



Jackson Civil Engineering Ltd Environmental Report 2003/2004

Author	Reviewed by	Management approval	Approval reference
Steve Livingstone Environmental Manager	Jim Chaplin Services Director	Richard Neall Chief Executive	<u>233</u>

"This statement has been validated by David Robinson of BSI who are accredited for EMAS verification with the registration reference [UK-V-0002](#). The validation was completed on 17 March 2005.

Signed:

A handwritten signature in black ink, appearing to be "R. Neall", is written over a faint circular stamp.

JCE Environmental Report 2003/2004

1. OVERVIEW - Who are we?

Jackson Civil Engineering is one of the UK's leading regional based civil engineering contractors. Established over fifty years ago, the company has grown into a multi-discipline contractor operating throughout the Midlands, Eastern and Southern England. Working for a wide client base of both public sector bodies and private companies, we carry out an increasing variety of works including major highways and bridges, coastal and inland waterways, industrial, commercial and residential infrastructure, rail and environmental schemes. Contracts range in value from £0.5m to £30m on an individual project basis. The business has extensive experience in all forms of construction and project management, including framework agreements and preferred contract partnering. We have an extremely strong order book and tender opportunity profile through 2005 and beyond.

In summary:-

- A well established, profitable and growing multi-discipline civil engineering contractor
- Non-adversarial approach with good business relationships and long-standing customers
- Committed to our strong health, safety and environmental policies
- High level of negotiated work and repeat business
- Strong framework experience and order book
- Experienced in all forms of contractual relationships, including a long history of partnering and joint venture arrangements
- Strong market penetration in existing operating areas and great potential for continued geographic expansion
- Highly skilled employees with strong staff loyalty and a management team with strength in-depth
- Strong brand name and respected presence in the construction industry



Company Address.

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2. Vision

**Working together,
we will live long and prosper**

3. Environmental Value and Behaviour

Environmentally Alert - We continue to exceed levels of environmental best practice

4. Policy

ENVIRONMENTAL POLICY

Jackson Civil Engineering Limited recognises that the construction industry has a major influence on the environment. Particularly at risk are aquatic ecosystems, natural habitats, soils and the human environment at our construction sites and administrative offices.

We are aware that environmental risk is created through the physical changes that engineering and its operations have on the environment, the potential to pollute and the use of natural resources. Engineering projects also have the potential to enhance the environment through amenity and service creation, employment opportunity and habitat improvement.

To reduce the harmful effects that we may have on the environment, we have integrated environmental management into our normal business practice. We maintain certification to the BS EN ISO 14001 standard in order to effectively manage our commitment to the environment and promote a culture of best practice within our company.

In keeping with this, we ensure the following commitments are met:

Resources - Provide appropriate and adequate resources for achieving and maintaining environmental best practice.

Legal Requirements - Comply fully with the letter and spirit of environmental legislation.

Pollution - Prevent or otherwise minimise pollution of the air, land or water by avoiding the release of any substances liable to cause environmental harm or damage, paying particular attention to the management of silt, oil and site-critical aspects.

Nuisance - Prevent or otherwise minimise disturbance of the local community, wildlife and natural features by controlling nuisance such as noise, vibration, light, dust, mud, odours and traffic.

Sustainability - Promote the use of sustainable or recycled sources for materials such as timber and aggregates. Promote responsible and efficient use of resources, particularly company vehicles, paper, energy and construction materials.

Waste - Manage waste effectively by promoting waste reduction, reuse and recycling, placing particular emphasis on paper, fuel, energy and construction materials.

Archaeology - Protect features of archaeological or historical importance where possible.

Training and Awareness - Provide employees and subcontractors with appropriate training to maintain the necessary level of competency and environmental awareness.

Emergency Preparedness - Minimise the likelihood and severity of environmental incidents by employees, subcontractors and suppliers, by acting preventatively and periodically testing emergency arrangements.

Complaints - Deal promptly and fairly with any complaints.

Communication - Keep employees, clients and interested parties informed of this policy and the company's activities by providing clear lines of communication.

Objectives and Targets - Set realistic and measurable objectives and targets in line with this policy and our most significant environmental aspects. Monitor and report the achievement of objectives and regularly review their continued significance.

Continual Improvement - Strive to constantly improve the effectiveness of our environmental management system and performance.

Policy Review - Review this policy regularly to ensure it remains relevant and appropriate.

The specific details of organisation, responsibilities and arrangements of Jackson Civil Engineering's management system are provided within the Company Procedures Manual.



Richard Neall, Chief Executive March 2004

5. Reporting Scope

Achieving EMAS (Eco-Management and Audit Scheme) compliant reporting is not a simple matter in this industry. In particular, the requirement for comparative year-on-year reporting can be difficult to achieve because, unlike traditionally registered companies, our operating sites change almost completely from year to year and sites can vary greatly in scale, complexity and environmental significance. Where and when we work and the materials that we use are often contractually defined by a client and we can only offer more sustainable alternatives in the hope of a positive response. Consequently, much of the data collected is indicative of our success in influencing clients rather than being reflective of the choices that we, as a company, may have made. We believe, however, that raising standards is important and that achieving EMAS registration, despite the apparent difficulty, will do just that.

This report covers our performance as a civil engineering contractor, designer and project manager for the period September 2003 to August 2004. It includes all the sites as listed in Table 3 (appended).

6. Sustainability Overview

The form of contract into which we enter has a significant bearing on the extent to which we are able to influence design and materials choice. More traditional forms of contract, in which the contractor tenders a price for a complete or near-complete design, offer little scope to affect the client's choices. This is partly because the cost of making change increases over time through the process of designing and constructing a project. On these forms of contract our entrance into the contract occurs when it is often too late to influence the design. More modern forms of contract offer exciting opportunities as the contractor becomes involved earlier in the project. Framework agreements (such as the Environment Agency's National Capital Project Management System) and ECI (Early Contractor Involvement) contracts are notable in this regard and it is encouraging that, in particular, the public sector is becoming increasingly aware of the benefits to be derived from these forms of relationship.

As a consequence of the extreme variability of our operations and projects, we focus, in our objectives and targets, on issues over which we do have unambiguous control. Legal compliance is, for us, a major issue and much of the data collection in our performance audit programme reflects this. Our main environmental impacts revolve around materials consumption, waste and the potential to cause pollution through our operations. The most significant potential impacts are:

- Silt pollution of water - directly into streams or water courses or through surface water drains
- depletion of natural resources through raw materials consumption
- landfill use through waste generation
- oil pollution of both land and water
- physical changes to the environment with ecological consequences
- noise pollution
- dust pollution
- vibration

- visual pollution

The extent to which these impacts are prioritised or rated can also vary greatly from project to project. Many of our operations occur on, or near significant bodies of water. Many, conversely, occur at a considerable distance from water courses. Issues of nuisance will also vary greatly and will be dependent on the locality of an operation, which may be in the middle of a busy residential area, in open farmland, along a river or on the coast.

We thus take the view that there are two parts to our environmental commitments. These are:

- Aspects over which we have direct control and which have variable, site dependent significance
- Aspects over which we have influence, the degree of influence being dependent on the type of contract and the flexibility or environmental commitment of the client.

Management of our most significant aspects, such as waste production and raw materials use, can thus be complex issues over which we have some, but not complete, control.

JCE actively engages with clients to influence their choices because we believe it is important to do so and we have positioned our company to work with clients for whom environmental management is an important issue.

7. Aspects and Impacts

Each project that JCE undertakes has individual characteristics that are determined by the nature of the project as well as the physical, geographical, temporal and social context in which the project is to take place. Additionally, clients, neighbours and the authorities may place constraints on our activities that must be included in the management plan for the site. These constraints may be included in formal documentation such as an environmental management plan, may be identified by the client in the general tender documents or by our employees during the planning phases. Each site is thus environmentally specific in its requirements and the EMS makes allowance for this.

Perhaps more importantly, the system has been developed in conjunction with site managers – with functionality as its key design criterion. It serves as a mechanism to translate often complex environmental management requirements into a practical system that can be used in the development of Project Management Plans and Method Statements.

Environmental aspects and risks are identified during the tender evaluation process using a matrix (appended as Table 4). The matrix includes all activities undertaken during normal operations by JCE and includes cells marked in yellow that represent data contained in an environmental management database for the management of environmental aspects. The information in the database includes management methodologies anticipated to be best practice for most projects.

During the site evaluation process and through a desktop study of the project documentation, aspects are identified that may require more than the usual management controls and these are marked with a tick in the matrix so that the database can be amended for a particular site to take specific measures into account. On certain sites, aspects may not be applicable – for example there may be no agricultural land that can be impacted by our operations – and the specific controls that are not required are marked in the matrix with an "x" in order that these controls are removed from the site management database.

This system, together with the procedures established for compliance with the further elements of ISO 14001 and the law, allows JCE to exercise clear, careful and site-specific control over the environmental aspects – and hence the impacts – of its particular operations on any project.

Site managers use the matrix and the database for project and activity planning and training. Key documents are the Project Management Plan and Method Statements, the most important of which is the latter as it is at this point that full details of method (and hence risk) are known and the earlier planning phases become reality. A typical control page from the database is appended as Figure 12. As can be seen the database includes:

- Activity based assessments
- Detail on impacts, pathways and receptors where appropriate
- An evaluation of the potential environmental significance, likelihood and total significance of each aspect
- Details of the controls required to achieve legal compliance, company standards or best practice
- A re-evaluation of residual risk once controls are implemented
- The primary legislation governing each aspect.

Quick links in the database produce reports for the management of each aspect, rendering the system practical, efficient, accurate and user friendly.

8. EMS

Our Environmental Management System (EMS) is certified by the British Standard Institution to BS EN ISO 14001. Certification covers our offices, all our operational sites and design. The certificate of registration is also issued within a certificate of integrated management (IMS) as our EMS is fully integrated with our quality management system (BS EN ISO 9001: 2000), our health and safety management system (OHSAS 18001) and Investors in People status.

We see the integration of the three management standards into a common business model, together with our financial and other management systems, as a big and important step in ensuring that environmentally sound practices become part of the way that we do business. We were pleased to achieve IMS certification in November 2003.

9. Responsibility

Responsibility for the implementation of our EMS is vested in our Chief Executive Officer. At director level the Services Director is accountable for ensuring that the EMS meets the needs of the company. The Environmental Manager, who works closely with the Quality and Safety Managers, is responsible for the structure and maintenance of the EMS and for providing support to all levels of the company.

On site, the day-to-day management of the EMS rests with Site and Project Managers and responsibilities are clearly established in the Project Management Plan. Regional Managers have a significant role in maintaining high standards and

all site staff are made aware, through our training programme, of their environmental responsibilities. A Company organisation chart, showing key environmental responsibilities, is appended (Appendix - Figure 2).

10. Involving All Employees

Improving our IMS and getting buy-in to it from all employee levels is important. One of the tools that we have employed for this is the QuEST Improvement Team. This team is elected by the employees on a regional basis to make representations on their behalf, at team meetings, on issues of local concern, bring suggestions to a central forum and to provide feed-back to the regions on improvement initiatives that the team generates. Many of the initiatives that are generated become incorporated into the IMS.

The annual staff conference is another key forum for staff involvement. This conference presents feedback on our performance to all employees and, through presentations and the Business Plan, guides staff to the company's objectives and targets for the following year.

