



**National Biosolids Partnership  
Biosolids EMS Verification Audit Report**

**Resource Management, Inc.  
Residuals Management Facility  
New Hampton, New Hampshire**

Report Date: October 22, 2009

Audit Conducted and Reported By

KEMA-Registered Quality, Inc., Chalfont PA

Auditors: Mr. Michael R. Wardell, Lead Auditor  
Mr. Jon Shaver, Biosolids Auditor

Audit Dates

Documentation Review – June 4, 2009

Onsite audit – July 8-10, 2009

Review and Approval

Report Prepared By: Michael R. Wardell, Lead Auditor

Reviewed for Technical Content by: Jessica Gooch, RMI

Peer Reviewed By: Jeanette Klamm, Biosolids Auditor

Approved By: H. Pierre Sallé, President, KEMA Registered Quality

Biosolids EMS Verification Audit Report  
Resource Management, Inc/Residuals Management Facility

**Table of Contents**

1.	SUMMARY .....	4
2.	BACKGROUND.....	5
2A.	Agency Details.....	5
2B.	Audit Purpose and Criteria .....	5
2C.	Audit Scope .....	5
2D.	Audit Phases and Timing.....	6
2E.	Audit Methodology .....	6
2F.	Auditors .....	6
2G.	Definitions and References .....	6
3.	SUMMARY OF AUDIT RESULTS.....	8
3A	Strengths Observed.....	8
3B	Outcomes .....	8
3C	Nonconformances .....	8
3D	Opportunities .....	11
3E	Transaction Tests .....	11
3F	Verification Conclusion .....	11
3G	Appeals.....	12
3H	Requests / Agreements .....	12
4.	DETAILED AUDIT RESULTS.....	13
4A.	EMS Documentation Review .....	13
4B.	Biosolids Processing .....	13
4C.	Communication Program.....	13
4D.	Competency, Awareness & Training .....	14
4E.	Compliance (with legal & other requirements).....	14
4F.	Contractor Control .....	14
4G.	Critical Control Points & Operational Controls (Identification) .....	14
4H.	Corrective and Preventive Action .....	15
4I.	Document Control & Recordkeeping .....	15
4J.	Emergency Preparedness .....	15
4K.	EMS Planning & Public Participation.....	15
4L.	Goals & Objectives .....	15
4M.	Internal Audits.....	16
4N.	Management Involvement (incl Policy, Mgmt Review) .....	16
4O.	Product Sale & Distribution.....	16
APPENDICES .....		17
Appx 1	List of Audit Participants .....	17
Appx 2	Documentation / Objective Evidence Reviewed .....	18
Appx 3	Desk Audit Findings (by EMS Element).....	19
Element 1	- Documentation of EMS for Biosolids .....	19
Element 2	- Biosolids Management Policy .....	19
Element 3	- Critical Control Points .....	19
Element 4	- Legal and Other Requirements.....	20
Element 5	- Goals and Objectives for Continual Improvement .....	20
Element 6	- Public Participation in Planning.....	20

Biosolids EMS Verification Audit Report  
Resource Management, Inc/Residuals Management Facility

Element 7 - Roles and Responsibilities .....	21
Element 8 - Training .....	21
Element 9 - Communication .....	21
Element 10 - Operational Control of Critical Control Points .....	22
Element 11 - Emergency Preparedness and Response .....	22
Element 12 - EMS Documentation, Document Control and Recordkeeping .....	22
Element 13 - Monitoring and Measurement .....	23
Element 14 - Nonconformances: Preventive and Corrective Action .....	23
Element 15 - Biosolids Program Periodic Performance Report .....	24
Element 16 - Internal EMS Audits .....	24
Element 17 - Periodic Management Review of Performance .....	24

Biosolids EMS Verification Audit Report  
Resource Management, Inc./Residuals Management Facility

## 1. SUMMARY

KEMA-Registered Quality Inc. (KEMA) conducted an audit of the biosolids management system being used by Resource Management, Inc. (RMI) in managing biosolids activities at their Residuals Management Facility located in New Hampton, New Hampshire. This audit was performed on behalf of the National Biosolids Partnership (NBP) and requested by RMI and covered the entire biosolids value chain, as practiced by RMI. The audit included a review of EMS Documentation (completed June 4, 2009) and onsite analysis of biosolids management processes and practices (performed July 8-10, 2009).

The primary purpose of the audit was to verify that the system being used by RMI in managing its biosolids activities meets the expectations and requirements of the National Biosolids Partnership's Biosolids EMS Program, particularly the 17 EMS Elements (audit criteria). The audit was also intended to verify that the RMI biosolids management system is functioning effectively.

During the course of this audit, four major nonconformances and four minor nonconformances were identified with respect to the requirements of the NBP's EMS Elements. A Corrective Action audit was conducted on October 8, 2009 and all nonconformances have been effectively closed by RMI.

As a result of this audit, KEMA has verified that the biosolids management system being used by Resource Management, Inc. in managing biosolids activities associated with its Residuals Management Facility and contract operations meets the expectations and requirements of the NBP EMS Elements. Certification of that biosolids management system within the NBP Biosolids EMS Program is recommended.

