

**MODERNISING REGULATION:  
THE ROLE OF ENVIRONMENTAL MANAGEMENT SYSTEMS**

**Report of the Final Workshop held at the PSI Conference Centre, London  
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## **Introduction**

In February 2002, the Environment Agency commissioned the Environment Group at the Policy Studies Institute to assess the role that externally validated environmental management systems (EMS), such as those certified to the international standard ISO 14001 or registered under the European Union's Eco-Management and Audit Scheme (EMAS), could play in regulation. The specific objectives of the project were:

1. to identify, with stakeholders, key environmental and other outcomes which should be considered in assessing the case for an increased role for certified EMS in regulation;
2. to collect and analyse data which would shed light on the degree to which an increased role for certified EMS in regulation would promote or hinder identified outcomes;
3. to identify, with stakeholders, the degree of correlation between the procedures, processes and skills associated with the regulatory process and those linked to the operation and verification of EMS;
4. to consult with stakeholders on the results of the data collection and analysis to develop options and recommendation for ways forward.

A first workshop with a range of stakeholders was organised in March, in which a consensus emerged that any further linkage between EMS and regulation should result in improved environmental performance, cost-savings and a better targeting of resources, for both regulator and operator, and enhanced public confidence. It was clear that environmental performance is a nebulous concept, but that from the point of view of the regulator, legal compliance is a key indicator.

A period of data collection ensued, examining sites with and without externally validated EMS and their legal compliance record and operator performance, as assessed by Environment Agency enforcement officers in the Operator and Pollution Risk Appraisal (OPRA). A clear correlation was found between the presence of EMS and the procedural aspects of operator performance, such as monitoring, plant maintenance, recording and use of information, etc. However, sites with recognised EMS were neither more nor less likely to be subject to some kind of enforcement action.

The processes of EMS certification and process industries regulation were also compared, to gain an overview of the main areas of potential overlap and differences. While there are some broad similarities between the two systems, any further linkage is complicated by the variability in approach to verification by Certification Bodies and the different aims for which the two systems have been designed.

The aim of the final workshop was to present and discuss these findings to the different stakeholders, in order to suggest and identify possible ways forward for use of EMS in the regulatory process.


## Presentation

Regulation, risk assessment and environmental management systems:

The Environment Agency perspective

Chris Howes, Environment Agency

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**ENVIRONMENT AGENCY**  
Assessing the role of environmental management systems in regulation

**The Environment Agency and EMS**

**Chris Howes**

**EMS and the Environment Agency**

- Key part of modern, risk based regulation
- Recognised through OPRA schemes
- Specific guidance for EMS under IPPC
- Agency certified to ISO 14001
- Research



The Environment Agency has been and continues to engage in a number of high-profile initiatives concerning EMS and regulation. Environmental management systems are already given some recognition, in the Agency's Operator and Pollution Risk Appraisal exercises, and the Agency is committed to further research to establish the facts behind the issues.

## EP OPRA

- Complexity
- Location
- Emissions
- Operator Performance



In the proposed new OPRA scheme, points will be awarded in a number of areas falling under four different categories. The Operator Performance Assessments will take account of EMS, and will be easier to complete with recognised EMS.

## Management Systems and OPRA

- 20 points for EMAS
- 15 points for ISO 14001
- 12 points for Agency recognised systems
- **IF not one of the above need to complete detailed questions and can score maximum 12 points only**



## EMSR Project - Aims

- a) assess duplication involved in having separate systems of EMS assessment in operation;
- b) investigate potential for combining the two forms of inspections and assessments;
- c) assess the extent to which the Agency could rely on conformance with ISO 14001 or EMAS as an indicator of legal compliance;
- d) assess the potential for any economies that might result from (b) and (c).



The Agency undertook a project on Environmental Management Systems and Regulation (EMSR) between 1999 and 2001, to investigate how recognised EMSs could be used in its regulatory work.

## EMSR - General Findings

- Some evidence of efficiencies for operators
- Wide variability in EMSs
- Effective form of site assessment
- EMS linked to performance?
- Broadly resource neutral
- No clear signal to adopt approach



The findings did indicate that an EMS could make up to 70% of the information needed for the PPC application more easily accessible, and that combined certification and regulation inspections resulted in cost savings for operators. The joint inspections / certification visits were more effective than separate inspections and resulted in more and better information. However, as operators indicated that a 20% direct cost saving would be necessary to justify the introduction of EMSR, and as there had been no studies demonstrating a clear link between EMS and environmental performance, in particular legal compliance, this meant that there was no clear signal to adopt the approach and that further research was needed on the relationship between EMS presence and environmental performance.

## What Next ... REMAS :

- Does EMAS improve performance and compliance with regulation?;
- Does EMAS improve performance faster or further than command and control regulation?;
- Encourage uptake of the approach through dissemination with key stakeholders in the EC.
- This will be achieved by working with at least 50 companies and their European Regulators over a three-year period.



The Environment Agency has just secured funding from the European Commission to examine the environmental performance and legal compliance of sites registered under EMAS, in partnership with at least 50 European companies and their regulators.

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Presentation

Environmental management systems, operator performance and compliance:  
What does the evidence show?

Jim Skea and Kristina Dahlström, Policy Studies Institute

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**EMS,  
Operator Performance  
and Compliance:  
What does the evidence show?**



**Workshop 1**

Key desired outcomes:

- Environmental Performance
- Legal Compliance



Environmental performance was interpreted quite widely, and while it goes wider than compliance with environmental legislation – to cover such things as transportation of goods and services, commuting to work, and community relations – legal compliance is a key aspect of performance from the point of view of the regulator. PSI then started gathering evidence on the relationship between EMS presence and environmental performance / legal compliance. The focus was on sites regulated under Integrated Pollution Control (IPC).

