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FSM 122

Equipment Capital Budget Justification

Purpose: I am proposing a request for renewing the kitchen's steamer for better efficiency and also giving motivation and inspiration to employees.

Why new steamer? In food industry having cost and environment efficient tools and equipments is the most critical factors. We are responsible for our customer, employees and environment. We need to help save energy, time and reduce the workload and burden from our employees. New equipments are updated with the new technology, so most of them are environment friendly and they are often more efficient. In our foodservice company, we have used the steamer for many years. They have been working great for those years, but they are not as efficient as they were anymore. In addition, to make better quality of products, the steamer needs to be changed with a brand new one for the quality and also quantity of the product that are made here. Furthermore, new equipments are always motivational for workers and with new technology. In addition, new products are higher in quality, easier to use, more efficient and lower energy is needed.

2 steamers that were selected (1 gas, 1 electric):

Steamer selected for workplace: electric steamer

Brand: AccuTemp Products, Inc. (**selected**)

Electric steamer model: E62083E170 (**selected**)

Gas steamer: American Cook Systems

Model/ Serial Number: SG-6 / G1099

	User selected	Base efficiency	Energy efficient steamer
Gas	American Cook Systems	Provided for us	Provided for us
Electric	AccuTemp Products	Provided for us	Provided for us

Benefits:

-Cost: The Lifetime cost of the energy efficient electric steamer is \$22027 which is the least inexpensive one among all 6 steamers. AccuTemp Products, Inc is the third less expensive steamer among all six with the price of \$63635. The American cook system which is the gas steamer is \$100561. Among all six steamers, all of the gas steamers have highest initial cost than the electric ones. Among all 3 electric steamer base efficiency steamer with the price of \$5225.00 is the least inexpensive steamer. Initial cost of AccuTemp Products steamer is \$6575.00. The user selected gas steamer will cost \$8443.00 to buy. The electric steamer is more efficient and environment friendlier in water usage, we can save on water bills annually and during this water drought, it's very important to save water as much as we can. The annual water cost for care the same prices which are respectively \$1476, \$492. The AccuTemp which is the electric steamer, water cost annually is \$61 compare to the gas steamer which will cost us \$123 per year. We can save \$2837 and \$2899 respectively on annual energy cost and total annual utility cost by buying the AccuTemp electric steamer. By buying the electric steamer we can save \$34044 on lifetime energy cost, \$744 on lifetime water cost. The lifetime maintenance cost of electric steamers is \$60 more expensive compare to gas steamers but comparing all the other costs which are a lot less expensive, electric steamer is more beneficial to buy.

Comparing total lifetime cost:

Total Lifetime cost	User selected	Base efficiency	Energy efficient
Gas	\$100561	\$6679.00	\$10065.00
Electric	\$63635	\$96065	\$22027

Initial cost of purchase:

	User selected \$	Base Efficiency \$	Energy efficient \$
Gas	\$8773.00	\$6679.00	\$10065.00
Electric	\$6575.00	\$5225.00	\$7735.00

Annual maintenance cost:

	User selected \$	Base Efficiency \$	Energy efficient \$
Gas	\$120	\$120	\$120
Electric	\$125	\$125	\$125

Lifetime water cost:

	User selected \$	Base Efficiency \$	Energy efficient \$
Gas	\$1476	\$17712	\$5904
Electric	\$732	\$17712	\$5904

-Energy usage: among all 6 steamers, base energy efficient and energy efficient steamers in both gas and electric have the same average energy consumption rates annually which are 7.62kW and 0.73kW. Energy efficient steamers have the lowest energy consumption rate so we can indicate that this could be a better choice to buy but by looking closer to other cost we will see that AccuTemp Products is still a better choice. After Energy efficient steamers AccuTemp steamer have the lowest energy consumption rate. This can help us to save on energy. By comparing preheat energy on the cost calculator sheets, we see that energy efficient steamer uses slightly less than AccuTemp steamer. Base energy efficient and energy efficient steamers in both gas and electric have the same preheat energy usage.

Average energy consumption (kW):

	User selected (kW)	Base Efficiency (kW)	Energy efficient (kW)
Gas	9.45	7.62	0.73
Electric	5.83	7.62	0.73

Preheat energy (kWh):

	User selected (kWh)	Base Efficiency (kWh)	Energy efficient (kWh)
Gas	2.40	1.50	1.50
Electric	1.59	1.50	1.50

-Size: the electric steamer has a potato production capacity of 126.5 lbs/h and the gas steamer has a 144.6 lbs/h production. The difference is only 18.1 lbs/h but comparing other costs of the gas steamer is more expensive. The rest have the least size production of 77lbs/h and 88lbs/h.

	User selected (lbs/h)	Base efficiency (lbs/h)	Energy efficient (lbs/h)
Gas	144.6	70.0	88.0
Electric	126.5	70.0	88.0

Comparing Electric vs. Gas (why electric not gas): I am recommending getting the AccuTemp electric steamer for reasons stated below:

Preheat duration: the electric steamer needs uses 1.59kWh to preheat and gas steamer uses 2.4kWh. This difference in our workplace is significant.

Cost: the initial cost, lifetime cost, water cost, maintenance cost, utility cost and energy cost of electric steamer are less expensive compare to gas steamer.

Size: production capacity might be little lower than gas steamer but comparing all other costs and the money and energy we can save with AccuTemp is more beneficial.

Final comment: our goal is to provide high quality, quantity food and save on energy, time and reducing the workload from our employees. AccuTemp helps us achieve our goals by producing large amount of food, saving on time and energy. I appreciate your help and attention.

Sincerely

Summary of gas and electric steamers selected

Manufacturer

AccuTemp Products, Inc.

Report Number 501310040

Model Evolution Steamer E62083E170

Number of Pans	6
Preheat Energy Consumption (kWh)	1.59
Idle Energy Rate (kW)	hold mode 0.10 cook mode 1.59
Heavy-load Potato Energy Efficiency (%)	Run1: 70.5 Run 2: 70.26 Run3:
69.2Production Capacity (lbs/hr)	Run 1: 121.5 Run 2:131.2 1 Run3:
126.7Average Water Consumption Rate (gal/h)	< 3.0 < 3.0 < 3.0

Manufacturer

American Cook Systems

Report Number 501311050

Model/ Serial Number SG-6 / G1099

Number of Pans	6
Preheat Energy Consumption (kWh)	2.4
Idle Energy Rate (kW)	hold 1,266 cook 17,509 Btu/h
Heavy-load Potato Energy Efficiency (%)	run 1: 45.3 run 2: 44.9 Run 3: 45.9Potato
Production Capacity (lbs/hr)	Run1: 144.6 Run2: 142.1 Run3: 137.5
Average Water Consumption Rate (gal/h)	Run1: 2.1 Run2: 2.1 Run3: 2.3