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Communications – The Forgotten Factor

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Introduction

In an industry that has undergone a rapid transition into high technology (deepwater DP drilling as well as DP pipe-laying, DP diving, cable-laying etc), the requirement for effective communications has never been greater. In an industry where more formal Risk Management and Safety Management is imposed the completion of any operation. Communications have a crucial and central role. In many cases it is a largely forgotten factor or at best relegated to a level of minimal importance. Generally this is due to a simple failure to recognize the importance and complexity of the many issues and elements that comprise a well structured and organized communications system. When there are more formal risk and safety studies the means to communicate the results is essential.

The Minerals Management Service (MMS) after doing a study into Gulf of Mexico safety and accidents found that the common factor to each accident were problems with procedures and communications. This was primarily attributable to poor or missing procedures and guidelines. In addition accidents showed a lack of very basic and necessary communications before and during each task. Within the DP industry the task of procedure writing, the compilation of relevant and technically correct operations manuals and instructions are usually designated to persons unsuited to the task. In many cases DP operators new to both the DP drilling, or to a new rig are encumbered with the job. They often have inadequate communications skills, resources and lack of time. In most cases they do not objectively document tasks, situations or processes and proper technical vetting is rarely performed. Only when incidents or accidents occur are the procedures examined and subjected to rigorous assessment as a reaction to events.

The DP drilling industry primarily consists of a multi-national, multi-cultural, multi-lingual workforce and inherent in this are many communications problems even for simple things. On most rigs engaged in international operations, 80-90% of rig personnel do not have English as the mother tongue, even though English is used as the main communications language, typical major activity areas include Brasil and Angola. The costs to the industry are considerable and include the following:

1. Injuries and fatalities, many have already occurred with expensive litigation and the resultant corporate image damage.
2. Severe equipment damage or destruction caused by operation procedural deficiencies with resultant financial costs.
3. Rig downtime with significant loss of revenue and contractual problems.
4. Escalation of smaller problems into major ones because communications and reporting lines are badly defined, impacting on the decision making process.

Documentation Requirements

Procedures and manuals must be relevant, concise and accurate if the proposed end-users are to adopt and claim ownership of them and actually use them as a reference. Good documentation preparation requires specialist skills, both communications and technical. The task of technical writing is a very disciplined one and should follow clearly defined publications standards. The writing of a manual and the procedures that form part of it requires both careful planning and a good understanding of document structure and preparation. Documentation is not about quantity of words and pages as it is so often perceived, but about quality and relevance. In many cases that I have reviewed the documentation is an amalgam of functional and operational description and philosophies, interwoven with procedural material. In many cases there is clear evidence of the frustrated novelist with creative prose forming part of what are supposed to be concise technical descriptions. Good documentation should be concise, short, free of jargon and prose, and be formatted so that information extraction times are minimized. Written procedures should clearly, concisely and unambiguously document all activities and operations with respect to the DP operation and peripheral activities, with caution given to over documenting. All written documentation should adopt a standardized plain English vocabulary that will enable the many persons with English as second language to properly interpret and understand instructions, both written and verbal. This should form part of a company publications standard. The traditional paper based system is being rapidly overtaken with online based help systems, and CD ROM based formats that allow rapid information search and extract capabilities, however the basic principles that apply to paper based systems also apply.

The relevance of documentation is an important factor, and within a DP environment all procedures should undergo a process of risk assessment. This process should show due diligence and each procedure must be based on a verifiable and recorded assessment process. Whilst most procedures are to a certain extent borrowed from other industry sources, they should however be properly integrated to any particular new installation. Procedures should have clear and identifiable links to the FMEA, Risk Assessment, Job Hazard Analysis (JHA) and Job Safety Analysis (JSA) exercises. The outcomes of analysis allow procedures to be developed that mitigate or reduce risks. Procedures should also be based on elements of the Safety Management System and issues of safety must be integral with continuity and consistency being preserved between all elements is of major importance. The term seamless best describes this documentation hierarchy, and illustrates the requirements of adopting a systems based approach.

Communications in a DP context should be looked at as more than just the documentation process but as part of an Information Management system. I have been involved with many new DP rig projects and in most cases an information management system was either non-existent or incomplete. Few if any companies have a properly defined and structured information management or communications standards. This should be an integral part of any quality management system, and many companies undertaking ISO certification actually fail based on documentation control issues. Where many operators are now addressing the requirements of the ISM Code the opportunity arises to streamline communications procedures as part of the documentation review and control phases.

The communications chain that makes up the DP decision-making process comprises several important elements. The elements of a basic communications system should include DP and VMS Information. Within any DP event or failure there are often hundreds of alarms generated. The DPO is often swamped with information and the relevant information is extracted only after time consuming analysis. This information is not assigned to specific active alarm folders, such as primary DP and power systems, secondary systems and non-essential systems. Structuring the alarm display formats so that essential information can be extracted or viewed rapidly allows a faster assessment and decision-making process. If the information flow in is badly structured and confusing, the quality of the decision-making will also be flawed. The information management functions should form part of new systems definition, and is something that manufacturers can take the initiative on.

The critical part that documentation plays in training is often undervalued. The procedures and related documentation should form the basis of competency based DP training courses. Properly defined and accurate procedures allow training that covers real situations and scenarios. If the documentation on which training is undertaken is flawed, incorrect or irrelevant as they so often are, then the personnel will by default be improperly trained and rely on the 'culture' from their last job. This is then a process of training for failure, whish is the reverse of the training intent.

An area where companies can introduce new initiatives are in the training of DP personnel in effective communications techniques. This can be both in standard techniques applicable to any area of business and industry and to more specific offshore environments. Training can be operation and rig specific and properly consider the various problems of the installation as part of training needs analysis. What works in one area may require adaptation to another. Communications skills development is being introduced within many industries and the DP environment can significantly benefit from this.

If documentation is to remain relevant it must be constantly subject to review. An efficient audit process that reviews the entire information management system along with the procedures and guidelines within it is essential. Every incident or ambiguity should be reviewed and the documentation amended. Every person required to use the documentation should be encouraged to review and comment on it. This facilitates the ownership and buy in process, and ensures a rigorous technical vetting process.

The problem of communication only starts with documentation it then moves to practices, cultures and general conversation. Some years ago GM was involved in incident analysis of high-speed craft in Hong Kong harbour. One of the most interesting conclusions of this analysis carried out by Paul Owen and Chris Jenman was that high-speed travel was safer at night. At night all bridge communicators were recorded and the tapes checked by the government marine department. This was not done during the day. The recording changed the operational culture for the better.

Summary

The preparation of documentation and procedures is more than just the production of the obligatory shelf of paper to comply with various requirements. It is integral to any installation information management and communications systems. A well-defined and implemented information management system has the potential to increase productivity and safety, and conversely bad systems will prove costly to all operators. Ensuring that the documentation that forms the template for many parts of an operation is both concise, accurate and relevant will pay dividends in many areas that start with operations, and then encompass safety and training. The challenge is to develop a system of information management and communications that works at all levels. The documentation is the starting point.