

**NATIONAL BIOSOLIDS PARTNERSHIP
REVERIFICATION AUDIT REPORT**

**Metro Wastewater Reclamation District
Denver, Colorado**

Audit conducted by

NSF-International Strategic Registrations

**William R. Hancuff, Lead Auditor
Jack McVaugh, Auditor**

References:

**National Biosolids Partnership (NBP) *EMS Elements*
NBP *Third Part Verification Auditor Guidance – August 2007*
NBP *Code of Good Practice*
Denver Metro Wastewater Reclamation District
Environmental Management System Manual
(*Latest Revisions – April 2010*)**

Final Report – June 1, 2010

INTRODUCTION

The purpose of the Biosolids Environmental Management System (EMS) re-verification audit is to verify the Metro Wastewater Reclamation District's (District) Environmental Management System (EMS) for Biosolids, Denver, Colorado, conforms to EMS requirements of the National Biosolids Partnership (NBP).

The goal of the Third Party Re-verification audit is to collect and evaluate objective evidence that determines whether the District's EMS for Biosolids is functioning as intended, that practices and procedures are conducted as documented, and that the EMS as implemented conforms to the NBP's EMS Elements, the Code of Good Practice and the EMS program objectives.

RECOMMENDATION

The results of the District's Re-verification audit are positive and it is the recommendation of NSF that the District's EMS for Biosolids continue its "Verification" status.

AUDIT SCOPE

The NSF- International Strategic Registrations, Ltd. (NSF-ISR) conducted a third party re-verification audit of the Metro Wastewater Reclamation District's Environmental Management System for Biosolids from May 5, through May 7, 2010. The on-site re-verification audit team consisted of Dr. William R. Hancuff, Lead Auditor and Jack McVaugh, Auditor.

In general terms, the scope of the Third Party Re-verification audit encompassed the entire biosolids value chain (pretreatment, collection and treatment, through final end use) with special attention on those practices and management activities that directly support biosolids-related operations, processes, and activities within the Resource Recovery and Reuse Department.

The physical biosolids facilities included in the audit and visited during the re-verification audit included the District's Administrative Offices, Robert W. Hite Treatment Facility, biosolids processing and transportation operations, and the METROGRO Farm application site.

The following individuals were interviewed as part of the re-verification audit process:

Cathy Gerali – Metro Wastewater Reclamation District Manager
Donna Hull – Director of Resource Recovery and Reuse
Angel Foster – EMS Coordinator
Paul Ferguson – Resource Recovery and Reuse Field Representative

Jerry Hall – Field Operator
Steve Rogowski – Director of Operations and Maintenance
Liz Lemonds – Environmental Protection Specialist, CO Dept of Public Health and Environment, Water Quality Control Division
Kenan Diker – Environmental Protection Specialist - Biosolids Manager, CO Dept of Public Health and Environment, Water Quality Control Division
Lois Bogenschutz – Internal Auditor
Nikki Stefonick – Resource Recovery and Reuse Specialist
Nate Nigon – Resource Recovery and Reuse Operations Specialist
Craig Barnes – Treatment Superintendent
Jay Allen – Assistant Facilities Maintenance Supervisor
John Deming – Maintenance Worker
George Vigil – Maintenance Worker
Theresa Pfiffer – Regulatory Compliance Officer
Ed Sturgeon – Records Management Specialist
Lori Maag – Industrial Waste Supervisor
Brenda Hungerford – Administrative Supervisor
Deanne Kelly – Tri-county Health – Solid Waste Specialist (Adams, Arapahoe, and Douglas Counties)
Larry Chadwick – Plant Operator
Les Bruner – Plant Operator
Paul Harrison – Plant Operator
Arlisa Michael – Resource Recovery and Reuse Administrative Specialist
Jim Hudak – Field Mechanic
Earl Green – Resources Recovery and Reuse Operations Supervisor
Rick Menor – Resources Recovery and Reuse Operations Supervisor
Tom Thompson – Tenant Farmer, METROGRO Farm
David Dickson – Records Management Specialist I
Patty Settles – Development & Compensation Administrator

RE-VERIFICATION AUDIT FINDINGS

The re-verification audit found no major non-conformances, 1 minor non-conformance, 11 opportunity for improvement and 13 positive commendations.

The following is a review of the positive observations made during the Re-verification audit. The minor non-conformance and opportunities for improvement follow and are listed by element number in the sequence of the Third Party Verification Auditor Guidance.

Positive Observations

Angel Foster has demonstrated exceptional leadership in spearheading and maintaining an excellent biosolids EMS program. While the entire District staff is to be applauded for their efforts, Angel has acted as the focal point in pulling together the team efforts.

- The record keeping requirements for the EMS for Biosolids program are extensive and the organization of these records could be used as a model for other agencies.
- The District continues to have a strong internal EMS auditing program using the services of an in-house full time professional auditor.
- The agency continues to have outstanding support of the EMS system by the State regulators and positive feedback from the local health officials.
- The District maintains a benchmark program for identifying and tracking legal requirements.
- The District has developed a strong public interest program through the use of its Citizens Participation Group and has used this group to accomplish proactive involvement of interested parties in establishing goals and objectives for its biosolids management program.
- The Plant Operators in the Central Control Room were very well versed in their roles and responsibilities regarding the Biosolids Value Chain, and of the importance of following operating procedures.
- The District maintains an exemplary process control associated with the gates under biosolids cake tower, which dispense biosolids loading into trucks to maintain axle weight distribution and keep trucks legal.
- The District maintains meticulous land application permitting and related records.
- The District has exceptionally sophisticated instrumentation and computer systems for controlling biosolids application rates in the field.
- There was good communication observed among field personnel, as well as between farmers and neighbors and field representatives and supervisors.

