DATA QUALITY STRATEGY WDA/26/08

Recommendation

That Members approve the Data Quality Strategy attached as Appendix 1 to the report.

DATA QUALITY STRATEGY WDA/26/08

Report of the Director of Waste Disposal

1. <u>Purpose of the Report</u>

To consider and approve a Data Quality Strategy for the Authority.

2. Background

- 2.1. The Authority has an established Performance Management Framework (PMF) which supports the delivery of the Authority's Corporate Plan through continuous improvement.
- 2.2. An essential part of the PMF is performance reporting which enables the Authority to manage performance and supports its decision-making processes. It is therefore important that the data on which this information is based is quality data.
- 2.3. The Authority's Annual Audit and Inspection Letter 2005/06 first highlighted the need for an overarching data quality strategy as part of its Value for Money Conclusion and work has been undertaken to strengthen performance management arrangements and develop a Data Quality Strategy.
- 2.4. The need for a Data Quality Strategy was also highlighted as part of the Code of Corporate Governance Review undertaken in March 2007.

3. Proposed Strategy

- 3.1. Data quality is defined as data which is accurate, valid, reliable, timely, relevant and complete.
- 3.2. The Audit Commission has issued guidance on data quality and established a framework which it recommends that public bodies implement to satisfy themselves and other stakeholders of the quality of the data, supporting their performance information.

<u>Merseyside Waste Disposal Authority</u> <u>18th April 2008</u>

- 3.3. The framework includes a set of standards which cover:
 - the governance of data quality;
 - the policies and procedures in place for data recording and reporting;
 - the systems and processes in place to secure data quality;
 - the knowledge, skills and capacity of staff to achieve the data quality objectives; and
 - the arrangements and controls in place for the use of data.
- 3.4. The development of the Authority's Data Quality Strategy has been based on this framework and is attached at Appendix 1.
- 3.5. The Authority needs to demonstrate its commitment to achieving high standards in data quality to underpin its performance information and Member approval of the Data Quality Strategy is key to this process.
- 3.6. As part of the development of the Data Quality Strategy, an assessment of the Authority's compliance with the set of standards established by the Audit Commission has been undertaken.
- 3.7. Where weaknesses have been identified, actions have been identified and included in the Annual Assessment and Improvement Plan included within the strategy.
- 3.8. Data sharing in particular has been highlighted as part of the review. The Authority and the District Councils each rely on the other's data streams to provide a complete overview of Municipal Waste. A Data Sharing Protocol is therefore highlighted as a key area of improvement to provide mutual assurances for data quality.
- 3.9. The implementation of the Improvement Plan will be monitored throughout the year and further assessments on data quality will be conducted annually.
- 3.10. The Data Quality Strategy is scheduled for review during 2009/10 in line with the scheduled review of the Authority's Corporate Plan.

4. Conclusion

4.1. Members are asked to consider and approve the Data Quality Strategy attached at Appendix 1.

The contact officer for this report is Mandy Valentine, MWDA, 6th Floor, North House, 17 North John Street, Liverpool L2 5QY.

 Email:
 mandy.valentine@merseysidewda.gov.uk

 Tel:
 0151 255 1444

 Fax:
 0151 227 1848

The background documents to this report are open to inspection in accordance with Section 100D of The Local Government Act 1972 – Nil.

APPENDIX 1



DATA QUALITY STRATEGY

1. INTRODUCTION

Merseyside Waste Disposal Authority (MWDA) is committed to good corporate governance, based on the principles of openness and inclusivity, integrity and accountability. To effect good corporate governance, it stands to reason that the data the Authority uses to inform its decision-making processes and the information it provides or should provide to its partners is based on quality data.

This Data Quality Strategy has been developed to demonstrate the Authority's commitment to providing quality data and includes a mechanism for continuously improving its data quality arrangements.

In the context of the MWDA, key data includes:

- Waste data sourced from MWDA Contracts, Merseyside District Councils and third parties.
- Employee data.
- Financial records.
- Performance Management and Project Management data.
- Data related to document management.