Newsletters, bulletins, posters and e-mails are also extensively used to keep employees and our wider supply-chain informed on environmental issues.

11. Objectives and Targets 2004

Objectives and targets are determined annually and are presented in the Company Business Plan, by the Chief Executive, to all staff at a series of conferences in November and December each year. They are based on the most frequently encountered significant aspects on site and the aspects that are most significant at a corporate level. To establish effectively measurable targets, performance audit scores (see below) are used as a measure of site aspect management. Where quantifiable targets can be set, such as with raw materials purchases, these will be set as a percentage of a whole.

Note - References in the objectives and targets to scores, relate to the scoring system developed for our site performance audit programme. These audits are a mechanism that we use to evaluate both environmental and system performance. Performance audits are carried out by all our Quality, Safety and Environmental Team members. The scoring system follows the format:

- 1 = Major Non-Conformity/illegal activity, Immediate Action Required;
 3 = Minor non-conformity/could lead to illegal activity, Action Required;
 4 = Observation/not achieving company standard;
 5 = No Problems Found/minimum standard achieved;
 6 = Favourable Observation/exceeding minimum standard;
 8 = Good/innovative practice or initiative;
 Above 8 = best practice/ a standard that we believe cannot be bettered.

Reference to Regions refers to geographical areas under the management of Regional Directors or Managers. These are illustrated in Figure 12 (appended).

Action A.2.1

Management system – *Maintain the standard that enabled us to achieve ISO 14001.*

The environmental management system has successfully maintained certification to the ISO 14001 standard. The management system continues to undergo refinements to improve its usability, practicality and functionality.

Action A.2.2

Management System – *Investigate the benefits in gaining EMAS certification.*

A written report was prepared and presented in June 2004. The board has approved the additional funding for registration and certification. Our aim is to be the first civil engineering company world-wide to achieve certification. This report is a consequence of our Board's commitment.

Action A.2.3

Compliance – *Maintain an average score, derived from inspections above 5.6 on an individual site and above 5.9 as an average of all sites.*

The integration of environmental inspections with health and safety inspections has resulted in a far better data-set for analysis this year and a minimum of one inspection per month has been achieved (the target for the year was one every three months). Greater confidence can thus be given to the data. All sites, the regions and the company as a whole achieved and exceeded the targets set. The attached graphs 3, 5 and 7 (Site Inspection Compliance for 2004) graphically illustrate this. An explanation of the scoring criteria for environmental performance audits is presented in the attached Table 1. Figure 4. provides an indication of comparative performance regionally over two successive years. Figure 4. shows that all regions performed better in 2004 than 2003, except Region 3 where a small performance decrease occurred.

What the comparison cannot show is that continual improvement requirements year-on-year made it more onerous to achieve a “5” in 2004. The comparison is thus against a moving “norm” as expectations for standards increases and last years “best practice” becomes the current year’s standard.

Action A.2.6

Fuel and Mileage – Monitor consumption and promote efficient driving with a view to improving average fuel consumption by 3% as measured against 2003 figures.

Fuel use for the 12 months from August last year to August 2004 continued to show the decline (when normalised against turnover) apparent in the last few years. This reflects the completion of the move to a diesel based fleet and may not now continue into 2005 (refer to attached graph). The figures may also reflect an economy of scale.

Fuel efficiency data is prepared for all company car drivers to enable them to compare their consumption to others with similar vehicles. An analysis of individual mileage has also been completed and regional managers have been asked to look at ways of reducing the distances travelled by some staff. This may well form part of the targets set for 2005. Safety, economics and risk are also likely to play a considerable part in any formulation designed to reduce the number of miles travelled.

The target of a 3% reduction on normalised figures was not achieved. Actual, normalised reduction was 1.1%.

Action A.2.7

Wastage – Utilise the data contained in the site CVR (Cost/Value Reconciliation) collated by the QuEST department and a report to be included in the two monthly report.

The CVR has been unable to provide data of an anticipated quality. Alternative waste management mechanisms are under investigation. The Environmental Manager has a series of meetings planned at transfer stations that undertake recycling to investigate economies that may be afforded through on-site segregation. JCE is also involved in a CIRIA (Construction Industry Research and Information Association) initiative to develop a working tool for the industry and with Constructing Excellence in the East of England to develop more useable benchmarking figures – the current benchmark combines builders and civil engineers, producing benchmark scales that are not sector specific.

We are able to report, from year to year and region to region, on the volume of waste that we have generated through our operations. Making meaningful comparisons from year to year would be extremely difficult as one contract involving extensive demolition or work in highly contaminated land would result in high waste production figures. On longer term contracts, most of the demolition is also likely to occur during the early parts of the contract and would indicate greater wastefulness

during that part of the contract than in later periods, whereas the reality is that a year on year comparison would just be showing a necessary sequence of events rather than improved waste management over time.

Action A.2.9

Emergency Preparedness – *Maintain an average score above 6 and an individual score of 5.5. at audit.*

Target achieved. All sites have prepared appropriate emergency response plans and have effectively tested them. Emergency plans have been very effective in dealing with the few incidents that have occurred (see section 14).

Action A2.10

Duty of care for waste – *Maintain an average score of above 6 and an individual score of 5.*

This target has been met as an average for both sites and overall although there have been isolated instances where the paperwork has been deficient at individual inspections. The greater frequency of inspection resulting from combining health & safety and environment elements in the inspection programme has resulted in deficiencies being found early and corrected. All sites can demonstrate compliance with legal requirements and the use of European Waste Codes is now universal (see Figure 5, appended).

Action A.2.12

Sustainability – *Continue to develop our guidelines on sustainable buying and information capture.*

The buying department and the Environmental Manager have continued to develop our buying protocols. JCE endeavours to source sustainable products wherever possible. It has become a part of our every day work. To keep informed of material market changes we use; trade press, catalogues, subcontractors and suppliers as sources of information. In conjunction with site staff we put forward sustainable materials for approval wherever it is commercially viable.

Our key clients (such as the Environment Agency) often set targets to meet their own environmental objectives. Working with these clients ensures that their requirements are understood and that practicalities are addressed. JCE has been working with the Environment Agency at several levels to develop Environmental Action Plans that are efficient, practical and promote best practice in design and on site.

The most significant products for JCE, from a sustainability perspective, are bulk fill materials, aggregates and timber. There are many other products that we promote,

including kerbs and tarmac where a recycled component reduces the drain that our work has on the natural environment. Our most recent success has been the ability to provide FSC (Forestry Stewardship Council) approved softwood for all formwork requirements at our Woodbridge site where we are working for the MOD.

One of the benefits of maintaining a broad supplier base is that we receive a rich variety of product information which keeps us abreast of material changes. This information is circulated to all JCE Buyers as and when it is received.

Action A.2.13

Bulk Aggregate Use – Maintain a score of greater than 80% for bulk aggregate purchases using the construction best practice KPI (Key Performance Indicator). – Target achieved.

Overview

Approximately 275 million tonnes of aggregates are used each year in the UK as raw construction materials. Of this supply, around 65 million tonnes [23.6%] are already derived from recycled or secondary source. (Source: WRAP Aggregain, accessed on 21/12/2004 at http://www.aggregain.org.uk/sustainable_aggregates/sustainable.html)

JCE is able to demonstrate the percentage of bulk material that it has sourced from sustainable sources. Year-on-year, this is likely to be a reflection of opportunity and client willingness to accept material of equal but, perhaps, less assured quality than was originally specified but is not reflective of the ever increasing effort that we make in this regard. In this particular regard, we are able to demonstrate the attempts that we have made to influence the choice of material used on a project, but we are seldom in a position to make the final determination as to what material we use.

Comparative studies on twenty randomly selected sites for 2003 and 2004 indicate our progress in promoting the use of recycled or secondary bulk materials. These data are presented in figure 1 below and appended figures 9, 10 and 11. Comparisons show a marked performance improvement in the current year. Data collated in this way has also been used to benchmark our performance on the national KPI chart (below). This shows an outstanding performance overall. The benchmark graph in Figure 1 (below), produced by Constructing Excellence, is not civil engineering specific, reflecting the construction industry as a whole and, as such, is not a good reflection of our performance relative to those who carry out similar work to JCE. It was one of the few indicators useful to contractors and was, unfortunately, withdrawn from this year's KPI pack. For consistency, we continue to use it. We are working with Constructing Excellence to establish more meaningful, sector-specific benchmarks.

The figures presented only include data derived from invoices and, consequently, exclude a significant volume of site-won material that would, if incorporated, considerably improve company performance figures.

Regional Performance

All regions showed a marked improvement in their performance for the year under review (figure 9). Region 3 performed particularly well. 86% of all purchased bulk material was sourced for secondary or recycled material. Region 7, by comparison purchased 38.11% of its bulk material from recycled/secondary sources. It is not possible to determine how good or poor this performance is in the context of what performance was possible. A single client, for whom a large quantity of material is bought, has the ability to considerably affect the figures and thus the apparent performance of a region.

Our regional ability in this regard is becoming a marketing strength. We have seen a marked increase in tender documents requesting data on aggregate use and on-site recycling. It will thus be a focus for 2005.

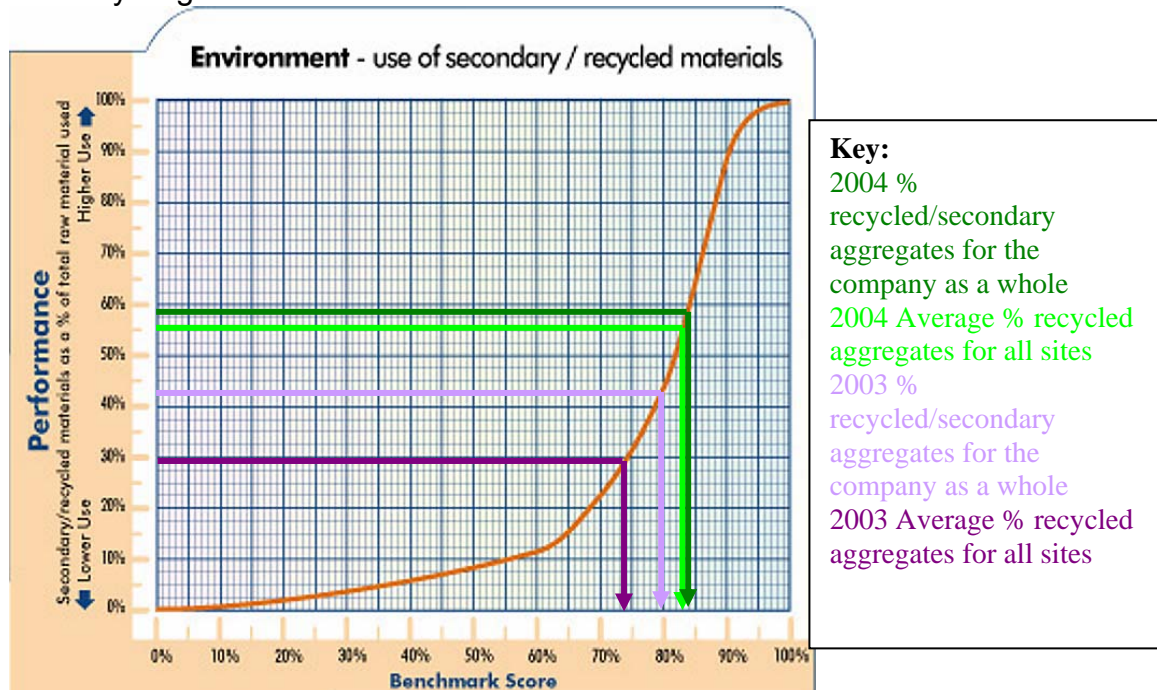


Figure 1. National Benchmark KPI chart showing JCE's performance over two years (2003/2004).

