

ENVIRONMENTAL MANAGEMENT SYSTEMS AND REGULATORY COMPLIANCE

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SUMMARY

This paper explores the relationship between the adoption of environmental management systems and regulatory compliance performance as measured in terms of compliance with legislation. It provides background information for the certification systems, including ISO14001 and other environmental management systems, workshop.

1 INTRODUCTION

1.1 Background

Since the introduction of formal environmental management systems (EMS) standards in the 1990s, there has been debate on how these may support or even replace parts of the regulatory process. To date attempts to prove a link between the presence of an EMS with an outcome of environmental performance have been inconclusive. Remas, one of the most extensive surveys in Europe, is still in progress. This paper provides a review of the current position and provides background to workshop 1E where the debate will be explored further.

1.2 Integrating EMS in Regulation

Regulators have increasingly limited resources to spend on checking compliance activities. All regulators are looking for ways to target these resources more effi-

ciently. EMS can be one tool to help this.

EMSs, such as ISO 14001, were not designed specifically for use as part of the regulatory process. However, with increasing uptake, there is an opportunity to explore the use of EMS in this context. In order to do this there are fundamental questions that need to be resolved.

- How should EMS be used in the regulatory process?
- What are the essential parts of an EMS that are important for regulation?
- What standard of registration/certification is required to enable a regulator use an EMS in regulation?
- How should the ISO 14001 requirement for a “commitment to legal compliance” be interpreted by certifiers/registrars

These questions are discussed further in sections 4-6 of this paper.

2 EMS LANDSCAPE

ISO14001 is the most widely recognised EMS standard. The numbers of companies certified as meeting the requirements of ISO 14001 grew at a rate of about 20% during 2004 – to around 74,000.

ISO14001 was first released in 1996 and was updated in 2004. The update provides some significant changes to the standard to improve the consistency of implementation. The International Accreditation Forum guidance is working on guidance to improve conformance assessment of regulatory compliance during the independent certification process.

The Eco-management and Audit Scheme (EMAS)¹, is an EU regulation, but can be applied worldwide. It contains all the elements of ISO14001, but also places greater emphasis on legal compliance, environmental performance and requires a verified environmental report.

In Europe, over 3000 companies have adopted EMAS covering nearly 5000 sites. The European Commission centrally holds details of registered companies and their statements. EMAS was revised in 2002 mainly to introduce ISO14001 as the basic EMS component. A third revision is expected in 2007.

Other EMSs standards exist, for example as part of the chemical industry's Responsible Care Management system². There are also more localised EMSs, some of which have their own certification process, that target small and medium size companies, or specific industrial sectors.

3 REVIEW OF RESEARCH ON EMS AND COMPLIANCE

This review is not exhaustive, and is focused on US and European examples, but presents a summary of recent studies where attempts have been made to correlate environmental performance and legislative compliance with the presence of an EMS.

3.1 University of North Carolina/ Multi-State Working Group

The University of North Carolina and the US Multi-State Working Group³ provide a database of sites in North America measuring use of EMS and performance at sites in the United States. The final report⁴ was published in 2003.

The study asked the question: what effect does the implementation of an EMS, certified to ISO 14001, have on a facility's environmental performance, regulatory compliance, and economic performance? Performance measures included self-reported regulatory compliance histories and annual improvements in emissions.

The study found that the introduction of an EMS can benefit the environmental performance at a site, as well as operations and management, and in some cases regulatory compliance. However, the evidence also suggested that EMSs are highly variable in content, priorities, and judgement of what is environmentally significant. The overall conclusion was that the existence or certification of an EMS did not provide clear information about the likely environmental performance or regulatory compliance of a site.

3.2 University of Sussex, UK

The Science and Technology Policy Research Unit at the University of Sussex have provided two studies relating environmental performance to the presence on an EMS. The Measuring the Environmental Performance of Industry (MEPI)⁵ study, developed measures to compare overall environmental performance of industrial companies. Part of the study compared environmental performance between companies with no EMS, ISO14001 EMS or EMAS. The study concluded that there was no evidence to suggest a correlation between having an EMS and improved environmental performance.

In a second project, PERFORM,⁶ the aim was to benchmark and improve sustainability performance in industry by providing companies with comparative environmental performance data. The findings were similar to the MEPI study.

3.3 Environment Agency studies (England and Wales)

A study prepared by the Policy Studies Institute (PSI), on behalf of the Environment Agency compared the performance of certified EMSs of 800 major industrial sites, based on a combination of regulatory ratings, compliance assessment and enforcement information. EMS engagement was measured at three levels, no EMS, certified ISO14001 and EMAS. The study concluded there was no evidence that the presence of an EMS increased the likelihood of compliance with environmental legislation⁷.

3.4 Organisation for Economic Co-operation and Development (OECD) studies

The OECD has supported a series of studies in a number of regions in conjunction with local expert groups to investigate the effect of different policy measures. The existence of an EMS and relationship with environmental performance has been included within many of the studies. In Germany it reported⁸ that the existence of an EMS has a crucial effect on performance; in Norway⁹ and the United States¹⁰ the EMS may have an effect.

3.5 Remas

The European project, Remas, considers EMS use in industrial activities. It aims to correlate types of EMS with environmental performance. This is measured by reference to compliance and enforcement data and comparisons with European industrial sector performance benchmarks. The data gathering process is still underway. An initial analysis of the first 57 sites indicates a positive correlation between certification to ISO14001 and registration to EMAS and improvement in aspects of environmental performance on a site. However, there is no evidence of better regulatory compliance. The reasons for the lack of correlation between EMS and regulatory compliance are being investigated further¹¹.

3.6 Summary of the reviews

These studies do not provide strong evidence to link the presence of a certified EMS with regulatory compliance or improved environmental performance. Two possible reasons for this are provided below.

