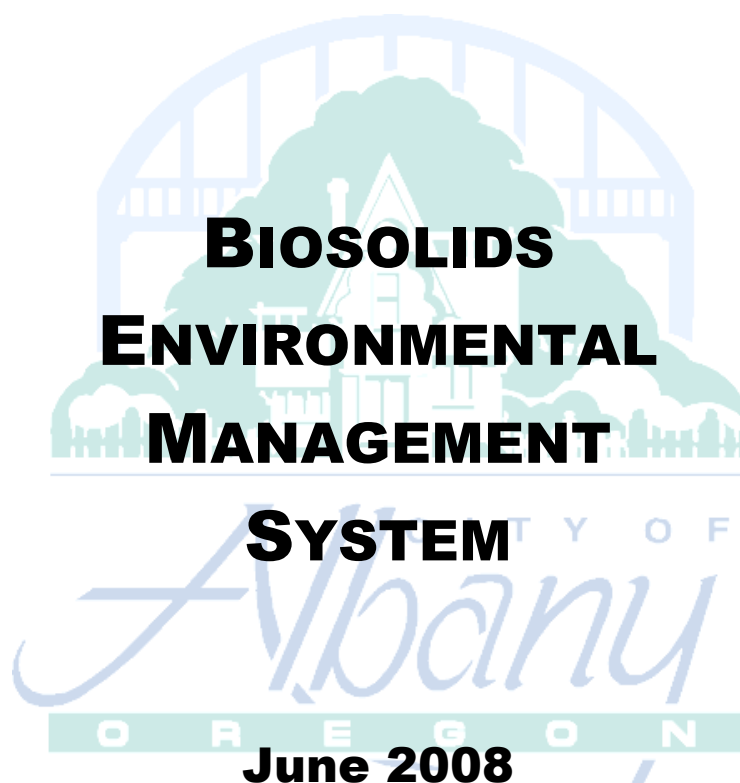


# City of Albany, Oregon



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**Assistant PW Director/Operations Manager ..... Mike Wolski**  
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## **PUBLIC WORKS – OPERATIONS**

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<b>Document Control Log</b>		
<b>Title</b>	<b>Approved By:</b>	<b>Approval Date</b>
Biosolids Environmental Management System	Mike Wolski, Assistant PW Director / Operations Manager	May 4, 2005
<b>Revision Number</b>	<b>Description of Revisions</b>	<b>Date</b>
00	Original Distribution	May 4, 2005
01	Revisions resulting from initial internal audit: <ul style="list-style-type: none"> <li>• Element 3: Updated Table 3.1</li> <li>• Element 4: Updated procedures</li> <li>• Element 5: Updated Table 5.1</li> <li>• Element 7: Corrected organization charts to reflect departmental re-organization; inserted additional key roles</li> <li>• Element 12: Added “Date of Last Review” to all element headers; revised Table 12.1 and deleted Table 12.2</li> <li>• Element 13: updated table 13.1</li> <li>• Corrected job titles of EMS team members throughout the manual.</li> </ul>	December 22, 2005
02	<ul style="list-style-type: none"> <li>• Element 3: Updated procedure 3. Updated Table 3.1.</li> <li>• Element 5: Revised goals &amp; objectives in Table 5.1. Updated procedure 2.</li> <li>• Element 6: Updated procedure 6.</li> <li>• Element 8: Updated procedure 1(a).</li> <li>• Element 9: Updated procedure 4.</li> <li>• Element 12: Updated procedures 2, 4(c), and 6. Added “Retention Requirements” to Table 12.1.</li> <li>• Element 13: Deleted procedure 4.</li> <li>• Element 14: Revised all procedures.</li> <li>• Element 15: Updated procedure 1.</li> <li>• Element 16: Updated procedures 2, 5, 6, 7, and 8.</li> <li>• Element 17: Updated procedure 1(d).</li> <li>• Appendix 4-A: Added “Required Report” and “Due Date.”</li> <li>• Appendix 6-A: Added revision date.</li> </ul>	April 10, 2006
03	<ul style="list-style-type: none"> <li>• Formatted all element headers to include effective date and reference to previous versions</li> <li>• Element 3: Updated Table 3.1</li> <li>• Element 5: Updated Table 5.1</li> <li>• Element 8: Added procedure 10.</li> <li>• Element 10: Added procedure 6.</li> <li>• Element 11: Added procedures 2 and 4.</li> <li>• Element 16: Updated all procedures.</li> <li>• Appendix 4-A: Added BMP as regulation or other requirement</li> </ul>	August 22, 2006
04	<ul style="list-style-type: none"> <li>• Element 3: Updated Table 3.1</li> <li>• Element 5: Updated Table 5.1</li> <li>• Element 12: Location of EMS Library updated</li> </ul>	April 19, 2007

	<ul style="list-style-type: none"> <li>• Element 15: Changed BMPPR due date</li> <li>• Element 17: Changed management review date</li> <li>• Appendix 7-A: Updated 7-A-1, 7-A-2; deleted 7-A-4</li> </ul>	
05	<ul style="list-style-type: none"> <li>• Throughout: Updated job titles</li> <li>• Element 1: Reorganized text; updated procedure 2</li> <li>• Element 2: Update NBP Code of Good Practice</li> <li>• Element 3: Updated Table 3.1</li> <li>• Element 4: Updated procedure 1</li> <li>• Element 5: Update Table 5.1</li> <li>• Element 6: Updated procedures 4, 7</li> <li>• Element 8: Updated procedure 8</li> <li>• Element 10: Updated procedures 2 and 3</li> <li>• Element 12: Updated procedures 5 and 7; updated Table 12.1</li> <li>• Element 16: Updated procedure 5</li> <li>• Appendix 7-A: Updated 7-A-1, 7-A-2, 7-A-3</li> </ul>	June 6, 2008

<b>Biosolids EMS Manual Cross-References</b>	
<b>EMS Element</b>	<b>Referenced In:</b>
1	Elements 7, 12
2	Elements 7, 9, 12
3	Elements 7, 9, 10, 12, 13
4	Elements 7, 12
5	Elements 3, 7, 12, 13
6	Elements 2, 5, 7, 9, 12
7	Elements 7, 12, 16
8	Elements 2, 7, 9, 10, 11, 12
9	Elements 5, 6, 7, 12, 16
10	Elements 3, 7, 12
11	Elements 7, 12
12	Elements 7, 12, 13, 16
13	Elements 7, 12
14	Elements 7, 12, 13, 16
15	Elements 7, 12
16	Elements 7, 12
17	Elements 7, 12

**EMS Element 1— EMS Documentation**  
**City of Albany Public Works – Wastewater Treatment**

Date of Last Review <b>5/28/08</b>	Revision <b>05</b>	Approval Signature	Revision / Effective Date <b>6/6/08</b>	Supersedes all previous versions
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***Purpose***

The purpose of this document is to provide an Action Plan and Environmental Management System (EMS) Program Manual to integrate biosolids activities by implementing program elements, managing short- and long-term activities, tracking performance, and providing a framework for continuous improvement.

***Scope***

The scope of this element applies to the EMS Manual and all related biosolids activities. The City of Albany Biosolids EMS Program Manual consists of a general overview of our Biosolids EMS program, which includes an outline of the policies governing Biosolids EMS procedures for environmental management. In addition, it serves as a useful organizational index and as a cross-reference of procedures for other relevant documents.

***Responsible Staff***

The Biosolids EMS Coordinator and the Biosolids EMS team are responsible for developing and maintaining the EMS manual with input from the Public Works Director, Assistant PW Director/ Operations Manager, Environmental Services Manager, Wastewater Treatment Plant Supervisor, and interested parties.

***Background***

The Albany Wastewater Treatment Plant (WWTP) utilizes an activated sludge process to treat wastewater from domestic, commercial, and industrial customers in Albany, and domestic, commercial, and approved industrial customers in Millersburg. The original plant was constructed in 1952 with significant upgrades and modifications in 1969. The 1969 upgrades included the addition of activated sludge as the secondary treatment process. Since 1969, major plant improvements have included a new influent pumping station (1991) and a new outfall diffuser (1994). The 1969 plant upgrades were designed to treat a dry-weather capacity of 8.7 million gallons per day (MGD). The estimated peak hydraulic capacity of the plant is 20 MGD.

Significant improvements to the WWTP biosolids process were made in 2000. The improvements consist generally of adding a dewatering process utilizing belt-filter presses. The filter press dewatering process replaced the centrifuge thickening process formerly used for conditioning biosolids. The belt filter press thickening process currently produces dewatered cake that consistently meets the Environmental Protection Agency’s (EPA) requirements for Class B biosolids.

In early 2004, design began on a wastewater treatment plant facility upgrade to control sanitary sewer overflows from the collection system to a five-year, 24-hour frequency storm event by transporting and treating more flow. In addition, the summer organic capacity of the treatment plant will be expanded to meet a 10/10 BOD/TSS standard. Construction on the new wastewater treatment plant began in 2006 and is expected to be complete by late 2009. The wastewater treatment processes at the new facility will be significantly different from historic practices. Heavy screening, vertical loop reactors, the Cannibal system, and aerobic digestion are all new processes that will be implemented in the facility upgrade. Updates to this manual will occur as new processes come online.

### **Liquid Flowstream**

Wastewater enters the plant influent pumping station from five collection system interceptors. Plant flow is pumped from the influent pumping station to the headworks/grit removal process. Wastewater then gravity flows through two parallel primary clarifiers, then to the aeration basin, and finally to the secondary clarifiers. Chlorinated effluent is discharged through a 54-inch diameter outfall pipe and diffuser system to the Willamette River.

### **Biosolids Handling**

Biosolids at the Albany Wastewater Treatment Plant are generated from the anaerobic digestion of primary and secondary sludge from the plant's activated sludge process. Primary sludge is pumped directly to the two primary digesters, and secondary or waste-activated sludge (WAS) is processed through a dissolved-air floatation thickener where it is thickened prior to it being pumped to the primary digesters. Primary digested sludge that is displaced from the primary digesters (as new sludge is added) flows to three unheated and unmixed secondary digesters. Sludge from the secondary digester was formerly processed through a centrifuge where it was thickened prior to loading into a tanker truck, then hauled to agricultural fields for application.

A new biosolids processing facility was constructed at the Albany Wastewater Treatment Plant, and completed in March 2001. The facility consists of belt-filter press dewatering and on-site storage of biosolids prior to dry-weather application to agricultural fields as a beneficial use. The storage of de-watered biosolids at 13-18 percent solids enables the City to avoid the hauling and application of biosolids during rainy winter months. Since the completion of the belt filter press and bin storage facilities, the centrifuge has been only rarely used to thicken solids prior to sending them to the belt filter press.

The de-watered biosolids are stored until fields are available for land application. The City currently has approximately 2,500 acres of permitted land available for application. The majority of the permitted land is planted in rye grass and is available for application in July, August, and September. At the current production rate the stored biosolids may be land applied during the three month window. Depending on weather conditions and cropping, the application period may begin earlier and continue through late November.

### **Organization of This Manual**

The City of Albany Biosolids EMS manual consists of 17 elements covering five general categories. Each element represents part of the City's biosolids value chain. Table 1.1 describes the categories and the 17 elements.

<b>Table 1.1 EMS Organization By Categories</b>		
<b>Category</b>	<b>Element #</b>	<b>Element</b>
Policy	1	Documentation
	2	Biosolids Management Policy
Planning	3	Critical Control Points
	4	Legal and Other Requirements
	5	Goals and Objectives for Continual Improvement
	6	Public Participation in Planning
Implementation	7	Roles and Responsibilities
	8	Training
	9	Communication
	10	Operational Control of Critical Control Points
	11	Emergency Preparedness and Response
	12	EMS Documentation, Document Control, and Record Keeping
Measurement and Corrective Action	13	Monitoring and Measurement
	14	Nonconformance: Preventive and Corrective Action
	15	Performance Report
	16	Internal EMS Audit
Management Review	17	Periodic Management Review of Performance

**Procedures**

1. The Biosolids EMS manual is intended to be a “living” document. Revisions are expected as new information is obtained, changes to existing systems occur, and as experience is gained in administering an EMS.
2. Revisions to the EMS manual will be made by the Biosolids EMS Coordinator on an as-needed basis. A comprehensive review/revision will be performed at least once every year.
3. The Biosolids EMS Coordinator will work with the Biosolids EMS Team on significant revisions to the EMS manual. Once revisions have been made, the Coordinator will inform management of the availability of the revised EMS manual and will ensure all copies of the manual are updated. In addition, the most recent version of the EMS manual will be posted on the City’s internet site.
4. The Biosolids EMS Coordinator will provide notification of significant revisions to interested parties through one or more of the communication tools listed under Element 9.
5. More information on revisions to the EMS manual and document control is available in Element 12 of this manual.

**EMS Element 2 — Biosolids Management Policy  
City of Albany Public Works – Wastewater Treatment**

Date of Last Review <b>5/28/08</b>	Revision <b>05</b>	Approval Signature	Revision / Effective Date <b>6/6/08</b>	Supersedes all previous versions
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***Purpose***

This element establishes the City’s Biosolids Management Policy and procedures for revision. The purpose of the policy is to establish the guiding principles of the City of Albany’s Biosolids Environmental Management System (EMS).

***Scope***

This policy applies to all of the City’s biosolids management activities and acts as a benchmark for current and future biosolids management.

***Responsible Staff***

The Biosolids EMS Coordinator and the Biosolids EMS team are responsible for development of the Biosolids EMS policy with input from the Public Works Director, Assistant PW Director/Operations Manager, Environmental Services Manager, Wastewater Treatment Plant Supervisor, and interested parties.

***Procedures***

1. The Biosolids EMS Coordinator, after consultation with the Public Works Director, Assistant PW Director /Operations Manager, staff involved in biosolids value chain, and interested parties, will update the biosolids policy as necessary to ensure compliance with all regulations and address continual improvement of the biosolids program.
2. The Assistant PW Director /Operations Manager will periodically update the Albany City Council regarding the Biosolids EMS, including changes in the biosolids policy.
3. The Biosolids EMS Coordinator will communicate the biosolids policy at training meetings to all staff involved in the biosolids value chain, as described in Element 8.
4. The Biosolids EMS Coordinator will make the Biosolids Policy available to interested parties for their input. Input from interested parties will be evaluated in accordance with Element 6.

***Mission Statement***

Our mission is to provide a service to our community through monitoring, collecting, and treating the wastewater from the City of Albany in a manner that surpasses state and federal discharge limitations, to provide this service in the most cost-effective manner, and to produce a Class B biosolids product that

surpasses all federal and state requirements; to be responsive to our citizens; and accomplish our mission in an environmentally friendly manner.

### **Biosolids Policy**

The City of Albany is committed to: maximum beneficial use of biosolids; compliance with all federal, state, and local regulations; encouraging meaningful public involvement; and continuous improvement of the biosolids management process in accordance with the National Biosolids Partnership's Code of Good Practice.

