



## Littleton/Englewood Wastewater Treatment Plant

### Biosolids Management Program Performance Report - 2015

Through commitment to the National Biosolids Partnership (NBP) Code of Good Practice, the L/E WWTP Biosolids Management Program (BMP) continually improves through the use of an Environmental Management System approach. Utilizing four key outcomes, objectives are established to meet or exceed goals related to:

- Better Relations with Interested Parties
- Environmental Performance
- Regulatory Compliance
- Quality Management Practices.

### Summary of Monitoring Data, Goals and Objectives

Under these goals, eleven (11) objectives were established for our 2015 BMP. Eighty-two percent (82%) of objectives were met (9 of 11) for 2015.

#### Better Relations with Interested Parties

Better relations, with interested parties, continue to improve. This is achieved through:

- Participate in at least one presentation or activity regarding biosolids and EMS programs:  
*Objective met*

- Send follow-up tour surveys to all scheduled tours of the L/E WWTP (100%) with 30% return rate - 100% (92% response): *Objective met*
- Meet at least 2 times with NBP facility being mentored in preparation for their certification process: *Objective met*

In addition to these objectives, open public meetings (i.e. Joint City Council meetings, public hearings and community interaction, where appropriate) provide the opportunity for public input to better understand present and future regulatory and/or watershed direction. Collaborative affiliations with local, state and federal regulatory agencies; watershed interest groups and other interested parties, also result in programs which benefit the community, as well as the environment.

#### Environmental Performance

- Reduce diesel fuel requirements for biosolids transportation and disposal by 8% (2 year objective from 2012 to 2014 - extended to 2015) – *Objective met: 8.8% reduction*
- Reduce electric energy requirements for wastewater treatment by 2% (2 year objective from 2012 to 2014 – extended to 2015) – *Objective met: 12.3% reduction*

#### Regulatory Compliance\*

- \* *See Appendix A for all performance details*
- Monthly compliance with all existing federal, state and local biosolids regulations, and demonstrate performance at least 10% below permit requirements - *Objective met*
- Monthly compliance with all existing federal, state and local discharge regulations, and demonstrate performance at least 10% below permit requirements - *Objective met*

#### Quality Management Practices

- Maintain 100% distribution of biosolids to beneficial use programs – *Objective met*
- Publish four (4) new Standard Operating Procedures (SOPs) to provide a sustainable biosolids program (2 published, 2 in draft status) - *Objective not met*
- Complete 95% of equipment preventive maintenance (PM) tasks as established in

Equipment Asset Management (EAM) program – (92.0% complete) *Objective not met*

- Approve continued annual biosolids research project with Colorado State University for CY2016 - *Objective met*

## **Summary of Relevant Contractor Activities**

Contractor activity in 2015 included cleaning of one anaerobic digester with 100% of the removed solids applied in agronomic programs.

## **Summary of Actions That Have Been Taken on a Voluntary Basis**

Below is a summary of actions taken on a voluntary basis in 2015:

- L/E WWTP biosolids were re-registered with Colorado Department of Agriculture as a soil amendment – *registration renewed*
- A biosolids research program for 2016 was approved with Colorado State University (*34 continuous years!*)
- Successfully completed our 2015 World Water Monitoring Challenge and Water Exposition (*watershed education event*)
- Continue in role as NBP Advisory Committee member
- Continue in role as RMWEA Biosolids Committee member
- Participated as instructors at the 2015 Rocky Mountain Water/Wastewater Operators Biosolids School
- Continued mentor activity with Ft. Collins BMP development program for NBP certification

## **Summary of 2015 Internal Audit**

*Note: At the time the internal audit was conducted, these findings were accurate. However, noted deficiencies were corrected as a result of the audit report prior to our October Interim Audit.*

### **BMP Strengths Noted:**

- The Treatment Division Manager is committed to establishing an effective biosolids management system and a strong teamwork

approach is being used to do this, with input from several areas of the plant.

- Existing internal communications systems are being utilized (e.g., plant newsletter and electronic bulletin board).
- Plant personnel utilize the CAPA process to address program deficiencies and promote overall program improvement.