Minor Nonconformance

Requirement 3.1 – Minor nonconformance – The step screens are not identified as a critical control point in the biosolids value chain in the Element. This is one of the most beneficial unit operations in biosolids processing.

Opportunities for Improvement

Requirement 2.1 – Opportunity for improvement – The Biosolids Reuse Policy does not specifically include the District’s commitment to following the principles of conduct set forth in the *Code of Good Practice*.

Requirement 2.1 – Opportunity for improvement – Consider including in the EMS procedure for Element 2: Biosolids Management Policy reference to the fact that the District is also committed to voluntarily programs that it has chosen to adopt, such as biosolids registration as a fertilizer with the Department of Agriculture, etc.

Requirement 3.2 – Opportunity for improvement – Element 3: Biosolids Value Chain and Critical Control Points procedure contains a table identifying the value chain components and potential/actual environmental impacts. The critical control points identified as primary treatment, South Secondary Treatment, North Secondary Treatment, and Solids thickening (DAF) do not list potential or actual environmental impacts, such as public health, aquatic biota, odors, aesthetic quality, surface water quality, groundwater quality, land contamination, natural resource consumption, etc.

Requirement 5.2 – Opportunity for improvement – When evaluating goals and objectives consider the intention of the EMS relative to continual improvement. Maintaining 100 % compliance with regulations does not in itself represent improvement unless the District has historically not been 100 % compliant. An objective of conducting monthly self-monitoring of constituents in biosolids does not specifically identify how this is or will be used for improvement. Also, beneficially reusing 100% of the biosolids product and maintaining 93% delivery to land application doesn't appear to be continual improvement over the past years' goals.

Requirement 8.1 – Opportunity for improvement – Biosolids management field activities could be strengthened by including the Applying Biosolids with Spreader/Applicator – Procedure to the list of required training for Resources Recovery and Reuse Field Operators.

Requirement 8.2 – Opportunity for improvement – Resources Recovery and Reuse Field Operator Tom Gerst has not yet received Defensive Driver training.

Requirement 11.1 – Opportunity for improvement – Element 11 Emergency Preparedness and Response procedure does not address emergency incidents that could occur in biosolids management associated with critical control points in biosolids value chain that before the cake tower. The operation and maintenance department maintains a generic spill control procedure that includes biosolids release control and clean-up but it is not referenced in the Element 11 procedure.

Requirement 12.2 – Opportunity for improvement – Consider using a system to specifically identify the most recent version changes in EMS documents.

Requirement 12.2 – Opportunity for improvement – Consider including in the EMS Document Control procedure that it is the responsibility of each employee to use current documents, and to emphasize that only electronic documents are current.

Requirement 14.1 – Opportunity for improvement – The procedure in Element 14 for managing nonconformities from internal interim audits needs to be revised to reflect

current practices; for example, the section on Nonconformance Found from an Audit, paragraph 1.

Requirement 16.3 – Opportunity for improvement – Consider including in the Management Response Document information on the identity of the lead auditor(s), qualifications, and description of roles and responsibilities of auditors, and others that may participate in, review, or be expected to act upon the audit.

In order to address the above minor non-conformance, the Districts' EMS Coordinator will prepare a formal work plan (the Management Response) and will ensure implementation of corrective actions according to its EMS corrective action procedures, to provide continual improvements to their biosolids program.

DENVER METRO WASTEWATER RECLAMATION DISTRICT COMMENTS

The District has set the following target for completion dates for the minor nonconformance:

- August 15, 2010 for 3.1

Opportunities for Improvement

- December 31, 2010 for 2.1
- August 15, 2010 for 2.1
- August 15, 3.2
- March 31, 2011 for 5.2
- August 15, 2010 for 8.1
- December 31, 2010 for 8.2
- August 15, 2010 for 11.1
- August 15, 2010 for 12.2
- August 15, 2010 for 12.2

OUTCOMES MATTER

The District's EMS for Biosolids Program established four major groups of biosolids EMS goals and objectives for 2009/2010 consisting of 4 goals and 11 individual objectives. These goals and objectives were developed through input from multiple sources including interested parties and an internal EMS Workgroup. The District's Wastewater Biosolids goals for its EMS were established cognizant of each of the four outcome focal points of the NBP program as identified below:

1. Environmental Performance,
2. Regulatory Compliance,
3. Relations with Interested Parties, and
4. Quality Biosolids Management Practices.

While it is not a requirement to accomplish all of the objectives established, it is an essential part of the system to make progress towards the goals and/or make adjustments as needed to ensure continuous improvement. As part of this approach the District

prepared a slightly revised strategy for 2009/2010. The District's performance relative to each of the above groups is addressed below.

In the Environmental Performance area, the Districts established a goal to "beneficially reuse 100% of the biosolids produced between April 2009 and March 2010." Within this goal three objectives were established. The following were the objectives and the degree of accomplishment of each:

- Land apply 93% of biosolids to the METROGRO Farm and/or private sites. This objective was substantially accomplished by having 91.8% of the biosolids applied to the METROGRO Farm and private sites. Of the total 67.1% was land applied using private farmers and 24.7% was used on the METROGRO Farm.
- Maintain contract with A1 Organics for 7% of biosolids. This objective was accomplished and 7.9 % of the total biosolids production was supplied as raw material for composting by a private compost facility.
- Implement and complete RR&R Compost Decommissioning Plan to reuse 100% of current compost production and amendment. Decommissioning of the District's composting operations were completed and the remaining 0.3 % of the material composed was beneficially used.

The former two objectives were carried over into 2010/2011 under a similar goal of beneficially reusing 100% of the biosolids produced between April 2010 and March 2011. This goal established the same two objectives – to land apply 93% of biosolids to METROGRO Farm and private farmers; and to maintain a contract with a privately held composting company for 7% of the biosolids produced.

