

Date/Time	Alarm Type	Code	Point Name	Point Description	AP	Value	Q	Units(A)	Limits	Incr	Poin	PM
06/29/2023 08:36:52	RETURN		3PT2016-SEL.U3@NWM3	MAIN GAS HEADER PRESSURE SEL	1	13.813		PSIG			LA	
06/29/2023 08:36:52	RETURN		3PT2016-SEL.U3@NWM3	MAIN GAS HEADER PRESSURE SEL	1	13.853		PSIG			LA	
06/29/2023 08:36:52	RETURN		3PT2016-SEL.U3@NWM3	MAIN GAS HEADER PRESSURE SEL	1	13.914		PSIG			LA	
06/29/2023 08:36:52	RETURN		3PT2016-SEL.U3@NWM3	MAIN GAS HEADER PRESSURE SEL	1	14.075		PSIG			LA	
06/29/2023 08:36:52	RETURN		3PT2016-SEL.U3@NWM3	MAIN GAS HEADER PRESSURE SEL	1	14.176		PSIG			LA	
06/29/2023 08:36:52	RETURN		3PT2016-SEL.U3@NWM3	MAIN GAS HEADER PRESSURE SEL	1	14.399		PSIG			LA	
06/29/2023 08:36:52	RETURN		3PT2016-SEL.U3@NWM3	MAIN GAS HEADER PRESSURE SEL	1	14.423		PSIG			LA	
06/29/2023 08:36:52	RETURN		3PT2016-SEL.U3@NWM3	MAIN GAS HEADER PRESSURE SEL	1	14.429		PSIG			LA	
06/29/2023 08:36:52	RETURN		3PT2016-SEL.U3@NWM3	MAIN GAS HEADER PRESSURE SEL	1	14.457		PSIG			LA	
06/29/2023 08:36:52	RETURN		3PT2016-SEL.U3@NWM3	MAIN GAS HEADER PRESSURE SEL	1	14.466		PSIG			LA	
06/29/2023 08:36:52	RETURN		3PT2016-SEL.U3@NWM3	MAIN GAS HEADER PRESSURE SEL	1	14.475		PSIG			LA	
06/29/2023 08:36:52	RETURN		3PT2016-SEL.U3@NWM3	MAIN GAS HEADER PRESSURE SEL	1	14.484		PSIG			LA	
06/29/2023 08:36:52	RETURN		3PT2016-SEL.U3@NWM3	MAIN GAS HEADER PRESSURE SEL	1	14.496		PSIG			LA	
06/29/2023 08:36:52	RETURN		3PT2016-SEL.U3@NWM3	MAIN GAS HEADER PRESSURE SEL	1	14.500		PSIG			LA	
06/29/2023 08:36:52	RETURN		3PT2016-SEL.U3@NWM3	MAIN GAS HEADER PRESSURE SEL	1	14.500		PSIG			LA	
06/29/2023 08:36:52	RETURN		3AVR_SMV_PSS_STATUS.U3@NWM3	AVR PSS OFF (MW LIMIT)	2	ACTIVE	T				LD	
06/29/2023 08:36:52	RETURN		3AVR_SMV_PSS_STATUS.U3@NWM3	AVR PSS OFF (MW LIMIT)	2	ACTIVE	T				LD	
06/29/2023 08:36:52	RETURN		3AVR_SMV_PSS_STATUS.U3@NWM3	AVR PSS OFF (MW LIMIT)	2	ACTIVE	T				LD	
06/29/2023 08:36:52	SENSOR		3ET1841A.U3@NWM3	NORMAL SS CURRENT PHASE A	1	2125.00	B	AMPS			LA	
06/29/2023 08:36:52	SENSOR		3ET1841B.U3@NWM3	NORMAL SS CURRENT PHASE B	1	2125.00	B	AMPS			LA	
06/29/2023 08:36:52	SENSOR		3ET1841C.U3@NWM3	NORMAL SS CURRENT PHASE C	1	2125.00	B	AMPS			LA	
06/29/2023 08:36:52	SENSOR		3PH_BDW.U3@NWM3	BOILER DRUM PH	3	14.88	B	PH			LA	
06/29/2023 08:36:52	SENSOR		3ZT1002A.U3@NWM3	2ND PT HEATER NORMAL DRIPS FDBK	1	105.000	B	%			LA	
06/29/2023 08:36:52	SENSOR		3ZT1002A.U3@NWM3	2ND PT HEATER NORMAL DRIPS FDBK	1	105.000	B	%			LA	
06/29/2023 08:36:52	SENSOR		3ZT1002A.U3@NWM3	2ND PT HEATER NORMAL DRIPS FDBK	1	105.000	B	%			LA	
06/29/2023 08:36:52	SENSOR		3ZT1002A.U3@NWM3	2ND PT HEATER NORMAL DRIPS FDBK	1	105.000	B	%			LA	
06/29/2023 08:36:52	SENSOR		3ZT1002A.U3@NWM3	2ND PT HEATER NORMAL DRIPS FDBK	1	105.000	B	%			LA	
06/29/2023 08:36:52	SENSOR		3ZT1002A.U3@NWM3	2ND PT HEATER NORMAL DRIPS FDBK	1	105.000	B	%			LA	
06/29/2023 08:36:52	SENSOR		3ZT1002A.U3@NWM3	2ND PT HEATER NORMAL DRIPS FDBK	1	105.000	B	%			LA	
06/29/2023 08:36:52	SENSOR		3ZT1002A.U3@NWM3	2ND PT HEATER NORMAL DRIPS FDBK	1	105.000	B	%			LA	
06/29/2023 08:36:52	SENSOR		3ZT1002A.U3@NWM3	2ND PT HEATER NORMAL DRIPS FDBK	1	105.000	B	%			LA	
06/29/2023 08:36:52	SENSOR		3ZT1002A.U3@NWM3	2ND PT HEATER NORMAL DRIPS FDBK	1	105.000	B	%			LA	
06/29/2023 08:36:52	SENSOR		3ZT1002A.U3@NWM3	2ND PT HEATER NORMAL DRIPS FDBK	1	105.000	B	%			LA	
06/29/2023 08:36:52	SENSOR		3ZT1002A.U3@NWM3	2ND PT HEATER NORMAL DRIPS FDBK	1	105.000	B	%			LA	
06/29/2023 08:36:52	SENSOR		3ZT1002A.U3@NWM3	2ND PT HEATER NORMAL DRIPS FDBK	1	105.000	B	%			LA	
06/29/2023 08:36:52	SENSOR		3ZT1002A.U3@NWM3	2ND PT HEATER NORMAL DRIPS FDBK	1	105.000	B	%			LA	
06/29/2023 08:36:52	SENSOR		3ZT1002A.U3@NWM3	2ND PT HEATER NORMAL DRIPS FDBK	1	105.000	B	%			LA	
06/29/2023 08:36:52	SENSOR		3ZT1002A.U3@NWM3	2ND PT HEATER NORMAL DRIPS FDBK	1	105.000	B	%			LA	
06/29/2023 08:36:52	SENSOR		3ZT1005.U3@NWM3	TURB LUBE OIL TEMP FDBK	1	98.921	B	%			LA	
06/29/2023 08:36:52	SENSOR		3ZT1005.U3@NWM3	TURB LUBE OIL TEMP FDBK	1	98.921	B	%			LA	
06/29/2023 08:36:52	SENSOR		3ZT1005.U3@NWM3	TURB LUBE OIL TEMP FDBK	1	98.921	B	%			LA	
06/29/2023 08:36:52	SENSOR		3ZT1005.U3@NWM3	TURB LUBE OIL TEMP FDBK	1	98.954	B	%			LA	
06/29/2023 08:36:52	SENSOR		3ZT1005.U3@NWM3	TURB LUBE OIL TEMP FDBK	1	98.954	B	%			LA	
06/29/2023 08:36:52	SENSOR		3ZT1005.U3@NWM3	TURB LUBE OIL TEMP FDBK	1	99.066	B	%			LA	
06/29/2023 08:36:52	SENSOR		3ZT1005.U3@NWM3	TURB LUBE OIL TEMP FDBK	1	100.000	B	%			LA	
06/29/2023 08:36:52	SENSOR		3ZT1005.U3@NWM3	TURB LUBE OIL TEMP FDBK	1	100.000	B	%			LA	
06/29/2023 08:36:52	SENSOR		3ZT1005.U3@NWM3	TURB LUBE OIL TEMP FDBK	1	100.000	B	%			LA	
06/29/2023 08:36:52	SENSOR		3ZT1005.U3@NWM3	TURB LUBE OIL TEMP FDBK	1	100.000	B	%			LA	
06/29/2023 08:36:52	SENSOR		3ZT1005.U3@NWM3	TURB LUBE OIL TEMP FDBK	1	100.000	B	%			LA	
06/29/2023 08:36:52	SENSOR		3ZT1026D.U3@NWM3	SEAL STEAM DUMP FDBK	1	-5.000	B	%			LA	
06/29/2023 08:36:52	SENSOR		3ZT1026D.U3@NWM3	SEAL STEAM DUMP FDBK	1	-5.000	B	%			LA	
06/29/2023 08:36:52	SENSOR		3PH_BDW.U3@NWM3	BOILER DRUM PH	3	14.88	B	PH			LA	
06/29/2023 08:36:52	SYSTEM	LR	SYSTEM	* Time Gap Start: from DROP210.U4@NWM4 **	0			P				
06/29/2023 08:36:52	SYSTEM	LR	SYSTEM	** Time Gap End: from DROP210.U4@NWM4 **	4			P				

Date/Time	Alarm Type	Code	Point Name	Point Description	AP	Value	Q	Units(A)	Limits	Incr	Poin	PM
06/29/2023 08:36:53	ALARM		3AGC-TP-DEV.U3@NWM3	TP VS TPSET DEV	3	true						LD
06/29/2023 08:36:53	ALARM		3AGC-TP-DEV.U3@NWM3	TP VS TPSET DEV	3	true						LD
06/29/2023 08:36:53	ALARM		3AT1877-MRE.U3@NWM3	BOILER O2 MAN REJECT	2	true						LD
06/29/2023 08:36:53	ALARM		3AT1877-XALM.U3@NWM3	BOILER O2 DEVIATION	3	true						LD
06/29/2023 08:36:53	ALARM		3AT1877-XALM.U3@NWM3	BOILER O2 DEVIATION	3	true						LD
06/29/2023 08:36:53	ALARM		3BMB27-BO01.U3@NWM3	BFP RUNBACK	1	true						LD
06/29/2023 08:36:53	ALARM		3BMB27-BO02.U3@NWM3	CONDENSATE PUMP RUNBACK	1	true						LD
06/29/2023 08:36:53	ALARM		3BOP-FO3.U3@NWM3	BOP FO - LOW AIR FLOW	1	true						LD
06/29/2023 08:36:53	ALARM		3FT1889-2003-L1.U3@NWM3	AIR FLOW 2003 < 25%	1	true						LD
06/29/2023 08:36:53	ALARM		3FT1889-XALM.U3@NWM3	AIR FLOW DEVIATION	3	true						LD
06/29/2023 08:36:53	ALARM		3FT1889-XALM.U3@NWM3	AIR FLOW DEVIATION	3	true						LD
06/29/2023 08:36:53	ALARM		3FT1889-XALM.U3@NWM3	AIR FLOW DEVIATION	3	true						LD
06/29/2023 08:36:53	ALARM		3FT1889-XALM.U3@NWM3	AIR FLOW DEVIATION	3	true						LD
06/29/2023 08:36:53	ALARM		3FT1889-XALM.U3@NWM3	AIR FLOW DEVIATION	3	true						LD
06/29/2023 08:36:53	ALARM		3FT1889-XALM.U3@NWM3	AIR FLOW DEVIATION	3	true						LD
06/29/2023 08:36:53	ALARM		3FT1889-XALM.U3@NWM3	AIR FLOW DEVIATION	3	true						LD
06/29/2023 08:36:53	ALARM		3FT1889-XALM.U3@NWM3	AIR FLOW DEVIATION	3	true						LD
06/29/2023 08:36:53	ALARM		3FT1889-XALM.U3@NWM3	AIR FLOW DEVIATION	3	true						LD
06/29/2023 08:36:53	ALARM		3FT1889-XALM.U3@NWM3	AIR FLOW DEVIATION	3	true						LD
06/29/2023 08:36:53	ALARM		3FT1889-XALM.U3@NWM3	AIR FLOW DEVIATION	3	true						LD
06/29/2023 08:36:53	ALARM		3FT1889-XALM.U3@NWM3	AIR FLOW DEVIATION	3	true						LD
06/29/2023 08:36:53	ALARM		3FT1889-XALM.U3@NWM3	AIR FLOW DEVIATION	3	true						LD
06/29/2023 08:36:53	ALARM		3FT1889-XALM.U3@NWM3	AIR FLOW DEVIATION	3	true						LD
06/29/2023 08:36:53	ALARM		3FT1889-XALM.U3@NWM3	AIR FLOW DEVIATION	3	true						LD
06/29/2023 08:36:53	ALARM		3FT1889-XALM.U3@NWM3	AIR FLOW DEVIATION	3	true						LD
06/29/2023 08:36:53	ALARM		3FT1889-XALM.U3@NWM3	AIR FLOW DEVIATION	3	true						LD
06/29/2023 08:36:53	ALARM		3FY1008-DEV.U3@NWM3	COND RECIRC VLV FDBK DEV	3	YES						LD
06/29/2023 08:36:53	ALARM		3FY1008-DEV.U3@NWM3	COND RECIRC VLV FDBK DEV	3	YES						LD
06/29/2023 08:36:53	ALARM		3FY1008-DEV.U3@NWM3	COND RECIRC VLV FDBK DEV	3	YES						LD
06/29/2023 08:36:53	ALARM		3FY1008-DEV.U3@NWM3	COND RECIRC VLV FDBK DEV	3	YES						LD
06/29/2023 08:36:53	ALARM		3FY1008-DEV.U3@NWM3	COND RECIRC VLV FDBK DEV	3	YES						LD
06/29/2023 08:36:53	ALARM		3FY1008-DEV.U3@NWM3	COND RECIRC VLV FDBK DEV	3	YES						LD
06/29/2023 08:36:53	ALARM		3FY1008-DEV.U3@NWM3	COND RECIRC VLV FDBK DEV	3	YES						LD
06/29/2023 08:36:53	ALARM		3FY1008-DEV.U3@NWM3	COND RECIRC VLV FDBK DEV	3	YES						LD
06/29/2023 08:36:53	ALARM		3FY1008-DEV.U3@NWM3	COND RECIRC VLV FDBK DEV	3	YES						LD
06/29/2023 08:36:53	ALARM		3FY1008-DEV.U3@NWM3	COND RECIRC VLV FDBK DEV	3	YES						LD
06/29/2023 08:36:53	ALARM		3FY1008-DEV.U3@NWM3	COND RECIRC VLV FDBK DEV	3	YES						LD
06/29/2023 08:36:53	ALARM		3FY1008-DEV.U3@NWM3	COND RECIRC VLV FDBK DEV	3	YES						LD
06/29/2023 08:36:53	ALARM		3FY1008-DEV.U3@NWM3	COND RECIRC VLV FDBK DEV	3	YES						LD
06/29/2023 08:36:53	ALARM		3FY1017-DEV.U3@NWM3	FUEL GAS VALVE DMD DEVIATION	3	true						LD
06/29/2023 08:36:53	ALARM		3HS1012B0-TRBL.U3@NWM3	FDW BLOCK VLV TROUBLE	2	true						LD
06/29/2023 08:36:53	ALARM		3HS1028A-CGY.U3@NWM3	COND PUMP A CONGRUENCY	1	true						LD
06/29/2023 08:36:53	ALARM		3HS1028A-TRP.U3@NWM3	COND PUMP A TRIPPED	1	true						LD
06/29/2023 08:36:53	ALARM		3HS1028B-CGY.U3@NWM3	COND PUMP B CONGRUENCY	1	true						LD
06/29/2023 08:36:53	ALARM		3HS1028B-TRP.U3@NWM3	COND PUMP B TRIPPED	1	true						LD
06/29/2023 08:36:53	ALARM		3HS1035A-FSP.U3@NWM3	VACUUM PUMP A FAIL TO STOP	2	true						LD
06/29/2023 08:36:53	ALARM		3HS1035A-FST.U3@NWM3	VACUUM PUMP A FAIL TO START	2	true						LD
06/29/2023 08:36:53	ALARM		3HS1035A-TRBL.U3@NWM3	VACUUM PUMP A TROUBLE	2	YES						LD
06/29/2023 08:36:53	ALARM		3HS1035B-FSP.U3@NWM3	VACUUM PUMP B FAIL TO STOP	2	true						LD
06/29/2023 08:36:53	ALARM		3HS1035B-FST.U3@NWM3	VACUUM PUMP B FAIL TO START	2	true						LD

Date/Time	Alarm Type	Code	Point Name	Point Description	AP	Value	Q	Units(A)	Limits	Incr	Poin	PM
06/29/2023 08:36:53	ALARM		3HS1035B-TRBL.U3@NWM3	VACUUM PUMP B TROUBLE	2	YES					LD	
06/29/2023 08:36:53	ALARM		3HS1103-PTA.U3@NWM3	BFP 3A PROCESS TRIP	1	true					LD	
06/29/2023 08:36:53	ALARM		3HS1103-TRP.U3@NWM3	BFP 3A TRIPPED	1	true					LD	
06/29/2023 08:36:53	ALARM		3HS1104-PTA.U3@NWM3	BFP 3B PROCESS TRIP	1	true					LD	
06/29/2023 08:36:53	ALARM		3HS1104-TRP.U3@NWM3	BFP 3B TRIPPED	1	true					LD	
06/29/2023 08:36:53	ALARM		3HS1203-FSP.U3@NWM3	CW PUMP B FAIL TO STOP	2	true					LD	
06/29/2023 08:36:53	ALARM		3HS1203-TRP.U3@NWM3	CW PUMP B TRIPPED	1	true					LD	
06/29/2023 08:36:53	ALARM		3HS1205-FSP.U3@NWM3	CW PUMP A FAIL TO STOP	2	true					LD	
06/29/2023 08:36:53	ALARM		3HS1205-TRP.U3@NWM3	CW PUMP A TRIPPED	1	true					LD	
06/29/2023 08:36:53	ALARM		3HS1232-FTC.U3@NWM3	RESERVE SS ACB FAIL TO CLOSE	2	true					LD	
06/29/2023 08:36:53	ALARM		3HS1232-FTC.U3@NWM3	RESERVE SS ACB FAIL TO CLOSE	2	true					LD	
06/29/2023 08:36:53	ALARM		3HS1232-FTC.U3@NWM3	RESERVE SS ACB FAIL TO CLOSE	2	true					LD	
06/29/2023 08:36:53	ALARM		3HS1232-FTC.U3@NWM3	RESERVE SS ACB FAIL TO CLOSE	2	true					LD	
06/29/2023 08:36:53	ALARM		3HS1233-TRP.U3@NWM3	NORMAL SS ACB TRIP	1	true					LD	
06/29/2023 08:36:53	ALARM		3HS1889-FSP.U3@NWM3	FORCED DRAFT FAN FAIL TO STOP	2	true					LD	
06/29/2023 08:36:53	ALARM		3HS1889-PTA.U3@NWM3	FORCED DRAFT FAN PROCESS TRIP	1	true					LD	
06/29/2023 08:36:53	ALARM		3HS1889-TRP.U3@NWM3	FORCED DRAFT FAN TRIPPED	1	true					LD	
06/29/2023 08:36:53	ALARM		3HTRB11-HH.U3@NWM3	DEAFRATOR LWL HIHI > 13 FT	1	true					LD	
06/29/2023 08:36:53	ALARM		3LT1005-HTRB35-H.U3@NWM3	5TH PT HEATER LEVEL HI > +3 INWC	2	true					LD	
06/29/2023 08:36:53	ALARM		3LT1012-2003-LLV.U3@NWM3	2003 DRUM LOW LEVEL TRIP	1						LD	
06/29/2023 08:36:53	ALARM		3LT1018A-H2.U3@NWM3	LUBE OIL TANK LEVEL HI > 0.005 IN/MIN (RATE)	2	true					LD	
06/29/2023 08:36:53	ALARM		3PT1202-XALM.U3@NWM3	DRUM PRESSURE XMTRS DEVIATION	3	true					LD	
06/29/2023 08:36:53	ALARM		3PY1014-DEV.U3@NWM3	AUX STEAM FDBK DEVIATION	2						LD	
06/29/2023 08:36:53	ALARM		3XL11035.U3@NWM3	BFP 3A CONTROL SWITCH TRIP	1	TRIPPED					LD	
06/29/2023 08:36:53	ALARM		3XL11045.U3@NWM3	BFP 3B CONTROL SWITCH TRIP	1	TRIPPED					LD	
06/29/2023 08:36:53	ALARM		3XL1159R.U3@NWM3	EMER BEARING & SEAL RNING	1	RUNNING					LD	
06/29/2023 08:36:53	ALARM		3XL1159R.U3@NWM3	EMER BEARING & SEAL RNING	1	RUNNING					LD	
06/29/2023 08:36:53	ALARM		3XL1159R.U3@NWM3	EMER BEARING & SEAL RNING	1	RUNNING					LD	
06/29/2023 08:36:53	ALARM		3XL1232T.U3@NWM3	RSST CONTROL SW TRIP	1	NTRIPPED					LD	
06/29/2023 08:36:53	ALARM		3XL1232T.U3@NWM3	NORMAL SS ACB CTRL SW TRPD	1	NTRIPPED					LD	
06/29/2023 08:36:53	ALARM		3XL1232T.U3@NWM3	NORMAL SS ACB CTRL SW TRPD	1	NTRIPPED					LD	
06/29/2023 08:36:53	ALARM		3XL1250C.U3@NWM3	2400V-480V SUBSTATION CLOSED	1	CLOSED					LD	
06/29/2023 08:36:53	ALARM		3XL1888-TRP.U3@NWM3	AIR PREHEATER TRIPPED	1	true					LD	
06/29/2023 08:36:53	ALARM		3XL1889T.U3@NWM3	FORCED DRAFT FAN TRPD	1	NTRIPPED					LD	
06/29/2023 08:36:53	ALARM		3XS0631-2.U3@NWM3	H2 PRESS. ALM	1	ALARM					LD	
06/29/2023 08:36:53	ALARM		3XS0631-2.U3@NWM3	H2 PRESS. ALM	1	ALARM					LD	
06/29/2023 08:36:53	ALARM		3XS0638.U3@NWM3	SEAL OIL PRESS ALM.	1	ALARM					LD	
06/29/2023 08:36:53	ALARM		3XS0638.U3@NWM3	SEAL OIL PRESS ALM.	1	ALARM					LD	
06/29/2023 08:36:53	ALARM		3XS0639.U3@NWM3	GEN MOISTURE DETECTOR	1	ALARM					LD	
06/29/2023 08:36:53	ALARM		3XS0639.U3@NWM3	GEN MOISTURE DETECTOR	1	ALARM					LD	
06/29/2023 08:36:53	ALARM		3XS0639.U3@NWM3	GEN MOISTURE DETECTOR	1	ALARM					LD	
06/29/2023 08:36:53	ALARM		3XS0639.U3@NWM3	GEN MOISTURE DETECTOR	1	ALARM					LD	
06/29/2023 08:36:53	ALARM		3XS0721.U3@NWM3	BRNG SEAL OIL PMP	1	ALARM					LD	
06/29/2023 08:36:53	ALARM		3XS0721.U3@NWM3	BRNG SEAL OIL PMP	1	ALARM					LD	
06/29/2023 08:36:53	ALARM		3XS0721.U3@NWM3	BRNG SEAL OIL PMP	1	ALARM					LD	
06/29/2023 08:36:53	ALARM		3XS1667ALM.U3@NWM3	BACKUP IAC ALARM	2	TROUBLE					LD	
06/29/2023 08:36:53	ALARM		3XS1667ALM.U3@NWM3	BACKUP IAC ALARM	2	TROUBLE					LD	
06/29/2023 08:36:53	ALARM		3XS1667ALM.U3@NWM3	BACKUP IAC ALARM	2	TROUBLE					LD	
06/29/2023 08:36:53	ALARM		3XS1667ALM.U3@NWM3	BACKUP IAC ALARM	2	TROUBLE					LD	
06/29/2023 08:36:53	ALARM		3XS1667ALM.U3@NWM3	BACKUP IAC ALARM	2	TROUBLE					LD	
06/29/2023 08:36:53	ALARM		3XS1667ALM.U3@NWM3	BACKUP IAC ALARM	2	TROUBLE					LD	
06/29/2023 08:36:53	ALARM		3XS1667ALM.U3@NWM3	BACKUP IAC ALARM	2	TROUBLE					LD	
06/29/2023 08:36:53	ALARM		3XS1667ALM.U3@NWM3	BACKUP IAC ALARM	2	TROUBLE					LD	
06/29/2023 08:36:53	ALARM		3XS1667ALM.U3@NWM3	BACKUP IAC ALARM	2	TROUBLE					LD	
06/29/2023 08:36:53	ALARM		3XS1667ALM.U3@NWM3	BACKUP IAC ALARM	2	TROUBLE					LD	
06/29/2023 08:36:53	ALARM		3XS1667ALM.U3@NWM3	BACKUP IAC ALARM	2	TROUBLE					LD	
06/29/2023 08:36:53	ALARM		3XS1667ALM.U3@NWM3	BACKUP IAC ALARM	2	TROUBLE					LD	
06/29/2023 08:36:53	ALARM		3XS1667ALM.U3@NWM3	BACKUP IAC ALARM	2	TROUBLE					LD	
06/29/2023 08:36:53	ALARM		3XS1667ALM.U3@NWM3	BACKUP IAC ALARM	2	TROUBLE					LD	
06/29/2023 08:36:53	ALARM		3XS1667ALM.U3@NWM3	BACKUP IAC ALARM	2	TROUBLE					LD	
06/29/2023 08:36:53	ALARM		3XS1667ALM.U3@NWM3	BACKUP IAC ALARM	2	TROUBLE					LD	
06/29/2023 08:36:53	ALARM		3XS1667ALM.U3@NWM3	BACKUP IAC ALARM	2	TROUBLE					LD	