- The objectives of the management system and its certification/registration may be misaligned with those of regulation. The scope of an EMS is typically much wider than that of regulation, thus reducing the opportunity for common objectives.
- Not all certified EMSs are equivalent. EMS standards and guidance are internationally based and result from a consensus building process. Terms and phrases used are designed to be open to interpretation to allow flexibility across countries and regions. This can lead to different standards of certification in different sectors, in different regions, and by different certification organisations. For the regulator this might mean that the certification to a particular EMS standard can only be trusted to the standard of the lowest level of implementation.

4 ROLES OF AN EMS IN THE REGULATORY PROCESS

4.1 EMS and compliance

An environmental management system can be described as a structured approach to controlling activities on a site so that the environmental impacts are minimised. Environmental legislation created by government, and enforced by regulators, generally shares the same goal.

There is also a specific link that the ISO 14001 standard requires whereby an organisation must commit itself to legal compliance.

Considering these statements, it could be concluded that sites with an EMS should be more likely to be compliant with environmental legislation and demonstrate good environmental performance. The

presence of an EMS could be used by a regulator to reduce regulatory effort at those sites. However, as outlined in section 3, many studies have concluded this relationship has not been demonstrated. There is no clear statistical evidence that an EMS provides regulatory compliance at a site.

4.2 Roles of an EMS to support and go beyond compliance

There are other aspects of an EMS that can complement traditional regulatory activity. Regulation may focus on particular environmental impacts of an activity. Point sources of pollution are often addressed, rather than the indirect environmental impacts such as product design, transportation, and natural resource consumption. Typically, EMS often encompass wider organisational activities such as supply chain management and financial investment decisions. This is an example of how an EMS can facilitate an organisation to go beyond regulatory requirements and bring wider environmental benefits.

An EMS can have procedural benefits to a regulator. An EMS should provide a more formal system, which can facilitate regulation. For example, where compliance assessment requires checking an operator's records and monitoring reports, it can be much easier for an inspector to access the documents if an EMS is in place. This may reduce the time an inspector needs to spend on the compliance activity.

In England and Wales, the Environment Agency has developed a risk-based scheme, which is used as a basis for permit fees and to plan the resources needed for compliance assessment at a particular site. This is known as OPRA (Operator and Pollution Risk Appraisal scheme)¹². Where a site has an EMS, it will receive credit during the OPRA assessment. The basis of this is that it is quicker and easier to regulate the site.

5 LINKS BETWEEN EMS AND REGULATORY COMPLIANCE

There are many components of an EMS (based on ISO 14001) that should be valuable to regulators and industry in

maintaining legal compliance, including:

- identification of legal requirements
- training records
- operational control procedures
- monitoring records
- periodic evaluation of legal requirements
- internal audit
- external certification.

For example, if there were good evidence that the identification of legal requirements was comprehensive, and that there were regular internal checks to ensure the site was compliant, then the regulator would have greater confidence in compliance at the site.

The Remas Project is attempting to answer some of these questions by first considering the value of different types of EMS in terms of the activities associated with the above elements. These are assessed in relation to both presence and delivery of each activity. The results from an initial set of data provide some confidence that the introduction of an independently certified EMS at a site does improve these essential regulatory activities¹³. This is consistent to the other studies. Evidence of an outcome of better regulatory compliance or environmental performance is however much less conclusive.

6 REGISTRATION, CERTIFICATION AND COMPLIANCE

Organisations may choose to have their EMS certified as conforming to a standard – typically ISO 14001 (although EMAS is also common in Europe). There is a system of accrediting the companies that provide these certification services (Accredited Certification). The most recognised is that provided by the International Accreditation Forum. This provides for countries to set up organisations (such as UK Accreditation Service in the UK, the Registrars Accreditation Board in the US etc) to accredit the work of certification bodies or registrars.

Typically, the accreditation of organisations for the certification of man-

agement systems is less than 5% of the work of accreditation services. The majority workload includes supervision of medical devices testing, engineering and structural standards and accreditation of laboratories.

It is hard to define legal compliance at a practical level. This may be one crucial reason why the introduction of an EMS may improve systematic activities but does not necessarily result in improved regulatory outcomes. For example, each of the following may be construed as meeting the 'commitment to legal compliance':

- **absolute compliance:** where compliance is considered to be absolute, such as meeting an emission limit value. Only compliance with the written letter of the law or permit will suffice,
- **negotiated compliance:** where regulators agree not to take any action with regard to a non-compliance. This might include an agreement or timescale for an organisation to come back into compliance,
- **promised compliance:** where an organisation is out of compliance but has an improvement plan or objective to achieve compliance in the future.

A first requirement to integrate regulatory activities with EMS must be to balance these expectations in both worlds. This is an aspect of phase 2 of the Remas project and will be debated at the conference. The International Accreditation Forum are also considering providing guidance on this subject.

7 CONCLUSION

This paper has reviewed some issues in relation to the integration of activities undertaken in regulating a site and those implementing a robust EMS. It is our experience that an EMS brings administrative benefits that help regulation of a site. However, the joint desired outcome of both activities, specifically good environmental and regulatory performance does not appear to be guaranteed by the introduction of any current EMS type (although it is

recognised that there are exceptions to this at some sites).

One reason for this may be different expectations regarding what should be delivered by a certified EMS. A first step to remedying this situation will be to better understand these expectations and design guidance and activities to meet these, perhaps with commonly agreed performance metrics. The workshop is invited to consider:

- How should EMS be used in the regulatory process?
- What are the essential parts of an EMS that are important for regulation?
- What standard of registration/certification is required to enable a regulator use an EMS in regulation?

8 REFERENCES

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