## Data Sets

- Survey of 843 IPC sites with EMS status, 2001
- OPRA: Operator and Pollution Risk Appraisal scores (OPA and PHA), Oct 1997 - Oct 2001
- Enforcement actions, Nov 1999 – Oct 2001



The study used three datasets: a survey of IPC sites detailing their status with regard to EMS; the operator performance scores from the OPRA assessments; and enforcement actions taken by the Environment Agency.

### OPRA: Operator Performance Appraisal

1. Recording and use of information
2. Knowledge and implementation of authorisation requirements
3. Plant maintenance
4. Management and training
5. Process operation
6. Incidents, complaints and non-compliance events
7. Recognised EMS (ISO 14001 and EMAS)



The Agency's OPRA scheme looks at both the inherent risk of a site, in the Pollution Hazard Appraisal (PHA), and the ability of the operator to manage that risk, through the Operator Performance Appraisal (OPA). The OPA has seven components, or attributes, for which it is possible to score between 1 and 5, with 1 signifying low performance and 5 high performance. In the current OPRA for PIR, externally validated EMSs are recognised, with 5 points awarded for sites with both EMAS and ISO 14001, 3 points for either EMAS or ISO 14001, and 1 point for neither. There were around 4500 OPA assessments made between the end of 1997 and 2001.

## Enforcement Action

129 IPC processes:

- Enforcement notice
- Prosecution
- Fine



In the time period studied, only 129 enforcement actions had been taken against IPC sites. They were divided into three categories: enforcement notices, prosecutions, and those prosecutions that had resulted in fines.

## Data Analysis

Sites were divided into three sub-sets:

- no EMS (503)
- ISO 14001 (253)
- ISO 14001 and EMAS (25)

Analysis of statistical variance (anova)



In general for the analysis, the IPC sites were divided into three sub-sets: those with no EMS, those certified to ISO 14001, and those sites both certified to ISO 14001 and registered under EMAS. The statistical variance between the three sub-sets was analysed ('anova tests'), to look for statistically significant differences between them. The confidence level was set at 0.05, meaning we can be 95% confident in the results.

## Questions

- 1) Are sites with EMS associated with higher levels of operator performance?
- 2) Are sites with EMS associated with particular aspects of operator performance?
- 3) Are sites with EMS associated with faster rates of improvement in operator performance?
- 4) Are sites with EMS more or less likely to be subject to enforcement action?
- 5) Are sites subject to enforcement action assessed differently in terms of operator performance?

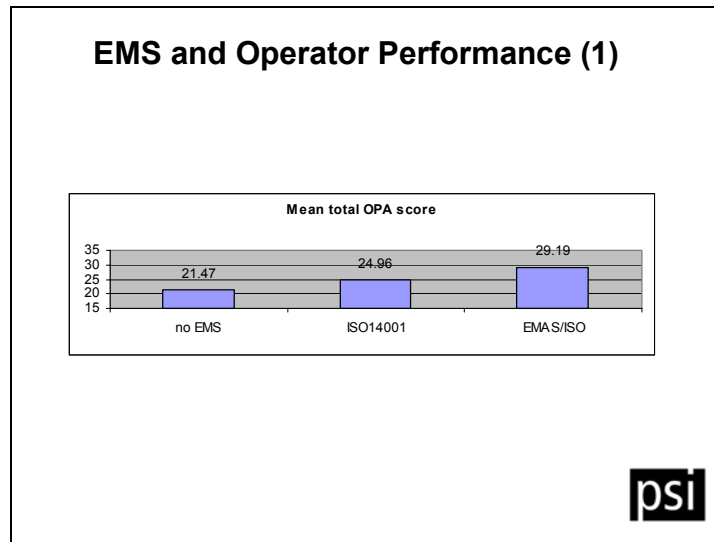


## What we didn't do...

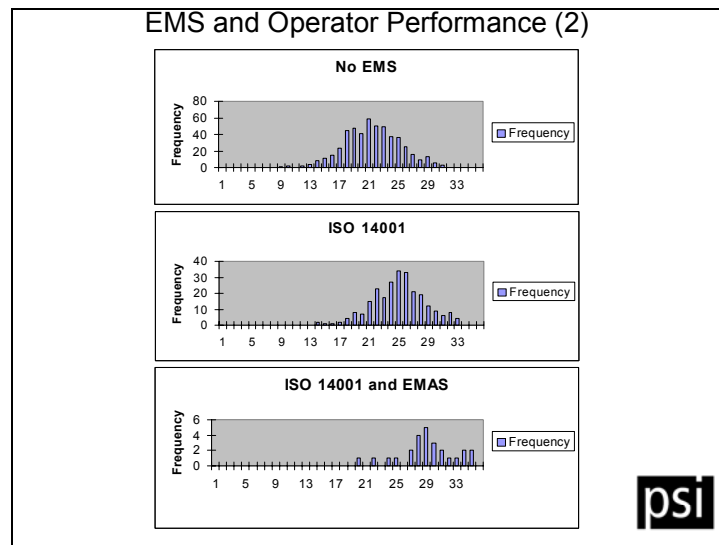
- Pollution Hazard Appraisal Scores
- Sectoral variations



The analysis did look at PHA scores, and while there was a statistically significant difference between sites with EMAS and the other sites, in terms of higher hazard scores for EMAS-registered sites, this difference was very small and not investigated further. Similarly, attempts were made to identify any sectoral variations in result, but no clear trends emerged – partly perhaps as a result of the very small sample size when dividing the sites into sectors.



To find out whether sites with EMS were associated with higher levels of operator performance, the most recent total OPA scores were compared between sites without an EMS, sites with an EMS certified to ISO 14001, and sites with both ISO 14001 and EMAS. The differences in average scores between the three sub-sets of sites were statistically significant and substantial.