Date/Time	Alarm Type	Code	Point Name	Point Description	AP	Value	Q	Units(A)	Limits	Incr	Poin	PM
06/29/2023 08:36:53	ALARM		3XS1667ALM.U3@NWM3	BACKUP IAC ALARM	2	TROUBLE					LD	
06/29/2023 08:36:53	ALARM		3XS1667ALM.U3@NWM3	BACKUP IAC ALARM	2	TROUBLE					LD	
06/29/2023 08:36:53	ALARM		3XS1877A-D.U3@NWM3	BOILER OXYGEN A DATA VALID	1	NVALID					LD	
06/29/2023 08:36:53	ALARM		3XS1877A-T.U3@NWM3	BOILER OXYGEN A TROUBLE	1	NTRBLE					LD	
06/29/2023 08:36:53	ALARM		3XS1877C-D.U3@NWM3	BOILER OXYGEN C DATA VALID	1	NVALID					LD	
06/29/2023 08:36:53	ALARM		3XS1877C-T.U3@NWM3	BOILER OXYGEN C TROUBLE	1	NTRBLE					LD	
06/29/2023 08:36:53	ALARM		3XS6313.U3@NWM3	SEAL OIL DRAIN ALM.	1	NORMAL					LD	
06/29/2023 08:36:53	ALARM		3ZT1006-DEV.U3@NWM3	GENERATOR HYDROGEN FDBK DEV	3						LD	
06/29/2023 08:36:53	ALARM		3ZT1006-DEV.U3@NWM3	GENERATOR HYDROGEN FDBK DEV	3						LD	
06/29/2023 08:36:53	ALARM		D003P0.U3@NWM3	DROP 3 LOCAL	1	0110000010000101		100100			RN	
06/29/2023 08:36:53	ALARM		D003P1B2L4.U3@NWM3		1	1000000000000001		100000			RM	
06/29/2023 08:36:53	ALARM		D003P1B3L3.U3@NWM3		1	1010000000000001		100000			RM	
06/29/2023 08:36:53	ALARM		D003P1B5L7.U3@NWM3		1	1010000000000001		100000			RM	
06/29/2023 08:36:53	ALARM		D003P1B7L8.U3@NWM3		1	0100010001100001		100001			RM	
06/29/2023 08:36:53	ALARM		D003P1B7L8.U3@NWM3		1	0100010001100001		100001			RM	
06/29/2023 08:36:53	ALARM		D003P1B7L8.U3@NWM3		1	0100010001100001		100001			RM	
06/29/2023 08:36:53	ALARM		D003P1B7L8.U3@NWM3		1	0100010001100001		100001			RM	
06/29/2023 08:36:53	ALARM		D03-ELC-178-R1.U3@NWM3		1	0000010100000001		100000			RN	
06/29/2023 08:36:53	ALARM		D03-ELC-178-R1.U3@NWM3		1	0000010100000001		100000			RN	
06/29/2023 08:36:53	ALARM		DROP4.U3@NWM3		1	HWY0					DU	
06/29/2023 08:36:53	ALARM		3BN_BRG1TEMP-ALM2.U3@NWM3	BEARING 1 TEMPERATURE ALARM 2	1	ALARM					LD	
06/29/2023 08:36:53	ALARM		3BN_BRG2TEMP-ALM1.U3@NWM3	BEARING 2 TEMPERATURE ALARM 1	2	ALARM					LD	
06/29/2023 08:36:53	ALARM		3BN_BRG2TEMP-ALM2.U3@NWM3	BEARING 2 TEMPERATURE ALARM 2	1	ALARM					LD	
06/29/2023 08:36:53	ALARM		3BN_BRG3TEMP-ALM2.U3@NWM3	BEARING 3 TEMPERATURE ALARM 2	1	ALARM					LD	
06/29/2023 08:36:53	ALARM		3BN_BRG4TEMP-ALM2.U3@NWM3	BEARING 4 TEMPERATURE ALARM 2	1	ALARM					LD	
06/29/2023 08:36:53	ALARM		3BN_BRG5TEMP-ALM2.U3@NWM3	BEARING 5 TEMPERATURE ALARM 2	1	ALARM					LD	
06/29/2023 08:36:53	ALARM		3BN_INTERLOCK_ACTIVE.U3@NWM3	BN 3500 RACK INTERLOCK ACTIVE	2	ALARM					LD	
06/29/2023 08:36:53	ALARM		3BN_U31-ECC-RP-ALM1.U3@NWM3	ROTOR ECCENTRICITY ALARM 1	2	ALARM					LD	
06/29/2023 08:36:53	ALARM		3BN_U31-ECC-RP-ALM1.U3@NWM3	ROTOR ECCENTRICITY ALARM 1	2	ALARM					LD	
06/29/2023 08:36:53	ALARM		3BN_U31-ECC-RP-ALM1.U3@NWM3	ROTOR ECCENTRICITY ALARM 1	2	ALARM					LD	
06/29/2023 08:36:53	ALARM		3BN_U31-ECC-RP-ALM1.U3@NWM3	ROTOR ECCENTRICITY ALARM 1	2	ALARM					LD	
06/29/2023 08:36:53	ALARM		3BN_U31-ECC-RP-ALM1.U3@NWM3	ROTOR ECCENTRICITY ALARM 1	2	ALARM					LD	
06/29/2023 08:36:53	ALARM		3BN_U31-ECC-RP-ALM1.U3@NWM3	ROTOR ECCENTRICITY ALARM 1	2	ALARM					LD	
06/29/2023 08:36:53	ALARM		3BN_U31-ECC-RP-ALM1.U3@NWM3	ROTOR ECCENTRICITY ALARM 1	2	ALARM					LD	
06/29/2023 08:36:53	ALARM		3BN_U31-ECC-RP-ALM1.U3@NWM3	ROTOR ECCENTRICITY ALARM 1	2	ALARM					LD	
06/29/2023 08:36:53	ALARM		3HSL152-CGY.U3@NWM3	E.H. PUMP A CONGRUENCY	1	true					LD	
06/29/2023 08:36:53	ALARM		3HSL158-CGY.U3@NWM3	E.H. PUMP B CONGRUENCY	1	true					LD	
06/29/2023 08:36:53	ALARM		3HSL159-AUTST.U3@NWM3	EMER BRG SEAL OIL PMP AUTO STARTED	1	YES					LD	
06/29/2023 08:36:53	ALARM		3HSL159-AUTST.U3@NWM3	EMER BRG SEAL OIL PMP AUTO STARTED	1	YES					LD	
06/29/2023 08:36:53	ALARM		3HSL159-AUTST.U3@NWM3	EMER BRG SEAL OIL PMP AUTO STARTED	1	YES					LD	
06/29/2023 08:36:53	ALARM		3HSL159-CGY.U3@NWM3	EMER BEARING SEAL OIL PUMP CONGRUENCY	1	true					LD	
06/29/2023 08:36:53	ALARM		3HSL159-CGY.U3@NWM3	EMER BEARING SEAL OIL PUMP CONGRUENCY	1	true					LD	
06/29/2023 08:36:53	ALARM		3HSL159-CGY.U3@NWM3	EMER BEARING SEAL OIL PUMP CONGRUENCY	1	true					LD	
06/29/2023 08:36:53	ALARM		3HSL160-CGY.U3@NWM3	BEARING SEAL OIL PUMP A CONGRUENCY	1	true					LD	
06/29/2023 08:36:53	ALARM		3PROTB1-B003.U3@NWM3	TURBINE TRIPPED	1	TRIP					LD	
06/29/2023 08:36:53	ALARM		3T7-CMNTRBL.U3@NWM3	T7 COMMON TRBL	1	ALARM					LD	
06/29/2023 08:36:53	ALARM		3T8-CMNTRBL.U3@NWM3	T8 COMMON TRBL	1	ALARM					LD	
06/29/2023 08:36:53	ALARM		3TCS-ROPL.U3@NWM3	BEARING OIL PRESS LOW	1	true					LD	
06/29/2023 08:36:53	ALARM		3TCS-ETHTRIP.U3@NWM3	EMERG TRIP HEADER TRIP	1	TRIP					LD	
06/29/2023 08:36:53	ALARM		3TCS-FREQACT.U3@NWM3	FREQ CORRECTION ACTIVE	2	YES					LD	
06/29/2023 08:36:53	ALARM		3TCS-FREQACT.U3@NWM3	FREQ CORRECTION ACTIVE	2	YES					LD	
06/29/2023 08:36:53	ALARM		3TCS-FREQACT.U3@NWM3	FREQ CORRECTION ACTIVE	2	YES					LD	
06/29/2023 08:36:53	ALARM		3TCS-FREQACT.U3@NWM3	FREQ CORRECTION ACTIVE	2	YES					LD	

Date/Time	Alarm Type	Code	Point Name	Point Description	AP	Value	Q	Units(A)	Limits	Incr	Poin	PM
06/29/2023 08:36:53	ALARM		3BMS-GB9-F09.U3@NWM3	GB9 FO- IGNITOR FAIL TO LIGHT	1	true						LD
06/29/2023 08:36:53	ALARM		3BMS-GB9-F09.U3@NWM3	GB9 FO- IGNITOR FAIL TO LIGHT	1	true						LD
06/29/2023 08:36:53	ALARM		3BMS-GB9-F09.U3@NWM3	GB9 FO- IGNITOR FAIL TO LIGHT	1	true						LD
06/29/2023 08:36:53	ALARM		3BMS-GFT-F04.U3@NWM3	IGFTFO-MASTER FUEL TRIP	1	true						LD
06/29/2023 08:36:53	ALARM		3BMS-GFT.U3@NWM3	GAS SHUTOFF VLV FUEL TRIP	1	true						LD
06/29/2023 08:36:53	ALARM		3BMS-IGFT-FD2.U3@NWM3	IGFTFO-ANY MASTER FUEL TRIP	1	true						LD
06/29/2023 08:36:53	ALARM		3BMS-IGFT.U3@NWM3	IGN SHUTOFF VLV FUEL TRIP	1	true						LD
06/29/2023 08:36:53	ALARM		3BMS-IGNBNR8CHK-FL.U3@NWM3	IGN/BNR 8 FLAME CHK FAILURE	1	true						LD
06/29/2023 08:36:53	ALARM		3BMS-IGNBNR8CHK-FL.U3@NWM3	IGN/BNR 8 FLAME CHK FAILURE	1	true						LD
06/29/2023 08:36:53	ALARM		3BMS-IGNBNR8CHK-FL.U3@NWM3	IGN/BNR 8 FLAME CHK FAILURE	1	true						LD
06/29/2023 08:36:53	ALARM		3BMS-IGNBNR8CHK-FL.U3@NWM3	IGN/BNR 8 FLAME CHK FAILURE	1	true						LD
06/29/2023 08:36:53	ALARM		3BMS-IGNBNR8CHK-FL.U3@NWM3	IGN/BNR 8 FLAME CHK FAILURE	1	true						LD
06/29/2023 08:36:53	ALARM		3BMS-IGNBNR8CHK-FL.U3@NWM3	IGN/BNR 8 FLAME CHK FAILURE	1	true						LD
06/29/2023 08:36:53	ALARM		3BMS-IGNBNR8CHK-FL.U3@NWM3	IGN/BNR 8 FLAME CHK FAILURE	1	true						LD
06/29/2023 08:36:53	ALARM		3BMS-IGNBNR8CHK-FL.U3@NWM3	IGN/BNR 8 FLAME CHK FAILURE	1	true						LD
06/29/2023 08:36:53	ALARM		3BMS-LOSSBOTH-SCANF.U3@NWM3	LOSS OF BOTH SCANNER AIR FANS-TRIP IMMINENT	1	true						LD
06/29/2023 08:36:53	ALARM		3BMS-MFT-F012.U3@NWM3	MFT FO-BMS TRIP FROM TCS	1	true						LD
06/29/2023 08:36:53	ALARM		3BMS-MFT.U3@NWM3	MFT OCCURRED	1	true						LD
06/29/2023 08:36:53	ALARM		3PT2014-XALM.U3@NWM3	MAIN GAS SUPPLY PRESS XMTR ALARM	1	true						LD
06/29/2023 08:36:53	ALARM		3XY2010A-TRP.U3@NWM3	SCANNER AIR FAN A TRIPPED	1	true						LD
06/29/2023 08:36:53	ALARM		D023P0.U3@NWM3	DROP 23 LOCAL	1	0010000010000101			000100 000000			RN
06/29/2023 08:36:53	ALARM		DROP23.U3@NWM3	DROP 23	1	FA# 66 11 1 0						DU
06/29/2023 08:36:53	ALARM		3AVR_FC2_ALARM.U3@NWM3	FIRING CARD #2 TROUBLE	2	ALARM	T					LD
06/29/2023 08:36:53	ALARM		3AVR_LIM_UEL.U3@NWM3	UEL ACTIVE	1	LIMIT	T					LD
06/29/2023 08:36:53	ALARM		3AVR_LIM_UEL_WARN.U3@NWM3	UEL LIMITER APPROACH	2	ALARM	T					LD
06/29/2023 08:36:53	ALARM		3AVR_MODE_AVR.U3@NWM3	AVR NOT IN AUTO	2	TRUE	T					LD
06/29/2023 08:36:53	ALARM		3AVR_PA1_BLOWN_FUSE.U3@NWM3	FUSE FAILURE DETECTED PA #1	2	ALARM	T					LD
06/29/2023 08:36:53	ALARM		3AVR_PA1_HIGH_TEMP_SW.U3@NWM3	PA1 HIGH TEMP SWITCH	2	ALARM	T					LD
06/29/2023 08:36:53	ALARM		3AVR_PA2_BLOWN_FUSE.U3@NWM3	FUSE FAILURE DETECTED PA #2	2	ALARM	T					LD
06/29/2023 08:36:53	ALARM		3AVR_PA2_HIGH_TEMP_SW.U3@NWM3	PA2 HIGH TEMP SWITCH	2	ALARM	T					LD
06/29/2023 08:36:53	ALARM		3AVR_PA2_HIGH_TEMP_SW.U3@NWM3	PA2 HIGH TEMP SWITCH	2	ALARM	T					LD
06/29/2023 08:36:53	ALARM		3AVR_PS_FPS1_STATUS.U3@NWM3	FIRING CIRCUIT P.S. #1 FAIL	3	ALARM	T					LD
06/29/2023 08:36:53	ALARM		3AVR_PS_HMIPS1_STATUS.U3@NWM3	HMI P.S. #1 FAIL	3	ALARM	T					LD
06/29/2023 08:36:53	ALARM		3AVR_RESTRICT_AVR.U3@NWM3	AVR (AC) MODE RESTRICTION	3	RESTR	T					LD
06/29/2023 08:36:53	ALARM		3AVR_VITAL_DC1.U3@NWM3	125VDC CONTROL POWER FAIL	2	ALARM	T					LD
06/29/2023 08:36:53	ALARM		3AVR_XDI_BASE_DISAGREE.U3@NWM3	BASE XD4 & DEC CURRENT DISA	4	ALARM	T					LD
06/29/2023 08:36:53	ALARM		D037P0.U3@NWM3		1	0001010010000101			000001 000000			RN
06/29/2023 08:36:53	ALARM		DROP37.U3@NWM3	DROP37	1	FA# 66 11 1 0						DU
06/29/2023 08:36:53	ALARM		3HS1291-TRP.U3@NWM3	COOLING TOWER FAN 1 TRIPPED	1	true	T					LD
06/29/2023 08:36:53	ALARM		3HS1293-TRP.U3@NWM3	COOLING TOWER FAN 3 TRIPPED	1	true	T					LD
06/29/2023 08:36:53	ALARM		3HS1294-TRP.U3@NWM3	COOLING TOWER 4 TRIPPED	1	true	T					LD
06/29/2023 08:36:53	ALARM		3HS1295-TRP.U3@NWM3	COOLING TOWER FAN 5 TRIPPED	1	true	T					LD
06/29/2023 08:36:53	ALARM		3HS1296-TRP.U3@NWM3	COOLING TOWER FAN 6 TRIPPED	1	true	T					LD
06/29/2023 08:36:53	ALARM		D004P0.U3@NWM3		1	0000001111110101	T		000000 000000 000000			RN
06/29/2023 08:36:53	ALARM		D004P1B1L6.U3@NWM3		1	0000100000100001	T		000000 000000 000000			RM
06/29/2023 08:36:53	ALARM		DROP54.U3@NWM3		1	HWWO						DU
06/29/2023 08:36:53	ALARM		DROP63.U3@NWM3	DROP 63	1	FA# 66 5 12 513						DU
06/29/2023 08:36:53	ALARM		DROP87.U3@NWM3	DROP87	1	FA# 66 5 12 512						DU
06/29/2023 08:36:53	ALARM		3BFS03.U3@NWM3	ETHERNET SWITCH BFS STATUS	1	0000000000000001			000000 000000			LP
06/29/2023 08:36:53	ALARM		3BFS03_PORTS1_8.U3@NWM3	ETHERNET SWITCH BFS PORT STATUS	1	000000011111001			000000 000000			LP
06/29/2023 08:36:53	ALARM		3BFS03.U3@NWM3	ETHERNET SWITCH BFS STATUS	1	0000000000000001			000000 000000			LP
06/29/2023 08:36:53	ALARM		3ROOT_PORTS1726.U3@NWM3	ETHERNET SWITCH 3ROOT STATUS	1	0000001100001111			000000 000000 000000			LP
06/29/2023 08:36:53	ALARM		BCORE_PORTS1728.U3@NWM3	ETHERNET SWITCH BCORE STATUS	1	000000110000010			000000 000000 000000			LP
06/29/2023 08:36:53	ALARM		CORE_PORTS1728.U3@NWM3	ETHERNET SWITCH CORE STATUS	1	000000101000010			000000 000000 000000			LP
06/29/2023 08:36:53	ALARM		PR1.U3@NWM3		4	0000000000000001			000000 000000			LP
06/29/2023 08:36:53	ALARM		DROP220.U3@NWM3	DROP 220 U3	1	FA# 179 102 1 0						DU

