**PAYSON CITY COUNCIL AGENDA REQUEST FORM**

DATE OF COUNCIL MEETING: June 5, 2024

TITLE OF ITEM FOR AGENDA: Payson City Power Plant Renewal

WHO IS REQUESTING: Shawn Black

WHO IS PRESENTING: Shawn Black

LENGTH OF TIME: 15 MINUTES

ADDITIONAL PRESENTER’S NAME/COMPANY:

(developer, applicant, presenter, etc.)

**DESIRED ACTION OF CITY COUNCIL:**

(Check relevant items)

CONSENT AGENDA

RESOLUTION  ORDINANCE  PROCLAMATION

PRESENTATION/DISCUSSION: (NO ACTION)

PRESENTATION/DISCUSSION: (ACTION NEEDED)

RESOLUTION  ORDINANCE  PROCLAMATION

WORK SESSION: (NO ACTION)

REDEVELOPMENT AGENCY: (ACTION NEEDED)

RESOLUTION  ORDINANCE

DETAILED REASON AND EXPLANATION FOR REQUEST:

Payson’s Power Department recommends the City Council authorize the Mayor to sign the attached agreement with UAMPS to authorize UAMPS to create a project to renew Payson’s Power Plant by installing (6) 3520H natural gas generators at a price target of $29,736,993.87 for the plant expansion and renewal, $3,000,000 for the substation expansion and renewal, and $750,000 to upgrade the plants natural gas supply line.

This project includes purchasing Caterpillar 3520H natural gas generators to replace two old Enterprise generators which are designated as Gen 3 and Gen 4, while utilizing their foundations. Four more Caterpillar 3520H generators will also be added and the building enlarged 90’ to the west. New sheeting and insulation will be installed on both the older existing building and the new 90’ section of Payson’s Power Plant building. The substation will need to be enlarged with new higher voltage transformers installed along with circuit breakers and steel structures. Payson’s natural gas supply line needs to be enlarged to 4” from the current 2” line to carry more fuel to the plant.

The overall goal of the planned additions and modifications is to increase the capacity at the plant which is currently being limited by age of machinery, high fuel usage per MW, and instantaneous emissions restrictions. The plant’s current nameplate capacity is 9.1 MW, it runs reliably at 7 MW. This project’s proposed output will be 19.7 MW.

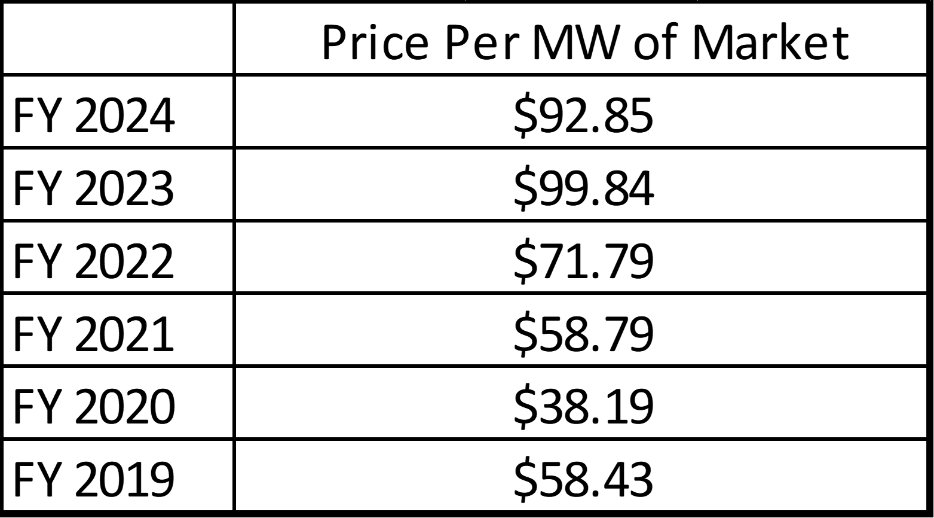
This proposed project is part of a multi-pronged strategy to control and cap Payson’s rate payers from rapid escalating utility bills.