The distribution of the sub-groups show that the ranges of OPA scores improve with externally validated EMS. From a possible range of 7 to 35, the sites with no EMS scored between 9 and 31, sites with ISO 14001 between 14 and 33, and sites with EMAS had a minimum score of 20 and reached the maximum of 35. With EMS, a tail of poor performers is removed.

## EMS and Particular Aspects of Operator Performance (1)

Sites with EMS have higher scores for (OPA 1-5):

- Recording and use of information
- Knowledge and implementation of authorisation requirements
- Plant maintenance
- Management and training
- Process operation

But **not** for OPA 6:

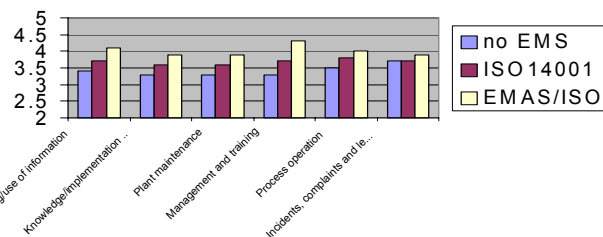
Incidents, complaints and non-compliance events

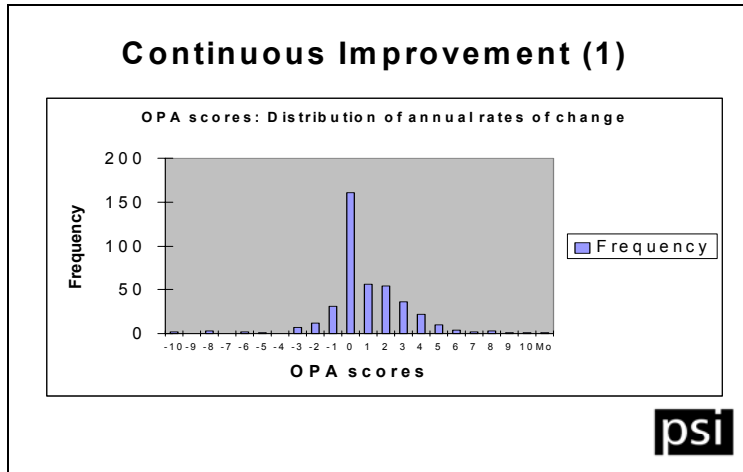


There are 7 attributes in the Operator Performance Appraisal. Sites with EMS achieved higher mean scores for OPA attributes 1 to 5, relating to the procedural aspects of operator performance (see graph below). The differences were statistically significant between the three sub-sets. There were however no discernible relationship or statistically significant differences between EMS status and OPA 6, relating to incidents, complaints and non-compliance events. This OPA attribute is different from the others in that it is the only outcome attribute.

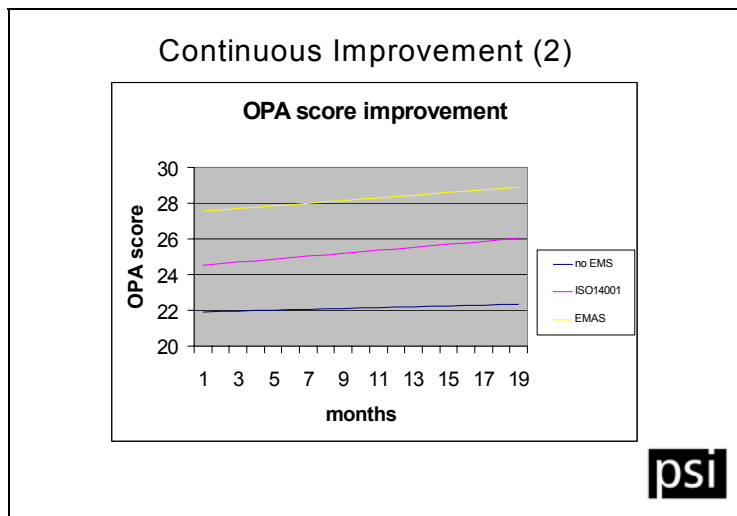
## EMS and Particular Aspects of Operator Performance (2)

