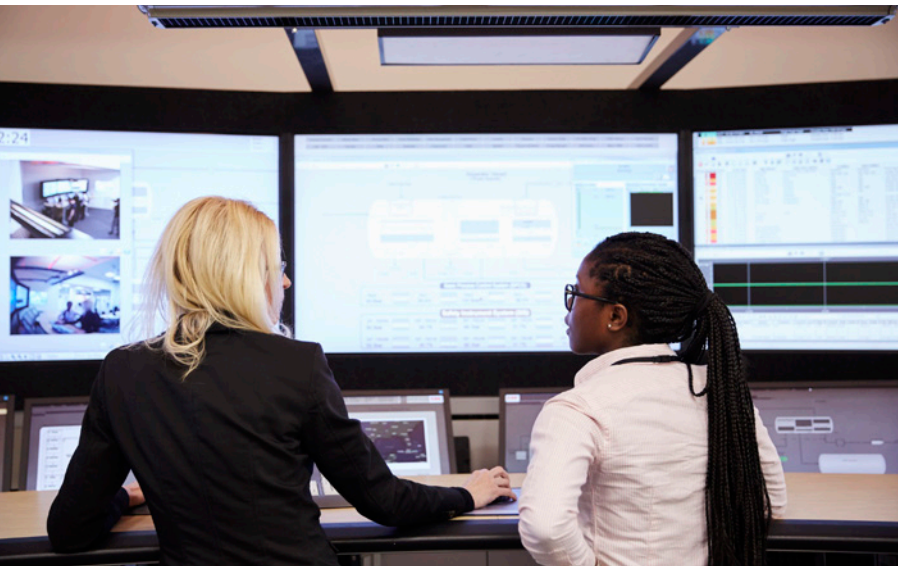
GENERAL FACTSHEET

Effective alarm management
Managing alarm floods



How effective is your alarm system during a plant upset?

Could your operators miss key safety or environmental alarms during an incident?

Concerned that your alarm improvements are stalling?

Many alarm systems prove to be least effective when they are most needed - in mitigating the effects of a major process upset.

Analysis following several major accidents continues to show that the alarm system hindered effective decision making because it was bombarding process operators with excessive or misleading information.

The recently issued Edition 3 of EEMUA 191 and the new IEC standard (IEC 62682) for alarm management will only increase the spotlight on the role of alarm systems as a key Layer of Protection (LOP).

Today's alarm improvement programmes typically include nuisance alarm identification and alarm rationalization, supported by the wide range of tools and methodologies now available for system documentation and performance reporting.

These software solutions have supported reductions in alarm base load and resulted in alarm systems which are usable most of the time, except, that is, when they are most needed - during plant upsets - when the operator is frequently overloaded with alarm floods.

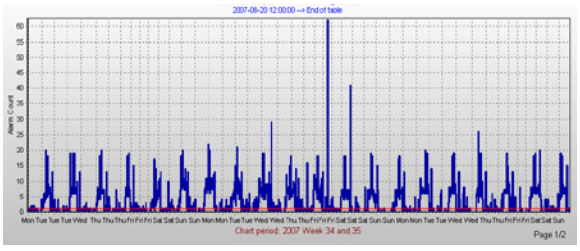
It is at this point that many alarm improvement initiatives stall because of perceived costs and associated risks of designing, correctly specifying and implementing more sophisticated alarm suppression techniques.

How do I know if I have a problem?

Do any of the following apply?

- KPI trends indicate alarm system performance static or deteriorating
- Repeated bursts of alarm floods
- Operators frequently ignore alarms or acknowledge alarms without taking fur ther action during abnormal conditions
- High number of 'stale' standing alarms

Then you probably have a residual nuisance or alarm flood problem.



What we offer

ABB's alarm system improvement offer is targeted at helping clients progress to the next level of alarm improvements. Having reduced the base load of alarms we focus on reducing peak alarm rates to improve alarm system usability during upset or abnormal conditions.

The service can range from a periodic 'off line' service through to the provision of one or more full time resources functioning as an extension of the client organization i.e. as local alarm management champion liaising with client operations and maintenance staff, system vendor and other third parties as appropriate.

This service is typically structured as a support contract, renewable each year and is based on EEMUA 191's roadmap for existing systems.

It consists of three main components:

Support for alarm system performance measurement and reporting e.g:

- Assessment of alarm system infrastructure and toolsets
- Evaluation of alarm management KPIs and associated targets
- Enhancement of alarm management reporting e.g. for integration of non-ICSS data such as package unit PLCs

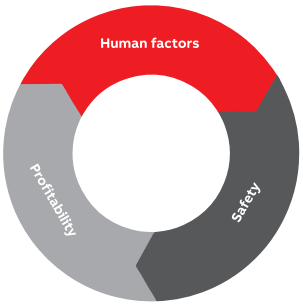
Performance review and alarm analysis

This is available as a remote service where alarm system performance is evaluated and analysis commentary provided in a performance report, typically on a monthly basis The review report recommendations should be used as an input to maintenance planning, thereby driving continuous improvement of the alarm system's performance. This service may be supplemented by periodic site visits, if appropriate.

Full time support

This service may be enhanced to include the provision of a dedicated full time alarm management specialist, located either full time at the client facility or visiting as required. Unlike other client staff, this resource has the benefit of being able to focus on alarm system performance review. This role acts both as a catalyst and a coordinator of alarm system improvements across the range of disciplines required.

Benefits



A drive to address alarm floods requires a focused resource, which is rarely available in many 21st century operations. A dedicated resource from ABB, provided on a temporary basis, can provide the necessary stimulus, not just to identify improvements but to manage these through to successful implementation. This is where real benefit in terms of operator alarm burden are delivered. While improved process safety is often the initial driver for these improvements, many of our clients see the associated human factors benefits as the operator focus changes from servicing alarms to servicing the plant.

This delivers improved profitability via:

- Fewer shutdowns and production loss
- Fewer instances of equipment damage
- Improved focus on maintenance
- Improved quality and consistency
- Increased OEE (Overall Equipment Effectiveness)

In one case study we achieved a reduction in alarm rate from a typical 87 alarms down to 3 alarms. This was implemented with no loss of meaningful information to the operator.

Why ABB?

ABB has unrivalled experience gained from over 30 years with one of the World-class manufacturing organisations of our time. This includes delivering focused alarm management improvement programmes for manufacturing clients in both batch and continuous processes. We also have access to the wealth of experience available in ABB Worldwide, meaning we are capable of delivering a complete service, leaving you free for other priorities. Please contact us for information on the other components in ABB's portfolio of alarm management services.

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