Date/Time	Alarm Type	Code	Point Name	Point Description	AP	Value	Q	Units(A)	Limits	Incr	Poin	PM
06/29/2023 08:36:53	ALARM		DROP220.U3@NWM3	DROP 220 U3	1	FA# 179 123 3 0						DU
06/29/2023 08:36:53	ALARM		D003P0.U3@NWM3	DROP 3 LOCAL	1	0110100010000101		100110 000000				RN
06/29/2023 08:36:53	ALARM		D013P0.U3@NWM3	DROP 13 LOCAL	1	0110000010000101		100110 000000				RN
06/29/2023 08:36:53	ALARM		D013P0.U3@NWM3	DROP 13 LOCAL	1	0110100010000101		100110 000000				RN
06/29/2023 08:36:53	ALARM		D023P0.U3@NWM3	DROP 23 LOCAL	1	0010100010000101		000110 000000				RN
06/29/2023 08:36:53	ALARM		D004P1B1L6.U3@NWM3		1	0000111000100001	T	000011 100000				RM
06/29/2023 08:36:53	ALARM		3BROOT_PORTS1726.U3@NWM3	ETHERNET SWITCH 3BROOT STATUS	1	0000000000000000			000000 000010			LP
06/29/2023 08:36:53	HIGH1		3AT1102.U3@NWM3	CONDENSATE WATER PH	2	9.26		PH	9.25			LA
06/29/2023 08:36:53	HIGH1		3AT1102.U3@NWM3	CONDENSATE WATER PH	2	9.26		PH	9.25			LA
06/29/2023 08:36:53	HIGH1		3AT1102.U3@NWM3	CONDENSATE WATER PH	2	9.26		PH	9.25			LA
06/29/2023 08:36:53	HIGH1		3AT1102.U3@NWM3	CONDENSATE WATER PH	2	9.26		PH	9.25			LA
06/29/2023 08:36:53	HIGH1		3AT1102.U3@NWM3	CONDENSATE WATER PH	2	9.27		PH	9.25			LA
06/29/2023 08:36:53	HIGH1		3AT1102.U3@NWM3	CONDENSATE WATER PH	2	9.27		PH	9.25			LA
06/29/2023 08:36:53	HIGH1		3AT1102.U3@NWM3	CONDENSATE WATER PH	2	9.27		PH	9.25			LA
06/29/2023 08:36:53	HIGH1		3AT1102.U3@NWM3	CONDENSATE WATER PH	2	9.27		PH	9.25			LA
06/29/2023 08:36:53	HIGH1		3AT1102.U3@NWM3	CONDENSATE WATER PH	2	9.27		PH	9.25			LA
06/29/2023 08:36:53	HIGH1		3AT1102.U3@NWM3	CONDENSATE WATER PH	2	9.29		PH	9.25			LA
06/29/2023 08:36:53	HIGH1		3AT1102.U3@NWM3	CONDENSATE WATER PH	2	9.29		PH	9.25			LA
06/29/2023 08:36:53	HIGH1		3AT1102.U3@NWM3	CONDENSATE WATER PH	2	9.29		PH	9.25			LA
06/29/2023 08:36:53	HIGH1		3AT1102.U3@NWM3	CONDENSATE WATER PH	2	9.30		PH	9.25			LA
06/29/2023 08:36:53	HIGH1		3AT1102.U3@NWM3	CONDENSATE WATER PH	2	9.30		PH	9.25			LA
06/29/2023 08:36:53	HIGH1		3AT1102.U3@NWM3	CONDENSATE WATER PH	2	9.32		PH	9.25			LA
06/29/2023 08:36:53	HIGH1		3AT1102.U3@NWM3	CONDENSATE WATER PH	2	9.33		PH	9.25			LA
06/29/2023 08:36:53	HIGH1		3AT1102.U3@NWM3	CONDENSATE WATER PH	2	9.33		PH	9.25			LA
06/29/2023 08:36:53	HIGH1		3ET1778.U3@NWM3	INCOMING VOLTAGE	2	93.88		VAC	49.90			LA
06/29/2023 08:36:53	HIGH1		3ET1778.U3@NWM3	INCOMING VOLTAGE	2	94.63		VAC	49.90			LA
06/29/2023 08:36:53	HIGH1		3LT1001.U3@NWM3	1ST PT HEATER LEVEL	2	6.06		IN	6.00			LA
06/29/2023 08:36:53	HIGH1		3LT1005.U3@NWM3	5TH PT HEATER LEVEL	3	4.06		IN	4.00			LA
06/29/2023 08:36:53	HIGH1		3LT1018A.U3@NWM3	LUBE OIL TANK LEVEL	2	16.11		IN	16.00			LA
06/29/2023 08:36:53	HIGH1		3LT1201.U3@NWM3	#3 DISTILLED WATER TANK LEVEL	3	13.50		FT	13.50			LA
06/29/2023 08:36:53	HIGH1		3LT1201.U3@NWM3	#3 DISTILLED WATER TANK LEVEL	3	13.50		FT	13.50			LA
06/29/2023 08:36:53	HIGH1		3LT1201.U3@NWM3	#3 DISTILLED WATER TANK LEVEL	3	13.50		FT	13.50			LA
06/29/2023 08:36:53	HIGH1		3PT1801.U3@NWM3	BNR GAS PRESS	2	14.57		PSIG	14.50			LA
06/29/2023 08:36:53	HIGH1		3PT1801.U3@NWM3	BNR GAS PRESS	2	18.35		PSIG	14.50			LA
06/29/2023 08:36:53	HIGH1		3PT1802-SEL.U3@NWM3	GAS 25 # SUPPLY PRESS SEL	1	36.39		PSIG	33.00			LA
06/29/2023 08:36:53	HIGH1		3TE1027.U3@NWM3	EXH HOOD SPRAY TEMP	3	155.32		DEGF	155.00			LA
06/29/2023 08:36:53	HIGH1		D003P1B5L4-CMP.U3@NWM3	DROP 3 CABINET LOCATION B5 L4 C1C	1	95.00		DEGF	95.00			LA
06/29/2023 08:36:53	HIGH1		D003P1B5L4-CMP.U3@NWM3	DROP 3 CABINET LOCATION B5 L4 C1C	1	95.00		DEGF	95.00			LA
06/29/2023 08:36:53	HIGH1		D003P1B5L4-CMP.U3@NWM3	DROP 3 CABINET LOCATION B5 L4 C1C	1	95.00		DEGF	95.00			LA
06/29/2023 08:36:53	HIGH1		D003P1B5L4-CMP.U3@NWM3	DROP 3 CABINET LOCATION B5 L4 C1C	1	95.00		DEGF	95.00			LA
06/29/2023 08:36:53	HIGH1		D003P1B5L4-CMP.U3@NWM3	DROP 3 CABINET LOCATION B5 L4 C1C	1	95.00		DEGF	95.00			LA
06/29/2023 08:36:53	HIGH1		D003P1B5L4-CMP.U3@NWM3	DROP 3 CABINET LOCATION B5 L4 C1C	1	95.00		DEGF	95.00			LA
06/29/2023 08:36:53	HIGH1		D003P1B5L4-CMP.U3@NWM3	DROP 3 CABINET LOCATION B5 L4 C1C	1	95.00		DEGF	95.00			LA
06/29/2023 08:36:53	HIGH1		3BN_U31-1-ROTORPOS.U3@NWM3	ROTOR POSITION 1	2	7.515		MIL	7.500			LA
06/29/2023 08:36:53	HIGH1		3BN_U31-1-ROTORPOS.U3@NWM3	ROTOR POSITION 1	2	7.771		MIL	7.500			LA
06/29/2023 08:36:53	HIGH1		3BN_U31-1-ROTORPOS.U3@NWM3	ROTOR POSITION 1	2	8.867		MIL	7.500			LA
06/29/2023 08:36:53	HIGH1		3BN_U31-1-ROTORPOS.U3@NWM3	ROTOR POSITION 1	2	8.875		MIL	7.500			LA
06/29/2023 08:36:53	HIGH1		3BN_U31-2-ROTORPOS.U3@NWM3	ROTOR POSITION 2	2	7.504		MIL	7.500			LA
06/29/2023 08:36:53	HIGH1		3BN_U31-2-ROTORPOS.U3@NWM3	ROTOR POSITION 2	2	7.517		MIL	7.500			LA
06/29/2023 08:36:53	HIGH1		3BN_U31-2-ROTORPOS.U3@NWM3	ROTOR POSITION 2	2	7.540		MIL	7.500			LA

Date/Time	Alarm Type	Code	Point Name	Point Description	AP	Value	Q	Units(A)	Limits	Incr	Poin	PM
06/29/2023 08:36:53	HIGH1		3BN_U31-2-ROTORPOS.U3@NWM3	ROTOR POSITION 2	2	7.931		MIL	7.500		LA	
06/29/2023 08:36:53	HIGH1		3BN_U31-2-ROTORPOS.U3@NWM3	ROTOR POSITION 2	2	8.835		MIL	7.500		LA	
06/29/2023 08:36:53	HIGH1		3BN_U31-2-ROTORPOS.U3@NWM3	ROTOR POSITION 2	2	11.370		MIL	7.500		LA	
06/29/2023 08:36:53	HIGH1		3BN_U31-2-ROTORPOS.U3@NWM3	ROTOR POSITION 2	2	11.576		MIL	7.500		LA	
06/29/2023 08:36:53	HIGH1		3BN_U31-2-ROTORPOS.U3@NWM3	ROTOR POSITION 2	2	13.308		MIL	7.500		LA	
06/29/2023 08:36:53	HIGH1		3BN_U31-2-ROTORPOS.U3@NWM3	ROTOR POSITION 2	2	13.459		MIL	7.500		LA	
06/29/2023 08:36:53	HIGH1		3BN_U31-2-ROTORPOS.U3@NWM3	ROTOR POSITION 2	2	13.659		MIL	7.500		LA	
06/29/2023 08:36:53	HIGH1		3BN_U31-2-ROTORPOS.U3@NWM3	ROTOR POSITION 2	2	14.658		MIL	7.500		LA	
06/29/2023 08:36:53	HIGH1		3BN_U31-3X-LP.U3@NWM3	BEARING 3X VIBRATION	2	6.346		MIL	6.001		LA	
06/29/2023 08:36:53	HIGH1		3BN_U31-3X-LP.U3@NWM3	BEARING 3X VIBRATION	2	6.556		MIL	6.001		LA	
06/29/2023 08:36:53	HIGH1		3PT1307-SEL.U3@NWM3	SELECTED CONDENSER VACUUM PRESS	1	4.576		INHG	4.500		LA	
06/29/2023 08:36:53	HIGH1		3TCS-SPEED.U3@NWM3	TURB SPEED	2	3741.3		RPM	3708.0		LA	
06/29/2023 08:36:53	HIGH1		3TE1301A.U3@NWM3	TURB THROTTLE STEAM TEMP	1	1030.00		DEGF	1030.00		LA	
06/29/2023 08:36:53	HIGH1		3TE1301A.U3@NWM3	TURB THROTTLE STEAM TEMP	1	1030.00		DEGF	1030.00		LA	
06/29/2023 08:36:53	HIGH1		3TE1301A.U3@NWM3	TURB THROTTLE STEAM TEMP	1	1030.00		DEGF	1030.00		LA	
06/29/2023 08:36:53	HIGH1		D013P1B3L6-CMP.U3@NWM3	DROP 13 CABINET LOCATION B3 L6 C/C	1	82.40		DEGF	82.00		LA	
06/29/2023 08:36:53	HIGH1		D013P1B3L6-CMP.U3@NWM3	DROP 13 CABINET LOCATION B3 L6 C/C	1	82.40		DEGF	82.00		LA	
06/29/2023 08:36:53	HIGH1		D013P1B3L6-CMP.U3@NWM3	DROP 13 CABINET LOCATION B3 L6 C/C	1	82.40		DEGF	82.00		LA	
06/29/2023 08:36:53	HIGH1		D013P1B3L6-CMP.U3@NWM3	DROP 13 CABINET LOCATION B3 L6 C/C	1	82.40		DEGF	82.00		LA	
06/29/2023 08:36:53	HIGH1		D013P1B3L6-CMP.U3@NWM3	DROP 13 CABINET LOCATION B3 L6 C/C	1	82.40		DEGF	82.00		LA	
06/29/2023 08:36:53	HIGH1		D013P1B3L6-CMP.U3@NWM3	DROP 13 CABINET LOCATION B3 L6 C/C	1	82.40		DEGF	82.00		LA	
06/29/2023 08:36:53	HIGH1		D013P1B3L6-CMP.U3@NWM3	DROP 13 CABINET LOCATION B3 L6 C/C	1	82.40		DEGF	82.00		LA	
06/29/2023 08:36:53	HIGH1		3PT2014-SEL.U3@NWM3	MAIN GAS SUPPLY PRESSURE SEL	1	34.235		PSIG	33.000		LA	
06/29/2023 08:36:53	HIGH1		3PT2016-SEL.U3@NWM3	MAIN GAS HEADER PRESSURE SEL	1	14.567		PSIG	14.500		LA	
06/29/2023 08:36:53	HIGH1		3PT2016-SEL.U3@NWM3	MAIN GAS HEADER PRESSURE SEL	1	14.600		PSIG	14.500		LA	
06/29/2023 08:36:53	HIGH1		3AT1102.U3@NWM3	CONDENSATE WATER PH	2	9.26		PH	9.25		LA	
06/29/2023 08:36:53	HIGH1		3AT1102.U3@NWM3	CONDENSATE WATER PH	2	14.84	P	PH	9.25		LA	
06/29/2023 08:36:53	HIGH1		3AT1102.U3@NWM3	CONDENSATE WATER PH	2	14.87	P	PH	9.25		LA	
06/29/2023 08:36:53	HIGH1		3ET1778.U3@NWM3	INCOMING VOLTAGE	2	82.39		VAC	49.90		LA	
06/29/2023 08:36:53	HIGH1		3ET1778.U3@NWM3	INCOMING VOLTAGE	2	82.41		VAC	49.90		LA	
06/29/2023 08:36:53	HIGH1		3ET1778.U3@NWM3	INCOMING VOLTAGE	2	82.49		VAC	49.90		LA	
06/29/2023 08:36:53	HIGH1		3LT1005.U3@NWM3	5TH PT HEATER LEVEL	3	3.98		IN	4.00		LA	
06/29/2023 08:36:53	HIGH1		3LT1201.U3@NWM3	#3 DISTILLED WATER TANK LEVEL	3	13.50		FT	13.50		LA	
06/29/2023 08:36:53	HIGH1		3LT1201.U3@NWM3	#3 DISTILLED WATER TANK LEVEL	3	13.50		FT	13.50		LA	
06/29/2023 08:36:53	HIGH1		3LT1201.U3@NWM3	#3 DISTILLED WATER TANK LEVEL	3	13.50		FT	13.50		LA	
06/29/2023 08:36:53	HIGH1		3TE1027.U3@NWM3	EXH HOOD SPRAY TEMP	3	184.94		DEGF	155.00		LA	
06/29/2023 08:36:53	HIGH1		3BN_U31-1-ROTORPOS.U3@NWM3	ROTOR POSITION 1	2	9.432		MIL	7.500		LA	
06/29/2023 08:36:53	HIGH1		3BN_U31-1-ROTORPOS.U3@NWM3	ROTOR POSITION 1	2	10.313		MIL	7.500		LA	
06/29/2023 08:36:53	HIGH1		3BN_U31-1-ROTORPOS.U3@NWM3	ROTOR POSITION 1	2	10.321		MIL	7.500		LA	
06/29/2023 08:36:53	HIGH1		3BN_U31-1-ROTORPOS.U3@NWM3	ROTOR POSITION 1	2	11.670		MIL	7.500		LA	
06/29/2023 08:36:53	HIGH1		3BN_U31-1-ROTORPOS.U3@NWM3	ROTOR POSITION 1	2	13.566		MIL	7.500		LA	
06/29/2023 08:36:53	HIGH1		3BN_U31-1-ROTORPOS.U3@NWM3	ROTOR POSITION 1	2	14.142		MIL	7.500		LA	
06/29/2023 08:36:53	HIGH1		3BN_U31-1-ROTORPOS.U3@NWM3	ROTOR POSITION 1	2	14.386		MIL	7.500		LA	
06/29/2023 08:36:53	HIGH1		3BN_U31-1-ROTORPOS.U3@NWM3	ROTOR POSITION 1	2	14.535		MIL	7.500		LA	
06/29/2023 08:36:53	HIGH1		3BN_U31-1-ROTORPOS.U3@NWM3	ROTOR POSITION 1	2	14.548		MIL	7.500		LA	
06/29/2023 08:36:53	HIGH1		3BN_U31-1-ROTORPOS.U3@NWM3	ROTOR POSITION 1	2	14.798		MIL	7.500		LA	
06/29/2023 08:36:53	HIGH1		3BN_U31-1-ROTORPOS.U3@NWM3	ROTOR POSITION 1	2	14.840		MIL	7.500		LA	
06/29/2023 08:36:53	HIGH1		3BN_U31-1-ROTORPOS.U3@NWM3	ROTOR POSITION 1	2	14.897		MIL	7.500		LA	
06/29/2023 08:36:53	HIGH1		3BN_U31-1-ROTORPOS.U3@NWM3	ROTOR POSITION 1	2	14.905		MIL	7.500		LA	
06/29/2023 08:36:53	HIGH1		3BN_U31-1-ROTORPOS.U3@NWM3	ROTOR POSITION 1	2	14.921		MIL	7.500		LA	
06/29/2023 08:36:53	HIGH1		3BN_U31-1-ROTORPOS.U3@NWM3	ROTOR POSITION 1	2	14.982		MIL	7.500		LA	
06/29/2023 08:36:53	HIGH1		3BN_U31-1-ROTORPOS.U3@NWM3	ROTOR POSITION 1	2	14.986		MIL	7.500		LA	
06/29/2023 08:36:53	HIGH1		3BN_U31-2-ROTORPOS.U3@NWM3	ROTOR POSITION 2	2	14.992		MIL	7.500		LA	
06/29/2023 08:36:53	HIGH1		3BN_U31-2X-IPLP.U3@NWM3	BEARING 2X VIBRATION	2	8.997		MIL	6.001		LA	
06/29/2023 08:36:53	HIGH2		3ET1778.U3@NWM3	INCOMING VOLTAGE	2	112.74		VAC	100.00		LA	

Date/Time	Alarm Type	Code	Point Name	Point Description	AP	Value	Q	Units(A)	Limits	Incr	Poin	PM
06/29/2023 08:36:53	HIGH2		3ET1778.U3@NWM3	INCOMING VOLTAGE	2	112.85		VAC	100.00		LA	
06/29/2023 08:36:53	HIGH2		3ET1778.U3@NWM3	INCOMING VOLTAGE	2	113.20		VAC	100.00		LA	
06/29/2023 08:36:53	HIGH2		3LT1001.U3@NWM3	1ST PT HEATER LEVEL	1	7.97		IN	7.00		LA	
06/29/2023 08:36:53	HIGH2		3LT1001.U3@NWM3	1ST PT HEATER LEVEL	1	7.98		IN	7.00		LA	
06/29/2023 08:36:53	HIGH2		3LT1001.U3@NWM3	1ST PT HEATER LEVEL	1	8.11		IN	7.00		LA	
06/29/2023 08:36:53	HIGH2		3LT1001.U3@NWM3	1ST PT HEATER LEVEL	1	8.25		IN	7.00		LA	
06/29/2023 08:36:53	HIGH2		3LT1001.U3@NWM3	1ST PT HEATER LEVEL	1	8.29		IN	7.00		LA	
06/29/2023 08:36:53	HIGH2		3LT1002.U3@NWM3	2ND PT HEATER LEVEL	3	6.29		IN	6.00		LA	
06/29/2023 08:36:53	HIGH2		3LT1002.U3@NWM3	2ND PT HEATER LEVEL	3	7.44	P	IN	6.00		LA	
06/29/2023 08:36:53	HIGH2		3BN_U31-1-ROTORPOS.U3@NWM3	ROTOR POSITION 1	1	18.671		MIL	15.000		LA	
06/29/2023 08:36:53	HIGH2		3BN_U31-1-ROTORPOS.U3@NWM3	ROTOR POSITION 1	1	19.526		MIL	15.000		LA	
06/29/2023 08:36:53	HIGH2		3BN_U31-1X-HP.U3@NWM3	BEARING 1X VIBRATION	1	11.248		MIL	10.000		LA	
06/29/2023 08:36:53	HIGH2		3BN_U31-1Y-HP.U3@NWM3	BEARING 1Y VIBRATION	1	12.328		MIL	10.000		LA	
06/29/2023 08:36:53	HIGH2		3BN_U31-2X-IPLP.U3@NWM3	BEARING 2X VIBRATION	1	15.000		MIL	10.000		LA	
06/29/2023 08:36:53	HIGH2		3BN_U31-2X-IPLP.U3@NWM3	BEARING 2X VIBRATION	1	15.000		MIL	10.000		LA	
06/29/2023 08:36:53	HIGH2		3BN_U31-2Y-IPLP.U3@NWM3	BEARING 2Y VIBRATION	1	14.788		MIL	10.000		LA	
06/29/2023 08:36:53	HIGH2		3BN_U31-2Y-IPLP.U3@NWM3	BEARING 2Y VIBRATION	1	15.000		MIL	10.000		LA	
06/29/2023 08:36:53	HIGH2		3BN_U31-4X-GENIB.U3@NWM3	BEARING 4X VIBRATION	1	13.623		MIL	10.000		LA	
06/29/2023 08:36:53	HIGH2		3PT2016-SEL.U3@NWM3	MAIN GAS HEADER PRESSURE SEL	1	20.847		PSIG	15.000		LA	
06/29/2023 08:36:53	HIGH2		3ET1778.U3@NWM3	INCOMING VOLTAGE	2	120.14		VAC	100.00		LA	
06/29/2023 08:36:53	HIGH2		3ET1778.U3@NWM3	INCOMING VOLTAGE	2	120.55		VAC	100.00		LA	
06/29/2023 08:36:53	HIGH2		3ETDCNEG.U3@NWM3	DC GROUND DETECTOR	1	-2.29		VDC	-85.00		LA	
06/29/2023 08:36:53	HIGH2		3LT1001.U3@NWM3	1ST PT HEATER LEVEL	1	7.03		IN	7.00		LA	
06/29/2023 08:36:53	HIGH2		3LT1005.U3@NWM3	5TH PT HEATER LEVEL	2	4.98		IN	5.00		LA	
06/29/2023 08:36:53	HIGH2		3LT1005.U3@NWM3	5TH PT HEATER LEVEL	2	5.03		IN	5.00		LA	
06/29/2023 08:36:53	HIGH2		3LT1018A.U3@NWM3	LUBE OIL TANK LEVEL	1	18.21		IN	18.00		LA	
06/29/2023 08:36:53	HIGH2		3LT1201.U3@NWM3	#3 DISTILLED WATER TANK LEVEL	3	14.00		FT	14.00		LA	
06/29/2023 08:36:53	HIGH2		3LT1201.U3@NWM3	#3 DISTILLED WATER TANK LEVEL	3	14.00		FT	14.00		LA	
06/29/2023 08:36:53	HIGH2		3LT1201.U3@NWM3	#3 DISTILLED WATER TANK LEVEL	3	14.00		FT	14.00		LA	
06/29/2023 08:36:53	HIGH2		3TE1027.U3@NWM3	EXH HOOD SPRAY TEMP	2	190.19		DEGF	190.00		LA	
06/29/2023 08:36:53	HIGH2		3TE1027.U3@NWM3	EXH HOOD SPRAY TEMP	2	219.92		DEGF	190.00		LA	
06/29/2023 08:36:53	HIGH2		3BN_U31-1-ROTORPOS.U3@NWM3	ROTOR POSITION 1	1	15.018		MIL	15.000		LA	
06/29/2023 08:36:53	HIGH2		3BN_U31-1-ROTORPOS.U3@NWM3	ROTOR POSITION 1	1	15.049		MIL	15.000		LA	
06/29/2023 08:36:53	HIGH2		3BN_U31-1-ROTORPOS.U3@NWM3	ROTOR POSITION 1	1	15.053		MIL	15.000		LA	
06/29/2023 08:36:53	HIGH2		3BN_U31-1-ROTORPOS.U3@NWM3	ROTOR POSITION 1	1	15.068		MIL	15.000		LA	
06/29/2023 08:36:53	HIGH2		3BN_U31-1-ROTORPOS.U3@NWM3	ROTOR POSITION 1	1	15.121		MIL	15.000		LA	
06/29/2023 08:36:53	HIGH2		3BN_U31-1-ROTORPOS.U3@NWM3	ROTOR POSITION 1	1	15.133		MIL	15.000		LA	
06/29/2023 08:36:53	HIGH2		3BN_U31-1-ROTORPOS.U3@NWM3	ROTOR POSITION 1	1	15.411		MIL	15.000		LA	
06/29/2023 08:36:53	HIGH2		3BN_U31-1-ROTORPOS.U3@NWM3	ROTOR POSITION 1	1	15.509		MIL	15.000		LA	
06/29/2023 08:36:53	HIGH2		3BN_U31-1-ROTORPOS.U3@NWM3	ROTOR POSITION 1	1	15.579		MIL	15.000		LA	
06/29/2023 08:36:53	HIGH2		3BN_U31-1-ROTORPOS.U3@NWM3	ROTOR POSITION 1	1	15.654		MIL	15.000		LA	
06/29/2023 08:36:53	HIGH2		3BN_U31-1-ROTORPOS.U3@NWM3	ROTOR POSITION 1	1	15.677		MIL	15.000		LA	
06/29/2023 08:36:53	HIGH2		3BN_U31-1-ROTORPOS.U3@NWM3	ROTOR POSITION 1	1	15.915		MIL	15.000		LA	
06/29/2023 08:36:53	HIGH2		3BN_U31-1-ROTORPOS.U3@NWM3	ROTOR POSITION 1	1	15.940		MIL	15.000		LA	
06/29/2023 08:36:53	HIGH2		3BN_U31-1-ROTORPOS.U3@NWM3	ROTOR POSITION 1	1	15.957		MIL	15.000		LA	
06/29/2023 08:36:53	HIGH2		3BN_U31-1-ROTORPOS.U3@NWM3	ROTOR POSITION 1	1	17.443		MIL	15.000		LA	
06/29/2023 08:36:53	HIGH2		3BN_U31-1-ROTORPOS.U3@NWM3	ROTOR POSITION 1	1	18.680		MIL	15.000		LA	
06/29/2023 08:36:53	HIGH2		3BN_U31-2-ROTORPOS.U3@NWM3	ROTOR POSITION 2	1	15.043		MIL	15.000		LA	
06/29/2023 08:36:53	HIGH2		3BN_U31-2-ROTORPOS.U3@NWM3	ROTOR POSITION 2	1	18.603		MIL	15.000		LA	
06/29/2023 08:36:53	HIGH2		3PT1307-SEL.U3@NWM3	SELECTED CONDENSER VACUUM PRESS	1	5.047		INHG	5.000		LA	
06/29/2023 08:36:53	HIGH3		3LT1005.U3@NWM3	5TH PT HEATER LEVEL	1	6.07		IN	6.00		LA	
06/29/2023 08:36:53	HIGH3		3TE1027.U3@NWM3	EXH HOOD SPRAY TEMP	1	225.10		DEGF	225.00		LA	
06/29/2023 08:36:53	LOW1		3AT1102.U3@NWM3	CONDENSATE WATER PH	2	6.87		PH	8.60		LA	
06/29/2023 08:36:53	LOW1		3AT1201.U3@NWM3	BOILER DRUM STEAM CONDUCTIVITY	2	0.93		UMHOS	1.00		LA	
06/29/2023 08:36:53	LOW1		3AT1201.U3@NWM3	BOILER DRUM STEAM CONDUCTIVITY	2	0.94		UMHOS	1.00		LA	