2. DRIVERS FOR CHANGE

The Authority's reliance on quality data has increased substantially in recent years. The main drivers for changing how the Authority controls its data management are as follows:

- Performance Management including statutory performance indicators and targets
- Landfill Allowance Trading Scheme (LATS)
- Joint Municipal Waste Management Strategy for Merseyside
- Inter Authority Agreements
- Procurement of Waste Services post 2008
- Review of the Authority's Code of Corporate Governance 2007
- Audit Commission Inspection 2006

3. SCOPE

This strategy applies to both electronic and paper systems. Examples of information systems and data sources are as follows:

- All of the Authority's information systems, which include:
 - Attendance System
 - Procurement System (Electronic Ordering System)
 - Time System (Clock Machine)
 - Complaints System
 - Asbestos Service System
 - Performance Management Framework Information System
 - Waste Data Systems (e.g. H_Month, Vehicle notification, HWRC Contract, Recycling Credits)
- Data submitted to external information systems
 - WasteDataFlow
 - EDC (Audit Commission)
 - CIPFÀ Returns
 - CIS Returns
 - Office of National Statistics
- Published Data and Performance Information
 - Performance Reports
 - Waste Modelling
 - Ad Hoc Statistical Reports

4. AIMS

The aim of this strategy is:

To improve the quality of the data used by the Authority and its stakeholders to support good decision-making and to improve services.

To enable the Authority to assess and improve data quality, the six data quality characteristics defined by the Audit Commission have been adopted as follows:

Accuracy: Data should be sufficiently accurate for its intended purposes, representing clearly and in sufficient detail the interaction provided at the point of activity. Data should be captured once only, although it may have multiple uses. Accuracy is most likely to be secured if data is captured as close to the point of activity as possible. Reported information that is based on accurate data provides a fair picture of performance and should enable informed decision making at all levels. The need for accuracy must be balanced with the importance of the uses for the data, and the costs and effort of collection. For example, it may be appropriate to accept some degree of inaccuracy where timeliness is important. Where compromises have to be made on accuracy, the resulting limitations of the data should be clear to its users.

- **Reliability:** Data should reflect stable and consistent data collection processes across collection points and over time, whether using manual or computer-based systems, or a combination. Managers and stakeholders should be confident that progress toward performance targets reflects real changes rather than variations in data collection approaches or methods.
- **Relevance:** Data captured should be relevant to the purposes for which it is used. This entails periodic review of requirements to reflect changing needs. It may be necessary to capture data at the point of activity which is relevant only for other purposes, rather than for the current intervention. Quality assurance and feedback processes are needed to ensure the quality of such data.
- Validity: Data should be recorded and used in compliance with relevant requirements, including the correct application of any rules or definitions. This will ensure consistency between periods and with similar organisations. Where proxy data is used to compensate for an absence of actual data, organisations must consider how well this data is able to satisfy the intended purpose.
- **Timeliness:** Data should be captured as quickly as possible after the event or activity and must be available for the intended use within a reasonable time period. Data must be available quickly and frequently enough to support information needs and to influence the appropriate level of service or management decisions.
- **Completeness**: Data requirements should be clearly specified based on the information needs of the organisation and data collection processes matched to these requirements. Monitoring missing, incomplete, or invalid records can provide an indication of data quality and can also point to problems in the recording of certain data items.

5. OBJECTIVES

Key data quality objectives have been identified to assist in the delivery of the Authority's Corporate Plan, specifically in support of:

AIM 3: Corporate Programme

That the Authority is governed in a fair, open, honest and inclusive way which clearly demonstrates a sustainable and responsible approach to working for and with the community.

Objectives 3.1: To maintain good governance arrangements which provide an effective delivery of services and the sustainable use of resources which mitigate or adapt to climate change.

The Data Quality Strategy Objectives are defined as follows:

Objective 1 (Relevance and Timeliness)

To deliver a robust framework for the production and sharing of performance information from 2008/09, taking into account the needs of the Authority's decision-making processes and the needs of the Merseyside Partnership in terms of outturns and forecasting information.

Objective 2 (Reliability and Completeness)

To facilitate a Waste Data Group to comprise key stakeholders which will promote robust data sharing mechanisms and ensure a consistent approach to the management of waste data and performance information on Merseyside and ensure compliance with statutory obligation in relation to WasteDataFlow.