Individual OPA attribute mean scores by type of EMS

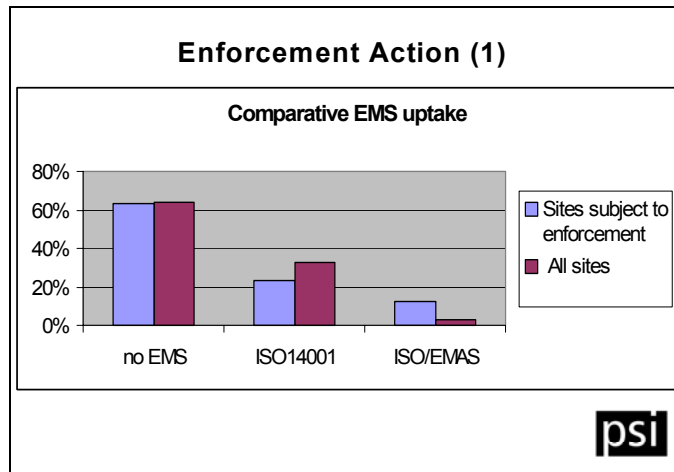




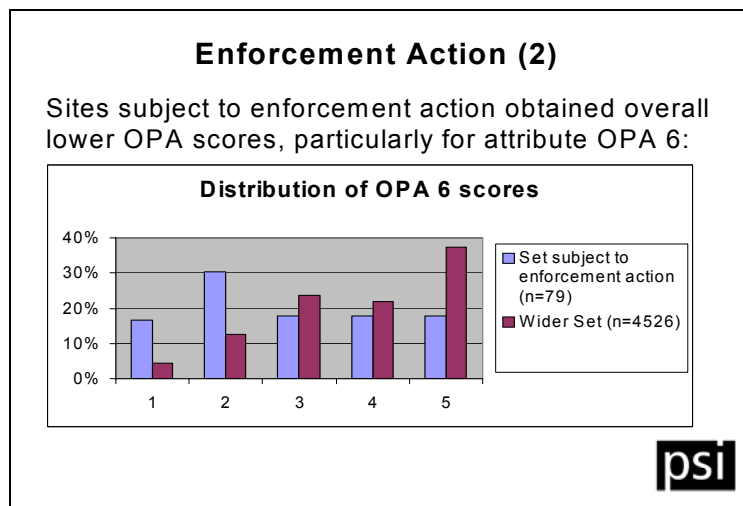
Continuous improvement is a key goal of an EMS. To examine this, the first and last OPA scores were compared for sites that had undergone more than one OPA assessment. The difference between the first and last scores was converted into a normalised annual rate of change. OPA score assessments taken place less than one year apart were ignored, as there were some short-term fluctuations that led to extreme annual rates of change. This left just over 400 sites, assessed on average 18 months apart, of which roughly 40% experienced no change in their OPA scores, around 46% an improvement and 14% a deterioration. The distribution is normal, except for the disproportionately large number of sites which did not change their scores.



There were statistically significant differences in the average annual rates of change between the three sub-sets. The sites without externally validated EMS had an average annual rate of change of around one quarter of an OPA point. The sites certified to ISO 14001 experienced the fastest rate of change, 1 point. Compared to this, sites with EMAS had a slower average annual rate of change at 0.56, but they started at a higher baseline and so had less scope for improvement, and it is not possible to say whether ISO 14001 or EMAS are better at inducing continuous improvements.



To find out whether sites with EMS are more or less likely to be subject to enforcement action, the proportion of EMS uptake was compared between a set of IPC sites that had been subject to enforcement action, and the wider set of 782 IPC sites. However, out of the 129 enforcement actions against IPC sites in the time period studied, only 55 could be linked to the dataset with information on EMS status, which is a rather small sample for drawing firm conclusions. The overall proportion of EMS uptake between the two groups was very similar, but ISO 14001 sites were somewhat under-represented and EMAS sites over-represented among the sites that had been subject to some form of enforcement action. For EMAS, there were 7 breaches relating to three EMAS-registered sites: 6 court cases, two of which resulted in a fine, and one enforcement notice. Clearly, no EMS, not even EMAS, is a guarantee for legal compliance.



The average OPA scores for the individual attributes were also compared between sites subject to enforcement action and the wider set of IPC sites. The sites in breach of legal compliance had significantly lower scores for all attributes, with the largest differences in scores of OPA 6, compared to the wider set.

## Conclusions

- Clear association between procedural aspects of operator performance and EMS presence;
- EMS does not lead to *direct* improvements in outcomes, as measured by OPA 6 scores or by legal compliance record



Two main conclusions can be drawn from the findings. There is a very clear pattern of association between the procedural aspects of operator performance and EMS presence, suggesting that there may be synergies between the procedures and processes of EMS certification / registration and environmental regulation, in areas such as monitoring, measurement or documentation requirements. However, an EMS was not found to lead to any direct improvements in outcomes. Therefore, reducing the degree of compliance inspection for sites with ISO 14001 or EMAS is unlikely to lead to a better targeting of resources.

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## Discussion

The issue of self-selection was raised. As one of the key datasets, detailing EMS status, was the result of a survey, the possibility of response bias had to be investigated. This was done by comparing the total OPA scores of the 782 IPC sites in the survey dataset with the OPA scores of a wider set of over 4500 IPC sites. There were no statistically significant differences in OPA scores between these two sets and the survey set was therefore assumed to be representative of IPC sites in terms of general characteristics.

There was some concern that the correlation between EMS status and OPA scores might be due to the fact that one of the OPA attributes, OPA 7, already recognises EMS status. The data analysis also examined individual OPA attributes, which removed this problem, but the issue was further investigated by comparing OPA scores that had been adjusted to exclude the points awarded for OPA 7 (see Appendix C). Even after this adjustment, there continued to be a strong and statistically significant correlation between overall operator performance and EMS status, and the differences between the three subsets of sites (sites without an externally validated EMS, sites with ISO 14001 certifications, and sites with ISO 14001 and EMAS) remained.

Environmental performance continued to be interpreted in different ways, but it was felt that the Operator Performance Assessment is too narrow to adequately capture the broad nature of the concept. It was pointed out that the assessment of enforcement officers on complaints, incidents and non-compliance events as captured in attribute OPA 6 considers factors outside the control of the company and which do not always reflect performance. For example, incidents are not always the operator's fault, and complaints can be a result of particular external circumstances rather than actual poor performance. However, while OPA 6 is not an ideal measure of outcome, it is different from the other OPA attributes which do not measure this.

It was suggested more indicators should have been used to measure performance outcomes. However, there are many different types of problems concerning data availability and data appropriateness for measuring this. The Environment Agency holds pollution inventory data which could have been linked to the sites studied, but this data is not normalised to take account of production levels and therefore of very limited value for comparative purposes. Also, much data does not go back far enough in time to identify and important trends. It was suggested that the OPA scores for sites with an externally validated EMS might have improved even more had the records extended over longer time periods, as the initial benefits of the system would relate to the procedural aspects of performance and outcome improvements would take longer to establish. A recent project at SPRU will build on work done in the MEPI (Measuring Environmental Performance in Industry) project and look into the links between EMS and performance across a range of issues.

The information on legal compliance comes from a very small set of sites, which limits the strength of conclusions drawn from it. The small number of IPC sites subject to some kind of enforcement action may mean that qualitative case-study work could be more revealing.

