Testimony of Glen Brendel
Electric Production

Q: Please state your name and your business address.

A: My name is Glen Brendel and I am at Nearman Creek Power Station, 4240 North 55th Street, KCKS 66104.

Q: Please state your position at KC BPU.

A: Executive Director Electric Production.

Q: Please summarize your educational background.

A: 2014, Executive MBA, University of Missouri Kansas City
1996, B.S. Management Technology, Amberton University
1991, A.A. Nuclear Technology. University of Phoenix
1986, Electrician, Naval Nuclear Power School. US Navy

Q: Please summarize your professional experience.

A: 2022 – now **Executive Director Electric Production**, BPU
2020 – 2022 **Director of Production Operations and Maintenance**, BPU
2017 - 2020 **Power Plant Director** Lake Road Station, Evergy
2016 - 2017 **Planning Superintendent,** KCPL
2013 - 2015 **Operations Superintendent,** KCPL
2006 - 2013 **Maintenance Superintendent,** KCPL
2003 - 2006 **Technician Foreman,** KCPL
2001 - 2003 **Environmental Compliance Administrator,** KCPL
1999 - 2001 **Instrument Technician,** KCPL
1998 - 1999 **PCS Mechanic B** Bayer Corporation
1997 - 1998 **Instrument Technician** Trigen Energy (Veolia Energy c. 2011)
1997 – 1997 **Field Service Representative** Forney Corporation
1996 - 1997 **Instrument Control Supervisor** Garland Power and Light
1991 - 1996 **Instrument Control Technician II** Greenville Electric Utility System
1985 - 1991 **Electrician's Mate Petty Officer** United States Navy: USS Enterprise Nuclear Power Program.

Q: Please describe your role as the Executive Director of Electric Production.

A: My current role is responsible for all electricity generation assets at the Utility. Electric Production Division consists of four major departments, Administration, Operations, Maintenance, and Engineering.

- **Administration** provides future planning, oversees budgets, controls costs, and manages personnel issues. Administration also purchases coal and oil used by power plants for electricity production which includes provisions for long term contracts and delivery.
- **Operations** controls and operates the complex power stations that generate electricity.
- **Maintenance** provides professional maintenance support for all power stations and occasionally other BPU's facilities located throughout the service territory.
- **Engineering** is responsible for implementing major capital improvement projects, monitoring power station efficiencies, and supporting plant O&M.

These departments work closely together as well as with all other departments within the company to provide the most cost effective and reliable power to the community. They focus on safety, reliability, compliance, and efficiency while striving to meet the end goal of high quality customer service at the lowest achievable cost. They also have developed plans to meet the community's needs while diligently managing cost impact to our consumers.

Q: Please describe the utility electricity generating fleet.

A: BPU's current electricity generation fleet consists of Nearman Creek Power Station, Quindaro Power Station, Dogwood Energy and Power Purchase Agreements.

- **Nearman Creek Power Station** – There are two generating units at this location. Nearman#1 (N1) is a 245 Net MW base load coal- fired unit which provides the bulk of energy needs to the community. Combustion Turbine#4 (CT4) is the newest 75MW oil/gas-fired unit which provides peaking capacity with black start capability not only for BPU's service territory but also for Southwest Power Pool (SPP) which is a Regional Transmission Authority.
- **Quindaro Power Station** – There are two generating units at this location. Combustion Turbine#2 (CT2) and Combustion Turbine# 3 (CT3) are peaking oil-fired units and rated at 50MW and 52 MW respectively.
- **Dogwood Energy** (Pleasant Hill, Mo) – BPU purchased 17% of Dogwood Energy equity which is about 110MW in late 2012. Dogwood Energy is an advanced 650MW, "2 on 1" gas-fired combined cycle facility.
- **Purchase Power Agreements (PPA) –** BPU has long term PPAs for 3.5 MW of landfill gas, 250 MW of wind, 51 MW of hydro power, and 1 MW of solar.

Q: What is your role in the Electric Rate Hearing?

A: Explain the funding needs for EP in 2023-2027 capital and expense budget

Q: What are the anticipated EP capital expenditures for the next 5 years?

A: I will break these down by year and location.

