

**MWRDGC  
ENVIRONMENTAL MANAGEMENT SYSTEM FOR BIOSOLIDS  
INTERNAL AUDIT REPORT**

**Metropolitan Water Reclamation District  
Of Greater Chicago**

**Audit conducted by**

**Dan Collins, EMS Coordinator  
EMS Field Representative Team**



Easter Sunday at a Biosolids Fertilized Park

**Final Report – March 24, 2016**

## **INTRODUCTION**

The purpose of the Internal Audit is to verify that the Environmental Management System (EMS) conforms to requirements, is being implemented as intended, and is producing the results desired. The goal of the Internal Audit is to gather objective evidence to substantiate whether the MWRDGC has properly implemented, and are maintaining, the BMP. The internal audit evaluates the organization's performance relative to established biosolids program goals, objectives, and performance measures and will review the District's biosolids management activities including those performed by contractors.

## **AUDIT SCOPE**

The EMS Coordinator and EMS Field Representatives conducted an internal audit of the MWRDGC BMP from January 4, 2016 through March 4, 2016. The audit was scheduled through an assignment from the Director of Maintenance and Operations to the Division Heads and ultimately carried out by the EMS Field Representative Team.

The primary objective of the Year 8 internal audit is to ensure the compliance of the District's Environmental Management System (EMS) for Biosolids program as required by the EMS documents. An Audit of the following items was completed:

1. The EMS manual and supporting documents. (Element 1)
2. Commitment and implementation of the *Code of Good Practice*. (Element 2)
3. Progress toward meeting Goals and Objectives for 2015. (Element 5)
4. Critical Control Point Tables and operational SOPs. (Elements 3, 7, 10, 13)
5. 2016 Goals and Objectives, established. (Element 5)
6. Public outreach programs conducted by contractors and the District. (Element 6)
7. Verification of Training (Element 8)
8. Verifying the corrective actions to the Third Party Interim Audit, 2015. (Element 14)
9. Contractor Activities for Land Application
10. Daily Non-Conformance to Operations (Element 14)
11. Opportunities for Improvement

Assignments for items 3, 4, 5, 6 and 9, 10 and 11 were distributed to the Internal Audit Team of EMS Field Representatives and the EMS Coordinator. The EMS Coordinator audited Items 1, 2, 7 and 8.

## **INTERNAL AUDIT FINDINGS**

### Positive Observations

The District's EMS has realized many improvements throughout 2015. There have been continual improvements in tracking of OFI's, operational non-conformances and overall reporting on Element review assignments. The EMS Coordinator began combining goals and objectives for M&R, M&O and Public Affairs, streamlining the overall process for tracking. Many goals overlapped to achieve one main goal. The EMS Coordinator is the responsible person for combined goals resulting in a reduction in memos and other paperwork to upper management.

Element 14 - The District began tracking operational non-conformances and opportunities for improvement by keeping an electronic file with the EMS Field Representative at each WRP. This is a result of the 2015 Third Party Interim Audit.

Element 16 – The Internal Audit was streamlined by the EMS Coordinator. The Internal Audit is now carried out by an Internal Audit Team comprised of the EMS Coordinator and the EMS Field Representatives. The annual internal audit now takes place, formally, during the first quarter of each year. The Internal Audit Team receives the scope of the audit in one assignment as opposed to annual reporting on many Elements through several assignments. Once again, there has been a reduction in memos and related paperwork to upper management.

The District formulated a planning group within the M&R Departments which is comprised of engineers. This group researches opportunities for improvement in all of the plants. The work of this group will result in improvements in odor, public perception and, in some cases, efficiency. One example is the procurement of composting equipment which will allow the District to create a Class A product efficiently and on a large scale.



Compost Windrow Turner

The District has a strong PR program upheld by various departments working together to promote the use of biosolids products and to educate the public. This was evident in 2015 by the pick up of 200 loads of biosolids products directly by end users, reducing hauling costs of the District by an estimated amount of \$32K.

#### Minor Nonconformances

##### Element 1 – EMS Manual

The EMS Manual is a hard copy of the 17 elements written for and approved by District management and the NBP. The nonconformances related to the manual include the following:

Element 3: A critical control point for the Compost Process is not included for Calumet and Stickney area Solids Management.

