

**BEFORE THE
IDAHO PUBLIC UTILITIES COMMISSION
CASE NO. IPC-E-23-11**

IDAHO POWER COMPANY

**BARRETTO, DI
TESTIMONY**

EXHIBIT NO. 1

Memorandum of Understanding Concepts for Joint Projects Documentation May 2023

The following summarizes Company's and Staff's agreement in principle, that will ultimately be contained in a Memorandum of Understanding ("MOU"), on the types and presentment of information Idaho Power will file to support its requests for a prudence determination of expenditures made at its jointly-owned generating facilities. This document reflects Idaho Power's current understanding of the primary components that will be contained in the MOU and corresponding checklists, but is subject to change as the MOU is finalized with Staff.

1) Major Projects Checklist

This checklist is envisioned to detail review timing and documentation that will be provided for all projects over a certain threshold. Idaho Power will provide the Appropriations Request (for Bridger) or Authorization for Expenditure (for Valmy), along with a list of project characteristics and areas that Joint Projects will review as prescribed in the checklist. The checklist will also prescribe specific documentation that will occur if costs exceed budget by a certain amount. Lastly, the checklist will prescribe the review that will occur, and the associated documentation that will be provided, with regard to project bidding and / or in-house completion of projects if expenditures exceed a certain level.

2) Valmy-Bridger Oversight Meeting Checklist

In addition to the Major Projects Checklist, Joint Projects will complete a Valmy-Bridger Oversight Meeting Checklist for each regularly scheduled budget discussion with the Company's operating partners. These meetings currently occur monthly for Valmy and quarterly for Bridger. This checklist is envisioned to include the time, date, location, and attendees of these meetings, as well as any meeting notes taken by Joint Projects, either written directly on the checklist or attached. In addition, the Company will retain with the capital budget review worksheets that list all capital projects at the facility, including ancillary information such as budget variances and project notes.

3) Maintenance of Documentation for Commission Staff Review

Idaho Power will agree to maintain documentation associated with the processes outlined in the MOU to support its prudence requests for expenditures at Bridger and Valmy.

4) Staff Review, Sufficiency of Documentation

The Company will provide the checklists and associated documentation to Staff either upon filing or at Staff's request, depending on Staff's preference and the volume of information related to the period for which prudence is being requested.

5) Term and Termination.

The MOU will become effective on the Effective Date and will continue until the Company does not have ownership of a jointly-owned facility, unless terminated earlier by one or more Parties with written notice to the other Party.

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EXHIBIT NO. 2

VALMY PLANT ADDITIONS: Jan 1, 2019 - Dec 31, 2022

Project	Descr	V1	V2	VC	Total	Purpose	Project Description/Justification
27574743	VALMY 98482392 V2 REPLACE TURBINE HP/IP SECTION		1,240,965		1,240,965	Reliability/Safety	The Unit 2 steam turbine high pressure/intermediate pressure (HP/IP) shell experienced five steam leaks from the mating surfaces of the steam turbine HP/IP upper and lower shells, beginning in 2015. Each steam leak damaged the two turbine shells by eroding the mating surfaces material and providing further paths for the superheated steam to escape from the turbine HP/IP shells. At the time, previous repairs did not fix the eroded mating surfaces or the compromised connection hardware that compresses the two shell halves together to form the mating surfaces seal. Connecting hardware wears it out, only enduring a limited number of tightening and loosening cycles before the connecting hardware loses its strength and the ability to provide the compressive forces necessary to form the mating surfaces seal of the two shell halves. This loss of connecting hardware strength is also compounded by the high temperature during operations causing the plastic deformation of the steel in a process known as creep. This plastic deformation in conjunction with applied stresses can also warp and distort both the connecting hardware and the HP/IP shells themselves. A "tapped stud" threads into the lower shell half and a large nut is installed on the upper portion of the tapped stud and tightened to apply the compressive force to the two shell mating surfaces. A minimum of six tapped connecting studs are known to have been compromised in some fashion, mostly warpage. This project replaced the connecting hardware, which was no longer providing sufficient consistent compressive force, with new hardware and refurbished the mating surfaces of the two HP/IP shell mating surfaces. The two turbine HP/IP turbine shells were separated and the mating surfaces were refurbished with a combination of welding and machining. In addition, ten tapped connecting studs and nuts on each side of the HP/IP turbine section in the areas of the five steam leaks were replaced with new tapped connecting studs and nuts. The tapped stud threads in the lower half shell were also repaired as necessary. The tapped studs replacement, lower half thread repairs and HP/IP shell refurbishment were made after the two HP/IP shells were separated. These repairs corrected the known root causes, compromised mating surfaces and compromised connecting hardware, that were causing the turbine HP/IP section shell steam leaks.
27574748	VALMY 98483085 V2 OVATION HMI AND SERVER UPDATE		629,538		629,538	Reliability	The Valmy U2 Emerson Ovation Distributed Control System ("DCS") was operating both the servers and Human Machine Interfaces ("HMI") beyond the Original Equipment Manufacturer ("OEM") support and security patches are no longer created for these systems. The existing U2 DCS equipment was installed in 2015. The control servers were operating on Windows Server 2008 and Microsoft ceased mainstream supporting as of January 1, 2020. The HMIs were operating on Windows 7 originally released in 2009 with a service pack update in 2016, which Microsoft stopped supporting as of January 14, 2020. Operating without the OEM supported cybersecurity patches put these servers and HMIs at elevated risk. It also violated NV Energy's Information Technology ("IT") mandate to keep all critical systems patched and secured (vulnerability management). The upgrade replaced the HMI hardware and upgrade the operating system to Windows 10. In addition to the HMI and operating system upgrades, the following control equipment was upgraded: new virtualized Windows 2019 control servers host, Emerson Ovation software upgraded from 3.5.1 to 3.8 level, new ethernet switches and routers. All of the upgrades enabled implementation of latest Top 20 Critical Security Controls ("CSC") SANS guidelines for cyber defense and detection tools. Although there is no specific standard, full control system upgrade life-cycle is about 10 years, with a 5-year mid-cycle HMI and operating system updates. These timelines are general guidelines and can vary slightly to align with plant cycles. Additionally, the operating system version update cycle and vendor application refresh cycle variabilities can sometimes cause shorter or longer cycles than the typical 5 and 10 year time span. Given the Valmy U2 existing control system was commissioned in 2015, it had reached the mid-cycle HMI and operating system upgrade requirement. The project was executed in fall 2021 to align with other cybersecurity project upgrades, the operating schedule and to maximize the project benefits given the unit retirement date. An additional concern existed with the scheduled 2023 retirement of Valmy U1. A number of common plant systems are currently controlled from U1's DCS and required code changes to move these controls to U2's DCS.
27590306	VALMY 98493081 V2 PULVERIZER C GEARBOX FAILURE		587,457		587,457	Reliability	Four pulverizers are needed on U2 to reach full load status each year to perform annual testing and certification of the cold reheat safety valves. This testing is a compliance requirement needed to maintain Valmy's Annual State of Nevada Boiler Operating Permit. Reliability is also increased by the availability of having a spare pulverizer when needed in the event of failure of another pulverizer. After pulverizer 2C tripped off, the gearbox inspection port was opened by maintenance personnel and discovered the gearbox had failed. U2's reliability was compromised at this time as well as compliance with the state testing requirements with 2C pulverizer not being ready for service.
27514784	VALMY 98438396 VC FREEZE PROTECTION HEATERS			541,325	541,325	Reliability	When the Valmy operating schedule shifted to running the units in only the summer months, and to be in long-term layup during the remaining months of the year, it was determined that with both units offline there was no auxiliary steam to provide heat to the turbines, boilers and buildings to keep them dry and above the dew point, per the long-term layup plan. The plant was renting portable electric space heaters to sufficiently heat the plant buildings and equipment during the layup period. It was determined that the purchase of the heaters was more cost effective than renting. In addition, the purchase and installation included four water-to-air dry finned coolers which cool the component cooling system on each unit and exhaust warm dry air into the lower level of the turbine building, reducing the number of electric heaters required to be purchased.
27585672	VALMY 98490890 V2 EXCITER POWER SUPPLY TRANSF		468,110		468,110	Reliability	Two of the U2 exciter power supply transformers had failed, preventing the return to service of the U2 generator. Following a loss of phase generator protection trip caused by the A phase, U2 was not able to return to service due to damage that was discovered in the generator exciter power supply system. An exciter representative was required to aide in troubleshooting the issues. One of the three saturable current transformers ("SCT") that supply power to the generator exciter, one linear reactor (transformer), and the exciter control card module were damaged during the unit trip. The emergency repairs were completed to restore the U2 generator back to service. Following recommendations to avoid future failures requires replacement of the two SCTs that had compromised integrity due to oil and heat damage, as well as one of the remaining linear reactor transformers that had degraded and was running at an elevated temperature of 350 degrees compared to the other two that were 200 degrees.
27582989	VALMY 98489340 V2 PULVERIZER CAPITAL SPARE RO		456,113		456,113	Reliability	U2 is scheduled for retirement at the end of 2025. Based on inspections, the pulverizers were not in immediate need of major overhauls. To be prepared for unexpected failures and reduce the capital investment required to operate reliably through 2025, the plant purchased a full set of grinding table segments and three roll wheel assemblies. This purchase will expedite repairs in the event of a pulverizer damage or excessive wear that could occur during the remainder of plant operation. Long lead times for replacement equipment would cause extended forced outages or derates while waiting for replacements.
27517151	VALMY 98438333 VC FIRE PROTECTION SYSTEM, BEF			262,492	262,492	Reliability/Safety	In November 2017, an evaluation of the fire protection systems was performed that determined the refurbishment or replacement of the systems was required due to degradation of the existing system, through a combination of worn out and/or outdated components and systems. This project included the refurbishment of the Early Warning Smoke Detection system, the replacement of the Unit 1 and Unit 2 stand pipe booster pipes, the replacement of the fire alarm control panels and associated controls and alarms, replacement of deluge valves, the electric fire pump and the required flow testing on the diesel fuel tank system.
27596251	VALMY 98496301 V2 PULVERIZER B ROLL WHEEL REPLACEMENT VA		230,734		230,734	Reliability	Four pulverizers are needed on U2 to reach full load status each year to perform annual testing and certification of the cold reheat safety valves. This testing is a compliance requirement needed to maintain Valmy's Annual State of Nevada Boiler Operating Permit. Reliability is also increased by the availability of having a spare pulverizer when needed in the event of failure of another pulverizer. Inspection of pulverizer 2B by maintenance personnel discovered a seized roll wheel assembly. U2 reliability was compromised at this time as well as compliance with the state testing requirements with 2B pulverizer not being ready for service.
27528897	VALMY 98455128 V2 PIN MIXER/UNLOADER, REBUILD		224,787		224,787	Reliability	The existing original Unit 2 pin mixer (wet fly ash unloader) required replacement due to normal wear and tear. In addition, in 2018 an ash hauling dump truck damaged the Unit 2 wet fly ash unloader, further impacting the reliability of the pin mixer. The pin mixer/unloader was rebuilt prior to the summer run to avoid the potential of serious failure of the non-redundant equipment.
27555279	VALMY 98455852 VC GROUND WATER MONITORING WEL			219,799	219,799	Environmental	Ground water elevation at Valmy had risen noticeably over the last 6-8 years, presumably due to cessation of dewatering activities at the nearby Lone Tree Mine, resulting in the screened wells becoming fully submerged. According to Nevada Division of Environmental Protection (NDEP) monitoring well guidelines, the groundwater level should be within the screened interval level to obtain an accurate water level reading. Any reported ground water levels above the top screen level are considered invalid. Valmy has 14 total ground water monitoring wells, of which five were reading above the top screen level and four were close. If the wells were not re-filled, plugged, abandoned or replaced, the existing wells may have become non-compliant with the regulatory intent of monitoring the potential impacts of operating the facilities landfill and evaporator ponds. In addition, if not in compliance, the NDEP can order similar action. These costs are associated with the installation of nine new ground water monitoring wells.
27596247	VALMY 98494653 V02 SCRUBBER SPRAY MACHINE GEARBOX REPLACEMENT		180,709		180,709	Environmental/Reliability	The scrubber spray machine gearbox drives stator wheels at 12,000 rpm for sulfur dioxide removal. The high speed components require precision balancing and tight tolerance on gear clearances. This project replaced a gearbox that was no longer repairable. The spray machine gearbox is necessary to ensure the plant's reliability and environmental compliance for the summer peak season, for both the Title V SO2 removal and Sulfur emissions as well as the MATS SO2 emissions.

