



Pump Road Map Project

A project to define the industry technical activities needed to better understand pump performance with pump suction void conditions.



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Pump Road Map Project Background

- Road Map Project concept emerged in 2008
- Project descriptions developed in 2008 / 2009
- Ongoing implementation of plant improvements
- Ongoing evolution of technical understanding
- Current project leverages
 - Evolution of activities, understanding
 - Importance of flexibility

Project Objectives

NEED FOR FURTHER ACTION RECOMMENDATIONS

Determine if further action recommendations should be developed to support future operability evaluations (based on use of industry pump suction void criteria and “simplified equation”)

TECHNICAL ASSESSMENT OF INDUSTRY CRITERIA

Conduct a technical assessment of the industry pump suction criteria to provide general input and to identify gaps and opportunities for improvement

PRIORITIZED ACTION RECOMMENDATIONS

Develop a set of prioritized, collaborative action recommendations to fill gaps and realize opportunities

Key Project “Tools”

NEED FOR FURTHER ACTION RECOMMENDATIONS	PLANT SURVEY EXPERT / STAKEHOLDER PANEL
TECHNICAL ASSESSMENT OF INDUSTRY CRITERIA	EXPERT / STAKEHOLDER PANEL
PRIORITIZED ACTION RECOMMENDATIONS	EXPERT / STAKEHOLDER PANEL

“Tool” Descriptions

PLANT SURVEY	ASSESSMENT OF ABILITY TO MEET INDUSTRY CRITERIA CONSIDERING: - PAST EXPERIENCE - PLANT ADJUSTMENTS - “SIMPLIFIED EQUATION”
EXPERT / STAKEHOLDER PANEL	EXPERTS: - PUMPS - OPERABILITY REQUIREMENTS - LICENSING - GAS TRANSPORT STAKEHOLDERS: - UTILITIES - OEMS

Example Insights to be Explored

OBJECTIVES	EXAMPLE INSIGHTS
NEED FOR FURTHER ACTION RECOMMENDATIONS	Plant assessments generally indicate confidence (or uncertainty) that criteria will be met in the future. Plant assessments disclose some specific situations that may have issues.
TECHNICAL ASSESSMENT OF INDUSTRY CRITERIA	Reasonableness of the criteria. Criteria are reasonable but <u>improvements</u> would make them more robust. Criteria are reasonable but have <u>significant gaps</u>.
PRIORITIZED ACTION RECOMMENDATIONS	There are opportunities (needs) for improvements using <u>existing</u> technology or data. There are opportunities (needs) for improvements using <u>new</u> technology or data.

Action Scenario Development Based on Insights

EXAMPLE INSIGHTS	ACTION SCENARIOS
Plant assessments generally indicate confidence (or uncertainty) that criteria will be met in the future. Plant assessments disclose some specific situations that may have issues.	
Reasonableness of the criteria. Criteria are reasonable but <u>improvements</u> would make them more robust. Criteria are reasonable but have <u>significant gaps</u>.	
There are opportunities (needs) for improvements using <u>existing</u> technology or data. There are opportunities (needs) for improvements using <u>new</u> technology or data.	

Action Scenario Development Based on Insights

INSIGHTS	ACTION SCENARIOS	RECOMMENDATIONS
		DO NOW
		DO NOW
		DO LONG TERM
		DO LONG TERM
		DO NOT DO
		DO NOT DO

Action Scenario Development Based on Insights

INSIGHTS	ACTION SCENARIOS	RECOMMENDATIONS
		DO NOW
		DO NOW
		DO LONG
		DO LONG
		DO NOT DO
		DO NOT DO

Balanced Score Card Evaluation
Example Evaluation Attributes:

- Technical Feasibility
- Use Potential
- Completion Schedule
- Cost / Cost Uncertainty
- Collaborative Effectiveness