Finally, with regard to the lack of a link between EMS presence and outcome improvements, it was asked why there should have been a link and why none was found. The assumption tends to be that an EMS, with its environmental policy, objectives and targets, should lead to improvements in performance. This assumption has influenced environmental regulation in some other European countries, where some form of regulatory relief has been granted to companies with externally validated EMS. The reasons why no such link was found was thought best debated later in the day.

Presentation

The processes of regulation and certification:

Overlaps and differences

Kristina Dahlström, Policy Studies Institute

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## **The processes of regulation and certification: overlaps and differences**



The final piece of research for the project was a qualitative exercise to identify the main areas of overlap and difference between different systems of EMS certification and process industries regulation (IPC/IPPC). Interviews were undertaken with a number of regulators and representatives from five different EMS Certification Bodies (CBs).

### **Regulation and Certification**

Regulation: inspecting and enforcing compliance with environmental legislation.

IPPC considers emissions to air, water, land, other environmental effects. Permit conditions set to achieve high level of overall environmental protection, based on BAT.

EMS: framework enabling organisations to formulate environmental policies and objectives in a systematic and documented manner, and with a commitment to compliance with legal requirements and continual improvement.



Regulation and certification have been designed with very different aims. IPPC permit conditions are set to achieve a high level of environmental protection based on the use of best available techniques (BAT). An EMS is a business tool; the standard stipulates no specific levels of environmental performance or specific means of achieving such performance.

REGULATION		EMS
		Environmental policy
Application	↔	Environmental aspects
Consultation		
Permit (with conditions)	↔	Environmental objectives and targets; Environmental management programme; Training and awareness;
Monitoring	↔	Monitoring, preventive and corrective action; Internal audit and management review
Inspection	↔	Certification / Registration audit (EMAS: environmental statement)
Enforcement action		
Cessation / Site restoration		

It would be useful to show the stages of the two systems next to one another, however, this compare and contrast exercise is really rather artificial; a stylised linear representation of where possible links between certification and regulation could occur. Finding the counterpart or equivalent element from one system to the other turned out to be more difficult than anticipated, but it is hoped the diagram could provoke some thought on the matter of linkages.

PPC Application – EMS Environmental Aspects	
Application	Environmental Aspects
Site condition report	(initial environmental review)
Polluting releases, BAT	Land contamination
Energy use	Emissions to air
Raw materials, waste	Releases to water
Installation activities	Raw materials, waste
Incident management	Local environment / community issues
Impact assessment	EMAS: transport, accident risks, biodiversity, indirect environmental aspects
Monitoring	
Decommissioning	

Examining two areas in closer detail reveal similarities on the surface but deeper differences, particularly in terms of application. The PPC application requires a lot of very detailed information in a range of areas, and is used to assess whether an operator uses BAT and whether a permit should be granted. ISO 14001 and EMAS require that environmental aspects are examined in order to identify which ones are significant, in which case they must be considered in setting environmental objectives. Companies are advised to look at a range of issues, but set their own criteria for judging significance. Environmental objectives need not be established for every identified significant environmental aspect. Also, anecdotal evidence suggest that at company level, different sets of people are responsible for the PPC application / regulation and EMS implementation / maintenance.

### **Inspection – Certification Purpose**

Inspection: ensure permit / authorisation compliance, BAT / BATNEEC, detect breaches

Audit: ensure EMS conforms with requirements of the standard, properly implemented and maintained



The purposes of regulatory inspection and EMS certification audits are different. The definition of the certification audit leaves room for interpretation, and it is possible to put the emphasis more on compliance with the management system or legal requirements than on continual improvements. As one certifier pointed out, it is perfectly possible for an organisation to have a good environmental performance record, but a poor certification audit. Certifiers / verifiers play an important role in deciding whether to focus more on the system or on performance.

### **IPC Inspection**

Inspection levels: based on OPRA

Yearly cycle

Site inspection: general 'housekeeping', control systems, equipment, monitoring

Guidance

Reactive inspections

Enforcement action: enforcement notice, prohibition notice, caution, prosecution



Inspection budgets are determined nationally, and regional inspection levels are based on the OPRA assessments, on an annual basis. The enforcement officers decide how the time is spent on site and which parts to focus on during the different inspection visits. In addition to planned inspections, reactive inspections are also undertaken in response to complaints, unauthorised releases or emergencies. The approach to enforcement is proportionate: any Agency response considers a number of factors, such as degree of environmental risk, predictability of event, as well as the general history, performance and attitude of the operator. The Agency has an enforcement and prosecution policy and guidelines to reduce subjectivity, but assessing these factors do require subjective judgement.

## Certification audit

Stage 1 audit: document review, site visit, plan work, check for obvious gaps – assess readiness for audit

Stage 2 audit: confirm EMS conforms with standard requirements, confirm organisation adheres to its own policies

(EMAS: validate environmental statement)

Surveillance audits: 6 months – 1 year

Three year cycle of reassessment / recertification

Withdrawal/refusal of certificate: major and minor nonconformance. Proportional approach.



CBs follow the same basic certification stages. After the certification has been granted, there are shorter surveillance visits, every six months or yearly, and the whole cycle of reassessment is usually three years, both for ISO 14001 and EMAS. While rare in practice, certificates can be withdrawn or refused in the case of a major non-conformity with the standard, which is defined in the IAF Guidance as ‘absence or, or failure to implement, one or more of the EMS requirements, or a situation which raises significant doubts as to the capability of an EMS to achieve the policy and objectives of an organisation’.

