

BUDGET NARRATIVE FOR SALT LAKE CITY COMBINED HEAT AND POWER PROJECT

The total EPA CPRG Implementation Grant funding requested for the Salt Lake City Combined Heat and Power Project is \$22,500,000 as presented in the Budget spreadsheet. The Grant funding requested will be used to cover the costs associated with the Engineering Consultant's design and services during construction, procurement, manufacturing and delivery of major equipment with long lead delivery times and the General Contractors services to construct the facilities associated with the Salt Lake City Combined Heat and Power Project.

BUDGET

The Budget by Year for the Combined Heat and Power Project as presented below is based on the following scope of work:

- Construction of a new Electrical Building.
- Purchase and installation of two new high-efficiency Engine Generators and Heat Exchangers.
- Purchase and installation of one Paralleling Switchgear.
- Purchase and installation of one 4160 V Transformer.
- New electrical and control systems.
- Connection to the new 13.8 kV plant electrical distribution system.
- Sitework, yard electrical and yard piping infrastructure to support the new facility.

BUDGET BY YEAR FOR SALT LAKE CITY COMBINED HEAT AND POWER PROJECT							
COST TYPE	CATEGORY	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	TOTAL
Direct Costs	TOTAL PERSONNEL	\$-	\$-	\$-	\$-	\$-	\$-
	TOTAL FRINGE BENEFITS	\$-	\$-	\$-	\$-	\$-	\$-
	TOTAL TRAVEL	\$-	\$-	\$-	\$-	\$-	\$-
	TOTAL EQUIPMENT	\$-	\$1,600,000	\$2,500,000	\$-	\$-	\$4,100,000
	TOTAL SUPPLIES	\$-	\$-	\$-	\$-	\$-	\$-
	TOTAL CONTRACTUAL	\$200,000	\$1,000,000	\$1,100,000	\$1,000,000	\$-	\$3,300,000
	TOTAL CONSTRUCTION	\$-	\$-	\$8,700,000	\$6,000,000	\$-	\$14,700,000
	TOTAL OTHER	\$-	\$-	\$400,000	\$-	\$-	\$400,000
	TOTAL DIRECT	\$200,000	\$2,600,000	\$12,700,000	\$7,000,000	\$-	\$22,500,000
	TOTAL INDIRECT	\$-	\$-	\$-	\$-	\$-	\$-
	TOTAL FUNDING	\$200,000	\$2,600,000	\$12,700,000	\$7,000,000	\$	\$22,500,000

BUDGET JUSTIFICATION

a. PERSONNEL:

Personnel Total \$0

Salt Lake City Personnel costs are covered the current New Water Reclamation Facility Nutrient Project Budget

b. FRINGE BENEFITS:

Fringe Benefits Total \$0

Salt Lake City fringe benefits costs are covered the current New Water Reclamation Facility Nutrient Project Budget.

c. TRAVEL:

Travel Total \$0

Travel costs are not anticipated for this project.

d. EQUIPMENT:

Equipment Total \$4,100,000

Salt Lake City Combined Heat and Power Project						
EQUIPMENT	Year 1	Year 2	Year 3	Year 4	Year 5	Total
New Generators and Heat Exchangers	\$0	\$1,100,000	\$1,600,000	\$0	\$0	\$2,700,000
Paralleling Switchgear	\$0	\$400,000	\$700,000	\$0	\$0	\$1,100,000
4160 V Transformer	\$0	\$100,000	\$200,000	\$0	\$0	\$300,000
TOTAL PERSONNEL	\$0	\$1,600,000	\$2,500,000	\$0	\$0	\$4,100,000

- Equipment in the amount of \$4,100,000 is requested for the procurement, manufacturing, delivery and installation of two New Generators and Heat Exchangers, one Paralleling Switchgear and one 4160 V Transformer.
- The equipment listed above have long lead times for manufacturing and delivery and need to be procured early in order to meet the schedule for construction.
- Cost for the New Generators and Heat Exchangers is based on budgetary quotes received in October 2023 from reputable vendors and have been escalated to reflect the anticipated cost for the anticipated purchase in 2025.
- Cost for the Paralleling Switchgear and 4160 V Transformer are based on budgetary quotes received in October 2023 from reputable vendors and have been escalated to reflect the anticipated cost for the anticipated purchase in 2025.

e. SUPPLIES:

Supplies Total \$0

No additional Supply costs are expected for this project.

f. **CONTRACTUAL:**
Contractual Total \$3,300,000

Salt Lake City Combined Heat and Power Project						
CONTRACTUAL	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Engineering Design	\$200,000	\$1,000,000	\$200,000	\$0	\$0	\$1,400,000
Services during Construction	\$0	\$0	\$900,000	\$600,000	\$0	\$1,500,000
Startup & Commissioning services	\$0	\$0	\$0	\$400,000	\$0	\$400,000
TOTAL CONTRACTUAL	\$200,000	\$1,000,000	\$1,100,000	\$1,000,000	\$0	\$3,300,000

