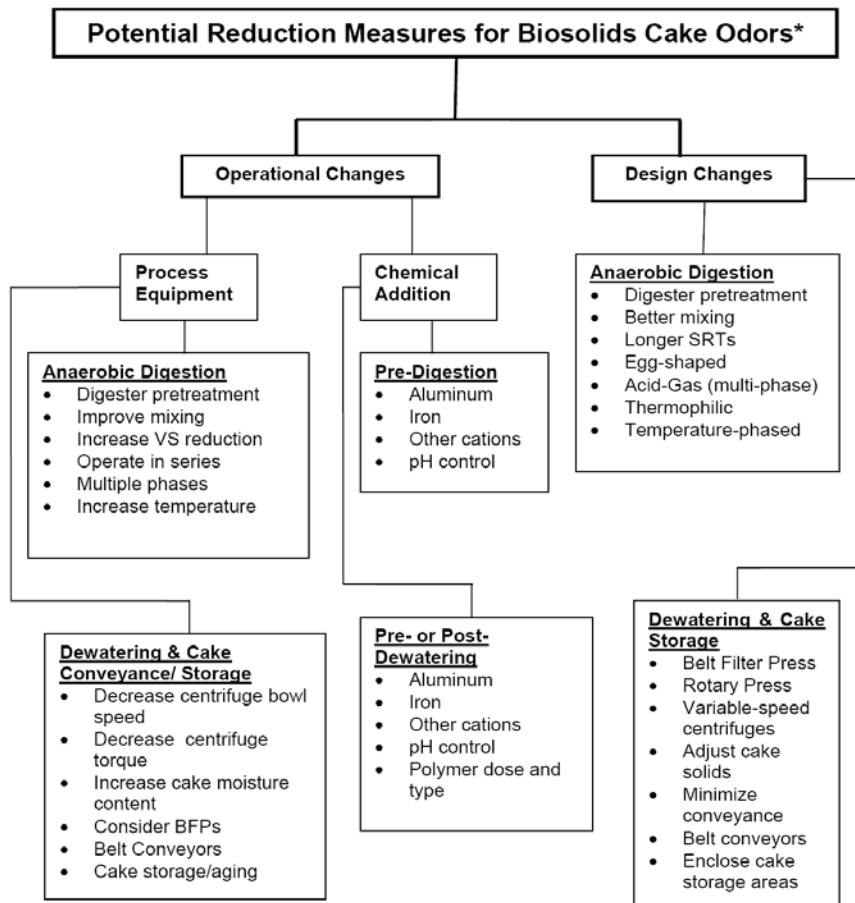


User's Guide for WERF Biosolids Odors Reduction Roadmap

Background and Purpose

The WERF Biosolids Odors Reduction Roadmap is a web-based tool for WERF subscribers. The Roadmap tool started with a process-based schematic diagram of potential measures for identifying and reducing odors from biosolids at different points in a typical wastewater treatment plant. The schematic roadmap for biosolids odors reduction was used as a quick reference to identify the probable causes of odors from biosolids and then used to recommend measures for reducing the odors. The schematic diagram is shown in Figure 1.

Figure 1 – Schematic Diagram of Biosolids Odors Reduction Roadmap



***Note:** None of these options should be considered independently of the others, and odor reductions in one area may impact treatment processes and odors in other areas. Therefore, an integrated and customized approach is required for each WWTP.

WERF subscribers expressed a desire to be able to drill into the schematic diagram with a decision-based tool that could guide them to specific unit processes and the range of specific approaches for reducing odors associated with those processes. The result of this decision-based approach is that a web-based tool

has been developed based on the collection of questions and potential responses from the decision tree for reducing biosolids odors.

The primary purpose of the Roadmap Tool is to provide a location on WERF's website where WERF subscribers can access pertinent information related to biosolids odor reduction, including prior WERF reports and a literature database on the subject that is searchable using key words. Also included is a decision tool that will help users to identify more specific, brief responses to specific biosolids odor problems and steer users to more in-depth references in the tool's database.

Features of the Tool

The WERF Biosolids Odors Reduction Roadmap home page includes links to the following features:

- **WERF Wastewater Biosolids Odors Reduction Reports** – Allows the user to download complete text files of the following WERF reports related to Biosolids Odors Reduction:
 - o *Phase II – Identifying and Controlling the Municipal Wastewater Odor Environment Phase 2: Impacts of In-Plant Operational Parameters on Biosolids Odor Quality* (WERF Project Number 00-HHE-5T)
 - o *Phase III - Identifying and Controlling the Municipal Wastewater Odor Environment Phase 3: Biosolids Processing Modifications for Cake Odor Reduction* (WERF Project Number 03-CTS-9T)
 - o *Phase IVa - Evaluation of Aluminum and Iron Addition During Conditioning and Dewatering for Odor Control* (WERF Project Number 03-CTS-9A)
 - o *Phase IVb - Effect of Aluminum and Iron on Odors, Digestion Efficiency and Dewatering Properties* (WERF Project Number 03-CTS-9B)
- **Wastewater Biosolids Odors Reduction Literature Database Search** – Allows the user to search via keyword, author, or publication title through 100+ abstracts with links to the full texts of selected WERF publications for additional details on potential specific odor solutions.
- **Biosolids Odors Reduction Roadmap Decision Tool** – Consists of decision matrix guidance for general odor management options based on user “yes/no” responses to a series of 8 questions. Includes 16 distinct responses for general odor management options. Details on specific odor management options are available in reports located through the literature database search option.
- **WERF Subscriber Feedback** – Allows the user to provide feedback on the tool via email.

The Roadmap tool is structured to provide access to report content generated by the WERF research teams as well as to supplementary material available to WERF subscribers. The structure is interactive to make the content readily accessible to users of varying backgrounds and expertise.

Future enhancements to the Biosolids Odors Reduction Roadmap are expected to include a bulletin board where users of the tool can post technical questions and responses related to biosolids odors reduction. Also, it is expected that additional content will be added to the tool as a result of continued WERF research in the area of biosolids odors reduction.