This can be interpreted in different ways. One certifier pointed out that a certificate would not normally be refused or withdrawn due to an organisation having weak environmental targets, although that could happen if the certifier believed that the targets and objectives were so weak as to constitute a major non-conformity with the standard. Some certifiers do not pass judgement on their clients’ environmental objectives as a matter of principle, others do. The approach taken to minor and major non-conformities is similar to that of the Agency’s enforcement officers

A major difference between EMS certification and environmental regulation concerns the accessibility of information. Any correspondence and actions relating to legal non-compliance is placed in a public register; EMS correspondence and any observations made by a CB is confidential.

## **Certification / Surveillance audit**

What do certifiers look for?

IAF Guidance to IEF/ISO Guide 66

- Effectiveness in achieving policy objectives
- Interviews with responsible management
- Evaluation and review of legal compliance
- Nonconformities
- Progress

In practice, many different approaches.

Excluded from consultancy

Can certifiers detect legal non-compliance?



The Guidance is not very specific. In practice, there are many different approaches to audits, and the level of detail for the different elements of the EMS, such as monitoring, is determined by the CBs, which have their own documented systems with defined procedures for certification. Some structure visits around environmental themes, e.g. air emissions or waste, some go through all the elements of the EMS for a number of different operational areas for all, and others select certain EMS elements and look at these in detail across the organisation's activities. All CBs spoken to check legal compliance during every visit, but in different ways. The certifiers were reasonably confident they can detect non-compliance, for the areas they are looking at, but some of them mentioned that they also have great confidence in the ability of the Environment Agency to deal with this aspect. It was thought that EMAS verification is better at detecting non-compliance.


## **Certification market**

- Flexibility of ISO 14001 standard
- Need to differentiate
- Different traditions (marine, standards, environmental consultancy)
- Individuals' qualifications



These inconsistencies, or different approaches, can be explained by a number of factors. The ISO 14001 standard is a very flexible standard, designed to be applicable to any size and type of organisation, anywhere in the world. The CBs also have a need to differentiate their services in a competitive marketplace, and the different traditions could influence their approaches. Individual qualifications and backgrounds of course have an impact on the certification process.

Qualifications: Minimum requirements	
IPC Enforcement Officers	EMS Certifiers
<ul style="list-style-type: none"> <li>•Degree 2:1 or higher in scientific or relevant discipline</li> <li>•5 years experience in sector to be regulated</li> </ul> <p>(chemical engineers)</p>	<ul style="list-style-type: none"> <li>•A levels and 5 years relevant work experience; or degree and 4 years relevant work experience</li> <li>•Ongoing training</li> <li>•Accredited</li> </ul> <p>(huge variability: engineering, environmental science, accountancy)</p> <p>Team more important than individual</p>



The minimum requirements for IPC enforcement officers differ from those of EMS certifiers, as laid down in ISO 14012. Many CBs impose their own additional requirements, or specify academic disciplines. Also, the requirements for PPC officers will be somewhat different, especially for waste, and perhaps more similar to EMS certifiers. Currently, there is much more variability in the qualifications of EMS certifiers than among regulatory inspectors, and the main weak point of certifiers, with some exceptions, relates to detailed technical knowledge, such as the use of BAT.

Accreditation
<p>United Kingdom Accreditation Service (UKAS)</p> <p>Accreditation as a certification / registration body:</p> <ul style="list-style-type: none"> <li>• Independence</li> <li>• Impartiality</li> <li>• Technical resources</li> <li>• Competence</li> <li>• Knowledge of economic sectors</li> </ul> <p>Office visits, witnessing (manuals, procedures, interviews)</p> <p>Check <i>conformance</i>, not consistency</p> <p>(EMAS verifiers: more detailed)</p>



UKAS assesses organisations that provide certification against internationally agreed standards. In effect, the certification bodies' management systems for certification are examined. The accreditors come from varied backgrounds, many have certification experience either from previous work in a CB or with a company undergoing certification. Environmental knowledge is not seen as that relevant. Importantly, UKAS does not check consistency between CBs – they ensure conformance with the standard, and recognise the certifiers' need for differentiation.

## Similarities and Differences

### Similarities:

- Systems with scope for interpretation
- Approach to enforcement / nonconformity

### Differences:

- Background of officers / certifiers
- Frequency and scope of visits
- Transparency



To sum up, both certification and regulation allow for different interpretations; the ISO 14001 standard is flexible, and assessing BAT also allows for judgement and the use of discretion. Both systems also apply proportionate approaches to non-compliance or non-conformity, with further scope for discretionary behaviour. The main differences relate to the backgrounds of certifiers and regulators, particularly in terms of technical expertise; the frequency and scope of visits, with regulation being deep and narrow and certification broader but less detailed; and the differing degrees of transparency between the system of public regulation and private certification.

## Are there plausible ways of linking EMS and Regulation?

YES	NO
<ul style="list-style-type: none"> <li>• ISO 14001, EMAS unchanged               <ul style="list-style-type: none"> <li>- low criticality sectors?</li> <li>- environmental policy, targets agreed with regulators?</li> </ul> </li> <li>• New ISO 14001 'plus' standard</li> <li>• Specific certifying bodies</li> </ul>	<ul style="list-style-type: none"> <li>• Standard is too immature and flexible</li> <li>• Certifiers cannot deliver best practice with regard to BAT</li> <li>• Standard fundamentally flawed</li> </ul>



Very different answers were given to this question. The majority of certifiers were positive, in principle, to a linkage, and suggested a few possible ways of achieving such a linkage. However, there were others who felt that the ISO 14001 standard is too immature and flexible, or even flawed, and that certifiers in general lack the necessary competence to ensure compliance with environmental legislation.