Objective 3 (Accuracy and Validation)

To identify and implement a data sharing protocol during 2008/09 to ensure the accuracy of Waste Data Flow submissions.

6. RISK MANAGEMENT

The Authority recognises that data quality makes a significant contribution to good governance and the delivery of the Authority's Service Plan. The risks associated with data quality are therefore included within the Authority's Corporate Risk Register.

The current Corporate Risk Register includes the following extract:

Risk	Implication	Level of Impact (I)	Likelihood (L)	Risk Value (IxL)	Controls / Mitigation	Contingency Plan
Failure to manage performance strategically and control data quality	Unable to respond to performance information due to poor reporting or reliability of data.	3	3	9	Performance Management Framework, Data Quality Strategy	Disaster Recovery Service

7. DATA QUALITY STANDARDS

This strategy seeks to deliver the set of data quality standards established within the Audit Commission's recommended framework, detailed as follows:

Governance and Leadership

The Authority has put in place a corporate framework for management and accountability of data quality, with a commitment to secure a culture of data quality throughout the Authority.

Key components:

- A senior manager has overall strategic responsibility for data quality, and this responsibility is not delegated.
- The corporate objectives for data quality are clearly and formally defined. The objectives are linked to corporate objectives, cover all the Authority's activities, and have been agreed and adopted at senior management level.
- The strategic approach for data quality has an associated delivery plan, with clearly identified actions and timescales to support improvement. This is reflected in the Data Quality Strategy.
- The commitment to data quality is communicated clearly, reinforcing the message that all staff have a responsibility for data quality.
- Accountability for data quality is clearly and formally defined and is part of the Staff Development Scheme.
- Where there is joint working, there is an agreed accountability framework for data quality with partners.
- Data quality is covered by corporate risk management arrangements, with regular assessments of the risks relating to the reliability and accuracy of the information produced and used by the Authority.

- Data is subject to robust scrutiny by those charged with governance, and there is formal reporting of data quality issues.
- There is a formal programme of data quality review, proportionate to risk and reported formally to those charged with governance. This includes periodic review of data quality arrangements, as well as reporting on the quality of data supporting key performance measures and published performance indicators.
- Where applicable, the body has taken action to address the results of previous internal and external reviews of data quality.

Policies

The Authority has put in place appropriate polices and procedures to secure the quality of the data it records and uses for reporting.

Key components:

- This Data Quality Strategy covers data collection, recording, analysis and reporting, and has been implemented in all business areas.
- The strategy is supported by a current set of operational procedures and guidance for staff.
- Policies and procedures meet the requirements of any relevant national standards, rules, definitions or guidance, as well as defining local practices and monitoring arrangements.
- Policies and procedures are reviewed periodically and updated when needed.
- All staff are able to access the policies, procedures and guidance. Where possible, this is supported by information systems.
- The Authority can demonstrate that it is proactive in informing staff of any policy or procedure updates on a timely basis.
- Policies, procedures and guidelines are applied consistently and comprehensively.
- Mechanisms are in place to monitor compliance in practice, and the results are subject to formal reporting to senior management. Corrective action is taken where necessary.

Systems and Processes

The Authority has put in place systems and processes which secure the quality of data as part of the normal business activity of the Authority.

Key components:

• There are systems and processes in place for the collection, recording, analysis and reporting of data which are focused on securing data that is accurate, valid, reliable, timely, relevant and complete.

- Systems and processes operate according to the principle of 'right first time', rather than employing data cleansing or manipulation processes to produce the information required.
- Arrangements for collecting, recording, compiling and reporting data are integrated into the wider business planning and management processes of the Authority, and support staff in their day-to-day work.
- Adequate support is provided for all staff using the Authority's systems and processes for all aspects of the collection, recording, analysis, and reporting of data.
- Information systems have in-built controls to minimise the scope for human error or manipulation and prevent erroneous data entry, missing data, or unauthorised data changes.
- Internal controls are reviewed at least annually to ensure they are working effectively. Results are reported to senior management.
- Security arrangements for all information systems are in place (in line with international standards ISO/IEC 17799 and ISO/IEC 27001).
- The Authority regularly tests its performance information systems to ensure that processes are secure. Results are reported to senior management.
- A formal set of quality requirements is applied to all data used by the Authority that is shared externally, or that is provided to the Authority by a third party.
- There are processes in place to validate data from third parties.

