
Assessing and Communicating Risks from Pathogens in Land Applied Biosolids

Tulsa Case Study

Progress to Date

Sara Eggers, Decision Partners

May 23, 2010
WEF *Residuals and Biosolids* 2010
Savannah, Georgia

Tulsa Case Study Objectives

- **Decision Partners is leading the risk communications component of the WERF Research Challenge: Biosolids Pathogens Risk Assessment and Risk Communications.**
- **DP is adapting its Strategic Risk Communications Process to accomplish the work, through two case studies.**
- **Case study objectives:**
 - **Refine and validate the approach applied to biosolids land applications.**
 - **Inform the development of prototypical strategies that can be adapted by utilities and other industry stakeholders.**
 - **Inform development of the pathogen risk analyses and tool by the Research Challenge's Biosolids Risk Assessment Team.**

Strategic Risk Communications Process



Tulsa Biosolids Operations Overview

- **The Tulsa Case Study may be considered “business as usual”:**
 - **Biosolids operations began in 1984.**
 - **~ 9,000 dry tons applied annually.**
 - **Biosolids are produced by mesophilic anaerobic digestion and are land applied as either liquid or cake (16% water).**
 - **8 full-time staff, 2 contractor hauling companies.**
 - **Contributed industry best practices.**
 - **Demand for biosolids land applications outstrips supply.**
 - **Very limited vocal opposition to biosolids land applications.**
 - **No significant formal communications processes.**

Tulsa Biosolids Team

- **City of Tulsa Public Works**
 - Tom Krueger, Manager, Water Pollution Control
 - Brian Bolte, Support Services Manager
 - Cindy Crider, Administrative Operations Supervisor

- **WERF Project Team**
 - Sarah Thorne, Decision Partners
 - Sara Eggers, Decision Partners
 - Alan Hais, WERF
 - Patrick Gurian, BRAT

Tulsa Case Study

Overview of Project Tasks

Process Steps	Tasks	Dates
<p style="text-align: center;">Steps 1 & 2</p> <p>Tulsa Team Workshop</p>	<ul style="list-style-type: none"> • Developed Opportunity Statement • Characterized the Situation: <ul style="list-style-type: none"> • Expert Model • Stakeholder Hypotheses 	May 2009
<p style="text-align: center;">Steps 3 & 4</p> <p>Assess Stakeholder Perceptions</p>	<ul style="list-style-type: none"> • Conducted 24 interviews (Landowners & Neighbors) • Coded and analyzed interview data • Shared report and recommendations with Team 	July – Nov. 2009
<p style="text-align: center;">Steps 5 & 6</p> <p>Develop and Pretest Communications Plan and Materials</p>	<ul style="list-style-type: none"> • Developed process, brochure and presentation • Hosted pre-test community dialogue sessions • Refined Plan and materials 	Dec 2009 – April 2010