VALMY PLANT ADDITIONS: Jan 1, 2019 - Dec 31, 2022

Project	Descr	V1	V2	VC	Total	Purpose	Project Description/Justification
27604610	VALMY 10086049 V2 SCRUBBER ATOMIZER WHEELS REPLACEMENT		168,148		168,148	Environmental/Reliability	The scrubber atomizer wheels are exposed to a harsh environment of fly ash laden flue gas, as well as a spray of an abrasive slurry of lime and ash at 12,000 rpm for sulfur dioxide removal. This causes erosion on both the carbide slurry nozzles and the titanium wheel body. With the plant's anticipated load forecast, eight of the existing atomizer wheels were at the end of their service life each year, and were no longer capable of being rebuilt/balanced. The procurement of eight new atomizer wheels was necessary to ensure the plant's reliability and environmental compliance for the summer peak season, for both the Title V SO2 removal and Sulfur emissions as well as the MATS SO2 emissions.
27547460	VALMY 98377358 V2 PULVERIZER "A" MAJOR REBUILD-2016		165,540		165,540	Reliability	Pulverizers are utilized to grind coal to fine dust before being transported to burner fronts. This process wears out roll wheel assemblies, table grinding segments, and the interior of pulverizer equipment. The normal operating life cycle of a Unit 2 pulverizer is roughly 18 to 24 months. Routine inspections are performed at 3,000 hours and required maintenance is ensured the maximum life of the pulverizer rebuild. Typically, major pulverizer overhauls for continued reliable operation of Unit 2 and include replacements of roll wheels, air seals, coal shields, bearings, wear resistant ceramic liners, classifier vanes, coal feeder wear components, spring frame wear plate, and the pyrites plow. A pulverizer overhaul was scheduled for 2019 but due to reduced run times for Unit 2, a full overhaul was not yet needed. Instead, the project consisted of purchasing three refurbished trunion wheel assemblies as capital spares. The capital spares will allow the capital maintenance outages to be completed on an as needed basis, as opposed to during the routine inspection, when the pulverizers' hours of operation and level of wear justifies the overhauls.
27545751	VALMY 98466935 V1 PULVERIZER D ROLL WHEEL ASS	159,459			159,459	Reliability	In April 2019, one roll wheel assembly failed and was replaced in the Unit 1D pulverizer. Black Butte coal requires all four pulverizers to achieve full load. In September 2019, plant personnel reported high amps on the Unit 1 pulverizers drive motor. Unit 1 had been experiencing much higher than expected availability requirements; the 1D coal pulverizers exceeded 20,000 hours of operation with significant wear and parts deteriorated beyond the service life expectations. The plant was coming up on its annual testing and certification of the cold reheat safety valves, a compliance requirement of the annual State of Nevada Boiler Operating Permit, and needed to reach full load status, requiring all four pulverizers. Due to the wear of the two old assemblies and the replacement of the one roll wheel assembly earlier in the year, there were sizing differences of the three roll wheels' diameters in addition to the failing other two assemblies, requiring the replacement of all three of the roll wheel assemblies.
27591516	VALMY 98494358 VC EQUIPMENT WASH PIPING REPLACEMENT			150,961	150,961	Reliability	A section of boiler equipment wash piping that is used to fill both circulating water systems prior to start up failed. This was the original underground piping from construction in 1979. Using alternative means to fill the circulating water systems is very time consuming and results in start up delays. These costs included the replacement of the underground equipment wash piping.
27549554	VALMY 98467485 V2 SCRUBBER OUTLET DUCT PLUGGA		126,759		126,759	Environmental/Safety	The three dry scrubber vessels on Unit 2 often suffer severe scaling and/or debris material buildup as scale is dislodged from the scrubber vessel walls. The scale and buildup can be severe enough that several times per year the unit is curtailed by 70 MW's while the scale and buildup are removed from the vessel walls and the outlet duct via the existing debris chute and from the outlet duct door. The debris material is then collected and transported to the ash landfill. The removal is also required under the Mercury and Air Toxics Standards regulations. This project enlarged the existing Unit 2 scrubber vessel debris chute and installed three 24-inch diameter hydraulically actuated knife gate valves to allow for the faster and safer removal and collection of the scale, sludge and debris for disposal in the ash landfill. The duration of forced outage was decreased by half and automated the valves to open the scrubber vessel, which previously required personnel to perform via a ladder, improving safety.
27603201	VALMY 10074750 V2 TURBINE CONTROL VALVE POSITIONER REPLACEME		119,399		119,399	Reliability/Safety	U2 was experiencing erratic control valve movement that resulted in unit trips due to the resulting load and drum level swings. Troubleshooting included replacement of the position feedback and tuning. The primary cause of the erratic valve movement was leakage in the upper and lower positioners. In order to operate as reliably as possible, an abnormal operating practice of keeping the control valves wide open was implemented to limit the erratic valve movements. Replacement of the upper and lower turbine control valve hydraulic cylinder positioners was necessary to restore stable operation of the turbine and improve plant reliability.
27533137	VALMY 98455854 V2 ATOMIZER WHEELS, REPL		115,962		115,962	Environmental/Reliability	A dry scrubber utilizes nine atomizing spray machines to atomize a lime/recycled fly ash mixed slurry that reacts with the sulfur dioxide in the flue gas to produce calcium sulfate. In 2018, Valmy was expected to be used as a seasonal facility and to only run during the summer peak months. The plant was utilized more than anticipated and stayed on through the winter of 2018 and into the spring of 2019, primarily due to the impacts of the Enbridge pipeline explosion that occurred in October 2018. The extended run time amounted to many more hours on the wheels than originally anticipated requiring the procurement of six new atomizer wheels. The replacement of the wheels ensured the plant's reliability for the 2019 summer peak season.
27579441	VALMY 98485333 V2 SCRUBBER ATOMIZER WHEELS, R		109,728		109,728	Environmental/Reliability	The dry scrubber on Unit 2 utilizes nine atomizing spray machines (three atomizers per scrubber vessel) to atomize a lime/recycled fly ash mixed slurry that reacts with the sulfur dioxide in the flue gas to produce calcium sulfate. The solid calcium sulfate particles are then collected along with fly ash in the baghouse. To accomplish this the atomizer wheel rotates at approximately 13,000 revolutions per minute and centrifugal force shears the lime/recycled ash slurry into very small droplets for intimate liquid/gas contact. The force of the shearing slurry slowly erodes the atomizer wheels which require routine replacement. An atomizer wheel can be expected to last for 10,000 - 12,000 hours in service. This project replaced five of the atomizer wheels that were at the end of their service life and was necessary to ensure the plant's reliability for the 2021 summer peak season.
27575730	VALMY 98473784 V2 SCRUBBER ATOMIZER WHEELS, R		108,817		108,817	Environmental/Reliability	The dry scrubber on Unit 2 utilizes nine atomizing spray machines (three atomizers per scrubber vessel) to atomize a lime/recycled fly ash mixed slurry that reacts with the sulfur dioxide in the flue gas to produce calcium sulfate. The solid calcium sulfate particles are then collected along with fly ash in the baghouse. To accomplish this the atomizer wheel rotates at approximately 13,000 revolutions per minute and centrifugal force shears the lime/recycled ash slurry into very small droplets for intimate liquid/gas contact. The force of the shearing slurry slowly erodes the atomizer wheels which require routine replacement. An atomizer wheel can be expected to last for 10,000 - 12,000 hours in service. This project replaced five of the atomizer wheels that were at the end of their service life and was necessary to ensure the plant's reliability for the 2020 summer peak season.
27528895	VALMY 98455127 V2 CONDENSER INLET WATERBOX, R		108,028		108,028	Reliability	The condenser inlet tube sheet of a unit is exposed to erosion from particles and turbulence in the circulating water so it is coated with a wear resistant coating to protect the metal tube sheet and condenser tube ends. The coating on Unit 2 had worn to the point that significant portions of bare tube and tube ends were exposed. When exposed, the tube ends will erode and can result in tube failure and leakage of circulated water into the steam side of the condenser, contaminating the boiler water. The scope of the project included the recoating of the tube sheet. When the recoating began, the plant was able to repair some of the waterbox coating resulting in project costs lower than initially estimated.
27539687	VALMY 98462057 V2 STACK ELEVATOR, REPLACE		107,341		107,341	Reliability/Safety	The Unit 2 stack elevator reliability and safety was compromised due to the age of the elevator and replacement parts had become obsolete. The elevator installed with unit 2 was contacted in 5/86. On several occasions the elevator stopped operating properly during the installation of environmental compliance equipment and prior to scheduled emission testing, causing delayed installation timelines. The project included a complete elevator replacement including the car, brake assembly, drive motor and gearbox, electrical system replacement and call system replacement.
27527353	VALMY 98438400 V2 GENERATOR BUSHINGS, REPLACE		106,641		106,641	Reliability	The terminal plate gaskets for the high voltage bushings of the generator were worn out and there was indication of bushing gaskets leaking as the viscasil was seeping through the bushing gaskets. Bushing gasket leakage could lead to catastrophic failure of the generator. The issue was first identified in 2010 and temporary repairs were made. In 2017, it was noticed that the leak had become significant and one more temporary repair was made and annual inspections conducted. The 2018 annual inspection discovered more leakage so the replacement of the bushings and regasketing of the bushing terminal plate was performed.
27609108	VALMY 10108935 V2 BOILER FEED PUMP, REFURBISH		93,383		93,383	Reliability	U2 is equipped with a single turbine driven boiler feed pump. The high pressure and high flow produced by the boiler feed pump resulting in wear as well as deposits on the rotating elements make it necessary to refurbish the rotating element periodically. The U2 Boiler Feed Pump was last overhauled in 2007. This refurbishment was required to maintain a high level of plant reliability.
27570622	VALMY 98481652 VC SB COAL UNLOAD CONVEYER BELT, REPLACE VA			88,583	88,583	Reliability	Coal handling conveyor SB sustained a run time failure resulting in severe damage to the conveyor belting, bend pulleys and to the bend pulley support framing. Permanent repairs were made to the bend pulleys and bend pulley support framing. Temporary repairs were made to the damaged SB building in order to make the SB belt train available for emergency use only if needed. Because Valmy was relying on only conveyors SA and SA for full delivery of coal (two conveyors used in tandem are required), conveyor SB was replaced in the event SA or SA became damaged or inoperable. Upon inspection of the drive gearbox, it was determined a replacement was necessary. Quotes were received for a rebuild of the gearbox but it was determined a replacement was more cost-effective.