*An AggRegain Case study from our contract on the Alvaston Bypass is available at http://www.aggregain.org.uk/aggregate_files/CB_G_150304_143_AlvastonBypass.pdf

Action A.3.3

Sub-Contractor EMS – Assist 90% of our top 20 suppliers to achieve certification to an approved scheme.

The Jackson EPIC (Environmental Performance Improvement Club – explained in more detail in Section 11) continues to play a part in achieving this target. It is a long-term goal and will continue to be part of the environmental manager's portfolio for some time. Initial responses from our supply chain partners were very positive and the workshops were well attended and received. The sign-up rate to the Easy Access EMS has been disappointing but will be promoted in the coming months.

12. Internal audits

21 systems audits were carried out during the period December 2003 to August 2004 covering:

- Document Control
- Scaffolding/Planning and Progress
- Audits/Management Review/Monitoring
- Estimating/Tender Planning
- Site Activities including Temp works/Scaffolding
- Buying
- Training/Competency
- Site activities – including emergency procedures, inductions, design control, temporary works, waste, excavation, plant, oil and fuel, materials, COSHH, noise, PPE, asbestos, demolition, commercial process, crange, concrete testing, etc.

No new Corrective Action Requests were raised although several significant observations were raised.

During the same period, 187 internal site performance audits were conducted. These audits serve to help site staff improve their environmental performance, identify potential problems and find practical ways of solving them, and to ensure legal compliance. Many of our targets and objectives are linked to the scores that sites and regions achieve on these audits. Sites are audited at least once a month. Sites with particular sensitivities will have a greater audit frequency. Scores and evaluations from these audits are appended as Figures 3 to 8 with Table 1. providing a brief summary of audit criteria.

Regional Performance – Performance Audits

Regions 1, 4, 6 and 7 showed an improvement during the year and with comparison to 2003. Region 3 showed a very small decrease (less than 10%) which, given the subjective scoring system, is not considered significant. Efforts will be made in 2005 to reduce audit subjectivity and to develop greater audit scoring consistency in the audit team.

Also important for the evaluation of regions, are the number of sub-standard scores for any one of the nineteen environmental audit elements. Figure 8 shows the number of scores of 4 or less that each region was given during the year. The scores show that region 3 performed best, receiving eight 4's in 43 performance audits. Special projects fared worst. In 43 audits, 32 scores of 4 or less were recorded. These projects have dedicated HSE officers and are large, complex operations, typically involving the management of many subcontractors at any time. The complexity of the operations is likely to affect their scores.

Figure 7 suggests that housekeeping, emergency procedures, fuel and oil management and dust control should form a focus for the coming year.

13. External Audits

BSI conducts assessments of the three certification standards (ISO 9001:2000, ISO 14001 and OHSAS 18001) every six months, usually in April and October. No environmental non-conformances were recorded during the April 2004 audit.

Selected environmental observations recorded during the last visit (both positive and with recommendations for improvement):

Office

- *Legal compliance was reviewed. The company have not been served with any health and safety or environmental notices and there are no pending prosecutions relating to contracts.*
- *The company review legal compliance during the management review. The review must be recorded in order to meet the requirement of the new ISO14001 (due to be published later this year). The records procedure may need amending in order to reference the location of this review record.*
- *The company have now started to capture information regarding validity of waste carriers' licences. The company may now wish to develop this system and list all carriers, licences and expiry dates. This list could then be issued to the regional EA office so that written validation can be obtained.*
- *Purchasing data assessed during this visit was particularly impressive. Order details now refer to health and safety needs (COSHH and PPE), environmental considerations (delivery routes away from villages) and customer requirements (special safety arrangement, e.g. British Sugar contracts).*

- **General site observations:**
- *The company must ensure that 'low impact' hydraulic oils are compatible with the type of hose being used.*
- *The company may need to issue a general instruction (perhaps in a QuEST Bulletin) regarding skip integrity. Special waste skips should be watertight, general waste skips may not need to be.*
- *The purchase orders for waste carriage services now specify the European Waste Catalogue (EWC) number. If sites are unsure of the EWC number they can now refer back to the purchase order for clarification.*
- *The company will need to review discharge from sinks in site cabins on a case-by-case basis. If sinks can be linked into sewer discharge (with the appropriate consents), or linked into septic tanks, these options should be taken rather than relying on soak-aways.*

- **Caxton site observations:**
- *Petrol containers were identified well. However, identification of diesel containers could be improved.*

- *Oxygen, acetylene and propane gas bottles were being stored in one of the site storage containers. The company should consider provision of ventilated, segregated storage facilities.*

Chesterford site observations:

- *A propane gas cylinder was seen next to the diesel bowser. The positioning of gas bottles could be improved in order to minimise the associated risks.*
- *The double skinned diesel bowser was in a bunded area which had been specially constructed. This method of containment goes some way to meeting the Oil Storage Regulations, which are due to be fully implemented in 2005.*
- *The operators on site have good awareness of the requirement to use spill trays and absorbent mats.*

Environment Agency, National Procurement Service.

Leigh Ginnever (Sustainable Procurement Advisor, National Procurement Service, Environment Agency) audited the site at Morton Corner on 16 January 2004. The audit report is entirely favourable with the exception of:

"Whilst Steve Livingstone was aware of the Environment Agency's targets, the Site Agent was only aware where those targets mirrored those of Jackson's. There is no formal cascade of Agency targets to the managers of Agency sites." [Sic]

Particularly favourable and important was the comment:

"Jackson's also work closely with the NEECA consultant on the review and preparation of the Environmental Action Plan (EAP). Indeed, this is the only site visited from across the framework where this has been the case." This reflects our belief that a proactive approach to partnering will benefit environmental performance on our sites, particularly on high risk sites such as on flood defence work or in designated conservation areas.

UVDB Verify Scheme

We have also been audited by verifiers on the UVDB Verify scheme (UVDB is the supplier database used by the UK utility industry to source and prequalify current and potential suppliers of major products, services and works - <http://www.achilles.com>), a certification scheme used extensively by the utilities sector. Our scores for environment were:

- Management System Evaluation 89.20%
- Onsite evaluation 87.10%

This reflects very favourably on the company. Industry averages on the scheme are 63.18% and 65.54% respectively.

Highways Agency CAT Assessment

In the category: “We promote sustainability, the use of renewable resources and the minimisation of waste” we were evaluated by the validation team to have achieved the maximum score for which the criteria were:

“We follow a clear strategy, and practices that are actively pursued in all areas of the business, to optimise sustainability, the use of renewable resources and the minimisation of waste and to which we hold ourselves internally and publicly accountable.”

Considerate Constructors Scheme

Many of our sites are registered to Considerate Constructors Scheme. All our registered sites have performed well and the A6 Alvaston (Derbyshire) Bypass – a dual carriageway constructed in an area with significant environmental issues and local sensitivities – was awarded a silver medal for its performance.

Construction News, Quality in Construction, Environmental Achievement Award.

JCE were please be awarded a “Highly Commended” at the official annual 2004 Quality in Construction award ceremony for its proactive environmental management system.

Supply Chain - Jackson EPIC

The Jackson EPIC is aimed at bringing together over 50 of our principal suppliers and subcontractors to develop better ways of going about business, with an emphasis on making the workplace safer and to improve environmental performance. The “EPIC” is organising best-practice workshops that, with an interactive sharing of knowledge, ensure that everyone involved in the company’s activities is focussed on the same targets.

The following EPIC workshops were organised for 2004:

5 February 2004

Covered: Water management and water pollution prevention and environmental aspects (risk) identification and management

18th March 2004

Covered: Waste management, minimisation, the practicalities of managing contaminated land on site

22nd April 2004

Covered: Nuisance management, wildlife and archaeology

27th June 2004

Covering: Introduction to EMS and the Easy Access approach

The EPIC programme was very well attended by a broad and significant proportion of our supply chain. Feedback from representatives was extremely positive.

14. Working with others to promote sustainable practice

JCE engages with a range of organisations to promote environmental best practice. These, *inter alia*, include:

- The Civil Engineering Contractors Association
- East Anglian Business Environment Club
- Construction Industries Environmental Forum
- Construction Industry Research and Information Association
- Considerate Constructors Scheme
- Constructing Excellence
- Envirowise

15. Employee Training

Training is an important facet in our attempt to lead the civil engineering industry to a greener future. We do not expect our site staff to be ecological experts, but we do expect them to understand the fundamentals of ecology, environmental management and understand our EMS so that risks can be recognised on site, solutions developed and to know when expert advice is needed. Competency profiles have been developed for all levels of staff. Our annual staff appraisals are designed to identify inadequacies in staff competency and our training programme uses this information, in part, to ensure that all of our staff are satisfactorily trained. Environmental Competency profiles are presented in the attached Table 2.

In addition to this we use several training tools and mechanisms to ensure that agency staff (staff employed on a part-time basis from an employment agency) and sub-contractor employees understand their responsibilities. Three key elements to this process are Company and Site Inductions, Method Statement Briefings and Toolbox Talks. These are focused on activities and can be directed at specific environmental issues related to activities just before they are undertaken.

16. Incidents - Significant

a. Hydraulic hose burst – Southampton – 12/05/04.

An hydraulic hose on a Case 360° excavator burst on the bucket ram as it was under pressure. Hydraulic fluid sprayed out onto the concrete stelcon slabs. No ecological systems were put at risk. Sand was spread over contaminated area to soak up fluid and put in separate skip for disposal as special waste.

Toolbox training and emergency response to a fuel and oil spillage was carried out on 08/04/04. Vehicle inspected weekly for signs of hose damage and leaks.

We are satisfied that the site carried out proper inspections and training and that the emergency planning resulted in prompt and effective containment and remediation.

b. Willington Gauging Station – 16/01/04 – Oil spill

A 360° excavator lifted a pump and spill tray from a riverbank to the top of an adjacent bund. The spill tray appears to have had rainwater in it, which had a small but unknown amount of contamination in it (drips etc). A small amount of contaminated water spilt from the spill tray as the pump and drip tray were lifted.

The contaminated water splashed onto the riverbank, mixed with rainwater and spread, a small amount of it reached the river (spread to 1m long by 0.3m wide).

The spill was contained immediately with local materials (sand/earth) and spill kit mats were used to soak up surface water and oil absorbent booms were placed in the river to contain and remove contamination. Contaminated soil was removed as special waste.

General Operatives had been given a toolbox talk on environmental issues including spillages. The induction covers spillages and emergency procedures.

Site recommendations are:

The spill tray had a bolted top grid making it impossible to use pads to clean it before moving. It is also impossible to assess the amount of contaminants in the tray, in this case rainwater with a small amount of oil/diesel (the purpose of the spill tray).

- 1) Use spill trays with removable tops so cleaning can be done at regular intervals and before moving
- 2) Training on spillages highlights dangers of moving spill trays without first dealing with the contents.

c. River Sow, Staffordshire – 04/12/03 – oil contamination by third party

While carrying out general reinstatement works oil film noticed on the full width surface of the river. The foreman went upstream to investigate where it was entering river and found that Borough Council operatives were jetting out a car park drainage system and washing the debris into the river.

