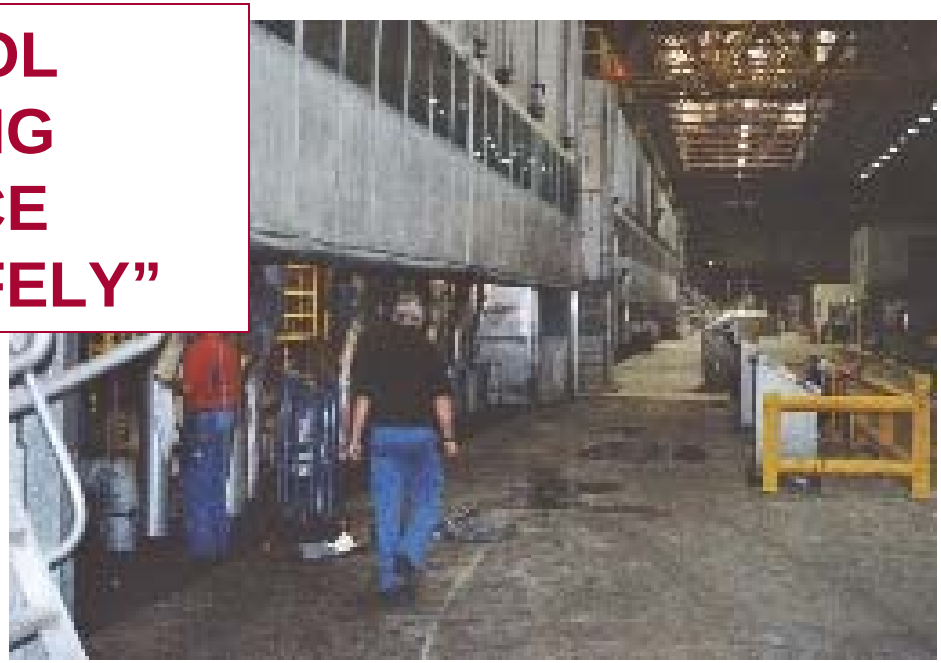
Health and Safety
Executive

HSE

PABIAC
Safety-related Control Systems Workshop

SAFETY-RELATED CONTROL SYSTEMS AT PAPERMAKING MACHINERY & COMPLIANCE WITH “MAKING PAPER SAFELY”



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What I'll Cover

- ✓ Background and objectives
- ✓ Assessing compliance
- ✓ Conclusions
- ✓ Recommendations and way forward

Essential guidance on issues related to safety-related control systems at papermaking machinery is provided in PABIAC publication "Making paper safely Part 6: Managing safety in the papermaking process" (Edition 2:2005)

Background and objectives

1. To examine safety-related electrical control systems used to implement safety functions at papermaking machinery (including any associated plant items).
2. To assess compliance with the guidance set out in the Technical Annex issued with SIM 4/2002/12 that has been issued as an addendum to the PABIAC's guidance booklet "Making Paper Safely" (MPS).
3. To determine whether the guidance is appropriate for papermaking machinery and, as necessary, to recommend any additional work to ensure that the guidance can be properly applied in paper manufacturing sector.
4. To provide a report back to PABIAC on the outcome of the project.

Assessing compliance

- Visits to a number of mills have been carried out to inspect safety-related control systems (SRCS) used to implement safety functions at papermaking machines;
- Inspection revealed that the guidance had, generally, not been followed and consequently had not been fully complied with - there were substantive reasons for this;
- Safeguarding measures inspected included the use of fixed and interlocked guarding that was generally considered to provide sufficient safety integrity at the intended application;

Assessing compliance (contd)

- In cases (eg slow speed control) where safety functions relied upon operation of electric drive systems, the integrity of these systems could not be adequately demonstrated. The use of such systems that may be susceptible to faults that may give rise to danger is a matter for concern;
- Additional concerns were raised on a range of other issues - e.g. hazard and risk assessments not carried out on a systematic basis, failure to identify machinery safety functions, properly assign safety performance levels.

Conclusions

- Apparent in some cases that insufficient attention given to design, construction and installation of safety-related control systems in relation to integrity requirements as outlined in MPS;
- Little evidence of use of published guidance and standards (e.g. BS EN 954-1, BS EN 61508) to support claims of compliance;
- Concerns about the competence of personnel responsible for implementing MPS at paper mills – poor understanding of issues safety and functionality of papermaking machines.

Recommendations & way forward

- Review existing safeguarding provisions in accordance with the guidance taking into account the technical annex;
- PABIAC should bring the provisions of the technical annex to the attention of all their members;
- The industry should encourage the free exchange of information between engineering staff on matters pertaining to safety-related control systems;
- Development additional information on safety functions implemented a SRCS, indicating performance targets, typical architectures;
- Competency of engineering staff relating to SRCS of papermaking machinery should be addressed.

Thank-you

…..ANY QUESTIONS?