## Discussion

Martin Baxter of the Institute of Environmental Management and Assessment made a short commentary following the presentation. An assumption running through the talk was that there is variability in the practices of Certification Bodies (CBs). However it had to be recalled that there was also variability in the Agency's inspection practices. While there are differences in the approach of different CBs, some giving greater emphasis to performance outcomes than others, EMAS is about tracking the integrity of data and outcomes and therefore has a clearer performance focus than ISO 14001.

On the subject of qualifications, it should be noted that the specification in ISO 14012 is a minimum. In practice, auditors have more experience than that, and for EMS certification the composition of multidisciplinary teams is more important than the individual skills of any one certifier.

There is an issue about how long it takes to withdraw a certificate following a major non-conformance. This currently takes too long. With regard to transparency, there is potential for greater sharing of information between auditors and inspectors, with each having access to the other's reports.

Finally, the key question is not whether there are plausible ways of linking EMS and regulation, but how the existing links can be optimised.

A wider discussion then followed.

A question was raised as to whether the general public was in any way interested in the credibility of auditors. Is the real challenge not to bring the industrial laggards into line? However, the general view was that improving general industrial performance and chasing the worst performers were not mutually exclusive alternatives.

In relation to variability among Agency inspectors, it was observed that OPRA was an attempt to standardise assessment. OPRA is transparent and publicly available. Inspectors (not all of whom are chemical engineers) are directed towards consistent approaches. It was also pointed out that the Agency applies pressure to achieve consistency, while CBs tend to emphasise how they differentiate themselves from competitors.

The degree to which CBs focus on performance as opposed to procedures was discussed. It was noted that all CBs must cover procedures in order to comply with ISO 14001. Some CBs specialise in particular sectors, so there will be differences in approach. Also, auditors must deal with companies not covered by IPC, water or waste regulation.

The issue of the time that auditors and inspectors spent on sites was raised. The EMSR study had found that the length of time was broadly comparable, although direct comparisons are complex. Licensing, which includes the permit review, and certification audits tend to take 10-15 days of time, inspections and surveillance audits 2-3 days.

It was suggested that we should not be looking for interchangeability between auditors and inspectors, but compatibility and complementarity. BAT, as applied by the Agency covers management systems. If inspectors can count on auditors to have covered the management system, then they can start to think “out of the box” about wider improvements.

Agency staff also reminded participants that, as well as specific regulatory responsibilities, they have a duty to protect the environment as a whole and to promote sustainable development. Promoting EMS fits in with these wider goals.

Finally, there was the suggestion that, if there was a move away from a prescriptive to a goal-setting approach, an EMS could be used to operationalise these goals. This prompted an observation on the covenants used in the Netherlands. These are useful in theory, but there is scepticism on the ground because it is time-consuming to negotiate these at the site level.

## EVIDENCE ON REGULATION AND EMS

- Data analysis
  - Having an EMS does not improve legal compliance...  
...but it does improve some of “procedural” aspects of environmental performance.
- Interviews
  - Regulation and certification involve different people and functions within regulated companies
  - Regulators and assessors have different skill sets
  - Certification procedures vary from one body to another
  - Auditing does not necessarily detect non-compliance – certification is seldom refused



## CONCLUSIONS

- Under **current** certification arrangements:
  - targeting regulatory resources at companies without an EMS would not lead to better outcomes in terms of compliance
  - there is no case for “regulatory relief” for companies with an EMS
- But, some form of enhanced certification might allow linkages to be made



## **ACTIONS NEEDED TO LINK REGULATION AND EMS**

- Regulated industry
- The “certification sector”
- Regulators
- Policymakers



## **REGULATED INDUSTRY**

- Better internal integration of compliance and EMS activities
- Use the same individuals/teams to interact with regulators and certification bodies



## **THE “CERTIFICATION SECTOR”**

- Greater focus on regulatory issues in environmental policy statements and audits
- Enhance engineering competences
- More consistency in procedures across certification bodies
- Enhanced certification/verification recognised by regulators?



## **REGULATORS**

- acknowledge better “procedural” aspects of environmental performance (e.g. monitoring/measurement)
- Work with certification community on enhanced certification?



## POLICYMAKERS

- What is the public policy case for EMS – is regulatory compliance ?
- Is there a policy case for regulatory relief as a carrot to encourage the uptake of EMS? But only if: a) they are seen to be beneficial in their own right; or b) they yield environmental benefits beyond the scope of regulatory compliance
- Assess whether linking EMS-regulation would reduce regulatory burden – or would lighter regulatory loads be balanced by higher certification costs?



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### Discussion

Any linkage between an enhanced EMS certification and regulation would involve actions and challenges for the key actors involved: regulated industry, the certification bodies, the regulators, and the policymakers.

#### *Issues for regulated industry:*

The challenges for the regulated industries depend to a large extent on how satisfied they are with the status quo. Some sectors of industry feel there are already so many different management systems, and would be unwilling to spend more money on certificates unless there are real benefits associated with that. Also, they have different people for dealing with EMS implementation and for regulatory compliance, as they are seen as different matters.

A point made was that environmental management systems are voluntary initiatives, and there needs to be a business case for adopting and implementing an EMS, such as pressure from a supplier or some efficiency savings. Any possible linkages investigated between EMS and regulation are of very limited value unless the numbers of EMS certifications / registrations increase. The part of DEFRA responsible for promoting EMAS among businesses and local authorities are often asked what companies would get in return for registration. However, it was noted that EMS uptake increases with more regulation, not less.

Some sectors of industry, particularly the more international ones, feel that any linkage should not favour EMAS over ISO 14001, as that would work to their disadvantage. While there may not be an enormous leap between ISO 14001 and EMAS, this is still a

concern for them. However, it was pointed out that any move towards an enhanced certification system would have to involve a 'leap' of some form.