### **BMP Outcomes:**

#### **Quality Biosolids Practices**

- The program functions in compliance with established regulations/permits and is fully maintained and operated by plant staff. Contractor involvement includes application calculations, farming, grit landfilling, equipment maintenance, mechanical repairs as well as numerous contractors that serve in various capacities performing construction and maintenance services throughout the plant.
- The L/E WWTP's goal is to produce Class B biosolids with monitored metals concentration at least 10% below the Pollutant Concentration ceiling concentrations for Class B biosolids, beneficially reuse 100% of its biosolids, and reduce biosolids O&M program operation costs by 5%. Although program representatives indicated that these goals are being met, data was not made available to the auditor to substantiate this claim. The program appears to be static as no new goals or objectives have been developed or implemented since 2013, and progress towards these goals and objectives is not being documented.
- Each member of the Executive Management Team (Divisional Leaders) has not adopted or implemented management system concepts into the work management practices for their respective Division of responsibility. However, the Operations Division has almost fully adopted and implemented fundamental EMS concepts into daily work practices.
- The CAPA review process has been fully developed and implemented by the Operations Division, and progress towards closure is being tracked.

## Regulatory Compliance

The 2014 biosolids performance report to the US EPA and Colorado Department of Public Health and Environment was not available to validate compliance to biosolids permit limitations.

## Environmental Compliance

Biosolids application practices follow established guidelines at national, state and county levels. Programs to monitor and improve energy use and fuel conservation have been implemented.

## Relations with Interested Parties

The L/E WWTP has not developed or implemented any new communication methods to improve their relations with interested parties and some existing communication methods don't appear to be working. BMP information posted to the plant's web-site is outdated; providing very little information on current events and innovative strategies. There is no documentation of public meetings to facilitate information transfer to better understand present and future regulatory and watershed direction.

## **Summary of Independent Third Party Audit**

*(From DEKRA 2015 Interim Audit report: 11-30-15)*

One minor nonconformance from DEKRA's audit in 2014 remains open. The other nonconformances from 2014 have been effectively corrected and are now closed.

### **For more information**

If you have questions or concerns, or just want to provide comments, please feel free to contact us directly:

Littleton/Englewood Wastewater Treatment Plant:

Phone: 303.762.2600

Emergencies: 303.435.4763

Office hours: 7:30 a.m. to 4:30 p.m. M - F

**Or visit us on the web! [www.lewwtp.org](http://www.lewwtp.org)**

No major nonconformances and 4 minor nonconformances were found during this audit. The nonconformances are unconnected and do not represent a systemic problem. LEWWTP has prepared corrective action plans for each nonconformance that have been approved by DEKRA's Lead Auditor. The effectiveness of completed corrective actions will be reviewed during DEKRA's next audit.

Based on the results of this audit, DEKRA has verified that LEWWTP's biosolids activities are consistent with NBP expectations and meets requirements of the NBP BMP Elements and that practices are consistent with requirements of the LEWWTP BMP with minor exceptions. LEWWTP has demonstrated that the use of a management system approach is generating positive environmental performance, quality practices and relations with interested parties.

DEKRA recommends continuing "Platinum" certification of LEWWTP's biosolids program within the NBP Biosolids Management Program.



Treatment Division Manager



# Appendix A

2015 Regulatory Compliance objective to demonstrate biosolids metals performance at least 10% below PC permit limit - Table 3 of §503.13*—Pollutant Concentrations				
Metal Analyzed	Ceiling Concentration Limit	Pollutant Concentration (PC) Limit*	2015 Test Results	Actual Performance
	mg/kg	mg/kg	mg/kg	% Below PC Limit
Arsenic	75	41	1.8	95.6
Cadmium	85	39	1.6	95.9
Chromium	3,000	1,200	24.9	97.9
Copper	4,300	1,500	753	49.8
Lead	840	300	22.7	92.4
Mercury	57	17	0.23	98.6
Molybdenum*	75	na	9.2	83.9
Nickel	420	420	14.7	96.5
Selenium	100	36	18.6	48.3
Zinc	7,500	2,800	930	66.8

\* Molybdenum performance based on ceiling concentration limit

2015 Regulatory Compliance objective to demonstrate facility discharge performance at least 10% below permit limit			
Effluent Parameter	Discharge Permit Limit	2015 Performance Results	Actual Performance
	mg/l	mg/l	% Below Limit
CBOD monthly	20	2.6	87.0
CBOD removal efficiency (%)	85	97.7	---
TSS monthly	30	2.0	93.3
TSS removal efficiency (%)	85	98.6	---
NH <sub>3</sub> monthly*	6.275	1.6	74.5

\* NH<sub>3</sub> monthly performance based on average of individual month limitations