In the Relations with Interested Parties area, the District established a goal to "inform and consider input from interested parties regarding the EMS and biosolids management activities." Within this goal three objectives were established. The following are the objectives and the degree of accomplishment of each:

- Meet with the Citizen Participation Group (CPG) at least four times during 2009. This objective was met through meetings of the CPG scheduled for February 9, 2009; May 11, 2009; September 14, 2009; and November 9, 2009. This objective was carried over as one of the objectives within the same goal carried over for 2010.
- Participate and support the USGS independent monitoring program and conduct the stakeholder meeting in September 2009. The monitoring program includes the evaluation of the potential effects of biosolids application on farm land associated with groundwater, surface water, stream bed sedimentation, and crop impacts. Those potential contaminants monitored include metals, pharmaceuticals, pathogens, and personal care products. It was reported that the results of the monitoring program were presented to the stakeholders September 30, 2009. This

objective was funded by the District Board for continuation as an EMS objective in 2010/2011 within the same goal.

- Use various media tools to notify compost customers about the discontinuation of compost sales due to plant expansion/improvement by September 1, 2009. The District prepared an article to be included in the METROGRO Update Newsletter in June 2009; prepared information presented on various websites in August 2009; posted a sign at the entrance of the wastewater treatment plant in August 2009 and prepared news releases in September 2009.
- Conduct triennial customer survey using in-house resources. The survey was prepared and distributed in April 2009 and the results were compiled in December 2009. A final report was distributed to the participants in January 2010. The results were considered in development and preparation of new goals and objectives.
- Provide educational outreach to the public regarding proper diversion of unwanted pharmaceuticals to landfills vs. disposal by flushing. These materials were distributed with compost sales on four Saturdays throughout April 2009. Additional materials were reported to have been distributed at the Earth Day Fair in Denver in April 2009, at the annual USGS stakeholders meeting September 30, 2009, and the Colorado Garden and Home Show on February 28, 2010.

In the Regulatory Compliance area, the District established a goal to “comply with all applicable biosolids regulations and other requirements identified in Element 4 legal binders.” Within this goal two objectives were established. The following are the objectives and the degree of accomplishment of each:

- Maintain 100% compliance with all applicable biosolids regulations and other requirements identified in Element 4 legal binders. For a list of these regulations and other requirements refer to the table of contents in the following binders: Legal Requirements Federal (EMS Element #4) Vol. 1 and Vol. 2, Legal Requirements State (EMS Element #4), Legal Requirements Local (EMS Element #4), and Legal Requirements Metro & Other (EMS Element #4). The District reported 100% compliance with all biosolids regulations and other requirements identified in Element 4 legal binders.
- Complete Phase 2 of the Electronic O&M Manual development as defined in PAR 1045 and add to an EMS chapter. This was reported to have been accomplished in December 2009.

The goal for legal requirements for 2010/2011 was combined with the goal for quality biosolids management practices and is to identify opportunities to improve biosolids quality and value of biosolids products to end-users and comply with all applicable biosolids regulations.

In the Quality Biosolids Management Practices area, the District's EMS for Biosolids established a goal of "identifying opportunities to improve biosolids products to end-users." Within this goal one objective was established. The following is the objectives and the degree of accomplishment:

- Conduct monthly self-monitoring of constituents in biosolids. While this was not a strongly specific objective because it did not identify the ultimate use of the monitoring activity, progress was made towards identifying various measurable constituents perhaps to be able to identify future improvements in biosolids management practices.

The 2010/2011 objective for this goal is combined with the regulatory compliance outcome and is: identify opportunities to improve biosolids quality and value of biosolids products to end-users and comply with all applicable biosolids regulations. The objective of this goal will be to conduct a biosolids management diversification initiative resulting from the Biosolids Optimization and Diversification Study targeted for completion in April 2011.

The District is continuing its efforts in the above four major outcome areas through its establishment of three goals with 5 objectives for 2010/2011.

CONCLUSIONS AND RECOMMENDATIONS

The results of the re-verification audit are positive. The review and approval of the corrective action plans for the minor non-conformance identified during the re-verification audit will soon be completed, and it is the recommendation of the audit team that the Metro Wastewater Reclamation Districts Biosolids EMS maintain its "Verification" status.

Discussions between the District's EMS Coordinator and the third party auditor resulted in agreement to the following proposed interim audit approach.

Each interim audit will include a review of: the organization's progress toward goals and objectives; EMS outcomes (environmental performance; regulatory compliance; interested party relations; quality practices); actions taken to correct minor nonconformances; the management review process; corrective action requests and responses; and preventive actions. In addition to the above, the following elements will be audited according to the following tentative schedule:

Year 6 (internal) – Elements 5, 6, 9, 14, 16

Year 7 (third party) – Elements 1, 10, 12, 13

Year 8 (internal) – Elements 3, 8, 15, 17

Year 9 (third party) – Elements 2, 4, 7, 11

The results of the current and future audits will provide value added to the system and should be viewed as an overall opportunity to improve. Every audit is a snapshot in time, and does not, or cannot identify each and every area for improvement. And yet, while no single audit identifies all of the areas for improvement the results of each audit provide an additional incremental step in the overall system's improvement.