### **Code of Good Practice**

The Code of Good Practice is a broad framework of goals and commitments to guide the production, management, transportation, storage, and use or disposal of biosolids – in short, a comprehensive EMS for biosolids. Those who embrace the Code and participate in the EMS commit to “do the right thing.” Code subscribers and EMS participants pledge to uphold the following principles of conduct:

**COMPLIANCE:** To commit to compliance with all applicable federal, state, and local requirements regarding production at the wastewater treatment facility, and management, transportation, storage, and use or disposal of biosolids away from the facility.

**PRODUCT:** To provide biosolids which meet the applicable standards for their intended use or disposal.

**ENVIRONMENTAL MANAGEMENT SYSTEM:** To work toward the development of a management system for biosolids that may include a method of independent third-party verification to ensure effective ongoing biosolids operations.

**QUALITY MONITORING:** To enhance the monitoring of biosolids production and management practices.

**QUALITY PRACTICES:** To require good housekeeping practices for biosolids production, processing, transport, storage, and final use or disposal operations.

**CONTINGENCY AND EMERGENCY RESPONSE PLANS:** To develop response plans for unanticipated events such as inclement weather, spills, and equipment malfunctions.

**SUSTAINABLE MANAGEMENT PRACTICES AND OPERATIONS:** To enhance the environment by committing to sustainable, environmentally acceptable biosolids management practices and operations through an EMS.

**PREVENTIVE MAINTENANCE:** To prepare and implement a plan for preventive maintenance for equipment used to manage biosolids and wastewater solids.

**CONTINUAL IMPROVEMENT:** To seek continual improvement in all aspects of biosolids management.

**COMMUNICATION:** To provide methods of effective communication with interested parties regarding the key elements of the Biosolids EMS, including information relative to system performance.

**EMS Element 3 — Critical Control Points  
City of Albany Public Works – Wastewater Treatment**

Date of Last Review <b>5/28/08</b>	Revision <b>05</b>	Approval Signature	Revision / Effective Date <b>6/6/08</b>	Supersedes all previous versions
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***Purpose***

Critical control points must be properly managed to ensure biosolids meet applicable regulatory requirements and continue to maintain public acceptance, ensuring maximum beneficial use.

***Scope***

This element pertains to all management categories in the biosolids value chain.

***Responsible Staff***

The Environmental Services Manager and Wastewater Treatment Plant Supervisor are responsible for oversight of critical control points in the biosolids value chain.

***Procedures***

Update and management:

1. Review and revision of the critical control points in the biosolids value chain will be triggered by:
  - A. Changes in operational control
  - B. Changes in goals and objectives
  - C. Changes in legal or other requirements
  - D. Reconfiguration of equipment or installation of new equipment in the biosolids value chain
  - E. Nonconformance or recommendations from internal or third-party audits
2. Regardless of the conditions listed in #1, a review of all critical control points will be performed annually in conjunction with the annual review of goals and objectives. This review shall be performed no later than April 1.
3. Changes to the critical control points will be documented by the designated administrative assistant. If any significant operational changes occur that require a change to an identified critical control point or environmental impact associated with the critical control points, the EMS Coordinator will notify the NBP and the assigned third-party auditor.

4. The current list of critical control points is summarized in Table 3.1. Critical control points have associated operational controls listed in the table, and the appropriate work groups have standard operating procedures prescribing practices, monitoring, measurement, testing, and/or inspection methods used to ensure biosolids and biosolids activities meet all legal, quality, environmental protection, and public acceptance requirements.
5. Operational controls provide methods and procedures to ensure uniform and efficient management at each critical control point. To show the relationship between operational controls and critical control points and to streamline documentation of information, Element 10 information is integrated with critical control points in Element 3, Table 3.1.
6. Potential environmental impacts for each critical control point are listed in Table 3.1. All of the potential impacts are local in nature, and range in severity from low to medium. Using appropriate SOPs and training, the City intends to maintain a low probability of occurrence and minimize any environmental impact.

Table 3.1 – Critical Control Points (CCPs)								
Value-Chain Category	Critical Control Point	Operational Controls	Document Name (SOP)	Monitoring Frequency or Parameter	Document Location	Latest Revision	Responsible Staff	Potential Environmental Impact
Wastewater Collection and Pretreatment								
Significant Industrial Users (SIU)								
	SIU permits	Industrial User Survey Procedure (ES-001) Industrial Wastewater Discharge Permits Procedure (ES-003)	Permit renewal date, milestones	ES office	1/31/07  3/10/08	ES Manager	<ul style="list-style-type: none"> <li>• Inhibition of treatment plant process</li> <li>• Pass through of pollutants to Willamette River</li> <li>• Interference with collection system</li> <li>• Accumulation of pollutants in biosolids</li> </ul>	
	Inspection and monitoring procedures	Industrial User Survey Procedure (ES-001) Industrial Wastewater Discharge Permits Procedure (ES-003) Industrial Inspections Procedure (ES-004) Industrial Wastewater Sampling; Compliance Sampling Procedure (ES-007)	Sampling: Semi-annually Inspections: Annual	ES office	1/31/07  3/10/08  11/27/07  11/29/07	ES Manager		
	Enforcement Response Plan	Enforcement Response Plan Procedure (ES-005)	Specified responses as needed	ES office	11/28/07	ES Manager		
Hauled Waste Discharge								
	Hauled waste procedure permits	Hauled Waste Procedure (Inactive) (ES-010)	Permit renewal date	ES office	11/27/07	ES Manager	<ul style="list-style-type: none"> <li>• Inhibition of treatment plant process</li> <li>• Pass through of pollutants to Willamette River</li> <li>• Accumulation of pollutants in biosolids</li> </ul>	

**Table 3.1 – Critical Control Points (CCPs)**

Value-Chain Category	Critical Control Point	Operational Controls	Document Name (SOP)	Monitoring Frequency or Parameter	Document Location	Latest Revision	Responsible Staff	Potential Environmental Impact
<b>WWTP Influent Monitoring</b>								
		NPDES permit	NPDES Permit Schedule B	3 per week	ES office	11/00	ES Manager	<ul style="list-style-type: none"> <li>• Inhibition of treatment plant process</li> <li>• Pass through of pollutants to Willamette River</li> <li>• Accumulation of pollutants in biosolids</li> </ul>
			BOD & CBOD procedure (Lab-005) TSS Procedure (Lab-019)		WWTP Lab WWTP Lab	5/30/08 5/12/08	Water Quality Supervisor Water Quality Supervisor	
		Sample collection/analysis procedures	Industrial Wastewater Sampling; Compliance Sampling Procedure (ES-007)	Semi-annually	ES office	11/29/07	ES Manager	
			Sample Collection SOP (OPS-020) BOD & CBOD procedure (Lab-005) TSS procedure (Lab-019)		WWTP Control Room WWTP Lab WWTP Lab	3/1/07 5/30/08 5/12/08	WWTP Supervisor Water Quality Supervisor	
<b>Spills</b>								
		SIU accidental spill plans	Industrial Wastewater Discharge Permits Procedure (ES-003)	Reviewed every 2 years	ES office	3/10/08	ES Manager	<ul style="list-style-type: none"> <li>• Inhibition of treatment plant process</li> <li>• Pass through of pollutants to Willamette River</li> <li>• Interference with collection system</li> <li>• Accumulation of pollutants in biosolids</li> </ul>
<b>Non-Discharging Categorical Industrial users</b>								
		NDCIU permits	Industrial Wastewater Discharge Permits Procedure (ES-003)	Permit renewal date	ES office	3/10/08	ES Manager	<ul style="list-style-type: none"> <li>• Inhibition of treatment plant process</li> <li>• Pass through of pollutants to Willamette River</li> <li>• Interference with collection system</li> <li>• Accumulation of pollutants in biosolids</li> </ul>
		Inspections procedures	Industrial User Survey Procedure (ES-001) Industrial Wastewater Discharge Permits Procedure (ES-003)	Annually	ES office	1/31/07 3/10/08	ES Manager	

**Table 3.1 – Critical Control Points (CCPs)**

Value-Chain Category	Critical Control Point	Operational Controls	Document Name (SOP)	Monitoring Frequency or Parameter	Document Location	Latest Revision	Responsible Staff	Potential Environmental Impact
Treatment Plant Operations								
Preliminary Treatment								
	Bar screen Procedure	Bar screens (OPS-004)	Daily – Visual (walkthrough checklist)	WWTP control room	3/1/07	WWTP Supervisor	<ul style="list-style-type: none"> <li>• Plastics, grit, and other unwanted materials in the primary digesters</li> <li>• Potential for odors and noise</li> </ul>	
	Grit removal Procedure	Grit removal (OPS-005)	Daily – Visual (walkthrough checklist)	WWTP control room	3/1/07	WWTP Supervisor		
Primary Treatment								
	Primary clarifier Procedure	Primary clarifiers (OPS-007)	Daily - % TSS, Total gallons wasted, Blanket level % solids, ph	WWTP control room	3/1/07	WWTP Supervisor	<ul style="list-style-type: none"> <li>• Increased biosolids volumes due to inadequate settling</li> <li>• Potential for odors</li> </ul>	
	Raw Sludge & Scum Pit Pumps	Raw Sludge & Scum Pit Pumps (OPS-008)	Pump strokes	WWTP control room	3/1/07	WWTP Supervisor		
Secondary treatment								
	Aeration basin Procedure	Aeration basin (OPS-009)	Daily – Average DO MLSS MLVSS SVI pH % Solids concentration	WWTP control room	3/1/07	WWTP Supervisor	<ul style="list-style-type: none"> <li>• Inadequate settling</li> <li>• Pass through to river</li> <li>• Potential for odors</li> </ul>	
	Secondary clarifier Procedure	Secondary clarifiers (OPS-010)	Temperature Blanket level pH Chlorine Residual	WWTP control room	3/1/07	WWTP Supervisor		
	RAS & WAS Procedure	Return & Waste Activated Sludge (OPS-011)	Daily – pH Return rates RASSS RASVSS % Solids concentration	WWTP control room	3/1/07	WWTP Supervisor		

**Table 3.1 – Critical Control Points (CCPs)**

Value-Chain Category	Critical Control Point	Operational Controls	Document Name (SOP)	Monitoring Frequency or Parameter	Document Location	Latest Revision	Responsible Staff	Potential Environmental Impact
<b>Digesters</b>								
		Primary digester Procedure	Primary digester 1 & 2 (OPS-014)	Monthly – % Volatile Solids Reduction Biweekly – TA/VA Twice a week- CO2 1 & 2 Daily- pH 1&2 Temperature 1 & 2, % solids	WWTP control room	3/1/07	WWTP Supervisor	<ul style="list-style-type: none"> <li>• Potential for odors, vector attraction (e.g., flies)</li> <li>• Inadequate destruction of potentially pathogenic organisms</li> </ul>
		Secondary digester & storage Procedure	Secondary digesters & Storage (OPS-015)	Daily – Levels	WWTP control room	3/1/07	WWTP Supervisor	
<b>Solids Stabilization, Conditioning, and Handling</b>								
<b>Thickening</b>								
		Dissolved Air Flotation Thickener Procedure	Dissolved Air Flotation Thickeners (OPS-012)  DAFT Polymer Make-up (OPS-013)	Daily – Feed rate % solids Gallons pumped to digesters % Volatile Solids	WWTP control room  WWTP control room	3/1/07  3/1/07	WWTP Supervisor	<ul style="list-style-type: none"> <li>• Potential for odors and noise</li> <li>• Increased biosolids volumes that need to be transported and managed</li> </ul>
		Belt filter press Procedure	Belt filter press (OPS-016)	As Needed- BFP % Cake solids BFP sludge feed total gallons 1 & 2 Polymer feed	WWTP control room	3/1/07	WWTP Supervisor	
<b>Dewatering/Belt-filter Press/Centrifuges</b>								
		Belt filter press sample procedure	Belt Filter Press Sample Collection & Testing (OPS-017)	As Needed – % solids Pressate TSS	WWTP control room	3/1/07	WWTP Supervisor	<ul style="list-style-type: none"> <li>• Potential for odors and noise</li> <li>• Increased biosolids volumes that need to be transported and managed</li> </ul>
		Belt filter press Procedure	Belt filter press (OPS-016)	As Needed- BFP % Cake solids BFP sludge feed total gallons 1 & 2 Polymer feed	WWTP control room	3/1/07	WWTP Supervisor	

Table 3.1 – Critical Control Points (CCPs)								
Value-Chain Category	Critical Control Point	Operational Controls	Document Name (SOP)	Monitoring Frequency or Parameter	Document Location	Latest Revision	Responsible Staff	Potential Environmental Impact
		Centrifuge Procedure	Centrifuge (OPS-018)	As needed- % solids Sludge feed total gallons	WWTP control room	3/1/07	WWTP Supervisor	
Solids Storage and Truck Loading								
Truck loading								
		Truck loading procedure	Biosolids Truck Loading - Auger BS-001	Daily during application	ES office	01/10/07	ES Technician (Biosolids)	<ul style="list-style-type: none"> <li>• Potential for odors</li> <li>• Runoff to headworks</li> </ul>
		Loading area cleanup	Biosolids Truck Loading - Auger BS-001	Daily during application	ES office	01/10/07	ES Technician (Biosolids)	
		Hauling and application procedure	Biosolids Hauling and Field Application BS-003	Daily during application – Date, time, volume and wash of each load	ES office	10/18/07	ES Technician (Biosolids)	
		Spills procedure	Spills of Digested Biosolids BS-007	Daily during application	ES office Thickening building Biosolids truck	01/10/07	ES Technician (Biosolids)	
Bin Storage								
		Storage procedure	Biosolids Storage Projection BS-005	Visual depth / weekly	ES office	01/10/07	ES Manager	<ul style="list-style-type: none"> <li>• Potential for odor</li> <li>• Overflow and run off to headworks</li> <li>• Run off due to application in wet-weather months</li> <li>• Impacts associated with landfilling treated biosolids</li> </ul>
Truck Washing								
		Truck washing procedure	Truck Washing BS-006	Daily during application / per loading	ES office	01/10/07	ES Manager	<ul style="list-style-type: none"> <li>• Potential for odor</li> <li>• Run off to headworks</li> <li>• Contamination of public roadways</li> </ul>
Land Application								
Transportation Routes								
		Vicinity maps	Biosolids Hauling and Field Application BS-003	Annually	ES office	10/18/07	ES Manager	<ul style="list-style-type: none"> <li>• Contamination of public roadways</li> <li>• Contamination of adjacent waterways</li> </ul>

