



Design Review Committee Briefing #2

Subject: Preliminary Design Approach and Business Case Evaluation Process

Date: September 17, 2018

The Issue

This Design Review Committee Briefing is intended to provide an overview of the preliminary design process for the Phase II/III Upgrades and as well as background on the business case evaluation (BCE) process. The Design Review Committee is tasked with overseeing the preliminary design efforts. Throughout this phase the BCE process will be used as the primary approach for evaluation and decision-making.

Background and Analysis

The preliminary design process is an important step in the systematic approach to designing and constructing improvements at the Nampa Wastewater Treatment Plant (WWTP). The preliminary design phase is intended to establish the project direction so that future design and construction efforts align, even if executed at different time. The preliminary design efforts will include the development of liquid and solids process treatment trains and associated process flow diagrams, design criteria, facility layouts, and 30% design drawings. During this phase the project packaging and delivery methods will also be evaluated. The culmination of this phase will be the Preliminary Engineering Report (PER), which will be submitted to the Idaho Department of Environmental Quality for review and approval.

The preliminary design for the Phase II and Phase III Improvements will be conducted in parallel and then the detailed design of the Phase III Upgrades will be delayed until approximately 2024. This approach allows these facilities to be coordinated and more detailed cost estimates to be prepared. Depending on the available funding and project cost estimates, the Phase III Upgrades may be accelerated so that the recycled water can be provided earlier to the irrigation company. Discharge of recycled water to Phyllis Canal could reduce capital expenditures if favorable terms of the reuse permit are negotiated.

Business Case Evaluation Process

The Nampa Wastewater Program has used the BCE process as the preferred decision-making approach for all types of decisions. The BCE will continue to be used during the Phase II/III Upgrades preliminary design process for major decisions including unit process evaluations (e.g. secondary and tertiary process evaluations), equipment selection, and the delivery approach.

The foundation of the BCE process is its reliance on a disciplined, systematic approach to evaluating alternatives. Unlike other decision-making techniques, the BCE process seeks to normalize impacts of each alternative on a monetary basis rather than relying on qualitative assessments. This allows for a consistent comparison of alternatives, (i.e., comparing dollars to dollars) in the last step of the process rather than weighing the cost of an alternative against its qualitative benefits. A consistent comparison enables an unbiased evaluation of the alternatives. While the application of the BCE process can provide powerful decision-making discipline, the process can be simply administered. This BCE process follows a systematic six-step process, see Figure 1. The power of the process is the disciplined application of each process step relative to the City's strategic goals.

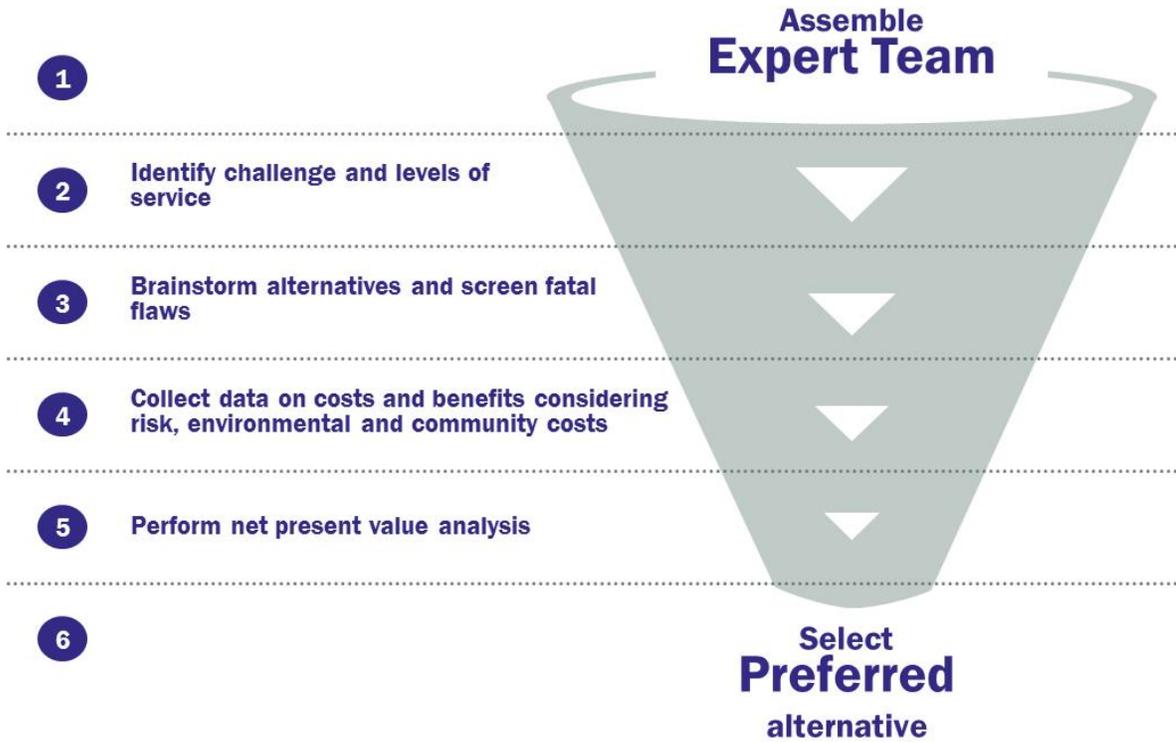


Figure 1. Business Case Evaluation Process

Potential Consequences

The preliminary design efforts will encompass a wide range of topics from high-level program decisions to technical details for specific unit processes. As such, it is intended that the Design Review Committee review decisions that affect the overall direction of the project, require significant capital investment (i.e. greater than \$20M), or otherwise provide opportunities to impact user rates. The Design Review Committee will be tasked with confirming key design criteria (e.g. residential and industrial growth) and the following decisions are planned to be presented to the Design Review Committee using the BCE process:

- Secondary treatment approach
- Tertiary treatment approach
- Sidestream treatment approach
- Project packaging
- Project delivery

The BCE process is structured to consider the full life-cycle cost of a decision. As such, all costs in the BCE process are considered equally including capital costs, operating costs, risk costs, and benefits. The BCE process can result in the selection of higher capital cost alternatives if they provide operational cost savings or offset additional risk. This process allows for more stable long-term rates but could have an upward pressure on near-term rates.

Recommendation

This DRC briefing is intended to provide background information as the Nampa WWTP Phase II/III Upgrades commences.