Date/Time	Alarm Type	Code	Point Name	Point Description	AP	Value	Q	Units(A)	Limits	Incr	Poin	PM
06/29/2023 08:36:53	LOW1		3AT1201.U3@NWM3	BOILER DRUM STEAM CONDUCTIVITY	2	1.00		UMHOS	1.00		LA	
06/29/2023 08:36:53	LOW1		3AT1201.U3@NWM3	BOILER DRUM STEAM CONDUCTIVITY	2	1.00		UMHOS	1.00		LA	
06/29/2023 08:36:53	LOW1		3AT1201.U3@NWM3	BOILER DRUM STEAM CONDUCTIVITY	2	1.00		UMHOS	1.00		LA	
06/29/2023 08:36:53	LOW1		3AT1201.U3@NWM3	BOILER DRUM STEAM CONDUCTIVITY	2	1.00		UMHOS	1.00		LA	
06/29/2023 08:36:53	LOW1		3AT1201.U3@NWM3	BOILER DRUM STEAM CONDUCTIVITY	2	1.00		UMHOS	1.00		LA	
06/29/2023 08:36:53	LOW1		3AT1201.U3@NWM3	BOILER DRUM STEAM CONDUCTIVITY	2	1.00		UMHOS	1.00		LA	
06/29/2023 08:36:53	LOW1		3AT1203.U3@NWM3	BOILER DRUM WATER CONDUCTIVITY	2	0.95		UMHOS	5.00		LA	
06/29/2023 08:36:53	LOW1		3AT1203.U3@NWM3	BOILER DRUM WATER CONDUCTIVITY	2	4.99		UMHOS	5.00		LA	
06/29/2023 08:36:53	LOW1		3AT1203.U3@NWM3	BOILER DRUM WATER CONDUCTIVITY	2	4.99		UMHOS	5.00		LA	
06/29/2023 08:36:53	LOW1		3AT1203.U3@NWM3	BOILER DRUM WATER CONDUCTIVITY	2	4.99		UMHOS	5.00		LA	
06/29/2023 08:36:53	LOW1		3AT1203.U3@NWM3	BOILER DRUM WATER CONDUCTIVITY	2	-1.20		UMHOS	5.00		LA	
06/29/2023 08:36:53	LOW1		3AT1204.U3@NWM3	COND CONDUCTIVITY	2	0.99		UMHOS	1.00		LA	
06/29/2023 08:36:53	LOW1		3AT1204.U3@NWM3	COND CONDUCTIVITY	2	0.99		UMHOS	1.00		LA	
06/29/2023 08:36:53	LOW1		3AT1204.U3@NWM3	COND CONDUCTIVITY	2	0.99		UMHOS	1.00		LA	
06/29/2023 08:36:53	LOW1		3AT1204.U3@NWM3	COND CONDUCTIVITY	2	1.00		UMHOS	1.00		LA	
06/29/2023 08:36:53	LOW1		3ET1793A.U3@NWM3	#3 MEGAVARS	2	-29.99		MVAR	-20.00		LA	
06/29/2023 08:36:53	LOW1		3ETDC-SUM.U3@NWM3	DC GROUND DETECTOR SUM	2	95.41		VDC	100.00		LA	
06/29/2023 08:36:53	LOW1		3ETDC-SUM.U3@NWM3	DC GROUND DETECTOR SUM	2	99.99		VDC	100.00		LA	
06/29/2023 08:36:53	LOW1		3ETDC-SUM.U3@NWM3	DC GROUND DETECTOR SUM	2	99.99		VDC	100.00		LA	
06/29/2023 08:36:53	LOW1		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	2	55.71		VDC	60.00		LA	
06/29/2023 08:36:53	LOW1		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	2	57.55		VDC	60.00		LA	
06/29/2023 08:36:53	LOW1		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	2	57.92		VDC	60.00		LA	
06/29/2023 08:36:53	LOW1		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	2	58.57		VDC	60.00		LA	
06/29/2023 08:36:53	LOW1		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	2	58.94		VDC	60.00		LA	
06/29/2023 08:36:53	LOW1		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	2	59.23		VDC	60.00		LA	
06/29/2023 08:36:53	LOW1		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	2	59.63		VDC	60.00		LA	
06/29/2023 08:36:53	LOW1		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	2	59.91		VDC	60.00		LA	
06/29/2023 08:36:53	LOW1		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	2	59.97		VDC	60.00		LA	
06/29/2023 08:36:53	LOW1		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	2	59.98		VDC	60.00		LA	
06/29/2023 08:36:53	LOW1		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	2	59.98		VDC	60.00		LA	
06/29/2023 08:36:53	LOW1		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	2	59.98		VDC	60.00		LA	
06/29/2023 08:36:53	LOW1		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	2	59.98		VDC	60.00		LA	
06/29/2023 08:36:53	LOW1		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	2	59.98		VDC	60.00		LA	
06/29/2023 08:36:53	LOW1		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	2	59.98		VDC	60.00		LA	
06/29/2023 08:36:53	LOW1		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	2	59.98		VDC	60.00		LA	
06/29/2023 08:36:53	LOW1		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	2	59.98		VDC	60.00		LA	
06/29/2023 08:36:53	LOW1		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	2	59.98		VDC	60.00		LA	
06/29/2023 08:36:53	LOW1		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	2	59.98		VDC	60.00		LA	
06/29/2023 08:36:53	LOW1		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	2	59.98		VDC	60.00		LA	
06/29/2023 08:36:53	LOW1		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	2	59.98		VDC	60.00		LA	
06/29/2023 08:36:53	LOW1		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	2	59.98		VDC	60.00		LA	
06/29/2023 08:36:53	LOW1		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	2	59.98		VDC	60.00		LA	
06/29/2023 08:36:53	LOW1		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	2	59.98		VDC	60.00		LA	
06/29/2023 08:36:53	LOW1		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	2	59.98		VDC	60.00		LA	
06/29/2023 08:36:53	LOW1		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	2	59.98		VDC	60.00		LA	
06/29/2023 08:36:53	LOW1		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	2	59.98		VDC	60.00		LA	
06/29/2023 08:36:53	LOW1		3FT1008.U3@NWM3	COND FLOW	2	70.94		KPPH	125.00		LA	
06/29/2023 08:36:53	LOW1		3FT1889-SEL.U3@NWM3	AIR FLOW SEL	1	0.0		%	27.0		LA	
06/29/2023 08:36:53	LOW1		3LT1002.U3@NWM3	2ND PT HEATER LEVEL	2	-5.08		IN	-5.00		LA	
06/29/2023 08:36:53	LOW1		3LT1002.U3@NWM3	2ND PT HEATER LEVEL	2	-5.57		IN	-5.00		LA	
06/29/2023 08:36:53	LOW1		3LT1002.U3@NWM3	2ND PT HEATER LEVEL	2	-5.66		IN	-5.00		LA	
06/29/2023 08:36:53	LOW1		3LT1002.U3@NWM3	2ND PT HEATER LEVEL	2	-5.72		IN	-5.00		LA	
06/29/2023 08:36:53	LOW1		3LT1005.U3@NWM3	5TH PT HEATER LEVEL	3	-4.00		IN	-4.00		LA	
06/29/2023 08:36:53	LOW1		3LT1005.U3@NWM3	5TH PT HEATER LEVEL	3	-4.04		IN	-4.00		LA	
06/29/2023 08:36:53	LOW1		3LT1005.U3@NWM3	5TH PT HEATER LEVEL	3	-4.25		IN	-4.00		LA	
06/29/2023 08:36:53	LOW1		3LT1201.U3@NWM3	#3 DISTILLED WATER TANK LEVEL	2	11.00		FT	11.00		LA	
06/29/2023 08:36:53	LOW1		3LT1201.U3@NWM3	#3 DISTILLED WATER TANK LEVEL	2	11.00		FT	11.00		LA	

Date/Time	Alarm Type	Code	Point Name	Point Description	AP	Value	Q	Units(A)	Limits	Incr	Poin	PM
06/29/2023 08:36:53	LOW1		3PH_BDW.U3@NWM3	BOILER DRUM PH	3	9.09		PH	9.10		LA	
06/29/2023 08:36:53	LOW1		3PH_BDW.U3@NWM3	BOILER DRUM PH	3	9.09		PH	9.10		LA	
06/29/2023 08:36:53	LOW1		3PT1014.U3@NWM3	DRUM STEAM PRESS TO AUX STEAM	2	119.98		PSIG	120.00		LA	
06/29/2023 08:36:53	LOW1		3PT1029.U3@NWM3	100 # INSTR AIR PRESS	3	84.94		PSIG	85.00		LA	
06/29/2023 08:36:53	LOW1		3PT1029.U3@NWM3	100 # INSTR AIR PRESS	3	84.96		PSIG	85.00		LA	
06/29/2023 08:36:53	LOW1		3PT1029.U3@NWM3	100 # INSTR AIR PRESS	3	84.97		PSIG	85.00		LA	
06/29/2023 08:36:53	LOW1		3PT1029.U3@NWM3	100 # INSTR AIR PRESS	3	84.99		PSIG	85.00		LA	
06/29/2023 08:36:53	LOW1		3PT1029.U3@NWM3	100 # INSTR AIR PRESS	3	84.99		PSIG	85.00		LA	
06/29/2023 08:36:53	LOW1		3PT1029.U3@NWM3	100 # INSTR AIR PRESS	3	85.00		PSIG	85.00		LA	
06/29/2023 08:36:53	LOW1		3PT1029.U3@NWM3	100 # INSTR AIR PRESS	3	85.00		PSIG	85.00		LA	
06/29/2023 08:36:53	LOW1		3TE1997A.U3@NWM3	FLUE GAS AIR PREHEATER INLET TEMP	1	299.89		DEGF	300.00		LA	
06/29/2023 08:36:53	LOW1		3PT1401.U3@NWM3	TURB BEARING OIL PRESS	1	14.18		PSIG	19.00		LA	
06/29/2023 08:36:53	LOW1		3PT1402.U3@NWM3	EH FLUID PRESS	1	195.74		PSIG	1000.00		LA	
06/29/2023 08:36:53	LOW1		3PT1679A.U3@NWM3	BEARING OIL PRESS A	1	8.81		PSIG	10.00		LA	
06/29/2023 08:36:53	LOW1		3PT1679B.U3@NWM3	BEARING OIL PRESS B	1	8.78		PSIG	10.00		LA	
06/29/2023 08:36:53	LOW1		3TE1028.U3@NWM3	HYDRAULIC FLUID RESERVOIR TEMP	2	104.42		DEGF	105.00		LA	
06/29/2023 08:36:53	LOW1		3TE1301A.U3@NWM3	TURB THROTTLE STEAM TEMP	1	949.85		DEGF	950.00		LA	
06/29/2023 08:36:53	LOW1		3PT2014-SEL.U3@NWM3	MAIN GAS SUPPLY PRESSURE SEL	1	19.678		PSIG	20.000		LA	
06/29/2023 08:36:53	LOW1		3AT1102.U3@NWM3	CONDENSATE WATER PH	2	0.22		PH	8.60		LA	
06/29/2023 08:36:53	LOW1		3AT1102.U3@NWM3	CONDENSATE WATER PH	2	-0.13		PH	8.60		LA	
06/29/2023 08:36:53	LOW1		3AT1203.U3@NWM3	BOILER DRUM WATER CONDUCTIVITY	2	-1.15		UMHOS	5.00		LA	
06/29/2023 08:36:53	LOW1		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	2	50.01		VDC	60.00		LA	
06/29/2023 08:36:53	LOW1		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	2	51.18		VDC	60.00		LA	
06/29/2023 08:36:53	LOW1		3LT1001.U3@NWM3	1ST PT HEATER LEVEL	2	-3.82		IN	-3.00		LA	
06/29/2023 08:36:53	LOW1		3LT1001.U3@NWM3	1ST PT HEATER LEVEL	2	-3.82		IN	-3.00		LA	
06/29/2023 08:36:53	LOW1		3LT1001.U3@NWM3	1ST PT HEATER LEVEL	2	-3.83		IN	-3.00		LA	
06/29/2023 08:36:53	LOW1		3LT1001.U3@NWM3	1ST PT HEATER LEVEL	2	-3.90		IN	-3.00		LA	
06/29/2023 08:36:53	LOW1		3LT1002.U3@NWM3	2ND PT HEATER LEVEL	2	-5.41		IN	-5.00		LA	
06/29/2023 08:36:53	LOW1		3LT1002.U3@NWM3	2ND PT HEATER LEVEL	2	-5.62		IN	-5.00		LA	
06/29/2023 08:36:53	LOW1		3LT1002.U3@NWM3	2ND PT HEATER LEVEL	2	-5.70		IN	-5.00		LA	
06/29/2023 08:36:53	LOW1		3LT1005.U3@NWM3	5TH PT HEATER LEVEL	3	-3.83		IN	-4.00		LA	
06/29/2023 08:36:53	LOW1		3LT1005.U3@NWM3	5TH PT HEATER LEVEL	3	-3.85		IN	-4.00		LA	
06/29/2023 08:36:53	LOW1		3LT1005.U3@NWM3	5TH PT HEATER LEVEL	3	-4.00		IN	-4.00		LA	
06/29/2023 08:36:53	LOW2		3LT1001.U3@NWM3	1ST PT HEATER LEVEL	1	-4.09		IN	-4.00		LA	
06/29/2023 08:36:53	LOW2		3LT1001.U3@NWM3	1ST PT HEATER LEVEL	1	-5.17		IN	-4.00		LA	
06/29/2023 08:36:53	LOW2		3LT1002.U3@NWM3	2ND PT HEATER LEVEL	1	-7.14		IN	-6.00		LA	
06/29/2023 08:36:53	LOW2		3LT1002.U3@NWM3	2ND PT HEATER LEVEL	1	-7.17		IN	-6.00		LA	
06/29/2023 08:36:53	LOW2		3LT1002.U3@NWM3	2ND PT HEATER LEVEL	1	-7.17		IN	-6.00		LA	
06/29/2023 08:36:53	LOW2		3LT1002.U3@NWM3	2ND PT HEATER LEVEL	1	-7.17		IN	-6.00		LA	
06/29/2023 08:36:53	LOW2		3LT1002.U3@NWM3	2ND PT HEATER LEVEL	1	-7.17		IN	-6.00		LA	
06/29/2023 08:36:53	LOW2		3BN_U31-LPDE.U3@NWM3	COMPOSITE DIFFERENTIAL EXPANSION	1	0.000		MIL	199.954		LA	
06/29/2023 08:36:53	LOW2		3PT1679C.U3@NWM3	BEARING OIL PRESS C	1	4.07		PSIG	10.00		LA	
06/29/2023 08:36:53	LOW2		3ET1793A.U3@NWM3	#3 MEGAVARS	1	-43.60		MVAR	-30.00		LA	
06/29/2023 08:36:53	LOW2		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	1	2.09		VDC	50.00		LA	
06/29/2023 08:36:53	LOW2		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	1	49.99		VDC	50.00		LA	
06/29/2023 08:36:53	LOW2		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	1	49.99		VDC	50.00		LA	
06/29/2023 08:36:53	LOW2		3LT1001.U3@NWM3	1ST PT HEATER LEVEL	1	-4.02		IN	-4.00		LA	
06/29/2023 08:36:53	LOW2		3LT1001.U3@NWM3	1ST PT HEATER LEVEL	1	-4.04		IN	-4.00		LA	
06/29/2023 08:36:53	LOW2		3LT1001.U3@NWM3	1ST PT HEATER LEVEL	1	-4.04		IN	-4.00		LA	
06/29/2023 08:36:53	LOW2		3LT1001.U3@NWM3	1ST PT HEATER LEVEL	1	-4.10		IN	-4.00		LA	
06/29/2023 08:36:53	LOW2		3LT1002.U3@NWM3	2ND PT HEATER LEVEL	1	-6.02		IN	-6.00		LA	
06/29/2023 08:36:53	LOW2		3LT1005.U3@NWM3	5TH PT HEATER LEVEL	2	-4.92		IN	-5.00		LA	
06/29/2023 08:36:53	LOW2		3LT1005.U3@NWM3	5TH PT HEATER LEVEL	2	-5.00		IN	-5.00		LA	
06/29/2023 08:36:53	LOW2		3LT1005.U3@NWM3	5TH PT HEATER LEVEL	2	-5.00		IN	-5.00		LA	

Date/Time	Alarm Type	Code	Point Name	Point Description	AP	Value	Q	Units(A)	Limits	Incr	Poin	PM
06/29/2023 08:36:53	RETURN		3AT1201.U3@NWM3	BOILER DRUM STEAM CONDUCTIVITY	2	1.02		UMHOS			LA	
06/29/2023 08:36:53	RETURN		3AT1201.U3@NWM3	BOILER DRUM STEAM CONDUCTIVITY	2	1.02		UMHOS			LA	
06/29/2023 08:36:53	RETURN		3AT1201.U3@NWM3	BOILER DRUM STEAM CONDUCTIVITY	2	1.02		UMHOS			LA	
06/29/2023 08:36:53	RETURN		3AT1201.U3@NWM3	BOILER DRUM STEAM CONDUCTIVITY	2	1.02		UMHOS			LA	
06/29/2023 08:36:53	RETURN		3AT1201.U3@NWM3	BOILER DRUM STEAM CONDUCTIVITY	2	1.02		UMHOS			LA	
06/29/2023 08:36:53	RETURN		3AT1201.U3@NWM3	BOILER DRUM STEAM CONDUCTIVITY	2	1.02		UMHOS			LA	
06/29/2023 08:36:53	RETURN		3AT1201.U3@NWM3	BOILER DRUM STEAM CONDUCTIVITY	2	1.02		UMHOS			LA	
06/29/2023 08:36:53	RETURN		3AT1201.U3@NWM3	BOILER DRUM STEAM CONDUCTIVITY	2	1.02		UMHOS			LA	
06/29/2023 08:36:53	RETURN		3AT1201.U3@NWM3	BOILER DRUM STEAM CONDUCTIVITY	2	1.02		UMHOS			LA	
06/29/2023 08:36:53	RETURN		3AT1201.U3@NWM3	BOILER DRUM STEAM CONDUCTIVITY	2	1.02		UMHOS			LA	
06/29/2023 08:36:53	RETURN		3AT1201.U3@NWM3	BOILER DRUM STEAM CONDUCTIVITY	2	1.02		UMHOS			LA	
06/29/2023 08:36:53	RETURN		3AT1201.U3@NWM3	BOILER DRUM STEAM CONDUCTIVITY	2	1.02		UMHOS			LA	
06/29/2023 08:36:53	RETURN		3AT1201.U3@NWM3	BOILER DRUM STEAM CONDUCTIVITY	2	1.02		UMHOS			LA	
06/29/2023 08:36:53	RETURN		3AT1201.U3@NWM3	BOILER DRUM STEAM CONDUCTIVITY	2	1.02		UMHOS			LA	
06/29/2023 08:36:53	RETURN		3AT1201.U3@NWM3	BOILER DRUM STEAM CONDUCTIVITY	2	1.02		UMHOS			LA	
06/29/2023 08:36:53	RETURN		3AT1201.U3@NWM3	BOILER DRUM STEAM CONDUCTIVITY	2	1.02		UMHOS			LA	
06/29/2023 08:36:53	RETURN		3AT1201.U3@NWM3	BOILER DRUM STEAM CONDUCTIVITY	2	1.02		UMHOS			LA	
06/29/2023 08:36:53	RETURN		3AT1201.U3@NWM3	BOILER DRUM STEAM CONDUCTIVITY	2	1.02		UMHOS			LA	
06/29/2023 08:36:53	RETURN		3AT1201.U3@NWM3	BOILER DRUM STEAM CONDUCTIVITY	2	1.02		UMHOS			LA	
06/29/2023 08:36:53	RETURN		3AT1201.U3@NWM3	BOILER DRUM STEAM CONDUCTIVITY	2	1.02		UMHOS			LA	
06/29/2023 08:36:53	RETURN		3AT1201.U3@NWM3	BOILER DRUM STEAM CONDUCTIVITY	2	1.02		UMHOS			LA	
06/29/2023 08:36:53	RETURN		3AT1201.U3@NWM3	BOILER DRUM STEAM CONDUCTIVITY	2	1.02		UMHOS			LA	
06/29/2023 08:36:53	RETURN		3AT1201.U3@NWM3	BOILER DRUM STEAM CONDUCTIVITY	2	1.03		UMHOS			LA	
06/29/2023 08:36:53	RETURN		3AT1201.U3@NWM3	BOILER DRUM STEAM CONDUCTIVITY	2	1.03		UMHOS			LA	
06/29/2023 08:36:53	RETURN		3AT1201.U3@NWM3	BOILER DRUM STEAM CONDUCTIVITY	2	1.03		UMHOS			LA	
06/29/2023 08:36:53	RETURN		3AT1201.U3@NWM3	BOILER DRUM STEAM CONDUCTIVITY	2	1.03		UMHOS			LA	
06/29/2023 08:36:53	RETURN		3AT1201.U3@NWM3	BOILER DRUM STEAM CONDUCTIVITY	2	1.03		UMHOS			LA	
06/29/2023 08:36:53	RETURN		3AT1201.U3@NWM3	BOILER DRUM STEAM CONDUCTIVITY	2	1.03		UMHOS			LA	
06/29/2023 08:36:53	RETURN		3AT1201.U3@NWM3	BOILER DRUM STEAM CONDUCTIVITY	2	1.03		UMHOS			LA	
06/29/2023 08:36:53	RETURN		3AT1201.U3@NWM3	BOILER DRUM STEAM CONDUCTIVITY	2	1.04		UMHOS			LA	
06/29/2023 08:36:53	RETURN		3AT1201.U3@NWM3	BOILER DRUM STEAM CONDUCTIVITY	2	1.04		UMHOS			LA	
06/29/2023 08:36:53	RETURN		3AT1201.U3@NWM3	BOILER DRUM STEAM CONDUCTIVITY	2	1.05		UMHOS			LA	
06/29/2023 08:36:53	RETURN		3AT1201.U3@NWM3	BOILER DRUM STEAM CONDUCTIVITY	2	1.07		UMHOS			LA	
06/29/2023 08:36:53	RETURN		3AT1201.U3@NWM3	BOILER DRUM STEAM CONDUCTIVITY	2	1.13		UMHOS			LA	
06/29/2023 08:36:53	RETURN		3AT1203.U3@NWM3	BOILER DRUM WATER CONDUCTIVITY	3	5.02		UMHOS			LA	
06/29/2023 08:36:53	RETURN		3AT1203.U3@NWM3	BOILER DRUM WATER CONDUCTIVITY	3	5.10		UMHOS			LA	
06/29/2023 08:36:53	RETURN		3AT1203.U3@NWM3	BOILER DRUM WATER CONDUCTIVITY	3	5.10		UMHOS			LA	
06/29/2023 08:36:53	RETURN		3AT1203.U3@NWM3	BOILER DRUM WATER CONDUCTIVITY	3	13.05		UMHOS			LA	
06/29/2023 08:36:53	RETURN		3AT1203.U3@NWM3	BOILER DRUM WATER CONDUCTIVITY	3	31.52		UMHOS			LA	
06/29/2023 08:36:53	RETURN		3AT1204.U3@NWM3	COND CONDUCTIVITY	2	1.01		UMHOS			LA	
06/29/2023 08:36:53	RETURN		3AT1204.U3@NWM3	COND CONDUCTIVITY	2	1.01		UMHOS			LA	
06/29/2023 08:36:53	RETURN		3AT1204.U3@NWM3	COND CONDUCTIVITY	2	1.01		UMHOS			LA	
06/29/2023 08:36:53	RETURN		3AT1204.U3@NWM3	COND CONDUCTIVITY	2	1.01		UMHOS			LA	
06/29/2023 08:36:53	RETURN		3AT1869A.U3@NWM3	BOILER COMBUSTIBLES A	1	997.650		ppm			LA	
06/29/2023 08:36:53	RETURN		3AT1869C.U3@NWM3	BOILER COMBUSTIBLES C	1	998.566		ppm			LA	
06/29/2023 08:36:53	RETURN		3AT1877-MRE.U3@NWM3	BOILER O2 MAN REJECT	2	false					LD	
06/29/2023 08:36:53	RETURN		3AT1877-XALM.U3@NWM3	BOILER O2 DEVIATION	3	false					LD	
06/29/2023 08:36:53	RETURN		3AT1877-XALM.U3@NWM3	BOILER O2 DEVIATION	3	false					LD	
06/29/2023 08:36:53	RETURN		3AT1877A.U3@NWM3	BOILER OXYGEN A	1	12.47		%			LA	
06/29/2023 08:36:53	RETURN		3BMB27-BO01.U3@NWM3	BFP RUNBACK	1	false					LD	
06/29/2023 08:36:53	RETURN		3BMB27-BO02.U3@NWM3	CONDENSATE PUMP RUNBACK	1	false					LD	
06/29/2023 08:36:53	RETURN		3ET1778.U3@NWM3	INCOMING VOLTAGE	2	9.70		VAC			LA	
06/29/2023 08:36:53	RETURN		3ET1778.U3@NWM3	INCOMING VOLTAGE	2	9.71		VAC			LA	