Quindaro Power Plant Common @ $1.7M (2023-2027):

- $340K per year for anticipated levee improvements required by the Corps of Engineers inspections and administered by the Fairfax Industrial Association.
- Quindaro Power Plant CT2 @ $3.135M (2023-2027)

- 2024 @ $1.935M.
    - $335K, partial payment for controls system upgrade to Emerson Ovation. Present system is unsupported and obsolete.
    - $500K, Hot gas path inspection. Required due to equivalent operating hours.
    - 1.1M, Fuel oil tank modification for both CT2 and CT3 to lower onsite oil storage capability below requirement for Federal Response Plan obligations as well as more logically meet the needs of our present operating configuration. We normally store 200K gallons of oil.
- 2025 @ $400K.
    - $300K, final payment and commissioning of control system upgrade
    - $100K, for potential roof over unit for infrastructure preservation.
- 2026 @ $400K
    - Place holder for future projects
- 2027 @ $400K
    - Place Holder for future projects

Quindaro Power Plant CT3 @ $1.535M (2023-2027)

- 2024 @ $335K,
    - Partial payment for controls system upgrade to Emerson Ovation. Present system in unsupported and obsolete.
- 2025 @ $400K.
    - $300K, final payment and commissioning of control system upgrade
    - $100K, for potential roof over unit for infrastructure preservation.
- 2026 @ $400K
    - Place holder for future projects
- 2027 @ 400K
    - Place Holder for future projects

Dogwood ownership share @ $2.161M

- 2023 @ 365K
    - Phase 1 cooling tower life extension overhaul, blades and components. ZLD waste line.
- 2024 @ $206K
    - Phase 2 cooling tower life extension, fill, drift eliminators, and siding.
- 2025 @ $880K
    - Steam turbine major overhaul, generator rotor inspection, and duct burners.
- 2026 @ $355K
    - Phase 2 of duct burner liners, breaker upgrades for arc flash reduction.
- 2027 @ $355K
    - Catalyst and arc flash reduction.

Nearman Power Plant Common @ $3.275M

- 2023 @ $75K
    - Fuel handling conveyor belt replacements. 50K, fire protection carryover.
- 2024 @ $150K
    - Mechanic shop roof replacement.

- 2025-2027 @ $3M
    - $1M per year as a place holder for future projects

Nearman Power Plant Unit 1 @ 29.298M

- 2023 @ $6.788M, Major spends are:
    - Burner coal nozzles and head replacements @ $2.14M
    - Catalyst layer install @ 550K. Part of catalyst management plan is to replace layers based on activity testing and yearly inspections. Plan to replace 3 layers over 5 years A and B side @ 2.550M total. Actual replacements are in years 2023,2025,and 2027.
    - Purchase Pulse Jet Fabric Filter (PJFF) bags and cages for replacement in 2024 @ $550K.
    - Turbine RHSV seat restoration and Generator re-wedge @ 688K.
    - High Pressure Feedwater Heater replacement partial payment @ 350K.
- 2024 @ $6.0M, Major spends are:
    - PJFF actual bag replacement @ $2.0M.
    - High Pressure Feedwater Heater final payment and install @ 550K.
    - ID fan variable frequency drive cooling system upgrade @ 500K.
    - Additional catalyst purchase per catalyst management plan @ 600K.
    - Simulator upgrade to Emerson Ovation @ 800K.
    - PLC to DCS conversion at Air Quality Control @ 400K.
    - MCC upgrades @ 575K.
- 2025 @ $5.3M, Major spends are:
    - Additional catalyst installation per catalyst management plan @ $400K.
    - MCC upgrade @ $200K.
    - Catalyst layer doors @ $200K.
    - Place holder for future projects @ $4.5M
- 2026 @ $5.6M, Major spends are:
    - Additional catalyst purchase per catalyst management plan @ $600K.
    - Place holder for future projects @ $5.0M
- 2027 @ $5.6M, Major spends are:
    - Additional catalyst installation per catalyst management plan @ $400K.
    - Place holder for future projects @ 5.0M

Nearman Power Plant CT4 @ 2.185M

- 2023 @ $620K
    - Control system upgrade to Emerson Ovation partial payment @ $600K
    - Varnish removal @ $20K
- 2024 @ $365K
    - Control system upgrade commissioning @ $365K
- 2025-2027 @ 1.2M
    - Place holder for future projects @ $400K per year.

Electric Production General Construction @ $1.554M

- Major item for 2023 and 2024 is the certified rebuild of Dozer 969 @ 1.354M. Of the 4 other Dozers two are near end of serviceable life. This will leave 2 healthy machines for coal pile management. Cost to purchase or lease was not financially viable.
- 2025-2027 allocated 50K per year for vehicle replacement.

Q: Can you explain the variances in the expense budget from 2022 to 2023?

A: For account Department 1403-31300-4310 approximately 2.96 M for our 6-year major inspection of turbine valves, exciter, H2 coolers, and lube oil pump rebuilds. For Department 1401 there are several reliability and de-rate mitigation projects to improve plant performance. $200K for PA duct expansion joint replacements. $200K for Boiler Feed Pumps parts and element replacement. $200K for DCS room HVAC replacement. 370K for fuel handling equipment. Department 1400 $340K for cooling tower operation.

Q: Does this conclude your testimony?

A: Yes