Attachment 1

Documents and Other Object Evidence Reviewed During the Re-verification Audit

Element 1. Documentation of EMS for Biosolids

- EMS Biosolids Manual – Element 1: Environmental Management System Manual, Rev 08, 6/24/09
- EMS Biosolids Manual – Element 12: EMS Document Management – EMS Manual Record of Revisions, Rev 18, 04/02/10
- Interviews with Cathy Gerali – Metro Wastewater Reclamation District Manager, Donna Hull – Director of Resource Recovery and Reuse (RR&R), Angel Foster – EMS Coordinator, Steve Rogowski – Director of Operations and Maintenance, Lois Bogenschutz – Internal Auditor
- Invitation for bid B-2704 for Private Biosolids Compost Processor – draft July 8, 2008
- Renewable Fiber (Stromo) contract agreement to accept biosolids (as a raw material) 27 October 2009

Element 2. Biosolids Management Policy

- EMS Biosolids Manual – Element 2: Biosolids Management Policy, Rev 06, 6/24/09
- Posted Policy in Resources Recovery and Reuse Lobby
- Board of Directors Resolution on July 16, 2002
- Biosolids Reuse Policy by Board of Directors Resolution No. 0704-6.f on July 20, 2004
- Interviews with Cathy Gerali – Metro Wastewater Reclamation District Manager, Donna Hull – Director of Resource Recovery and Reuse (RR&R), Angel Foster – EMS Coordinator

Element 3. Critical Control Points

- EMS Biosolids Manual – Element 3: Biosolids Value Chain and Critical Control Points – Background, Rev 10, 07/30/09
- EMS Biosolids Manual – Element 3: Biosolids Value Chain and Critical Control Points – Procedure, Rev 10, 07/30/09
- EMS Biosolids Manual – Element 3: Biosolids Value Chain and Critical Control Points – List, Rev 10, 07/30/09
- Interviews with Donna Hull – Director of Resource Recovery and Reuse (RR&R), Angel Foster – EMS Coordinator, Steve Rogowski – Director of Operations and Maintenance

Element 4. Legal and Other Requirements

- EMS Biosolids Manual – Element 4: Legal and Other Requirements – Background, Rev 08, 07/30/09
- EMS Biosolids Manual – Element 4: Legal and Other Requirements – Procedure, Rev 08, 07/30/09
- Interview with Liz Lemonds – Environmental Protection Specialist, CO Dept of Public Health and Environment, Water Quality Control Division
- Interview with Kenan Diker – Environmental Protection Specialist - Biosolids Manager, CO Dept of Public Health and Environment, Water Quality Control Division
- Interview with Deanne Kelly – Tri-county Health – Solid Waste Specialist (Adams, Arapahoe, and Douglas Counties)
- Interviews with Angel Foster – EMS Coordinator, Lois Bogenschutz – Internal Auditor, Donna Hull - Director of Resource Recovery and Reuse
- Interviews with Theresa Pfeifer – Regulatory Compliance Officer, Ed Sturgeon – Records Management Specialist, Lori Maag – Industrial Waste Supervisor, Brenda Hungerford – Administrative Supervisor
- Review Central Records – Legal Requirements Log Books.
- Legal Requirements log books - Federal Vol. 1 and Vol. 2,
- Legal Requirements log books - State
- Legal Requirements log books - Local
- Discussions related to Biosolids Compliance Team (committee)
- Discussion of triennial regulatory meetings
- Letter of Intent, DC 0867, signed by farmer on 11/4/08
- Biosolids Regulatory Reporting Database
- 11/12/08 Letter of Intent Review for DC 0867 sent to Dept of Health
- Notice of Authorization BMP 2011, 12/18/08
- EPA General Permit COG-650106 – 2009
- Biosolids Management Plan 2010

Element 5. Goals and Objectives for Continual Improvement

- EMS Biosolids Manual – Element 5: Goals and Objectives – Background, Rev 08, 04/02/10
- Strategic Plan for 2009
- EMS Biosolids Manual – Element 5: Goals and Objectives – Procedures, Rev 08, 04/02/10
- EMS Biosolids Manual – Element 5: Goals and Objectives for April 2010 – March 2011 with Associated Strategies
- Sign Off Sheet for review of above, with 7 signatures dated 3/31/10 – 4/1/10
- EMS Biosolids Manual – Element 5: Goals and Objectives for April 2009 – March 2010 with Associated Strategies – REVISED
- Interviews with Angel Foster – EMS Coordinator, Steve Rogowski - Director of Operations and Maintenance, and Donna Hull - Director of Resource Recovery and Reuse

- Draft Department Goals 1/15/10 from Brenda Hungerford
- Citizens Participation Group Meeting Minutes 12 February 2007
- Citizens Participation Group Meeting Minutes 9 February 2009
- Citizens Participation Group Meeting Minutes 11 March 2009
- Citizens Participation Group Meeting Minutes 9 November 2009
- Citizens Participation Group Meeting Minutes 22 February 2010
- EMS Workgroup Meeting Minutes 29 January 2009
- EMS Workgroup Meeting Minutes 11 March 2010
- Goal 2 Objectives, reflecting stakeholder input
- Monthly Self Monitoring Report
- Reviewed Biosolids portion of website
- “Tracking Goals and Objectives for April 2008 – March 2009” – presents and tracks milestones and provides comments on status – dated April 1, 2009
- Environmental Management System for Biosolids Program Performance & Management Review Report for 2009 EMS Activity – April 2010