People and Skills

The Authority has put in place arrangements to ensure that staff have the appropriate knowledge, competencies and capacity for their roles in relation to data quality.

Key components:

- Roles and responsibilities in relation to data quality are clearly defined and documented, and incorporated into job descriptions. Roles and responsibilities are applied consistently.
- Data quality standards are set and staff are assessed against these.
- The Authority has recruited and trained the necessary staff, ensuring they have the capacity and skills for the effective collection, recording, analysis and reporting of data.
- There is a formal and ongoing programme of training on data quality, including regular update training to ensure that changes in data quality procedures are disseminated and acted on.
- There are corporate arrangements in place to ensure that training provision is periodically evaluated and adapted to respond to changing needs.

• Weaknesses identified in internal or external reviews of data quality are addressed, where appropriate, through the training programme or briefing sessions.

Data Use and Reporting

The Authority has put in place arrangements that are focused on ensuring that data supporting reported information is actively used in the decision-making process, and is subject to a system of internal control and validation.

Key components:

- The suite of financial and performance data required for reporting on performance, internally and externally, has been critically assessed. The data is reviewed regularly to ensure it remains relevant to needs.
- Data used for reporting to those charged with governance is also used for day-to-day management of the Authority's business. As a minimum, reported data is fed back to those who generate it to reinforce understanding of the way it is used.
- Reports include an element of prediction when appropriate, as well as being a record of historical events.
- Data is used not only to measure the volume of activity delivered, but also to assess the quality of service provided.
- There is evidence that management action is taken to address service delivery issues identified by data returns and performance information reports.
- Information which is used for external reporting is subject to rigorous verification, especially where errors may lead to loss of income.
- Data returns are supported by a clear and complete audit trail.
- Data returns are prepared and submitted on a timely basis.
- All data is subject to senior management approval prior to external reporting.

8. MONITORING, REVIEWING AND AUDITING ARRANGEMENTS

The standards defined in this strategy provide assurance to the Authority, its partner organisations and other stakeholders that the quality of its data is reliable and sustainable over the longer term.

To demonstrate the Authority's commitment to securing data quality and to ensure that the data quality standards are applied and maintained effectively, the Authority will conduct a review on an annual basis to identify areas of improvement. The latest Annual Assessment and Action Plan is attached at Appendix A and summarises how the data quality standards are being met. Where weaknesses have been identified, the plan sets out the actions required to improve data quality arrangements. Monitoring of the Action Plan will be undertaken through the Performance Management Framework information system.

A complete review of the Data Quality Strategy will be undertaken in 2009/10 to reflect the scheduled review of the Authority's Corporate Plan.

This strategy and the continuous improvement it aims to deliver will be measured by the following:

Performance Indicator	Actual 2007/08	Target 2009/10
Submission of quarterly WasteDataFlow information	4	4
by statutory deadline.		
Production of Quarterly Performance Reports.	3	4
Submission of CIS Monthly Returns by statutory	12	12
deadline.		
Unqualified opinion from audits.	All	All

APPENDIX A

MERSEYSIDE WASTE DISPOSAL AUTHORITY

DATA QUALITY - ANNUAL ASSESSMENT AND IMPROVEMENT PLAN 2008/09

Governance and Leadership

The Authority has put in place a corporate framework for management and accountability of data quality, with a commitment to secure a culture of data quality throughout the Authority.

Key Components:	Evidenced by:	Areas of Improvement	Lead Officer	Implementation Date:
A senior manager has overall strategic responsibility for data quality, and this responsibility is not delegated.	Job Descriptions	Define Assistant Director and Corporate Services Manager roles	NF	June 08
The corporate objectives for data quality are clearly and formally defined. The objectives are linked to corporate objectives, cover all the Authority's activities, and have been agreed and adopted at senior management level.	Aims and Objectives contained within Data Quality Strategy and linked to Corporate Plan			
The strategic approach for data quality has an associated delivery plan, with clearly identified actions and timescales to support improvement. This is reflected in the Data Quality Strategy.	Assessment and Action Plan produced annually.			
The commitment to data quality is communicated clearly, reinforcing the message that all staff have a responsibility for data quality.	Data Quality Strategy	Communicate Data Quality Strategy to staff.	AV	June 08
Accountability for data quality is clearly and formally defined and is part of the Staff Development Scheme.	Staff Development Scheme	Revise Job Descriptions where appropriate to reflect Data Quality responsibilities.	PP	May 08
Where there is joint working, there is an agreed accountability framework for data quality with partners.	Waste Data Group Terms of Reference	Data Sharing Protocol to be developed, identifying roles and responsibilities and timescales for data reporting.	AV	September 08