VALMY PLANT ADDITIONS: Jan 1, 2019 - Dec 31, 2022

Project	Descr	V1	V2	VC	Total	Purpose	Project Description/Justification
27555276	VALMY 98466597 VC VANS, REPLACE (3) VA			87,965	87,965	Reliability/Safety	The plant was concerned with the safety and reliability of the van transportation fleet. The Valmy fleet was aging and reaching high mileage, traveling approximately 1,650 miles for maintenance and 4,575 miles for operations/fuels per month. The vans transport employees to and from the remote plant site, 24 hours a day, seven days a week, which is a standard in northern Nevada set by local mining companies. The cost of the vans is partially offset by a payroll deduction from each employee riding in the van. This project replaced three of the existing nine vans, each van is over ten years old with between 190,000 to 256,000 miles.
27596244	VALMY 98494647 VC PRODUCTION WELL 13 & 14 REPLACEMENT VA			81,191	81,191	Reliability	Production well 13 & 14 experienced damage to the pump. Production well 13 & 14 produce 300-400 gallons per minute each of raw water to supply the cooling tower basins on both units or the Fire and Raw Water Tanks. Replacement of Production Well 13 & 14 helped ensure adequate make up water supply to the cooling tower basins during summer peak operation.
27582985	VALMY 98485334 VC VANS, REPLACE (3) VA			78,206	78,206	Reliability/Safety	This project was driven by safety and reliability concerns regarding the van transportation fleet. The Valmy fleet is aging and vans are reaching high mileage. Valmy replaced three vans out of the fleet of nine vans. Traditionally Valmy has leased the vans through Fleet. Each Valmy van travels between 1,750 miles for maintenance/administration and 5,200 miles for operations/fuels per month. The plant purchased the three replacement vans rather than lease through fleet, and discontinued the lease of the high mileage stated vans. The vans are needed for the transportation of the employees to and from the remote plant site. Company transportation is a standard in Northern Nevada set by local mining companies. The three vehicles replaced were the highest mileage vehicles, and had between 200,000 to 250,000 miles on each vehicle. By replacing these three vans the safety risk to employees from running high mileage vans was reduced. These vans are used in the 24x7 operation of the plant in transporting employees.
27604612	VALMY 10087092 V2 SCRUBBER REPLACEMENT OF HVAC UNITS		65,043		65,043	Environmental/Safety	The primary and backup scrubber computer room air conditioning units were aging equipment and required frequent maintenance. Operating failures of the system had resulted in unit trips due to overheating of the baghouse pollution control device that is located in the scrubber computer room. Baghouse pollution control device components and the HVAC units were repaired and returned to service, but overheating issue was a recurring problem. Replacement of both the primary and backup scrubber computer room air conditioning units was necessary to ensure reliable operation of U2.
27506993	VALMY 98437220 VC UNIT SUB 5A 5B 1000 KVA DRY TRANSFORMER RPL			64,961	64,961	Reliability	The coal handling system is powered by two redundant 1000 KVA transformers. Both of the transformers have failed and were beyond economic repair so the system was being run on a temporary transformer that is close enough in design to be used for temporary purposes only. Two redundant transformers are necessary for reliable operation. If not remedied and the temporary transformer were to fail, the coal handling system would go down until a new or re-wound transformer is installed. The lead time for a new transformer is 8 to 10 weeks. This would result in a 100 percent derate on the units because there would be no coal delivery to the plant. These costs were associated with the purchase and install of two new transformers.
27568576	VALMY 98478100 V2 TRISECTOR AIR HEATER EXPANSION JOINT REFUR		61,203		61,203	Reliability/Safety	The trisector air heater expansion joint suffered damage from thermal expansion, rust, acid condensation and erosion and failure was imminent. The expansion joint was torn and leaking on the outlet side of the trisector air heater. Valmy's cycling operation compounds the fatigue and wear exposure from thermal stress from cooling to ambient conditions when the unit is in reserve shutdown followed by heating back to operating temperatures in excess of 700 degrees Fahrenheit. Continued operation would likely cause deterioration, which would have resulted in an outage or derate, as well as a potential safety concern and heat rate impact due to the hot air leakage. This repair was critical for reliability and safety.
27533144	VALMY 98459394 V1 CIRCULATION WATER PUMP 1A MOTOR, REPL	58,576			58,576	Reliability	In April 2019, the Unit 1 circulating water pump failed due to a motor ground fault. Absent a circulating water pump in service, Unit 1 would be de-rated to approximately 125 net MW output, or half its normal load. The motor was sent to a contract repair shop for evaluation where it was determined that a complete motor rewind was required. At the request of the Western Electricity Coordinating Council, and because of the four to six week lead time associated with the repairs, a new replacement motor was purchased so that the plant could meet reliability and availability needs. The rewind was performed and used as a capital spare and a replacement motor was procured.
27598663	VALMY 10037777 V2 PULVERIZER 600 HP ELECTRIC		57,779		57,779	Reliability	The 2A Pulverizer motor failed due to an electrical short circuit to ground. The maintenance team installed the capital spare motor. This project replaced the U2 capital spare motor to ensure unit availability for full load in the event of another pulverizer motor failure, because all 4 pulverizers are required to achieve full load. The failed motor was sent out to be re-wound to serve as the new capital spare motor for all the U2 pulverizers.
27617793	VALMY 10146694 V2 GENERATOR CURRENT TRANSFORMER REPLACEMENT		51,317		51,317	Reliability	U2 was forced offline by failure of the Generator Current Transformers. Replacement of the three Generator Current Transformers was necessary to be able to return the unit to operation.
27533145	VALMY 98459395 V1 D1 PULVERIZER ROLL WHEEL ASSEMBLY REPL	46,984			46,984	Reliability	In April 2019, one of the Unit 1D pulverizer roll wheel assembly failed (each pulverizer has three roll wheel assemblies). Black Butte coal requires all four pulverizers to achieve full load. At that time, one roll wheel assembly was replaced to bring the unit back online and available for full load. The other two roll wheel assemblies were identified as in poor condition, but due to the timing of replacement parts not available and the need to get the unit online for summer load, it was decided to replace just the one roll wheel assembly.
27534869	VALMY 98455853 V2 PULVERIZER MOTOR 2D, REBUILD		44,297		44,297		
27611233	VALMY 10115833 V2 RECYCLED ASH AGITATOR GEARBOX FOR LOOP 1		43,832		43,832		
27609106	VALMY 10115818 V2 WATER LAB INSTRUMENTATION REPLACEMENT		42,056		42,056		
27587933	VALMY 98492604 V2 CONDENSATE PUMP CAPITAL SPARE INSTALLATION		40,991		40,991		
27556791	VALMY 98473462 VAL DMZ SERVER CLUSTER VA			37,130	37,130		
27539686	VALMY 98459449 V1 1A CIRCULATING WATER PUMP M	35,960			35,960	Reliability	In April 2019, the Unit 1 circulating water pump failed due to a motor ground fault. Absent a circulating water pump in service, Unit 1 would be de-rated to approximately 125 net MW output, or half its normal load. The motor was sent to a contract repair shop for evaluation where it was determined that a complete motor rewind was required. At the request of the Western Electricity Coordinating Council, and because of the four to six week lead time associated with the repairs, a new replacement motor was purchased so that the plant could meet reliability and availability needs. The rewind was performed and used as a capital spare and a replacement motor was procured.
27534970	VALMY 98458824 V2 AUXILIARY STEAM DESUPERHEAT		34,947		34,947		
27603167	VALMY 10074741 VC RO MEMBRANE REPLACEMENT 68/32			34,141	34,141		
27547697	VALMY 98468760 V1 PRIMARY AIR FAN A MOTOR, RE	33,880			33,880	Reliability	On October 31, 2019, the Unit 1 A Primary Air Fan motor inboard bearing overheated and failed while in service. The motor inboard bearing alarm sounded and upon inspection of the motor, plant personnel discovered a large amount of smoke coming from the motor inboard bearing housing. The motor was shut down and replaced with the existing spare motor. The damaged motor was refurbished to become a spare Primary Air Fan motor. Unit 1 Primary Air Fans are used to convey fluidized coal from the pulverizers to the boiler burner through attached coal conduit piping. Without both Primary Air Fans, Unit 1 could not reach stable operation and would have been curtailed until late December 2019 while the damaged motor was repaired. While the costs appear as 2020 plant additions, the work was performed on Unit 1 in 2019 but final costs did not close to the project until early 2020.