Element 6. Public Participation in Planning

- EMS Biosolids Manual – Element 6 and 9: Public Participation and Communication – Background, Rev 11, 04/02/10
- EMS Biosolids Manual – Element 6 and 9: Public Participation and Communication – Procedure, Rev 11, 04/02/10
- Interviews with Donna Hull – Director of Resource Recovery and Reuse (RR&R), Angel Foster – EMS Coordinator, Paul Ferguson – Resource, Recovery and Reuse Field Representative, Liz Lemonds – Environmental Protection Specialist, CO Dept of Public Health and Environment, Water Quality Control Division, Kenan Diker – Environmental Protection Specialist - Biosolids Manager, CO Dept of Public Health and Environment, Water Quality Control Division, Deanne Kelly – Tri-county Health – Solid Waste Specialist (Adams, Arapahoe, and Douglas Counties)
- Interview with Steve Frank, Public Information Officer
- Citizens Participation Group Flyer
- Customer Satisfaction Survey October 2009
- Responses to 2009 Customer Satisfaction Survey
- Letter to respondents to 2009 customer satisfaction survey dated 1 December 2009 signed by Donna Hull, Director of Resource Recovery and Reuse
- 10 completed survey forms from farmers, 2009 survey
- METROGRO biosolids information packet
- Citizens Participation Group Formal Advertisement for series of 2009 meetings
- Citizens Participation Group Meeting Minutes 12 February 2007
- Citizens Participation Group Meeting Minutes 9 February 2009
- Citizens Participation Group Meeting Minutes 11 March 2009
- Citizens Participation Group Meeting Minutes 9 November 2009
- Citizens Participation Group Meeting Minutes 22 February 2010
- EMS Workgroup Meeting Minutes 29 January 2009
- EMS Workgroup Meeting Minutes 11 March 2010

Element 7. Roles and Responsibilities

- EMS Biosolids Manual – Element 7: Roles and Responsibilities – Background, Rev 07, 07/30/09
- EMS Biosolids Manual – Element 7: Roles and Responsibilities – Procedure, Rev 07, 07/30/09
- Interviews with Cathy Gerali – Metro Wastewater Reclamation District Manager, Donna Hull – Director of Resource Recovery and Reuse (RR&R), Angel Foster – EMS Coordinator, Steve Rogowski – Director of Operations and Maintenance, Lois Bogenschutz – Internal Auditor, Theresa Pfeifer – Regulatory Compliance Officer, Ed Sturgeon – Records Management Specialist.
- Interview with Patty Settles – Development & Compensation Administrator
- Job Description – Resources Recovery and Reuse Operations Supervisor 08/08/08
- Earl Green’s Key Responsibilities – “Ensures compliance...”
- Interviewed field personnel: Paul Ferguson – Field Representative, Jerry Hall – Field Operator, Jim Hudak – Field Mechanic; Earl Green – Resources Recovery and Reuse Operations Supervisor, Rick Menor – Resources Recovery and Reuse Operations Supervisor and Tom Thompson – Tenant Farmer, METROGRO Farm

Element 8. Training

- EMS Biosolids Manual – Element 8: Training – Background, Rev 07, 06/24/09
- EMS Biosolids Manual – Element 8: Training – Procedure, Rev 07, 06/24/09
- Interview with Patty Settles – Development & Compensation Administrator
- On-Track training database: Jerry Hall training requirements: EMS District, All Resources Recovery and Reuse Employees, Field Operator. Note: Applying Biosolids Procedure not included in training requirements.
- Training records for newest Resources Recovery and Reuse employees Angie Betts, Dan Rader, and Tom Gerst. Note: Tom Gerst hired on 2/25/08, but not had Defensive Driving training.
- Risk Management Plan – related Training for 2009
- Training Sign-in Form 9/12/09
- Interviews with Steve Rogowski – Director of Operations and Maintenance, Lois Bogenschutz – Internal Auditor, Nate Nigon – Resource Recovery and Reuse Operations Specialist, Craig Barnes – Treatment Superintendent, Jay Allen – Assistant Facilities Maintenance Supervisor, John Deming – Maintenance Worker, George Vigil – Maintenance Worker, Theresa Pfeifer – Regulatory Compliance Officer, Larry Chadwick – Plant Operator, Les Bruner – Plant Operator, Paul Harrison – Plant Operator, Arlisa Michael – Resource Recovery and Reuse Administrative Specialist, Jim Hudak – Field Mechanic, Earl Green – Resources Recovery and Reuse Operations Supervisor, Rick Menor – Resources Recovery and Reuse Operations Supervisor

Element 9. Communications

- EMS Biosolids Manual – Element 6 and 9: Public Participation and Communication – Background, Rev 11, 04/02/10
- EMS Biosolids Manual – Element 6 and 9: Public Participation and Communication – Procedure, Rev 11, 04/02/10
- Internet access to Denver Metro website
- Interview with Steve Frank, Public Information Officer
- Semi-annual review of Inquiry/Complaint (I/C) database report – emails from Steve Frank to Angel Foster dated July 2, 2009 and January 13, 2010
- Monthly summaries of I/C reports – February 2009 to January 2010
- Reviewed samples of I/C records – December 2, 16 and 30, 2009
- Interviews with Donna Hull – Director of Resource Recovery and Reuse (RR&R), Angel Foster – EMS Coordinator
- Interview with Liz Lemonds – Environmental Protection Specialist, CO Dept of Public Health and Environment, Water Quality Control Division
- Interview with Kenan Diker – Environmental Protection Specialist - Biosolids Manager, CO Dept of Public Health and Environment, Water Quality Control Division
- Interview with Deanne Kelly – Tri-county Health – Solid Waste Specialist (Adams, Arapahoe, and Douglas Counties)
- Metro Wastewater Reclamation District – A 45-year History, 2009
- Environmental Management System for Biosolids Program Performance & Management Review Report for 2009 EMS Activity – April 2010
- Introduction to Metro Wastewater Reclamation District (4 pages) dated 12/11/02; revised 06/24/09
- Letter to Weld County Biosolids Customers Citizens Participation Group Formal Advertisement for series of 2009 meetings
- Citizens Participation Group Meeting Minutes 12 February 2007
- Citizens Participation Group Meeting Minutes 9 February 2009
- Citizens Participation Group Meeting Minutes 11 March 2009
- Citizens Participation Group Meeting Minutes 9 November 2009
- Citizens Participation Group Meeting Minutes 22 February 2010
- The METROGRO Update – news for neighbors and customers – Spring 2009
- The METROGRO Update – news for neighbors and customers – Fall 2009
- The METROGRO Update – news for neighbors and customers – Winter 2010