In Payson City’s General Plan, Chapter 3 describes the community’s infrastructure. The chapter describing infrastructure within Payson has three guiding principles. The second principle states, “Invest in new public infrastructure that benefits the community broadly and makes good use of public funds”. One of the main benefits to renewing and expanding the capacity of the plant is to gain local control and public ownership. There are also ancillary benefits such as the ability to import low-cost power without being locked in expensive inflexible long-term contracts, lower taxes, lower cost of energy to supply City buildings and street lighting.

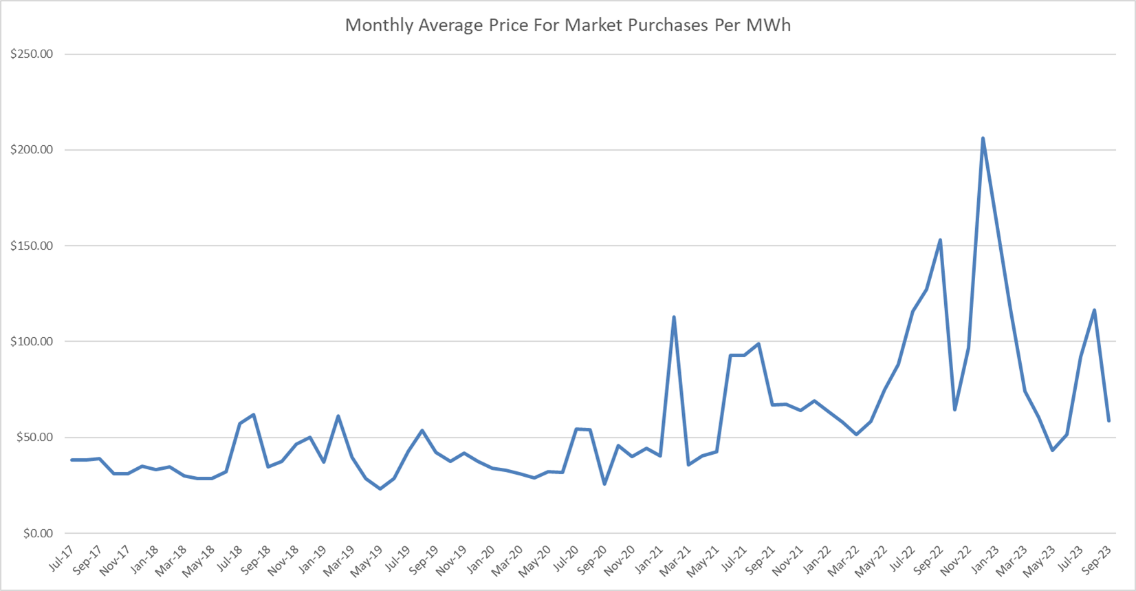
Increasing the capacity at the plant will benefit the ratepayers by allowing them to control their future pricing of power, which in turn allows revenue to flow to other beneficial uses within the city. Chapter 3 also refers to a past Capital Facilities Plan. The department has completed a recent Capital Facilities Plan (2024) which gives the department guidance to perform capital improvements to maintain Payson’s resource supply, transmission and distribution systems and ensure a steady reliable supply of power while accounting for growth within Payson.

Market volatility in the western part of the United States have harmed rate payers during the 2020-2023 timeframe. The extreme pricing paid by utilities during this period eroded many utility reserves which has resulted in escalating rates. This uncertain and extreme energy environment has been caused by multiple factors. Some causes are policy driven and some are physical constraints. Current physical contributing factors include the growing dependence on natural gas as a generating fuel, the drought causing reduced hydro generation, and supply chain constraints with massive lead times on equipment. Policy driven factors include the closure and future closure of large coal plants, the export of liquified natural gas to other countries, the ban on imports of solar panels for various reasons, the adoption of electric vehicles causing increased demand, and the environmental energy production goals of some states.

The following chart shows how Payson’s market pricing average has increased during the last few years:



The following chart shows the volatility in market pricing and the upward trend:



Staff has the belief that extreme electricity and natural gas pricing events will be a normal state for the foreseeable future because of the structural challenges to the industry outlined in the preceding paragraph. When some of these problems start to abate, better pricing certainty will return.

Staff explored different strategies to remove market risk from Payson’s energy portfolio. The option with the least outlay of capital leverages Payson’s existing assets and staff utilizing Payson’s existing power plant more fully.