Biosolids EMS Verification Audit Report  
Resource Management, Inc/Residuals Management Facility

## 2. BACKGROUND

### 2A. Agency Details

Preparer Name: Resource Management, Inc. (referred to as RMI in this report)

Facility: Residuals Management Facility, New Hampton, New Hampshire

Volume of Biosolids Processed (2008) = 22,248 wet tons Class B, 2,965 wet tons Class A

Number of Employees = 22

### 2B. Audit Purpose and Criteria

The purposes of this audit were to verify that the management system being used by RMI in managing its biosolids activities:

- Conforms to expectations and requirements of the National Biosolids Partnership (NBP) Environmental Management System for Biosolids standard, comprised of 17 EMS Elements
- Is functioning as intended and that its practices and procedures are being performed as documented
- Is producing desired results (outcomes)

The criteria for this audit were the requirements specified in the National Biosolids Partnership EMS Elements (May 2002).

### 2C. Audit Scope

This Verification Audit covered the entire biosolids value chain as practiced by RMI, including procurement (from generators), transportation, production of Class B biosolids, production of manufactured topsoil, land application of Class B biosolids, production of Class A biosolids, product sale & distribution, facility site management. Special attention was given to practices and management activities that directly support biosolids-related operations, processes and activities.

Audit activities included:

- Review of RMI Biosolids Management System Documentation (Biosolids Program Manual)
- EMS processes used by RMI in managing its biosolids activities, covering requirements of the 17 EMS Elements.
- Testing of pertinent transactions to assess the health and functionality of the management system
- Interviews with interested parties, including customers, regulators and neighbors
- Examination of outcomes RMI is achieving through the use of their biosolids management system

#### Biosolids Use Sites Audited

Residuals Management Facility

#### Contractors/Suppliers Interviewed

Michael O'Leary

Peter Coleman, General Manager, Erving WWTP

Biosolids EMS Verification Audit Report  
Resource Management, Inc/Residuals Management Facility

Andrew Carpenter, Northern Tilth

Mike Rainey, NH DES

Dick Flanders & Kirk Young, Plymouth WWTP

Dr. Sharon McMillan, Winnepesaukee River Basin Program WWTP

Interested Parties Interviewed

Dr. Carolyn Snyder

## **2D. Audit Phases and Timing**

The complete audit included two “phases”, as described below. This report is a combined report for all phases of this audit.

Phase 1 – KEMA’s Lead Auditor reviewed RMI’s Management System Documentation (referred to as the Residuals Management Program Manual). The results of that review (see Appendices to this report) were reported to RMI on June 4, 2009

Phase 2 – KEMA performed an onsite audit of RMI’s full biosolids management system, including processes used at the Residuals Management Facility and related contractor control processes. This part of the audit was conducted July 8 to 10, 2009.

## **2E. Audit Methodology**

KEMA’s standard management system auditing practices were used. The KEMA “process auditing” approach assesses each system process being used by RMI in managing its biosolids activities for conformance with all applicable requirements of the NBP EMS Elements. Audits were performed by interviewing key personnel involved in each process, observing practices in place and reviewing pertinent documentation.

## **2F. Auditors**

The National Biosolids Partnership contracted KEMA-Registered Quality Inc. to perform this audit on their behalf. The audit was conducted on behalf of KEMA by Mr. Michael R. Wardell and Mr. Jon Shaver. Both Mr. Wardell and Mr. Shaver are certified by the National Biosolids Partnership as biosolids EMS Lead Auditors and Biosolids Auditors.

KEMA asserts that our firm and auditors have a fully independent relationship with Resource Management, Inc., meeting criteria established by the National Biosolids Partnership for Third Party Audit Companies and Third Party Auditors.

## **2G. Definitions and References**

### Definition of Terms

Major Nonconformance – an omission from requirements and/or other departure that represents, or could cause, a systemic failure and/or a departure from the Biosolids Policy.

Minor Nonconformance – an isolated departure from requirements that does not represent a systemic failure.

Biosolids EMS Verification Audit Report  
Resource Management, Inc/Residuals Management Facility

Opportunities (for improvement) – suggested improvement(s) in the EMS based on auditor observations. There is no obligation for action in response to these observations.

Corrective Action Plan – a plan developed by the agency being audited to correct a nonconformance and/or prevent that nonconformance from re-occurring.

References

The following documents were used as references during this audit:

- RMI Residuals Management Program Manual (as provided to KEMA in October 2008)
- National Biosolids Partnership “EMS for Biosolids” standard (May 2002)
- National Biosolids Partnership Biosolids EMS Auditor Guidance (August 2007)
- National Biosolids Partnership Code of Good Practice
- National Biosolids Partnership Manual of Good Practice

Biosolids EMS Verification Audit Report  
Resource Management, Inc/Residuals Management Facility

### 3. SUMMARY OF AUDIT RESULTS

The following summarizes results of this audit. Detailed results for each process audited are described in Section 4 of this report.