**Table 3.1 – Critical Control Points (CCPs)**

Value-Chain Category	Critical Control Point	Operational Controls	Document Name (SOP)	Monitoring Frequency or Parameter	Document Location	Latest Revision	Responsible Staff	Potential Environmental Impact
		Spills procedure	Spills of Digested Biosolids BS-007	Each occurrence Number of spill	ES office	01/10/07	ES Manager	
Application Sites								
		Site selection procedure	Permit Process for Biosolids Fields BS-004	Each site	ES office	5/18/07	ES Manager	<ul style="list-style-type: none"> <li>• Exceedances of volumetric loading rates at application sites</li> <li>• Potential for odors</li> <li>• Raise pollutant levels in soil</li> </ul>
		Method for adjoining property owner notification	Permit Process for Biosolids Fields BS-004	Each site	ES office	05/18/07	ES Manager	
		Method for loading projection	Biosolids Hauling and Field Application BS-003	Each site	ES office	10/18/07	ES Manager	
		Solids quality monitoring	Percent solids, Land-applied SOP (Lab-016)	Daily during application	WWTP Lab	5/12/08	Water Quality Supervisor	
		Nutrient/metals monitoring procedure	Nutrient – Metal Sampling & Monitoring BS-008	Quarterly	ES office	5/18/07	ES Manager	
		Method for site setbacks	Biosolids Hauling and Field Application BS-003	Site specific	ES office	10/18/07	ES Manager	
		Site limits specifications	Biosolids Hauling and Field Application BS-003	Site specific	ES office	10/18/07	ES Manager	
Site monitoring / post application site management								
		Site totals procedure	Biosolids Hauling and Field Application BS-003	Each site – DT/acre Total acres applied Nitrogen applied/acre	ES office	10/18/07	ES Manager	<ul style="list-style-type: none"> <li>• Exceedances of volumetric loading rates at application sites</li> <li>• Potential for odors</li> <li>• Raise pollutant levels in soil</li> </ul>
		Method for third-year soil monitoring for nutrients	Nutrient and Metal Monitoring BS-008	Fall season before third consecutive year of application	ES office	05/18/07	ES Manager	

**Table 3.1 – Critical Control Points (CCPs)**

Value-Chain Category	Critical Control Point	Operational Controls	Document Name (SOP)	Monitoring Frequency or Parameter	Document Location	Latest Revision	Responsible Staff	Potential Environmental Impact
		Daily site inspection record	Biosolids Hauling and Field Application BS-003	Daily during application	ES office	10/18/07	ES Manager	
		Product value analysis	Farmer’s Report BS-009	Annually before February 1st	ES office	05/21/07	ES Manager	
		Annual report to DEQ	Biosolids Annual Report BS-010	Annually February 19 <sup>th</sup>	ES office	05/21/07	ES Manager	

<p><b>EMS Element 4 — Legal and Other Requirements</b>  <b>City of Albany Public Works – Wastewater Treatment</b></p>				
Date of Last Review <b>5/28/08</b>	Revision <b>03</b>	Approval Signature	Revision / Effective Date <b>8/22/06</b>	Supersedes all previous versions

**Purpose**

The purpose of this element is to summarize the process used by the City of Albany Public Works staff to identify, track, and comment on legislation and proposed rulemaking at the federal, state, and local level, as well as permits that would impose a change in its biosolids program.

**Scope**

This procedure applies to biosolids management activities at all critical control points throughout the biosolids value chain, including the pretreatment program and WWTP liquid and solids operation.

**Responsible Staff**

The Environmental Services Manager and Wastewater Treatment Plant Supervisor are responsible for tracking all federal, state, and local legal and regulatory requirements pertaining to the Albany Wastewater Treatment Plant and those applicable to biosolids.

**Procedure**

1. Sources of information about regulations and potential effects on the City’s biosolids program are as follows:
  - A. Updates from the National Biosolids Partnership (NBP) including periodic biosolids update e-mails are available at <http://www.biosolids.org>.
  - B. Information from the Oregon Association of Clean Water Agencies (ACWA) Biosolids Committee, including monthly meetings is available at <http://www.oracwa.org>.
  - C. Information from the Northwest Biosolids Management Association (NBMA) including e-mail updates is available at <http://www.nwbiosolids.org>.
  - D. Information from the National Association of Clean Water Agencies (NACWA) bulletin service (Alert) regarding wastewater treatment and biosolids regulations is available at <http://www.nacwa.org>.
  - E. Federal Environmental Protection Agency regulations are available and updated through the Federal Register website at <http://www.gpoaccess.gov/cfr/index.html>.

- F. The State of Oregon Department of Environmental Quality updates regulations on the following website: <http://www.oregon.gov/DEQ>.
2. These information sources will be used to update and/or revise Albany pretreatment, wastewater treatment, and biosolids procedures using the process outlined below. A list of legal documents is found in Appendix 4-A.
3. Operational legal requirements are found in the Standard Operating Procedures of the operations section.
4. Changes in legal requirements affecting the biosolids value chain are communicated to staff and affect the operations of the biosolids value chain in the manner described below.
  - A. The Environmental Services Manager tracks all federal, state and local legal and regulatory requirements applying to the Albany Wastewater Treatment Plant, including those applicable to biosolids.
  - B. In the case of new permitted industries, the Environmental Services staff informs the Wastewater Treatment Plant Supervisor of any new industrial/commercial sewer users that could impact operation of the wastewater treatment plant.
  - C. Information gathered by the Environmental Services Manager is evaluated for applicability to the biosolids value chain. Applicable regulatory information and updates are passed on to the appropriate biosolids value chain supervisor through e-mail, meetings, or other means of communication. See Element 7, Roles and Responsibilities, for a complete list of supervisors.
  - D. Regulatory information that is general or preliminary in nature is passed on to the EMS Team for information only. The EMS Team will monitor the progress of pertinent legislation to determine when action is needed.
  - E. If the regulatory or other updates require action, the appropriate supervisor(s) will assign tasks related to the regulatory or process changes, ensuring they are accomplished in a timely manner.
  - F. Changes in legal and other requirements may trigger changes in operational controls, SOPs monitoring and measurement, or other practices described in the Biosolids EMS Manual. The supervisor in charge of the affected area will ensure associated changes are made to the appropriate EMS Manual element(s) and will bring revisions to the next regularly scheduled Biosolids EMS team meeting.

<b>EMS Element 5 — Goals and Objectives for Continual Improvement City of Albany Public Works – Wastewater Treatment</b>				
Date of Last Review <b>5/28/08</b>	Revision <b>05</b>	Approval Signature	Revision / Effective Date <b>6/6/08</b>	Supersedes all previous versions

**Purpose**

The purpose of this element is to drive the continual improvement of the biosolids program by establishing long-term biosolids program goals and associated short-term objectives for biosolids management activities. This element also establishes an action plan to implement goals and objectives based upon SMART (specific, measurable, achievable, relevant, and time-bounded) criteria.

**Scope**

This element applies to all critical control points in the biosolids value chain and all EMS elements.

**Responsible Staff**

The Biosolids EMS Team is responsible for setting biosolids goals and objectives. The Environmental Services Manager, Wastewater Treatment Plant Supervisor, and other staff in the biosolids value chain will be provided the opportunity to give their input to the goals setting and review process. The Public Works Director and Assistant PW Director/Operations Manager are responsible for the review and approval of the annual goals and objectives.

**Procedure**

1. The Biosolids EMS Team determines goals and objectives based on the City’s Biosolids Management Policy, adherence to SMART criteria, and input as listed in this procedure. Goals are developed to address each of the four NBP EMS outcome areas: environmental performance, regulatory compliance, relations with interested parties, and quality biosolids management practices.
2. The Biosolids EMS Coordinator tracks progress toward current goals and objectives using the Goals Action Plan form. The active copy of this form is maintained on the network at G:\SEWER\WWTP\NBP-EMS\EMS Goals & Objectives. The action plan lists interim steps for each objective, resources required, expected completion dates, and progress toward each milestone and objective.
3. Goals and objectives are reviewed no less than quarterly at regular Biosolids EMS team meetings. On an annual basis to occur no later than April 1, goals and objectives will be revised, or documentation will be made that existing goals and objectives remain applicable for advancement of the Biosolids EMS program. Any revisions will be performed using the steps listed in Item 5.

4. More frequent revision of goals and objectives may be triggered by one or more of the following considerations:
  - A. Changes to the City's biosolids management policy
  - B. Input (if any) received from interested parties, the public, regulators, or staff involved in the biosolids value chain
  - C. Response to regulatory changes, regulatory noncompliance, or Biosolids EMS program nonconformance
  - D. Changes in direction from Public Works management
5. The goals and objectives revision process will include the following steps:
  - A. The Biosolids EMS Team will evaluate the need for goals revision based on considerations as specified in #2 and #3 above. Internal quarterly reports will be reviewed during the goal revision process in order to shape goals based on formal and informal interested party input, corrective actions, system maintenance issues, and other information documented over the previous year.
  - B. The Biosolids EMS Team will draft revisions to the goals and objectives.
  - C. The Biosolids EMS Team will seek input from biosolids-value-chain staff, interested parties, Public Works Management and the public by mailing letters to interested parties, posting information on the Biosolids EMS website, requesting input at staff meetings, and other outreach methods as described in Elements 6 and 9.
  - D. All input will be evaluated by the Biosolids EMS Team.
  - E. A final revision will be made by the Biosolids EMS team. Final review and approval will be performed by the Public Works Director and/or Assistant PW Director/Operations Manager followed by incorporation of the goals and objectives into the City's Biosolids EMS manual.
6. Goals are established and prioritized using the following criteria:
  - A. Consistent with the NBP *Code of Good Practice*
  - B. Consistent with the mission statement and policy
  - C. Response to input from biosolids-value-chain staff and the public, including interested parties
  - D. Linked with critical control points
  - E. Available funding
  - F. Personnel resources to carry out the goals and objectives
  - G. Regulatory changes

7. Goals and objectives will be prioritized by the supervisors of the work groups involved, with the understanding they will be performed to maintain legal requirements and to comply with the Biosolids EMS guidelines. The Assistant PW Director/Operations Manager will assign responsibility for any goals and objectives not clearly defined by work group duties.

**Table 5.1 – Biosolids EMS Goals and Objectives**

Goals	Objectives	Interim Steps	Person(s) Responsible	Target Date	Resources
<b>Goal 1 – Meet or surpass applicable regulatory compliance requirements associated with biosolids product</b> <i>Outcome(s) Addressed: Environmental Performance, Regulatory Compliance</i>					
Objective 1.1	Maintain or improve pretreatment compliance as measured by the associated interim steps.	<ul style="list-style-type: none"> <li>• Zero Industries in SNC for 2008</li> <li>• Distribute Pretreatment Newsletter to all permitted industries, and expand distribution to at least one targeted industrial (SIC) group</li> <li>• Complete steps for DEQ approval of EPA Streamlining pretreatment program elements</li> </ul>	ES Manager	2/1/09	Compliance tracking, industrial contacts
Objective 1.2	Zero notices of permit violations from DEQ related to management of biosolids	<ul style="list-style-type: none"> <li>• Analyze soil at sites applied on two out of three consecutive years</li> <li>• Analyze at least one biosolids sample quarterly per BMP guidelines</li> <li>• Integrate and optimize existing checklists into a comprehensive pre-application checklist</li> </ul>	ES Technician (Biosolids)	11/1/08	ES staff time
Objective 1.3	Maintain biosolids 25 percent below Table #3 federal clean biosolids limits	<ul style="list-style-type: none"> <li>• Investigate the feasibility of another source control BMP program to reduce metals discharge</li> <li>• Increase educational outreach to at least one non-permitted industrial group</li> <li>• Perform trend analysis of biosolids metals data; determine if any metals need reduction</li> </ul>	ES Manager	2/15/09	ES staff time, contacts with other agencies
<b>Goal 2 – Optimize the storage bin capacity</b> <i>Outcome(s) Addressed: Quality Biosolids Management Practices, Environmental Performance</i>					
Objective 2.1	During wet weather season (1 Nov to 1 May), bin storage will not exceed 75% of capacity (24 ft.). During the remainder of the storage season (1 May to start of application), bin storage will not exceed an additional 25% of capacity (32 ft.).	<ul style="list-style-type: none"> <li>• Optimize belt filter press operation to maintain a monthly average of 16% to 18% solids</li> <li>• Maintain 90% availability of belt filter press</li> </ul>	WWTP Supervisor	4/1/09	Storage bin tracking data
Objective 2.2	Take advantage of all opportunities to land apply biosolids	<ul style="list-style-type: none"> <li>• Develop a relationship with at least one grower regarding the availability of fields for wet-weather application</li> </ul>	ES Technician (Biosolids)	4/1/09	Maintenance records

Goal 3 – Improve outreach to increase public awareness of Albany’s biosolids management program					
<i>Outcome(s) Addressed: Relations with Interested Parties</i>					
Objective 3.1	Provide biosolids information at 2 public events	<ul style="list-style-type: none"> <li>• Provide biosolids information from vendor booth at Willamette Valley Ag Expo &amp; Linn County Fair</li> <li>• Develop outreach materials concerning emerging pollutants and recent negative press</li> </ul>	ES Technician (Biosolids)	12/1/08	Funding
Objective 3.2	Improve biosolids web page	<ul style="list-style-type: none"> <li>• Update all biosolids documents and information available on the web as they are revised</li> <li>• Add at least 12 pictures and create a slide show of biosolids operations</li> </ul>	ES Technician (Biosolids)	4/1/09	City Graphics Specialist
Goal 4 – Maintain biosolids product quality throughout construction of WWTP improvements					
<i>Outcome(s) Addressed: Quality Biosolids Management Practices, Regulatory Compliance</i>					
Objective 4.1	Maintain communication with project consultants and contractors as measured by the associated interim steps.	<ul style="list-style-type: none"> <li>• Continue providing two staff members to serve as wastewater operations advocates</li> <li>• Maintain regular interaction with contractor and consultants</li> </ul>	WWTP Supervisor	1/1/10	WWTP Expansion Project Team
Objective 4.2	Maintain 100% WWTP functionality during construction/transition	<ul style="list-style-type: none"> <li>• Advocates review project schedule for potential biosolids value chain impacts</li> <li>• Develop alternative procedures to deal with unusual operating conditions as needed</li> </ul>	WWTP Supervisor	1/1/10	WWTP Expansion Project Team
Objective 4.3	Research and prepare to implement new vector reduction technique upon switchover of primary clarifiers	<ul style="list-style-type: none"> <li>• Add vector reduction other than volatile solids reduction to consultant task order</li> <li>• Research other 40 CFR 503 approved vector reduction techniques</li> <li>• Consult with DEQ on approved vector reduction techniques</li> </ul>	WWTP Supervisor	9/1/08	WWTP Expansion Project Team
Objective 4.4	Investigate options for transition to Class A biosolids when cannibal system is on-line	<ul style="list-style-type: none"> <li>• Visit at least 3 comparable facilities to evaluate Class A process</li> <li>• Conduct research into cost-effectiveness of Class A options for Albany</li> </ul>	ES Technician (Biosolids)	4/1/09	Staff Time

<b>EMS Element 6 — Public Participation in Planning City of Albany Public Works – Wastewater Treatment</b>				
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**Purpose**

The purpose of this procedure is to establish public involvement in the planning process, including input regarding biosolids program performance improvements and third-party verification process. This procedure includes activities designed to enhance the public image of the City’s biosolids treatment and application programs.

**Scope**

This procedure applies to all aspects of the City’s biosolids public outreach and participation program.

**Responsible Staff**

The Biosolids EMS Coordinator has primary responsibility for this element.

**Background**

The City’s current National Pollutant Discharge Elimination System (NPDES) permit for the Wastewater Treatment Plant was issued in November 2000. In conjunction with the permit renewal, the Oregon Department of Environmental Quality sent a letter providing notification and information to property owners adjacent to sites approved for biosolids land application at that time regarding Albany’s Biosolids Management Program.

