

ENVIRONMENT AGENCY
Midlands Region

Summary Report on Integrated Large Scale Audit

of

The Rugby Group plc, Southam Works

15 - 17 October 1996



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Environment Agency
Information Centre
Head Office

ENVIRONMENT AGENCY



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BACKGROUND TO THE AUDIT

This report describes an audit of Rugby Cement, Southam Works which took place between 15 and 17 October 1996. This process is authorised under Part I of the Environmental Protection Act 1990 and, as such, is subject to Integrated Pollution Control (IPC). The site also has a Waste Management Licence for operation of the landfill of process wastes.

Large Scale Audits have been developed as a supplement to routine regulation of particularly complex sites or those which have a high potential to pollute so that an assessment can be made of their overall environmental performance. By focusing on sites with high pollution potential, the Agency targets resources where the environmental risk is greatest.

Rugby Cement, Southam Works is a long established site for cement manufacture. The major potential environmental hazards are from dust, nitrogen oxide and sulphur dioxide.

The primary objective of the audit was to assess compliance with the IPC authorisation and to examine those underlying factors affecting compliance. In addition to detailed examination of the manufacturing process, consideration was given to factors which have an impact upon environmental performance, such as manning levels, training, supervision and maintenance programmes. The Company Environmental Policy and the Environmental Management System (EMS) underpinning the environmental performance of the Works were also critically examined. Evidence of the translation of the Policy into effective action at all levels was sought.

The audit was undertaken by a team of Environment Agency officers consisting of specialists in Integrated Pollution Control, Water Quality and Waste Regulation, thereby covering releases to all environmental media and allowing consideration of compliance with Duty of Care requirements for waste disposal.

This document is a summary of the main report and presents the main findings of the audit, incorporating a number of recommendations. The main report contains the Company's response to these recommendations. The process has been considered in terms of a series of steps from raw materials handling to packing and dispatch of the finished product.

REPORT SUMMARY

This summary outlines the main findings of the audit and has been set out under the same subject headings as would generally be considered for any process regulated under Integrated Pollution Control (IPC).

General overview

The process was found to be operating in compliance with the conditions set out in the authorisation.

The site is managed by a competent and committed management team who conduct their undertakings in such a way as to minimise the impact of the process on the local environment. Existing management practices with respect to environmental protection have recently been formalised and the Company are seeking accreditation to ISO14001 for their Environmental Management System. The promulgation of and adherence to good practices at all levels have relied upon the quite considerable experience of the workforce; some impassivity in the early stages of introducing the more formalised paper-based system was to be expected and was duly encountered.

A number of specific points relating to paper-based systems have been made throughout the report but, in particular, there is a need for the overall process equipment layout and general operating instructions to be documented to provide a framework which ties all other documentation together. For the purposes of the current operation, the systems in place are adequate but it is recognised that the Environmental Management System is in its early stages and is being piloted for the Cement Division and for the new works at Rugby.

The audit findings are summarised below for the site as a whole.

1. Record keeping and use of information

There appears to be no overall documentation for the plant, except for that related to the maintenance planning system. In some production areas a large proportion of the process information kept is recorded manually and hence limited to basic spot measurements of continuous operations. In other areas continuous measurement of process parameters are recorded/linked to alarm systems.

Data retained for compliance with the authorisation was found to be complete.

Emissions monitoring and discharge sampling for compliance with the authorisation are carried out to the required frequency and results are submitted to the Agency as appropriate. Continuous instrumentation for emissions monitoring, where used, is maintained to a satisfactory standard. In some areas there seems to be confusion amongst the workforce with respect to units used and what the monitors are depicting. Of concern is the fact that sulphur dioxide and nitrogen oxides emissions data do not appear to be assessed by anyone on site in any way, certainly not for the purpose of controlling the process; these data are, however, analysed at Divisional Headquarters in compiling company-wide process statistics but it seems as though this is not fed back to the site. The general impression was that there was little evidence of a formalised review of emissions, process or test data, except in the investigation of complaints and a few other exceptions where data are relevant to operation of the plant.

2. Knowledge and implementation of authorisation requirements

All staff have a personal copy of the authorisation and subsequent variations. There was some confusion expressed by those trying to integrate the requirements of the variations into the original authorisation, now more than 3 years old. It is appreciated, however, that the authorisation documentation supplied to Rugby Cement by the Agency is not easy to understand in some sections.

Whilst details of the authorisation were fairly well known and specific emission limits were known at shift supervisor level, the underlying principles of prevention and minimisation need reinforcing at all levels. The concept of residual BATNEEC (Best Available Techniques Not Entailing Excessive Cost) is understood at Head Office and senior management level but the impression, particularly at workforce level, is that there tends to be a feeling that because the raw materials are naturally occurring they are not polluting.

3. Plant maintenance

Plant maintenance was found to be generally good with a well organised planned maintenance system; this could be expanded to some extent. It was unclear whether all plant was included within this system. Insufficient resource is allocated to housekeeping and too much reliance is placed upon reacting to problems caused by accumulation of dust.

4. Plant operation

Operation of the plant is very much operator dependent, relying heavily upon experience. Documentation (Procedures/Work Instruction) is in place but is not fully used by the workforce who are (i) unsure of the purpose of the various documents, and (ii) some of whom feel that they have sufficient experience not to need written instruction.

Shift handover between shift supervisors is commensurate with the need to communicate process detail and comprehensive written logs are maintained. The effectiveness of the handover between operators seems to vary and it appears that information relating to process problems may not, in some cases, be adequately communicated.

