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# ***Environmental Risk Communications, Inc.***

## ***Key Performance Indicators for ARO and Remediation Liabilities***

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# Portfolio Metrics



Metric	Trends to watch	Implementation Issues
Average time/site to \$0 provision	No "forever" OM&M projects	When does the clock start?
Average cost/site to \$0 provision	Decreasing gradually	Include sunk costs?
Number of provisions	Decreasing until transactions	Splitting and grouping provisions
% sites with CSM	Reworking CSM $\approx$ \$\$	
% sites with permanent remedies	Reworking remedy $\approx$ \$\$	

# Site Metrics

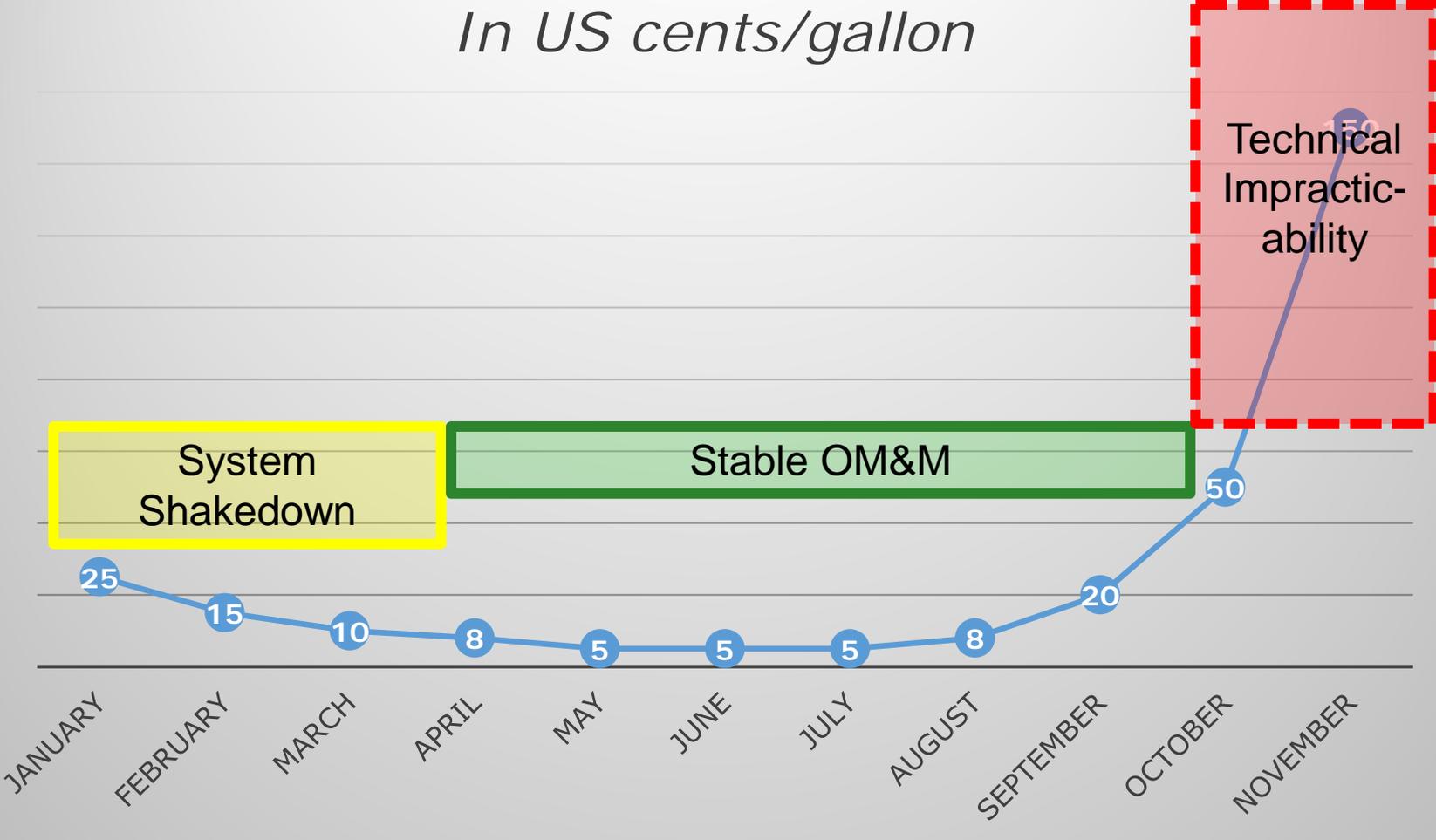


Metric	Trends to watch	Implementation Issues
Cost per gallon for extraction, treatment and discharge	Shakedown < 180 days; decreasing until "boomerang"	
Cost per ounce/pound of COCs in water	Steady removal Cost effectiveness	
Cost per yard/ton	Experience curves in cost, safety, throughput; "Wright's Law"	Soil compression/fluffing, moisture %
% mass reduction	Consistent with portfolio mgmt. principles	Cultural change/reprioritization of corporate values
Time to beneficial reuse	Predictability	
Total Recordable Injury Rate	≤ vendor's historical average	
Lost Time Injury Frequency Rate	≤ vendor's historical average	
Near-Miss Reporting Rate	≤ vendor's historical average	