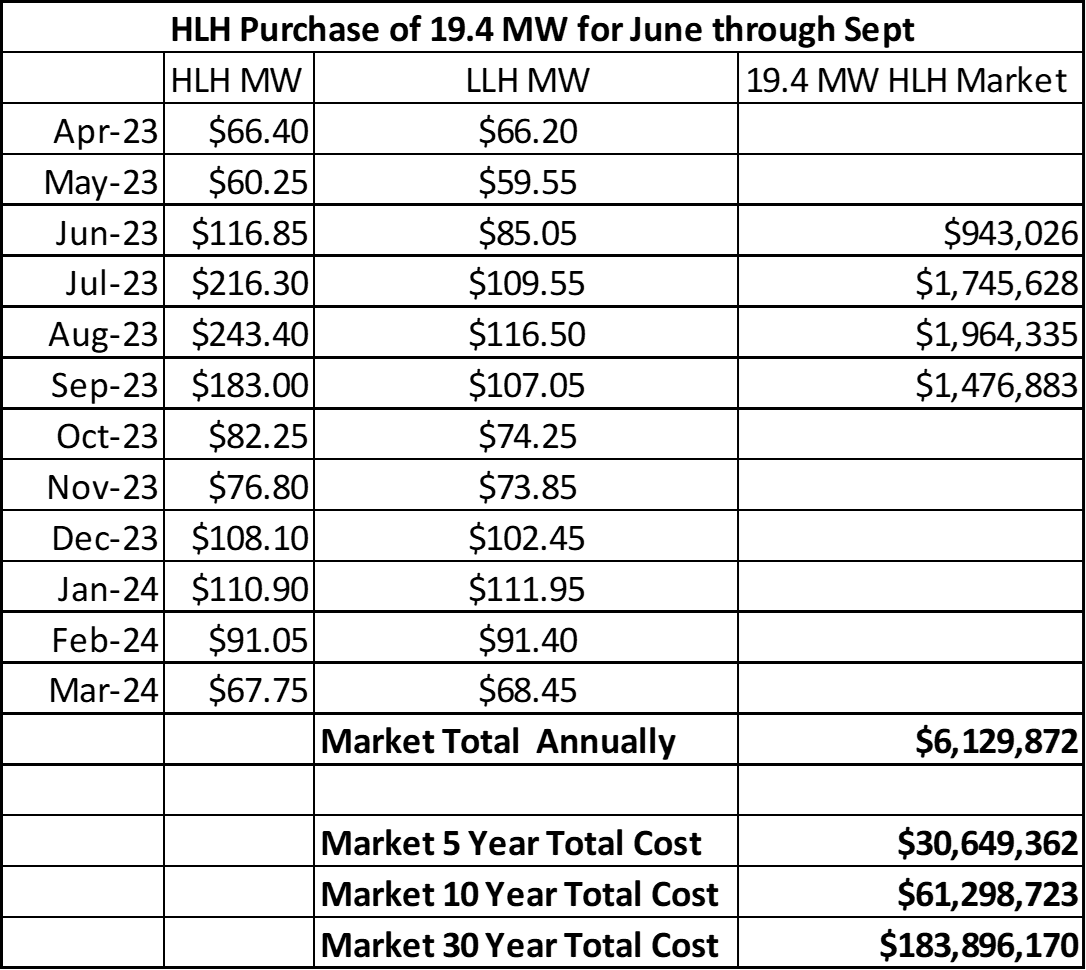
Various emission modeling scenarios were performed. The winning combination that achieved the most capacity with the least amount of cannibalization of existing assets includes (6) Caterpillar 3500H generators with SCR technology installed and included running Gen 1 and Gen 2 with only the existing CO catalysts. All stacks will be 40’ tall and 24” in diameter. This scenario passed the instantaneous NOx emission limitations for the summer months and allowed us to keep two of the existing old engines, achieving maximum capacity. Any changes to the plant in the future will need to include the removal of the two older gensets in order to achieve instantaneous emission limitations.

The above scenario produces a capacity of 19.7 MW. The Payson power plant is currently at 9.1 MW of capacity but runs reliably at 7 MW. Payson has reached close to a 34 MW peak for 3 years in a row. By updating some of the plant and adding 12.7 MW more resource we will be able to have about 36 MW of capacity coverage in the summer of 2026. We still have to make decisions going forward, but this will cover our current needs and protect us from a volatile market.