Public participation in Albany’s biosolids program continued in early 2001 when the City built a biosolids belt-filter press facility and thickened cake storage bins. A public meeting and facility tour was held in February 2001, and residents in the vicinity of the Wastewater Treatment Plant were invited. A facility tour for City staff and City Council members was held on June 11, 2001. Information was provided on the new biosolids facility, as well as the City’s wastewater treatment process and biosolids program.

**Procedure**

1. The City of Albany has developed a Biosolids Public Participation and Outreach Plan to guide the collection and analysis of input from interested parties, as well as the dissemination of information related to the Biosolids Program. Information on Public Outreach may be found in Element 9 of the Biosolids EMS. A copy of the Public Participation and Outreach Plan may be found in Appendix 6-A.
2. Interested parties are identified by meeting one of the following criteria:

- A. Owners of land permitted for biosolids application
  - B. Owners and/or residents of property adjacent to land approved for biosolids application
  - C. Representatives of local, state, and federal agencies including the Oregon Department of Environmental Quality, Oregon Department of Agriculture, Linn County Health Services, and others
  - D. Community groups including the local watershed council and Oregon State University Extension educators
  - E. Any other individual or organization that shows an interest in the City's biosolids program by contacting staff, attending a public meeting, or requesting information
3. Interested parties will be removed from the list either at their own request verbally or in writing, or when they fail to meet the criteria listed above. For instance, when ownership of a permitted field is transferred, the previous owner will be removed from the interested party list and the new owner added, assuming both parties agree.
  4. The list of interested parties is maintained on the City's network in the file G:\SEWER\WWTP\NBP-EMS\OutreachIPs.xls. The Biosolids EMS Coordinator is responsible for updating and maintaining this list.
  5. The City seeks public participation from interested parties through formal and informal methods. These include, but are not limited to, invitation for comments on the biosolids program issued through various media sources, direct mailings to actual and potential interested parties, opportunities for comment at City Council meetings and work sessions, and invitation for comments on the City's Biosolids website. City Council meetings are advertised in accordance with rules governing public meetings in the state of Oregon. The biosolids website is available at <http://www.cityofalbany.net/publicworks/biosolids>.
  6. Interested parties will be notified by the aforementioned methods for the following reasons:
    - A. Invitations to internal and third party audits for observation and/or comment.
    - B. Notification of changes in regulations regarding the City of Albany's Biosolids Program and biosolids value chain.
    - C. During the City's approval process for new application field sites.
      1. Interested parties will be invited to express their views and concerns in regards to the City pursuing new application sites or the biosolids program in general.
    - D. To distribute and request comment on general biosolids information (national and local biosolids information).
    - E. Notification of significant changes in the City of Albany's Biosolids Program.
  7. The City documents public input in an electronic communications log maintained on the network at G:\SEWER\WWTP\NBP-EMS\OutreachEMS Contact Log.doc. A printed copy of the contact log is also available in a binder located in the EMS library.

8. Response to public input varies with the nature of the comment. City staff acknowledges receipt of the input within two business days, and works to produce a full response within one week. General questions or concerns may be addressed by any Biosolids EMS Team member. More technical questions are dealt with by the City's Environmental Services Biosolids Technician.
9. All public input is discussed at Biosolids EMS Team meetings and any necessary action items are assigned. Information about complaints and their resolution will be shared between the work groups. Input is noted with respect to its potential impact on biosolids goals or procedures, or the Biosolids EMS manual. The results of the public comment are also noted in the Contact Log with the original comment. A summary of significant interested-party input is included with the annual biosolids report.
10. Public input is sought continually in accordance with the City's Public Participation and Outreach Plan, and Element 9. Any interested party input that is received, whether solicited or not, is considered in accordance with the above procedures.

<p><b>EMS Element 7 — Roles and Responsibilities</b>  <b>City of Albany Public Works – Wastewater Treatment</b></p>				
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**Purpose**

The purpose of this element is to define the organizational roles and responsibilities for biosolids management activities throughout the biosolids value chain.

Roles and Responsibilities accomplish three main functions:

1. Biosolids value chain and EMS employees know their role.
2. The roles of key biosolids value chain and EMS personnel are identified.
3. Responsibilities are assigned to biosolids value chain personnel with the authority and resources to carry out the assigned duties.

**Scope**

This Element assigns roles and responsibilities to all biosolids management operational controls, Biosolids EMS Elements, and goals and objectives.

**Responsible Staff**

The Biosolids EMS Coordinator and Biosolids EMS Team are responsible for reviewing assigned roles and responsibilities. The Assistant PW Director/Operations Manager, Wastewater Treatment Plant Supervisor, and Environmental Services Manager assign roles and responsibilities throughout the biosolids value chain.

**Procedure**

1. Each Element in the Biosolids EMS Manual lists responsible staff for that element. Table 7.1 summarizes the Roles and Responsibilities for each EMS Element.

<b>Table 7.1 – Biosolids EMS Responsibilities</b>		
<b>Element</b>	<b>Element Description</b>	<b>Roles &amp; Responsibilities</b>
1	Documentation of Environmental Management System (EMS) for Biosolids	Biosolids EMS Coordinator, Biosolids EMS Team
2	Biosolids Management Policy	Biosolids EMS Coordinator, Biosolids EMS Team, Public Works Director, Assistant PW Director/Operations Manager
3	Critical Control Points	WWTP Supervisor, ES Manager
4	Legal and Other Requirements	WWTP Supervisor, ES Manager
5	Goals and Objectives	Biosolids EMS Team
6	Public Participation in Planning	Biosolids EMS Coordinator
7	Roles and Responsibilities	Biosolids EMS Team, Biosolids EMS Coordinator
8	Training	Biosolids EMS Coordinator
9	Communications and Public Outreach	Biosolids EMS Coordinator
10	Operational Control of Critical Control Points	WWTP Supervisor, ES Manager
11	Emergency Preparedness and Response	Biosolids EMS Team, Biosolids EMS Coordinator
12	Documentation and Document Control	Biosolids EMS Coordinator
13	Monitoring and Measuring	ES Manager, WWTP Supervisor
14	Nonconformances: Preventative and Corrective Action	Biosolids EMS Coordinator
15	Periodic Biosolids Program Performance Report	Biosolids EMS Coordinator, WWTP Supervisor, ES Manager
16	Internal EMS Audit	Biosolids EMS Coordinator
17	Management Review	Biosolids EMS Coordinator, Biosolids EMS Team, Assistant PW Director/Operations Manager, Public Works Director

2. Annually, the Biosolids EMS Coordinator, the Wastewater Treatment Plant Supervisor and the Environmental Services Manager will review the individuals assigned to roles relevant to the Biosolids EMS and will update Table 7.1.
3. Specific Roles and Responsibilities are also listed in the following tables:
  - A. Table 3.1 – Critical Control Points and Operational Controls
  - B. Table 5.1 – Biosolids EMS Goals and Objectives
4. Organizational charts for the Public Works Department and biosolids value chain are available in Appendix 7-A.

## **Key Biosolids EMS Roles and Responsibilities**

### 1. Assistant PW Director/Operations Manager

The Assistant PW Director/Operations Manager is responsible for all Public Works Operations tasks including management of the Wastewater Treatment Plant, Environmental Services, and virtually all personnel who work in the biosolids value chain. The Assistant PW Director/Operations Manager reports directly to the Public Works Director and has the authority to allocate staff time and monetary resources within the Operations Division. The Assistant PW Director/Operations Manager is specifically responsible for selecting the Biosolids EMS Coordinator and the Biosolids EMS Team. The Assistant PW Director/Operations Manager, along with the Public Works Director are responsible for review and approval of the EMS Goals and Objectives. Additionally, the Assistant PW Director/Operations Manager participates in the Biosolids EMS Management Review as described in Element 17.

### 2. Biosolids EMS Coordinator

This individual is assigned in writing by the Assistant PW Director/Operations Manager. The Biosolids EMS Coordinator has general responsibility to ensure the policies and procedures related to the Biosolids EMS are carried out. The specific tasks assigned to the Biosolids EMS Coordinator include:

- Facilitating the Biosolids EMS Team meetings
- Providing EMS training or assigning training responsibilities to qualified staff
- Maintaining control of all EMS-related documents
- Ensuring internal and third-party audits are conducted as required by the EMS
- Reviewing all nonconformance and corrective action forms to ensure the appropriate work group takes action and documents corrective actions
- Compiling information for the annual biosolids performance report and the annual management review
- Creating and revising the Biosolids Public Participation and Outreach Plan
- Maintaining the list of interested parties
- Responding to general questions and comments about the biosolids program
- Coordinating updates to the City's biosolids web pages
- Developing outreach materials such as pamphlets

While the EMS Coordinator may delegate any of these tasks to members of the Biosolids EMS Team, he/she is responsible for ensuring the tasks are completed in accordance with the EMS Manual and any other policies or procedures.

3. Biosolids EMS Team

The Biosolids EMS Team is appointed by the Assistant PW Director/Operations Manager. Team members are selected from various work groups associated with the biosolids value chain. The Biosolids EMS Team works under the direction of the Biosolids EMS Coordinator. The Biosolids EMS Coordinator may assign certain tasks to team members. As a group, the Biosolids EMS Team will review and evaluate progress toward goals and objectives quarterly. The Biosolids EMS Team also reviews interested party input relative to the Biosolids EMS, roles and responsibilities, emergency preparedness policies, and the annual management review.

4. Biosolids EMS Internal Audit Team

The Internal Audit Team will be appointed by the Biosolids EMS Team. The Audit Team is responsible for ensuring the Biosolids EMS Manual, the day-to-day operation of the WWTP facility, and land application practices associated with the biosolids program agree with the requirements of the NBP EMS program. The Audit Team will provide a summary of findings and conclusions to the EMS Team.

5. Environmental Services Manager

The Environmental Services (ES) Manager is responsible for the Industrial Pretreatment Program and Biosolids Application Program. Specific responsibilities of the ES Supervisor include, but are not limited to:

- Preparing the Annual Pretreatment Report and the Annual Biosolids Report for DEQ
- Permitting, sampling, and inspection of Categorical Industrial Users and Significant Industrial Users, and monitoring and inspection of Non-discharging Categorical Industrial Users
- Describing Biosolids CCPs and OCs associated with the pretreatment program
- Tracking and reporting on changes to regulatory and other legal requirements that may affect the EMS program
- Ensuring adequate monitoring and measurement practices are in place to evaluate performance of the pretreatment program and Biosolids EMS
- Contributing to the Biosolids Management Program Performance Report

6. Wastewater Treatment Plant Design Team

The Design Team consists of consulting engineers and City staff designated by the Public Works Director. The Team is responsible for design and construction of the upgrades to the Wastewater Treatment Plant.

7. Wastewater Treatment Plant Supervisor

The Wastewater Treatment Plant (WWTP) Supervisor is responsible for the day-to-day operation of the wastewater treatment plant. The WWTP Supervisor evaluates WWTP staffing needs to ensure adequate staff is available to operate the facility and plans, directs, and monitors the long-

range work plans and activities performed in the wastewater treatment plant and pump stations. Specific responsibilities include, but are not limited to:

- Ensuring compliance with state and federal permit requirements, rules, and regulations with respect to the WWTP
- Describing Biosolids CCPs and OCs associated with the WWTP
- Tracking and reporting on changes to regulatory and other legal requirements that may affect the EMS program
- Ensuring adequate monitoring and measurement practices are in place to evaluate performance of the WWTP and Biosolids EMS
- Contributing to the Biosolids Management Program Performance Report

8. Facilities Mechanics Supervisor

The Facilities Mechanics (FM) Supervisor is responsible for daily maintenance of the WWTP and associated facilities. FM staff performs routine, preventive and emergency maintenance on a variety of equipment in the biosolids value chain. The FM Supervisor and staff coordinate with the WWTP staff via the electronic maintenance management system to identify equipment for repair in order to maintain peak operational control of the WWTP process.

9. Water Quality Control Supervisor

The Water Quality Control Supervisor assists with outreach and public comment responses as needed. This position also supervises the Wastewater Treatment Plant Laboratory Technician who is responsible for performing some analysis of biosolids.



<b>EMS Element 8 — Training Albany Wastewater Treatment Plant</b>				
Date of Last Review <b>5/28/08</b>	Revision <b>05</b>	Approval Signature	Revision / Effective Date <b>6/6/08</b>	Supersedes all previous versions

**Purpose**

The purpose of this procedure is to describe the training program the City of Albany will use in its Biosolids Management Program to ensure affected employees are proficient in their EMS responsibilities and biosolids management activities.

**Scope**

This element applies to all training related to the biosolids value chain, performed either in-house or off-site by a qualified instructor.

**Responsible Staff**

The Biosolids EMS Coordinator is responsible for ensuring Biosolids EMS-related training occurs in accordance with the following procedures. He/she may delegate the responsibility for conducting training to other City staff or qualified instructors as necessary.

**Procedure**

1. Training is an on-going process for all employees. Employees throughout the Public Works department are encouraged to pursue professional development and job-skill training. Training opportunities include:
  - a. Certification programs. WWTP operator certification (levels 1-4), and professional training programs are available at local community colleges.
  - b. OJT. Structured on-the-job (OJT) training is provided to new employees.
  - c. Continuing Education. Workshops, seminars, and other courses with continuing education credits are offered by the Linn-Benton Training Center, Water Environment Federation (WEF), Association of Clean Water Agencies (ACWA), Northwest Biosolids Management Association (NBMA), and other professional or trade organizations.
2. Training on the City’s Biosolids EMS program is conducted throughout the year. The Biosolids EMS Coordinator works with the appropriate supervisors to identify all employees required to receive EMS training and the level of EMS training needed, based on their duties relative to the biosolids value chain.
3. Biosolids EMS training can take place using any of the following formats:

- a. Formal training meetings
  - b. Workgroup-specific staff meetings
  - c. Individual training from appropriate supervisors
  - d. Individual review of training materials
4. Training is divided into general EMS training and advanced EMS training.
    - a. General training includes an overview of the biosolids program, a description of the Biosolids EMS, safety training, and emergency response information.
    - b. Advanced EMS training includes information on biosolids legal and quality requirements and relevant SOPs.
  5. New, re-assigned, and temporary employees working in the biosolids value chain will be required to view the most recent version of the appropriate EMS training materials as part of their orientation. This training shall be completed within three months of their hire date.
  6. Employees in the biosolids value chain will receive general EMS training as well as advanced training on SOPs relevant to their work group. General training will be provided at least annually and advanced training will be provided when required by changes in equipment, procedures, or at the supervisor's discretion. Employees with EMS-related tasks but who are not in the biosolids value chain (such as administrative assistants) will receive general training at least biannually.
  7. Occasionally, the City contracts with outside personnel to perform certain maintenance tasks on equipment involved in the biosolids value chain. When this happens, contracted personnel will receive the general training and training on any SOPs or other requirements that may be necessary, depending on the nature of their work.
  8. The responsible supervisor will fill out the Biosolids/EMS Training Form located on the City's network at G:\SEWER\WWTP\NBP-EMS\EMS Training Record\Biosolids EMS Training Form.template.xls. The form will then be given to the Operation's Administrative Assistant for the information to update the electronic training database accessible by the Operations Administrative Assistant. A hardcopy will also be kept in the Biosolids EMS library.
  9. Employees who miss a regularly scheduled training session will be required to review the training material and sign indicating they have done so within four weeks of their return to work.
  10. Training for safety, emergency preparedness and spill response is conducted on a periodic basis in accordance with Element 11.