Data quality is covered by corporate risk management arrangements, with regular assessments of the risks relating to the reliability and accuracy of the information produced and used by the Authority.	Data Quality Risks identified in Corporate Risk Register			
Data is subject to robust scrutiny by those charged with governance, and there is formal reporting of data quality issues.	Internal and External Auditing Processes and implementation of improvement plans			
There is a formal programme of data quality review, proportionate to risk and reported formally to those charged with governance. This includes periodic review of data quality arrangements, as well as reporting on the quality of data supporting key performance measures and published performance indicators.	Annual assessment and action plan of Data Quality Strategy	Conduct Annual Assessment and Improvement Plan	AV	March 09
Where applicable, the body has taken action to address the results of previous internal and external reviews of data quality.	Audit Action Plans			

Policies

The Authority has put in place appropriate polices and procedures to secure the quality of the data it records and uses for reporting.

Key Components:	Evidenced by:	Areas of Improvement	Lead Officer	Implementation Date:
There is a comprehensive and current Data Quality Strategy in place. This covers data collection, recording, analysis and reporting, and has been implemented in all business areas.	Data Quality Strategy			
The strategy is supported by a current set of operational procedures and guidance for staff.	Contract data verification procedures.			
	WasteDataFlow input and reconciliation procedures.			

Policies and procedures meet the requirements of any relevant national standards, rules, definitions or guidance, as well as defining local	WasteDataFlow compliance			
practices and monitoring arrangements.				
Policies and procedures are reviewed periodically and updated when needed.	Annual reviews incorporating internal audit outcomes			
All staff are able to access the policies, procedures and guidance. Where possible, this is supported by information systems.	Electronic Files	Reorganise electronic files as part of ICT Strategy Action Plan.	AV	September 08
	Employee Handbook	Incorporate review process and document control within Employee Handbook	PP	September 08
The Authority can demonstrate that it is proactive in informing staff of any policy or	Staff Development Scheme			
procedure updates on a timely basis.	Section and User Group meetings			
Policies, procedures and guidelines are applied consistently and comprehensively.	Corporate Services Manager responsible for implementation of Data Quality and procedures			
Mechanisms are in place to monitor compliance in practice, and the results are subject to formal reporting to senior management. Corrective action is taken where necessary.	Annual internal audit review reported to senior management			
Systems and Processes				

The Authority has put in place systems and processes which secure the quality of data as part of the normal business activity of the Authority.

Key Components:	Evidenced by:	Areas of Improvement	Lead Officer	Implementation Date:
There are systems and processes in place for the collection, recording, analysis and reporting of data which are focused on securing data that is accurate, valid, reliable, timely, relevant and	WasteDataFlow statutory requirements and guidance notes			
complete.	Performance Management Framework			

Systems and processes operate according to the principle of 'right first time', rather than employing data cleansing or manipulation processes to produce the information required.	Contractual data quality requirements established	Review of information needs post procurement. Review Recycling Credit	AV	February 09
		System (ICT Strategy)	RF	October 08
Arrangements for collecting, recording, compiling and reporting data are integrated into the wider business planning and management	Performance Management Framework			
processes of the Authority, and support staff in their day-to-day work.	Senior Officer Working Group (SOWG) Performance Reporting	Develop reporting requirements between Waste Data Group and SOWG	NF	
Adequate support is provided for all staff using the Authority's systems and processes for all	ICT Support Service			
aspects of the collection, recording, analysis, and reporting of data.	Staff Development Scheme and Training Plan			
Information systems have in-built controls to	Contract system verification			
minimise the scope for human error or	processes			
manipulation and prevent erroneous data entry, missing data, or unauthorised data changes.				
Internal controls are reviewed at least annually to ensure they are working effectively. Results are reported to senior management.	ICT Security and Data Backup delivered through ICT Strategy			
	Internal Controls considered as part of the Code of Corporate Governance Review and auditing arrangements			
Security arrangements for all information systems are in place (in line with international standards ISO/IEC 17799 and ISO/IEC 27001).	Third Party arrangements in place for ICT Firewall.	Confirm compliance with international standards.	RF	June 08
The Authority regularly tests its performance information systems to ensure that processes are secure. Results are reported to senior management.	Internal audit testing			