The fuel spill emergency clean up plan was put into action. The series of booms that we have permanently deployed were positioned in the river as protection measures in case of an incident occurring effectively contained the oil. All diesel and oil were cleaned up by JCE staff. Also council operatives were informed of the pollution they were causing and stopped from continuing.

Site Recommendations

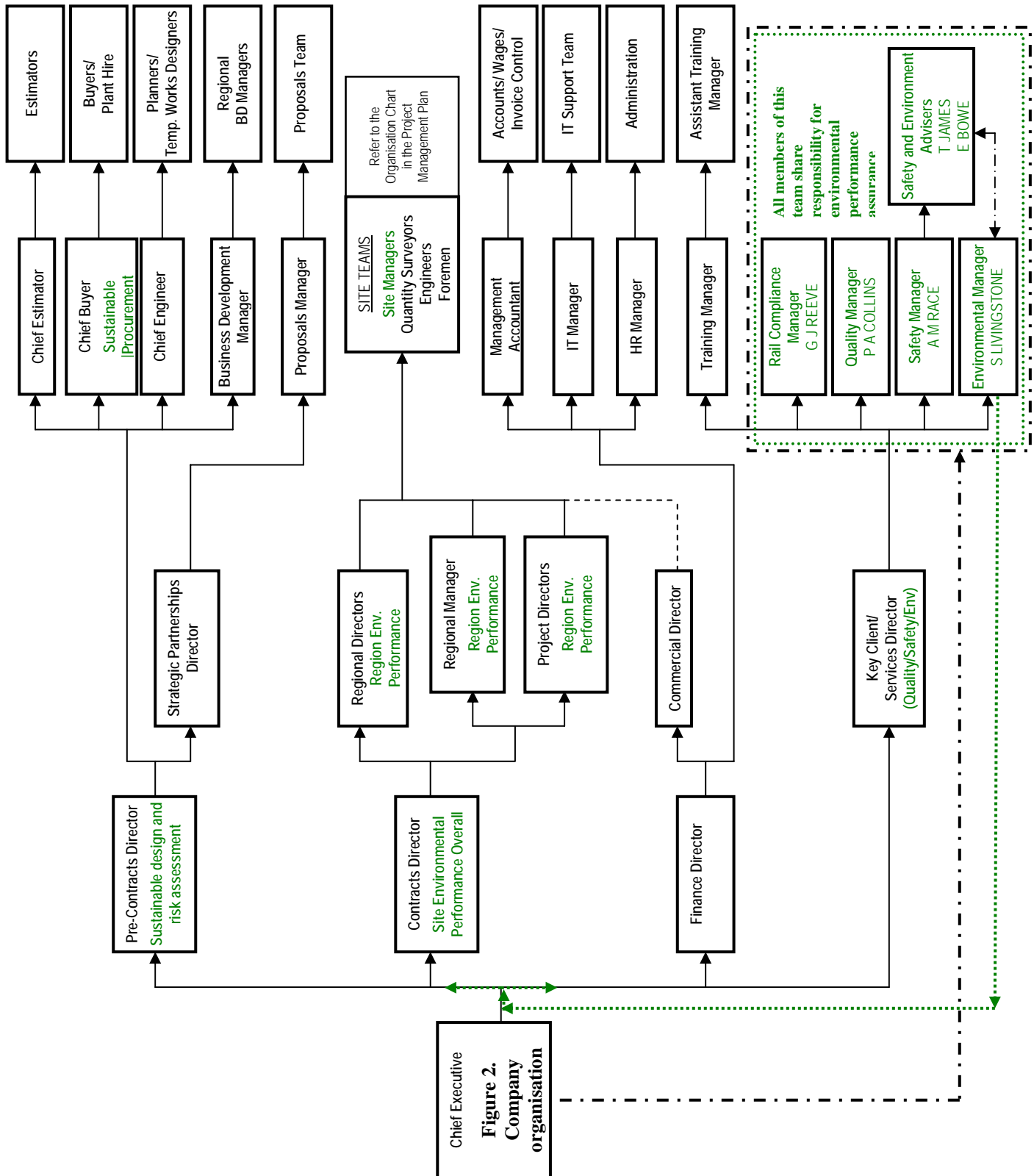
This incident had nothing to do with our works but awareness and quick thinking of our operatives reduced the impact of the incident significantly. As responsible members of the community we should be aware of what others do around us and be willing to respond to incidents or raise the alarm when we see the potential for an incident.

17. Legal Compliance

There were no known occasions in which environmental laws were breached during this reporting period.

Attachments

Jackson Civil Engineering – Environmental Responsibility Chart



Regional Internal Site Performance Audit Averages for Regions Including Special Projects Gerrards Cross (G) and Carlyon Bay (S)

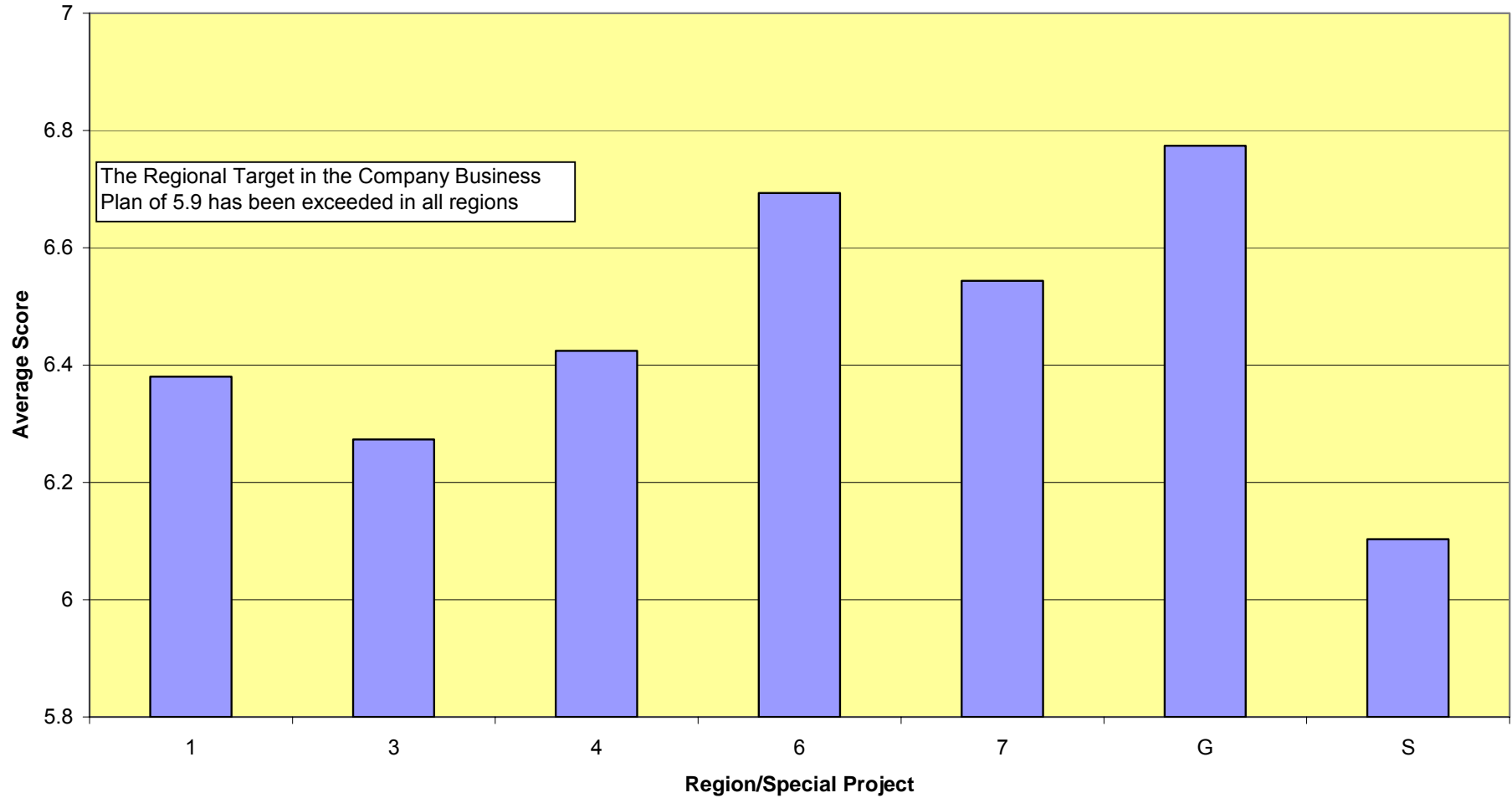


Figure 3. A comparison of regional performance in each operational region. Special projects, S and G, are evaluated separately. Scores are derived from internal performance audits.

**Regional Comparative Scores at Performance Audits
for 2003 and 2004**

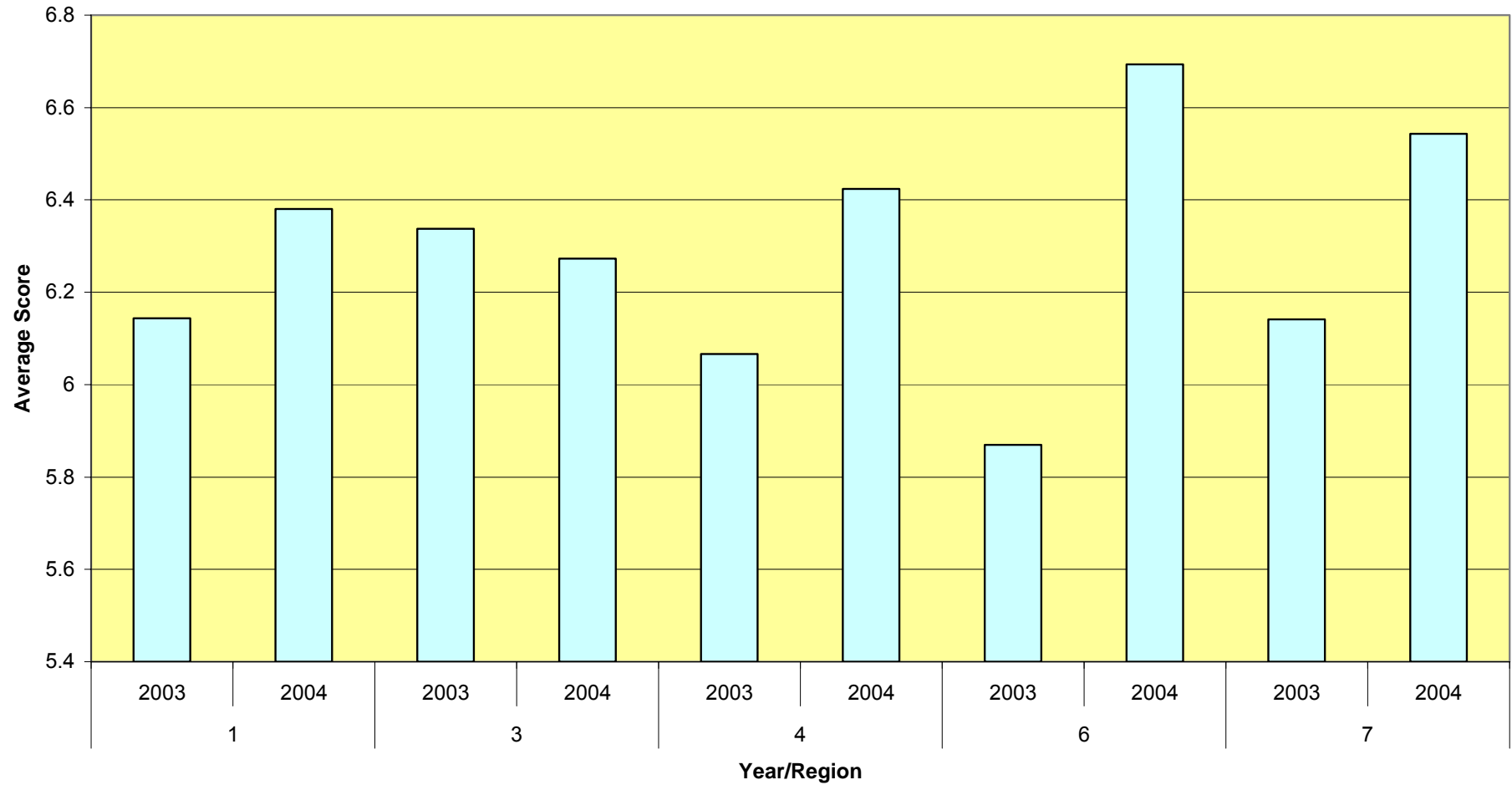


Figure 4. Comparative Scores for regions at internal site performance audits for 2003 and 2004.