*Issues for the "certification sector":*

The issue of non-compliance was discussed. For both regulators and certifiers, there is some difficulty in determining non-compliance, particularly for sites regulated under IPC, where breaches are less clear-cut than for example water regulation breaches. However, there are publicly available enforcement and prosecution policies and classification systems which the Agency uses, and it was suggested that CBs could use something similar, published by UKAS. EMAS has more guidance on breaches than ISO 14001, and there is extra regulatory oversight in that the regulator can notify IEMA about any breaches by EMAS-registered sites. It was asked why CBs cannot notify IEMA themselves.

The development of any enhanced standard, or 'super-certification' scheme would benefit from the involvement of interested parties. For UKAS to play a role, they would like a very broad consensus on such a standard.

Transparency is a key element of regulatory procedures, but there is a fundamental difference between a private contract and a public body with public pressures. CBs could not make available information without their client's permission, but then the companies could make that information available if they wished.

*Issues for regulators:*

It was asked whether regulators could do their job faster or more easily if the operators have an EMS in place, and if so, whether that should be recognised. The EMSR study had found that the PPC application and permit was faster to process if the operator had an EMS, as well as time savings for the operators during the application stage, so this was implicitly recognised and rewarded.

Other synergies between EMS and regulation are also recognised, e.g. through both the current and proposed OPRA schemes, as well as in the Operator Monitoring Assessments (OMA). The question is how much further than these existing linkages an EMS could or should be acknowledged.

For the regulators, EMAS comes closer than ISO 14001 to an enhanced certification system, although EMAS still has deficiencies for moving forward towards a linkage. The certification covenants in the Netherlands cover different certification systems, i.e. they have introduced different degrees of enhanced certification. For the most enhanced form, the EMAS requirements have been applied to ISO 14001 for recognition by regulators.

*Issues for policymakers:*

At the European level, there are several efforts to encourage EMAS uptake and its use with other policies. DEFRA currently uses EMAS for climate change agreements and for emissions trading schemes, so there are existing synergies here too. The question is whether EMS can be used to encourage goal setting, to which we do not know the answer. Would it be possible to say that EMS is BAT? A balance needs to be struck between carrots and sticks.

On a practical note, it was suggested that policymakers better define what they mean by performance.

The concern was raised that we might be missing the point by concentrating on process regulation. The link between new environmental legislation, such as the EU's expected White Paper on Integrated Product Policy, and PPC or other existing regulation, could be an EMS. As was already pointed out, more regulation tends to increase the uptake of EMS.

### **Conclusions and next steps**

The data analysis concluded that having an externally validated EMS does improve the 'procedural' aspects of performance, such as maintenance, monitoring, and record-keeping, but there was no evidence of direct improvements in outcome, as measured by legal compliance and by enforcement officers' assessment on complaints, incidents and non-compliance events (OPA 6).

The interviews revealed that certifiers and regulators have different sets of skills, that certification does not necessarily detect legal non-compliance, and that certification procedures and focus vary from one body to another.

A case is developing which supports giving limited recognition to ISO 14001 and EMAS in regulatory systems as, for example, in the case of the proposed EP OPRA scheme. However, before any further linkage is made, there is a need for more information on the situation and a further exploration of views in the UK and Europe. It is important to ask what exactly an EMS can deliver, as any incentives given to companies with EMS need to be proportional to the outcomes that they can deliver. If it is found that ISO 14001 does not deliver suitable outcomes, then there is no case for giving special treatment to companies which do not want to go beyond this level of certification.

For policymakers, there are two basic choices. One option, and the simplest, is to incrementally enhance and refine existing links between EMS and regulation, exemplified in OPRA and OMA, through cooperation with industry and regulators. Alternatively, increasing the linkage significantly would require a substantive policy initiative lying beyond the scope of what regulators could do alone. But, for this sort of policy initiative to be taken, significant effort would have to be invested in information sharing and research. There appeared to be little enthusiasm, on the part of any stakeholder, for some form of enhanced certification. Many think that the current linkages are sufficient.

**APPENDIX A: AGENDA**

From 10:30	Coffee	
11:00	Introduction to Workshop	Jim Skea, PSI
11:05	Regulation, risk assessment and environmental management systems: the Agency's approach	Chris Howes, EA
11:20	Discussion	
11:35	Environmental management systems, operator performance and compliance: What does the evidence show?	Jim Skea/Kristina Dahlström, PSI
12:00	Discussion	
12:30	Lunch	
13:30	The processes of regulation and certification: overlaps and differences	Kristina Dahlström, PSI
13:50	Commentary	Martin Baxter, IEMA
14:00	Discussion	
14:30	Environmental management systems and risk-based regulation: issues for wider consultation	Jim Skea, PSI
14:45	Discussion	
15:30	Conclusions and next steps	Chris Howes, EA
15:45	Close and tea	

## APPENDIX B: PARTICIPANTS

Martin	Baxter	IEMA
Martin	Bigg	Environment Agency
Martyn	Cheesbrough	Environment Agency
Roland	Clift	Centre for Environmental Strategy, University of Surrey
Kristina	Dahlström	PSI
Andrew	Dick	CBI
Charles	Duff	University of Surrey
Malcolm	Eames	PSI
Ian	Housley	CTC Environmental
Chris	Howes	Environment Agency
Ian	James	CIA
Michael	Jones	DTI Environment Directorate
Andrew	Marlow	UKAS
John	Maslin	DTI Oil & Gas Directorate
Ian	McPherson	UKPIA
Phil	Mortlock	DEFRA
David	Odling	UKOOA
John	Pepper	DNV Certification Ltd
James	Richens	ENDS
Jim	Skea	PSI
Adrian	Smith	SPRU, University of Sussex
Robert	Walker	SMMT
Nicola	Wilson	BVQI

**APPENDIX C: TOTAL OPA SCORE MINUS OPA 7**