WasteDataFlow auditing standards	(Data Sharing Protocol identified above)		
Contract data validation and			
recycling credit validation			
	standards Contract data validation and	standards identified above) Contract data validation and	standards identified above) Contract data validation and

People and skills

The Authority has put in place arrangements to ensure that staff have the appropriate knowledge, competencies and capacity for their roles in relation to data quality.

Key Components:	Evidenced by:	Areas of Improvement	Lead Officer	Implementation Date:
Roles and responsibilities in relation to data quality are clearly defined and documented, and incorporated into job descriptions. Roles and	Job Descriptions	(Revise job descriptions as per above)	PP	May 08
responsibilities are applied consistently.	National and Local Performance Indicator Definitions	Catalogue of National and Local PI Definitions to include responsible officer / organisation	MC	July 08
Data quality standards are set and staff are	Standards set within Data			
assessed against these.	Quality Strategy			
The Authority has recruited and trained the necessary staff, ensuring they have the capacity and skills for the effective collection, recording, analysis and reporting of data.	Staff Development Scheme	Include data quality competencies within HR Strategy	PP	June 08
There is a formal and ongoing programme of training on data quality, including regular update training to ensure that changes in data quality procedures are disseminated and acted on.	Data Quality Strategy and its communication to staff	Corporate Services Training Plan	AV	June 08
There are corporate arrangements in place to ensure that training provision is periodically evaluated and adapted to respond to changing needs.	Staff Development Scheme and Performance Management Framework			

Weaknesses identified in internal or external reviews of data quality are addressed, where appropriate, through the training programme or briefing sessions.	Implementation of Audit Action Plans		

Data use and reporting

The Authority has put in place arrangements that are focused on ensuring that data supporting reported information is actively used in the decision-making process, and is subject to a system of internal control and validation.

Key Components:	Evidenced by:	Areas of Improvement	Lead Officer	Implementation Date:
The suite of financial and performance data required for reporting on performance, internally and externally, has been critically assessed. The data is reviewed regularly to ensure it remains relevant to needs.	Performance Management Framework and reporting structures.	Catalogue of National and Local PI Definitions to be kept, maintained and shared with relevant staff	MC	July 08
Data used for reporting to those charged with governance is also used for day-to-day management of the Authority's business. As a minimum, reported data is fed back to those who generate it to reinforce understanding of the way it is used.	Performance Reporting incorporated into Performance Management Framework Roles within Waste Data Group and Terms of Reference			
Reports include an element of prediction when appropriate, as well as being a record of historical events.	Incorporated into performance reporting where appropriate			
Data is used not only to measure the volume of activity delivered, but also to assess the quality of service provided.	Local Performance Indicators contained within Annual Service Plans	Incorporate quality indicators identified in Data Quality Strategy into performance reporting	AV	May 08
There is evidence that management action is taken to address service delivery issues identified by data returns and performance information reports.	Management Team Performance reporting and review			

Information which is used for external reporting is subject to rigorous verification, especially where errors may lead to loss of income.	WasteDataFlow audit and validation arrangements			
Data returns are supported by a clear and complete audit trail.	Audit trails for data entry and performance indicator calculations	Procedures to be updated to include specific audit controls	AV	October 08
Data returns are prepared and submitted on a timely basis.	WasteDataFlow returns Construction Industry Scheme Returns Office of National Statistics Returns			
All data is subject to senior management approval prior to external reporting.	WasteDataFlow authorisation process Authorisation of Annual Performance Indicator Sheets			