# When a Temporary Solution Becomes a Long-term System **Richard Evans, PE**

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### The Challenge

- Site remedy includes a "short-term" system for remediation, mitigation, or receptor protection
- System is designed, constructed, and operated under a "short-term" philosophy
- Formal review of system prior to end of "short-term" period is neither planned nor conducted
- System continues to operate beyond expected duration

### Implications

Equipment Integrity





### **Temporary System Awaiting Long-Term Replacement System**



### **Temporary System Operating without Plan for Replacement**











Safety & Non-Compliance







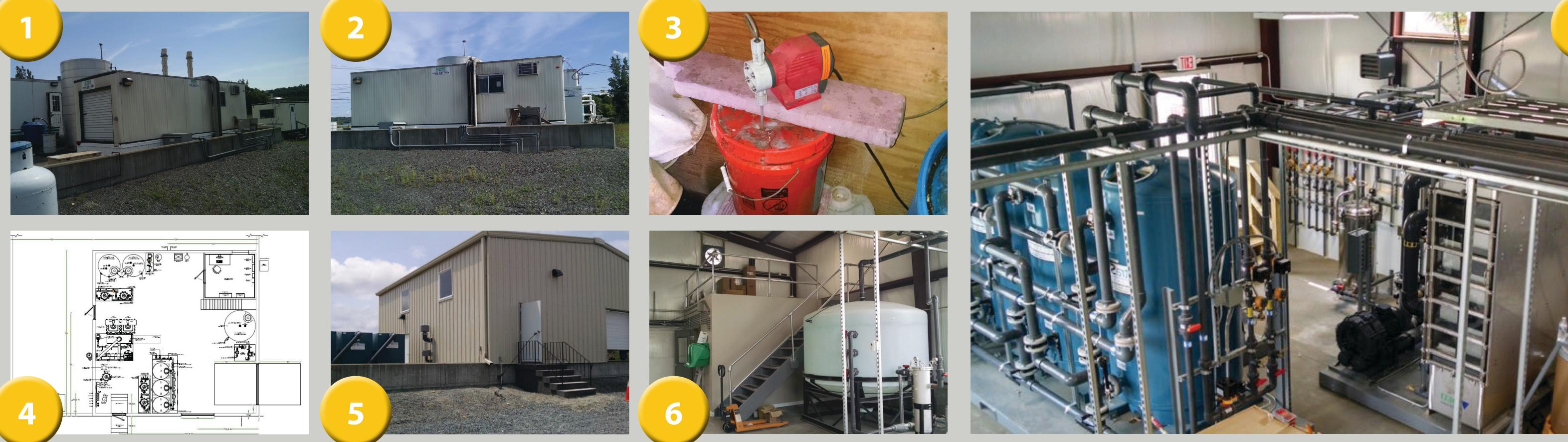




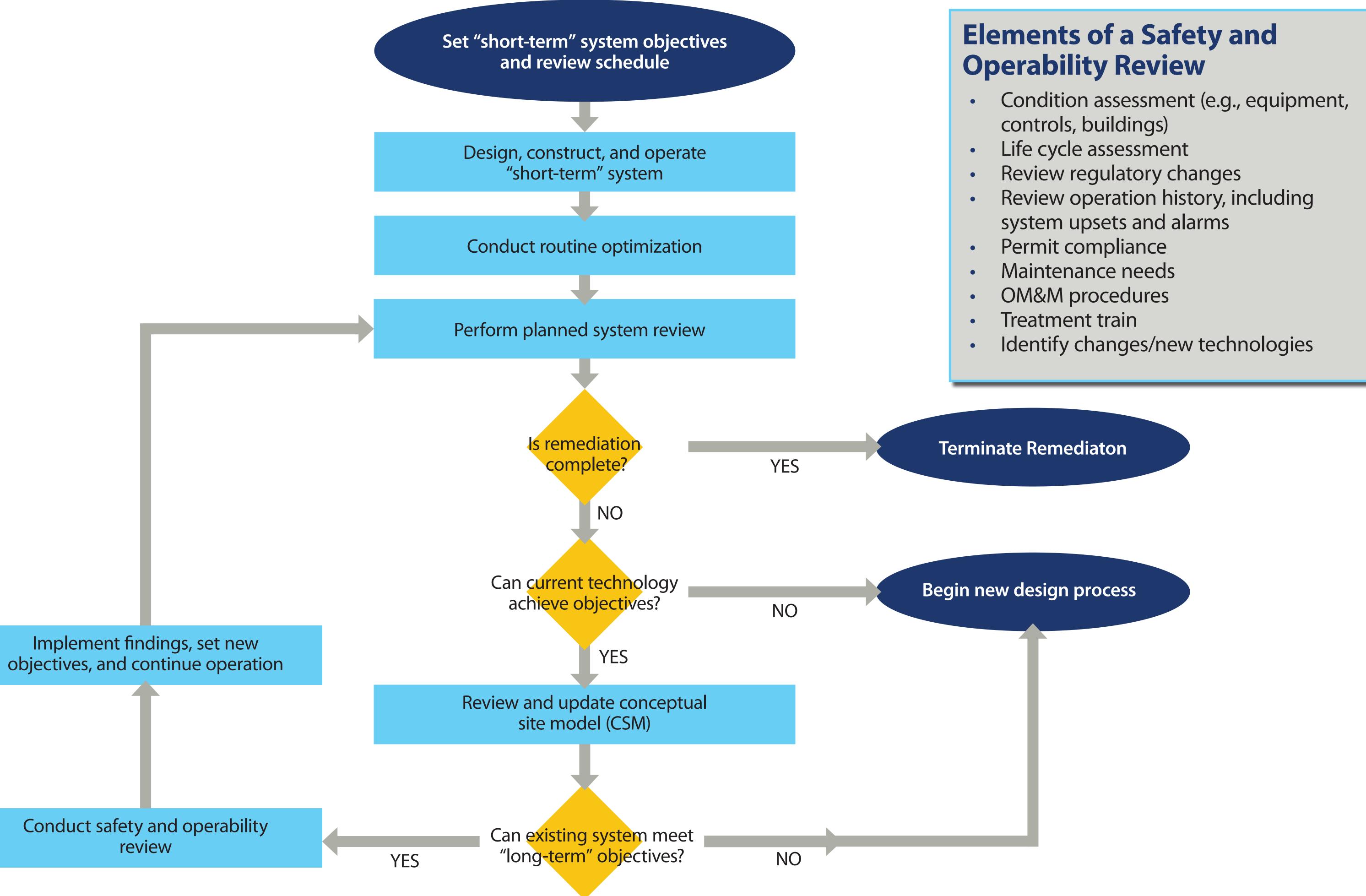
### **Temporary System Evaluated During Life Cycle and Replaced**







## **A Solution:** Proactive "Short-term" System Review Process



Conduct safety and operability



#### Conclusions



Failure to schedule and complete temporary system reviews leads to hazards and risks that could have been avoided.



Aged temporary systems begin to fail resulting in increased costs to operate. "Fixes" to these systems are often band-aids on broken bones.



The system operators are also put at risk.



Avoidance of capital costs often leads to increase OM&M effort and cost.



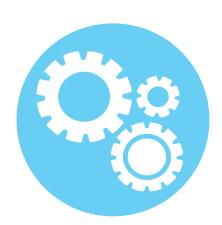
By establishing objectives, including duration of operation, and conducting effective scheduled reviews, these pitfalls are avoided.



Reserves/forecasts to manage these environmental liabilities are understood in advance — limit surprises.



The overarching goal is to develop and achieve an exit strategy for each site.



Adhering to these concepts and process improves safety and compliance.

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