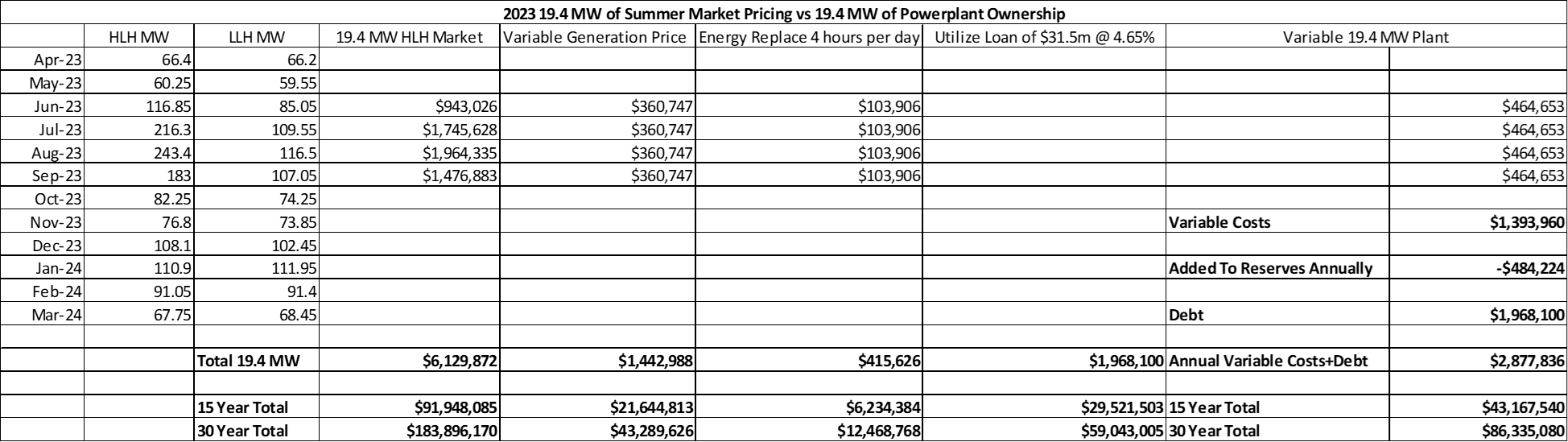
This project helps Payson to take advantage of past investments made by the rate payers. Payson owns the building, cranes, natural gas feeds between the gas house and plant, and space/location for a substation. All of these add substantially to the costs of new projects.

Staff compared the market pricing from the run season of 2023, which has been very similar to the last few years to building this project. The table is for the replacement of high load power (HLH), which is Monday through Saturday, 8:00 am to 11:00 pm. This is the only way a utility can enter into the purchase of an HLH product. It includes all 16 hours x 6 days a week.

The following table is an example of future power per MW prices for 2023.



The next table is more indicative of how we actually use generation to achieve the same MWh output. It compares buying futures vs. purchasing generators and using hedged natural gas while adding in a conservative amount of real time power purchases. The real time purchases are usually between 8:00 am till noon. The table includes the assumption that we would hedge fuel for $4.40 per MMBtu for summers only. This table also assumes staff would buy daily spot market power for 4 hours per day and run for 12 hours per day. This is a conservative approach. We usually purchase closer to 5-6 hours per day. We use the plant to cap the prices paid at our variable price to insure against price escalation from June until September. The strike price for deciding to run would be above $51.50. If market real time prices happen to drop in the first week of June and the last week of September, we get even lower expenditures from the plant column. We have also added $20 per MWh to our variable generating price for equipment wear and tear. We would collect about $484,6224 in reserves per year with this kind of an allotment.



The differential between the market purchase of HLH power and the variable of installing this generation project is about $2,877,836 annually. The plant is local and the City has the highest amount of control over this resource in comparison with any other power resources owned by the City. This project also has the advantage of the shortest lead time out of any other projects the City can enter into. It is also the lowest cost way to gain capacity for the City.

This agenda request and any supporting documentation is due to the city recorder by the Wednesday one week prior to the council meeting. This allows final preparation of the agenda and time for the city attorney to review.

REVIEWED - CITY ATTORNEY       INITIALS