Element 10. Operational Control of Critical Control Points

- EMS Biosolids Manual – Element 10: Operational Control of Critical Control Points – Background Rev 07, 07/30/09
- EMS Biosolids Manual – Element 10: Operational Control of Critical Control Points – Procedure Rev 07, 07/30/09
- Interviews with Donna Hull – Director of Resource Recovery and Reuse (RR&R), Angel Foster – EMS Coordinator
- Interviews with plant operations personnel: Steve Rogowski - Director of Operations and Maintenance
- METROGRO Farm Management Plan – June 2009

- Interview Arlisa Michael – Administrative Specialist – Land Application
- Applying Biosolids with Spreader/Applicator – Procedure, Rev 04, 08/11/09
- Interviews related to farming operations – Paul Ferguson – Resource Recovery and Reuse Field Representative, Jerry Hall – Field Operator, Jim Hudak – Field Mechanic; Earl Green – Resource Recovery and Reuse Operations Supervisor, Rick Menor – Resource Recovery and Reuse Operations Supervisor and Tom Thompson – Tenant Farmer, METROGRO Farm
- Reviewed Weekly Performance Adjustments and Review # 1 Centrifuge Set-point Log for May 2 – May 9
- Solids Sensor on end of conveyor indicating 21.6 – 24.3 %
- Viewed field operations of land application equipment
- Viewed Regulation 64 (In trailer)
- Viewed METROGRO Application Emergency Preparedness Guide (In trailer)
- Viewed Titan Computer Operations & Maintenance Manual (In trailer)
- Request for Biosolids form
- Letter of Intent, DC 0867, signed by farmer on 11/4/08
- Biosolids Regulatory Reporting Database
- Biosolids Plant Available Nitrogen Calculation Worksheet
- Self Monitoring Report 8/2008
- 11/12/08 Letter of Intent Review for DC 0867 sent to Dept of Health
- Notice of Authorization BMP 2011, 12/18/08
- Annual & Cumulative Loading Rates (ALR, CLR)
- Map in Agro-Map System
- Initial Site Inspection 10/16/09
- Annual Biosolids Report 2/17/10
- EPA General Permit COG-650106 – 2009
- Biosolids Management Plan 2010
- Memo to District Manager: Biosolids Processing Protocol dated 22 October 2008
- Memo to District Manager: Biosolids Processing Protocol (Contingency plan for alternative processing) dated 4 January 2010
- Standard Operating Procedure (SOP) – Biosolids Processing Protocol for compliance with pathogen reduction, volatile solids reduction and pollutant limitation criteria dated 16 October 2008
- Element 10 – Planning (BVC) – Funding, Study, Design & Construction (CCP) – Table, Rev 03, 4/28/06.
- Element 10 – Wastewater Transmission & Pretreatment (BVC) – Industrial Users (CCP) – Table, Rev 06, 06/24/09.
- Element 10 – Wastewater Transmission & Pretreatment (BVC) – Significant Industrial Users (CCP) – Table, Rev 06, 06/24/09.
- Element 10 – Wastewater Transmission & Pretreatment (BVC) – Hauled Waste (CCP) – Table, Rev 06, 06/24/09.
- Element 10 – Wastewater Transmission & Pretreatment (BVC) – Connectors (CCP) – Table, Rev 5, 8/10/07.
- Element 10 – Wastewater Treatment & Solids Processing (BVC) – Headworks & Debris & Grit Removal (CCP) – Table, Rev 06, 06/24/09.

- Element 10 – Wastewater Treatment & Solids Processing (BVC) – Primary Treatment (CCP) – Table, Rev 05, 08/15/08.
- Element 10 – Wastewater Treatment & Solids Processing (BVC) – South Secondary Treatment (CCP) – Table, Rev 06, 06/24/09.
- Element 10 – Wastewater Treatment & Solids Processing (BVC) – North Secondary Treatment (CCP) – Table, Rev 06, 06/24/09.
- Element 10 – Wastewater Treatment & Solids Processing (BVC) – Solids Thickening (CCP) – Table, Rev 06, 06/24/09.
- Element 10 – Biosolids Processing (BVC) – Anaerobic Digestion (CCP) – Table, Rev 08, 06/24/09.
- Element 10 – Biosolids Processing (BVC) – Dewatering Centrifuge (CCP) – Table, Rev 07, 06/24/09.
- Element 10 – Biosolids Handling & Transport (BVC) – Biosolids Hopper (Storage) (CCP) – Table, Rev 08, 06/24/09.
- Element 10 – Biosolids Handling & Transport (BVC) – Vehicle Maintenance (CCP) – Table, Rev 06, 06/21/08.
- Element 10 – Biosolids Handling & Transport (BVC) – Truck Loading and Transport (CCP) – Table, Rev 08, 06/24/08.
- Element 10 – Biosolids Recycling & Alternatives (BVC) – Restricted Distribution – Classification and Use of Biosolids (CCP) – Table, Rev 08, 06/24/09.
- Element 10 – Biosolids Recycling & Alternatives (BVC) – Restricted Distribution – Application Site Location (CCP) – Table, Rev 08, 06/24/09.
- Element 10 – Biosolids Recycling & Alternatives (BVC) – Restricted Distribution – Letter of Intent for Biosolids Permits Process (CCP) – Table, Rev 06, 06/21/08.
- Element 10 – Biosolids Recycling & Alternatives (BVC) – Restricted Distribution – Application near State Waters (CCP) – Table, Rev 06, 06/21/08.
- Element 10 – Biosolids Recycling & Alternatives (BVC) – Restricted Distribution – Groundwater Restrictions (CCP) – Table, Rev 07, 06/24/09.
- Element 10 – Biosolids Recycling & Alternatives (BVC) – Restricted Distribution – Slope Requirements (CCP) – Table, Rev 07, 06/24/09.
- Element 10 – Biosolids Recycling & Alternatives (BVC) – Restricted Distribution – Nutrient Requirements (CCP) – Table, Rev 06, 06/21/08.
- Element 10 – Biosolids Recycling & Alternatives (BVC) – Restricted Distribution – Crop Restrictions (CCP) – Table, Rev 06, 06/21/08.
- Element 10 – Biosolids Recycling & Alternatives (BVC) – Restricted Distribution – Access Restrictions (CCP) – Table, Rev 06, 60/21/08.
- Element 10 – Biosolids Recycling & Alternatives (BVC) – Restricted Distribution – Biosolids Staging Area (CCP) – Table, Rev 07, 06/24/09.
- Element 10 – Biosolids Recycling & Alternatives (BVC) – Restricted Distribution – Biosolids Application (CCP) – Table, Rev 07, 06/24/09.
- Element 10 – Biosolids Recycling & Alternatives (BVC) – Restricted Distribution – Disposal Facility (CCP) – Table, Rev 08, 06/24/09.