#### 3A Strengths Observed

During this audit, the Audit Team observed the following strengths in RMI's biosolids management system:

- Biosolids and land application data are well managed.
- Orchid software and cross checking procedures are effective in insuring accurate data entry for both invoicing and residuals application.
- An effective interpersonal relationship exists throughout the organization.

#### 3B Outcomes

RMI reported the following outcomes from the use of an environmental management system approach to managing their biosolids program in the past year. KEMA examined these outcomes and agree that they represent gains achieved by the use of the RMI residuals EMS.

##### Regulatory Compliance

Reduced number of errors in the submitted data by 80% through use of Orchid, direct entry of data has led to improvement in quality reporting (per NHDES).

##### Environmental Performance

No longer using contractors for topsoil production and application and performing topsoil blending and placement with in-house staff, improving application rates and placement.

##### Quality Management Practices

Provide technology to allow remote access to company and company databases, which has reduced downtime, improved employee efficiency and provided better access to and utilization of information.

##### Interested Party Relations

Use regular meetings with customers to insure there is understanding of expectations as well as providing references from existing customers used in marketing.

#### 3C Nonconformances

A total of four major and four minor nonconformances were identified during this audit. RMI submitted corrective action plans for all nonconformances, and these were approved by the lead auditor. An on-site corrective action audit was conducted on October 8, 2009, during which time evidence of implementation of all corrective actions was reviewed and approved. The nonconformances are listed below along with the corrective actions taken by RMI.

Major Nonconformance MW-09-01/Element 1 NBP EMS Element 1 requires an EMS Manual (or equivalent set) that describes policies, programs, plans, procedures, management practices in the EMS. The Resource Management, Inc. "EMS Manual" is inconsistent with requirements in the following areas:

Biosolids EMS Verification Audit Report  
Resource Management, Inc/Residuals Management Facility

- The RMI Communications process does not define the contactors role or responsibilities in executing the Communications program.
- The Communications Program does not address how the results of third party audits will be communicated to the public at large or to interested parties, or how information regarding biosolids management activities, Residuals Management Policy or the 17 elements of the EMS will be communicated to employees, contractors, interested parties or the general public.
- There is no reference to the specific documents or records which are required by the NBP EMS Manual.
- The document control procedure does not reference document or record control procedure requirements for contractors.
- The document control procedure does not insure that printed copies of out of date documents, such as SOP's, are retrieved or are not inadvertently utilized.

**Corrective Action:** RMI revised several sections of its EMS Manual, including Document Control and Communications to comply with NBP requirements. These changes were reviewed and found to meet NBP expectations.

Major Nonconformance JS/09-02/Element 3 The definition of critical control points in the NBP EMS Elements includes activities to ensure legal, quality and public acceptance requirements are met.

Critical control points identified by RMI (Table 3.1) do not make any reference to legal, quality and public acceptance requirements.

**Corrective Action:** RMI made significant changes to their critical control points table and process to not only address the nonconformance but to better reflect the way in which RMI conducts its business. Table 3.1, revised 9/18/09 was reviewed and now meets the NBP requirements.

Minor Nonconformance JS/09-03/Element 4 NBP EMS Element 4 requires that records of applicable legal and other requirements be maintained.

The list of applicable legal and other requirements (EMS Manual, table 4.1) does not include applicable OSHA or DOT requirements.

**Corrective Action:** RMI has modified Table 4.1, revisions dated 9/4/09, to include all applicable legal requirements, including all the requirements for the states in which RMI manages residuals.

Minor Nonconformance JS/09-04/Element 5 NBP EMS Element 5 requires that biosolids objectives be SMART & measurable.

Some objectives being used to improve RMI's residuals management program are not specific and measurable. (e.g., "establish a system to maintain regular formal communication", "manage Class B biosolids at RMI-RMF").

**Corrective Action:** RMI has revised their Goals and Objectives Table 5.1, dated 9/11/09, and provided a better framework in which to devise overall goals and objectives designed to meet those goals. Action plans for the objectives are created in ACT!, with assignments and due dates for various aspects of the action plans assigned to specific personnel. These action plans were also reviewed as part of the closure of this nonconformance.

Biosolids EMS Verification Audit Report  
Resource Management, Inc/Residuals Management Facility

Minor Nonconformance JS/09-05/Element 10 NBP EMS Element 10 requires that operational controls at critical control points incorporate all legal and other adopted requirements.

Legal and other requirements that apply at critical control points and related operational controls are not clearly identified.

**Corrective Action:** RMI made significant changes to their critical control points table and process to not only address the nonconformance but to better reflect the way in which RMI conducts its business. Table 3.1, revised 9/18/09 was reviewed and now meets the NBP requirements.

Major Nonconformance MW/09-06/Element 7 Several EMS Elements state requirements that the agency must ensure are extended to contractors.

Agreements that RMI has with contractors providing hauling services do not specifically state the following:

- contractor roles / responsibilities in the Communications Program
- requirements for training
- requirements for emergency procedures and plans
- documentation, document control and recordkeeping requirements

In addition, it is unclear how RMI has communicated its residuals management policy or EMS requirements to its subcontractors.