Date/Time	Alarm Type	Code	Point Name	Point Description	AP	Value	Q	Units(A)	Limits	Incr	Poin	PM
06/29/2023 08:36:53	RETURN		3ET1778.U3@NWM3	INCOMING VOLTAGE	2	9.78		VAC			LA	
06/29/2023 08:36:53	RETURN		3ET1778.U3@NWM3	INCOMING VOLTAGE	2	28.40		VAC			LA	
06/29/2023 08:36:53	RETURN		3ET1778.U3@NWM3	INCOMING VOLTAGE	2	28.61		VAC			LA	
06/29/2023 08:36:53	RETURN	XA	3ET1793A.U3@NWM3	#3 MEGAVARS	2	-69.47		MVAR			LA	
06/29/2023 08:36:53	RETURN		3ETDC-SUM.U3@NWM3	DC GROUND DETECTOR SUM	2	106.18		VDC			LA	
06/29/2023 08:36:53	RETURN		3ETDC-SUM.U3@NWM3	DC GROUND DETECTOR SUM	2	106.97		VDC			LA	
06/29/2023 08:36:53	RETURN	XA	3ETDC-SUM.U3@NWM3	DC GROUND DETECTOR SUM	2	99.98		VDC			LA	
06/29/2023 08:36:53	RETURN		3ETDCNEG.U3@NWM3	DC GROUND DETECTOR	2	-100.26		VDC			LA	
06/29/2023 08:36:53	RETURN		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	2	60.00		VDC			LA	
06/29/2023 08:36:53	RETURN		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	2	60.00		VDC			LA	
06/29/2023 08:36:53	RETURN		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	2	60.00		VDC			LA	
06/29/2023 08:36:53	RETURN		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	2	60.00		VDC			LA	
06/29/2023 08:36:53	RETURN		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	2	60.00		VDC			LA	
06/29/2023 08:36:53	RETURN		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	2	60.00		VDC			LA	
06/29/2023 08:36:53	RETURN		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	2	60.02		VDC			LA	
06/29/2023 08:36:53	RETURN		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	2	60.03		VDC			LA	
06/29/2023 08:36:53	RETURN		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	2	60.04		VDC			LA	
06/29/2023 08:36:53	RETURN		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	2	60.04		VDC			LA	
06/29/2023 08:36:53	RETURN		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	2	60.04		VDC			LA	
06/29/2023 08:36:53	RETURN		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	2	60.07		VDC			LA	
06/29/2023 08:36:53	RETURN		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	2	60.07		VDC			LA	
06/29/2023 08:36:53	RETURN		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	2	60.07		VDC			LA	
06/29/2023 08:36:53	RETURN		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	2	60.07		VDC			LA	
06/29/2023 08:36:53	RETURN		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	2	60.08		VDC			LA	
06/29/2023 08:36:53	RETURN		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	2	60.08		VDC			LA	
06/29/2023 08:36:53	RETURN		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	2	60.11		VDC			LA	
06/29/2023 08:36:53	RETURN		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	2	60.21		VDC			LA	
06/29/2023 08:36:53	RETURN		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	2	60.38		VDC			LA	
06/29/2023 08:36:53	RETURN		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	2	61.56		VDC			LA	
06/29/2023 08:36:53	RETURN		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	2	62.62		VDC			LA	
06/29/2023 08:36:53	RETURN		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	2	62.74		VDC			LA	
06/29/2023 08:36:53	RETURN		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	2	66.15		VDC			LA	
06/29/2023 08:36:53	RETURN	XA	3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	2	59.52		VDC			LA	
06/29/2023 08:36:53	RETURN	XA	3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	2	59.90		VDC			LA	
06/29/2023 08:36:53	RETURN	XA	3FT1889-SEL.U3@NWM3	AIR FLOW SEL	3	0.0		%			LA	
06/29/2023 08:36:53	RETURN		3FT1889-XALM.U3@NWM3	AIR FLOW DEVIATION	3	false					LD	
06/29/2023 08:36:53	RETURN		3FT1889-XALM.U3@NWM3	AIR FLOW DEVIATION	3	false					LD	
06/29/2023 08:36:53	RETURN		3FT1889-XALM.U3@NWM3	AIR FLOW DEVIATION	3	false					LD	
06/29/2023 08:36:53	RETURN		3FT1889-XALM.U3@NWM3	AIR FLOW DEVIATION	3	false					LD	
06/29/2023 08:36:53	RETURN		3FT1889-XALM.U3@NWM3	AIR FLOW DEVIATION	3	false					LD	
06/29/2023 08:36:53	RETURN		3FT1889-XALM.U3@NWM3	AIR FLOW DEVIATION	3	false					LD	
06/29/2023 08:36:53	RETURN		3FT1889-XALM.U3@NWM3	AIR FLOW DEVIATION	3	false					LD	
06/29/2023 08:36:53	RETURN		3FT1889-XALM.U3@NWM3	AIR FLOW DEVIATION	3	false					LD	
06/29/2023 08:36:53	RETURN		3FT1889-XALM.U3@NWM3	AIR FLOW DEVIATION	3	false					LD	
06/29/2023 08:36:53	RETURN		3FT1889-XALM.U3@NWM3	AIR FLOW DEVIATION	3	false					LD	
06/29/2023 08:36:53	RETURN		3FT1889-XALM.U3@NWM3	AIR FLOW DEVIATION	3	false					LD	
06/29/2023 08:36:53	RETURN		3FT1889-XALM.U3@NWM3	AIR FLOW DEVIATION	3	false					LD	
06/29/2023 08:36:53	RETURN		3FT1889-XALM.U3@NWM3	AIR FLOW DEVIATION	3	false					LD	
06/29/2023 08:36:53	RETURN		3FT1889-XALM.U3@NWM3	AIR FLOW DEVIATION	3	false					LD	
06/29/2023 08:36:53	RETURN		3FT1889-XALM.U3@NWM3	AIR FLOW DEVIATION	3	false					LD	
06/29/2023 08:36:53	RETURN		3FT1889-XALM.U3@NWM3	AIR FLOW DEVIATION	3	false					LD	
06/29/2023 08:36:53	RETURN	XA	3FT1889-XALM.U3@NWM3	AIR FLOW DEVIATION	3	true					LD	
06/29/2023 08:36:53	RETURN	XA	3FT1889-XALM.U3@NWM3	AIR FLOW DEVIATION	3	true					LD	

Date/Time	Alarm Type	Code	Point Name	Point Description	AP	Value	Q	Units(A)	Limits	Incr	Poin	PM
06/29/2023 08:36:53	RETURN		3FY1008-DEV.U3@NWM3	COND RECIRC VLV FDBK DEV	3	NO					LD	
06/29/2023 08:36:53	RETURN		3FY1008-DEV.U3@NWM3	COND RECIRC VLV FDBK DEV	3	NO					LD	
06/29/2023 08:36:53	RETURN		3FY1008-DEV.U3@NWM3	COND RECIRC VLV FDBK DEV	3	NO					LD	
06/29/2023 08:36:53	RETURN		3FY1008-DEV.U3@NWM3	COND RECIRC VLV FDBK DEV	3	NO					LD	
06/29/2023 08:36:53	RETURN		3FY1008-DEV.U3@NWM3	COND RECIRC VLV FDBK DEV	3	NO					LD	
06/29/2023 08:36:53	RETURN		3FY1008-DEV.U3@NWM3	COND RECIRC VLV FDBK DEV	3	NO					LD	
06/29/2023 08:36:53	RETURN		3FY1008-DEV.U3@NWM3	COND RECIRC VLV FDBK DEV	3	NO					LD	
06/29/2023 08:36:53	RETURN		3FY1008-DEV.U3@NWM3	COND RECIRC VLV FDBK DEV	3	NO					LD	
06/29/2023 08:36:53	RETURN		3FY1008-DEV.U3@NWM3	COND RECIRC VLV FDBK DEV	3	NO					LD	
06/29/2023 08:36:53	RETURN		3FY1008-DEV.U3@NWM3	COND RECIRC VLV FDBK DEV	3	NO					LD	
06/29/2023 08:36:53	RETURN		3FY1008-DEV.U3@NWM3	COND RECIRC VLV FDBK DEV	3	NO					LD	
06/29/2023 08:36:53	RETURN		3FY1008-DEV.U3@NWM3	COND RECIRC VLV FDBK DEV	3	NO					LD	
06/29/2023 08:36:53	RETURN		3FY1008-DEV.U3@NWM3	COND RECIRC VLV FDBK DEV	3	NO					LD	
06/29/2023 08:36:53	RETURN		3FY1008-DEV.U3@NWM3	COND RECIRC VLV FDBK DEV	3	NO					LD	
06/29/2023 08:36:53	RETURN		3FY1008-DEV.U3@NWM3	COND RECIRC VLV FDBK DEV	3	NO					LD	
06/29/2023 08:36:53	RETURN		3FY1008-DEV.U3@NWM3	COND RECIRC VLV FDBK DEV	3	NO					LD	
06/29/2023 08:36:53	RETURN		3FY1008-DEV.U3@NWM3	COND RECIRC VLV FDBK DEV	3	NO					LD	
06/29/2023 08:36:53	RETURN		3FY1017-DEV.U3@NWM3	FUEL GAS VALVE DMD DEVIATION	3	false					LD	
06/29/2023 08:36:53	RETURN		3HS1028A-CGY.U3@NWM3	COND PUMP A CONGRUENCY	1	false					LD	
06/29/2023 08:36:53	RETURN		3HS1028B-CGY.U3@NWM3	COND PUMP B CONGRUENCY	1	false					LD	
06/29/2023 08:36:53	RETURN		3HS1232-FTC.U3@NWM3	RESERVE SS ACB FAIL TO CLOSE	2	false					LD	
06/29/2023 08:36:53	RETURN		3HS1232-FTC.U3@NWM3	RESERVE SS ACB FAIL TO CLOSE	2	false					LD	
06/29/2023 08:36:53	RETURN		3HS1232-FTC.U3@NWM3	RESERVE SS ACB FAIL TO CLOSE	2	false					LD	
06/29/2023 08:36:53	RETURN		3HS1233-TRP.U3@NWM3	NORMAL SS ACB TRIP	1	false					LD	
06/29/2023 08:36:53	RETURN		3HTRB11-HH.U3@NWM3	DEAERATOR LVL HIHI > 13 FT	1	false					LD	
06/29/2023 08:36:53	RETURN	XA	3LT1001.U3@NWM3	1ST PT HEATER LEVEL	2	7.13		IN			LA	
06/29/2023 08:36:53	RETURN	XA	3LT1001.U3@NWM3	1ST PT HEATER LEVEL	2	7.96		IN			LA	
06/29/2023 08:36:53	RETURN	XA	3LT1001.U3@NWM3	1ST PT HEATER LEVEL	2	8.00		IN			LA	
06/29/2023 08:36:53	RETURN	XA	3LT1001.U3@NWM3	1ST PT HEATER LEVEL	2	8.17		IN			LA	
06/29/2023 08:36:53	RETURN	XA	3LT1001.U3@NWM3	1ST PT HEATER LEVEL	2	8.25		IN			LA	
06/29/2023 08:36:53	RETURN	XA	3LT1001.U3@NWM3	1ST PT HEATER LEVEL	2	8.29		IN			LA	
06/29/2023 08:36:53	RETURN	XA	3LT1001.U3@NWM3	1ST PT HEATER LEVEL	2	-3.92		IN			LA	
06/29/2023 08:36:53	RETURN		3LT1002.U3@NWM3	2ND PT HEATER LEVEL	3	4.57		IN			LA	
06/29/2023 08:36:53	RETURN		3LT1002.U3@NWM3	2ND PT HEATER LEVEL	3	-4.03		IN			LA	
06/29/2023 08:36:53	RETURN		3LT1002.U3@NWM3	2ND PT HEATER LEVEL	3	-4.25		IN			LA	
06/29/2023 08:36:53	RETURN		3LT1002.U3@NWM3	2ND PT HEATER LEVEL	3	-4.37		IN			LA	
06/29/2023 08:36:53	RETURN		3LT1002.U3@NWM3	2ND PT HEATER LEVEL	3	-4.60		IN			LA	
06/29/2023 08:36:53	RETURN		3LT1002.U3@NWM3	2ND PT HEATER LEVEL	3	-4.64		IN			LA	
06/29/2023 08:36:53	RETURN		3LT1002.U3@NWM3	2ND PT HEATER LEVEL	3	-4.81		IN			LA	
06/29/2023 08:36:53	RETURN	XA	3LT1002.U3@NWM3	2ND PT HEATER LEVEL	3	7.44	P	IN			LA	
06/29/2023 08:36:53	RETURN	XA	3LT1002.U3@NWM3	2ND PT HEATER LEVEL	3	-7.17		IN			LA	
06/29/2023 08:36:53	RETURN	XA	3LT1002.U3@NWM3	2ND PT HEATER LEVEL	3	-7.17		IN			LA	
06/29/2023 08:36:53	RETURN		3LT1005-HTRB35-H.U3@NWM3	5TH PT HEATER LEVEL HI > +3 INWC	2	false					LD	
06/29/2023 08:36:53	RETURN		3LT1005.U3@NWM3	5TH PT HEATER LEVEL	3	2.98		IN			LA	
06/29/2023 08:36:53	RETURN		3LT1005.U3@NWM3	5TH PT HEATER LEVEL	3	-2.74		IN			LA	
06/29/2023 08:36:53	RETURN		3LT1005.U3@NWM3	5TH PT HEATER LEVEL	3	-2.88		IN			LA	
06/29/2023 08:36:53	RETURN		3LT1005.U3@NWM3	5TH PT HEATER LEVEL	3	-3.00		IN			LA	
06/29/2023 08:36:53	RETURN		3LT1018A-H2.U3@NWM3	LUBE OIL TANK LEVEL HI > 0.005 IN/MIN (PATE)	2	false					LD	
06/29/2023 08:36:53	RETURN		3LT1201.U3@NWM3	#3 DISTILLED WATER TANK LEVEL	3	11.50		FT			LA	
06/29/2023 08:36:53	RETURN		3LT1201.U3@NWM3	#3 DISTILLED WATER TANK LEVEL	3	11.50		FT			LA	
06/29/2023 08:36:53	RETURN		3LT1201.U3@NWM3	#3 DISTILLED WATER TANK LEVEL	3	13.00		FT			LA	
06/29/2023 08:36:53	RETURN		3LT1201.U3@NWM3	#3 DISTILLED WATER TANK LEVEL	3	13.00		FT			LA	
06/29/2023 08:36:53	RETURN		3LT1201.U3@NWM3	#3 DISTILLED WATER TANK LEVEL	3	13.00		FT			LA	
06/29/2023 08:36:53	RETURN		3PH_BDW.U3@NWM3	BOILER DRUM PH	3	9.24		PH			LA	
06/29/2023 08:36:53	RETURN		3PT1029.U3@NWM3	100 # INSTR AIR PRESS	3	85.01		PSIG			LA	
06/29/2023 08:36:53	RETURN		3PT1029.U3@NWM3	100 # INSTR AIR PRESS	3	85.04		PSIG			LA	

Date/Time	Alarm Type	Code	Point Name	Point Description	AP	Value	Q	Units(A)	Limits	Incr	Poin	PM
06/29/2023 08:36:53	RETURN		3PT1029.U3@NWM3	100 # INSTR AIR PRESS	3	85.07		PSIG			LA	
06/29/2023 08:36:53	RETURN		3PT1029.U3@NWM3	100 # INSTR AIR PRESS	3	85.07		PSIG			LA	
06/29/2023 08:36:53	RETURN		3PT1029.U3@NWM3	100 # INSTR AIR PRESS	3	85.10		PSIG			LA	
06/29/2023 08:36:53	RETURN		3PT1029.U3@NWM3	100 # INSTR AIR PRESS	3	85.10		PSIG			LA	
06/29/2023 08:36:53	RETURN		3PT1029.U3@NWM3	100 # INSTR AIR PRESS	3	85.11		PSIG			LA	
06/29/2023 08:36:53	RETURN		3PT1202-XALM.U3@NWM3	DRUM PRESSURE XMTRS DEVIATION	3	false					LD	
06/29/2023 08:36:53	RETURN		3PT1202-XALM.U3@NWM3	DRUM PRESSURE XMTRS DEVIATION	3	false					LD	
06/29/2023 08:36:53	RETURN		3PT1801.U3@NWM3	BNR GAS PRESS	2	14.31		PSIG			LA	
06/29/2023 08:36:53	RETURN		3PT1801.U3@NWM3	BNR GAS PRESS	2	14.33		PSIG			LA	
06/29/2023 08:36:53	RETURN	XA	3PT1801.U3@NWM3	BNR GAS PRESS	2	21.44		PSIG			LA	
06/29/2023 08:36:53	RETURN	XA	3PT1802-SEL.U3@NWM3	GAS 25 # SUPPLY PRESS SEL	1	52.24		PSIG			LA	
06/29/2023 08:36:53	RETURN		3PY1014-DEV.U3@NWM3	AUX STEAM FDBK DEVIATION	2						LD	
06/29/2023 08:36:53	RETURN		3TE1027.U3@NWM3	EXH HOOD SPRAY TEMP	3	150.00		DEGF			LA	
06/29/2023 08:36:53	RETURN		3TE1935.U3@NWM3	GENERATOR STATOR TEMP	1	-21.45		DEGC			LA	
06/29/2023 08:36:53	RETURN		3XL1159R.U3@NWM3	EMER BEARING & SEAL RNING	1	NRUNNING					LD	
06/29/2023 08:36:53	RETURN		3XL1159R.U3@NWM3	EMER BEARING & SEAL RNING	1	NRUNNING					LD	
06/29/2023 08:36:53	RETURN		3XL1159R.U3@NWM3	EMER BEARING & SEAL RNING	1	NRUNNING					LD	
06/29/2023 08:36:53	RETURN		3XL1159R.U3@NWM3	EMER BEARING & SEAL RNING	1	NRUNNING					LD	
06/29/2023 08:36:53	RETURN		3XL1233T.U3@NWM3	NORMAL SS ACB CTRL SW TRPD	1	TRIPPED					LD	
06/29/2023 08:36:53	RETURN		3XL1233T.U3@NWM3	NORMAL SS ACB CTRL SW TRPD	1	TRIPPED					LD	
06/29/2023 08:36:53	RETURN		3XL1250C.U3@NWM3	2400V-480V SUBSTATION CLOSED	1	NCLOSED					LD	
06/29/2023 08:36:53	RETURN		3XS0631-2.U3@NWM3	H2 PRESS. ALM	1	NORMAL					LD	
06/29/2023 08:36:53	RETURN		3XS0638.U3@NWM3	SEAL OIL PRESS ALM.	1	NORMAL					LD	
06/29/2023 08:36:53	RETURN		3XS0639.U3@NWM3	GEN MOISTURE DETECTOR	1	NORMAL					LD	
06/29/2023 08:36:53	RETURN		3XS0639.U3@NWM3	GEN MOISTURE DETECTOR	1	NORMAL					LD	
06/29/2023 08:36:53	RETURN		3XS0639.U3@NWM3	GEN MOISTURE DETECTOR	1	NORMAL					LD	
06/29/2023 08:36:53	RETURN		3XS0639.U3@NWM3	GEN MOISTURE DETECTOR	1	NORMAL					LD	
06/29/2023 08:36:53	RETURN		3XS0721.U3@NWM3	BRNG SEAL OIL PMP	1	NORMAL					LD	
06/29/2023 08:36:53	RETURN		3XS0721.U3@NWM3	BRNG SEAL OIL PMP	1	NORMAL					LD	
06/29/2023 08:36:53	RETURN		3XS0721.U3@NWM3	BRNG SEAL OIL PMP	1	NORMAL					LD	
06/29/2023 08:36:53	RETURN		3XS0721.U3@NWM3	BRNG SEAL OIL PMP	1	NORMAL					LD	
06/29/2023 08:36:53	RETURN		3XS1667ALM.U3@NWM3	BACKUP IAC ALARM	2	NORMAL					LD	
06/29/2023 08:36:53	RETURN		3XS1667ALM.U3@NWM3	BACKUP IAC ALARM	2	NORMAL					LD	
06/29/2023 08:36:53	RETURN		3XS1667ALM.U3@NWM3	BACKUP IAC ALARM	2	NORMAL					LD	
06/29/2023 08:36:53	RETURN		3XS1667ALM.U3@NWM3	BACKUP IAC ALARM	2	NORMAL					LD	
06/29/2023 08:36:53	RETURN		3XS1667ALM.U3@NWM3	BACKUP IAC ALARM	2	NORMAL					LD	
06/29/2023 08:36:53	RETURN		3XS1667ALM.U3@NWM3	BACKUP IAC ALARM	2	NORMAL					LD	
06/29/2023 08:36:53	RETURN		3XS1667ALM.U3@NWM3	BACKUP IAC ALARM	2	NORMAL					LD	
06/29/2023 08:36:53	RETURN		3XS1667ALM.U3@NWM3	BACKUP IAC ALARM	2	NORMAL					LD	
06/29/2023 08:36:53	RETURN		3XS1667ALM.U3@NWM3	BACKUP IAC ALARM	2	NORMAL					LD	
06/29/2023 08:36:53	RETURN		3XS1667ALM.U3@NWM3	BACKUP IAC ALARM	2	NORMAL					LD	
06/29/2023 08:36:53	RETURN		3XS1667ALM.U3@NWM3	BACKUP IAC ALARM	2	NORMAL					LD	
06/29/2023 08:36:53	RETURN		3XS1877A-D.U3@NWM3	BOILER OXYGEN A DATA VALID	1	VALID					LD	
06/29/2023 08:36:53	RETURN		3XS1877A-T.U3@NWM3	BOILER OXYGEN A TROUBLE	1	TRBLE					LD	
06/29/2023 08:36:53	RETURN		3XS1877C-D.U3@NWM3	BOILER OXYGEN C DATA VALID	1	VALID					LD	
06/29/2023 08:36:53	RETURN		3XS1877C-T.U3@NWM3	BOILER OXYGEN C TROUBLE	1	TRBLE					LD	
06/29/2023 08:36:53	RETURN		3XS6313.U3@NWM3	SEAL OIL DRAIN ALM.	1	ALARM					LD	
06/29/2023 08:36:53	RETURN		3ZT1002A.U3@NWM3	2ND PT HEATER NORMAL DRIPS FDBK	1	84.313		%			LA	
06/29/2023 08:36:53	RETURN		3ZT1002A.U3@NWM3	2ND PT HEATER NORMAL DRIPS FDBK	1	90.688		%			LA	
06/29/2023 08:36:53	RETURN		3ZT1002A.U3@NWM3	2ND PT HEATER NORMAL DRIPS FDBK	1	93.750		%			LA	
06/29/2023 08:36:53	RETURN		3ZT1002A.U3@NWM3	2ND PT HEATER NORMAL DRIPS FDBK	1	96.375		%			LA	
06/29/2023 08:36:53	RETURN		3ZT1002A.U3@NWM3	2ND PT HEATER NORMAL DRIPS FDBK	1	97.313		%			LA	
06/29/2023 08:36:53	RETURN	XA	3ZT1002A.U3@NWM3	2ND PT HEATER NORMAL DRIPS FDBK	1	105.000	B	%			LA	
06/29/2023 08:36:53	RETURN	XA	3ZT1002A.U3@NWM3	2ND PT HEATER NORMAL DRIPS FDBK	1	105.000	B	%			LA	
06/29/2023 08:36:53	RETURN	XA	3ZT1002A.U3@NWM3	2ND PT HEATER NORMAL DRIPS FDBK	1	105.000	B	%			LA	