VALMY PLANT ADDITIONS: Jan 1, 2019 - Dec 31, 2022

Project	Descr	V1	V2	VC	Total	Purpose	Project Description/Justification
27551304	VALMY 98453212 V2 SKY CLIMBER ATTACHMENT PLATFORM, INSTALL		33,051		33,051		
27531065	VALMY 98454279 VALMY TECHNOLOGY SECURITY UPDA			30,781	30,781		
27587123	VALMY 98490926 VC CONVEYOR 2 GEARBOX			28,940	28,940		
27579435	VALMY 98486141 VC SYSTEM1 UPDATE			27,363	27,363		
27543734	VALMY 98464825 V1 FLY ASH BLOWER 1B, REPLACE	25,802			25,802	Reliability	A fly ash blower is needed to convey ash in order to keep the baghouse hoppers from overflowing which would lead to an eventual unit shutdown. Inspection of the fly ash blower 1B after it began making unusual noises determined that the blower was not reliable for dependable service and failure was imminent due to internal wear and damage. Plant reliability is increased as replacing the 1B fly ash blower ensures that there is a redundant blower to convey ash and fluidize when needed to do so.
27609114	VALMY 10107231 V2 PULVERIZER 600 HP ELECTRIC MOTOR REPLACEME		25,779		25,779		
27603199	VALMY 10090617 V2 LIME TRANSFER BLOWER 2A REPLACEMENT		24,057		24,057		
27566786	VALMY 98476230 VC RD MEMBRANES, REPLACE 68/72			21,496	21,496		
27539690	VALMY 98463011 V2 LIME TRANSFER BLOWER 2B, RE		20,983		20,983		
27570624	VALMY 98478541 V2 BOILER DRUM MERU REPL		20,359		20,359		
27577136	VALMY 98485311 VC ED MODULES, REPLACE 2			18,853	18,853		
27533141	VALMY 98455392 V2 1ST POINT HEATER DRAIN VALVE, REPL		18,078		18,078		
27566788	VALMY 98478101 VC DIGITAL ALIGNMENT TOOL		16,892		16,892		
27596241	VALMY 98494846 VC STACKER CONTROL PLC REPLACEMENT VA		16,652		16,652		
27590380	VALMY 98493304 VC CONDENSATE PUMP B MOTOR REPLACEMENT		15,158		15,158		
27539683	VALMY 98455129 VC DATA LOGGERS, REPLACE		14,967		14,967		
27533139	VALMY 98457380 VAL HMI REPLACEMENT			14,622	14,622		
27533143	VALMY 98459393 V1 1ST POINT FEEDWATER INLET VALVE, REFLR	14,564			14,564	Reliability/Safety	In August 2018 a steam leak to atmosphere from the pressure seal surface of the valve on Unit 1 was discovered. Disassembly and refurbishment was the only way repairs could be made to the valve to avoid the burn hazard of leaking steam to plant personnel and ensure continued reliability of the unit's operation.
27537126	VALMY 98459140 V2 REVENUE METER, UPGRADE		14,443		14,443		
27502697	VALMY 98434354 V1 LOW NOX BURNER NOZZLES, REP	13,148			13,148	Environmental	Mercury and Air Toxics Standards ("MATS") Rule 40 CFR 63.10021 require a burner and combustion control inspection, and combustion tuning every thirty-six months. During the inspection, completed in December 2017, significant degradations were noted on 21 thermocouples, 15 coal burner assemblies, and refractory around all burners. This scope of work was identified as required to be completed to meet regulations and allow continued boiler operation.
27557532	VALMY 98473888 VC ONSITE BACKUP HOST SERVER			12,989	12,989		
27537223	VALMY 98459139 V1 REVENUE METER, UPGRADE	12,709			12,709	Reliability	Given Idaho Power's impending exit from Unit 1 operations, it is important to have in place a sufficient measurement infrastructure to properly account for both owners' utilization of each unit. Based upon NV Energy's review of the net megawatt ("MW") billing infrastructure, it was determined that Valmy lacked sufficiently accurate meters, totalizers, and communication infrastructure to reliably account for MW generation including transformer losses. At the time the Company joined the Energy Imbalance Market, the Valmy metering infrastructure had not been upgraded and instead relied on a mix of local readings from different meters and systems that did not always match. This project consolidates and standardizes Valmy net MW reporting by sending the data to the plant's distributed controls system, which then consolidates the information and reports it in a single, consistent value to each owner.
27568980	VALMY 98490893 V2 PULVERIZER 600HP ELECTRIC MOTOR, CAP SPARE		11,641		11,641		
27599865	VALMY 98493576 V2 TURBINE REHEAT DRAIN VALVE		10,300		10,300		
27603169	VALMY 10074744 VC AUTOMATED COMPRESSION DEVICE		10,102		10,102		
27579839	VALMY 98488638 V2 DNS NETWORK GPS TIME SERVER		10,088		10,088		
27587933	VALMY 98492604 V2 CONDENSATE PUMP CAPITAL SPARE INSTALLATION		9,641		9,641		
27533147	VALMY 98459448 V1 1ST POINT HEATER EXTRACTION STEAM BLOCK VA	9,119			9,119	Reliability	The block valve that supplies extraction steam to the Unit 1 1st point feedwater heater failed in the closed position in July 2018. This valve serves to isolate the 1st point feedwater heater from turbine feed extraction steam and also protects the turbine from backflow/water injection by going to closed position when called on. The failure required the bypass of the 1st point feedwater heater affecting the plant reliability and diminishing the heat rate. This project refurbished the block valve.
27591520	VALMY 98494614 VC WEST 1ST PASS RD MEMBRANE B			8,916	8,916		
27596255	VALMY 98496604 V2 FORCED DRAFT FAN B MOTOR REPLACEMENT VA		6,926		6,926		
27501116	VALMY 98427786 V1 PULVERIZER "B" MAJOR REBUILD	6,732			6,732	Reliability	Pulverizers are utilized to grind coal to fine dust before being transported to burner fronts. This process wears out roll wheel assemblies, table grinding segments, and interior of pulverizer equipment. The normal operating life cycle of a Unit 1 pulverizer is roughly 18 to 24 months. Routine inspections are performed at 3,000 hours and required maintenance is performed to ensure the maximum life of the pulverizer rebuild. Major overhaul includes replacements of roll wheels, air seals, coal shields, bearings, wear resistant ceramic liners, classifier vanes, coal feeder wear components, spring frame wear plate, and the gyrtec plow. In addition, the gearbox and lubrication system was refurbished and other associated welding and re-building was performed due to erosion to the pulverizer housing and associated equipment. The purpose of this project is for the continued reliable operation of Unit 1.
27545750	VALMY 98466098 VC UTILITY CARTS, REPLACE			6,268	6,268		
27591516	VALMY 98494350 VC EQUIPMENT WASH PIPING REPLACEMENT			5,915	5,915		
27570624	VALMY 98478541 V2 BOILER DRUM MERU REPL		2,582		2,582		
27517150	VALMY 98442216 ACUSTIC MONITORING SECU			2,051	2,051		
27545747	VALMY 98454282 O1 PLANT TECHNICIAN TOOLS MORT			988	988		
27502692	VALMY 98434198 V1 SORBENT TRAP MERCURY MONITO	929			929	Environmental	A mercury monitoring system is required for environmental compliance. The monitoring provisions apply to the measurement of total vapor phase mercury in emissions from sorbent trap monitoring systems that must be capable of measuring mercury in units of the applicable emissions standards. The existing monitoring system suffered failures requiring parts to be replaced and exhausted warehouse stock. While attempting to replenish the stock, it was determined that replacement parts were no longer available. This project replaced the existing sorbent trap mercury monitoring equipment with units which meet compliance requirements and have parts readily available to maintain compliance. The majority of the project costs closed in 2018, with some remaining dollars closing in 2019.
27502694	VALMY 98434199 V2 SORBENT TRAP MERCURY MONITO		627		627		
27587123	VALMY 98490926 VC CONVEYOR 2 GEARBOX			521	521		
27568635	VALMY 98476439 VC FPS DIESEL FIRE PUMP & ENGINE REBUILD		413		413		
27619674	VALMY 10132970 VC ANNEX OFFICE BUILDING FLOOR REPL			295	295		
27603164	VALMY 10074746 VC UTILITY CARTS REPLACEMENT			263	263		
27603165	VALMY 10005457 VC CRUSHER FEEDER MOTOR AND GEARBOX REPLACEME			229	229		
27599175	VALMY 98437136 VC RD MEMBRANES, REPLACE			92	92		
27556791	VALMLY 98473462 VAL DM2 SERVER CLUSTER VA			(28)	(28)		
27514789	VALMY 98443689 V1 JD FAN MOTOR 1B, REBUILD	(1,003)			(1,003)		
27570622	VALMY 98481652 VC SB COAL UNLOAD CONVEYER BELT, REPLACE VA			(15,589)	(15,589)		
27440893	VALMY 98376600 VC PRODUCTION WELD #10 REPLACE			(109,095)	(109,095)		
Grand Total		416,860	6,013,329	1,761,649	8,191,837		