**Corrective Action:** RMI has revised the EMS Manual, dated 10/2/09, to clarify the contractor's roles and responsibilities. The standard Independent Sub-Contractor Hauling Agreement has also been revised to outline and clarify the subcontractor's responsibilities, including communication roles, training requirements, emergency procedures and plans and document control and recordkeeping. Several of these new agreements have been signed, as RMI is on an annual renewal basis with their subcontractors, and evidence of contractor notification and training were reviewed.

Minor Nonconformance JS/09-07 Element 14 NBP Element 14 requires formal corrective action plans to address internal audit findings.

The internal audit conducted December 2008 by RMI had several findings, however, root causes were not identified and no formal corrective action plans were documented.

**Corrective Action:** RMI has prepared corrective action plans, including root cause analysis, for the internal audit findings. These corrective actions have been implemented and effectively closed.

Major Nonconformance MW/09-08 Element 17 NBP Element 17 requires that "The organization's management shall, at intervals that it determines appropriate, review the residuals environmental management system and its performance relative to policy commitments, goals, objectives and established performance measures to ensure its continuing suitability, adequacy, and effectiveness".

RMI has established the procedure for annual management review, but has not yet completed a formal management review.

**Corrective Action:** RMI has completed their annual management review. The results of that review, dated 9/29/09, were reviewed and found to meet the requirements of the NBP EMS Elements.

Biosolids EMS Verification Audit Report  
Resource Management, Inc./Residuals Management Facility

### 3D Opportunities

The following “opportunities” for improving the RMI Residuals Management Program were identified during the audit. They are based on the Auditors experience only and there is no requirement for action by RMI in response to these observations.

1. Applicability of the Residuals Policy Statement could be expanded to include all residuals management and the statement could be shortened to have more impact and be more easily understood.
2. The NHDES biosolids regulator indicated that the future direction of biosolids regulations would likely be to encourage agriculture use of Class A material and discourage Class B. An objective to facilitate RMI business / market expansion in that area could be helpful and would demonstrate consideration of interested party input.
3. The internal audit program could include process performance reviews and assessment of consistency with policy requirements.
4. Expand the use of the corrective action process to other areas of formal corrective action, such as incident investigations and customer complaints

### 3E Transaction Tests

The following transactions were tested to confirm that the EMS responded dynamically and effectively to them.

- The implementation of a GPS tracking system for all RMI owned trucks has improved performance and allowed RMI to respond to citizen complaints of excessive truck speed.
- The use of ACT! as a tool to track interested party contacts, sales calls and as a tool to prepare and track action plans for goals is well understood by the staff.
- Implementation of the Orchid recordkeeping system has significantly improved reporting accuracy and help to improve relations with the regulatory community.

The RMI residuals management program was found to have satisfactorily responded in each of the above situations by adapting operational controls and ensuring responsibilities are understood.

### 3F Verification Conclusion

Based on the results of our audit, KEMA issues the following verification statement for the EMS being used by Resource Management, Inc. in managing its biosolids activities associated with the RMI-Residuals Management Facility:

*“The Resource Management, Inc. Residuals Management Facility and associated product management activities have been independently verified by KEMA-Registered Quality Inc. as having an effective biosolids environmental management system that supports continual improvement in environmental performance, meeting regulatory compliance obligations, utilizing good management practices and creating meaningful opportunities for public participation and is in conformance with the requirements of the National Biosolids Partnership.”*

Biosolids EMS Verification Audit Report  
Resource Management, Inc/Residuals Management Facility

### **3G Appeals**

The NBP provides an appeals process for biosolids organizations and interested parties that disagree with the findings of a third party EMS audit. The verification appeals process involves an Appeals Board; representing a balance of biosolids management interested parties, including an environmental advocacy group, and wastewater industry professionals. An appeal must be submitted within 30 days of the official verification decision or interim audit decision by the Audit Company. Anyone who may need help in understanding the appeals process should contact the National Biosolids Partnership staff, Mr. Eugene DeMichele at 703-684-2438, or send an e-mail to: [edemichele@wef.org](mailto:edemichele@wef.org).

RMI may appeal the manner in which this audit was conducted and/or any findings directly to KEMA by contacting KEMA's headquarters at 4377 County Line Road, Chalfont PA. KEMA will review any such appeal to verify that the audit and/or any findings are consistent with acceptable management system auditing practices.

### **3H Requests / Agreements**

NBP requires that interim audits of an agency's Biosolids Management System be conducted annually to verify the effectiveness of the management system and its continuing conformance with NBP requirements. Interim Audit #1 will occur in October 2010 and be performed as a third party audit. RMI will make arrangements for that audit through the National Biosolids Partnership.

A program for interim audits of the RMI residuals management system has been prepared and agreed by KEMA and RMI. The scope of interim audits will be consistent with that Audit Program and other requirements of the NBP Biosolids EMS Program.

Biosolids EMS Verification Audit Report  
Resource Management, Inc./Residuals Management Facility

#### 4. DETAILED AUDIT RESULTS

The following describes the results of KEMA's audit of each management system process used by RMI in managing biosolids activities and the level of conformance of that process with all applicable requirements of the EMS Elements.

