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City of Lawrence Department of Utilities

Lawrence, Kansas

Surveillance + Scope Expansion Audit

ISO 14001:2004

KEMA-Registered Quality, Inc.

Chalfont, Pennsylvania

Audit Dates: October 15 to 19, 2007

CONFIDENTIAL REPORT

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Approved by: NPR

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1 SUMMARY

KEMA conducted a Surveillance Audit of the Environmental Management System of The City of Lawrence Department of Utilities in Lawrence, Kansas based upon the ISO 14001:2004 Standard. This audit was performed as an integrated audit covering requirements of ISO-14001:2004, OHSAS-18001:1999 and the National Biosolids Partnership EMS Elements (biosolids program).

To meet the requirements of KEMA accreditations, sector-qualified auditors conducted this audit in accordance with the "KEMA Auditor Manual" and the "KEMA Audit Planning Guide."

The objectives of the audit were to:

- Determine the extent of conformity of the organization's management system, or parts of it, with audit criteria of the ISO 14001:2004 Standard.
- Evaluate the capability and effectiveness of the management system in meeting its specified objectives (such as management priorities).
- Identify areas for potential improvement of the management system.
- Determine the extent of conformity of the expanded scope for the environmental management system with ISO-14001:2004 criteria.

During the visit, KEMA reviewed the Continual Environmental Management Dynamics and audited the processes listed in section 5 below, finding one (1) Major Nonconformance and six (6) Minor Nonconformances with respect to ISO-14001:2004 criteria. The Major Nonconformance and two of the Minor Nonconformances relate to the expanded scope only.

Review of the Environmental Management System confirmed that the City of Lawrence Department of Utilities Environmental Management System has been effectively maintained for the existing scope and periodic surveillances for the existing scope may proceed on schedule. The management system is not in conformance with ISO 14001:2004 for the expanded scope and improvement is required for certification of the expanded scope and improvement is required for certification of the scope expansion.

Multiple Minor Nonconformances were reviewed and it was determined that this does not indicate that a structural issue has been encountered since two (2) of the Minor Nonconformances are documentation deficiencies only and do not represent system problems.

2 AUDIT FINDINGS, STRENGTHS AND OPPORTUNITIES

2.1 Strengths, Opportunities

The audit team noted the following strengths and opportunities:

STRENGTHS:

- Regulators have very favorable comments about communications and compliance for City of Lawrence biosolids program.
- There is consistent agreement about significant environmental impacts and OHS hazards indicating this analysis matches actual situations well.
- Some managers are performing monthly performance discussions and using these effectively to develop a continuous improvement approach in their area.
- The new employee mentoring program is functioning consistently throughout the organization and is effective in ensuring employees are qualified to perform unsupervised work.

OPPORTUNITIES:

Management Involvement

1. Measuring the performance (and trends) of LUMS processes could help identify improvement opportunities.
2. The “Management of Change” procedure (LUMS Manual 5.1) could address changes initiated by contractors / suppliers (e.g. product / equipment changes) to help control how these changes influence desired results (e.g. safety, quality).

Communications

3. Internal communication of performance against key indicators could generate conversations and engage personnel in helping to achieve the targets.

Emergency Preparedness & Response

4. A simple method for reporting and investigating “near-miss” events could be used for identifying EHS improvement opportunities.

Contractor / Supplier Control

5. Communicating EHS goals and significant hazards & risks to suppliers who can influence them could provide additional resources for continual improvement.
6. A Supplier Corrective Action Request (SCAR) procedure could help in communicating contractor deficiencies and improving their performance.

Competency / Awareness / Training

7. Additional employee training / communication about “critical control points” could help in ensuring consistent understanding of the need for operational controls.

Internal Audits

8. The internal audit program could include targeted reviews to determine how specific processes are functioning and how the interaction between processes could be improved.

2.2 Findings

The processes described in Section 5 and the CMD in Section 4 were found to satisfy the applicable elements of the appropriate standards, with the exceptions noted below:

Description of Findings:

Major Nonconformance JS/07-02/14001-4.1/18001-4.1 There is uncertainty within the water treatment and distribution operations about the purpose, concepts and some of the tools in the LUMS, indicating that expansion of LUMS has not been fully established and communicated.

Minor Nonconformance JS/07-03/14001-4.3.2/18001-4.3.2/biosolids-4 The documented “Compliance” procedure (LUMS Manual 2.2) does not fully state how legal and other requirements are identified, accessed and their applicability determined.