<p><b>EMS Element 9 — Communication and Outreach</b>  <b>City of Albany Public Works – Wastewater Treatment</b></p>				
Date of Last Review <b>5/28/08</b>	Revision <b>03</b>	Approval Signature	Revision / Effective Date <b>8/22/06</b>	Supersedes all previous versions

**Purpose**

The purpose of this procedure is to describe the communication and public outreach program surrounding the City’s Biosolids Management Program.

**Scope**

This element applies to all communication concerning the biosolids value chain and all EMS elements.

**Responsible Staff**

The Biosolids EMS Coordinator is primarily responsible for this element.

**Procedure**

Communication and public outreach may be achieved as described below. These methods will be prioritized and selected, and likely will not be used all at once nor is this list all inclusive. This element is designed to work closely with the procedures described in Element 6.

1. Public participation in planning is also listed in EMS Element 6 and reference should be made to these items. Element 6 also describes how the interested party list is generated and maintained.
2. The City has developed a Biosolids Public Participation and Outreach Plan to allow for collection and analysis of input (see Element 6) as well as dissemination of information related to the biosolids program. A copy of this plan may be found in Appendix 6-A.
3. A pamphlet printed by the Northwest Biosolids Management Association (NBMA) is available to provide basic information on biosolids in response to inquiries. The Biosolids EMS Team has developed an informational pamphlet on the City’s biosolids program. The pamphlet includes general biosolids information as well as local beneficial-use data, pollutant concentrations, and nutrient value data on Albany’s biosolids. These pamphlets are available to the public upon request.
4. General regulatory and legal information is available to the public upon request, whereas changes in regulatory and legal requirements will be included in the informational pamphlet. The City’s Biosolids web page (<http://www.ci.albany.or.us/publicworks/biosolids/faq.php>) provides a link to the federal rules for biosolids. Significant changes in biosolids regulations will be communicated to interested parties using one of the methods described in Appendix 6-A.

5. Environmental Services staff will issue press releases as appropriate, regarding developments in the City's Biosolids EMS program, and significant changes in biosolids regulations. Completion of key EMS stages, including completion of a third-party audit and attainment of EMS certification, will result in press releases to update the public on the City's Biosolids EMS program.
6. City of Albany staff will promote the biosolids program through public meetings and tours of the WWTP as appropriate, targeting the general public and/or specific school, industrial, and business sectors.
7. Staff maintains records of all public outreach including presentations, facility tours, and/or public meetings. Records of attendees are used to update the active list of interested parties.
8. Internal communication is critical to facilitate effective sludge treatment, transfer, biosolids application, and compliance with regulations. The key treatment sections are listed below, with critical communication pathways noted.
  - A. Pretreatment (Environmental Services)
    - (1) Pretreatment informs WWTP staff of new industries that could affect the treatment system and/or biosolids.
    - (2) Pretreatment informs WWTP staff of industrial problems and high influent samples.
    - (3) Pretreatment informs WWTP staff and the biosolids technician of changes in metals loading and changes in local limits.
  - B. Operations
    - (1) WWTP staff informs pretreatment of plant problems or upsets that could be caused by industrial discharges.
    - (2) WWTP staff informs the biosolids technician of any problems or changes regarding quality of digested biosolids, as well as fluctuations in quantity of biosolids generated.
    - (3) WWTP staff informs the biosolids technician and pretreatment of major maintenance items scheduled, including digester cleaning, clarifier takedowns, or other items that could affect treatment plant operations.
  - C. Biosolids Technician (Environmental Services)
    - (1) Biosolids informs WWTP staff and pretreatment of any changes in biosolids quality, including odor, visual, solids concentrations, or regulated test parameters.
    - (2) Biosolids informs WWTP staff of any problems with application sites, (e.g., loss of sites, complaints from the public or farm owners).
9. The public participation actions addressed in Element 6 provide the City with input from interested parties. This input is considered when revising major EMS program elements such as the policy and goals.
10. Internal communication with employees in the biosolids value chain also provides input on the EMS program.
  - A. Communication to biosolids value chain employees includes regular training on the City's current biosolids policy, legal and other regulatory requirements, and on other issues relevant to biosolids. Training is fully addressed in Element 8.

- B. Biosolids value chain employees receive other biosolids-related information at regularly scheduled staff meetings, by updates on the City's intranet, and other means of communication.
  - C. The EMS Team also seeks input from biosolids value chain employees on the biosolids EMS program including the EMS manual, biosolids goals and objectives, and internal audit procedures.
11. The City's biosolids policy will be communicated to value chain staff through presentations at department and division meetings, on signs placed throughout the workplace, and regular Biosolids EMS training. For more information on the City's biosolids policy, see Element 2.
12. To ensure interested parties become familiar with the biosolids policy, it is posted on the City's biosolids website, included in any formal correspondence, and included in presentations on the City's biosolids program.
13. Communication to interested parties is accomplished primarily through letters mailed directly to known and potential interested parties. These letters are produced on a template which contains the Albany biosolids logo and policy statement on the first page of the letterhead. This template is available on the network at G:\SEWER\WWTP\NBP-EMS\Outreach\EMS Letter Template.dotx. In addition, the following methods will be used to communicate with interested parties:
- A. The City's biosolids webpage <http://www.cityofalbany.net/publicworks/biosolids>.
  - B. Tours of the WWTP
  - C. City Council meetings
  - D. Correspondence with regulatory and county officials
  - E. Informational brochures and pamphlets
  - F. Annual biosolids report to Oregon Department of Environmental Quality
  - G. Annual Biosolids Management Program Performance Report (BMPPR)
  - H. "Biosolids Quarterly" newsletter
  - I. Semi-annual Pretreatment Newsletter
14. Third-party audit results will be made available to the public primarily through the City's biosolids website. A summary as well as the full audit report will be posted on the website as soon as they are made available to the City. The Biosolids EMS Coordinator will provide a press release announcing the availability of the third-party audit results.



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**EMS Element 10 — Operational Control of Critical Control Points  
City of Albany Public Works – Wastewater Treatment**

Date of Last Review <b>5/28/08</b>	Revision <b>05</b>	Approval Signature	Revision / Effective Date <b>6/6/08</b>	Supersedes all previous versions
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***Purpose***

The purpose of this procedure is to ensure the City systematically establishes, implements, and maintains the necessary operational control procedures, work instructions, and other management controls.

***Scope***

This procedure applies to all biosolids management activities at critical control points throughout the biosolids value chain.

***Responsible Staff***

The Environmental Services Manager and Wastewater Treatment Plant Supervisor are responsible for providing the necessary training, guidance, and assistance in identifying, developing, documenting, and implementing needed operational control procedures.

***Procedure***

1. Based on the identified list of critical control points, the Biosolids EMS Team and appropriate supervisors will determine those activities, products, and services for which operational control procedures, work instructions, and other management control methods are needed.
2. In collaboration with biosolids value chain staff, the appropriate supervisors will develop, document, and implement all necessary operational control procedures and communicate them to their staff. The operational control procedures will contain operating criteria (e.g., process specifications and parameters, product characteristics, and service instructions).
3. The appropriate supervisors will provide the necessary training and guidance to support the development, implementation, and maintenance of the needed operational control procedures. Biosolids EMS training will be provided as outlined in Element 8.
4. The appropriate supervisors will oversee the implementation of operational control procedures in their respective activity areas. This includes ensuring employees in each activity area receive the necessary resources, training, and support services to properly implement the operational controls.
5. Operational controls provide methods and procedures to ensure uniform and efficient management at each critical control point. To show the relationship between operational controls and critical control points and to streamline documentation of information, Element 10 information is integrated with critical control points in Element 3, Table 3.1.

6. Preventive maintenance activities are based on manufacturer's recommendations for equipment in each critical control point. Preventive maintenance activities are scheduled and documented through the Maintenance Management System. The data technicians track and update the preventive maintenance activities and documents as they are generated.
7. The Biosolids EMS Team will periodically review the operational control procedures, which are listed in Element 3, Table 3.1, and work with supervisors to revise them according to any changes in the facility's critical control points.

<b>EMS Element 11 — Emergency Preparedness and Response City of Albany Public Works – Wastewater Treatment</b>				
Date of Last Review <b>5/28/08</b>	Revision <b>03</b>	Approval Signature	Revision / Effective Date <b>8/22/06</b>	Supersedes all previous versions

**Purpose**

The purpose of this procedure is to develop a plan to prepare for and respond effectively to accidents, spills, weather-related emergency situations, abnormal conditions, and other contingencies for biosolids management activities.

**Scope**

This procedure is critical to all real and perceived risk emergency situations concerning the biosolids management process.

**Responsible Staff**

The Biosolids EMS Team and Biosolids EMS Coordinator are responsible for implementing this emergency response procedure as well as ensuring the completion and regular updating of this element.

**Procedure**

1. A copy of the City of Albany Emergency Operations Plan, Parts One through Four, is available in the Assistant PW Director/Operations Manager’s office. A condensed version of the plan is available to all employees in the Risk Management section of the City’s intranet. This plan covers a variety of emergency situations including natural disasters, bomb threats, and other crises.
2. A Biosolids Contingency Plan was developed to provide clear protocol should there be an emergency ranging from equipment failure to a plant upset affecting the biosolids value chain. The plan gives direction to the persons responsible for performing the correct actions and making the appropriate correspondence. The Biosolids Contingency Plan is maintained in the Biosolids SOP notebook in the ES office and is reviewed annually.
3. The Environmental Services section has developed a procedure for *Spills of Digested Biosolids* (BS-007) which is formally reviewed and updated a minimum of once every year. Interim revisions to specific sections of the SOP are made on an as-needed basis. The ES Manager is responsible for coordinating the formal review and update of the SOP.

The SOP establishes clear protocol for how a variety of spills should be handled. Copies of the SOP are located in the Biosolids Building Control Room, the Biosolids EMS document library, and the Biosolids application truck.

4. Spill drills are conducted at least every two years in order to implement the SOP and improve the procedure. It also gives the active parties valuable training in spill response. The Biosolids Technician is responsible for coordinating and conducting the drill, while the EMS Coordinator is responsible for documenting the drill.
5. Testing and training with respect to safety and emergency response procedures related to biosolids is conducted on a periodic basis as determined by the Biosolids EMS Coordinator and/or work group supervisors in accordance with Element 8.
6. The need to require contractors performing work related to the City's biosolids program activities to develop Emergency Response and Preparedness Plans will be determined on a case-by-case basis. Generally, contracted activities are limited to maintenance, construction, and repair, and are not related to hauling and application of biosolids. Therefore, relevant portions of the City's Emergency Response Plans are applicable to these contracted activities and contractors are not required to develop their own Emergency Response Plans.

<b>EMS Element 12 — EMS Documentation, Document Control, and Record Keeping</b> <b>City of Albany Public Works – Wastewater Treatment</b>				
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**Purpose**

The purpose of this element is to establish and maintain EMS documentation, documents, and records pertaining to biosolids management activities and to keep up-to-date procedures.

**Scope**

This procedure covers the Biosolids EMS Manual, and all level 1, 2, 3, and 4 documents (see below).

**Responsibility**

The Biosolids EMS Coordinator is responsible for ensuring documents conform to the adopted document control standards as set forth in the Biosolids EMS Manual and this element.

**Procedure**

1. Unless otherwise noted, all Biosolids EMS documents will be kept in the Biosolids EMS library, located in the Environmental Services office.
2. The Biosolids EMS Team has created four categories or levels of documents based on the scope of the document. The levels are further explained in the Definitions section of this manual. Level 1, 2, and 3 documents are described in Table 12.1. Because they are updated more frequently, a list of Level 4 documents is maintained in a separate file on the City’s network.
3. Level 1 and 2 documents include the City’s biosolids policy, commitment letters, management plans, and other high-level documents. These documents are reviewed and updated as necessary by the Biosolids EMS Team or other staff as appropriate.
4. Level 3 documents include the Biosolids EMS Manual and SOPs as described in Elements 3 and 10. These documents are reference documents for daily operations and will be reviewed and updated annually, or as procedures change.
  - A. The first page of all Level 3 documents will contain the title, including document number (if any); the revision date and initials; and the date of last review and initials.
  - B. All Level 3 documents must be labeled with the correct revision number and must include a reference to the replaced/superseded version. The header of these documents may contain other information such as appropriate reference material, equipment needed, or scope at the discretion of the workgroup supervisor.

- C. Within the EMS Manual, all tables, charts, graphs, and appendices share the revision number and date of their respective element unless otherwise indicated.
  - D. Each work group supervisor is responsible for revision of work group SOPs, approval of revised SOPs, and development of new SOPs. Revision of EMS manual procedures and approval of those revisions is performed by the EMS Team. Once the revisions are accepted by the EMS Team, the Assistant PW Director/Operations Manager signs each element to indicate his/her approval.
5. Level 4 documents include daily logs, worksheets, forms, and associated reports. These documents are listed in a separate table maintained on the City's network at G:\PUBLIC WORKS\OPERATIONS\SEWER\WWTP\NBP-EMS\EMS MANUAL DOCUMENTS\Summary of Level 4 Documents and Reports.doc.
    - A. All Level 4 documents will contain a footer with the following information
      - Wording indicating that the document is a "Controlled Document"
      - Revision date
      - Path to locate the document on the City's network drive
  6. Retention periods for all documents will conform to applicable state document retention guidelines as described in OAR 166-200. Inactive documents may be moved from the active Biosolids EMS library to either physical or electronic storage locations.
  7. The Biosolids EMS Coordinator is responsible for coordinating reviews and updates to the Biosolids EMS Manual. At least once every year the 17 elements in this document will be reviewed and updated if necessary. Interested parties will be notified of significant changes to the Biosolids EMS Manual once those changes are made. Significant changes include those that alter procedures, responsible staff, or the primary content of any element. Grammatical changes, links to electronic files, and other similar changes are not considered significant.