##### 4A. EMS Documentation Review

A review was completed of Resource Management, Inc.'s Environmental Management System Manual and supporting documents describe the management system that RMI uses in managing its biosolids-related activities. Results of KEMA's review of this documentation as part of this audit are included in the appendix of this report.

###### Audit Results

Review of the EMS Manual and other documentation found that documentation meets NBP expectations and conform to applicable requirements of the EMS Elements.

##### 4B. Biosolids Processing

Processes within the biosolids preparation operations include receiving and storage, Class B production, Class A production, manufactured topsoil production and transportation management. Additional processes at the Residuals Management facility include maintenance and emergency preparedness.

RMI and its contractors transport solids to the Residuals Management Facility, where the material is received. All residuals used in the process (biosolids, wood ash and short paper fiber) are sampled regularly by RMI and/or the generator and must meet minimum standards before being used in the operation. Biosolids and product operations are consistent with identified critical control points. SOPs and other operational controls are in place as identified in the RMI EMS Manual. Operators are qualified through experience and training and are familiar with the intentions of critical control points and operational controls. Operations monitoring, including significant environmental impacts and regulatory requirements, is done through routine scheduled tests and review of operating data by operations management. Maintenance includes regular preventive maintenance and review of equipment maintenance trends.

###### Audit Results

Review of the processes described above found they meet NBP expectations and conform to applicable requirements of the EMS Elements.

##### 4C. Communication Program

RMI has developed an external communication program that includes identification of stakeholders (such as customers and suppliers / generators) and other interested parties (e.g. neighbors, regulators). Support in the external communications efforts are provided by NEBRA, a regional biosolids industry group. Information is also presented at public hearings and in response to requests. Internal communication about the residuals management system occurs through training.

###### Audit Results

Review of the processes described above found they meet NBP expectations and conforms to applicable requirements of the EMS Elements.

Biosolids EMS Verification Audit Report  
Resource Management, Inc/Residuals Management Facility

#### **4D. Competency, Awareness & Training**

RMI personnel, including new employees, receive awareness training about the residuals management system and key concepts / requirements in the system. Personnel are qualified for their roles / responsibilities based on experience and observation on the job. Deficiencies are addressed through re-training and/or continuing on the job observation.

##### Audit Results

Review of the process described above found it meets NBP expectations and conforms to applicable requirements of the EMS Elements.

#### **4E. Compliance (with legal & other requirements)**

Applicable legal requirements are maintained in Table 4.1, Legal and Other Requirements. Operating data is reviewed by compliance personnel and the Chief Delivery Officer (CDO) to verify compliance and internal audits are used to confirm practices are consistent with legal requirements. Compliance evaluations are done by an outside contractor on a regular basis. Any concerns are addressed through the Corrective / Preventive Action Process. New Hampshire regulators have seen an improvement in the accuracy of quality data submissions, due in part to the implementation of the EMS.

##### Audit Results

Review of the process described above found it meets NBP expectations and conforms to applicable requirements of the EMS Elements.

#### **4F. Contractor Control**

Contractors involved in the RMI biosolids program include contract haulers, spreaders, biosolids generators and suppliers of wood ash and short paper fiber. Transportation contractors are qualified through sub-contract agreements and proof of insurance. Contract land appliers are farmers on whose land residuals are applied, and are qualified based on experience and a review by RMI personnel. Biosolids generators provide certifications of biosolids quality, and additional sampling is provided by RMI. Wood ash and short paper fiber are sampled and analyzed by RMI.

##### Audit Results

Review of the process described above found it meets NBP expectations and conforms to applicable requirements of the EMS Elements.

#### **4G. Critical Control Points & Operational Controls (Identification)**

Critical control points at each Value Chain Category are listed in the EMS Manual, table 3.1 along with operational controls & SOPs. "Criticality" is determined by the management team, including potential environmental impacts.

##### Audit Results

This process was found to conform to applicable requirements of the NBP EMS Elements and be consistent with NBP expectations.

Biosolids EMS Verification Audit Report  
Resource Management, Inc/Residuals Management Facility

#### **4H. Corrective and Preventive Action**

The Corrective and Preventive Action process can be triggered by incidents, complaints, goals / objectives status, internal & external audit findings and noncompliances. Thirteen CA's were processed in 2008 & 12 have been processed in 2009 to date.

##### Audit Results

This process was found to conform to applicable requirements of the NBP EMS Elements and be consistent with NBP expectations.

#### **4I. Document Control & Recordkeeping**

Documents and records requiring control are identified and reviewed as stated in the EMS Manual. Operations records are kept electronically. Documents requiring control are reviewed and updated annually. Records are readily accessible.

##### Audit Results

Review of the process described above found it meets NBP expectations and conforms to applicable requirements of the EMS Elements.

#### **4J. Emergency Preparedness**

RMI has prepared emergency plans for use during spills or other emergencies during transportation and for the Residuals Management Facility. Operators are provided with "emergency cards" which provide contact phone numbers. The emergency and spill response plans are provided to all operators in a laminated, two page format.

##### Audit Results

Review of the process described above found it meets NBP expectations and conforms to applicable requirements of the EMS Elements.