**BEFORE THE
IDAHO PUBLIC UTILITIES COMMISSION
CASE NO. IPC-E-23-11**

IDAHO POWER COMPANY

**BARRETTO, DI
TESTIMONY**

EXHIBIT NO. 3

BRIDGER PLANT ADDITIONS: Jan 1, 2021 - Dec 31, 2022

Accounting Year	Project	Description	U1	U2	U3	U4	Common	Total	Purpose	Project Description/Justification
2021	27541813	BRIDGER 2019C091 U4 SCR CATALYST REPLACEMENT 20				1,413,556		1,413,556	Environmental	Replaced two levels of Selective Catalytic Reduction ("SCR") catalyst as defined in the catalyst management plan. Current SCR design requires replacement of catalyst on a set cycle corresponding to major outages. This project extended the pin block liner to the mid level of the stack and was a continuation of the project to complete the line replacement. The project will prevent deterioration of acid brick lining and compression bands.
2021	27549354	BRIDGER 2020C010 U4 STACK LINER (PHASE 2) 20				897,531		897,531	Environmental	Replaced burner (nozzle tip) components and repair other damaged/warped hardware. Most burner front components have a 4-year life. Warpage causes less-than-optimal combustion.
2021	27547308	BRIDGER 2020C009 U4 BURNERS - MAJOR 20				648,381		648,381	Reliability / Environmental	This project replaced discharge electrode wires in the precipitator. Without replacement, electrode wires will begin breaking at an increasing rate adversely impacting precipitator performance.
2021	27503065	BRIDGER 2018C011 U4 PRECIPITATOR WIRE REPLACEMENT 20				575,461		575,461	Environmental	These costs are associated with miscellaneous pumps, valves and gearboxes associated with several capital mechanical projects performed throughout the year.
2021	27553266	BRIDGER 2020C016 BLANKET - PUMPS, VALVES, GEARBOXES 20					456,375	456,375	Reliability	Recoated scrubber ductwork and completed repairs as required. The project was required to maintain the integrity of the ductwork.
2021	27553276	BRIDGER 2020C011 U4 SCRUBBER DUCTWORK 20				407,605		407,605	Environmental	Installed online catalyst cleaning equipment to reduce ash pluggage. During several catalyst inspections on U4, ash buildup was observed on the front wall of the bottom two layers of the catalyst. This project installed air cannons/ash sweepers on the front wall and turning valves to eliminate this ash buildup.
2021	27551439	BRIDGER 2020C035 U4 SCR AIR CANNONS 20				315,713		315,713	Environmental	This project replace the electro mechanical trip system as well as eliminate the mechanical over speed bolt on the boiler feed pump turbines. This is a triple redundant system. The existing system was over 30 years old and maintenance issues increased over the years. This was the first set of boiler feed pump turbines slated for the upgrade.
2021	27545744	BRIDGER 2020C004 U4 BFPT TRIP SYSTEM 20				308,162		308,162	Reliability/Safety	Installed a new large particulate ash ("LPA") screen to maintain the optimal catalyst performance and service life. The LPA screens prevent the SCR catalyst from plugging. The catalyst is costly hardware that is used to produce the operating permit NOx value. The LPA screen typically has a 5 year life expectancy. U4 LPA screens have experienced higher than expected failure in parts of the screen and this project is part of a warranty agreement.
2021	27533268	BRIDGER 2020C001 U4 LPA SCREEN REPLACEMENT 20				291,847		291,847	Environmental	Upgraded 18 transformer-rectifiers ("TR") and 18 Current Limiting Reactors ("CLR") in the precipitator. Existing TRs and CLRs were reaching the end of their service life and had become unreliable. TR and CLR malfunctions can significantly impact precipitator performance.
2021	27549348	BRIDGER 2020C006 U4 PRECIPITATOR TR & CLR REPLACEMENT 20				274,230		274,230	Environmental	This project replaced boiler side wall tubes at the interface with the coutant slope. Tube in this area experiences increased ash erosion as compared to other areas of the boiler. Tubes had previously been pad welded numerous times and required replacement.
2021	27551426	BRIDGER 2020C022 U4 WATERWALL COUTANT SLOPE INTERFACE PHA				252,486		252,486	Reliability	The project was required to maintain the integrity of the ductwork. If the ductwork is not repaired and recoated, the steel will be impacted by fly ash erosion. This impacts the structural integrity of the duct work.
2021	27553282	BRIDGER 2020C052 U4 PRECIPITATOR DUCT WORK 20				229,106		229,106	Environmental	This work order allocates funds for major pulverizer overhauls. Approximately two pulverizers require major overhauls each year therefore these costs are associated with the replacement parts that were ordered in advance to provide a quick turn-around time of the mills.
2021	27575653	BRIDGER 2021C012 BLANKET - MILLS, PULVERIZER VERTICAL SHA					226,258	226,258	Reliability	This project improved Electro-Hydraulic pump performance by upgrading the pumps from the existing obsolete equipment. It was difficult and costly to find service shops that could rebuild the pumps. Having contemporary pumps will also increase reliability and serviceability.
2021	27545655	BRIDGER 2019C094 U4 EHC PUMPS SKID UPGRADE 20				218,633		218,633	Reliability	This project implemented neural network combustion controls and soot blowing optimizer on the unit. The optimizer seeks to lower emissions (NOx and CO) while minimizing heat rate. Other targets such as steam temperatures, oxygen controls, and Regional Haze requirement emission restriction profiles can also be set. Results achieved on U2 are a 65 BTU/KWh reduction in the net unit heat rate with the combustion optimizer alone; other power plants have experienced an additional 0.5% improvement in heat rates as a result of the soot blowing optimizer.
2021	27493693	BRIDGER 2017C110 U4 BOILER OPTIMIZATION SYSTEM 17				217,915		217,915	Reliability	The project involved the installation of turning vanes and flow straightening devices to ensure uniform flow profile across the absorber inlet and equal distribution of flow in all absorbers. These devices will also reduce flow recirculation at the absorber inlet hence reducing slurry to flow back into absorber inlet plenum.
2021	27547299	BRIDGER 2019C095 U4 ABS INLET TURNING VANES 20				202,986		202,986	Environmental	This project rebuilt the boiler feed pump and replaced the pump casing. It was required to assure proper alignment with both the rotating element and the pump to the turbine.
2021	27549359	BRIDGER 2020C015 U4 #42 BOILER FEED PUMP REBUILD 20				199,417		199,417	Reliability	Replacement of the Nuva feeder piping. The existing piping was reaching the end of its life and was starting to deteriorate. The piping replacement maintains the integrity of the system.
2021	27549360	BRIDGER 2020C021 U4 NUVA FEEDER PIPING REPLACEMENT 20				197,957		197,957	Environmental	These costs are associated with miscellaneous pumps, valves and gearboxes associated with several capital mechanical projects performed throughout the year.
2021	27575652	BRIDGER 2021C003 BLANKET - PUMPS, VALVES, GEARBOXES 21					195,757	195,757	Reliability	This area is subject to fly ash erosion to structural supports and duct work. This project restored turning vanes that had been worn through by fly ash. The support structure and turn vanes are directly over the air pre-heater. This material can fall onto the air pre-heater and stop the rotor which will cause a unit trip.
2021	27573809	BRIDGER 2020C074 U4 ECONOMIZER OUTLET TURNING VANE 20				189,477		189,477	Reliability	This work order includes costs associated with the rebuild of a failed boiler circulating pump for future re-use. Absent the spare boiler circulating pump, a typical rebuild time is at least 2 months which would impact unit generation for the time period that one of the boiler circulating pump is out of service.
2021	27583201	BRIDGER 2021C021 U0 BCP MOTOR REWINDS & COOLERS 21					184,447	184,447	Reliability	This project replaced existing motor and Load Control Center transformer feeder breaker relays with new solid state relays on U4 because the existing relays are obsolete. The new relays provide enhanced diagnostic and monitoring capability.
2021	27547293	BRIDGER 2019C082 U4 REPLACE 7200 VAC BUS RELAYS 20				182,230		182,230	Reliability/Safety	Inspected and repaired the primary air duct, including the required scaffolding and insulation work. The primary air ducts had developed leaks over years of operation. The cracks and holes that were visible were repaired during unit outages; however, the insulation on the hot air duct and the height of the vertical duct continue to limit the inspection view. This project enabled a more complete inspection and repair to restore the ductworks ability to supply adequate primary air pressure for full load.
2021	27551428	BRIDGER 2020C025 U4 PA DUCT INSPECT AND REPAIR 20				182,137		182,137	Reliability	The existing Emerson 4500 was obsolete and no longer supported by Emerson. A new Bently Nevada 3500 was installed on the green river pump station. The Continuous Vibration Monitoring System provides real time vibration shutdown protection for the six Green River pumps. This upgrade was necessary in order to have OEM support, and to standardize this system with the rest of Bridger's on-line monitoring systems. This system will also be tied into the plant network, using the latest critical security control upgrades and will provide real time vibration data for trending, alarming, and advanced analysis at the plant.
2021	27507255	BRIDGER 2018C088 GREEN RIVER 3500 VIBRATION MONITORING SY					180,430	180,430	Reliability	