Element 11. Emergency Preparation and Response

- EMS Biosolids Manual – Element 11: Emergency Preparedness and Response – Background, Rev 06, 06/24/09
- EMS Biosolids Manual – Element 11: Emergency Preparedness and Response – Procedure, Rev 06, 06/24/09
- Critical Incident Response Plan – August 2009 (major risk management for significant incidents)
- Facilities maintenance division – Clean-up Procedures (SOP for Acetic Acid Chemical Spills), Rev 00, 05/12/06
- Resources Recovery and Reuse – Biosolids Storage, Spills and Clean-up – procedure (final product only), Rev 11, 01/23/09
- Spill Notification and Reporting Procedure (including any releases of wastewater, effluent, biosolids, or other material) – uncontrolled but dated 1 November 2008
- Interviews with Steve Rogowski – Director of Operations and Maintenance, Craig Barnes – Treatment Superintendent, Jay Allen – Assistant Facilities Maintenance Supervisor, John Deming – Maintenance Worker, George Vigil – Maintenance Worker
- Interviews with Donna Hull – Director of Resource Recovery and Reuse (RR&R), Angel Foster – EMS Coordinator

Element 12. EMS Documentation and Document Control

- EMS Biosolids Manual – Element 12: Documentation, Document Control and Record Keeping Background, Rev 07, 05/08/09
- EMS Biosolids Manual – Element 12: Records Management System Procedure, Rev 07, 05/08/09
- EMS Biosolids Manual – Element 12: Documentation Management Procedure, Rev 07, 05/08/09
- EMS Biosolids Manual – Element 12: Management for Revising EMS Documents and EMS SOPs & Associated Documents Procedure, Rev 07, 05/08/09
- EMS Biosolids Manual – Element 12: EMS Document Management – EMS Manual Record of Revisions, Rev 18, 04/02/10
- Interview with David Dickson – Records management Specialist I
- Interviews with Donna Hull – Director of Resource Recovery and Reuse (RR&R), Angel Foster – EMS Coordinator
- Records Retention Schedule Published April 6, 2010, signed by department heads
- Oper 40-30 Procedures & records for METROGRO: notes legal requirement, then business requirement
- Procedures under PER-10.5
- Record Series Index/Folder Title – Oper-40-30.

Element 13. Monitoring and Measurement

- EMS Biosolids Manual – Element 13: Monitoring and Measurement – Background Rev 10, 07/30/09
- EMS Biosolids Manual – Element 13: Monitoring and Measurement – Procedure Rev 06, 07/30/09

- Reviewed Weekly Performance Adjustments and Review # 1 Centrifuge Set point Log for May 2 – May 9
- Solids Sensor on end of conveyor indicating 21.6 – 24.3 %
- Graph – Dry tons per day comparison for years 2006 through 2010.
- Interviews with Donna Hull – Director of Resource Recovery and Reuse (RR&R), Angel Foster – EMS Coordinator
- Interviews with plant operations personnel: Steve Rogowski - Director of Operations and Maintenance
- Interview Arlisa Michael – Resource Recovery and Reuse Administrative Specialist
- Interviews related to farming operations – Paul Ferguson – Resource Recovery and Reuse Field Representative, Jerry Hall – Field Operator, Jim Hudak – Field Mechanic; Earl Green – Resource Recovery and Reuse Operations Supervisor, Rick Menor – Resource Recovery and Reuse Operations Supervisor and Tom Thompson – Tenant Farmer, METROGRO Farm
- Request for Biosolids form
- Biosolids Regulatory Reporting Database
- Biosolids Plant Available Nitrogen Calculation Worksheet
- Self Monitoring Report 8/2008
- Annual & Cumulative Loading Rates (ALR, CLR)
- Map in Agro-Map System
- Initial Site Inspection 10/16/09
- Annual Biosolids Report 2/17/10
- Biosolids Management Plan 2010
- Reviewed all Element 10 Tables as listed above in the operational control of critical control points section.