- Engineering Consultant to prepare engineering plans and specifications for the construction of the Combined Heat and Power Project. Engineering design cost is based on a percentage (8%) of the project construction cost.
- Engineering Consultant to provide Engineering Services During Construction for the Combined Heat and Power Project. Engineering Services During Construction cost is based on a percentage (8%) of the project construction cost.
- Engineering Consultant to provide Services during start-up and commissioning of the Combined Heat and Power Project. Start-up and commissioning services cost is based on a percentage (2%) of the project construction cost.

g. **CONSTRUCTION:**
Construction Total \$14,700,000

Salt Lake City Combined Heat and Power Project						
CONSTRUCTION	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Electrical Building	\$0	\$0	\$1,500,000	\$1,000,000	\$0	\$2,500,000
Electrical and Controls	\$0	\$0	\$600,000	\$500,000	\$0	\$1,100,000
Demolition, Yard Piping, Sitework, Yard Electrical and Plant Computer System	\$0	\$0	\$1,600,000	\$1,100,000	\$0	\$2,700,000
General Contractor Mobilization, Bonds, Insurance, General Conditions, Contingency & Market Adjustment	\$0	\$0	\$5,000,000	\$3,400,000	\$0	\$8,400,000
TOTAL CONSTRUCTION	\$00	\$00	\$8,700,000	\$6,000,000	\$0	\$14,700,000

- Electrical Building for the Combined Heat and Power Project based on project definition level of design. Scope based on similar projects of equivalent size and complexity with cost based on:
 - Square foot estimates from industry accepted sources for building costs,
 - Factored costs from similar projects
 - Experienced estimator judgement and
 - General pricing information obtained from RS Means Construction Cost resources.
- Electrical and Controls for the Combined Heat and Power Project. Scope based on similar projects of equivalent size and complexity with cost based on:
 - Factored costs from similar projects,
 - Industry-typical percentages for Electrical and control,
 - Experienced estimator judgement and
 - General pricing information obtained from RS Means Construction Cost resources.
- Demolition, Yard Piping, Sitework, Yard Electrical and Plant Computer System for the Combined Heat and Power Project. Scope based on similar projects of equivalent size and complexity with cost based on:
 - Factored costs from similar projects,
 - Industry-typical percentages for Electrical and control,
 - Historical material prices,
 - Experienced estimator judgement and
 - General pricing information obtained from RS Means Construction Cost resources.
- General Contractor Mobilization, Bonds, Insurance, General Conditions for the Combined Heat and Power Project. Cost based on:
 - Industry-typical percentages of construction direct costs for:
 - General Conditions and General Contractor administrative costs, i.e., overhead (12%).
 - General Contractor Profit (10%).
 - General Contractor Mobilization, Bonds & Insurance (3%).
- Contingency for the Combined Heat and Power Project. Because market and economic conditions fluctuate due to conditions outside Salt Lake City's control, the probable range of construction costs for the Combined Heat and Power Project at this stage of planning and design is minus 25% to plus 40% of the estimated cost, therefore a contingency amount of 30% of the construction cost has been included in the total project budget.
- Market Adjustment for the Combined Heat and Power Project. Based on past experience of the local market conditions affecting the cost of labor and materials in the Salt Lake City area, a market adjustment of 10% of the construction cost has been included in the total project budget.

- h. OTHER:
Other Total \$400,000

Salt Lake City Combined Heat and Power Project						
OTHER	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Permits	\$0	\$0	\$400,000	\$0	\$0	\$400,000
TOTAL PERSONNEL	\$0	\$0	\$400,000	\$0	\$0	\$400,000

- Obtain required permits from Utah Department of Environmental Quality. Cost of required review and permit for Construction from and City Building Department for the Combined Heat and Power Project. Costs to obtain the necessary permits is based on:
 - Estimates obtained from the Salt Lake City Building Department based on estimated square foot area for the Electrical Building,
 - Factored costs from similar projects for the
 - Experienced estimator judgement and
 - General pricing information obtained from RS Means Construction Cost resources.
- Obtain required permits from Utah Department of Environmental Quality and City Building Department for the Combined Heat and Power Project. Costs to obtain the necessary permits is based on:
 - Building Permit - Estimates obtained from the Salt Lake City Building Department based on estimated square foot area for the Electrical Building,
 - Utah Department of Environmental Quality required review and permit for Construction based on factored costs from similar projects.

i. TOTAL DIRECT COSTS FOR COMBINED HEAT AND POWER PROJECT: \$22,500,000

- j. INDIRECT COSTS: \$0
No additional Indirect costs are expected for the Combined Heat and Power Project.

k. TOTAL COSTS FOR COMBINED HEAT AND POWER PROJECT: \$22,500,000

GENERAL BUDGET ASSUMPTIONS

The following assumptions were included in the development of the cost budget presented herein:

- Construction labor costs for the Combined Heat and Power Project used in the development of this budget are based on the minimum prevailing wage requirements of the Davis-Bacon Related Acts for the Salt Lake City area.
- Construction material costs for the Combined Heat and Power Project. This budget was developed based on the requirements that all iron, steel, manufactured products, and construction materials used for the Combined Heat and Power Project comply with EPA's Build America, Buy America (BABA) Act.