Minor Nonconformance JS/07-04/14001-4.4.2/18001-4.4.2/Biosolids-8 It is not clear what is meant by mandatory training in “legal and other requirements” (LUMS 2.6).

Minor Nonconformance JS/07-05/14001-4.4.3 The decision whether to communicate externally about significant environmental aspects and OHS hazards has not been clearly documented and not all employees understand the intended direction for this communication.

Minor Nonconformance JS/07-06/14001-4.4.6/18001-4.4.6 Incomplete labeling of chemical storage tanks, precarious equipment, insufficient Hazard Communication Program and lack of an SOP (or other standardized control method) for chlorine handling indicate incomplete operational control for handling hazardous chemicals.

Minor Nonconformance JS/07-07/14001-4.4.6/18001-4.4.6 Requirements for addressing significant environmental aspects and OHS hazards are not specifically stated in communication of expectations to suppliers/contractors who can affect the impacts and risks.

Minor Nonconformance JS/07-08/14001-4.3.3/biosolids-5 Some objectives (targets) in place are not presented so they are measurable.

Notes:

Numbering of nonconformances starts with 07-02 since Nonconformance 07-01 was found during a Corrective Action Audit in March 2007.

Nonconformances may not number sequentially since some nonconformances apply to other standards / specifications only.

Nomenclature for nonconformances includes reference to other standards at the City of Lawrence's request.

3 REQUESTS

The current total headcount for the Department of Utilities is currently about 107 persons, including 22 on 2 shifts. The headcount has increased from 40 last year due to scope expansion of the management system to include the water treatment operations.

The City of Lawrence will forward a Corrective Action Plan for all nonconformances to KEMA by November 19, 2007. An onsite Corrective Action Audit will occur before the end of January, 2008 to verify effective correction of the Major Nonconformance and any Minor Nonconformances that have been corrected. That Corrective Action Audit will address nonconformances for both OHSAS-18001:1999 and ISO-14001:2004 and will require 1½ additional billable days, including reporting (total time covering both standards).

The scope statement for the certification will remain as currently stated until effective correction of the Major Nonconformance has been verified.

The City of Lawrence requested continued integration of ISO-14001, OHSAS-18001 and Biosolids EMS audits since it suits their single, integrated management system (LUMS) approach.

The next Surveillance Audit was tentatively scheduled to occur in October 2008. KEMA's office will confirm the exact dates.

4 CONTINUAL ENVIRONMENTAL MANAGEMENT DYNAMICS REVIEW

4.1 Organization Revisions

Recent revisions to the organization were reviewed and there were significant changes affecting the organization structure and personnel responsibilities. KEMA determined that these changes were consistent with the management system and effectively implemented.

4.2 Revisions to the Environmental Management System and Associated Documents

Major changes to the LUMS Manual, top level documentation and processes of the EMS were reviewed and there were no structurally significant revisions aside from expansion of the scope to include the Water Treatment operations.

4.3 Internal Audits, Assessments of Regulatory and Other Compliance Requirements

Internal audits conducted since the last surveillance were reviewed. Effectiveness of the audits as well as resultant corrective action was assessed. Environmental and occupational health and safety management is included in the audits and corrective actions are taken for findings. The process was found to be effective.

An assessment of compliance with regulatory requirements is conducted at least annually by State regulatory agencies (KDHE & KDOL). The most recent audit found no noncompliances. The process of compliance assessment to regulatory requirements was found to be effectively implemented. The Department of Utilities has stated that no "other requirements" are applicable.

4.4 Closed Corrective Actions from prior KEMA Audits

Corrective actions taken in response to specific nonconformance findings that remained open following the ISO-14001:2004 Corrective Action Audit conducted March 23, 2007 were assessed for effectiveness. Based on those assessments, the following nonconformances have been closed, as described below.

Minor Nonconformance JS/07-01/14001-4.7, 18001-4.4.7 The LWWMS Emergency Preparedness procedure (2.8) presupposes the existence of the Emergency Operations Plan, however does not note how plans for emergency preparedness are developed as a system procedure.

CORRECTIVE ACTION: Review of corrective action taken by the City of Lawrence in response to the above finding determined that the LUMS Emergency Preparedness procedure (2.8) has been modified to describe how emergency plans are developed and reviewed. This nonconformance is now closed.

