

Biosolids Annual Management Review of EMS Performance

Reporting Period: August 1, 2014-July 31, 2015

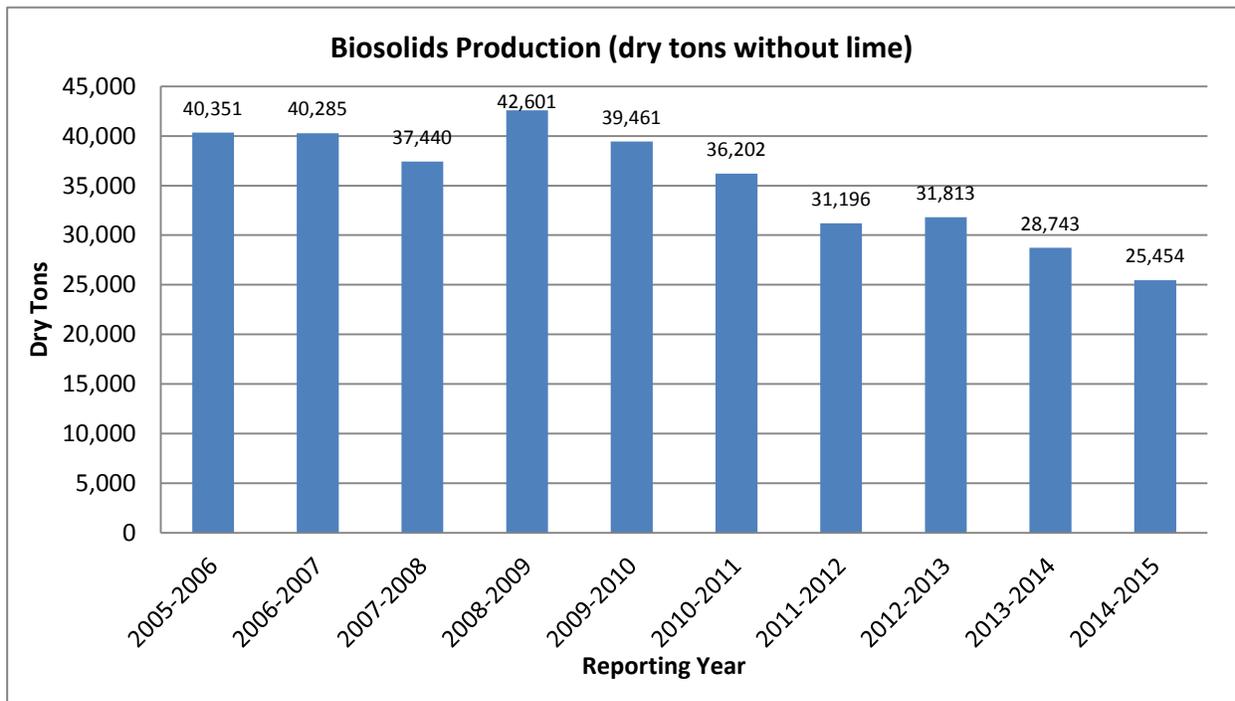
Date: October 02, 2015

Time: 1:30pm

Present:	<u>Name</u>	<u>Representing</u>
	Buster Fichera	City of Fort Worth
	Steve Nutter	City of Fort Worth
	Jerry Pressley	City of Fort Worth
	Ginger Laird	City of Fort Worth
	David Nelson	City of Fort Worth
	Magan Lersch	City of Fort Worth
	Ben Davis	Renda Environmental, Inc.

Accomplishments since last review

- Updated the biosolids policy
- Switched alternatives for VAR (from Alternative 6 to Alternative 1)
- Progress towards goals and objectives
- Hired additional personnel for increased biosolids monitoring activities and development of new public outreach efforts
- Although we received a major nonconformance during the last third-party audit, audits continue to result in fewer nonconformances overall.