Site Performance Audit Scores for Audit Elements
2004

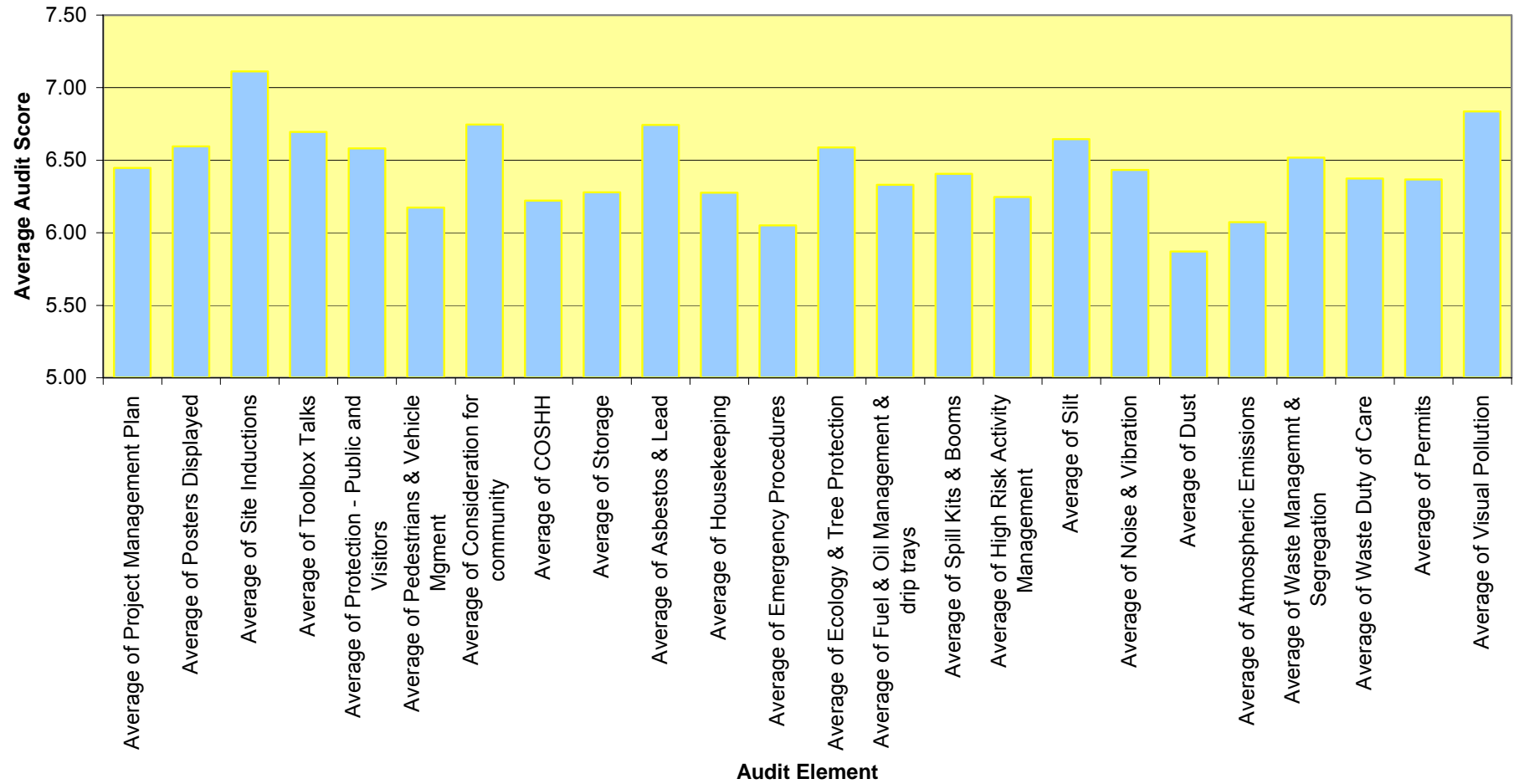


Figure 5. Scores derived from internal performance audits for the significant aspects managed at site level.

Table 1. An explanation of the audit criteria for sites as presented in the graph "Site Performance Audits - Average Scores for Inspection Elements"

Audit Item	Audit Scope
Project Management Plan (PMP)	PMP must contain an adequate evaluation of the environmental Risk. May include an Environmental Action Plan but must include a report from the Environmental Aspects Database.
Risk Assessments	Each activity undertaken on site requires a Method Statement or Risk Assessment. All significant aspects and appropriate controls should be identified in these and communicated to staff undertaking the work.
Posters Displayed	Key environmental posters and certificates should be prominently displayed in offices and canteens.
Site Inductions	All staff should be inducted. Inductions should focus on key issues and the culture of the company.
Toolbox Talks	High risk aspects should form part of a regular training programme.
Protection - Public and Visitors	Are the public and visitors adequately protected?
Pedestrians & Vehicle Management	Are rights of way identified and alternative routes setup and well sign-posted. Have we considered vehicle movements and the effect on local communities?
Consideration for community	Have we contacted local residents and other stakeholders? Is there a complaints number well displayed. Have we kept local residents etc. informed about the works? Have we addressed all nuisance issues?
Housekeeping	Is the site clean, tidy and litter-free? Are materials safely stored? Has site waste been properly stored?
Emergency Procedures	Sites must identify all potential emergencies, eliminate the potential as far as possible and plan for an event. All plans must be communicated to all staff and a response tested.
Ecology & Tree Protection	All protected species/habitats must be identified and protected as far as is practical. All legal requirements must be met. Trees, hedges and significant shrubs at risk must be protected by fencing if necessary.
Fuel & Oil Management & drip trays	Legal requirements for fuel storage must be met. All small equipment must be on drip-trays. Drip-trays should have an oil absorbent pad. No refuelling is permitted in proximity to water or drains. Are vehicles checked for leaks or worn hydraulics?
Spill Kits & Booms	Are spill-kits strategically placed so that they can be rapidly deployed? Have rivers been protected with booms? Are drains identified and protected?
High Risk Activity Management	Each site has a different risk profile. Are site management, operatives and sub-contractors all aware of the aspects with the highest significance? Are all staff aware of their responsibilities?
Silt	Silt prevention measures must be in place. Drains, water bodies and water courses must be protected.
Noise & Vibration	Have appropriate methods of construction been employed? Is silenced equipment used? Are working hours defined and kept?
Dust	Is dust suppressed or properly managed. Are haul-routes compacted or suitable?
Waste Management & Segregation	Have we properly identified sources of waste and looked for ways to use site-won material? Are we segregating waste and storing it appropriately? Have we identified reuse or recycling opportunities?
Waste Duty of Care	Are all legal requirements met? Is the paperwork in order? Have we verified waste sub-contractor licenses?
Permits	Have we obtained permits, licences and exemptions for ecological work, abstraction, waste management, crushing etc.
Visual Pollution	Are site boundaries clearly and neatly fenced? Are offices painted? Are signs clear but unobtrusive. Are vehicles parked neatly.

Site Performance Audit Scores 2004

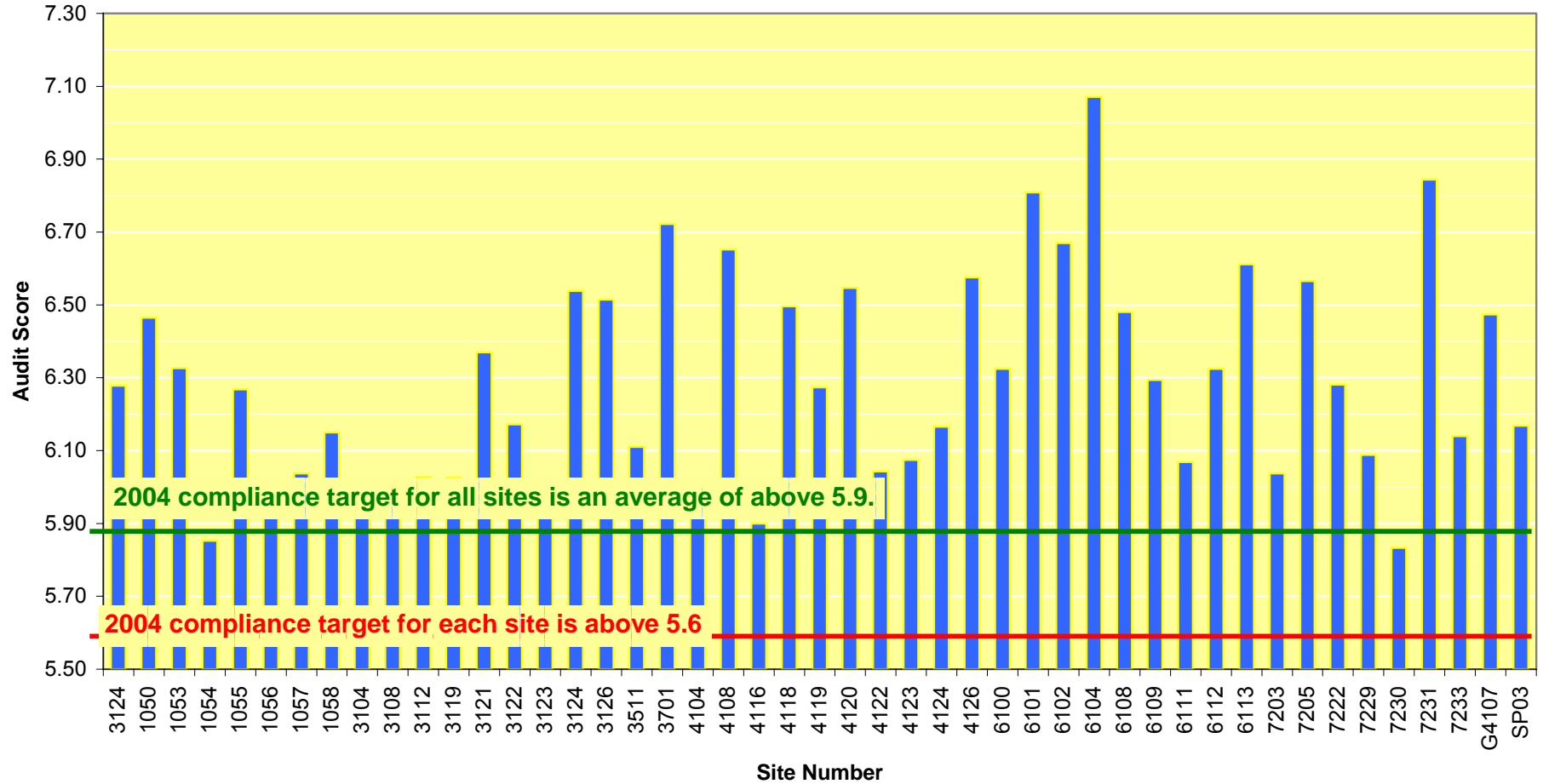


Figure 6. A comparison of site environmental performance. Special projects, 7 and G, are evaluated separately. Scores are derived from internal performance audits.