4.5 Corrective Actions from prior KEMA Audits remaining open

No Corrective Actions remained open.

4.6 Review of Environmental Policy including commitment to comply with Regulatory and Other Requirements, Continual Improvement and Prevention of Pollution

Environmental Policy: The LUMS Policy includes compliance, pollution prevention & continual improvement commitments. It is well established and communicated internally using training and externally on the website and through brochures.

There have not been any noncompliances in several years, however assessments by regulators are scheduled regularly. In a proactive program, the Department of Utilities works with local regulators to help expand public awareness. As examples of pollution prevention, methane gas is collected from digesters to improve energy self-sufficiency. Continual improvement of the management system is demonstrated by a reduction of approximately 50% in sanitary sewer overflows.

4.7 Review of status of significant environmental aspects, objectives, targets and programs

Significant environmental aspects have been reviewed and updated to include water treatment operations (scope expansion). Objectives, targets and programs are in place based on the environmental aspects and occupational health and safety risk assessments.

4.8 External Communications

External communication is occurring proactively with local authorities & the community, particularly about expansion plans. Interested parties are satisfied with communication channels and communications with the Department of Utilities.

4.9 Management Involvement (includes Management Review)

Management involvement has been demonstrated through actions taken regarding issues raised in management reviews and programs for measurement and improvement. The actions taken are consistent with the Environmental Policy and communicated environmental objectives. The Management Review process includes monthly management team meetings (most recent 10/10/07) and periodic management review meetings (most recent conducted in December 2006). These meetings include discussions of the effectiveness of the management system and continual improvement opportunities.

4.10 Use of Certificate and Registrar Seals

Use of Certificate References and Registration Seals were reviewed and discussed. There were no concerns.

4.11 Audit Program Changes

The audit program was modified to include processes in the expanded scope of the management system and to identify new titles for process owners. The Audit Program will be adjusted to reflect current status, including the next audit processes.

5 PROCESS AUDITS

5.1 Participants

The principal staff involved on behalf of the company were:

Name	Position	Organization
Charlie Ballenger	Water Treatment Plant Mgr – Kaw	City of Lawrence
Bob Brower	Wastewater Field Operations Mgr	City of Lawrence
Phillip Ciesielski	Asst Director – Utilities Tech Service	City of Lawrence
Brad Cranst	Distribution Supervisor	City of Lawrence
Robbie Curtis	Admin Support	City of Lawrence
Mike Hayes	Distribution Supervisor	City of Lawrence
Mark Hegeman	Water & Wastewater Mgr	City of Lawrence
Mike Hegeman	Water Treatment Plant Mgr – Clinton	City of Lawrence
Jeanette Klamm	Utilities Program Mgr	City of Lawrence
Dave King	Utility Maintenance Mgr	City of Lawrence
Beth Frailey Krishtalk	Management Analyst	City of Lawrence
Judy Regnier	Wastewater Treatment Plant Mgr	City of Lawrence
Bob Skinner	Distribution Field Operations Mgr	City of Lawrence
Shari Stamer	Water Quality Mgr	City of Lawrence
Dave Wagner	Director	City of Lawrence
Tim Will	Water Plant Maintenance Mgr	City of Lawrence
Carolyn Woodhead	Lab Technician	City of Lawrence

Interested Parties

Mark Girard	Biosolids Coordinator	KDHE
Berla Jackson-Johnson	Biosolids Coordinator	USEPA Region 7
Tim Kurkowski	Program Coordinator	City of Olathe

Where necessary other employees provided additional explanations.

5.2 Processes Audited

The following processes were audited:

Process	Audit Planning Guide Used
Environmental aspects / impacts – water treatment	1.12
OH&S hazards / risk assessment – water treatment	1.12
Hazardous chemical storage, handling & distribution – water & wastewater treatment	1.15
Contractor & supplier control (vendors, contractors, purchasing)	1.18
Competency, awareness & training	2.01
Maintenance – water & wastewater treatment	3.12

Process	Audit Planning Guide Used
Wastewater pretreatment	5.18
Wastewater treatment & solids generation	5.18
Water distribution	5.18
Water treatment (incl intake & storage) - Clinton & Kaw	5.18