BRIDGER PLANT ADDITIONS: Jan 1, 2021 - Dec 31, 2022

Accounting Year	Project	Description	U1	U2	U3	U4	Common	Total	Purpose	Project Description/Justification
2021	27551444	BRIDGER 2020C046 U4 INSTALL NEW AIR FLOW PROBES 20				174,584		174,584	Reliability / Environmental	Installed new secondary air flow monitors. Unit operation at low load requires increased accuracy of boiler air load.
2021	27549363	BRIDGER 2020C024 U4 SDCC WEAR PLATE LOAD SIDE 20				165,783		165,783	Reliability/Safety	Purchased and installed AR500 wear plates for the U4 submerged drag chain conveyor, which removes ash from the bottom of the boiler. The original wear plates were installed in 2012 and had reached the end of their 8 year design life.
2021	27559516	BRIDGER 2020C075 REPLACE PULVERIZER JOURNALS					160,334	160,334	Reliability	The project replaced pulverizer journals which were beyond economical repair. The purchase of journals help to maintain pulverizer availability. Underground coal has proven to be more abrasive which leads to increased journal wear.
2021	27549352	BRIDGER 2020C008 U4 LPA SCR COLLECTION/TRANSFER CNVYR 20				139,597		139,597	Environmental	This project overhauled the mini drag-chains that transport ash from the SCR large particle ash hopper to the drag chain hopper. Replacement of components are required to operate the equipment reliably for the next four years.
2021	27475574	BRIDGER CITC2017C207 BACKUP BANDWIDTH UPGRADES 2017					130,809	130,809	Reliability	This project upgraded the radio communications at the plant. Contact with personnel including technicians and maintenance needed improvement by adding some off the circuits and increasing the bandwidth in and around the plant.
2021	27549367	BRIDGER 2020C045 U4 APH SEAL REPLACEMENT 20				130,390		130,390	Reliability	Replaced all hot end and cold end seals in both air pre-heaters during major overhaul. Air pre-heater seals have to be set with an interference fit to reduce air leakage at operating temperatures. The interference fit will cause additional wear during shutdowns and startups, leading to excessive air leakage.
2021	27551441	BRIDGER 2020C041 U4 EX-2100E CONTROL UPGRADE & PARTS 20				129,263		129,263	Reliability	Upgraded the EX2100 control system with an EX2100e digital front end excitation system retrofit. The U4 system was installed 12 years ago and the hardware, circuit board, and control interface had become obsolete. In addition, the manufacturer had stopped supporting the old hardware and recommended an upgrade to the new EX2100e control system.
2021	27553281	BRIDGER 2020C050 U4 DCS MINOR 20				123,134		123,134	Reliability	Replaced failed Distributed Control Systems ("DCS") component. The plant has moved from a 4 year major DCS component Evergreen cycle to an 8 year cycle. Work stations and monitors have a 4 year life.
2021	27551452	BRIDGER 2020C057 U4 RETRACTS & WATER INJECTION PENETRATIO				122,268		122,268	Reliability	Installed equipment to help burn a better coal quality. Bridger Coal Company is delivering fuel that contains higher sodium, calcium and iron. Coal with these constituents result in accumulations of fouling and plugging of the boiler. This results in load reductions and forced outages. The plant installed hardware that will burn the supplied coal without negatively impacting the boiler.
2021	27545743	BRIDGER 2019C101 U4 TURBINE BEARING FIRE DETECTION/SUP 20				121,474		121,474	Reliability/Safety	Install of an automatic pre-action closed-head sprinkler system to protect the turbine generator bearings on the unit and mitigate the risk of fire damage to the turbine generator and the plant. This project will help reduce the risk of turbine bearing fire damage and was identified through a risk audit.
2021	27549361	BRIDGER 2020C023 U4 PRECIP DAMPER LIMITORQUE REPLACE 20				112,405		112,405	Environmental	This project included the purchase and install new Limitorque drives on the precipitator inlet and outlet dampers and was needed to maintain reliable operation of the precipitator and allow maintenance repairs to be completed with the unit on-line. High availability of network systems used to communicate with customers is critical to maintaining efficient and effective business operations as well as meeting customer expectations.
2021	27580827	BRIDGER 2021C023 U4 PRECIP CE/DE RAPPER REPLACEMENT 21				111,888		111,888	Environmental	This project replaced 6 discharge electrode rappers in A fields, 5 collector electrode rappers in A fields and 4 CE rappers in B fields. Electrostatic precipitator removes fly ash from the gas. Opacity is used to quantify the effectiveness of precipitator. Precipitator consists of highly charged electrodes and collecting electrodes to collect fly ash.
2021	27551448	BRIDGER 2020C055 U4 APH SECTOR PLATES 20				110,624		110,624	Reliability	Replaced the two worst sector plates on each unit. Sector plates have reached their effective life after 35 years of use. Warped sector plates result in excessive air pre-heater leakage.
2021	27549357	BRIDGER 2020C012 U4 FLAME SCANNER 20				102,853		102,853	Reliability	Replaced the 12 flame scanners on U4. The supplier was no longer manufacturing spare parts for the existing scanners. The scanners are integral in the boiler operation.
2021	27575902	BRIDGER 2020C040 U4 COAL PIPE REPLACEMENT 20				100,188		100,188	Reliability/Safety	This project replaced the coal pipes from the pulverizers to the boiler that had high wear due to the abrasiveness of the coal. Over time the coal flowing through the pipes will develop high wear areas and thinning of the steel coal pipes, mostly at the elbow. If the pipes are not replaced, the high wear areas will wear through and pulverized coal and air from the primary air fans will be blowing into the power plant causing a hazard to employees and lost efficiency in the boiler.
2021 Total						8,849,280	1,534,411	10,383,691		

BRIDGER PLANT ADDITIONS: Jan 1, 2021 - Dec 31, 2022

Accounting Year	Project	Description	U1	U2	U3	U4	Common	Total	Purpose	Project Description/Justification
2022	27602389	BRIDGER 2022C016 U0 BLANKET- PUMPS, VALVES, GEARBOXES 22					555,832	555,832	Reliability	These costs are associated with miscellaneous pumps, valves and gearboxes associated with several capital mechanical projects performed throughout the year.
2022	27595046	BRIDGER 2021C042 U2 BURNERS MAJOR 22		405,663				405,663	Reliability / Environmental	Replaced burner (nozzle tip) components and repaired other damaged/warped hardware. Most burner front components have a 4-year life. Warpage causes less-than-optimal combustion.
2022	27597944	BRIDGER 2022C001 U2 DCS MAJOR 22		400,965				400,965	Reliability	This project upgraded the DCS software and select power supplies and controllers. DCS software is upgraded on an eight year cycle and hardware is replaced as necessary to be compatible with the software.
2022	27613523	BRIDGER 2022C045 U0 REBUILD FRAME UP D-10T DOZER 22					313,469	313,469	Reliability/Safety	This project rebuilt the D-10T Dozer with the highest operating hours/in the worst condition to maintain fleet reliability. D-10Ts are required for coal delivery to the plant. Equipment operating hours reached OEM recommended limits for major rebuilds. Maintenance costs and downtime had been increasing.
2022	27575650	BRIDGER 2020C076 U2 REPLACE 25 FEEDWATER HEATER 21		245,336				245,336	Reliability	This project replaced the existing 25 feedwater heater. The system was taking 8 hours to drain to the floor resulting in a delay before repairs to the feedwater system could begin. The new drains will drain the system in half the time and return the water to the condensate system for reuse rather than dumping the hot water to the floor.
2022	27483895	BRIDGER 2017C035 U2 REPLACE EPOXY LINER IN CW TUNNELS 17		244,537				244,537	Reliability/Safety	The epoxy liner installed in the circulating water pipelines beneath the power building floor had partially failed, requiring replacement. This project replaced the failed epoxy liner.
2022	27597953	BRIDGER 2022C015 U2 EHC PUMPS REPLACEMENT 22		223,574				223,574	Reliability	Replaced obsolete electro-hydraulic controlled pumps with a supported pump. Pumps were obsolete and were difficult to maintain.
2022	27597951	BRIDGER 2022C012 U2 WATERWALL COUTANT SLOPE INTERFACE PHASE		222,866				222,866	Reliability	This project replaced boiler side wall tubes at the interface with the coutant slope. Tubing in this area experienced increased ash erosion as compared to other areas of the boiler. Tubes had been pad welded numerous times and need to be replaced.
2022	27602391	BRIDGER 2022C030 U2 REPLACE ECON OUTLET TURNING VANES 22		204,776				204,776	Reliability	This area is subject to fly ash erosion to structural supports and duct work. This project restored turning vanes that have been worn through by fly ash. The support structure and turn vanes are directly over the air pre-heater. This material can fall onto the air pre-heater and stop the rotor which will cause a unit trip.
2022	27551450	BRIDGER 2020C056 U4 ACOUSTIC LEAK DETECTION SYSTEM 20				176,915		176,915	Reliability	Installed acoustic leak detection in boiler for detection and monitoring of tube leaks. Provides early detection and scheduling of tube leak repairs.
2022	27602387	BRIDGER 2022C008 U2 SCRUBBER DUCTWORK 22		166,210				166,210	Environmental	Recoat scrubber ductwork and completed repairs as required. If the ductwork is not repaired and recoated, the steel will continue to corrode. This impacts the structural integrity of the duct work.
2022	27602388	BRIDGER 2022C009 U2 PRECIPITATOR DUCTWORK 22		154,319				154,319	Environmental	The project was required to maintain the integrity of the ductwork. If the ductwork is not repaired and recoated, the steel will be impacted by fly ash erosion. This impacts the structural integrity of the duct work.
2022	27597961	BRIDGER 2022C017 U2 HP TURBINE PACKING 22		151,812				151,812	Reliability	This project replaced the U2 high pressure turbine packing with new packing to restore efficiency. With the new packing, it is expected that the heat rate will improve by 27 BTU/kWh.
2022	27602384	BRIDGER 2022C003 U2 STACK BREECH COATING 22		138,797				138,797	Environmental / Safety	This project replaced the worn coating in the ducts from the scrubbers into the stack (stack breach). This is a high wear area and if not repaired and/or replaced will lead to excessive leaking and could lead to environmental violations. This could also be a hazard to employees if there is leaking flue gas where employees might be working.
2022	27559555	BRIDGER 2020C086 U0 REDUNDANT SODA LIQUOR SUPPLY LINE					134,591	134,591	Environmental	Installed redundant soda liquor supply line, in case repairs are required on the existing soda liquor supply line to prevent unit derates or outages.
2022	27575652	BRIDGER 2021C003 BLANKET - PUMPS, VALVES, GEARBOXES 21					130,908	130,908	Reliability	These costs are associated with miscellaneous pumps, valves and gearboxes associated with several capital mechanical projects performed throughout the year.
2022	27597946	BRIDGER 2022C004 U2 SLMS HP UPGRADE 22		130,829				130,829	Reliability/Safety	This project replaced the Stator Leak Monitor System ("SLMS") on U2. The components on the U2 SLMS were approaching end of life. The monitoring of hydrogen leakage into the stator water cooling system is a good indicator on the overall health of the machine's insulation system.
2022	27607052	BRIDGER 2022C031 U2 APH SECTOR PLATES 22		130,526				130,526	Reliability	Replaced the two worst sector plates on each unit. Sector plates have reached their effective life after 35 years of use. Warped sector plates result in excessive air pre-heater leakage.
2022	27600043	BRIDGER 2022C019 U2 7200 LCC RELAY ARC FLASH UPGRADE 22		126,971				126,971	Safety	This project upgraded the existing outdated station breaker relays that were a safety concern due to arc flash hazards. The plant has been replacing the old relays with arc flash compliant relays that will significantly reduce the hazard or arc flash incidents to plant personnel.
2022	27566689	BRIDGER 2020C088 U0 MILL DISCHARGE VALVE REPLACE 21					126,415	126,415	Reliability	This project replaced mill discharge valves on the units to isolate the supply of fuel to the boiler and will maintain National Fire Protection Association compliance for coal pipe isolation valves. The existing valves wear out as they remain in the abrasive coal flow, but the replacement valves are designed with longer life.
2022	27604648	BRIDGER 2022C033 U2 APH SEAL REPLACEMENT 22		110,702				110,702	Reliability	Replaced all hot end and cold end seals in both air pre-heaters during major overhaul. Air pre-heater seals have to be set with an interference fit to reduce air leakage at operating temperatures. The interference fit will cause additional wear during shutdowns and startups, leading to excessive air leakage.
2022	27595047	BRIDGER 2022C011 U2 PRECIPITATOR RAPPERS 22		100,969				100,969	Environmental	Complete replacement of rapper shaft, bearings and hammers as the precipitator rapping systems were reaching their end of life.
2022 Total			-	3,158,849	-	176,915	1,261,215	4,596,979		
Grand Total - Projects Over \$100k			-	3,158,849	-	9,026,195	2,795,626	14,980,670		