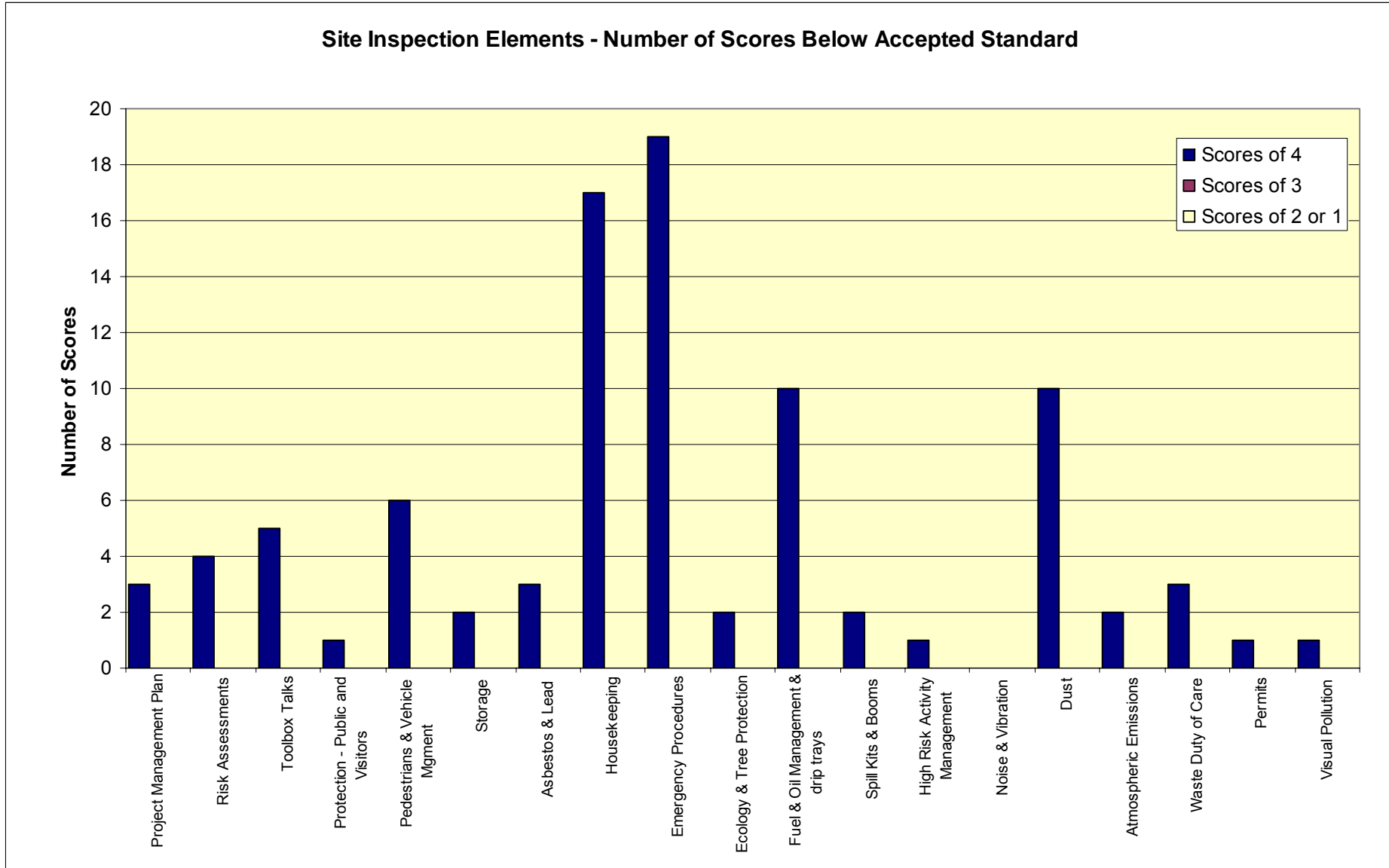


Figure 7. Scores at internal audit below company standard for each environmental audit criterion.

Site Performance Audits - Number of Scores of 4 at Audit by Region

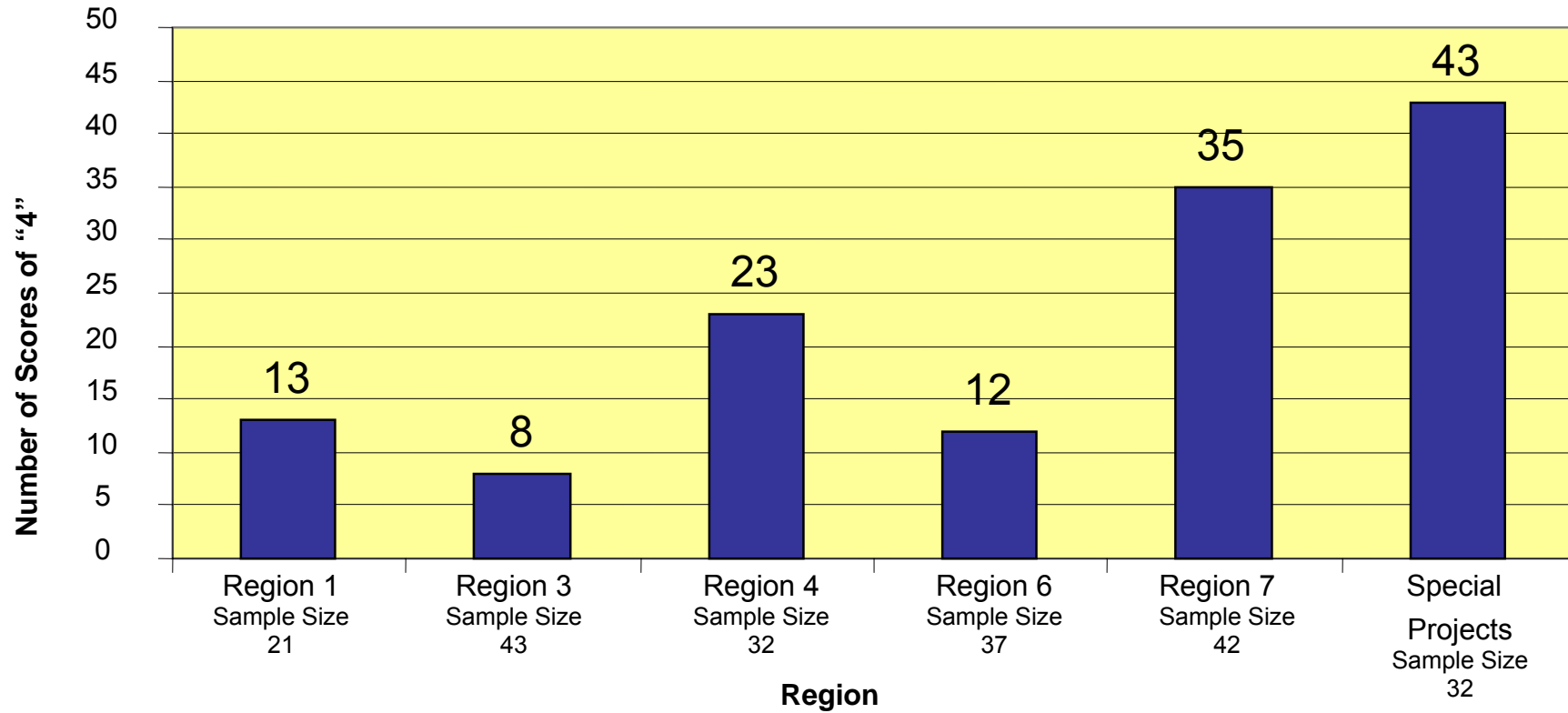


Figure 8. Number of scores of "4" recorded for all audit elements in 2004 for each region. No score of 3 or less were recorded in the period.

Table 2. Competency Profiles for All Permanent Employee Grades

		Environmental Awareness	Contaminated Land Awareness	Waste management	Traffic management
Board Director					
	Managing Director	~	~		Ⓞ
	Contracts Director	~	~	Ⓞ	Ⓞ
	Pre-Contracts Director	~	~		Ⓞ
	Finance Director	~			
Regional Manager/Director					
	All	~	~	Ⓞ	Ⓞ
	Key Client/Services Director	~	~	Ⓞ	
	Strat. Partnerships Director	~		Ⓞ	
Site Manager					
	All	~	~	~	Ⓞ
Senior Engineer					
	All	~	~	Ⓞ	Ⓞ
Site Engineer					
	All	~	Ⓞ		Ⓞ
Site Technician					
	All	~			
Site Foreman					
	All	~			Ⓞ
Site/Regional Administration					
	Site Administration	~		Ⓞ	
	Site Clerical	~			
Commercial Management					
	Commercial Manager	~		Ⓞ	
	Comm.Operations Manager	~		Ⓞ	
	Senior QS	~	Ⓞ		
	QS	~	Ⓞ		

Pre-contracts					
	Chief estimator	~	~	Ⓞ	Ⓞ
	Proposals manager	~		Ⓞ	
	Pre-cont. Estimator/QS	~	~	Ⓞ	Ⓞ
	Bid assistant	~			
Planning					
	Chief Engineer	~	~	Ⓞ	Ⓞ
	Design Engineer	~	Ⓞ	Ⓞ	
	Planning Engineer	~	~	Ⓞ	
Design /Solutions Co-ordinator					
	All	~	~	Ⓞ	Ⓞ
Buyer					
	Chief Buyer	~	Ⓞ	Ⓞ	Ⓞ
	Buyer	~	Ⓞ		Ⓞ
Business Development					
	Senior Manager	~			
	Marketing Assistant	~			
Finance					
	Accountant	~			
	Finance Assistant	~			
QUEST					
	H & S Manager	~	~	~	Ⓞ
	Environmental Manager	~	~	~	
	Quality Manager	~	~	~	
	Training Manager	~			
HO Administration					
	HO Administration	~			
	HO Clerical	~			
Information Technology					
	IT Manager		Ⓞ		
	IT Assistant		Ⓞ		
Site Operative					
	All	~			

Comparative Regional Performance on Recycled/Secondary Bulk Aggregate Procurement for 2003/2004. Regional Performance is Shown as a Percentage of Total Bulk Purchases