Changes to policy

- During last year's management review, the EMS management team discussed changing the biosolids policy. This year, a new policy was drafted and approved.

New Policy

City of Fort Worth Biosolids Policy

The Fort Worth Biosolids Program is committed to protecting the environment as well as the health and safety of its workers and the general public. This shall be accomplished through the evaluation and implementation of innovative strategies that are feasible and cost effective and which also result in the production of high quality biosolids.

To have an effective biosolids program, the City and its Contractor are committed to:

- Beneficially reusing/recycling 100% of the Class AB biosolids produced at Village Creek Water Reclamation Facility
 - Complying with all federal, state and local requirements
 - Following the National Biosolids Partnership's *Code of Good Practice*
 - Continuing to utilize the Biosolids Program's Environmental Management System to continually improve environmental performance, implement goals, and take preventative actions
 - Building and maintaining positive relationships with the public and interested parties
 - Researching and implementing technologies or processes that optimize systems
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- The management team discussed including the term EPA Class A in the policy. Class AB is designated by the state (TCEQ), but VCWRF biosolids are considered Class A according to EPA. The team would like to incorporate both terms in the policy.

Goals & Objectives

Advancements towards existing goals and objectives and identifying "new" goals and objectives

- Goal: Increase grit collected and removed by 10, 500 lbs./day
 - Progress: Modifications and monitoring are still ongoing.
 - Amount collected will be evaluated by determining how many roll off dumpsters of grit are removed and how much a roll off dumpster can hold.
- Goal: Reduce odor complaints from reporting year 2013-2014 by 50%
 - Progress: Biosolids Master Plan still needs to be finalized.
 - The number of complaints from 2014-2015 are about the same as last year. However, there continues to be a discrepancy between how many the TCEQ receives and how many are forwarded to VCWRF.
- Goal: Increase gas production by at least 5% during scum addition interval
 - Progress: At the end of December, we will be able to determine if the amount of gas has increased.
- Goal: Increase digested sludge percent solids to at least 2.5% for 90% of the time during a given month
 - Progress: There have been delays due to troubleshooting thickening pumps and solving electrical problems.
- Goal: Increase percent solids of biosolids (prior to lime addition) by 3%
 - Progress: We still need to optimize ferric dosage and install dewatering facility upgrades
- Goal: Increase TSS removal in primaries by 80%
 - Progress: Chemical contracts need to be put in place.

- EMS Management Team suggested changing the goal to read “Increase TSS removal in primaries up to 80%” for clarification.
- Goal: Increase biosolids production and storage capacity by 100%
 - Progress: We are currently in the scope and design phase of the additional belt presses and sludge storage tanks.
- Goal: Increase digested feed sludge by 5%
 - Progress: The conceptual design needs to be completed.
 - EMS Management Team suggested changing the goal to read “Increase digested feed sludge to 5%” for clarification.
- Goal: Identify four public concerns regarding biosolids
 - Progress: Concerns have been identified and public outreach is being developed around them.
- No new goals were identified during the management meeting

Internal EMS Audit Results

- Positive Observation
 - EMS program continues to mature with significant improvements
 - City and Contractor are well trained and understand their roles and responsibilities
 - Continued use of corrective action notices to address deficiencies and promote overall program improvement
- Minor Program Nonconformances
 - Some complaint forms were not completed during the 2014-2015 reporting year
 - The legal requirements table was not updated by the EMS Planning Schedule by August 1, 2015
- Recommendations
 - Streamline procedures associated with documenting complaints
 - Currently have complaint log and complaint forms-do we need both?
 - During the Management Review it was suggested to look into a complaint tracking software that would act as a log but also generate reports if we would like to create them.

