

# Wastewater Plant Process Protection

## Process Hazard Analysis

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**FORMAT:** 35 minute PowerPoint presentation

### KEYWORDS

SCADA security, Treatment Process protection, Process hazard analysis

### ABSTRACT

When it comes to a utility or process treatment plant, a security scheme is needed that goes beyond merely protecting the SCADA computers to one that protects the actual plant processes. This need notwithstanding however, utility plant operators have not applied their attention and expertise to this issue assuming that the Information Technology Department provided that protection. Unfortunately, even with the best intentions and employing the most up to date security tools; the Information Technology Department cannot guarantee that no disruptive intrusion will occur. This is especially true when considering “internal” threats.

Of course, most Operations people are not cyber security experts. How then can they contribute? Surprisingly, Operations can and must participate in the area that where they have the most knowledge and experience. But first, a basic question needs to be asked: what is it that needs protecting? Is it not the plant treatment processes? If that is the case, then what is needed is to extend the protection consideration beyond the boundaries of just the SCADA system. We need to consider how we might protect the actual treatment processes themselves irrespective of what any external control or computer is dictating.

The presentation will provide examples of weaknesses and process vulnerabilities in a typical treatment plant. It will show how to determine those weaknesses and how to provide counter measures to insure that the process is protected from all external threats. Explanations on how to analyze your plant using the methodology found within the “Process Hazard Analysis” standard will also be examined. Finally, the presentation will offer very practical and effective ways to secure your SCADA system to minimize its cyber vulnerabilities.

### About the Author:



**Thomas J. McGovern** has spent over forty years in computer process control technology and the last twenty five years in wastewater SCADA. During the 1980's Tom was president of “Delcor Development Corporation” which provided consulting and system integration services for SCADA technology. Among his client projects was the development, integration and implementation of a distributed SCADA system at the Miami-Dade, Virginia Key wastewater treatment plant. Tom has been employed the last twenty years as a SCADA system analyst at the Broward County North Regional Wastewater Treatment Facility at Pompano Beach.