Date/Time	Alarm Type	Code	Point Name	Point Description	AP	Value	Q	Units(A)	Limits	Incr	Poin	PM
06/29/2023 08:36:53	RETURN	XA	3ZT1002A.U3@NWM3	2ND PT HEATER NORMAL DRIPS FDBK	1	105.000	B	%			LA	
06/29/2023 08:36:53	RETURN		3ZT1005.U3@NWM3	TURB LUBE OIL TEMP FDBK	1	98.945		%			LA	
06/29/2023 08:36:53	RETURN		3ZT1005.U3@NWM3	TURB LUBE OIL TEMP FDBK	1	100.000		%			LA	
06/29/2023 08:36:53	RETURN		3ZT1005.U3@NWM3	TURB LUBE OIL TEMP FDBK	1	100.000		%			LA	
06/29/2023 08:36:53	RETURN	XA	3ZT1005.U3@NWM3	TURB LUBE OIL TEMP FDBK	1	100.000	B	%			LA	
06/29/2023 08:36:53	RETURN	XA	3ZT1005.U3@NWM3	TURB LUBE OIL TEMP FDBK	1	100.000	B	%			LA	
06/29/2023 08:36:53	RETURN	XA	3ZT1005.U3@NWM3	TURB LUBE OIL TEMP FDBK	1	100.000	B	%			LA	
06/29/2023 08:36:53	RETURN	XA	3ZT1005.U3@NWM3	TURB LUBE OIL TEMP FDBK	1	100.000	B	%			LA	
06/29/2023 08:36:53	RETURN	XA	3ZT1005.U3@NWM3	TURB LUBE OIL TEMP FDBK	1	100.000	B	%			LA	
06/29/2023 08:36:53	RETURN	XA	3ZT1005.U3@NWM3	TURB LUBE OIL TEMP FDBK	1	100.000	B	%			LA	
06/29/2023 08:36:53	RETURN	XA	3ZT1005.U3@NWM3	TURB LUBE OIL TEMP FDBK	1	100.000	B	%			LA	
06/29/2023 08:36:53	RETURN		3ZT1006-DEV.U3@NWM3	GENERATOR HYDROGEN FDBK DEV	3						LD	
06/29/2023 08:36:53	RETURN		D003P0.U3@NWM3	DROP 3 LOCAL	1	1111000010000101		000000 000000 000000			RN	
06/29/2023 08:36:53	RETURN		D003P1B2L4.U3@NWM3		1	00000000000000001		000000 000000 000000			RM	
06/29/2023 08:36:53	RETURN		D003P1B3L3.U3@NWM3		1	00100000000000001		000000 000000 000000			RM	
06/29/2023 08:36:53	RETURN		D003P1B5L4-CMP.U3@NWM3	DROP 3 CABINET LOCATION BS L4 CIC	1	94.10		DEGF			LA	
06/29/2023 08:36:53	RETURN		D003P1B5L4-CMP.U3@NWM3	DROP 3 CABINET LOCATION BS L4 CIC	1	94.10		DEGF			LA	
06/29/2023 08:36:53	RETURN		D003P1B5L4-CMP.U3@NWM3	DROP 3 CABINET LOCATION BS L4 CIC	1	94.10		DEGF			LA	
06/29/2023 08:36:53	RETURN		D003P1B5L4-CMP.U3@NWM3	DROP 3 CABINET LOCATION BS L4 CIC	1	94.10		DEGF			LA	
06/29/2023 08:36:53	RETURN		D003P1B5L4-CMP.U3@NWM3	DROP 3 CABINET LOCATION BS L4 CIC	1	94.10		DEGF			LA	
06/29/2023 08:36:53	RETURN		D003P1B5L4-CMP.U3@NWM3	DROP 3 CABINET LOCATION BS L4 CIC	1	94.10		DEGF			LA	
06/29/2023 08:36:53	RETURN		D003P1B5L4-CMP.U3@NWM3	DROP 3 CABINET LOCATION BS L4 CIC	1	94.10		DEGF			LA	
06/29/2023 08:36:53	RETURN		D003P1B5L4-CMP.U3@NWM3	DROP 3 CABINET LOCATION BS L4 CIC	1	94.10		DEGF			LA	
06/29/2023 08:36:53	RETURN		D003P1B5L7.U3@NWM3		1	00100000000000001		000000 000000 000000			RM	
06/29/2023 08:36:53	RETURN		D003P1B7L8.U3@NWM3		1	0100000001100001		000000 000000 000000			RM	
06/29/2023 08:36:53	RETURN		D003P1B7L8.U3@NWM3		1	0100000001100001		000000 000000 000000			RM	
06/29/2023 08:36:53	RETURN		D003P1B7L8.U3@NWM3		1	0100000001100001		000000 000000 000000			RM	
06/29/2023 08:36:53	RETURN		D003P1B7L8.U3@NWM3		1	0100000001100001		000000 000000 000000			RM	
06/29/2023 08:36:53	RETURN		D03-ELC-178-R1.U3@NWM3		1	00000000000000000		000000 000000 000000			RN	
06/29/2023 08:36:53	RETURN		D03-ELC-178-R1.U3@NWM3		1	00000000000001100		000000 000000 000000			RN	
06/29/2023 08:36:53	RETURN		3BN_BRG3TEMP-ALM1.U3@NWM3	BEARING 3 TEMPERATURE ALARM 1	2	OK					LD	
06/29/2023 08:36:53	RETURN		3BN_BRG4TEMP-ALM1.U3@NWM3	BEARING 4 TEMPERATURE ALARM 1	2	OK					LD	
06/29/2023 08:36:53	RETURN		3BN_BRG4TEMP-ALM2.U3@NWM3	BEARING 4 TEMPERATURE ALARM 2	1	OK					LD	
06/29/2023 08:36:53	RETURN		3BN_BRG5TEMP-ALM2.U3@NWM3	BEARING 5 TEMPERATURE ALARM 2	1	OK					LD	
06/29/2023 08:36:53	RETURN		3BN_INTERLOCK_ACTIVE.U3@NWM3	BN 3500 RACK INTERLOCK ACTIVE	2	OK					LD	
06/29/2023 08:36:53	RETURN		3BN_U31-1-ROTORPOS.U3@NWM3	ROTOR POSITION 1	2	0.655		MIL			LA	
06/29/2023 08:36:53	RETURN		3BN_U31-1-ROTORPOS.U3@NWM3	ROTOR POSITION 1	2	2.991		MIL			LA	
06/29/2023 08:36:53	RETURN		3BN_U31-1-ROTORPOS.U3@NWM3	ROTOR POSITION 1	2	6.249		MIL			LA	
06/29/2023 08:36:53	RETURN		3BN_U31-1-ROTORPOS.U3@NWM3	ROTOR POSITION 1	2	7.126		MIL			LA	
06/29/2023 08:36:53	RETURN		3BN_U31-1-ROTORPOS.U3@NWM3	ROTOR POSITION 1	2	7.254		MIL			LA	
06/29/2023 08:36:53	RETURN		3BN_U31-1-ROTORPOS.U3@NWM3	ROTOR POSITION 1	2	7.496		MIL			LA	
06/29/2023 08:36:53	RETURN		3BN_U31-1X-HP.U3@NWM3	BEARING 1X VIBRATION	2	0.000		MIL			LA	
06/29/2023 08:36:53	RETURN		3BN_U31-1Y-HP.U3@NWM3	BEARING 1Y VIBRATION	2	0.000		MIL			LA	
06/29/2023 08:36:53	RETURN		3BN_U31-2-ROTORPOS.U3@NWM3	ROTOR POSITION 2	2	2.251		MIL			LA	
06/29/2023 08:36:53	RETURN		3BN_U31-2-ROTORPOS.U3@NWM3	ROTOR POSITION 2	2	5.274		MIL			LA	
06/29/2023 08:36:53	RETURN		3BN_U31-2-ROTORPOS.U3@NWM3	ROTOR POSITION 2	2	5.551		MIL			LA	
06/29/2023 08:36:53	RETURN		3BN_U31-2-ROTORPOS.U3@NWM3	ROTOR POSITION 2	2	6.657		MIL			LA	
06/29/2023 08:36:53	RETURN		3BN_U31-2-ROTORPOS.U3@NWM3	ROTOR POSITION 2	2	7.317		MIL			LA	
06/29/2023 08:36:53	RETURN		3BN_U31-2-ROTORPOS.U3@NWM3	ROTOR POSITION 2	2	7.345		MIL			LA	
06/29/2023 08:36:53	RETURN		3BN_U31-2-ROTORPOS.U3@NWM3	ROTOR POSITION 2	2	7.395		MIL			LA	
06/29/2023 08:36:53	RETURN		3BN_U31-2-ROTORPOS.U3@NWM3	ROTOR POSITION 2	2	7.432		MIL			LA	
06/29/2023 08:36:53	RETURN		3BN_U31-2-ROTORPOS.U3@NWM3	ROTOR POSITION 2	2	7.470		MIL			LA	
06/29/2023 08:36:53	RETURN		3BN_U31-2-ROTORPOS.U3@NWM3	ROTOR POSITION 2	2	7.496		MIL			LA	
06/29/2023 08:36:53	RETURN		3BN_U31-2-ROTORPOS.U3@NWM3	ROTOR POSITION 2	2	-2.590		MIL			LA	
06/29/2023 08:36:53	RETURN		3BN_U31-2X-IPLP.U3@NWM3	BEARING 2X VIBRATION	2	0.000		MIL			LA	
06/29/2023 08:36:53	RETURN		3BN_U31-2X-IPLP.U3@NWM3	BEARING 2X VIBRATION	2	5.987		MIL			LA	
06/29/2023 08:36:53	RETURN		3BN_U31-2Y-IPLP.U3@NWM3	BEARING 2Y VIBRATION	2	0.000		MIL			LA	

Date/Time	Alarm Type	Code	Point Name	Point Description	AP	Value	Q	Units(A)	Limits	Incr	Poin	PM
06/29/2023 08:36:53	RETURN		3BN_U31-2Y-IPLP.U3@NWM3	BEARING 2Y VIBRATION	2	0.000		MIL			LA	
06/29/2023 08:36:53	RETURN		3BN_U31-3X-LP.U3@NWM3	BEARING 3X VIBRATION	2	5.732		MIL			LA	
06/29/2023 08:36:53	RETURN		3BN_U31-3X-LP.U3@NWM3	BEARING 3X VIBRATION	2	5.978		MIL			LA	
06/29/2023 08:36:53	RETURN		3BN_U31-4X-GENIB.U3@NWM3	BEARING 4X VIBRATION	2	0.000		MIL			LA	
06/29/2023 08:36:53	RETURN		3BN_U31-ECC-RP-ALM1.U3@NWM3	ROTOR ECCENTRICITY ALARM 1	2	OK					LD	
06/29/2023 08:36:53	RETURN		3BN_U31-ECC-RP-ALM1.U3@NWM3	ROTOR ECCENTRICITY ALARM 1	2	OK					LD	
06/29/2023 08:36:53	RETURN		3BN_U31-ECC-RP-ALM1.U3@NWM3	ROTOR ECCENTRICITY ALARM 1	2	OK					LD	
06/29/2023 08:36:53	RETURN		3BN_U31-ECC-RP-ALM1.U3@NWM3	ROTOR ECCENTRICITY ALARM 1	2	OK					LD	
06/29/2023 08:36:53	RETURN		3BN_U31-ECC-RP-ALM1.U3@NWM3	ROTOR ECCENTRICITY ALARM 1	2	OK					LD	
06/29/2023 08:36:53	RETURN		3BN_U31-ECC-RP-ALM1.U3@NWM3	ROTOR ECCENTRICITY ALARM 1	2	OK					LD	
06/29/2023 08:36:53	RETURN		3BN_U31-ECC-RP-ALM1.U3@NWM3	ROTOR ECCENTRICITY ALARM 1	2	OK					LD	
06/29/2023 08:36:53	RETURN	XA	3BN_U31-ECC-RP-ALM1.U3@NWM3	ROTOR ECCENTRICITY ALARM 1	2	ALARM					LD	
06/29/2023 08:36:53	RETURN	XA	3BN_U31-ECC-RP-ALM1.U3@NWM3	ROTOR ECCENTRICITY ALARM 1	2	ALARM					LD	
06/29/2023 08:36:53	RETURN		3HS1159-AUTST.U3@NWM3	EMER BRG SEAL OIL PMP AUTO STARTED	1	NO					LD	
06/29/2023 08:36:53	RETURN		3HS1159-AUTST.U3@NWM3	EMER BRG SEAL OIL PMP AUTO STARTED	1	NO					LD	
06/29/2023 08:36:53	RETURN		3HS1159-AUTST.U3@NWM3	EMER BRG SEAL OIL PMP AUTO STARTED	1	NO					LD	
06/29/2023 08:36:53	RETURN		3HS1159-CGY.U3@NWM3	EMER BEARING SEAL OIL PUMP CONGRUENCY	1	false					LD	
06/29/2023 08:36:53	RETURN		3HS1159-CGY.U3@NWM3	EMER BEARING SEAL OIL PUMP CONGRUENCY	1	false					LD	
06/29/2023 08:36:53	RETURN		3T7-CMNTB.LU3@NWM3	T7 COMMON TRBL	1	NORMAL					LD	
06/29/2023 08:36:53	RETURN		3T8-CMNTB.LU3@NWM3	T8 COMMON TRBL	1	NORMAL					LD	
06/29/2023 08:36:53	RETURN		3TCS-FREQACT.U3@NWM3	FREQ CORRECTION ACTIVE	2	NO					LD	
06/29/2023 08:36:53	RETURN		3TCS-FREQACT.U3@NWM3	FREQ CORRECTION ACTIVE	2	NO					LD	
06/29/2023 08:36:53	RETURN		3TCS-FREQACT.U3@NWM3	FREQ CORRECTION ACTIVE	2	NO					LD	
06/29/2023 08:36:53	RETURN		3TCS-FREQACT.U3@NWM3	FREQ CORRECTION ACTIVE	2	NO					LD	
06/29/2023 08:36:53	RETURN		3TCS-FREQACT.U3@NWM3	FREQ CORRECTION ACTIVE	2	NO					LD	
06/29/2023 08:36:53	RETURN		3TCS-FREQACT.U3@NWM3	FREQ CORRECTION ACTIVE	2	NO					LD	
06/29/2023 08:36:53	RETURN		3TCS-FREQACT.U3@NWM3	FREQ CORRECTION ACTIVE	2	NO					LD	
06/29/2023 08:36:53	RETURN		3TCS-FREQACT.U3@NWM3	FREQ CORRECTION ACTIVE	2	NO					LD	
06/29/2023 08:36:53	RETURN		3TCS-FREQACT.U3@NWM3	FREQ CORRECTION ACTIVE	2	NO					LD	
06/29/2023 08:36:53	RETURN		3TCS-FREQACT.U3@NWM3	FREQ CORRECTION ACTIVE	2	NO					LD	
06/29/2023 08:36:53	RETURN		3TCS-FREQACT.U3@NWM3	FREQ CORRECTION ACTIVE	2	NO					LD	
06/29/2023 08:36:53	RETURN	XA	3TCS-FREQACT.U3@NWM3	FREQ CORRECTION ACTIVE	2	NO					LD	
06/29/2023 08:36:53	RETURN	XA	3TCS-FREQACT.U3@NWM3	FREQ CORRECTION ACTIVE	2	NO					LD	
06/29/2023 08:36:53	RETURN		3TCS-SPEED.U3@NWM3	TURB SPEED	2	3691.4		RPM			LA	
06/29/2023 08:36:53	RETURN		3TCS-STPB.U3@NWM3	SOFT TRIP PUSHBUTTON	1	N_TRIP					LD	
06/29/2023 08:36:53	RETURN		3TE1301A.U3@NWM3	TURB THROTTLE STEAM TEMP	1	999.91		DEGF			LA	
06/29/2023 08:36:53	RETURN		3TE1301A.U3@NWM3	TURB THROTTLE STEAM TEMP	1	999.91		DEGF			LA	
06/29/2023 08:36:53	RETURN		3TE1301A.U3@NWM3	TURB THROTTLE STEAM TEMP	1	999.91		DEGF			LA	
06/29/2023 08:36:53	RETURN		3TE1301A.U3@NWM3	TURB THROTTLE STEAM TEMP	1	999.91		DEGF			LA	
06/29/2023 08:36:53	RETURN		3XA2401.U3@NWM3	GENERATOR PRIMARY RELAY ALARM	1	NORMAL					LD	
06/29/2023 08:36:53	RETURN		3XA2402.U3@NWM3	GENERATOR BACKUP RELAY ALARM	1	NORMAL					LD	
06/29/2023 08:36:53	RETURN		3XS1125.U3@NWM3	AUTO SYNC RELAY FAIL	1	NORMAL					LD	
06/29/2023 08:36:53	RETURN		D013P0.U3@NWM3	DROP 13 LOCAL	1	1111000010000101		000000 nnnnnn			RN	
06/29/2023 08:36:53	RETURN		D013P1B3L6-CMP.U3@NWM3	DROP 13 CABINET LOCATION B3 L6 C1C	1	81.50		DEGF			LA	
06/29/2023 08:36:53	RETURN		D013P1B3L6-CMP.U3@NWM3	DROP 13 CABINET LOCATION B3 L6 C1C	1	81.50		DEGF			LA	
06/29/2023 08:36:53	RETURN		D013P1B3L6-CMP.U3@NWM3	DROP 13 CABINET LOCATION B3 L6 C1C	1	81.50		DEGF			LA	
06/29/2023 08:36:53	RETURN		D013P1B3L6-CMP.U3@NWM3	DROP 13 CABINET LOCATION B3 L6 C1C	1	81.50		DEGF			LA	
06/29/2023 08:36:53	RETURN		D013P1B3L6-CMP.U3@NWM3	DROP 13 CABINET LOCATION B3 L6 C1C	1	81.50		DEGF			LA	
06/29/2023 08:36:53	RETURN		D013P1B3L6-CMP.U3@NWM3	DROP 13 CABINET LOCATION B3 L6 C1C	1	81.50		DEGF			LA	
06/29/2023 08:36:53	RETURN		D013P1B3L6-CMP.U3@NWM3	DROP 13 CABINET LOCATION B3 L6 C1C	1	81.50		DEGF			LA	
06/29/2023 08:36:53	RETURN		3BMS-125VDC-PWR-LOSS.U3@NWM3	LOSS OF 125 VDC POWER	1	false					LD	
06/29/2023 08:36:53	RETURN		3BMS-ANYG8SHUTDOWN.U3@NWM3	ANY GAS BURNER IN SHUTDOWN MODE	1	false					LD	
06/29/2023 08:36:53	RETURN		3BMS-ANYG8SHUTDOWN.U3@NWM3	ANY GAS BURNER IN SHUTDOWN MODE	1	false					LD	