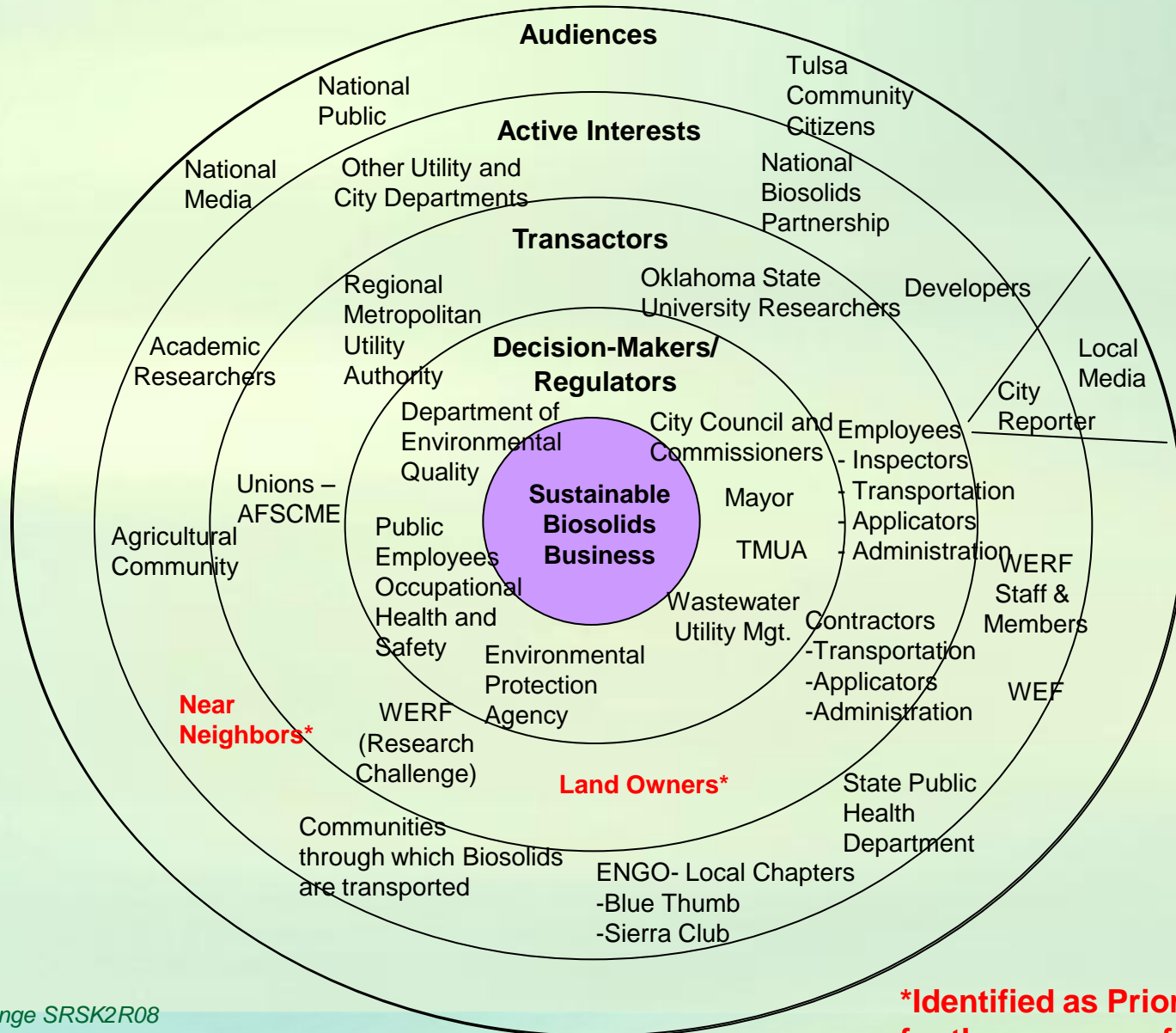
Step 1 Results

Tulsa Biosolids Opportunity

- The Opportunity is to ensure long-term sustainability of our business and the societal value it provides by systematically building key stakeholder support for, and effective management of, our current and future biosolids products and operations.
- Our work focuses on applying the Strategic Risk Communications Process in order to:
 - Discover key stakeholder perceptions, interests and priorities related to our products and operations.
 - Proactively engage key stakeholders in dialogue about the benefits and risks of our current and future products and operations.
 - Effectively address stakeholders' interests and priorities through dialogue, supported by relevant information.

Step 2 Results

Tulsa Biosolids Team: Stakeholder Map of Sustainable Biosolids Business



***Identified as Priority Stakeholders for the purpose of the Case Study**

Step 3 Results

Top-Line Research Findings

- Interviewees were generally familiar with the biosolids and biosolids land applications.
- Landowners cited direct agricultural and economic impacts.
 - Neighbors talked about indirect positive impacts – wastewater management and benefits to their neighbors.
- Interviewees talked most about odor and safety.
 - Neighbors: odor is persistent, significant and has negative health and quality of life impacts.
 - Landowners: odor is “minor”, “short-lived” and “worth it”.
 - Other negative impacts: hazardous waste, runoff, over-application, contamination, animal health, and uncertainty.

Step 3 Results

Top-Line Research Findings *continued*

- **Most important considerations in decisions: quality and oversight of regulations, safety, and the impact on neighbors.**
- **Landowners were in favor of biosolids land applications. Neighbors were generally not.**
 - **Landowners: trust in the regulations and the City, and the “naturalness” of biosolids.**
 - **Neighbors: lack of trust in decision makers, lack of confidence in the regulations and the uncertainty of biosolids.**
- **Opportunities to improve communications:**
 - **Provide more transparency in decision making.**
 - **Communicate in advance.**
 - **Provide information on the benefits and risks.**

Step 5 Results

Communications Plan

- **Developed a draft Communications Plan:**
 - Frames biosolids land applications as a beneficial product.
 - Includes a process for communicating with community stakeholders about specific biosolids land applications.
 - Includes plan for pre-testing draft communications materials.
- **Drafted standard communications materials:**
 - Generic presentation and pamphlet to support communications about biosolids land applications with community members.
 - On-site signage.
- **Pretested on March 9 with two small sessions of research participants (Landowners and Neighbors) in Glenpool, OK.**

Beneficial Use of Biosolids

DRAFT SIGNAGE FOR RESEARCH PURPOSES – NOT CURRENTLY USED.