External third-party Interim & Verification EMS audits

- Positive Observation
 - Plant SOPs
 - The auditor felt that VCWRF did a great job in updating and creating plant SOPs and it is clear there is a system in place to review and update them as needed.
- Major nonconformance-1
 - City has not maintained a proactive public outreach program
 - Due to the negative social media campaign against the City of Fort Worth’s biosolids program, the auditor suggested that the City increase and “match” its efforts meaning the auditor suggested having an equal presence online that
- Minor nonconformances-1
 - Landowners were not made aware of the audit or that they could attend
 - Announcing the audit on the City’s biosolids webpage is not enough
- Opportunities for Improvement
 - 3 regarding goals and objectives
 - 1 regarding the biosolids policy

- 1 regarding YouTube video of farmer in the program
- 1 regarding quantifying the costs associated with producing biosolids
- 1 regarding the modification of the land application site visit SOP

Legal and self-imposed regulation compliance

- September 2014, TCEQ amended sludge provisions
 - Reclassified as “Class AB” biosolids
 - Perform daily odor monitoring
 - Post signage at land application sites
 - Utilize buffer zones
- Remove lime from process
 - Need to switch alternatives since lime was our method for meeting VAR and Pathogen Reduction requirements
 - April 2015-The City sent a draft proposal for switching to Alternative 1 for VAR
 - July 2015-TCEQ approved proposal
 - Currently using lime to meet Pathogen Reduction requirements but do not need to hold biosolids for 24 hours (as was necessary under Alternative 6-pH requirements)

Reports on emergencies, spills or other incidents

- There was only one minor spill (less than 5 gallons) on April 30, 2015
- There have been no complaints regarding tracking of material or material leaking out of the backs of trucks
- Improved biosolids quality can be attributed to:
 - Ferric chloride has improved dewaterability and decreased odors
 - Switch to alternative 1 for VAR means biosolids no longer need to be held for 24 hours

Corrective Action Notices

- There are currently 3 open CANs from the 2014-2015 reporting year
- Major nonconformance regarding public outreach
- Minor nonconformance regarding notification to landowners about audits
- Opportunity for improvement regarding the creation of a video (YouTube) that includes a farmer in the program explaining the benefits of biosolids.
- There is 1 open CAN for the 2015-2016 reporting year
 - Updating the legal requirements table in Element 4.0

Update to critical control points

- Adverse weather plan
- Odor control plan
- VAL Alternative 1

External communication and public participation

- Audit-major nonconformance regarding outreach
- New employee hired in April 2015 that will be primary developer of public outreach
 - Update brochure
 - Fact sheet

- Web updates
- Web additions
 - ADA requirements limit how information can be posted. PDF documents are not encouraged because software for hearing impaired individuals is unable to transcribe the information to an audio format.
- We can use the water department’s Facebook account to communicate biosolids information.
- GoPro footage was taken of dewatering and land application activities and we may be able to use in the future for tours or social media purposes.
- There is currently a student intern from the University of Texas-Arlington that is helping with public outreach.
- There is the potential to partner with WEAT (Water Environmental Association of Texas in regards to public outreach efforts.