Reporting lines are a mixture of functional and supervisory e.g. the kiln operation is controlled by the Kiln Burner, and several staff, including the Lepol Grate Operator, have the technical aspects of their work controlled by the Kiln Burner and not the Shift Supervisor.

Procedures for modifications to plant and process are not sufficiently robust and a more formalised plant modification procedure may be of benefit. Communication of plant production/operating changes appears to be largely via internal memos. Some changes seem to be experimental in nature and it is not clear at what point, or how, these are either withdrawn or are otherwise incorporated into Work Instructions.

5. Management and training

The plant is adequately manned with skilled staff. An area where resource is obviously lacking is in housekeeping-related tasks. Training appears to be largely on-the-job and based on a written job description. There is evidence of assessments having been carried out against these job descriptions. Although the existence of the IPC authorisation is known to the workforce, the level of general environmental awareness needs to be raised; this is being addressed at present through the "toolbox talks" and environmental committee. Despite the above, the experience of long serving staff and the non-changing nature of the work minimises the problems.

The training matrix needs updating to better identify training needs; this is being addressed at present.

6. Non-compliance, incidents & complaints

Compliance with the authorisation was good.

The company would benefit from a more complete recording of episodes of abnormal operation as this would allow for more complete investigation. There is evidence that such episodes are acted upon but tend not to be documented in sufficient detail to allow subsequent investigation and follow-up to determine the cause, or to detect any inconsistencies or trends.

The complaint procedure is appropriate and all complaints are investigated and the complainant contacted. The management make laudable attempts to maintain a good relationship with the local community and to inform and enter into discussion on various issues.

7. Auditable environmental management systems

The EMS in place appears to be comprehensive in area and depth of coverage. It is, however, very new and is untested but provides a good framework to work with. The management commitment to the system and to make it succeed is very apparent and the Company are seeking accreditation to ISO14001.

Cascading of information has not been as effective as perhaps hoped by management; the means of cascade needs improving and more feedback is required. Resolution of the uncertainties over documentation needs to be a priority; perhaps consolidation of documentation might be a positive early step. indeed, the documentation at times seems to duplicate similar requirements - a single system might produce easier familiarity by those involved.

Although there is an increasing awareness of environmental issues on the site, such considerations need to be incorporated with more transparency into all decision making, ie an auditable trail needs to be produced, documenting the considerations and reasons for decisions made.

SUMMARY OF SPECIFIC RECOMMENDATIONS

Environmental Management System

1. To avoid overcomplicating the system of documentation available to the workforce, there may be some benefit in consolidating the paperwork for the Quality Assurance and environmental systems.
2. The system in place for distribution of Work Instructions and Procedures needs to be more transparent to the workforce. Gaps were found in distribution which need to be rectified.

Training

1. Training at operator level could be more structured and formalised as it appears to rely almost entirely on the needs as perceived by individual line managers. Whilst this may be appropriate for training related to day-to-day work, the consistency of general environmental awareness training cannot be assured.

Complaints

1. Complaints forms would benefit from being numbered or otherwise identified to ensure all complaints are followed up. There is a need to ensure that the record of follow up action is entered fully onto the complaints form.

Compliance, incidents & unauthorised releases

1. The need to report accidents and near misses with potential for environmental impact needs to be emphasised more strongly.

Maintenance, use of contractors and project work

1. The planned maintenance system appeared sophisticated, but it would be worth checking whether similar items on the plant register can be identified and then have a periodic check on those with environmental impact.

Waste management

1. The Waste management Licence and working plan are in need of review by the Agency and the Company.
2. A number of amendments needs to be made to the Work Instruction "Removal of wastes from site."

Site effluent system

1. Many of the bunds need examining to ensure that they are impermeable.
2. The surface water drainage system surrounding the diesel refuelling area needs to be served by an interceptor.
3. The sewage treatment plant needs to be returned to working order.

Clay quarry and crushing plant

1. Completion of the project to supply fuel by bowser, rather than in drums, needs to be expedited. Operators should be trained to undertake this operation.
2. The system of temporary pipework needs a system in place for control and inspection.
3. Alternative means by which material back-up on the conveyor can be viewed or blockages prevented needs to be provided.

Raw material preparation and slurry storage

1. The overflow alarm system needs to be improved with high level alarms on those basins/sumps which are deficient in this respect.
2. The launders on the chalk thickeners need to be cleaned out with attention to waste disposal and housekeeping.

Filtration plant and cake storage

1. Investigation needed into whether the clean water from the press can be separated before discharge to the settlement trench.
2. Foundations to the filtrate holding tank require attention to prevent further deterioration.

Fuel handling & milling

1. The sulphur content of fuels as advised by the supplier should be confirmed by random sampling carried out at the Works.

Kilns

1. The company need to review the use to which monitoring data are put.
2. Shift handover between operators needs to be formalised, particularly with respect to operational problems.

3. The distribution, use of and access to Work Instructions and Procedures needs to be reviewed.
4. The system for the signing off of projects needs to be reviewed.
5. The Kiln Burner should record the reasons for all excessive releases of dust.

Clinker handling & storage, cement mills & silos

1. A review of housekeeping activities is needed, together with consideration of whether provision of another Renvac would be of benefit.
2. Review the frequency of housekeeping audits.
3. Attention needs to be given to minimising fugitive release points by repair of gaps in the building fabric and by keeping doors etc closed.
4. It is evident that operators are not fully aware of the relevance of environmental information presented to them - further awareness training is required.
5. The correlation between the manual monitoring and dust monitors on the cement mill discharge points needs to be reviewed.
6. The bottom of the silo discharge chute needs cleaning.

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