing Line Process:** Casting; **Point of Contact:** sara.white@aerocorp.com; **General Risk Likelihood:** 4; **Risk Severity:** 4.



Can you provide recommendations on how to mitigate this risk **based on archived risks** that were successfully resolved?



The archived risk of Alloy Composition Error might provide a useful framework. Key actions included adjusting the alloy composition and enhancing quality control. **Mitigation Suggestion:** Apply rigorous material inspection protocols, enhance communication and auditing of supplier quality control processes, and possibly update material specifications to prevent future contamination issues.







I'm updating manufacturing operating procedures. Based on heuristics and lessons learned, which procedures would you recommend updating?



Based on the manufacturing heuristics and associated processes for Rocket Motor Line C, the following OP is recommended for review and potential updating:

SOP for Environmental Control Systems Operation (DA-SOP-009)

- Version: 2.2
- Effective Date: 2023-03-18
- Department: Manufacturing
- Rocket Motor Line: C
- This SOP should be updated to reflect heuristic practices aimed at mitigating static discharge in the igniter assembly process, which may include implementing grounding of all equipment and the mandatory use of anti-static wrist straps.





5.6 Grounding and Bonding

5.6.1 Grounding is the process of bonding one or more conductive objects to the ground, so that all objects are at zero (0) electrical potential. Bonding is the process of controlling static electric hazards by connecting two or more conductive objects together by means of a conductor so that they are at the same electrical potential, but not necessarily at the same potential to earth.

5.6.2 All grounds shall have a resistance of 25 ohms or less.

5.6.3 The grounding system shall be visually inspected every six months.

5.6.4 The grounding system shall be tested at a minimum lightning strikes.

5.6.5 The grounding system test results shall be documented every 3 years.

5.6.6 Ground conductors

5.6.7 Bonding straps shall be broken by oil on bearings, paint,

5.6.8 Power and communication

5.6.9 and of

5.6.10

5.6.10.8
verified to
rods, or to
counterpoise

hat have been tested
per plates, driven
se to the ground rod

5.8 Explosives in Process during Electrical Storms

5.8.1 Upon notification of an approaching electrical storm within 10 miles, personnel shall begin shutdown of explosives operations and evacuation of the explosives areas.

Personnel shall be evacuated to a suitable area that will provide protection.

Static Electricity and Control of ESD

This section covers methods for the prevention of accumulation of static electricity for the purpose of eliminating or mitigating ESD. The generation of static electricity is not in itself a hazard. The hazard arises when static is allowed to accumulate, subsequently discharging in the presence of highly flammable materials or energetic materials.

Static Discharge Equipment and Conductive Floors

ESD shall be used in explosives operations.

Each leg shall stand on a grounded

ESD shall be used in explosives operations.

Personnel shall check all

Personnel shall check all

Personnel shall check all

Personnel shall check all

Personnel shall check all

Personnel shall check all

a. Relate
the start
motors w
explosives

b. For conditions at or below 50% RH:

A lightning warning system is available to permit termination of all personnel to Inhabited Building Distance (IBD) within 10 minutes.

ECMs do not require a LPS. However, if the ECM has a combustion ventilator or air conditioning unit a LPS may be required.

Facilities containing explosives that cannot be initiated by lightning as determined by testing and analysis performed by the requesting organization and approved by the ESO.

5.7.6 Minimum LPS Testing and Inspection.

5.7.6.1 LPS shall be visually inspected once every six months.

5.7.6.2 LPS shall be electrically tested annually.

5.7.6.3 LPS testing results shall be documented and retained for a minimum of 3 years.

or air lines, dry pipe sprinkler

explosives/propellant container

ground.



LAND FOR EXP
PVS/SD



YES, PROPELLANTS, AND
NCS

NON-FLAMMABLE



NON-FLAMMABLE



YES, PROPELLANTS, AND
NCS

NO TEST

NON-FLAMMABLE



NON-FLAMMABLE



YES, PROPELLANTS, AND
NCS

NO TEST

NON-FLAMMABLE



NON-FLAMMABLE



YES, PROPELLANTS, AND
NCS

NO TEST

NON-FLAMMABLE



NON-FLAMMABLE



YES, PROPELLANTS, AND
NCS

NO TEST

NON-FLAMMABLE



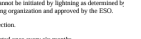
NON-FLAMMABLE



YES, PROPELLANTS, AND
NCS

NO TEST

NON-FLAMMABLE



NON-FLAMMABLE



YES, PROPELLANTS, AND
NCS

NO TEST

NON-FLAMMABLE



NON-FLAMMABLE





I'm a new explosives manager. Can you provide some information on grounding policy? Specifically, resistance to grounds, visual inspection periodicity requirements, and testing requirements?



Certainly and welcome to the team!

- All grounds shall have a resistance of 25 ohms or less.
- The grounding system shall be visually inspected every six months.
- The grounding system shall be tested at a minimum, annually and following any lightning strikes.

Source: [DA-STD-8719.12A—2018-05-23](#)



Is there anything else I can assist you with today?

GEN AI CAN EMPOWER WORKFORCES TO:

- MAKE CRITICAL DECISIONS FASTER
- FLATTEN THE INSTITUTIONAL
LEARNING CURVE
- STREAMLINE LEARNING PROCESSES
- EXTRACT ACTIONABLE INSIGHTS
FROM BIG DATA
-AND ON

DATA CULTURE



25

- CAPTURE
- STORAGE
- STANDARDIZATION

SYMBIOSIS

26

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A decorative graphic on the right side of the slide, consisting of a network of interconnected nodes and lines, resembling a neural network or data flow diagram. The nodes are small circles, and the lines are thin, creating a complex web-like structure.