This field is benefiting from biosolids produced and land applied by the City of Tulsa.

**Approximate Date of Application:
March 31, 2010**

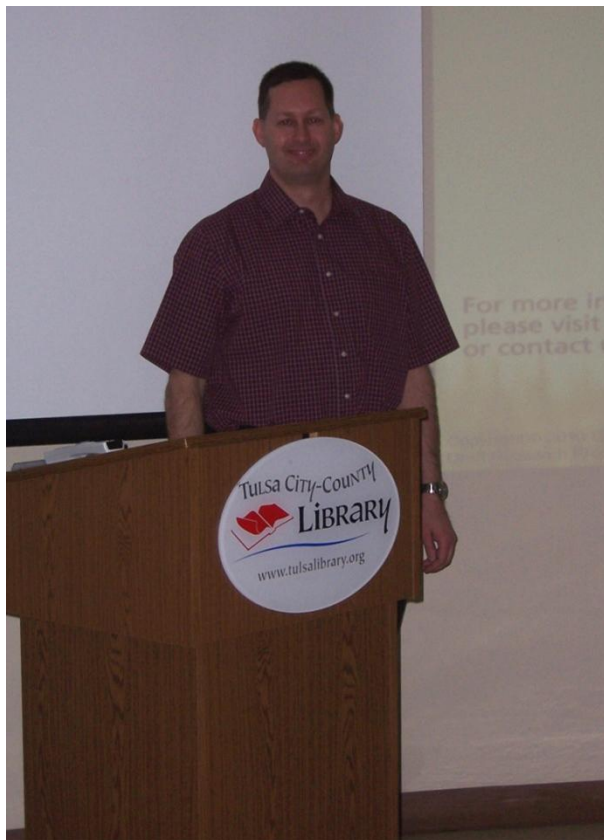
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For more information about the City of Tulsa Biosolids Program, please visit our website at www.cityoftulsa.org/biosolids or contact us at (918) 596-9453.

Step 5 Results

Communication Dialogue Pretest

Brian Bolte delivering the presentation.



Landowners providing feedback.

Final Steps

- **Refine the Communications Plan and standard materials.**
- **Develop specific plan for engaging with Near Neighbors:**
 - **A process to learn and address their specific questions and priorities.**
- **Develop risk communications specifically for Landowners:**
 - **Clear descriptions of Landowners' role and responsibilities related to biosolids land applications.**
 - **Guidelines on how to effectively communicate and engage with Neighbors.**
- **Document the process and results as part of the WERF project.**

Team Observations on Strategic Risk Communication Process

- **Tulsa “would rather be proactive than end up with a crisis down the road”.**
- **Tulsa learned that Landowners and Near Neighbors want to engage in dialogue.**
- **The Process enables the utility to:**
 - **Gain insight into who their stakeholders are and what their specific issues and priorities are;**
 - **Understand where and at what level to initiate communications;**
 - **Better engage its key stakeholders on their issues and priorities.**
- **The Process can be adapted for other risk management and risk communications issues in the future.**

Acknowledgements

- **Alan Hais and his team at WERF for support on the Research Challenge.**
- **Patrick Gurian and his Biosolids Risk Assessment Team for collaborating on the Research Challenge.**
- **Tom Krueger, Brian Bolte and Cindy Crider at the City of Tulsa for support and collaboration on the Case Study.**
- **WERF's Issue Area Team and the Science Research Advisory Panel for advising and reviewing the Research Challenge.**
- **Sarah Thorne, Gordon Butte and our Decision Partners Research and Support Team.**
- **Ned Beecher and my other WEF Workshop collaborators.**

For More Information

- **For more information on this project, please feel free to contact any of us on the Decision Partners Team:**
 - **Sara Eggers (seggers@decisionpartners.com)**
 - **Sarah Thorne (sthorne@decisionpartners.com)**
 - **Gordon Butte (gbutte@decisionpartners.com)**

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**Gordon Butte and Sarah Thorne, 1-877-588-9106
gbutte@decisionpartners.com; sthorne@decisionpartners.com**