Date/Time	Alarm Type	Code	Point Name	Point Description	AP	Value	Q	Units(A)	Limits	Incr	Poin	PM
06/29/2023 08:36:53	RETURN		3BMS-ANYIGNFAIL-I TOF.U3@NWM3	ANY IGNITOR FAIL TO LIGHT	1	false						LD
06/29/2023 08:36:53	RETURN		3BMS-ANYIGNFAIL-I TOF.U3@NWM3	ANY IGNITOR FAIL TO LIGHT	1	false						LD
06/29/2023 08:36:53	RETURN		3BMS-ANYIGNFAIL-I TOF.U3@NWM3	ANY IGNITOR FAIL TO LIGHT	1	false						LD
06/29/2023 08:36:53	RETURN		3BMS-ANYIGNFAIL-I TOF.U3@NWM3	ANY IGNITOR FAIL TO LIGHT	1	false						LD
06/29/2023 08:36:53	RETURN		3BMS-ANYIGNFAIL-I TOF.U3@NWM3	ANY IGNITOR FAIL TO LIGHT	1	false						LD
06/29/2023 08:36:53	RETURN		3BMS-BLR-TRP.U3@NWM3	BMS TRIP FROM TCS	5	false						LD
06/29/2023 08:36:53	RETURN		3BMS-GASBNR45HTDN-UNSUCC.U3@NWM3	UNSUCCESSFUL GAS BNR 4 SHUTDOWN	1	false						LD
06/29/2023 08:36:53	RETURN		3BMS-GASBNR45HTDN-UNSUCC.U3@NWM3	UNSUCCESSFUL GAS BNR 4 SHUTDOWN	1	false						LD
06/29/2023 08:36:53	RETURN		3BMS-GASBNR45HTDN-UNSUCC.U3@NWM3	UNSUCCESSFUL GAS BNR 4 SHUTDOWN	1	false						LD
06/29/2023 08:36:53	RETURN		3BMS-GASBNR45HTDN-UNSUCC.U3@NWM3	UNSUCCESSFUL GAS BNR 4 SHUTDOWN	1	false						LD
06/29/2023 08:36:53	RETURN		3BMS-GASBNR45HTDN-UNSUCC.U3@NWM3	UNSUCCESSFUL GAS BNR 4 SHUTDOWN	1	false						LD
06/29/2023 08:36:53	RETURN		3BMS-GB1-FO8.U3@NWM3	GB1 FO- LOSS OF FLAME	1	false						LD
06/29/2023 08:36:53	RETURN		3BMS-GB1-FO8.U3@NWM3	GB1 FO- LOSS OF FLAME	1	false						LD
06/29/2023 08:36:53	RETURN		3BMS-GB1-FO8.U3@NWM3	GB1 FO- LOSS OF FLAME	1	false						LD
06/29/2023 08:36:53	RETURN		3BMS-GB1-FO8.U3@NWM3	GB1 FO- LOSS OF FLAME	1	false						LD
06/29/2023 08:36:53	RETURN		3BMS-GB1-FO8.U3@NWM3	GB1 FO- LOSS OF FLAME	1	false						LD
06/29/2023 08:36:53	RETURN		3BMS-GB1-FO8.U3@NWM3	GB1 FO- LOSS OF FLAME	1	false						LD
06/29/2023 08:36:53	RETURN		3BMS-GB1-FO8.U3@NWM3	GB1 FO- LOSS OF FLAME	1	false						LD
06/29/2023 08:36:53	RETURN		3BMS-GB1-FO8.U3@NWM3	GB1 FO- LOSS OF FLAME	1	false						LD
06/29/2023 08:36:53	RETURN		3BMS-GB1-FO8.U3@NWM3	GB1 FO- LOSS OF FLAME	1	false						LD
06/29/2023 08:36:53	RETURN		3BMS-GB1-FO8.U3@NWM3	GB1 FO- LOSS OF FLAME	1	false						LD
06/29/2023 08:36:53	RETURN		3BMS-GB2-FO5.U3@NWM3	GB2 FO- FAIL TO LIGHT	1	false						LD
06/29/2023 08:36:53	RETURN		3BMS-GB2-FO8.U3@NWM3	GB2 FO- LOSS OF FLAME	1	false						LD
06/29/2023 08:36:53	RETURN		3BMS-GB2-FO8.U3@NWM3	GB2 FO- LOSS OF FLAME	1	false						LD
06/29/2023 08:36:53	RETURN		3BMS-GB4-FO6.U3@NWM3	GB4 FO- GAS BNR VLV NOT OPN	1	false						LD
06/29/2023 08:36:53	RETURN		3BMS-GB9-FO8.U3@NWM3	GB9 FO- LOSS OF FLAME	1	false						LD
06/29/2023 08:36:53	RETURN		3BMS-GB9-FO9.U3@NWM3	GB9 FO- IGNITOR FAIL TO LIGHT	1	false						LD
06/29/2023 08:36:53	RETURN		3BMS-GB9-FO9.U3@NWM3	GB9 FO- IGNITOR FAIL TO LIGHT	1	false						LD
06/29/2023 08:36:53	RETURN		3BMS-GB9-FO9.U3@NWM3	GB9 FO- IGNITOR FAIL TO LIGHT	1	false						LD
06/29/2023 08:36:53	RETURN		3BMS-GB9-FO9.U3@NWM3	GB9 FO- IGNITOR FAIL TO LIGHT	1	false						LD
06/29/2023 08:36:53	RETURN		3BMS-GB9-FO9.U3@NWM3	GB9 FO- IGNITOR FAIL TO LIGHT	1	false						LD
06/29/2023 08:36:53	RETURN		3BMS-GB9-FO9.U3@NWM3	GB9 FO- IGNITOR FAIL TO LIGHT	1	false						LD
06/29/2023 08:36:53	RETURN		3BMS-IGNBNR8CHK-FL.U3@NWM3	IGN/BNR 8 FLAME CHK FAILURE	1	false						LD
06/29/2023 08:36:53	RETURN		3BMS-IGNBNR8CHK-FL.U3@NWM3	IGN/BNR 8 FLAME CHK FAILURE	1	false						LD
06/29/2023 08:36:53	RETURN		3BMS-IGNBNR8CHK-FL.U3@NWM3	IGN/BNR 8 FLAME CHK FAILURE	1	false						LD
06/29/2023 08:36:53	RETURN		3BMS-IGNBNR8CHK-FL.U3@NWM3	IGN/BNR 8 FLAME CHK FAILURE	1	false						LD
06/29/2023 08:36:53	RETURN		3BMS-IGNBNR8CHK-FL.U3@NWM3	IGN/BNR 8 FLAME CHK FAILURE	1	false						LD
06/29/2023 08:36:53	RETURN		3BMS-IGNBNR8CHK-FL.U3@NWM3	IGN/BNR 8 FLAME CHK FAILURE	1	false						LD
06/29/2023 08:36:53	RETURN		3BMS-IGNBNR8CHK-FL.U3@NWM3	IGN/BNR 8 FLAME CHK FAILURE	1	false						LD
06/29/2023 08:36:53	RETURN		3PT2005.U3@NWM3	IGNITION GAS SUPPLY PRESS	1	37.71		PSIG				LA
06/29/2023 08:36:53	RETURN		3PT2014-SEL.U3@NWM3	MAIN GAS SUPPLY PRESSURE SEL	1	31.793		PSIG				LA
06/29/2023 08:36:53	RETURN		3PT2014-XALM.U3@NWM3	MAIN GAS SUPPLY PRESS XMTR ALARM	1	false						LD
06/29/2023 08:36:53	RETURN		3PT2016-SEL.U3@NWM3	MAIN GAS HEADER PRESSURE SEL	1	13.560		PSIG				LA
06/29/2023 08:36:53	RETURN		3PT2016-SEL.U3@NWM3	MAIN GAS HEADER PRESSURE SEL	1	13.624		PSIG				LA
06/29/2023 08:36:53	RETURN		3PT2016-SEL.U3@NWM3	MAIN GAS HEADER PRESSURE SEL	1	14.460		PSIG				LA
06/29/2023 08:36:53	RETURN		3PT2016-SEL.U3@NWM3	MAIN GAS HEADER PRESSURE SEL	1	14.475		PSIG				LA
06/29/2023 08:36:53	RETURN		D023P0.U3@NWM3	DROP 23 LOCAL	1	0011000010000101		000000 000000				RN
06/29/2023 08:36:53	RETURN	XA	3AVR_LIM_UEL.U3@NWM3	UEL ACTIVE	1	NORMAL	T					LD
06/29/2023 08:36:53	RETURN		3AVR_LIM_UEL_WARN.U3@NWM3	UEL LIMITER APPROACH	2	NORMAL	T					LD
06/29/2023 08:36:53	RETURN		3AVR_PA2_HIGH_TEMP_SW.U3@NWM3	PA2 HIGH TEMP SWITCH	2	NORMAL	T					LD
06/29/2023 08:36:53	RETURN		3BROOT_PORTS1726.U3@NWM3	ETHERNET SWITCH 3BROOT STATUS	1	0000001100001111			0000000 0000000			LP
06/29/2023 08:36:53	RETURN		3CORE_PORTS1728.U3@NWM3	ETHERNET SWITCH 3CORE STATUS	1	0000001100000000			0000000 0000000			LP
06/29/2023 08:36:53	RETURN		3CORE_PORTS1728.U3@NWM3	ETHERNET SWITCH CORE STATUS	1	000000101100000000			0000000 0000000			LP
06/29/2023 08:36:53	RETURN		DROP200.U3@NWM3	DROP 200 U3	1							DU
06/29/2023 08:36:53	RETURN		PR1.U3@NWM3		4	0000000000000000			0000000 0000000			LP
06/29/2023 08:36:53	RETURN		DROP220.U3@NWM3	DROP 220 U3	1							DU
06/29/2023 08:36:53	SENSOR		3AT1203.U3@NWM3	BOILER DRUM WATER CONDUCTIVITY	2	106.25	B	UMHOS				LA
06/29/2023 08:36:53	SENSOR		3AT1869A.U3@NWM3	BOILER COMBUSTIBLES A	1	485.718	B	ppm				LA

Date/Time	Alarm Type	Code	Point Name	Point Description	AP	Value	Q	Units(A)	Limits	Incr	Poin	PM
06/29/2023 08:36:53	SENSOR		3AT1869C.U3@NWM3	BOILER COMBUSTIBLES C	1	1998.627	B	ppm			LA	
06/29/2023 08:36:53	SENSOR		3AT1877A.U3@NWM3	BOILER OXYGEN A	1	0.74	B	%			LA	
06/29/2023 08:36:53	SENSOR		3ETDCNEG.U3@NWM3	DC GROUND DETECTOR	1	-100.26	B	VDC			LA	
06/29/2023 08:36:53	SENSOR		3ETDCPOS.U3@NWM3	DC GROUND DETECTOR	1	-9.38	B	VDC			LA	
06/29/2023 08:36:53	SENSOR		3TE1935.U3@NWM3	GENERATOR STATOR TEMP	1	22.66	B	DEGC			LA	
06/29/2023 08:36:53	SENSOR		3ZT1002A.U3@NWM3	2ND PT HEATER NORMAL DRIPS FDBK	1	105.000	B	%			LA	
06/29/2023 08:36:53	SENSOR		3ZT1002A.U3@NWM3	2ND PT HEATER NORMAL DRIPS FDBK	1	105.000	B	%			LA	
06/29/2023 08:36:53	SENSOR		3ZT1002A.U3@NWM3	2ND PT HEATER NORMAL DRIPS FDBK	1	105.000	B	%			LA	
06/29/2023 08:36:53	SENSOR		3ZT1002A.U3@NWM3	2ND PT HEATER NORMAL DRIPS FDBK	1	105.000	B	%			LA	
06/29/2023 08:36:53	SENSOR		3ZT1002A.U3@NWM3	2ND PT HEATER NORMAL DRIPS FDBK	1	105.000	B	%			LA	
06/29/2023 08:36:53	SENSOR		3ZT1002A.U3@NWM3	2ND PT HEATER NORMAL DRIPS FDBK	1	105.000	B	%			LA	
06/29/2023 08:36:53	SENSOR		3ZT1002A.U3@NWM3	2ND PT HEATER NORMAL DRIPS FDBK	1	105.000	B	%			LA	
06/29/2023 08:36:53	SENSOR		3ZT1002A.U3@NWM3	2ND PT HEATER NORMAL DRIPS FDBK	1	105.000	B	%			LA	
06/29/2023 08:36:53	SENSOR		3ZT1002A.U3@NWM3	2ND PT HEATER NORMAL DRIPS FDBK	1	105.000	B	%			LA	
06/29/2023 08:36:53	SENSOR		3ZT1005.U3@NWM3	TURB LUBE OIL TEMP FDBK	1	98.932	B	%			LA	
06/29/2023 08:36:53	SENSOR		3ZT1005.U3@NWM3	TURB LUBE OIL TEMP FDBK	1	100.000	B	%			LA	
06/29/2023 08:36:53	SENSOR		3ZT1005.U3@NWM3	TURB LUBE OIL TEMP FDBK	1	100.000	B	%			LA	
06/29/2023 08:36:53	SENSOR		3ZT1005.U3@NWM3	TURB LUBE OIL TEMP FDBK	1	100.000	B	%			LA	
06/29/2023 08:36:53	SENSOR		3ZT1005.U3@NWM3	TURB LUBE OIL TEMP FDBK	1	100.000	B	%			LA	
06/29/2023 08:36:53	SENSOR		3ZT1005.U3@NWM3	TURB LUBE OIL TEMP FDBK	1	100.000	B	%			LA	
06/29/2023 08:36:53	SENSOR		3ZT1005.U3@NWM3	TURB LUBE OIL TEMP FDBK	1	100.000	B	%			LA	
06/29/2023 08:36:53	SENSOR		3ZT1005.U3@NWM3	TURB LUBE OIL TEMP FDBK	1	100.000	B	%			LA	
06/29/2023 08:36:53	SENSOR		3ZT1014.U3@NWM3	ALX STEAM FDBK	1	0.000	B	%			LA	
06/29/2023 08:36:53	SENSOR		3PT2005.U3@NWM3	IGNITION GAS SUPPLY PRESS	1	41.25	B	PSIG			LA	
06/29/2023 08:36:53	SENSOR		3AT1009-ORP.U3@NWM3	COOLING TOWER 3 BASIN ORP	1	0.000	T				LA	
06/29/2023 08:36:53	SENSOR		3AT1009.U3@NWM3	COOLING TOWER 3 BASIN CONDUCTIVITY	1	4707.489	T	S/m			LA	
06/29/2023 08:36:53	SENSOR		3CRCWPH.U3@NWM3	COOLING TOWER 3 BASIN PH	1	8.009	T				LA	
06/29/2023 08:36:53	SENSOR		3AT1102.U3@NWM3	CONDENSATE WATER PH	2	14.88	B	PH			LA	
06/29/2023 08:36:53	TIMEOUT		DROP4.U3@NWM3		1						DU	
06/29/2023 08:36:53	TIMEOUT		DROP37.U3@NWM3	DROP37	1						DU	
06/29/2023 08:36:53	TIMEOUT		DROP54.U3@NWM3		1						DU	
06/29/2023 08:36:53	TIMEOUT		DROP87.U3@NWM3	DROP87	1						DU	
06/29/2023 08:36:53	TIMEOUT		DROP200.U3@NWM3	DROP 200 U3	1						DU	
06/29/2023 08:36:53	TIMEOUT		DROP220.U3@NWM3	DROP 220 U3	1						DU	
06/29/2023 08:36:53	TIMEOUT		DROP237.U3@NWM3		1						DU	
06/29/2023 09:10:48	ALARM		DROP210.U5@EPE	DROP 210	8	FA# 179 101 1 0					DU	
06/29/2023 09:11:01	TIMEOUT		DROP210.U5@EPE	DROP 210	8						DU	
06/29/2023 09:11:04	ALARM		BFS01_PORTS1_16.U5@EPE	ETHERNET SWITCH BFS01 STATUS	8	1100001001100011			0000001		LP	
06/29/2023 09:11:04	ALARM		PFS01_PORTS1_16.U5@EPE	ETHERNET SWITCH PFS01 STATUS	8	1100001001100011			0000001		LP	
06/29/2023 09:11:07	RETURN		BFS01_PORTS1_16.U5@EPE	ETHERNET SWITCH BFS01 STATUS	8	1100000001100011			0000000		LP	
06/29/2023 09:11:07	RETURN		PFS01_PORTS1_16.U5@EPE	ETHERNET SWITCH PFS01 STATUS	8	1100000001100011			0000000		LP	
06/29/2023 09:11:55	ALARM		BFS01_PORTS1_16.U5@EPE	ETHERNET SWITCH BFS01 STATUS	8	1100001001100011			0000001		LP	
06/29/2023 09:11:55	ALARM		PFS01_PORTS1_16.U5@EPE	ETHERNET SWITCH PFS01 STATUS	8	1100001001100011			0000001		LP	
06/29/2023 09:12:00	RETURN		BFS01_PORTS1_16.U5@EPE	ETHERNET SWITCH BFS01 STATUS	8	1100000001100011			0000000		LP	
06/29/2023 09:12:00	RETURN		PFS01_PORTS1_16.U5@EPE	ETHERNET SWITCH PFS01 STATUS	8	1100000001100011			0000000		LP	
06/29/2023 09:12:32	ALARM		BFS01_PORTS1_16.U5@EPE	ETHERNET SWITCH BFS01 STATUS	8	1100001001100011			0000001		LP	
06/29/2023 09:12:32	ALARM		PFS01_PORTS1_16.U5@EPE	ETHERNET SWITCH PFS01 STATUS	8	1100001001100011			0000001		LP	
06/29/2023 09:12:36	RETURN		BFS01_PORTS1_16.U5@EPE	ETHERNET SWITCH BFS01 STATUS	8	1100000001100011			0000000		LP	
06/29/2023 09:12:36	RETURN		PFS01_PORTS1_16.U5@EPE	ETHERNET SWITCH PFS01 STATUS	8	1100000001100011			0000000		LP	
06/29/2023 09:13:42	RETURN		DROP210.U5@EPE	DROP 210	8				0000000		DU	
06/29/2023 09:31:16	SENSOR		53-ZT3386.U5@EPE	H3 LP STEAM START-UP VENT POSITION	1	0.25	B	%			LA	
06/29/2023 09:31:17	RETURN		53-ZT3386.U5@EPE	H3 LP STEAM START-UP VENT POSITION	1	0.25	B	%			LA	
06/29/2023 09:47:22	SENSOR		54-ZT4486.U5@EPE	H4 LP STEAM START-UP VENT POSITION	1	-0.02	B	%			LA	
06/29/2023 09:47:28	RETURN		54-ZT4486.U5@EPE	H4 LP STEAM START-UP VENT POSITION	1	-0.04	B	%			LA	
06/29/2023 10:26:38	HIGH1		53-TE6019.U5@EPE	H3 BFP 1 VSC OIL FLTR OUTLET TEMPERATURE	3	122.05	B	°F	122.00		LA	

Date/Time	Alarm Type	Code	Point Name	Point Description	AP	Value	Q	Units(A)	Limits	Incr	Poin	PM
06/29/2023 10:35:25	ALARM		50-XSF6439.U5@EPE	AIR DRYER 3 ALM - TRBL	1	ALARM					LD	
06/29/2023 10:41:38	ALARM		53-L39V2A-VA.U5@EPE	TURB #2A BRNG VIBRATION ALARM	2	ALARM					LD	
06/29/2023 10:41:38	ALARM		53-L39VA.U5@EPE	VIBRATION HIGH ALARM	2	ALARM					LD	
06/29/2023 10:41:39	RETURN		53-L39V2A-VA.U5@EPE	TURB #2A BRNG VIBRATION ALARM	2	OK					LD	
06/29/2023 10:41:39	RETURN		53-L39VA.U5@EPE	VIBRATION HIGH ALARM	2	NORMAL					LD	
06/29/2023 10:50:02	ALARM		53-XS5159.U5@EPE	H3 CEMS NOX VALID	4	NVALID					LD	
06/29/2023 10:57:28	RETURN		50-XSF6439.U5@EPE	AIR DRYER 3 ALM - TRBL	1	NORM					LD	
06/29/2023 11:00:32	ALARM		50-XSF6439.U5@EPE	AIR DRYER 3 ALM - TRBL	1	ALARM					LD	
06/29/2023 11:00:32	ALARM	PS	50-XSF6439.U5@EPE	AIR DRYER 3 ALM - TRBL	1	NORM					LD	
06/29/2023 11:01:26	ALARM		3HS1162-FTO.U3@NWM3	MAIN FIELD BREAKER FAIL TO OPEN	2	true					LD	
06/29/2023 11:08:18	RETURN		BCORE_PORTS1_16.U5@EPE	ETHERNET SWITCH CORE STATUS	8	0111111110000000			00000000 00000000 00000000		LP	
06/29/2023 11:08:18	RETURN		CORE_PORTS1_16.U5@EPE	ETHERNET SWITCH CORE STATUS	8	0111111010000000			00000000 00000000 00000000		LP	
06/29/2023 11:10:41	RETURN		50-XSF6439.U5@EPE	AIR DRYER 3 ALM - TRBL	1	NORM					LD	
06/29/2023 11:16:22	ALARM		BCORE_PORTS1_16.U5@EPE	ETHERNET SWITCH CORE STATUS	8	1111111110000000			10000000 00000000 00000000		LP	
06/29/2023 11:16:22	ALARM		CORE_PORTS1_16.U5@EPE	ETHERNET SWITCH CORE STATUS	8	1111111010000000			10000000 00000000 00000000		LP	
06/29/2023 11:16:26	RETURN		BCORE_PORTS1_16.U5@EPE	ETHERNET SWITCH CORE STATUS	8	0111111110000000			00000000 00000000 00000000		LP	
06/29/2023 11:16:26	RETURN		CORE_PORTS1_16.U5@EPE	ETHERNET SWITCH CORE STATUS	8	0111111010000000			00000000 00000000 00000000		LP	
06/29/2023 11:17:42	ALARM		BCORE_PORTS1_16.U5@EPE	ETHERNET SWITCH CORE STATUS	8	1111111110000000			10000000 00000000 00000000		LP	
06/29/2023 11:17:42	ALARM		CORE_PORTS1_16.U5@EPE	ETHERNET SWITCH CORE STATUS	8	1111111010000000			10000000 00000000 00000000		LP	
06/29/2023 11:17:46	RETURN		BCORE_PORTS1_16.U5@EPE	ETHERNET SWITCH CORE STATUS	8	0111111110000000			00000000 00000000 00000000		LP	
06/29/2023 11:17:50	RETURN		CORE_PORTS1_16.U5@EPE	ETHERNET SWITCH CORE STATUS	8	0111111010000000			00000000 00000000 00000000		LP	
06/29/2023 11:18:02	RETURN		53-XS5159.U5@EPE	H3 CEMS NOX VALID	4	VALID					LD	
06/29/2023 11:18:06	ALARM		BCORE_PORTS1_16.U5@EPE	ETHERNET SWITCH CORE STATUS	8	1111111110000000			10000000 00000000 00000000		LP	
06/29/2023 11:18:06	ALARM		CORE_PORTS1_16.U5@EPE	ETHERNET SWITCH CORE STATUS	8	1111111010000000			10000000 00000000 00000000		LP	
06/29/2023 11:18:10	RETURN		BCORE_PORTS1_16.U5@EPE	ETHERNET SWITCH CORE STATUS	8	0111111110000000			00000000 00000000 00000000		LP	
06/29/2023 11:18:10	RETURN		CORE_PORTS1_16.U5@EPE	ETHERNET SWITCH CORE STATUS	8	0111111010000000			00000000 00000000 00000000		LP	
06/29/2023 11:25:03	ALARM		54-XS5259.U5@EPE	H4 CEMS NOX VALID	4	NVALID					LD	
06/29/2023 11:35:56	TIMEOUT		DROP200.U3@NWM3	DROP 200 U3	1						DU	
06/29/2023 11:38:46	RETURN		DROP200.U3@NWM3	DROP 200 U3	1						DU	
06/29/2023 11:39:06	ALARM		3BROOT_PORTS1726.U3@NWM3	ETHERNET SWITCH 3BROOT STATUS	1	0000000000000000			00000000 00000000 00000000		LP	
06/29/2023 11:39:08	ALARM		3ROOT_PORTS1726.U3@NWM3	ETHERNET SWITCH 3ROOT STATUS	1	0000001100001111			00000000 00000000 00000000		LP	
06/29/2023 11:39:08	RETURN		3BROOT_PORTS1726.U3@NWM3	ETHERNET SWITCH 3BROOT STATUS	1	0000001100001111			00000000 00000000 00000000		LP	
06/29/2023 11:39:11	RETURN		3BFS03.U3@NWM3	ETHERNET SWITCH BFS STATUS	1	0000000000000000			00000000 00000000 00000000		LP	
06/29/2023 11:39:11	RETURN		3BFS03_PORTS1_8.U3@NWM3	ETHERNET SWITCH BFS PORT STATUS	1	0000000000000000			00000000 00000000 00000000		LP	
06/29/2023 11:39:11	RETURN		3PFS03.U3@NWM3	ETHERNET SWITCH PFS STATUS	1	0000000000000000			00000000 00000000 00000000		LP	
06/29/2023 11:39:11	RETURN		PR1.U3@NWM3		4	0000000000000000			00000000 00000000 00000000		LP	
06/29/2023 11:39:26	ALARM		PR1.U3@NWM3		4	0000000000000001			00000000 00000000 00000000		LP	
06/29/2023 11:39:52	ALARM		3PFS03.U3@NWM3	ETHERNET SWITCH PFS STATUS	1	0000000000000001			00000000 00000000 00000000		LP	
06/29/2023 11:39:58	ALARM		3BFS03.U3@NWM3	ETHERNET SWITCH BFS STATUS	1	0000000000000001			00000000 00000000 00000000		LP	
06/29/2023 11:43:01	RETURN		54-XS5259.U5@EPE	H4 CEMS NOX VALID	4	VALID					LD	

PUBLIC

Exhibit DR-6 is a CONFIDENTIAL and/or HIGHLY SENSITIVE PROTECTED MATERIALS attachment.

DOCKET NO. 57568

APPLICATION OF EL PASO ELECTRIC	§	PUBLIC UTILITY COMMISSION
COMPANY FOR AUTHORITY TO	§	
CHANGE RATES	§	OF TEXAS

DIRECT TESTIMONY

OF

ELLEN SMITH

ON BEHALF OF

EL PASO ELECTRIC COMPANY

JANUARY 2025

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EXHIBITS

- Exhibit ES-1 - Ellen Smith's Curriculum Vitae
- Exhibit ES-2 - Analysis of Producer Price Index Inflation for Materials
- Exhibit ES-3 - Analysis of Producer Price Index Inflation for Power Plant Commodities and Equipment
- Exhibit ES-4 - Power Plants with Commercial Operational Date in 2023-2024

1 **I. Introduction and Purpose**

2 Q1. PLEASE STATE YOUR NAME AND CURRENT BUSINESS ADDRESS.

3 A. My name is Ellen Smith. My business address is FTI Consulting Inc, 200 State Street,
4 Boston, Massachusetts 02109.

5
6 Q2. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

7 A. I am employed by FTI Consulting Inc as a Senior Managing Director. FTI is an advisory
8 consultancy with over 8,300 employees in 34 countries. My practice focuses on assisting
9 power companies and utilities with regulatory and other matters.

10
11 Q3. ON WHOSE BEHALF ARE YOU FILING THIS DIRECT TESTIMONY?

12 A. I am submitting this Direct Testimony to the Public Utility Commission of Texas
13 ("Commission") on behalf of El Paso Electric Company ("EPE" or the "Company").

14
15 Q4. WHAT ARE YOUR RESPONSIBILITIES AS SENIOR MANAGING DIRECTOR AT
16 FTI CONSULTING?

17 A. In my current position as Senior Managing Director, I provide consulting and advisory
18 services with respect to asset management, capital planning, operations, power reliability,
19 utility regulatory strategy, and emergency response.