**Table 12.1 – Summary of Level 1-3 EMS Documents and Records**

Level	Name of Document	Type	Issue Date	Revision Date	Records/Reports Documentation	Associated CCP	Retention Requirements
1	Biosolids Mission Statement	Program Document	2002	N/A	None	None	Until superseded
1	Biosolids Management Policy	Policy	2002	N/A	None	All	Until superseded
1	Albany Municipal Code (AMC) Chapter 10.06	Program Document	Jan 1996	Jan 2006	None	SIUs, Hauled waste discharge, Spills—including illegal discharge, Non-discharging categorical discharges	Permanent
1	Albany-Millersburg Sewer Use Agreement	Program Document	Dec 1996	Jan 2008	None	NDCIUs	Permanent
1	Millersburg Sewer Use Ordinance	Program Document	May 1993	N/A	None	NDCIUs	Permanent
1	NPDES Permit for the Albany Wastewater Treatment Plant	Program Document	Nov 2000	N/A	DMR, Reports as required	All	Permanent
1	Land Application DEQ Permits	Program Document	As Approved	N/A	Soil sample data, Site-specific restrictions	Application sites, Site monitoring/ Post application site management	Permanent
2	Biosolids Management Plan	Program Document	June 2000	Mar 2006 (DEQ approval)	Application site maps, initial nutrient data	Transportation routes, Application sites, Site monitoring	Permanent
2	Discharge Monitoring Report (DMR)	Report	Monthly	Monthly	None	All	Permanent
2	Annual DEQ Plant Inspection Report	Report	Annually	Annually	None	All	Permanent
2	DEQ Annual Pretreatment Report	Report	Annually March 1	Annually	Plant data, Industrial data, Enforcement data	All Pretreatment CCPs as listed in Table 3.1	Permanent

**Table 12.1 – Summary of Level 1-3 EMS Documents and Records**

Level	Name of Document	Type	Issue Date	Revision Date	Records/Reports Documentation	Associated CCP	Retention Requirements
2	BMPPR	Report	Annually April 1	Annually	Report	All	Until superseded or obsolete
2	Annual DEQ Biosolids Report	Report	Annually February 19	Annually	Sample data, Application data Total production DMRs	All	Permanent
3	Biosolids EMS Manual	Program Document	3/2005	As indicated	Reports, Tracking forms, etc.	All	5 years
3	WWTP SOPs	Procedure	Various	Various	Operator's Log, Checklist, Worksheets, Mass Balance Sheet	Preliminary treatment through Dewatering/Belt Filter Press/Centrifuges	5 years
3	Pretreatment Program SOPs	Procedure	Various	Various	Permits, Tracking Sheets, Inspection Reports	SIU through NDCIU	5 years
3	Biosolids SOPs	Procedure	Various	Various	Hauling Records, Biosolids Analysis Tracking Forms	Truck loading through Site monitoring/post application site management	5 years

<b>EMS Element 13 — Monitoring and Measurement City of Albany Public Works – Wastewater Treatment</b>				
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**Purpose**

This element covers the process used to track progress toward goals, objectives, and targets of continual improvement. Element 13 serves the following functions:

1. Ensures compliance with applicable legal and other requirements
2. Measures biosolids program performance at critical control points
3. Tracks progress toward achieving biosolids program goals and objectives per Element 5
4. Measures effectiveness of the Biosolids EMS program

**Scope**

Element 13 covers all critical control points in the biosolids value chain and documents the effectiveness of CCPs, operational controls, biosolids application, public outreach, and overall EMS efforts.

**Responsible Staff**

The Environmental Services Manager, Wastewater Treatment Plant Supervisor, and designated staff will be responsible for ensuring that all Biosolids EMS aspects requiring monitoring and measuring are followed and documented.

**Procedure**

1. The Biosolids EMS team will review progress toward biosolids goals and objectives quarterly. Progress will be monitored using the quarterly summary report as stated in Element 5.
2. All legally required monitoring and measurements will be conducted at specified intervals to ensure compliance with all federal and state regulations (See Element 3, Table 3.1).
3. Additional monitoring and measurements will be conducted and documented in response to process problem troubleshooting, citizen complaints, and periodic performance reports. Nonconformance and corrective actions will be documented in accordance with Element 14.
4. The ES Manager or designated staff will annually evaluate performance metrics of contract laboratories used in biosolids compliance testing including laboratory quality assurance, quality control and other data as needed. If contract lab performance is not satisfactory, the ES Manager

will advise the Biosolids EMS Team and recommend further testing or termination of the contract.

5. A key record in monitoring WWTP operations is the Mass Balance Sheet, available on the network at G:\PUBLIC WORKS\OPERATIONS\SEWER\DEQ\PLANT\MASS BALANCE. These spreadsheets are used to track data daily throughout the plant, to analyze this data on a monthly basis, and to graph trend data for optimal performance of various critical control points.

<b>EMS Element 14 — Nonconformance: Preventive and Corrective Action City of Albany Public Works – Wastewater Treatment</b>				
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### ***Purpose***

The purpose of this EMS element is to develop procedures for identifying, investigating, and taking corrective action(s) for nonconformances.

### ***Scope***

This procedure addresses preventive and corrective action(s) to address nonconformances identified during routine monitoring and measurement, audits, and other inspections.

### ***Responsible Staff***

The Biosolids EMS Coordinator in conjunction with the ES Manager and the WWTP Supervisor, will be responsible for addressing and tracking identified nonconformances and corrective actions within the biosolids value chain.

### ***Procedure***

This element is an important key to continual improvement. When elements of the environmental management system or biosolids value chain deviate from requirements, it is necessary to determine the cause, change the operating procedures and objectives, change training requirements, and address any environmental impacts that may have occurred as a result of the problem. Nonconformance conditions may be discovered either in the course of day-to-day biosolids management activities or through a systematic EMS audit process.

1. Legal and regulatory noncompliances that affect, or may potentially affect, the biosolids value chain will be dealt with according to the applicable regulatory requirements. Noncompliances will also be considered EMS nonconformances and processed in the same manner as other nonconformances. Deadlines to meet compliance requirements identified as nonconformances will be strictly enforced. The responsible supervisor must coordinate with the appropriate regulatory agency to request extensions if the supervisor anticipates problems meeting the deadline.
2. **Informal Corrective Action Plan.** Nonconformances identified during routine operations will be addressed using the EMS Corrective Action Form (Appendix 14-A). This form requires a description of the nonconformance including the root cause of the condition, any applicable regulatory or other requirements, proposed corrective actions, and a description of the action taken to correct the nonconformance, among other information.

3. **Formal Corrective Action Plan.** Nonconformances identified in either internal or third-party audits will also be addressed using the EMS Corrective Action Form. In addition, all nonconformances that result from an audit will be tracked using the Corrective Action Tracker located on the network at G:\SEWER\WWTP\NBP-EMS\Corrective action work orders. The Biosolids EMS Coordinator is responsible for completing the Tracker and ensuring it is reviewed at EMS Team meetings. The EMS Coordinator will keep the Tracker up to date with expected completion dates, progress made toward each nonconformance, required resources, and other information as required.
4. The Corrective Action Form will be given to the appropriate supervisor and he/she will assign responsibility to ensure appropriate steps are taken to correct the nonconformance. The corrective action will be reviewed at subsequent meetings of the Biosolids EMS team until the action is verified and accepted and the nonconformance is closed. Review of the nonconformance includes taking steps to prevent any future recurrence of the same or similar nonconformance, such as identifying the root cause, providing additional training, etc. Any required changes to procedures, training, or other processes that are designed to prevent recurrence will be performed and documented before the nonconformance may be considered closed. Steps taken to prevent recurrence will be documented on the Corrective Action Form. If the deadline for correcting a nonconformance is missed, the EMS Coordinator will work with the responsible supervisor to identify any resources required and to resolve the nonconformance as quickly as possible.
5. Nonconformances associated with equipment or machinery will be assigned, documented, and tracked using the Maintenance Management System. The appropriate supervisor is responsible for identifying the problem, and will notify the Biosolids EMS team at the next meeting. Updates on the corrective action will be brought to subsequent EMS meetings until the nonconformance is closed.
6. The Biosolids EMS Coordinator is responsible for verifying that nonconformances have been closed unless the Coordinator is the responsible supervisor identified on the Corrective Action Form. In that case, the EMS Team will assign the task of verifying corrective actions to another individual.
7. Once a year, at a minimum, the effectiveness of all preventive and corrective actions taken will be evaluated. This will normally be performed as part of the annual Biosolids Management Program Progress Report process.

<p><b>EMS Element 15 — Performance Report</b>  <b>City of Albany Public Works – Wastewater Treatment</b></p>				
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**Purpose**

The purpose of this EMS element is to describe the process of completing an annual written Biosolids Management Program Performance Report (BMPPR) that summarizes the performance of the Biosolids Management Program and EMS to drive continued improvement.

**Scope**

The BMPPR shall contain appropriate summaries of monitoring, measurements, and other results demonstrating the performance of the biosolids program relative to its goals, objectives, and legal requirements, including those management activities conducted by the Wastewater Treatment Plant.

**Responsible Staff**

The Biosolids EMS Team and Biosolids EMS Coordinator are responsible for preparing the BMPPR. The Biosolids EMS Coordinator will ensure information from the report is made available to interested parties.

**Procedure**

1. The performance of the Biosolids Management Program and EMS will be published in an annual Biosolids Management Program Performance Report (BMPPR) made available to interested parties, the public, and the National Biosolids Partnership no later than July 1. If an audit is scheduled in June or July, the BMPPR will be made available as soon as possible to include the summary of the audit as required by paragraph 3 of this element.
2. The report will provide evidence of the commitment to adhere to the Code of Good Practice and the City’s biosolids policy, as well as evidence the department is striving to meet all biosolids EMS goals and objectives set out the previous year. The report will also be used as a tool to foster and facilitate communication with the general public.
3. At a minimum, the BMPPR will include monitoring and measurement results demonstrating progress toward goals and objectives, legal and regulatory compliance, and results of internal and/or third-party audits within the last twelve months. The report may also include any or all of the following:
  - A. Significant changes to the Biosolids EMS program
  - B. Biosolids program web page update and usage statistics

- C. Projection of changes or additions to goals and objectives
  - D. Summary of abnormal or emergency incidents, as well as significant preventive and corrective actions taken
4. The Biosolids EMS Coordinator will ensure information contained in the BMPPR is made available to interested parties by providing copies of the report, or by providing a summary performance evaluation. In addition, information from the report will be posted on the city's website.

<p><b>EMS Element 16 — Internal EMS Audit</b>  <b>City of Albany Public Works – Wastewater Treatment</b></p>				
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**Purpose**

The Internal EMS Audit is used to periodically analyze the Biosolids EMS program to determine whether the city is effectively implementing its Biosolids Management Policy, program requirements, and program goals and objectives.

**Scope**

This procedure applies to the entire biosolids value chain and the EMS.

**Responsible Staff**

The Biosolids EMS Coordinator is responsible for this element and will designate an internal audit team to conduct the internal audit. The Assistant PW Director/Operations Manager and Public Works Director will ensure resources are available to conduct the audit and will review and approve audit results.

**Procedure**

1. The Biosolids EMS Coordinator will work with the Biosolids EMS Team to recruit the internal audit team. The Biosolids value chain staff will be notified of the impending audit prior to the audit start date. Notification will cover the scope, schedule, and other pertinent information.
2. The Biosolids EMS internal audit team will be comprised of two to three individuals from various work groups within the biosolids value chain. One or more audit team members may be from another agency or an independent contractor. No internal audit team member may audit an area over which they have direct control as part of their regularly assigned duties. The internal audit team will designate a lead auditor and identify that person as lead auditor on all audit documents.
3. The internal audit will be conducted according to the current version of the National Biosolids Partnership document *Third Party Verification Auditor Guidance*.
4. The Public Works Director and Assistant PW Director/Operations Manager will ensure audit training and resources are provided to internal audit team members. At a minimum, one member of the internal audit team will have received training from either the NBP or another source acceptable to the EMS Team. The remainder of the internal audit team will at the least receive training consisting of review of general auditing techniques provided by a certified auditor, the NBP, or the internal audit lead auditor.

5. Internal audits must be conducted in years that a third-party audit (either interim or re-verification) is **not** being conducted. Internal audits may also be conducted in addition to a third-party audit if the Biosolids EMS Team feels the additional audit is necessary.
  - A. Internal audits may substitute for third-party interim audits according to the guidelines in the *Third Party Verification Auditor Guidance*. Internal interim audits must review progress toward goals and objectives, EMS outcomes, actions taken to prevent minor nonconformances, the management review process, corrective actions, and preventive action requests. Additionally, internal interim audits will analyze aspects of the program agreed to by the City’s EMS representative and the third-party auditor in the interim audit plan.
  - B. The audit schedule for years 0 through 9 is as follows:
 

Year 0: 3 <sup>rd</sup> party verification audit	Year 5: 3 <sup>rd</sup> party re-verification audit
Year 1: 3 <sup>rd</sup> party interim audit	Year 6: Optional internal interim audit
Year 2: Optional internal interim audit	Year 7: 3 <sup>rd</sup> Party interim audit
Year 3: 3 <sup>rd</sup> party interim audit	Year 8: Optional internal interim audit
Year 4: Optional internal interim audit	Year 9: 3 <sup>rd</sup> party interim audit
  - C. All EMS elements must be covered at least once during each cycle of four interim audits, either by the third-party auditor or the internal audit team.
  - D. Results of the internal interim audit must be summarized in a report that is made available to the EMS Team, management, interested parties, and the NBP.
6. The specific scope of each internal audit will vary. Each internal audit may examine any or all activities related to the biosolids value chain, however every internal audit must investigate whether the program is conforming to the biosolids policy and program requirements, and whether it is making progress toward goals and objectives. The internal audit team will develop the audit scope based on these required elements as well as:
  - A. The potential environmental impacts of biosolids activities
  - B. Results of previous audits, including third-party audits
  - C. Changes or modifications to processes or procedures
  - D. Changes in requirements stipulated by applicable environmental laws and regulations (local, state, and federal)
7. The internal audit team is responsible for ensuring audit protocols and procedures are in place to focus on the objective evidence relating to the biosolids program. Specific duties include but are not limited to:
  - A. Developing the audit schedule. The specific audit activities will be scheduled with tentative time frames by the internal audit team and given to the EMS Coordinator no later than one week prior to the audit. Each internal audit will include an opening meeting with the EMS Team, a schedule for interviews and transaction testing, a summary meeting with the EMS Coordinator, and a closing meeting with the EMS Team.

- B. Determining the method for conducting the audit, including assigning audit responsibilities and determining appropriate methods for collecting objective evidence.
  - C. Using standard forms such as checklists, corrective action request forms, and audit assessment forms, or developing new forms if necessary. A guide for the internal audit including EMS Manual requirements and associated questions is available on the network at H:\Data\Biosolids\Internal Audit Forms\int audit checklists.apr 2005.xls.
  - D. Determining how corrective and preventive actions will be verified for effectiveness, in accordance with Element 14.
- 8. Auditors will conduct a closing meeting to discuss identified nonconformances and/or deficiencies with the Biosolids EMS program. At this time, the Biosolids EMS Team may present any final evidence concerning the audit findings.
  - 9. The lead auditor is responsible for writing the internal audit report itemizing all findings and identifying them as major nonconformances, minor nonconformances, or opportunities for improvement. This report will be posted on the City's biosolids website with opportunity for public comment.
  - 10. The EMS Team will summarize the internal audit results, including the internal audit report, recommended corrective actions, and a schedule for corrective actions. These audit results will be communicated to the Public Works Director and Assistant PW Director/Operations Manager for their review and approval.
  - 11. Nonconformances identified in the internal audit will be addressed using procedures in Element 14.
  - 12. The EMS Coordinator will ensure internal audit records are maintained in the EMS library. These records should include:
    - A. Description of each audit's scope, schedule, protocol and methodology
    - B. Identification of the lead auditor and his/her qualifications
    - C. The Internal Audit Report
    - D. Other records that describe the content and conduct of the internal audit, as necessary



**EMS Element 17 — Periodic Management Review of Performance  
City of Albany Public Works – Wastewater Treatment**

Date of Last Review <b>5/28/08</b>	Revision <b>04</b>	Approval Signature	Revision / Effective Date <b>4/19/07</b>	Supersedes all previous versions
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***Purpose***

The purpose of this element is to describe how the City will conduct periodic management reviews of the biosolids management program and EMS performance in order to drive continual improvement.