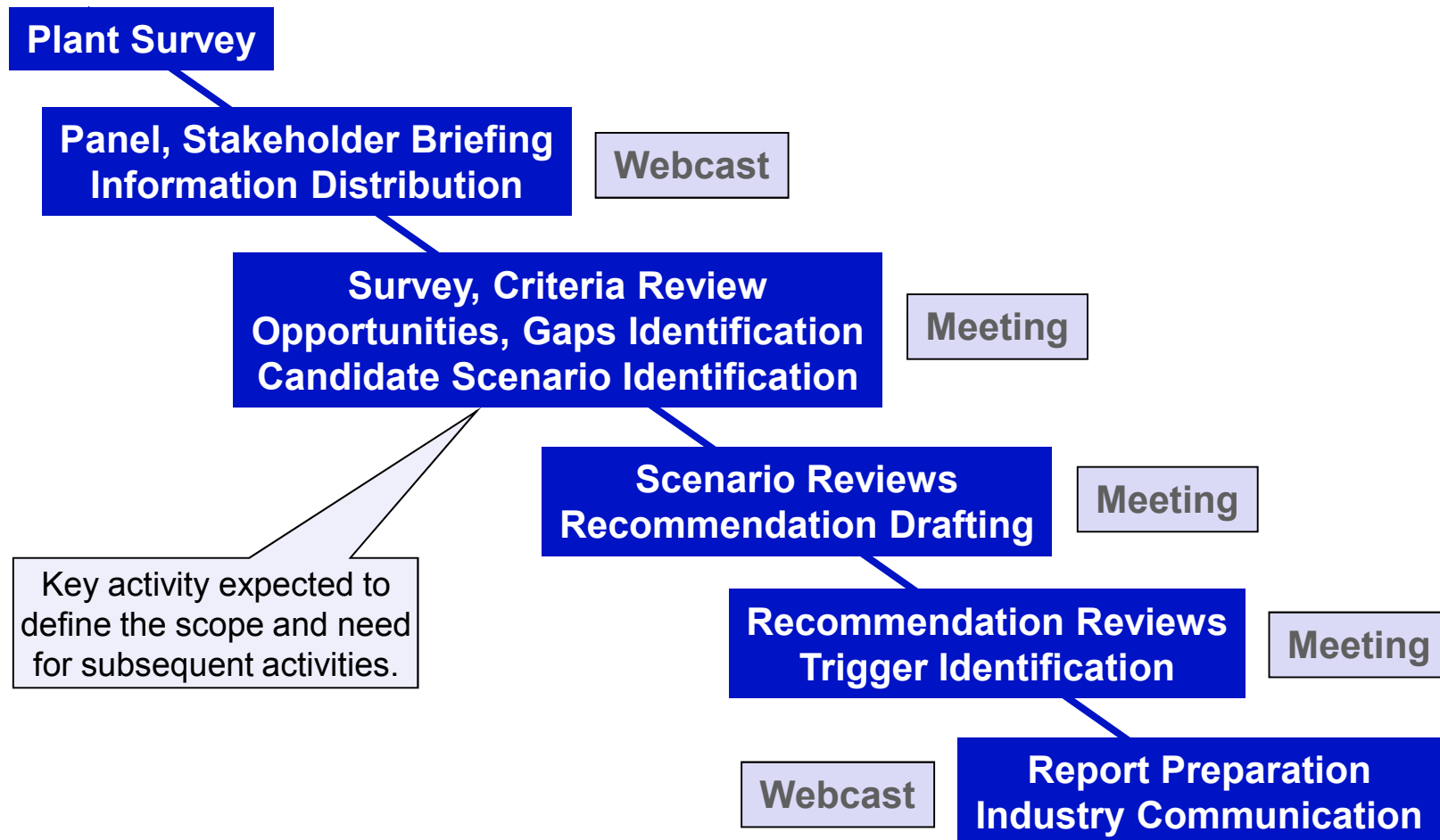
Action Scenario Development Based on Insights

INSIGHTS	ACTION SCENARIOS	RECOMMENDATIONS	“TRIGGERS”
		DO NOW	Cease doing if - - -
		DO LONG TERM	Accelerate if - - - Drop from plan if - - -
		DO NOT DO	Do if - - - Plant Experience Technical Insights

Project Progression



Project Progression



Together...Shaping the Future of Electricity