BRIDGER PLANT ADDITIONS: Jan 1, 2021 - Dec 31, 2022

Accounting Year	Project	Description	U1	U2	U3	U4	Common	Total	Purpose	Project Description/Justification
2021	27569520	BRIDGER 2020C093 REPLACE PLANT VEHICLES 20					99,571	99,571		
2021	27559520	BRIDGER 2020C082 U4 LOADOUT CONVEYOR PLATFORM				98,763		98,763		
2021	27551442	BRIDGER 2020C044 U4 ECONOMIZER HARMONIC BAFFLES 20				93,701		93,701		
2021	27569745	BRIDGER 2020C103 U4 SCR ADD AIR NOZZLES @ TURN VANES 21				91,162		91,162		
2021	27549345	BRIDGER 2019C103 U4 AMMONIA MONITOR				91,000		91,000		
2021	27583200	BRIDGER 2021C002 BLANKET - MOTORS 21					87,265	87,265		
2021	27569735	BRIDGER 2020C102 REPAVE PLANT ROADS 20					79,203	79,203		
2021	27545653	BRIDGER 2019C068 03A & 03B BUS RELAY UPGRADES 19					75,607	75,607		
2021	27566691	BRIDGER 2020C053 U0 PLANT LIGHTING IMPROVEMENTS 20					75,351	75,351		
2021	27578625	BRIDGER 2021C006 U4 BLANKET UPGRADE 7.2 KV MAGNEBLAST BREAKER				73,680		73,680		
2021	27549344	BRIDGER 2016C031 U4 MERCURY DEVICE REPLACEMENT 20				71,261		71,261		
2021	27555273	BRIDGER 2020C072 REBUILD 777 ASH HAULER FRAME UP (A) 20					69,663	69,663		
2021	27575648	BRIDGER 2020C065 U4 SDCC LINER/SHELL REPLACEMENT 2020				67,491		67,491		
2021	27545746	BRIDGER 2020C014 U4 BFPT AC/DC OIL PUMPS 20				67,173		67,173		
2021	27553278	BRIDGER 2020C027 U4 SDCC TU/SUB IDLER REPLACEMENT 20				63,910		63,910		
2021	27553272	BRIDGER 2020C002 U4 UPGRADE COOLING TOWER VFDS 20				63,874		63,874		
2021	27549347	BRIDGER 2020C005 REPLACE EX-2100 HMI COMPUTERS 20					63,627	63,627		
2021	27561649	BRIDGER 2020C092 U0 CONTRACTOR PARKING GATE 2 CONCRETE WORK					61,391	61,391		
2021	27551431	BRIDGER 2020C031 BLANKET - ELECTRICAL/INSTRUMENTATION 20					59,620	59,620		
2021	27551430	BRIDGER 2020C026 U4 COVER ECONOMIZER HOPPERS 20				56,811		56,811		
2021	27555268	BRIDGER 2020C030 HEAT TRACE SYSTEM UPGRADES 20					56,699	56,699		
2021	27549365	BRIDGER 2020C029 BLANKET UPGRADE 7.2 KV MAGNEBLAST BREAKER					55,825	55,825		
2021	27560921	PAC-SPONS JOOA: JIM BRIDGER REPLACE EPU					53,296	53,296		
2021	27553280	BRIDGER 2020C034 U2 COOLING TOWER FAN BRAKE SYSTEMS 20		52,711				52,711		
2021	27591387	BRIDGER 2019C034 U0 REPLACE ROOFING SYSTEM 21					51,456	51,456		
2021	27547309	BRIDGER 2020C013 U4 FEEDWATER SYSTEM DRAINS TO COND 20				47,882		47,882		
2021	27569857	BRIDGER 2020C073SEWER SEWER PIPES LINERS- JIM BRIDGER PLANT					46,346	46,346		
2021	27553351	BRIDGER 2020C036 U4 COOLING TOWER FAN BRAKE SYSTEMS 20				45,882		45,882		
2021	27580817	BRIDGER 2020C058 U4 SDCC REPLACE DEWATERING SLOPE 20				44,550		44,550		
2021	27547327	BRIDGER 2019C083 U3 STACK OPACITY MONITOR HEATING 19			43,546			43,546		
2021	27580822	BRIDGER 2021C007 BLANKET - ELECTRICAL/INSTRUMENTATION 21					42,360	42,360		
2021	27580826	BRIDGER 2021C022 BLANKET LCC SWITCHGEAR & XFMR UPGRADES 21					39,990	39,990		
2021	27575904	BRIDGER 2020C104 U2 PRECIP INTERLOCK PANEL REPLACEMENT 20		36,934				36,934		
2021	27551347	BRIDGER 2020C017 BLANKET - SMALL TOOLS 20					36,830	36,830		
2021	27553353	BRIDGER 2020C043 U4 SO3 NOZZLE REPLACEMENT 20				36,038		36,038		
2021	27580825	BRIDGER 2021C020 U4 SDCC REFRACTORY REPLACEMENT 21				34,442		34,442		
2021	27573808	BRIDGER 2021C004 U0 BLANKET - SMALL TOOLS 21					33,829	33,829		
2021	27571833	BRIDGER 2020C070 BLANKET MCC UPGRADES 20					30,155	30,155		
2021	27578675	BRIDGER CITC2021C202 2021 CONSOLIDATED PC TOM					30,038	30,038		
2021	27568634	BRIDGER 2020C071 U4 LCC OV/UV RELAY UPGRADE				28,479		28,479		
2021	27560845	PAC-SPONS JOOA: NERC PRC-002 AND MOD-033					28,016	28,016		
2021	27587057	BRIDGER 2021/C/032 CONVEYOR BELTS 21					26,556	26,556		
2021	27524343	BRIDGER 2018C132 U4 MAIN TURBINE OVERSPEED UPGRADE.				25,761		25,761		
2021	27553279	BRIDGER 2020C032 U4 ERV MODIFICATION 20				25,012		25,012		
2021	27505201	BRIDGER CITC2018C250 BOUNDARY DEFENCE IMPROVEMENT					24,301	24,301		
2021	27578626	BRIDGER 2021C013 U0 CH LINER PLATES 21					22,987	22,987		
2021	27585690	BRIDGER CITC2021C018 DRAGOS - JIM BRIDGER					22,110	22,110		
2021	27549350	BRIDGER 2020C007 U4 REPLACE DOGBONE EXPANSION JOINT 20				18,733		18,733		
2021	27524338	BRIDGER 2018C130 U2 MAIN TURBINE OVERSPEED UPGRADE.					17,191	17,191		
2021	27501256	BRIDGER 2018C064 U1 FLAME SCANNER 18	15,358					15,358		
2021	27564797	BRIDGER UO 2020/C/081 DUST COLLECTOR DUCTWORK REPLACEMENTS					15,008	15,008		
2021	27571832	BRIDGER 2020C083 U0 REPLACE RO MEMBRANES 20					15,003	15,003		
2021	27551437	BRIDGER 2020C033 U4 REPLACE 42 MOISTURE SEPARATOR 20				14,660		14,660		
2021	27559496	BRIDGER 2020C038 REPLACE FORKLIFT					12,199	12,199		
2021	27525030	BRIDGER 2019C032 BLANKET - PUMPS, VALVES, GEARBOXES 19					12,151	12,151		
2021	27578627	BRIDGER 2021C015 U0 BLANKET - UNDERGROUND IPS / HYDRANTS 21					11,421	11,421		