5.3 Reviewed documents

Calibration sheets (various)	Operating charts (various)
City Commission Goals & Utility Dept goals / targets (6/25/07)	Operating parameters / guidelines (Oct 5, Oct 10)
Contractor responsibilities for compliance	Operations Manual – Kaw
Detailed management review notes 10/10/07, 9/12/07	Performance measurement data – Collection
Employee Performance Review & Development Plan	Periodic management review notes 12/06/06
Employee Report of Event	Pretreatment Program Overview
Hydrant mtce database	Pretreatment sampling & testing guidance manual (10/10/07)
Inspection tags – fire extinguishers, safety showers, eye wash, respirators (various)	Pretreatment SOP list (8/14/06)
Internal audit report 10/10/07	Prev mtce database (various entries)
Laboratory Certificates (NELAP)	Process system discussion log
Log book entries (water treatment plants)	Project Fact Sheet
LUMS Manual 8/19/07	Risk Management Plan (2005)
LUMS Policy May 23 2007	Staff mtg minutes 10/1/07
MSDS (various)	Summer guidelines 6/29/06
MSO status screens (various)	Turbidity procedure – kaw
New Operator training guide (May 2006)	Wastewater Utility Annual Performance Report – 2006
Notice to bidders 11/28/06	Water Treatment Operator Certificates (various)
	Work Procedure Checklist (10/10/07)

6 DEFINITION OF TERMS AND GUIDELINES FOR CLOSURE OF FINDINGS

NONCONFORMANCE:

Whenever it is found that a requirement of the standard or of the organization's Environmental Management System is not fully conformed to, the nonconforming condition is documented in a Corrective Action Request, and included in this report. Nonconformance are classified according to risk, as Major and Minor:

MAJOR NONCONFORMANCE:

The requirement has not been met. Evidence indicates one or more of the following:

- 1) Systemic failure of the Environmental Management System
- 2) Any situation that would most probably result in the adverse effect to the environment policy.
- 3) A condition that may result in an adverse effect to the environment.

MINOR NONCONFORMANCE:

The requirement has not been fully met. Evidence indicates the finding is:

- 1) Non-systemic
- 2) An isolated occurrence
- 3) Not likely to result in the failure of the Environmental Management System

CORRECTIVE ACTION: Closed loop Corrective Action by the organization is required to be initiated, carried out, and completed in a timely manner whenever a requirement of the standard or of the organization's Environmental Management System has not been met. Corrective action analysis by the organization shall include determination of applicability to other parts and processes of the registered organization.

Major Nonconformances will be monitored closely by KEMA. The organization shall:

- 1) Within thirty days of the audit: Submit a corrective action plan to KEMA's office. 2) Within ninety days of the audit: Correct the nonconformance, and submit objective evidence of corrective action to KEMA's office for approval.
- 3) KEMA may conduct a follow up audit to verify closure of a Major Nonconformance.

For each Minor Nonconformance, the organization shall:

- 1) Within thirty days of the audit, submit a corrective action plan to KEMA's office.
- 2) Within time lines established in the Corrective Action plan, correct the nonconformance.
- 3) Within six months of the audit, KEMA will verify the implementation of the corrective actions, either at the next scheduled audit, or in a follow-up audit, unless arranged otherwise.

STRENGTHS and OPPORTUNITIES: Additionally, KEMA auditors may identify strengths and opportunities in areas where requirements of the standard and of the organizations Environmental Management System have been met. In these cases, no corrective action is required, and there is no formal review by KEMA.

7 CLIENT CERTIFICATION

This certificate shows information valid as of the day of the audit. It has been included in this report per accreditation body requirements.



Affiliate with the N.V. KEMA in The Netherlands



CERTIFICATE

Certificate Number: 140944.01

The Environmental Management System of:

City of Lawrence Wastewater Utility
1400 E 8th Street
PO Box 708
Lawrence, KS 66044
United States

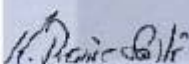
Including its implementation, meets the requirements of the standard:

ISO 14001:2004

Scope:

The collection and treatment of wastewater and the control and acceptable return of treated water and biosolids to the environment.

This Certificate is valid until: January 4, 2010
This Certificate is valid as of: January 4, 2007
Certified for the first time: January 4, 2007



H. Pierre Sallé
President
KEMA-Registered Quality

The method of operation for environmental certification is defined in the KEMA General Terms And Conditions For Quality And Environmental Management Systems Certifications. Integral publication of this certificate is allowed.

Experience you can trust.

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cert no 07001

Accredited By:
ANAB

