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Paper/Presentation Title: Creative Contracting Strategy Delivers Utah's Newest Biosolids Cogen Facility Using Progressive Design-Build
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Abstract

Creative Contracting Strategy Delivers Utah's Newest Biosolids Cogen Facility Using Progressive Design-Build

North Davis Sewer District (NDSD) used the progressive design-build delivery method to implement an ambitious biosolids and cogeneration expansion project. This presentation will discuss how the use of progressive design-build has enhanced the development of what will become a flagship wastewater facility for energy efficiency. Thanks to an effective procurement plan, strong collaboration and a clear understanding of client priorities, this project is currently on track to be delivered more than $2M under the Guaranteed Max Price and three months ahead of schedule.

Learning Objectives:

- Procurement Best Practices for Design-Builder Best Value Selection: The District wanted to secure the most qualified team members and select the equipment it wanted to maintain and operate for years to come. A quals-based approach that enabled owner involvement was best achieved through the progressive design-build delivery model. The District also aimed to support the local economy (and keep the community's money in the community) and have an early understanding of cost to secure adequate financing.
- Means for Successful Progressive Design-Build Project Procurement and Project Completion: With BC providing solid analysis of delivery methods, the District chose Progressive Design Build to ensure client priorities were achieved and realize the benefits as fast as possible by retaining control to select proven team, equipment, and other design features, flexibility to make design changes without needing to go back to the board for approval, supporting the local economy by maximizing local subcontractor involvement, early understanding of cost and an agreed upon Guaranteed Max Price, efficiency with a single-point of contact for delivery, innovative ideas to meet energy efficiency goal, managing multiple task orders to maintain cash flow.
- Project Planning and Execution Methods to Create Best Value Assets Using Design-Build: The New Cogeneration Facility Project replaces two, older technology engine-generators with high efficiency advanced reciprocating engine system (ARES) lean-burn engine-generators. This will allow the plant to fully realize current and future biogas production and expand capacity. The Primary Sludge Thickening Building Project includes the construction of a new 15,000 square foot building. It will add primary sludge and scum thickening to the existing biosolids treatment process to remove excess water, reduce the hydraulic and heating load on the digestion process, and increase capacity.
- How to Maximize Project Innovation Using Design-Build Project Delivery: The BC team helped save the District $30M. $22M Saved - The District avoided having to build two new digesters by constructing a new thickening facility. $8M Saved – By conducting structural analysis and a condition assessment, BC was able to reuse existing tanks and covers. Installation of new engines will allow them to use 100% of their digester gas.