#### **4K. EMS Planning & Public Participation**

The RMI Residuals Management System was developed to help continually improve product quality, environmental performance, regulatory compliance, stakeholder relations and financial results. The President is responsible for overall performance of the management system and assigned responsibility for monitoring and reporting on its performance to the EMS Manager. Regular meetings of the management team discuss performance of the system and progress against desired results, particularly goals for the system. Public input is obtained through a variety of mechanisms which are appropriate to the degree of public interest in biosolids management. RMI utilizes the regional biosolids group, NEBRA, to assist in public outreach.

##### Audit Results

Review of the process described above found it meets NBP expectations and conforms to applicable requirements of the EMS Elements.

#### **4L. Goals & Objectives**

Goals are in place for ensuring product quality, ensuring regulatory compliance, maintaining positive relationships with interested parties and protecting the environment. One to five objectives are in

## Biosolids EMS Verification Audit Report Resource Management, Inc/Residuals Management Facility

place for each goal, including responsibility and timing. Resource needs are identified. Progress in achieving objectives is tracked by the management team.

### Audit Results

This process was found to conform to applicable requirements of the NBP EMS Elements and be consistent with NBP expectations.

### **4M. Internal Audits**

Internal audits are conducted by RMI personnel or outside contractors based on directives determined at staff meetings. Results are reported and discussed at regular management review meetings.

### Audit Results

This process was found to conform to applicable requirements of the NBP EMS Elements and be consistent with NBP expectations.

### **4N. Management Involvement (incl Policy, Mgmt Review)**

The intent of RMI Management in instituting an environmental management system is to improve the company's environmental performance and to demonstrate that commitment to their customers and interested parties. The management review process includes regular meetings of the management team to review operations and identify and solve problems or concerns. The process also includes an annual review which addresses the specific requirements of the NBP EMS Elements.

### Audit Results

Review of the process described above found it meets NBP expectations and conforms to applicable requirements of the EMS Elements.

### **4O. Product Sale & Distribution**

All biosolids produced and managed by RMI must meet applicable regulations for beneficial use. Sales / use agreements are established with the end use site / facility. Management plans are in place to describe intended procedures and inspections by RMI are done to verify proper use. Class B biosolids produced at the Residuals Management Facility are land applied in accordance with New Hampshire regulations. Class A biosolids and manufactured topsoil are distributed in accordance with the regulations for the state in which the material is applied. RMI also obtains Class B biosolids from various wastewater treatment plants, which are considered contractors, and these residuals are managed in accordance with the RMI EMS as well as applicable State and Federal requirements.

### Audit Results

This process was found to conform to applicable requirements of the NBP EMS Elements and be consistent with NBP expectations.

Biosolids EMS Verification Audit Report  
Resource Management, Inc/Residuals Management Facility

## APPENDICES

### Appx 1 List of Audit Participants

The following personnel participated in this audit. Where necessary, other employees provided additional explanations.

#### RMI

The following persons participated in this audit. Other persons provided additional explanations, as needed.

<u>Name</u>	<u>Position</u>	<u>Organization</u>
Shelagh Connelly	President	RMI
Charley Hanson	Senior Project Manager	RMI
Marty Riehs	Vice President	RMI
Jessica Gooch	Compliance Assistant	RMI
Bill May	HR	RMI
Mary Macdonald	Chief Delivery Officer	RMI
Dean Melanson	Driver	RMI
Mike Rainey		NH DES
Carl Bartlett	Sales	RMI
Gavin Macdonald	Operations Manager	RMI
John Day	Driver	RMI
Sharon Trudel	Office Manager	RMI

#### Observers

Ned Beecher	NEBRA
-------------	-------

Biosolids EMS Verification Audit Report  
Resource Management, Inc/Residuals Management Facility

**Appx 2      Documentation / Objective Evidence Reviewed**

ACT contact information –  
Analytical results spreadsheet  
Compliance incident index  
Compost label 6/30/07  
Durham WWTF Certification Statement (5/26/09)  
e-mails (various)  
Eastern Analytical Results #77872 (4/8/09)  
Emergency contact card  
EMS Manual dated 5/8/09 and associated SOP's  
EMS table 5.1 – goals & objectives  
EMS Awareness Training sign in sheet (6/24/09)  
History Summary 6/1 – 7/9/09  
Incident report 08-033 (11-11-08)  
Incident Report 09-010  
Independent Sub-contractor Hauling Agreement  
Interim Management Review 7/10/09  
Internal audit report 12/15/08  
Job description for Bill May (3/26/09)  
Letter from Northeast Organic Farming Assoc (2/20/09)  
Monthly management review meeting notes (6/16/09)  
Performance evaluation for Bill May (3/16/09)  
Project plan 5/27/09  
Project plan checklist (various)  
Proposed training calendar (7/9/09)  
Putney Paper Company sample data spreadsheet  
Record of phone call from Warner Farm (6/22/09)  
RMI Daily Dispatch (7/9/09)  
RMI letter to NOFA 1/7/09  
RMI Manufactured topsoil management plan  
Sample of wood ash 27801 (7/9/09)  
Sales Use Agreement  
SPF testing calendar (2009)  
SOP's (various)  
Staff Meeting minutes 6/16/09  
Travel Conference and Seminar Authorization form for J. Gooch (4/14/08, 7/15/08)  
Winnepesaukee River Basin Program (2007)

Biosolids EMS Verification Audit Report  
Resource Management, Inc/Residuals Management Facility

**Appx 3 Desk Audit Findings (by EMS Element)**

The following describes the results of our review of the RMI EMS Documentation against criteria prescribed for each of the 17 Biosolids EMS Elements. Further analysis of documentation and practices in place will be conducted during the onsite audit.