BRIDGER PLANT ADDITIONS: Jan 1, 2021 - Dec 31, 2022

Accounting Year	Project	Description	U1	U2	U3	U4	Common	Total	Purpose	Project Description/Justification
2021	27580823	BRIDGER 2021C014 U4 COOLING TOWER COMPONENT COATING 21				7,049		7,049		
2021	27578672	BRIDGER 2020C068 U1 SHOWER FROOM FLOOR COATING	6,207					6,207		
2021	27585109	BRIDGER 2021C011 U0 DAHS SERVER CHANGE OUT 21					6,054	6,054		
2021	27569728	BRIDGER 2020C100 REPLACE FIRE EXTINGUISHERS 20					6,038	6,038		
2021	27580818	BRIDGER 2020C060 U4 SDCC & TRANSFERCHUTES 20				5,795		5,795		
2021	27527161	BRIDGER 2019C039 BLANKET - ELECTRICAL / INSTRUMENTATION 1					4,949	4,949		
2021	27591375	BRIDGER 2021C005 U0 BLANKET - OFFICE EQUIPMENT 21					3,803	3,803		
2021	27527167	BRIDGER 2019C066 U0 MERCURY DEVICE REPLACEMENT 19					3,584	3,584		
2021	27551348	BRIDGER 2020C019 BLANKET - OFFICE EQUIPMENT 20					3,398	3,398		
2021	27551447	BRIDGER 2020C051 DCS SECURITY SERVER UPGRADES 20					3,260	3,260		
2021	27517680	BRIDGER 2018C117 INSTALL EFFLUENT TO MINE WATER PIPING					3,155	3,155		
2021	27557169	BRIDGER 2020C078 U1 REPLACE PYRITE HOPPERS 20	3,107					3,107		
2021	27589304	BRIDGER 2021C008 U0 BLANKET - SHOP MACHINERY REPLACEMENT 21					2,844	2,844		
2021	27541805	BRIDGER 2019C040 BLANKET UPGRADE 7.2 KV MAGNEBLAST BREAKE					2,228	2,228		
2021	27578781	BRIDGER CITC2020C308 CONTROL NETWORK ROUTER/SWITCH TOM 2020					1,976	1,976		
2021	27564795	BRIDGER U0 2020C080 REPLACE CATHODIC PROTECTION ANODE BED					1,348	1,348		
2021	27569752	BRIDGER 2020C095 REPLACE 35 TON CRANE 20					775	775		
2021	27553270	BRIDGER 2020C067 U4 ULTRASONIC FEEDWATER FLOW METER				46		46		
2021	27524351	BRIDGER 2018C135 U2 ELEVATOR UPGRADES			1			1		
2021	Various	CORRECTIONS ASSOCIATED WITH INVESTMENTS PRIOR TO 2021	(8,969)	(4,287)	(29,024)	(3,066)	(72,606)	(117,951)		
2021 Total			15,704	102,550	14,522	1,170,089	1,308,676	2,611,541		
2022	27587065	BRIDGER 2021C016 GAS CEMS CHANGEOUT 21					94,645	94,645		
2022	27600046	BRIDGER 2022C024 U0 BLANKET - MOTORS 22					91,390	91,390		
2022	27607057	BRIDGER 2022C041 U2 WATERWALL SOOTBLOWER PANELS AND TUBES		89,972				89,972		
2022	27568632	BRIDGER 2018C125 U0 RADIO COMMUNICATIONS TOWER					88,802	88,802		
2022	27595041	BRIDGER 2021C017 U0 GAS UMBILICAL 21					83,831	83,831		
2022	27560916	PAC-SPONS IQQA: TPI 2017 BACKUP BUS DIFF RLY- JIM BRIDGER 34					80,873	80,873		
2022	27597954	BRIDGER 2022C018 U2 SDCC REPLACE CHAIN 22		80,035				80,035		
2022	27593467	BRIDGER 2021C039 U3 REPLACE PULVERIZER JOURNALS 21			78,942			78,942		
2022	27608979	BRIDGER 2022C044 U2 STACK LINING REPAIRS 22		73,341				73,341		
2022	27604649	BRIDGER 2021C046 U0 REPLACE TRUCK SCALE 21/22					71,420	71,420		
2022	27580822	BRIDGER 2021C007 BLANKET - ELECTRICAL/INSTRUMENTATION 21					70,351	70,351		
2022	27587061	BRIDGER 2021C028 U2 SDCC TU/SUB IDLER REPLACEMENT 21		70,268				70,268		
2022	27549365	BRIDGER 2020C029 BLANKET UPGRADE 7.2 KV MAGNEBLAST BREAKE					66,506	66,506		
2022	27600040	BRIDGER 2022C006 U2 REPLACE PRECIP/SCRUB EXPANSION JOINT		65,394				65,394		
2022	27607055	BRIDGER 2022C038 U2 SDCC LINER / SHELL REPLACEMENT 22		63,141				63,141		
2022	27589306	BRIDGER 2021C010 U0 BLANKET - PLANT LIGHTING IMPROVEMENTS 21					59,719	59,719		
2022	27607054	BRIDGER 2022C038 U2 SDCC INSTALL LINER AT CHAIN GUARD 22		59,698				59,698		
2022	27615665	BRIDGER 2022C054 U0 RPLC LARGE SECONDARY CRUSHER ROTOR 22					49,677	49,677		
2022	27597950	BRIDGER 2022C007 U2 REPLACE DOGBONE EXPANSION JOINTS 22		48,066				48,066		
2022	27600042	BRIDGER 2022C010 U2 SDCC REPLACE DEWATERING SLOPE 22		47,534				47,534		
2022	27615669	BRIDGER 2022C060 U1 REPLACE SDCC DRIVE SHAFT 22	47,001					47,001		
2022	27566763	BRIDGER 2020C096 U2 STACK OPACITY MONITOR HEATING		46,005				46,005		
2022	27578627	BRIDGER 2021C015 U0 BLANKET - UNDERGROUND IPS / HYDRANTS 21					42,973	42,973		
2022	27578625	BRIDGER 2021C006 U4 BLANKET UPGRADE 7.2 KV MAGNEBLAST BREAKE				42,838		42,838		
2022	27583200	BRIDGER 2021C002 BLANKET - MOTORS 21					41,186	41,186		
2022	27587062	BRIDGER 2021C027 U3 SDCC TU/SUB IDLER REPLACEMENT 21			39,601			39,601		
2022	27587057	BRIDGER 2021/C/032 CONVEYOR BELTS 21					39,461	39,461		
2022	27597941	BRIDGER 2021C048 U0 01 CLARIFIER COATING REPAIRS 21					35,038	35,038		
2022	27602396	BRIDGER 2022C039 U2 COAL PIPE REPLACEMENT 22		32,401				32,401		
2022	27607056	BRIDGER 2022C040 U2 PA DUCT INSPECT AND REPAIR 22		31,947				31,947		
2022	27600048	BRIDGER 2022C025 U0 BLANKET - ELECTRICAL / INSTRUMENTATION 2					31,694	31,694		
2022	27595024	BRIDGER 2021C043 U4 LAB PANEL INSTRUMENTATION 21				31,485		31,485		
2022	27617945	BRIDGER 2022/C/050 U0 BIRD LASER HAZING SYSTEM INSTALLATION					30,542	30,542		
2022	27597943	BRIDGER 2021C049 U4 #43 SCRUBBER OUTLET DUCT RECOAT 21				29,713		29,713		
2022	27600049	BRIDGER 2022/C/032 U0 CONVEYOR BELTS 22					29,076	29,076		
2022	27589308	BRIDGER 2021C033 U4 TURBINE BUILDING WINDOWS				28,712		28,712		
2022	27597939	BRIDGER 2021C047 U0 BLANKET SCR LPA SCREENS 21					28,314	28,314		
2022	27597932	BRIDGER 2021C041 U0 DCS SIMULATOR UPDATES 21					23,560	23,560		
2022	27507255	BRIDGER 2018C088 GREEN RIVER 3500 VIBRATION MONITORING SY					17,142	17,142		
2022	27503087	BRIDGER 2018C060 BLANKET UPGRADE 7.2 KV MAGNEBLAST BREAKE					16,893	16,893		
2022	27589304	BRIDGER 2021C008 U0 BLANKET - SHOP MACHINERY REPLACEMENT 21					15,065	15,065		

BRIDGER PLANT ADDITIONS: Jan 1, 2021 - Dec 31, 2022

Accounting Year	Project	Description	U1	U2	U3	U4	Common	Total	Purpose	Project Description/Justification
2022	27600045	BRIDGER 2022C020 U0 BLANKET - SMALL TOOLS 22					15,026	15,026		
2022	27602394	BRIDGER 2022C036 U2 REPLACE 22 MOISTURE SEPERATOR 22		14,799				14,799		
2022	27597938	BRIDGER 2021C045 U0 REPLACE MILL BOWL HEATER 21					13,466	13,466		
2022	27553266	BRIDGER 2020C016 BLANKET - PUMPS, VALVES, GEARBOXES 20					10,664	10,664		
2022	27615664	BRIDGER 2022/C/049 U0 REPLACE POST 1 TURNSTILES 22					10,277	10,277		
2022	27615841	BRIDGER CITC2019C603 WIRELESS BRIDGE REPLACEMENT					9,789	9,789		
2022	27597962	BRIDGER 2022C021 U0 ADD LOOP 3440-C CHANNEL BANK 22					9,498	9,498		
2022	27591387	BRIDGER 2019C034 U0 REPLACE ROOFING SYSTEM 21					9,124	9,124		
2022	27573808	BRIDGER 2021C004 U0 BLANKET - SMALL TOOLS 21					8,750	8,750		
2022	27589307	BRIDGER 2021C029 U0 BLANKET MCC UPGRADES 21					8,061	8,061		
2022	27617947	BRIDGER 2022/C/052 U0 REPLACE CATHODIC PROTECTION ANODE BED					8,023	8,023		
2022	27583202	BRIDGER 2021C018 U0 GAS PROBE CHANGEOUT 21					7,881	7,881		
2022	27602390	BRIDGER 2022C029 U0 BLANKET - OFFICE EQUIPMENT 22					7,378	7,378		
2022	27597935	BRIDGER 2021C044 U0 REPLACE BOTH CONTROL ROOM CARPET 21					7,143	7,143		
2022	27553272	BRIDGER 2020C002 U4 UPGRADE COOLING TOWER VFDS 20				5,974		5,974		
2022	27575653	BRIDGER 2021C012 BLANKET - MILLS, PULVERIZER VERTICAL SHA					5,744	5,744		
2022	27566691	BRIDGER 2020C053 U0 PLANT LIGHTING IMPROVEMENTS 20					5,540	5,540		
2022	27501256	BRIDGER 2018C064 U1 FLAME SCANNER 18	5,456					5,456		
2022	27615666	BRIDGER 2022C055 U4 REPLACE SHOP DOOR 22				5,281		5,281		
2022	27580826	BRIDGER 2021C022 BLANKET LCC SWITCHGEAR & XFMR UPGRADES 21					3,749	3,749		
2022	27524338	BRIDGER 2018C130 U2 MAIN TURBINE OVERSPEED UPGRADE		2,868				2,868		
2022	27527164	BRIDGER 2019C057 BLANKET - REPLACE SUPPORT EQUIPMENT 19					2,320	2,320		
2022	27549348	BRIDGER 2020C006 U4 PRECIPITATOR TR & CLR REPLACEMENT 20				2,277		2,277		
2022	27541813	BRIDGER 2019C091 U4 SCR CATALYST REPLACEMENT 20				2,085		2,085		
2022	27551447	BRIDGER 2020C51 DCS SECURITY SERVER UPGRADES 20					1,744	1,744		
2022	27479282	BRIDGER 2017C029 U2 BFPT TRIP SYSTEM 17		1,618				1,618		
2022	27559520	BRIDGER 2020C082 U4 LOADOUT CONVEYOR PLATFORM				1,054		1,054		
2022	27597929	BRIDGER 2021C025 U2 SDCC REPLACE FLIGHTS 21		997				997		
2022	27578675	BRIDGER CITC2021C202 2021 CONSOLIDATED PC TOM					790	790		
2022	27483924	BRIDGER 2017C068 SCRAPER REBUILD 17					724	724		
2022	27549359	BRIDGER 2020C015 U4 #42 BOILER FEED PUMP REBUILD 20				611		611		
2022	27604694	BRIDGER CITC2020C305 U0 UPS TOM 2020					527	527		
2022	27559765	BRIDGER TSYS/2017/C/864 NERC PRC-002/MOD-033 SYS UPGRADE					498	498		
2022	27475628	BRIDGER 2017C017 U2 REPLACE SCRUBBER DUCT DRAIN/SEAL POTS		409				409		
2022	27487476	BRIDGER 2017C031 COMMON ANNUNCIATORS TO DCS 17					258	258		
2022	27483897	BRIDGER 2017C047 U2 CIRC WTR PMPs CONTINUOUS VIBRATION 1		225				225		
2022	27483894	BRIDGER 2017C034 U2 NETWORK HARDWARE UPGRADE 17		44				44		
2022	27587059	BRIDGER 2021C031 U4 SCR OUTLET NEMS PLATFORMS				15		15		
2022	27517677	BRIDGER 2018C055 REPLACE FIRE EXTINGUISHERS 18					11	11		
2022	Various	CORRECTIONS ASSOCIATED WITH INVESTMENTS PRIOR TO 2021	(13,114)	(51,420)	(30,577)	(244,470)	(229,270)	(568,851)		
2022 Total			39,342	677,342	87,965	(94,425)	1,025,873	1,736,097		
Grand Total - Projects Under \$100k			55,046	779,892	102,487	1,075,664	2,334,549	4,347,638		
Total Projects (2021 - 2022)			55,046	3,938,741	102,487	10,101,859	5,130,175	19,328,308		