# Technical Impracticability



## Benzene in groundwater GW P&T (capital + operating costs) *In US cents/gallon*

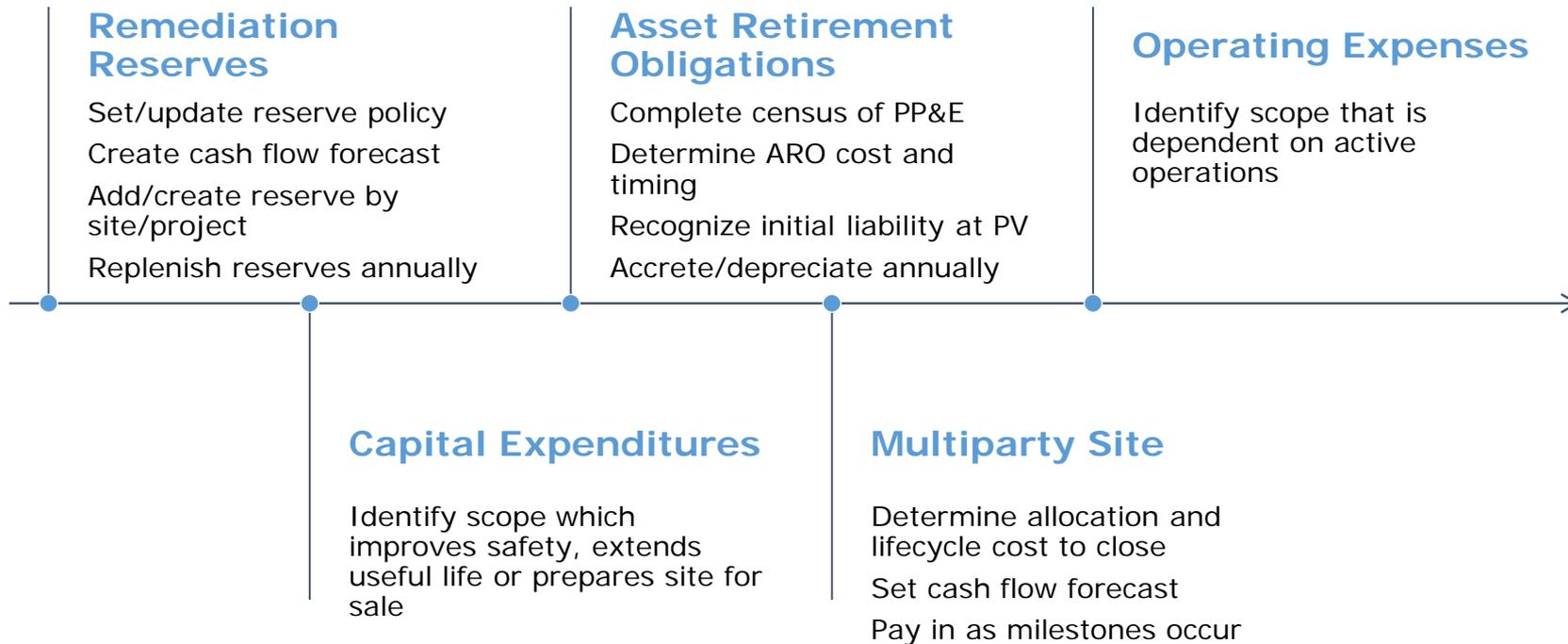


# Superfund Environmental Indicators



Metric	Status options
Human exposure	HEID: currently insufficient data to determine a human exposure evaluation HENC: current human exposure not under control HEUC: current human exposures under control HEPR: current human exposures under control and all protective remedy(ies) in place HHPA: long-term human health protection achieved
Migration of Contaminated Groundwater	GMNA: migration of contaminated groundwater not applicable. GMID: insufficient data to determine GM status GMNC: migration of contaminated groundwater not under control GMUC: migration of contaminated groundwater under control

# Funding Paths



# Strategies for Managing Liabilities



- High Control
  - Constructive obligation (promissory estoppel)
  - Social obligation
  - Legal obligation
- Medium Control
  - Voluntary cleanup programs
  - State (not Federal) lead in regulation
- Low Control
  - Enforcement Action (CD, AOC, regulatory order)
  - Emergency Response

# Resources