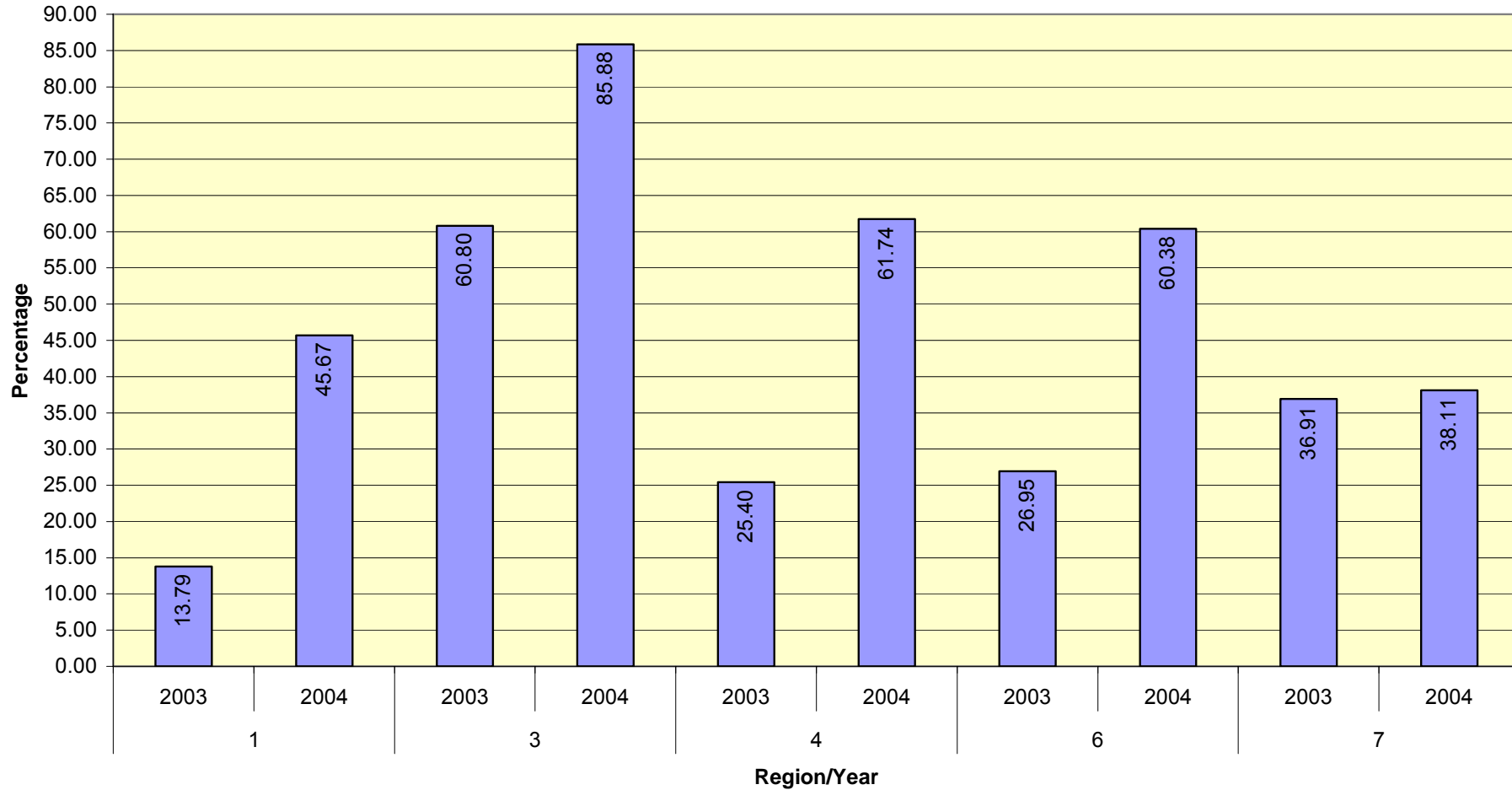


Figure 9. A comparison of regional performance in the procurement of recycled or secondary aggregates.

**Recycled/Secondary Aggregate at Randomly Selected Sites
as a Percentage by Volume of Total Site Aggregate Purchases**

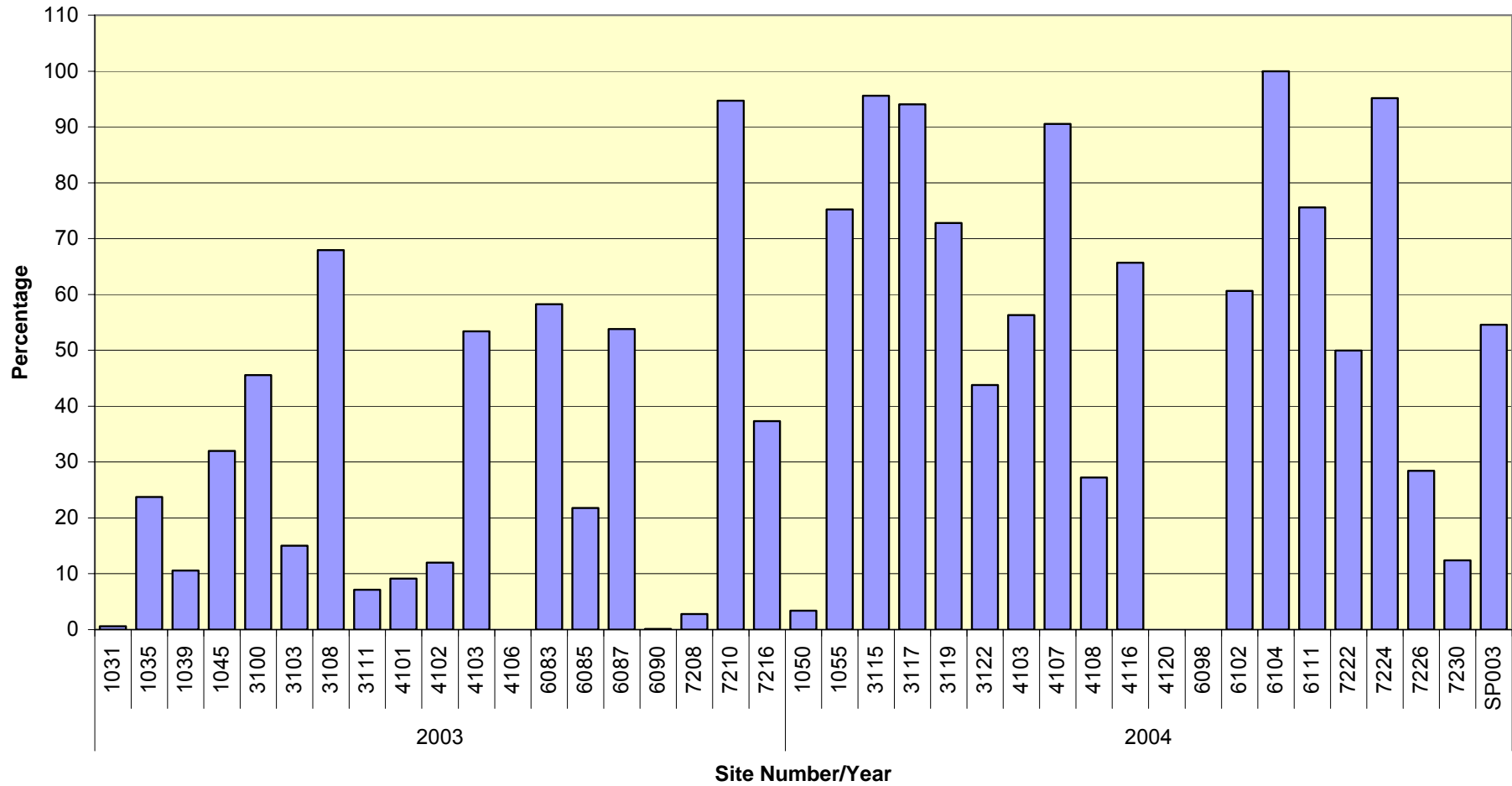


Figure 10. An evaluation of site performance in the procurement of recycled aggregates.

A Comparison of Company Performance on Recycled/Secondary Aggregate Procurement for 2003/2004.

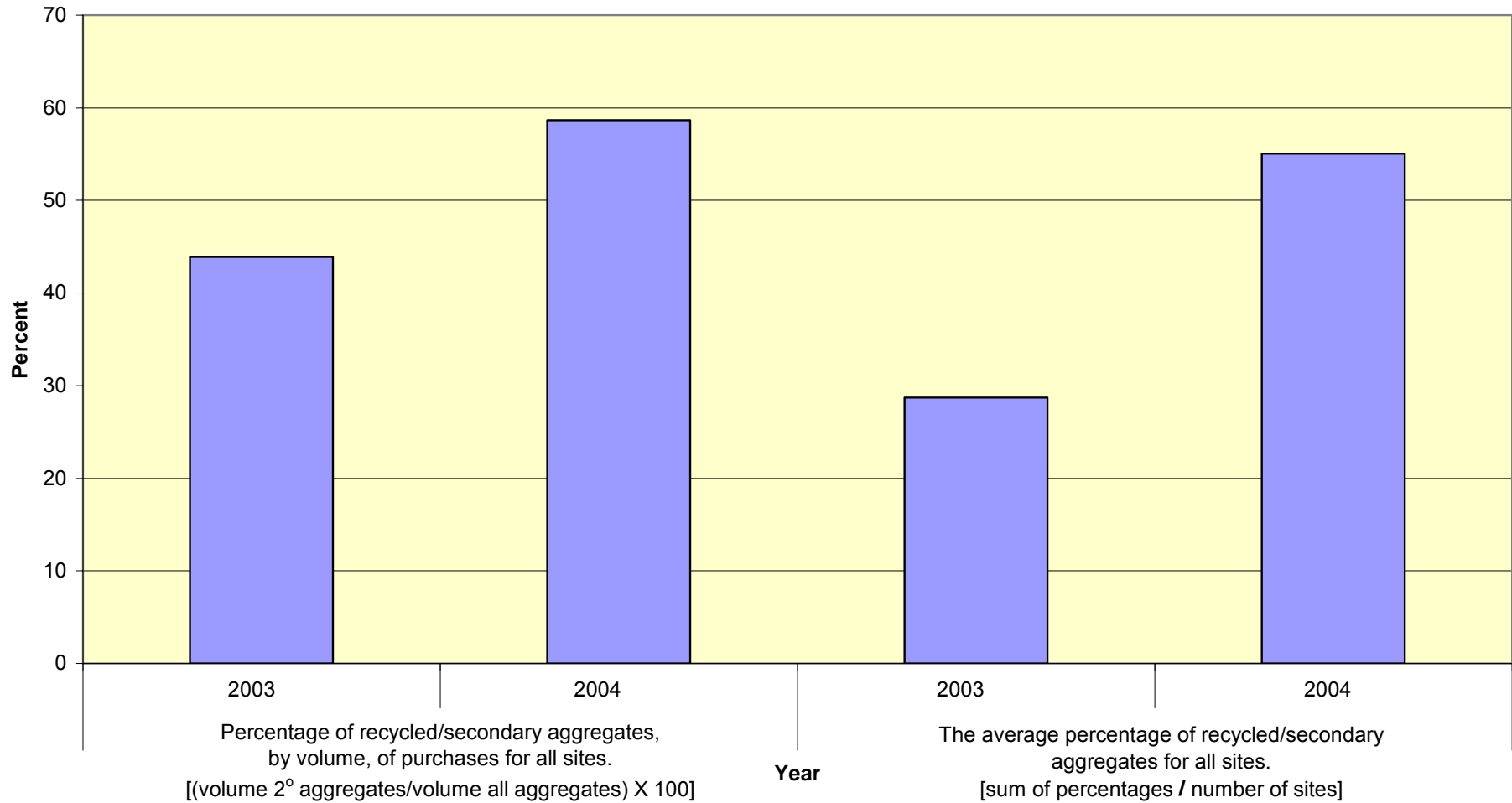


Figure 11. The performance of the company in the procurement of recycled or secondary aggregates.