***Scope***

The Management Review will discuss the possible need to change policy, goals and objectives, biosolids management program, and other Biosolids EMS elements based on Internal EMS audit results, external verification of EMS audits by third parties, changing circumstances, and the commitment to continual improvement.

***Responsible Staff***

The Biosolids EMS Coordinator and Biosolids EMS Team will be responsible for compiling information for the periodic review of the biosolids management program and EMS. The Assistant PW Director/Operations Manager and Public Works Director will conduct the review.

***Procedure***

1. The Biosolids EMS Coordinator and the Biosolids EMS Team will compile information from the following sources:
  - A. Annual Biosolids Report to DEQ
  - B. BMPPR
  - C. Audit Summaries (internal and/or third party)
  - D. Quarterly Summary Reports (internal and/or NBP)
  - E. Corrective Action Work Orders
  - F. Regulatory Updates
  - G. Input from Interested Parties
  - H. Goals and Objectives

2. This information will be summarized in memorandum form and will also include recommended improvements to the Biosolids Program.
3. The Biosolids EMS Coordinator will schedule and conduct a Management Review meeting no later than January 1 of each year. The Assistant PW Director/Operations Manager and Public Works Director will be responsible for review of the information as well as any changes in the EMS program.
4. The Biosolids EMS Coordinator will prepare a written summary of the management review meeting. Any actions or recommendations from the Management Review Team meeting will be documented. The written summary will be provided to the Biosolids EMS Team and will be available to interested parties and the public upon request.

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## **Table of Attachments**

Glossary of Acronyms

Appendices

- 4-A. List of Relevant Legal and Other Requirements
- 6-A. City of Albany Biosolids Public Participation and Outreach Plan
- 7-A. Public Works Organizational Charts
- 14-A. Environmental Management System Corrective Action Form

Definitions

References



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## Glossary of Acronyms

ACWA	Association of Clean Water Agencies
AMC	Albany Municipal Code
ASPP	Accidental Spill Prevention Plan
BFP	Belt-filter Press
BMP	Best Management Practice
BMPPR	Biosolids Management Program Performance Report
CCP	Critical Control Points
CIP	Capital Improvement Program
DAFT	Dissolved-air Flotation Thickener
DEQ	Department of Environmental Quality
DMR	Discharge Monitoring Report
EMS	Environmental Management System
EPA	Environmental Protection Agency
ES	Environmental Services
FM	Facilities Maintenance
IP	Implementation Procedure
NBMA	Northwest Biosolids Management Association
NBP	National Biosolids Partnership
NDCIU	Non-discharging Categorical Industrial User
NPDES	National Pollutant Discharge Elimination System
OC	Operational Control
POTW	Publicly-owned Treatment Works
PPIM	Pretreatment Program Implementation Manual
PWD	Public Works Director
SCADA	Supervisory Control and Data Acquisition
SIU	Significant Industrial User
SOP	Standard Operating Procedure
WAS	Waste-activated Sludge
WWC	Wastewater Collection
WWTP	Wastewater Treatment Plant

**Appendix 4-A**  
**LIST OF RELEVANT LEGAL AND OTHER REQUIREMENTS**

Regulation or Other Requirement	Required Report or Record	Due Date	Report or Record Location	
<b>Federal</b>				
Federal regulations on use and disposal of biosolids – 40 CFR Part 503 and amendments	N/A			
Federal pretreatment regulations – 40 CFR Part 403 and amendments	N/A			
<b>State</b>				
State biosolids regulations – OAR 340-050-0005 to 340-050-0008.	N/A			
NPDES Permit for the Albany Wastewater Treatment Plant	Discharge Monthly Report	15 <sup>th</sup> of each month	Electronic file	
	EPA Form 3320	15 <sup>th</sup> of each month	Electronic file	
	Biosolids Annual Report	February 19 annually	ES Office	
	Biosolids Management Plan	Upon permit renewal or as required	ES Office	
	Pretreatment Annual Report	March 1 annually	ES Office	
	Biosolids Management Plan	Biosolids Hauling Record	Upon request by DEQ	ES Office
	Biosolids Management Plan	Biosolids and Soil Sampling Analysis	Upon request by DEQ	ES Office
	Biosolids Management Plan	Biosolids Annual Report	February 19 annually	ES Office
	Biosolids Management Plan	Volatile Solids Reduction	15 <sup>th</sup> of each month	WWTP Laboratory
Biosolids Management Plan	Site Approval	Upon request by DEQ	ES Office	

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**Local**

Albany Municipal Code Chapter 10.06 – Wastewater and pretreatment regulations	N/A		
Albany-Millersburg sewer use agreement	N/A		
Millersburg sewer use ordinance	N/A		
Industrial and commercial discharge permits	N/A		
Hauled waste permits	N/A		
Biosolids EMS	NBP Quarterly Report	Quarterly	ES Office
	Internal Quarterly Report	Quarterly	ES Office
	Biosolids Management Program Performance Report	July 1 annually	ES Office
	Goals/Objectives	April 1 annually	ES Office
	Management Review	January 1 annually	ES Office



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## **Appendix 6-A**

### **CITY OF ALBANY BIOSOLIDS PUBLIC PARTICIPATION AND OUTREACH PLAN**

*(Last Updated February 2006)*

The goal of the City of Albany's Biosolids Public Participation and Outreach Plan is to ensure consistent and continuous public notification about and participation in the City's biosolids program, in accordance with the Biosolids Environmental Management System (EMS). This plan establishes the minimum actions necessary to accomplish this goal.

The City uses a range of communication and participation opportunities to ensure public support and input concerning the biosolids program. These include, but are not limited to:

- The City's internet website for outgoing and incoming communication, as well as use of the intranet for communication with internal interested parties
- Memoranda to the City Council, department heads, and other decision makers within the City
- News releases about important events delivered to local media outlets, including newspapers and radio stations
- Informative brochures and handouts available to the general public and other interested parties
- Telephone comment procedures that document and incorporate comment from the general public in the biosolids process

#### **Principles**

The following principles guide the City's biosolids outreach activities.

- The biosolids process significantly affects individuals and businesses both inside and outside the City limits.
- The biosolids EMS team does not have a monopoly on good solutions.
- Regardless of the benefits or sensibility of the program, if the biosolids team neglects to include outside input, it will not be accepted in the community.
- People are more likely to accept unpopular decisions if the process is open, objective, and considers all views.
- If the City does not provide all relevant information concerning biosolids, the public will rely on and trust others.
- Effective outreach and public participation takes time, effort, and money but is essential to sound decision making and community support.

#### **Defining Interested Parties**

For the purpose of the biosolids program, the City defines interested parties as anyone who is impacted by the application of biosolids (e.g., they live near an application site), anyone who conducts business with the City directly related to the biosolids process, or anyone who shows an interest in the City's biosolids program (e.g., by contacting staff, attending a meeting, or requesting information).

#### **Current Level of Participation**

The public's current level of participation in the biosolids program is best defined as very low. In general, the City receives little input from the public regarding any aspect of the biosolids program. Particular interested parties, such as owners of biosolids application sites, are at a much higher level of communication with the biosolids program manager. While the City maintains an "open-book" policy regarding the biosolids program, there has not been good cause for many in the public to approach the City with questions regarding the program.

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The increasing level of national publicity surrounding biosolids indicates it is only a matter of time before interested parties begin to probe into Albany's biosolids program.

### **Public Participation**

Interested parties may provide input on the biosolids program via several avenues.

1. **Meetings.** All City Council meetings and work sessions are open to the public and provide time for public comment. Anyone may provide comments, suggestions, or pose questions regarding the City's biosolids program at any of these meetings. City Council meetings take place on the second and fourth Wednesday of every month at 7:15 p.m. Council work sessions are every Monday at 4:00 p.m. Information regarding these meetings is available on the City's website.
2. **Telephone Calls.** Telephone calls regarding biosolids are tracked using the EMS Contact Log (U:\PUBLIC WORKS\OPERATIONS\SEWER\WWTP\NBP-EMS\OUTREACH\EMS contact log.doc) on which the City makes note of the caller's name, comment or question, and subsequent action. General questions or concerns may be addressed by any Biosolids EMS Team member. More technical questions are dealt with by the City's Environmental Services Biosolids Technician. Contact information is provided on the website and in all printed material.
3. **Worldwide Web.** The City's website has a form by which anyone can ask a question of City staff. Questions received via the internet are screened by the City's Public Information Officer. Biosolids specific questions are forwarded to the Biosolids Technician at which point they are logged and handled in the same manner as a telephone call. Internal communications are made using e-mail and the City's intranet system.

### **Outreach**

The City provides information regarding the biosolids program to the public through a variety of mechanisms.

1. **News Releases.** The Biosolids EMS Coordinator drafts and issues news releases regarding issues that may be of interest to the community. These news releases are sent to area newspapers and radio stations.
2. **City Bridges.** The City publishes this newsletter quarterly with information from all City departments. Biosolids information is included regularly. This newsletter also offers an opportunity to publish the annual biosolids report as an insert.
3. **Worldwide Web.** The City's biosolids website has the latest version of the biosolids EMS Manual, informational brochures, as well as other updates and information. The City's intranet is used to provide biosolids training materials and information to City employees.
4. **Other Publications.** The City has developed an informational brochure with biosolids facts specific to the Albany area. These brochures are available on request, and are included in information provided during outreach efforts such as local fairs and expositions.
5. **Tours.** The City offers tours of the Wastewater Treatment Plant, including the biosolids facilities, to the public free of charge.

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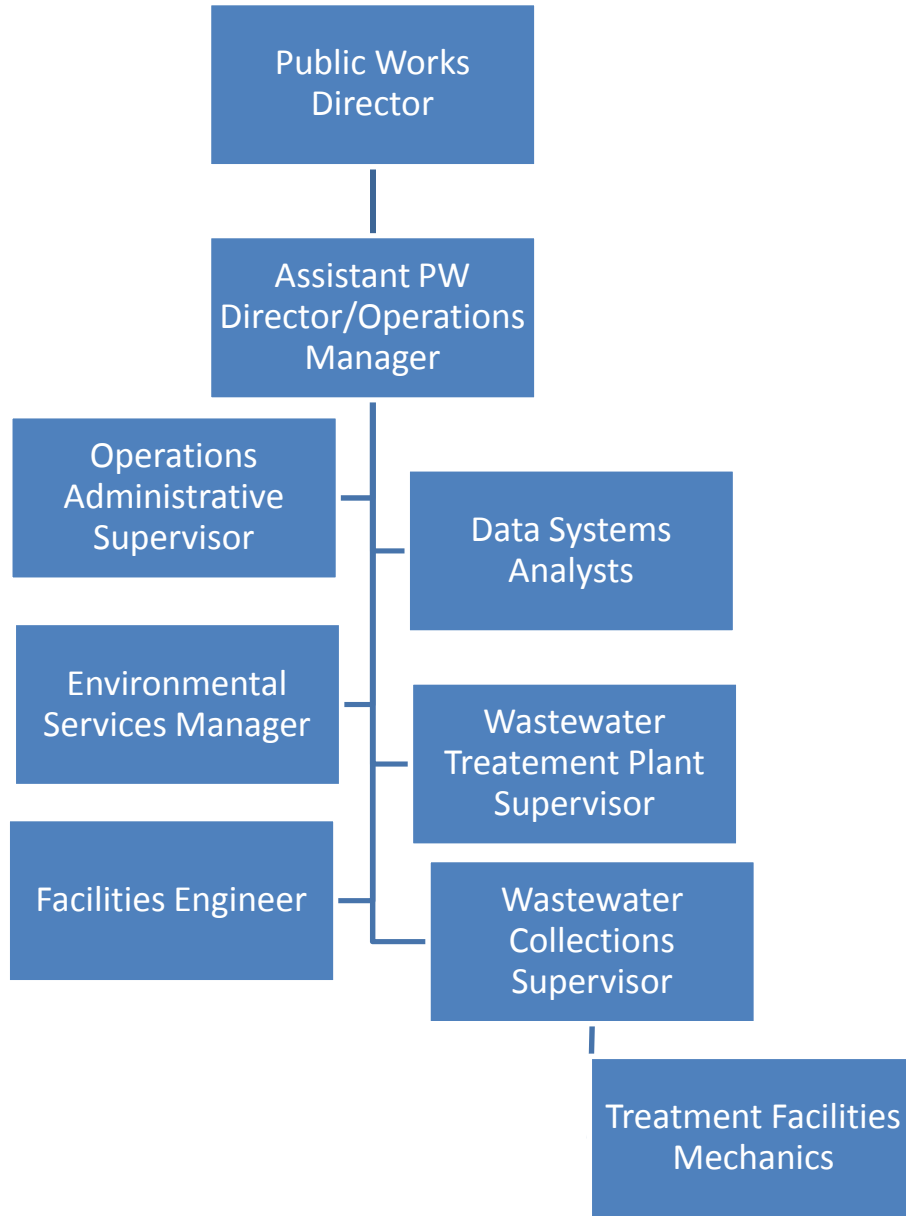
## **Summary**

The City is constantly seeking to improve public participation and outreach efforts. This plan represents the first step in that process. The biosolids website and informational brochures will provide basic information about biosolids and the City's biosolids program to interested parties. Mechanisms for feedback described above will help City staff refine and improve outreach materials and tailor the program to the needs and wants of our community. This process is one of continuous improvement, whereby the City works to meet the needs of the community while maintaining the highest level of compliance with federal and state regulators.