Element 1 - Documentation of EMS for Biosolids

The RMI EMS describes procedures that RMI uses to manage its biosolids activities. The EMS manual is divided into 17 sections which correspond to the NBP EMS Elements. Each element contains a description of how the NBP EMS Element is addressed. The EMS Manual and supporting documents are in PDF format. Each section of the Manual was approved with an effective date of July 7, 2008.

Observations

None

Comments

None

Element 2 - Biosolids Management Policy

The RMI Biosolids Management Policy Statement, adopted May 10, 2007, is contained in Element 2. This section outlines how RMI will implement the policy, including a reference to the Code of Good Practice.

Observations

1. The Biosolids Management Policy Statement does not specifically commit the organization to following principles of conduct contained in the Code of Good Practice.

Comments

None

Element 3 - Critical Control Points

RMI Biosolids EMS Element 3 (Critical Control Points) refers to a table (Table 3.1) which contains the Critical Control Points for RMI Biosolids Value Chain. This table is a comprehensive list of critical control points, operational controls, standard operating procedures, monitoring and measurement and potential environmental impacts.

Observations

2. It is unclear what CCP's and Operational Controls apply to the various final products (Class B, Class A and topsoil blend) produced at the facility.

Biosolids EMS Verification Audit Report  
Resource Management, Inc/Residuals Management Facility

Comments

- Potential Environmental Impacts listed could be more specific as to the type and severity of impact for many of the CCP's (i.e., groundwater impact, vector attraction, etc.).
- Table 3.1 makes note that Appendix F was considered, however evidence will be required to justify exclusions to Appendix F.
- Table 3.1 makes no reference to legal or other requirements, or show a connection between legal and other requirements, CCP's or operational controls..
- 

Element 4 - Legal and Other Requirements

RMI Biosolids EMS Element 4 describes procedures and responsibilities for identifying and tracking applicable legal and other requirements. A table of Legal Requirements is included as Table 4.1.

Observations

3. Neither the procedure nor list of regulations refers to any specific state regulations other than New Hampshire, while the introduction to the Manual states that RMI operates "throughout the Northeast".

Comments

- The list of current legal requirements appears to be incomplete as there is no mention of hazardous waste, hazardous chemical, OSHA or Federal/State DOT regulations.

Element 5 - Goals and Objectives for Continual Improvement

RMI Biosolids EMS Element 5 describes procedures and responsibilities for developing biosolids goals and objectives, for developing action plans and monitoring progress in achieving them.

Observations

4. The RMI Goals and Objectives are activities expected in a properly operating facility, and are not designed to continually improve environmental (or other) performance. Many of the objectives have a "Date Completed" as "on-going", which again suggests a normal operating situation and not a goal/objective tied to continual improvement.

Comments

- It is not clear how performance in achieving goals, or other inputs such as Management Review or internal/external audit results are used in revising or updating goals and objectives.

Element 6 - Public Participation in Planning

RMI Biosolids EMS Element 6 describes procedures and responsibilities for public involvement in biosolids program planning.

Observation

5. It is unclear how public input is captured through the various formal and informal mechanisms, and how that input is then utilized in the planning process.

Biosolids EMS Verification Audit Report  
Resource Management, Inc/Residuals Management Facility

Comments

- It is unclear how RMI utilizes interested party lists (as prepared under Element 10, Communication) in obtaining public input to the planning process.

Element 7 - Roles and Responsibilities

RMI Biosolids EMS Element 7 describes roles, responsibilities within the biosolids EMS. An organization chart dated 12/15/08 is included in the NBP submission.

Observations

6. The EMS Manual delineates the roles and responsibilities of the EMS Manager, but no EMS Manager appears on the organization chart.

Comments

- The EMS Manual (document control headers) notes the Jessica Gooch is the EMS Manager, however the submission packet contains nothing that indicates how this appointment is made.

Element 8 - Training

RMI Biosolids EMS Element 8 describes training plans and requirements within the biosolids EMS.

Observations

7. The training program does not address EMS awareness training for RMI employees, nor is it clear that the current training program meets the requirement of NBP Element 7 for training employees regarding their roles and responsibilities and how they relate to the biosolids value chain.

Comments

- The EMS Manual and/or supporting documents do not indicate how RMI determines competency requirements for employees involved in the biosolids value chain, or how they determine the effectiveness of any training activities.

Element 9 - Communication

RMI Biosolids EMS Element 9 describes requirements and procedures for internal and external communication about biosolids program activities.