Contract No	Client	Contract Name	Award Date	Period (Weeks)
1052	EA	Gauging Station Improvements - Phase 1	13/11/2003	8
1054	EA	Crowland & Pinchbeck West 48 Hour Moorings	08/12/2003	7
1055	Norwich Union Life	Park Drive South, Chesterford Research Park	06/12/2003	22
1056	Carillion - URS	A1/94.40 Hail Bridge Deck Strengthening Works	21/01/2004	9
1056	EA	Hail Bridge	21/01/2004	10
1057	Anglia Region Co Op	Enabling wks, new superstore, Bungay, Suffolk	07/04/2004	8
1058	N.E.L.M. Developments	Infrastructure Works, Bowthorpe, Norwich	25/05/2004	15
3115	APZ	Makro, Queensferry, Chester	14/07/2003	10
3116	EA	Llandrinio Flood Defence Improvements	31/07/2003	11
3117	APZ	Makro, Wolverhampton	20/08/2003	10
3118	EA	Willington Gauging Station	20/10/2003	35
3119	EA	Morton Corner	21/11/2003	20
3121	Recast Cellular Structures	HMP Wellingborough Infrastructure for	23/12/2003	28
3122	Skanska	Coventry Hospital Framework	06/01/2004	3
3123	Northampton B.C	Southbridge Pedestrian, Northampton	22/03/2004	30
3124	Dunham Bridge Company	Dunham Bridge Repairs	22/03/2004	17
3126	EA	Eye Kettelby Sluices, Melton Mowbray	24/06/2004	15
3510	Carrillion - URS	M1/123.30 & M1/124.20 Crick Road Bridge	15/10/2003	6
3511	Carrillion - URS	M1/102.70 Oxford to Stamford Road Bdg.	16/12/2003	6
3512	Carrillion - URS	M1/117.10 Daventry to Whilton Road Bdg.	16/12/2003	16
4115	Buckinghamshire CC	Whiteleaf Cross Restoration	14/07/2003	9
4116	EA	Old Windsor Lock Cut Bank Protection	23/09/2003	16
4117	EA	Lydney Gauging Station	02/10/2003	12
4118	Milton Keynes Council	River Ouzel Bridge	08/12/2003	15
4119	Environment Agency	Teddington Head Lock Cut Bank Protection	05/01/2004	31
4120	Carillion - URS	A1 Tempsford River Bridge	10/02/2004	22
4122	Environment Agency	Cheltenham Flood Alleviation Scheme	18/03/2004	104
4123	RMC Surfacing Ltd	Ryall Ripple Wharfs	13/05/2004	16
4124	EA	Cheltenham, Gloucestershire, Phase 3B	03/06/2004	30
4125	Carrillion Building	Hatfield Business Park Phase 2	10/06/2004	52
4126	Highways Agency	M1 Tathall End - Gayhurst Road Bridge	16/07/2004	16
6102	Bovis Lend Lease	New Romford Hospital External Wks	21/07/2003	4
6103	LB of Southwark	South Bermondsey Station to Millwall FC	02/09/2003	10
6104	SEEDA	Penner Road, Southmoor Park, Havant	23/09/2003	11
6105	Transport for London	Stockwell Street Development, London	29/08/2003	3
6108	Southampton Container Terminals	SCT - Surfacing Repairs Phase 4	06/02/2004	20
6109	Bovis Lend Lease	New Romford Hospital Project A2365 -	11/03/2004	28
6111	Aldi Stores Limited	Gravesend Groundworks Package, kent	20/04/2004	16
6112	Rail Link Engineering	Ebbsfleet Early Civils, North Kent	13/05/2004	50
6113	Seeda	Frater Gate - Phase 2 - Infrastructure Work	23/06/2004	16
6114	Lafarge Cement UK	A228 Public Highway Works, Medway	16/08/2004	52
7203	Thurrock Council	West Thurrock Relief Road	12/02/2003	64
7222	LB of Waltham Forest	Walthamstowe Town Square and Gardens	30/04/2003	45
7223	British Sugar	Pathways + Crossings at Bury Factory	28/05/2003	35
7224	APZ Building Services Ltd	Makro Store, Ransomes Europark, Ipswich	18/06/2003	12
7225	H Evans Insurance	Insurance Remedials, Westerlund Floor Tilbury	04/07/2003	16
7226	PPE International Ltd	Mulberry House, High Ongar, Essex	28/07/2003	10
7227	Thurrock Council	Derby Road Bridge Strengthening	30/07/2003	13
7228	RMC	M11 J4 Northbound Hybrid Scheme	18/09/2003	6
7229	Sir Robert McAlpine	Arsenal on the Move, B1000 Bridges	04/12/2003	105
7230	First projects	Harold Wood Embankment, Essex	22/12/2003	15
7231	British Sugar	Animal Feed Outloading Area, Lorry Park	03/02/2004	23
7232	First Projects	Emergency Works, Bourne Park, Ipswich	15/04/2004	6
7233	Skanska	Hawker Barracks, RAF Woodbridge	17/05/2004	104

Table 3. Contracts active during reporting period. The region in which they occurred can be established from the first digit of the contract number.

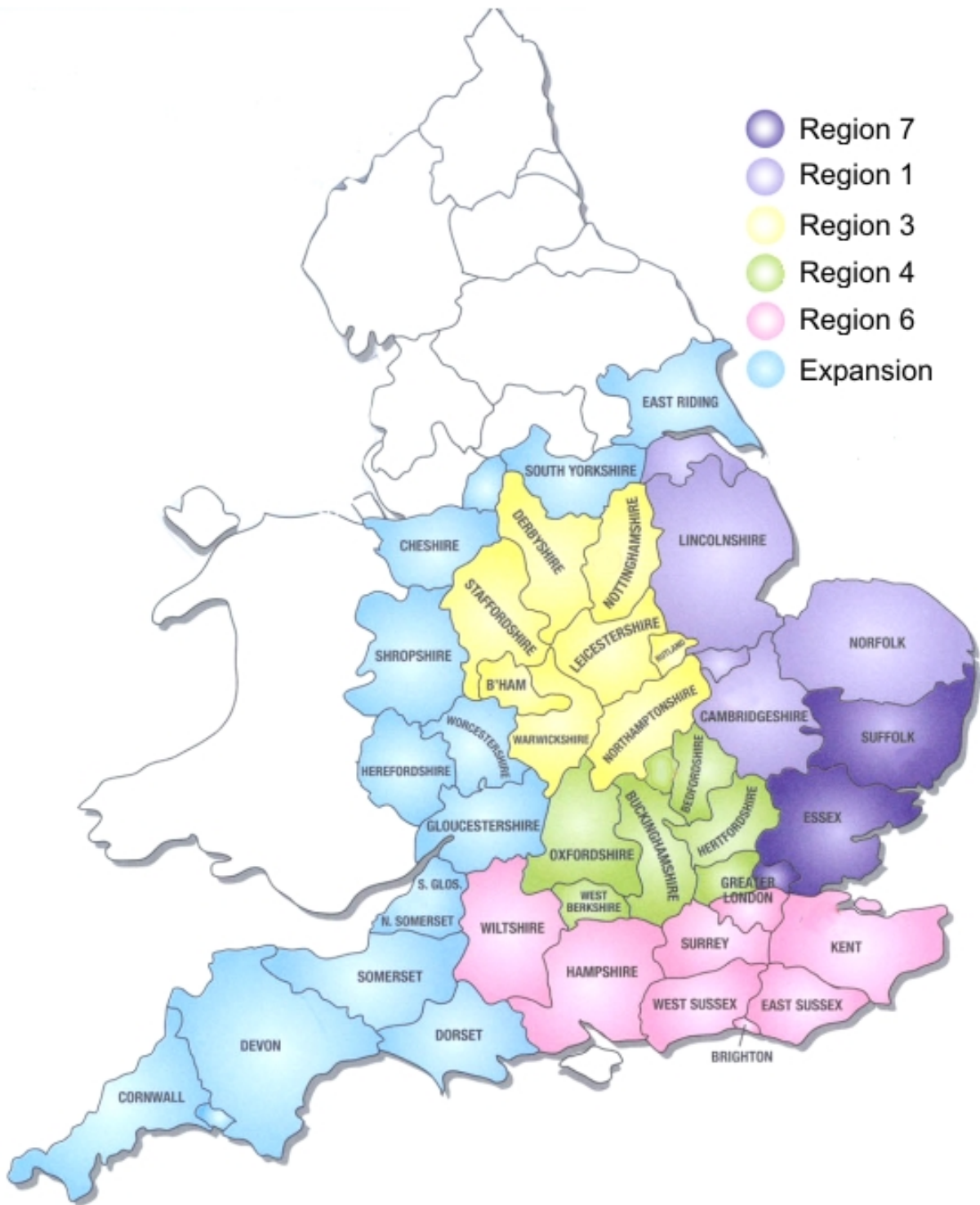


Figure 12. Operating Regions.

QSE HRA DBase - [f_ActivityAspectsTabForm : Form]

File Edit View Insert Format Records Tools Window Help

Type a question for help

Add New Activity

Go to Activity: Fuel and oil storage and management

Fuel and oil storage and management

Environmental Aspects

Next Aspect

Previous Aspect

Abnormal conditions - Filling/Refuelling

Impact, pathway, other details	Substance	Liquid	Procedure	Verbal/partial procedure
Spills. Soil and water pollution. The Company has a legal duty to avoid: pollution of 'controlled waters', i.e. surface water drainage, streams, rivers, etc;	Containment	Partially	Training	Part Trained
	Volume/area	> 10 litre/10m sq	Detection	Within Minutes
	Duration	More than one month	Frequency	Possible incident
	Environment	Damage to ecosystems/human health	Significance	8
			Likelihood	3
			Total	27

Controls - Management

See CP 310.62. Use proprietary tanks or bowisers where possible. If needed, construct bund according to PPG2 (EA Publication). Do not place refuelling plant within 30m of a stream or watercourse. Protect drains. Streams should be protected by oil booms.

When filling small plant from jerry cans, ensure that funnels are used properly and that the equipment is on a drip-tray sufficient in size to contain splashes and spills. Do not overfill.

Ensure training for filling operation, strategic placement of spill kits. Ensure mobile bowisers conform to standard and are safely parked.

Residual Risk

Substance	Liquid	Procedure	Written procedure	
Containment	Partially	Training	Trained	
Volume/area	> 1 litre/5m sq	Detection	Within Minutes	
Duration	One day to one week	Frequency	No incident likely	
Environment	Isolated species death/minor health r	Significance	6	
		Likelihood	1	
			Total	4

Delete Aspect: To add a new aspect, click "Add Aspect"

Add Aspect: then choose appropriate aspect by clicking here

Update: then click here to update

Is there a legal requirement? Yes

Print Reports

Act or Regulation

Form View

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6112 Environme...

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Figure 13 Evaluating environmental risk in the JCE database.