Element 14. Nonconformances: Preventive and Corrective Action

- EMS Biosolids Manual – Element 14: Nonconformance & Corrective & Preventive Actions – Background Rev 10, 07/30/09
- EMS Biosolids Manual – Element 14: Nonconformance & Corrective & Preventive Actions – Procedure, Rev 10, 07/30/09
- NON-CONFORMANCE INVESTIGATION REPORT blank form undated
- Interviews with Angel Foster – EMS Coordinator and Lois Bogenschutz – Internal Auditor
- O, M & T Incident Investigation Report 1/27/09. Note: good cause analysis
- Nonconformance Report 3/24/09 by Angel Foster – EMS Coordinator
- Nonconformance Report 9/21/09 for 7/7/09 incident involving 7/7/09 incident of biosolids applied to incorrect DC
- Report & investigation by Rick Menor, Resource Recovery and Reuse Operations Supervisors 7/30/09
- Mark-up of Applying Biosolids Procedure, Rev 3, 7/25/09, adding Step D
- Mark-up of Applying Biosolids Procedure, Rev 4, 8/11/08, adding Step E
- Detailed Application Map Report
- Field Supervisor’s Daily Log

- Review of CAR's from W Hancuff's 5/5-7/08 Audit
 - Item 3.1: Element 10 CCP Table – Primary Treatment, with Gravity Thickener sludge volume and sludge density added. Step screen not added.
 - Overall Minor: A-1 Contract 9/26/09 taking out references to A-1 as a contractor.
 - Item 11.1: Closed per inspection of trailer at Ag site, finding Metro Application Emergency Response Guide
 - Item 14.1-14.5: March 25, 2009 Biosolids EMS Audit 2008/2009 Management Responses document. Note: Step 1 of Element 14 Procedure – Nonconformance from an Audit needs revision to reflect current process.
 - Item 15.1: Program Performance & Management Review Report for 2008 EMS Activity
 - Reviewed the required investigation report for the corrective actions prepared for the EMS internal audit.

Element 15. Periodic Biosolids Program and EMS Performance Report

- EMS Biosolids Manual – Element 15 and 17: EMS Program Performance and Management Review Report – Background, Rev 08, 04/02/10
- EMS Biosolids Manual – Element 15 and 17: EMS Program Performance and Management Review Report – Procedure, Rev 08, 04/02/10
- Environmental Management System for Biosolids Program Performance & Management Review Report for 2009 EMS Activity – April 2010
- Interviews with Cathy Gerali – Metro Wastewater Reclamation District Manager, Donna Hull – Director of Resource Recovery and Reuse (RR&R), Angel Foster – EMS Coordinator, Steve Rogowski – Director of Operations and Maintenance

Element 16. Internal EMS Audit

- EMS Biosolids Manual – Element 16: Internal EMS Audit – Background, Rev 08, 06/24/09
- EMS Biosolids Manual – Element 16: Internal EMS Audit – Plan, Rev 08, 06/24/09
- EMS Biosolids Manual – Element 16: Internal EMS Audit – Procedure, Rev 08, 06/24/09
- Interviews with Angel Foster – EMS Coordinator, Lois Bogenschutz – Internal Auditor
- Environmental Management System for Biosolids Audit – Fieldwork completed May 5, 2008 through May 7, 2008; management responses completed May 22, 2008
- Summary of Exceptions – interim audit – October 2008
- Environmental Management System for Biosolids Audit – Fieldwork completed March 10, 2009; management responses completed March 25, 2009
- Memorandum to Catherine R. Gerali, District Manager; subject: Environmental Management System for Biosolids Audit – 2008/2009 dated March 24, 2009

Element 17. Periodic Management Review of Performance

- EMS Biosolids Manual – Element 15 and 17: EMS Program Performance and Management Review Report – Background, Rev 08, 04/02/10
 - EMS Biosolids Manual – Element 15 and 17: EMS Program Performance and Management Review Report – Procedure, Rev 08, 04/02/10
 - Environmental Management System for Biosolids Program Performance & Management Review Report for 2008 EMS Activity – April 2009
 - Environmental Management System for Biosolids Program Performance & Management Review Report for 2009 EMS Activity – April 2010
 - Interview with Cathy Gerali – Metro Wastewater Reclamation District Manager
- Interviews with Donna Hull – Director of Resource Recovery and Reuse, Angel Foster – EMS Coordinator, Steve Rogowski – Director of Operations and Maintenance

Attachment 2
National Biosolids Partnership Appeals Process

Biosolids organizations that participate in the National Biosolids Partnership (NBP) Environmental Management System (EMS) Program are required to undergo an EMS verification audit by an independent, third party auditor assigned by the NBP and yearly interim audits. The purpose of the EMS audit is to determine whether or not the organization's EMS conforms with -- that is, meets the requirements of -- the NBP program, as defined in the EMS Elements¹. The spirit of these requirements includes a well-documented program and meaningful opportunities for interested party involvement.

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 audit company's official verification decision or interim audit decision.

To submit an appeal before the Appeals Board, the petitioner must set forth the specific EMS element(s) and requirements that are believed to have not been evaluated and/or implemented consistent with NBP requirements as reflected in the EMS Elements, along with the objective evidence to support that claim. For example, a petitioner may believe that a major nonconformance exists but was not found by the auditor. In this case, the petitioner would need to identify in the petition the specific EMS element believed to be out of conformance and why.

To submit an appeal, petitioners must fill out and submit the standardized appeals petition form that is available on the NBP website at <http://www.biosolids.org>. A formal appeal must be submitted within 30 days of the verification decision or interim audit decision by the audit company.

The Board's Administrative Officer receives all appeals petitions on behalf of the Board and conducts a basic completeness check. Upon completion of this check, the petition is either forwarded to Appeals Board members or back to the petitioner with incomplete areas documented. Petitions should be sent via certified, return receipt requested mail to:

The NBP EMS Appeals Board, Attention: Board Administrative Officer, c/o
Water Environment Federation, 601 Wythe Street, Alexandria, VA 22314

The Appeals Board will examine the facts, interview parties involved, deliberate the case, and then make a determination as to whether a major nonconformance does or does not exist. Appeals cases vary in complexity. As a result, the time required for the Board to evaluate a case and make a decision might vary. However, the overall Board target for processing an appeal is approximately four months.

¹ The *EMS Elements* and other program materials are available on the NBP website at <http://www.biosolids.org>.