Observations

8. The RMI Communications process does not define the contactors role or responsibilities in executing the Communications program.
9. The Communications Program does not address how the results of third party audits will be communicated to the public at large or to interested parties.
10. It is unclear how information regarding biosolids management activities, Biosolids Management Policy or the 17 elements of the EMS will be communicated to employees, contractors, interested parties or the general public.

Biosolids EMS Verification Audit Report  
Resource Management, Inc/Residuals Management Facility

Comments

- Does RMI oversee contractor outreach/communication activities, and if so, how do they determine if they are effective and if they meet the intent of the RMI EMS?
- There is no list of interested parties included in the submission, and it is unclear how this list is compiled or maintained.

Element 10 - Operational Control of Critical Control Points

RMI Biosolids EMS Element 10 describes requirements for controlling operations within the RMI biosolids value chain.

Observations

None – see comments below

Comments

- It is not clear how RMI requires contractors to implement operational controls, or how RMI assess the effectiveness of those controls.
- Mention is made that changes to operational controls will be communicated to staff and contractors, but there does not appear to be a specific method for communications either internally or to contractors.

Element 11 - Emergency Preparedness and Response

RMI Biosolids EMS Element 11 describes requirements and procedures for emergency preparedness and response related to biosolids program activities.

Observations

None – see comments below

Comments

- It is unclear how the effectiveness of emergency plans is reviewed and evaluated.

Element 12 - EMS Documentation, Document Control and Recordkeeping

RMI Biosolids EMS Element 12 describes requirements and procedures for controlling documents and records used in managing biosolids program activities.

Observations

11. There is no reference to the specific documents or records which are required by the NBP EMS Manual.
12. The procedure does not reference document or record control procedure requirements for contractors.
13. It is noted that the Effective Date shown in the footer of all the SOP's is the same, yet many have been revised and show a more recent "effective date" in the Revision History section of the SOP.

Biosolids EMS Verification Audit Report  
Resource Management, Inc/Residuals Management Facility

Comments

- All procedures internal to each Element have one or more requirements, and each is referred to as “Procedure 1”, “Procedure 2”, etc., so that in total (for the Manual) there are multiple references to “Procedure 1”, etc. RMI might consider an identification scheme for procedures which makes each one unique, in order to avoid the potential for confusion when referring to a procedure number.
- This Element uses the term “reasonably available” in the Introduction to the Document Control procedure. What does “reasonably available” mean?

Element 13 - Monitoring and Measurement

RMI Biosolids EMS Element 13 describes requirements and procedures for monitoring and measuring biosolids program activities including those to demonstrate compliance with legal and regulatory requirements, track progress towards goals and objectives and to track biosolids program performance.

Observations

None – see comments below

Comments

- It is unclear exactly how progress towards achieving goals and objectives is monitored.
- Only the State of New Hampshire regulations are noted in this Element, however it appears that RMI manages biosolids in other states in the Northeast.

Element 14 - Nonconformances: Preventive and Corrective Action

RMI Biosolids EMS Element 14-1 describes requirements and procedures for identifying, correcting and preventing nonconformances in biosolids program activities.

Observations

14. It is not clear how regulatory noncompliances are investigated. Reference is made to administrative regulations (for New Hampshire), however these regulations are not included in the documentation reviewed.
15. The current procedure does not appear to address nonconformances which may be discovered in the course of routine monitoring and measurement, or which may arise outside of the formal audit process.
16. The procedure as written does not address preventive action as distinct from corrective action.

Comments

- It is not clear how or if root cause analysis is done for either regulatory noncompliances or system nonconformances found through the internal/external audit process, or through routine monitoring and measuring,
- The timing for corrective actions from third party audits are not consistent with current audit practice.

Biosolids EMS Verification Audit Report  
Resource Management, Inc/Residuals Management Facility

Element 15 - Biosolids Program Periodic Performance Report

RMI Biosolids EMS Element 15 describes requirements for preparing Biosolids Management Program Performance Reports.

Observations

None – see comments below

Comments

- It is unclear if the Biosolids Performance Report will be sent to interested parties as a matter of course, or if a specific request must be made to obtain the report.

Element 16 - Internal EMS Audits

RMI Biosolids EMS Element 16 describes requirements and procedures for conducting internal audits of biosolids program activities.

Observations

17. Paragraph 1 of the procedure states that internal audits will be conducted yearly except in years when formal 3<sup>rd</sup> party audits are conducted. Third party audits should not be substituted for internal audits, as these processes have separate and distinct objectives.
18. There was no information in the submission regarding internal auditor qualifications, audit scope or methodology.

Comments

- It is unclear how the audit team (as defined in Paragraph 3) will insure that employees are objective and do not audit their own work.

Element 17 - Periodic Management Review of Performance

RMI Biosolids EMS Element 17 describes requirements and procedures for conducting management reviews of biosolids program suitability, adequacy and effectiveness.

Observations

None – see comments below

Comments

- No documentation regarding the most recent management review were included in documentation submitted, so the reviewer was unable to determine if management review(s) had taken place, and if they conformed to the requirements of Element 17.

**END OF REPORT**