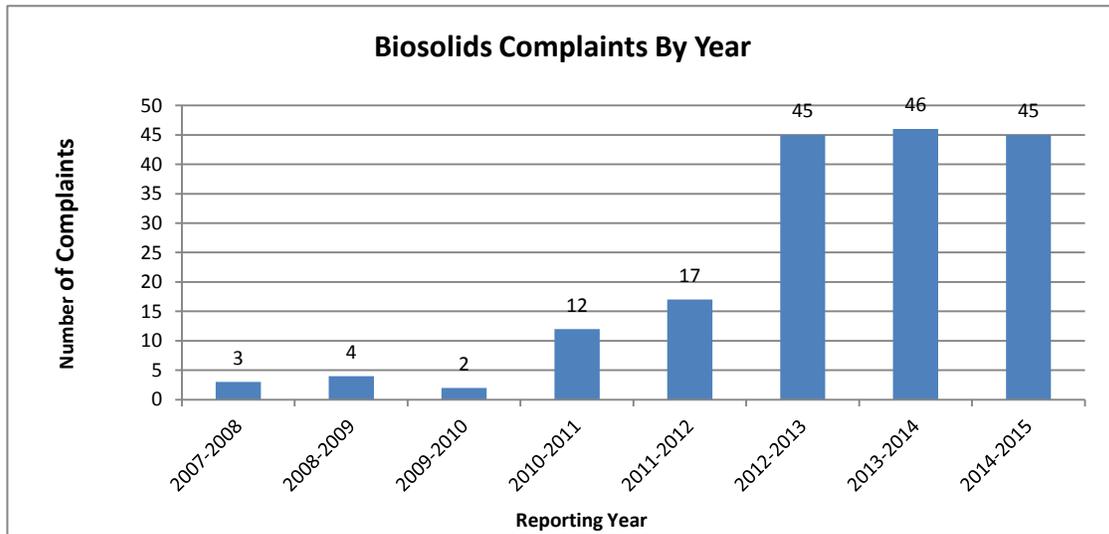
Monitoring and Measurement

- The biosolids program continues to be well under the limits for metals, TCLP, and PCBs.
- The average percent solids for biosolids without lime for 2013-2015 is 15.96%
- The average percent solids for biosolids without lime for 2015 alone is 16.82%
- The average percent solids for biosolids with lime for 2013-2015 is 18.43%
- The average percent solids for biosolids with lime for 2015 alone is 18.66%
- During August 2014-July 2015, 77 site visits were performed. This number is down from last year as there was no application for part of March, and all of April, May and June.
- The percentage of material land applied was 53.55%, while the percentage of material landfilled was 46.45%.

Biosolids Application August 2014-July 2015					
Counties	Landowners	Noticed Sites	Total Acreage	% of Total Acreage	Tons Applied (includes lime)
Denton	1	1	125	0.30%	-----
Hill	9	21	6701	15.00%	5879.75
Hood	2	2	291	0.69%	-----
Johnson	16	33	11,732	28.01%	6134.75
Parker	6	6	12,599	30.08%	-----
Tarrant	6	6	2162	5.16%	375.67
Wise	10	13	8276	19.76%	2101.48
TOTAL	50	82	41,886	100%	14,491.64

Changing circumstances/ other biosolids performance measures

- From August 2014 to March 2015, 45 complaints were documented by VCWRF personnel.
- Land application was halted for March-June 2015 due to poor biosolids quality and complaints.
- Since application restarted in July, there have been no complaints.
- A complaint report by TCEQ from July 2014-October 2014 indicated that there were more than 100 complaints. However, of the 45 complaints documented by VCWRF personnel, only 22 complaints were forwarded from TCEQ to VCWRF or Renda personal. There continues to be a discrepancy between the number of complaints that TCEQ receives and the number of complaints that personnel from VCWRF receive.
- Of the 45 complaints recorded by the City, 11 came from the same person, and 38 concerned odor.



Future Plans

- Dewatering facility upgrades
 - Improve/replace aging equipment
 - Upgrade lime and polymer systems
 - Add additional belt presses
 - Increase sludge storage capacity
- Ferric chloride
 - Continue to use ferric chloride
 - Improves odor characteristics
 - Helps dewatering → drier biosolids product
- Digester cleaning
 - Currently digester 2 is being cleaned
- Next year an additional digester will be cleaned
 - Improves solids retention time which improves volatile solids reduction
 - Pathogen control
- July-September: sludge samples were dosed with several chemicals to determine which and an effect on destroying pathogens.
 - Chemical needs to be economically feasible at an effective dose.

- Would essentially replace lime as the agent that would allow pathogen reduction requirements to be met.

Review status of operation control procedures

- Last year's audit resulted in a positive observation for the plant SOPs.
- Plant SOPs continue to be updated by one of our Training Specialists
- Biosolids SOPs-possibly need the following
 - Incidents/spills
 - Request for information procedures
 - Finalize daily odor monitoring at SOL