



People
& Safety

Alstom EHS Prevention Notice

Event Type: Potentially Severe Event

Event Description: Hydraulic Hose Failure

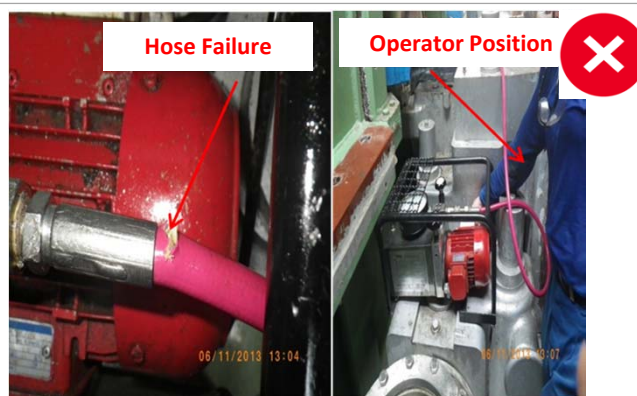
Sector: Thermal Power Business: TS Event Date: 06.11.13

What happened?

The hose of a Customer-supplied hydraulic tool failed during the dismantling of Steam Turbine low and intermediate pressure turbine couplings. Pressurized hydraulic fluid from the failed hose struck the right arm of the injured person causing a superficial 1cm cut and bruising.

Causes

- Lack of pre-use inspection, including verification of planned inspection and test status
- Incorrect hose for tool - ITH tool operating pressure was 1450 bar, burst hose has a rated at 1000 bar working pressure
- Improper positioning of the operator



Actions Taken

- All equipment on site quarantined until a thorough examination confirmed safe to use
- Re-training of people engaged in the operation

CHECK EQUIPMENT:	OBSERVATIONS & ACTION TAKEN/REQUIRED	ACTION BY & DATE	Complete
CAUTION only specify trained and competent persons to maintain and use this type of equipment			
Tool condition individually by thorough examination, (by competent person) considering the requirements of the manufacturer's instructions			
Tool inventory & records of historical maintenance			
For damage to tools caused by being dropped or misused			
Compatibility in terms of safe working pressures of tools, pump hoses & connections			

Lessons Learnt

- Never begin work on a hydraulic system unless competent to do so
- It must be ensured that where Alstom employees use equipment provided by others e.g. on customer sites, that measures are taken to verify that the equipment has been installed and maintained to standards equivalent to those imposed by Alstom, as a minimum – See GEMS procedure C3-5.1: Control of Portable Tools, Equipment & Hand Tools (Section 5.7 - 5.7 Hydraulic Equipment)
- Always perform a pre-use inspection of the equipment to verify current inspection status and to ensure the compatibility of component parts
- Maintain an exclusion zone around pressurized parts and minimize the time spent in the vicinity of the pressurized parts

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