Element 11: The Risk Manager was not copied on the Internal Audit Scope memo as stated in the Element 11 procedure, step 1.

Daily non-conformances to operations were found in Biosolids operations at various locations. A total of 35 non-conformances were reported and addressed. Reported non-conformances are kept on file with the respective EMS Field Representative.

#### Opportunities for Improvement

Opportunities for improvements in operations were identified in various areas of the District. A total of 7 OFI's were identified by staff and reported to the EMS Field Representatives. Reported OFI's are kept on file with the respective EMS Field Representative.

A review of the critical control point tables resulted in OFI's to primary persons responsible and permit updates at various plants. The Kirie WRP also requested updates be made to Monitoring/Measurement and Record Keeping. These changes will be incorporated and updated Elements will be posted on the District's portal.

#### **2015 THIRD PARTY AUDIT - CAP's**

The third party auditor identified minor non-conformances related to Goals and Objectives for which did not include measurable goals. Corrective action plans were approved by the Third Party Auditor and completed by the EMS Coordinator and EMS Field Representatives.

#### **GOALS AND OBJECTIVES**

Biosolids Environmental Management System Goals and Objectives (G&O's) were established using input solicited through a memo from the Director of Maintenance and Operations to the Division Heads as well as input from interested parties. Quarterly and final progress reports for 2015 G&O's were submitted to the Director of Maintenance and Operations. The audit team reviewed and approved the final status of 2015 G&O's.

A complete summary of progress toward meeting goals and objectives will be included in the Biosolids Management Report submitted during the second quarter of 2015.

The 2016 Goals and Objectives have been approved and can be viewed on the District's website at [mwr.d.org](http://mwr.d.org) and clicking on the following: Departments >> Maintenance & Operations >> EMS for Biosolids.

#### **PUBLIC PARTICIPATION IN PLANNING AND EMS COMMUNICATION**

The District's Monitoring and Research Department, Public Affairs Department and Maintenance and Operations Department worked together to provide a pro-active public outreach program. The departments made contact with potential users via phone and email, promoted biosolids at public meetings and events, schools, park districts and country clubs. In addition, presentations were provided at different venues and a workshop was held.

Management and staff at the Hanover Park WRP met with local officials of the village regarding a proposed native prairie landscape and tree farm nursery at the plant which will include public participation.

The District held a “Sustainability Summit” attended by over 75 interested parties to learn about and share information related to Resource Recovery. Awards were given for exceptional use of biosolids to Twin Oaks Landscaping, which developed the grounds at Maggie Daley Park, and the Oak Lawn Park District and Westside Baseball of Oak Lawn for its use on park grounds.



Maggie Daley Park

The EMS Coordinator participated in a televised interview on August 4th with the Telemundo TV Network regarding the use of biosolids and composted biosolids as a sustainable alternative to fertilizer. The interview was also broadcast on the local network and social media.

In addition, visitors from around the globe attended workshops and tours at the Stickney and Egan WRP’s during WEFTEC2015.

## **CONTRACTOR ACTIVITIES FOR LAND APPLICATION**

The District utilized two contractors for the land application of Class A and B biosolids. The contractors performed door to door visits and dropped off information packets to residents near land application sites. One of the contractors, Stewart Spreading, hosted an event for the local community in November to educate and promote the use of biosolids. The District’s land application contractors submitted monthly public relations reports throughout the year. The reports covered new public outreach for the month, a weather summary, biosolids application volumes and more. All monthly PR reports are now located on the District’s website.

## **EMERGENCY PREPAREDNESS AND RESPONSE**

A review of the Emergency Response Procedures was conducted at each of the WRP's. Updated manuals have been posted on the District Portal. In addition, Hanover Park WRP staff participated in Operation Power Play, a Private/Public simulated catastrophic event management exercise. The Risk Manager of the District has been added to the Element 11 procedure.

## **CONCLUSIONS**

The results of the Internal Audit show MWRDGC has a continually improving and evolving EMS program. The EMS Field Representatives continue to improve in the tracking of daily operational non-conformances and Opportunities for Improvement (OFI's). The District's dedication to continual improvement and excellence is evident in the new goals and objectives established by the various plants as well as those established by the Executive Director for 2016 and beyond.