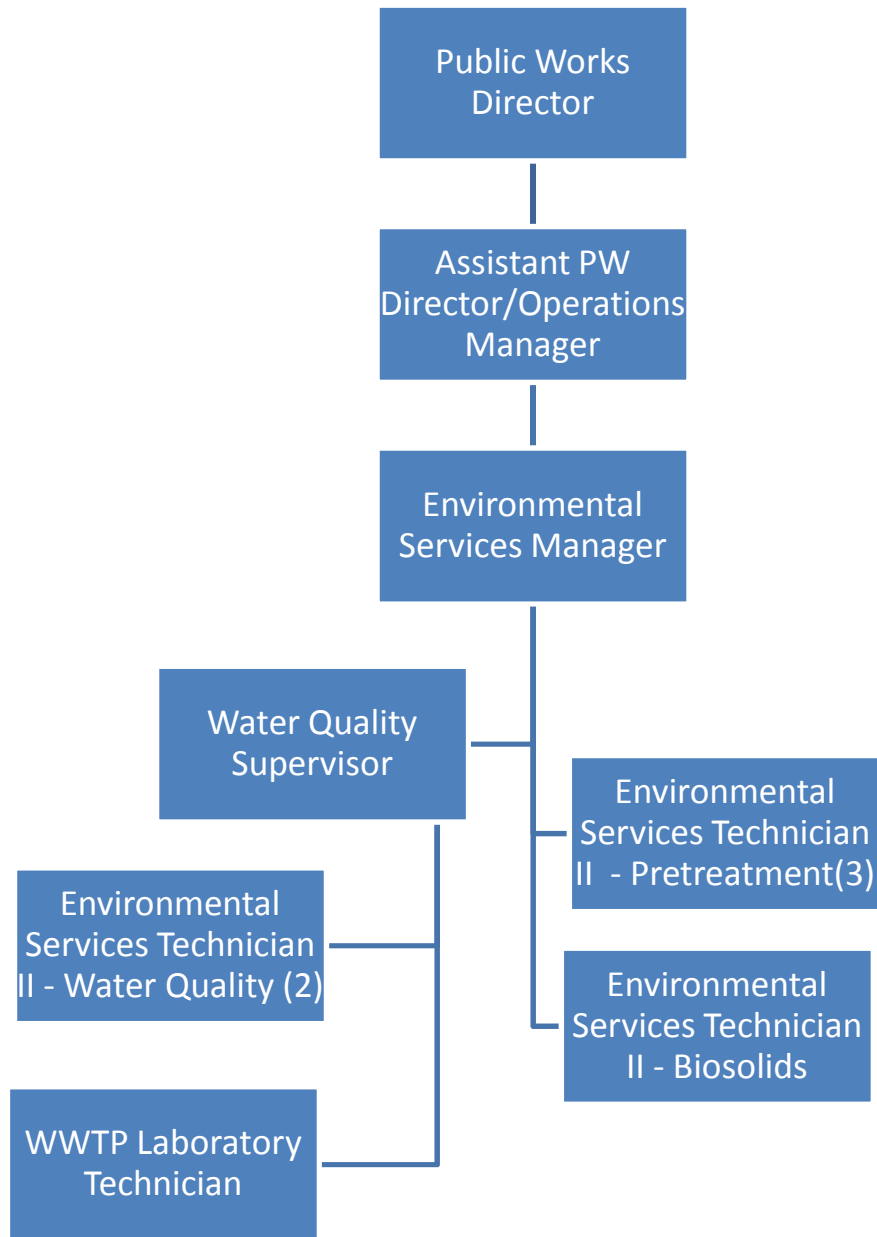
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**Appendix 7-A**  
**PUBLIC WORKS ORGANIZATIONAL CHARTS**

**Figure 7-A-1. Key Public Works Staff.**



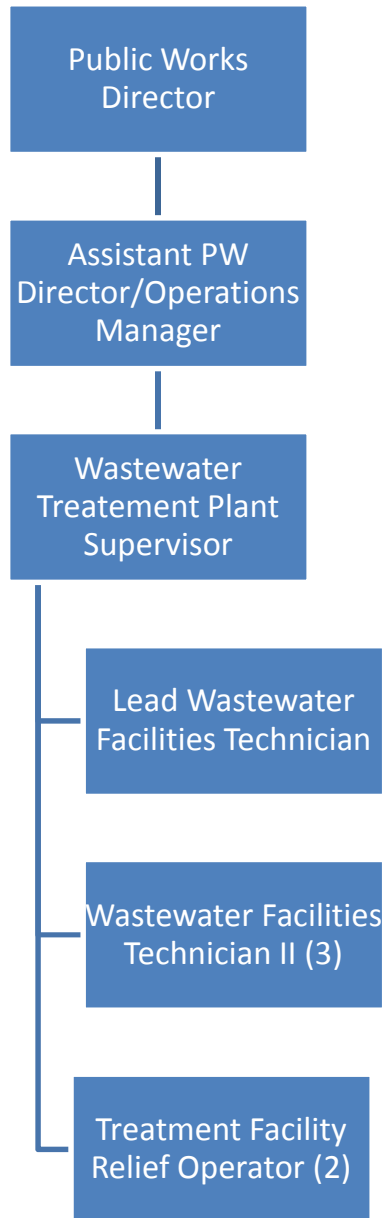
**Figure 7-A-2. Environmental Services Staff.**





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**Figure 7-A-3. Wastewater Treatment Plant Staff.**



**Appendix 14-A**  
**SAMPLE CORRECTIVE ACTION FORM**

<b>Environmental Management System Corrective Action Form</b>	
<b>FINDING NUMBER:</b>	<b>DATE:</b>
<b>Responsible Supervisor:</b>	<b>Supplements Attached:</b> [ <input type="checkbox"/> ] Yes [ <input type="checkbox"/> ] No
<b>1. Description of Finding:</b>          	
<b>2. Statement of Requirement:</b>          	
<b>3. Citation/Source:</b>	<b>4. Examining Outcomes Area:</b>
<b>5. Rank Corrective Action:</b> [ <input type="checkbox"/> ] Urgent/Immediate [ <input type="checkbox"/> ] Earliest Convenience [ <input type="checkbox"/> ] Long Term	
<b>6. Recommended Corrective Action:</b>          	
<b>7. Due Date for Response:</b>	
<b>8. Observer's Name and Title:</b>	
<b>Signature:</b>	<b>Date:</b>
<b>COMPLETE ITEMS 9 AND 10 ON REVERSE SIDE AND RETURN FORM TO OBSERVER BY RESPONSE DATE (ITEM 7 ABOVE)</b>	

<b>FINDING NUMBER:</b>	<b>AUDIT DATE:</b>
<b>9. Cause of Condition (Describe in detail):</b>	
<b>10. Proposed Corrective Action:</b>	
<p><b>Proposed Completion Date:</b></p> <p><b>Signature of Responsible Party:</b> <span style="float: right;"><b>Date:</b></span></p>	
<b>11. Corrective Action Verified (Describe specific details of verification):</b>	
<b>12. Finding Closed?</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	
<b>13. Verification Performed By:</b>	<b>Date Verified:</b>
<b>14. Name/Title:</b>	
<p><b>Signature:</b> <span style="float: right;"><b>Date:</b></span></p>	



## Definitions

*Audit Criteria* – Policies, practices, procedures, or requirements against which the auditor compares collected audit evidence about the subject matter. (Note: requirements may include, but are not limited to, standards, guidelines, specified organizational requirements, and legislative or regulatory requirements.)

*Audit Findings* – Results of the evaluation of the collected audit evidence compared with the agreed audit criteria.

*Biosolids Management Policy* – Statement by an organization committing it to the principles set forth in the NBP Code of Good Practice with respect to biosolids management and any other overall environmental goals voluntarily adopted by the organization.

*Biosolids Management Program* – A comprehensive program covering all aspects of the organization’s biosolids activities throughout the biosolids value chain, including management processes for all critical control points in order to mitigate environmental impacts, meet legal and other requirements, and execute action plans to achieve biosolids program goals and objectives.

*Biosolids Program Goal(s)* – Performance improvement goals consistent with an organization’s biosolids management policy that ensure biosolids activities comply with applicable laws and regulations, meet quality and public acceptance requirements, and prevent other unregulated adverse environmental and public health impacts by effectively managing all critical control points. Biosolids program goals include, but are not limited to, compliance with specific regulatory requirements, improving biosolids quality and public acceptance, and reducing or eliminating direct/indirect negative environmental impacts.

*Biosolids Program Objective(s)* – A detailed performance improvement requirement, quantified wherever possible, based on a biosolids program goal. One or more objectives must usually be met for the underlying goal to be achieved.

*Biosolids Public Acceptance Requirements* – Biosolids physical, chemical, biological, and aesthetic characteristics and management methods that must be met consistently and reliably to achieve public acceptance of the organization’s selected biosolids management methods.

*Biosolids Value Chain* – Sequence of activities from wastewater pretreatment, discharge and collection through wastewater treatment, solids treatment, stabilization, conditioning, handling, storage, transportation, and final utilization of biosolids that are covered by legal requirements and impact the quality of biosolids and their suitability for the intended use or method of disposal.

*Changing Circumstances* – Internal and external changes affecting the Biosolids EMS, including changes in legislation, varying expectations of interested parties, changes in the organization’s products or activities, technological advances, consumer interests, and feedback from environmental incidents.

*Continual Improvement* – Process of enhancing the environmental management system to achieve improvements in overall environmental performance in line with the organization’s environmental policy.

*Corrective Actions* – Specific actions and steps taken to correct an organization’s nonconformance(s) to environmental policies, procedures, and other requirements, and to mitigate any resultant impacts to the environment.

*Critical Control Points* – Those locations, unit processes, events, activities, and other requirements in the chain of activities from pretreatment/collection to final biosolids disposition under the organization’s direct control or influence that require effective policies, programs, procedures, practices, monitoring, and measurement to ensure the biosolids meet the applicable legal, quality, and public acceptance requirements for the selected management method.

*Employees* – Any individuals employed by the City of Albany, Oregon.

*EMS Documents* — Various documents that collectively comprise the biosolids environmental management system documentation, including the biosolids management policy; biosolids program, procedures, practices, and operating instructions; and other supporting documents required by the environmental management system and applicable biosolids laws and regulations.

*EMS Records* – Various records and reports of biosolids management activities required by the EMS and applicable biosolids laws and regulations, including, but not limited to, records, reports, equipment calibration, monitoring, measurement, laboratory testing, inspections, operating logs, emergency response incidents, outside party inquiries, public participation meetings, audits, corrective actions, management reviews, and periodic performance reports. EMS Records describe the results of specific biosolids management activities for a prescribed event, activity, and/or period of time.

*Environmental Management System (EMS)* – An organized system that meets the requirements of the EMS Elements for achieving the biosolids management policy requirements and for developing, implementing, reviewing, and maintaining effective biosolids management programs, procedures, and practices. The EMS manages all critical control points associated with biosolids activities where there is a potential to create significant negative environmental impacts.

*Environmental Management System Audit* – A systematic and documented verification process of objectively obtaining and evaluating evidence to determine whether an organization’s environmental management system conforms to the environmental management system audit criteria set by the organization and to communicate the results of this process to management.

*Environmental Performance* – Measurable results of the environmental management system based on its biosolids management policy and goals and objectives.

*Interested Parties* – Individuals, groups, or other public or private organizations interested in, involved with, or otherwise affected by Albany’s biosolids management activities, including customers, farmers, regulators and other local/state governmental officials, community residents, the media, environmental and public interest groups, university professors, and the general public.

*Knowledge* – To recognize, be familiar with, or understand information, activities, and actions based on experience or association; acquaintance with a science, art, or technique.

*Legal Requirement* – The environmental federal, state, and local laws and regulations applicable to an organization’s biosolids management program activities.

*Levels of Documentation* – Documenting the EMS involves the creation of an EMS Manual, which is based on a hierarchy of documents as follows:

- *Level 1 Documents* – The biosolids management policy, which establishes overarching principles and commitments of the organization to the National Biosolids Partnership Code of Good Practices and corresponds to EMS Element 1. Level 1 may also include other applicable policies as well as the organization’s biosolids mission and vision.

- *Level 2 Documents* – Various procedures, processes, and related documents describing the “what” part of the EMS processes and activities. Level 2 documents are programmatic in nature and define who is responsible and what, where, and when the requirements apply. Level 2 includes contractual agreements and much of this EMS manual, which defines requirements for all elements of the EMS.
- *Level 3 Documents* – Day-to-day operational documents and controls defining “how to” conduct various biosolids management activities, including SOPs. Level 3 documents are primarily operating procedures and instructions describing how to conduct a specific biosolids management activity. Level 3 operational control documents must be in place for all significant critical control points. Level 3 documents also include other programs such as industrial pretreatment incorporated by reference into the EMS.
- *Level 4 Records/Record Keeping* – Records and other retained documents establishing the “proof” the activity is being conducted. Level 4 documents can be in paper or electronic format and include records of inspection, calibration, monitoring, laboratory testing, audit results, corrective action, and management reviews. Each type of record has specific retention requirements.

*Measurement* – A systematic method for estimating, testing, or otherwise evaluating key parameters and characteristics of biosolids management activities to determine compliance with a specific standard, regulatory or other performance requirement, or to measure progress toward its biosolids program goals and objectives.

*Monitoring* – A systematic process of watching, checking, observing, inspecting, keeping track of, regulating, or otherwise controlling key parameters and characteristics of an organizations biosolids management activities to determine compliance with a specific standard, regulatory or other performance requirement, or to measure progress toward its biosolids program goals and objectives.

*Noncompliance* – Refers to a deviation from, or violation of, regulatory requirements (external systems).

*Nonconformance* – A deviation from the established biosolids management program and EMS requirements having the potential to create a noncompliance situation or significant environmental impact.

*Objective Evidence* – Ordinances; policies; procedures; manuals; inspection checklists; operating logs; annual reports; various other documents; and various monitoring, inspection, enforcement, and training, records that objectively document conformance with the EMS elements’ requirements.

*Operational Control Procedure* – Other management methods such as contract agreements, contractor oversight, procedures, pretreatment ordinances, permit programs, and inspection and monitoring programs used to ensure that the biosolids program conforms to the biosolids management policy, meets legal and other requirements, and achieves the biosolids program goals and objectives.

*Operational Controls* – Ordinances, regulations, standard operating procedures, work practices, technology, instrumentation and process controls, monitoring, and other criteria developed, implemented, and maintained by an organization to ensure effective management of all critical control points associated with its biosolids management activities so the organization’s biosolids program conforms with the biosolids management policy, meets legal and other requirements, and achieves the biosolids program goals and objectives.

*Other Management Controls* — Other management methods such as contract agreements, contractor oversight procedures and pretreatment ordinances, permit programs, and inspection and monitoring programs used to ensure biosolids activities meet other requirements as necessary.

*Other Requirement* – Other binding biosolids management practices and environmental requirements voluntarily subscribed to as part of its environmental management system. Examples include binding agreements with customers, suppliers, and public organizations and commitment to “beyond compliance” performance.

*Outside Parties* – Individuals or groups concerned with, or affected by, the environmental performance of an organization’s biosolids management activities. These parties include customers, regulators, local residents, the media, environmental groups, and the general public.

*Preventive Actions* – Specific actions and steps taken to identify, analyze, and eliminate the root causes of noncompliance(s) and nonconformance(s), and to put in place permanent solutions that will prevent a recurrence.

*Public Education* – Systematic public communications program for educating interested parties and other interested parties regarding biosolids management activities.

*Public Participation* – Specific approach(es) and action(s) taken by an organization to involve interested parties and the general public in its biosolids management program, including establishing improvement of goals and objectives.

*Responsibility* – The specific task a group or individual carries out in a lead or supporting role to accomplish and/or support operational and strategic goals and objectives.

*Role* – The purpose of the activity a group or individual performs with respect to the biosolids value chain.

*Skills* – The ability to use knowledge effectively and readily in execution or performance of tasks and activities; a developed aptitude or ability; the ability to do something competently.

*Training* – Teaching to make fit, qualified, or proficient; preparation for a test of skill or knowledge; instruction in disciplines and techniques.

## References

City of Albany Annual Pretreatment Reports  
DES Env-Ws 800  
40 CPA 503  
40 CFR 403.  
NBP EMS Elements of Environmental Management System for Biosolids  
NBP National Manual of Good Practice  
NBP Third Party Verification Auditor's Guidance