



Effective Operator Information Systems for the Energy Sector

Introduction

Human factors had already been implicated in numerous serious incidents in the process industries before the explosion and subsequent fires at the Texaco Refinery, Milford Haven in the UK in 1994. The subsequent HSE investigation raised the profile of human factors in major accidents and led to the publication of EEMUA 191, the 'de facto' industry standard. It is estimated that small petrochemical companies can lose up to \$100,000,000 per year to plant upsets and shutdowns. Our Methodology was developed specifically to restore the effectiveness of the alarm system so that the operator can operate the plant safely.

Features

Amor Group's Alarm+ Methodology can be easily scaled making it suitable for systems with up to tens of thousands of alarms. The methodology consists of five phases that begin at benchmarking and end with alarm performance sustainment.

Benefits

Our Alarm+ Methodology is a proven, cost and time effective technique that has been used to review and rationalise over 500,000 alarms on both new and operational assets across the globe. Plants that have implemented our solution experience improved plant performance through avoiding unnecessary process shutdowns and more effective management of abnormal process conditions resulting in increased throughput and profitability. Our Methodology complements industry standards and guidelines including: EEMUA 191, ANSI/ISA-18.2-2009, HSE Briefing Note No. 9 'Alarm Handling' and HSE Information Sheet 'Better Alarm Handling'. The typical benefits our alarm management clients experience include:

- Minimising the number of abnormal situations and their impact on production and safety
- 5 to 15% reduction in unplanned maintenance costs within six months
- 20 to 30% reduction in risk operation insurance
- Captured workforce knowledge (combats against an ageing workforce)

“Amor Group's Alarm Rationalisation methodology produced a 4 to 1 reduction in configured alarms on a BG Group Trinidad and Tobago offshore production asset”

Alan Jones, Engineering Manager - Functional Excellence, BG Group

Amor Group's Alarm+ Methodology



Where do we stand?

Develop standards and policies

Fix bad actors

Apply advanced techniques

Maintain performance

Solution Overview

Amor Group's Alarm+ Methodology is firmly based on current guidelines and standards with enhancements that are aimed at reducing effort, improving consistency and dealing with other human factor issues generating benefit for the site quickly and cost effectively.

Alarm Configuration

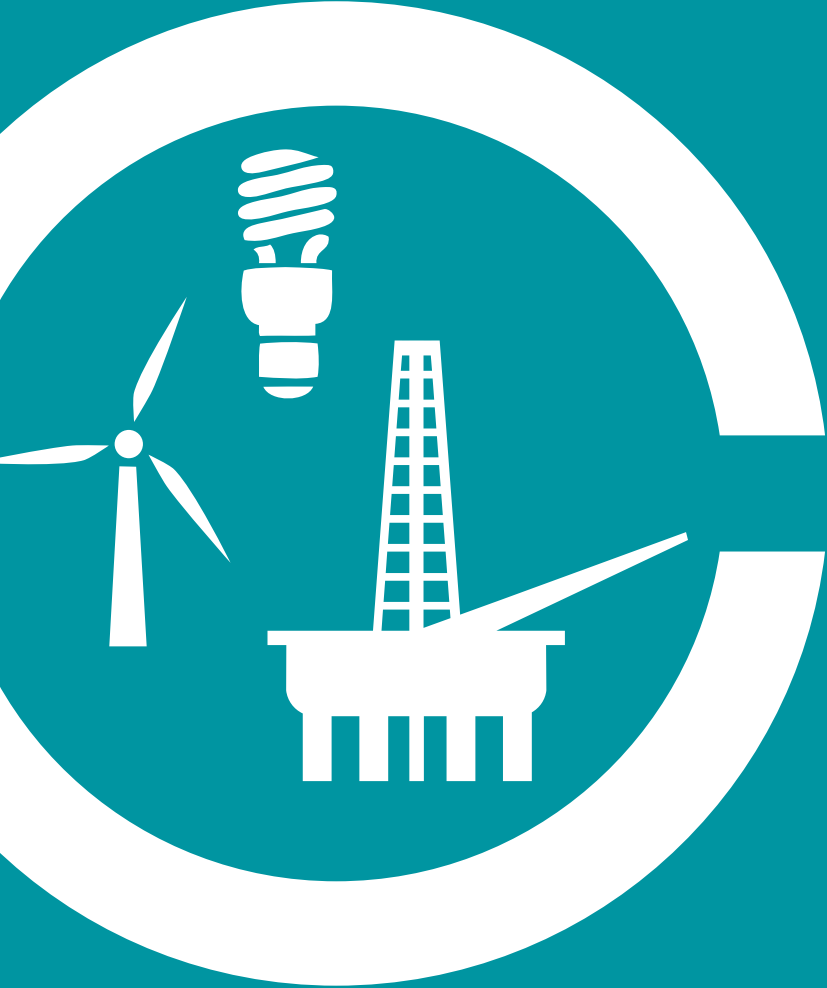
**Before-rationalisation
4500 alarms**



**After-rationalisation
2500 alarms**



High Medium Low



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