20 In my role, I have also worked for the official unsecured creditors' committees
21 ("UCC") in First Energy Solutions, Brazos Electric Cooperative, Talen Energy, and Pacific
22 Gas & Electric ("PG&E") Chapter 11 bankruptcy proceedings. In these assignments, I
23 provided the UCCs with industry and operational insights into complex issues surrounding
24 each situation, including nuclear power plant NRC license transfers, decommissioning
25 trusts, wildfire risk assessment, affordability, cold weather power plant performance, and
26 other key issues.

27
28 Q5. PLEASE DESCRIBE YOUR EDUCATIONAL AND PROFESSIONAL
29 BACKGROUND AND EXPERIENCE IN THE ENERGY AND UTILITIES
30 INDUSTRIES.

1 A. I have more than 35 years of experience in the power, utility and energy services industries,
2 including experience in engineering, procurement, installation, construction,
3 commissioning, and operation and maintenance of utility (gas and electric) transmission,
4 distribution, control centers, as well as shared services and support operations. I have
5 worked at General Electric Power Systems, Pratt & Whitney, Hess, and later at National
6 Grid as the Chief Operations Officer ("COO"). During my time at GE, I was the project
7 engineer and project manager on several engineering, procurement, and construction
8 ("EPC") contracts for gas and dual fuel combustion turbine-based power plant projects. I
9 participated in these projects from early project development including engineering,
10 procurement, and construction through commercial operation and subsequently during the
11 operations phase.

12 At GE, I held the role of General Manager of Product Service where I led an expert
13 team with worldwide responsibility for the GE installed fleet of gas turbines and generators
14 (more than 10,000 pieces of equipment at hundreds of power plants).

15 I was COO at National Grid, an investor-owned utility providing services to four
16 million electric and gas customers in New York, Massachusetts, Rhode Island, and New
17 Hampshire. I additionally had the responsibility for the 14 National Grid-owned and
18 operated power plants located on Long Island, New York. National Grid is regulated by
19 state commissions as well as the Federal Energy Regulatory Commission ("FERC") and
20 the North American Electric Reliability Corporation ("NERC").

21 At FTI, I am currently lead partner working for the Public Private Partnership
22 Authority in Puerto Rico. I have been involved in conducting Requests for Qualifications
23 and Requests for Proposals for long-term private partner contracts, including one for a new
24 natural gas combined-cycle power plant. In this role, I have conducted diligence on the
25 costs of this project in support of a recommendation for a project award.

26 Additionally, at FTI I have conducted commercial and operational diligence on at
27 least ten gas turbine power plant projects. In these projects I tracked project costs,
28 schedules, estimates to complete, and risks (technical, cost, and schedule). These diligence
29 reviews were conducted on behalf of owners, regulators, and banks.

30 As for my education, I hold a Bachelor of Science in Mechanical Engineering and
31 a Master of Science in Power Systems Engineering from Union College in New York. My

1 curriculum vitae and full details of my qualifications and experience are in Appendix A of
2 this report.

3
4 Q6. HAVE YOU PREVIOUSLY PROVIDED TESTIMONY BEFORE REGULATORY
5 BODIES?

6 A. Yes. As the COO of National Grid, I was the infrastructure witness during a contested
7 New York State Department of Public Service rate case in 2010. In that case I provided a
8 detailed explanation of the health of the electric system and a proposed plan to address
9 safety, aging, and modernization issues. In my current role at FTI, I am providing
10 testimony on behalf of PG&E with respect to the contested separation of the electric
11 distribution system in the City of San Francisco from the PG&E grid. In 2023, I provided
12 testimony to the Title 3 court in Puerto Rico with respect to the condition of the
13 transmission, distribution and generation assets on behalf of Puerto Rico Electric Power
14 Authority.

15
16 Q7. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

17 A. My testimony addresses the reasonableness of EPE's capital investment in its Newman
18 Unit 6 power generation facility, which is an approximately 231 MW natural gas simple
19 cycle peaking power plant that was placed into service at the end of 2023. In my testimony,
20 I provide insight and details regarding the cost escalation pressures that occurred during
21 the planning time leading up to the start of the construction of Newman Unit 6 and which
22 extended through December 2023 when the plant was placed into commercial operation.

23 Based on my personal knowledge of and experience with the trends of power plant
24 construction costs over the last 30 years, as well as the cost overruns experienced on other
25 combustion turbine power generation facility projects that were constructed during the
26 same time frame as Newman Unit 6, I explain how the final cost of \$217.3 million,
27 including associated Allowance for Funds Used During Construction ("AFUDC"),
28 incurred by EPE to bring Newman Unit 6 to commercial operation was reasonable.¹ I

¹ The \$217.3 million cost is confirmed in the Direct Testimony of EPE witness David Rodriguez and confirmed in Exhibit CSP-2 to the Direct Testimony of EPE witness Cynthia Prieto. While the Commercial Operation Date of Newman Unit 6 was December 27, 2023, there were residual costs incurred by EPE through September 30, 2024.

1 further describe how the unprecedented inflationary environment, increase in borrowing
 2 costs, supply chain disruptions and delays, and material and labor shortages experienced
 3 throughout the power plant construction industry resulted in a six-month delay in the
 4 completion of the Newman Unit 6 project and the final cost being 41% over the original
 5 2017 budget for the plant. This increase in cost is shown in Table 1 below.

6 **Table 1 – Calculation of Newman Unit 6 Cost Increases (Decreases)**

Description	Budget	Actual Cost (as of Sept. 30, 2024)	Cost Increase	% Change from Total Budget
Plant Cost (excluding Substation)	\$ 138,104,971	\$ 199,398,943	\$ 61,293,972	40%
AFUDC (excluding Substation)	\$ 16,212,498	\$ 17,911,719	\$ 1,699,222	1%
Total Plant Cost (excluding Substation)	\$ 154,317,469	\$ 217,310,662	\$ 62,993,194	41%

7
 8
 9
 10
 11
 12 In addition, I have analyzed the total cost of Newman Unit 6 on a cost per kilowatt
 13 basis. I have compared this cost per kilowatt to that of other power plants that became
 14 operational about the same time as Newman Unit 6. In addition, I compared the total cost
 15 of Newman Unit 6 to the relevant new power plant capital construction costs published by
 16 the United States Energy Information Administration ("EIA").

17 In my opinion, and based upon my experience and analysis:

18 (1) the increase in costs for Newman Unit 6 was not surprising, nor unreasonable,
 19 and was in line with the cost increases experienced on other power plant construction
 20 projects completed during that time frame; and

21 (2) the construction cost per kilowatt for Newman Unit 6 was comparable to that
 22 of other power plants that were completed during the same time frame.

23
 24 Q8. DO YOU SPONSOR ANY EXHIBITS?

25 A. Yes. I sponsor the Exhibits listed in the Table of Contents to my testimony.
 26

As such, the total \$217.3 million includes costs through September 30, 2024. The \$217.3 million excludes the \$10.4 million cost for the substation built for the interconnection of Newman Unit 6 and the associated AFUDC, which is addressed in the Direct Testimony of EPE witness Alexander Aboytes. The \$10.4 million substation cost is also confirmed in Ms. Prieto's Exhibit CSP-2. AFUDC is the cost of financing capital construction projects. It is a component of construction costs that is capitalized until the project is operational.

1 **II. Cost Environment in the Power Plant Construction Industry**

2 Q9. CAN YOU PLEASE EXPLAIN GENERALLY THE TYPES OF COSTS INVOLVED IN
3 A POWER PLANT CONSTRUCTION PROJECT?

4 A. Different categories of costs for combustion turbine power plants similar to Newman Unit
5 6 include the following:

- 6 ○ Needs assessment;
- 7 ○ Site selection;
- 8 ○ Civil/structural, material, and installation (*e.g.*, site prep, concrete, pilings,
9 structural steel, conduit, buildings, and roads);
- 10 ○ Major mechanical and electrical equipment supply, and installation (*e.g.*,
11 combustion turbine, generator, auxiliary equipment, and balance of plant
12 equipment);
- 13 ○ Instrumentation/control supply and installation (*e.g.*, transformers, switches, wire,
14 cable, and transmission interconnection equipment);
- 15 ○ Environmental controls (*e.g.*, selective catalytic reduction ("SCR") systems,
16 nitrogen oxides ("NOx") reduction equipment and emission monitoring systems);
- 17 ○ Indirect costs, fees, and contingency (*e.g.*, engineering, labor overtime/incentives,
18 financing costs, construction management, start-up, and commissioning); and
- 19 ○ Owner's costs (*e.g.*, development, studies, permitting, legal/regulatory, project
20 management and insurance)

21
22 Q10. WHAT DOES A CONTINGENCY BUDGET COVER?

23 A. Contingency is an amount of money reserved to cover potential unforeseen costs including
24 unexpected site conditions, equipment delays, labor disputes, permitting problems, and
25 weather disruptions. It is a common category included in budgets developed for gas-fired
26 combustion turbine power plant construction, or any other type of construction project for
27 that matter.

28 Specific factors that influence the amount set aside for contingency include the
29 project's overall complexity, technology maturity, unknown or difficult site conditions, and
30 the availability of historical cost and other data from similar projects. Contingency budgets
31 are typically expressed as a percentage of the overall cost estimate. The percentage used

1 for the contingency is generally representative of the degree of uncertainty for each risk
2 category. The contingency budget is typically evaluated on a frequent basis during a
3 project and may be increased or reduced as progress is made. The total contingency level
4 that I have typically observed for projects similar to Newman Unit 6 has been in the 5% to
5 15% range.

6 A contingency budget is not expected to cover "unknown unknowns" or external
7 events that are beyond the owner's control or influence such as a critical vendor going
8 bankrupt, wars, labor strikes or a pandemic affecting global supplies, costs, or schedule.
9 Owners and developers cannot be expected to anticipate if, or when, such events could
10 occur and what the impact of such events could be. Hence, these types of risks are not part
11 of the typical project contingency.

12
13 Q11. HOW ARE COST ESTIMATES FOR NATURAL GAS FIRED COMBUSTION
14 TURBINE POWER PLANT CONSTRUCTION TYPICALLY CLASSIFIED?

15 A. The Association for the Advancement of Cost Engineering International ("AACE") is a
16 non-profit organization founded in 1956 by cost estimators and cost engineers. AACE
17 focuses on advocating for prudent cost engineering and management via publications and
18 certification programs. AACE has developed a *Cost Estimate Classification System* to
19 provide guidelines for applying the general principles of estimate classification to project
20 cost estimates. These AACE cost estimating guidelines have been adopted across many
21 industries and map the phases and stages of a project's cost estimating accuracy together
22 with project scope definition, maturity and quality.

23 There are five (5) classes of cost estimates under the AACE system. Class 1
24 represents the most accurate level (65-100%) of project definition and maturity. Class 5
25 represents close to a zero level (0-2%) of known project scope definition and therefore the
26 lowest level of accuracy. The table below is a matrix comparing the different AACE
27 estimate classes.

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Table 2: AACE Class Estimates

Estimate Class	Primary Characteristic	Secondary Characteristic			
	Maturity Level of Project Deliverables	Typical Purpose of Estimate	Estimating Methodology	Expected Accuracy Range Relative to Class 1 Estimate	Preparation Effort Relative to Class 5 Estimate
Class 5	0% to 2%	Screening or feasibility	Stochastic (factors and/or models) or judgement	4 to 20	1
Class 4	1% to 15%	Concept study or feasibility	Primarily stochastic	3 to 12	2 to 4
Class 3	10% to 40%	Budget authorization or control	Mixed but primarily stochastic	2 to 6	3 to 10
Class 2	30% to 75%	Control or bid/tender	Primarily deterministic	1 to 3	5 to 20
Class 1	65% to 100%	Check estimate or bid/tender	Deterministic	1	10 to 100

The depth of understanding of both project scope complexity and maturity are the primary factors in determining the class of estimate. The purpose of assessing an estimate's class is to help project management determine the risks associated with a particular project and the need for contingency planning, budgeting, and mitigation.

Using AACE's *Class Estimation Classification System* is an appropriate way to categorize cost estimate maturity for projects in various industries, including the electric power plant construction industry. The AACE guidelines are widely recognized in the engineering and construction industry, as they make comparisons across projects consistent and easy to follow. The AACE classification system is frequently used when evaluating cost estimates for power plants, including those for a gas-fired combustion turbine power plant like Newman Unit 6.

Q12. WHAT ESTIMATE CLASS WOULD APPLY TO THE EPE COST ESTIMATE DEVELOPED IN 2017 FOR WHAT WAS TO BECOME NEWMAN UNIT 6, WHICH DID NOT START CONSTRUCTION UNTIL EARLY 2022?

A. Based on my experience, cost estimates prepared early in the development cycle of a natural gas-fired combustion turbine power plant, such as Newman Unit 6, would be considered Class 3 estimates under the AACE framework.

The \$154.3 million cost estimate for Newman Unit 6 was developed by EPE's internal team in 2017 as part of the RFP process. This same cost estimate was later used

1 in EPE's filing in November 2019 with the Public Utility Commission of Texas ("PUCT")
2 seeking amendment of its Certificate of Convenience and Necessity ("CCN") to include
3 Newman Unit 6. The CCN amendment was approved in October 2020.² Therefore, the
4 \$154.3 million initial estimate should reasonably be classified as an AACE Class 3
5 "budgetary estimate."

6 A Class 3 estimate is one that is developed at a time when the project design and
7 engineering is still in the preliminary phases and is typically used for feasibility studies and
8 initial project budgeting, and when uncertainty exists as to the timing and certainty of
9 regulatory approvals. For an estimate to be a Class 2 estimate, a significant amount of
10 engineering would need to have progressed, providing for a more detailed understanding
11 of the project scope including vendor selection and costs.

12 Based on the AACE Classification Matrix shown above in Table 2, for a Class 3
13 estimate such as the \$154.3 million estimate for Newman Unit 6, the expected accuracy
14 range is +20% to +60% and -10% to -30%. Based on the \$154.3 million estimate and the
15 \$217.3 million actual costs, the Newman Unit 6 cost increase of 41% is within the accuracy
16 range for a Class 3 estimate.

17
18 **III. Overview of Power Plant Construction Projects**

19 Q13. GENERALLY SPEAKING, WHAT ARE THE CORE DRIVERS OF POWER PLANT
20 CONSTRUCTION COSTS?

21 A. The primary drivers of gas-fired power plant construction costs are labor, materials, and
22 equipment (*i.e.*, turbines, generators, and other balance of plant). The sourcing of materials
23 and equipment for such complex construction projects is heavily dependent on the pricing
24 of underlying commodities. The major commodities generally used in the construction of
25 power plants include those listed in Table 3 below.

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² https://interchange.puc.texas.gov/Documents/50277_123_1091421.PDF

Table 3: Typical Commodities Used in Construction of Power Plants

Commodity Description	
1	Copper and Copper-Based Alloy Products
2	Nickel and Nickel-Based Alloy Products
3	Steel (Hot Rolled Bars, Plates, and Structural
4	Aluminum (Sheet, Plate and Foil)
5	Ready-Mix Concrete
6	Lumber and Wood Products

Types of equipment incorporated into power plant projects include turbines, generators, transformers, high voltage switchgear, and emissions control equipment. Orders for these types of equipment often require long-lead times. Long-lead time items in the electrical utility industry typically means items required to be ordered over 18 months in advance of when they need to be delivered on site. In addition, turbines and generators also need to be "reserved" with a down payment ahead of the actual order. The timing of this reservation can be up to a year ahead of the actual order placement and often before regulatory approvals.

Labor costs are driven by the type of skillsets needed, availability of such workers, the construction schedule, and other projects going on in the same market, as well as inflation.

Q14. HOW ARE POWER PLANT CONSTRUCTION PROJECTS TYPICALLY STRUCTURED TO ACCOUNT FOR PROJECT RISKS SUCH AS COST INCREASES AND SCHEDULING DELAYS?

A. Many power plant owners and developers manage their cost and schedule risks by placing those risks on the party that is best able to manage them. For example, requesting fixed-price contracts for major equipment is an often-used approach to place the cost risk on the supplier of that equipment. With respect to construction contracts, owners may choose to build in penalties, such as liquidated damage for schedule delays. In addition, the general nature of both fixed-price equipment and construction contracts caps the cost to the owner. For the Newman Unit 6 plant, EPE decided to manage its risks, in part, by executing

1 separate fixed-price contracts with Casey Industrial, Inc. ("Casey-MasTec")³ for
2 construction and commissioning services, and with Mitsubishi Hitachi Power Systems
3 Americas, Inc. ("Mitsubishi") for the supply of major equipment. This was a reasonable
4 and appropriate contracting strategy, given that the original value of these two contracts
5 represented 87% of the total project budget, excluding AFUDC.
6

7 Q15. WHAT IS THE TYPICAL BREAKDOWN OF THE TOTAL CONSTRUCTION COSTS
8 FOR A POWER PLANT LIKE NEWMAN UNIT 6?

9 A. Typically, construction contracts include the cost of material and labor to construct the
10 civil, mechanical, and electrical components of the power plant as well as commissioning
11 activities. Labor itself is usually the single largest component of a construction contract
12 and typically constitutes 35%-40% of the total construction contract price.⁴ The equipment
13 cost, such as combustion turbines, selective catalytic reduction ("SCR"), carbon monoxide
14 catalysts, switchgear, transformers and other balance of plant equipment, usually accounts
15 for approximately 40%-45% of the total project capital costs.⁵ Construction materials such
16 as concrete, metals and consumables add up to approximately 3%-7% of the construction
17 contract cost.⁶

18 Owner's costs form another 12%-15%⁷ of the total capital costs of a power plant and
19 may include components such as land, interconnection costs (electric, gas and water),
20 project development, management services and owner's contingency. A summary of the
21 typical range of cost percentages by cost type is shown in Table 4 below.

22 /

23 /

24 /

³ On December 23, 2021, EPE executed a contract with Casey Industrial, Inc. to perform the work and provide the construction materials necessary for the construction of the Newman Unit 6 plant. The contract scope excluded the purchase of the major equipment for the plant. Subsequently, on December 30, 2021, MasTec acquired Casey Industrial, Inc. as part of its acquisition of Henkels & McCoy Group, Inc.

⁴ https://www.eia.gov/analysis/studies/powerplants/capitalcost/pdf/capital_cost_AEO2025.pdf, at 69-70; https://www.eia.gov/analysis/studies/powerplants/capitalcost/pdf/capital_cost_ao2020.pdf, at 77.

⁵ *Id.*

⁶ *Id.*

⁷ *Id.*

1 **Table 4: Percentage of Total Cost by Cost Type⁸**

2

3 Cost Type	% Share of Total Capital Cost
4 Labor	35-40%
5 Equipment	40-45%
6 Materials	3-7%
7 Owner's Cost	12-15%

8 Q16. HOW ARE MAJOR EQUIPMENT PURCHASES TYPICALLY DONE FOR POWER
9 PLANT CONSTRUCTION PROJECTS LIKE NEWMAN UNIT 6?

10 A. There are generally two methods by owners procure major equipment, such as the
11 combustion turbine and generator, SCR system, and CO catalysts. The owner can contract
12 with the equipment provider directly or have the equipment included as part of a turn-key
13 contract that also includes the engineering and construction activities associated with
14 building a new plant.

15 In the case of Newman Unit 6, EPE contracted directly with Mitsubishi for the
16 purchase of major equipment and chose to contract for engineering and construction
17 services separately, as previously discussed. By contracting with Mitsubishi directly, EPE
18 avoided paying additional mark-ups on this large purchase. Based on my experience, it is
19 reasonable for the owner to contract directly with the equipment provider as EPE did for
20 Newman Unit 6.

21 Q17. WHAT ARE THE TYPICAL TIMELINES AND SCHEDULES FOR A POWER PLANT
22 CONSTRUCTION PROJECT LIKE NEWMAN UNIT 6?

23 A. In construction contracts for power plants, milestone schedules are established for both the
24 project owner and its contractors and vendors. The first milestone is either the "Limited
25 Notice to Proceed" ("LNTP") or a "Notice to Proceed" ("NTP"). These notices are issued
26 by the project owner after the project has reached its investment decision and/or received
27 regulatory approval. The NTP and the associated payments allow contractors to start

⁸ EIA reports published in January 2024 and February 2020:
https://www.eia.gov/analysis/studies/powerplants/capitalcost/pdf/capital_cost_AEO2025.pdf, pg. 69-70 and
https://www.eia.gov/analysis/studies/powerplants/capitalcost/pdf/capital_cost_aeo2020.pdf, pg. 77-78,
respectively.

1 ordering long lead time materials, lock in labor, and purchase other materials to support
2 the overall project schedule. Delaying the NTP date may result in increased costs. One of
3 the last milestones in the construction of a power plant is achieving substantial completion
4 and the start of commercial operations of the plant.

5 Based on data collected by the EIA, the typical duration of a simple cycle power
6 plant project is approximately 40 months. This includes the development, permitting,
7 engineering, construction, testing and commissioning activities culminating in the project
8 being completed and placed into service. If a project incurs delays, significant additional
9 costs will be incurred. In the case of Newman Unit 6, and as explained in more detail in
10 the direct testimony of EPE witness David Rodriguez, the project was delayed over six
11 months as a result of late equipment deliveries and labor shortages at the various stages of
12 the supply chain, including raw materials, manufacturing, and logistics, which increased
13 the cost of the project.

14 15 **IV. Material and Equipment Cost Impacts**

16 Q18. WHAT TYPE OF IMPACT CAN MATERIAL COST INCREASES HAVE ON THE
17 COSTS FOR CONSTRUCTING A POWER PLANT SUCH AS NEWMAN UNIT 6?

18 A. There are both direct and indirect material costs associated with a power plant construction
19 project such as Newman Unit 6. As I previously mentioned, the direct cost of materials is
20 approximately 3%-7% of the capital cost of the project. Further, the major equipment
21 purchase contract usually accounts for approximately 35%-40% of total capital costs of a
22 power plant.⁹ The cost of major equipment is indirectly impacted by the cost of the raw
23 materials used to manufacture the components of such equipment. As such, increases in
24 the cost of the materials used in the on-site construction, as well as the material used in the
25 manufacturing of the equipment installed in the plant, have a significant impact on the
26 overall cost of the project.

27

⁹ https://www.eia.gov/analysis/studies/powerplants/capitalcost/pdf/capital_cost_AEO2025.pdf, pg. 69-70 and
https://www.eia.gov/analysis/studies/powerplants/capitalcost/pdf/capital_cost_ao2020.pdf, pg. 77

1 Q19. WHAT HAS HAPPENED TO THE COSTS FOR MATERIALS USED FOR POWER
2 PLANT CONSTRUCTION SINCE 2017?

3 A. The types of raw materials used in the construction of a power plant include concrete,
4 lumber, nickel, steel, electrical-grade copper, cobalt, chromium, aluminum, and various
5 high-temperature specialty metal alloys. A review of the costs of these materials over the
6 period from 2017 through 2023 reflects the high levels of price inflation that were
7 experienced, particularly after early 2020.

8 In evaluating the inflation of material prices, I used data from the Producer Price
9 Index ("PPI") that is produced by the United States Bureau of Labor Statistics ("BLS").
10 The PPI is an economic indicator that measures the average change over time in the selling
11 prices received by domestic producers for their goods and services. The PPI is a key
12 indicator of inflation of the selling price received by the producer.

13 For each category of material used in the construction of a power plant such as
14 Newman Unit 6 or in the manufacturing of the major equipment for such a plant, Table 5
15 below shows: 1) the percentage change in the PPI (*i.e.*, inflation percentage) from January
16 2017, when the costs of the Newman Unit 6 project were first estimated, to January 2020;
17 and 2) the peak percentage change since January 2017 that occurred after January 2020.
18 Individual figures for each of the materials, showing how the percentage change in the
19 index value during the 2017 through 2023 period, are provided in Appendix B.

20 **Table 5: Summary of the Producer Price Index Inflation for Materials**

Description	Inflation % Relative to 2017	
	Thru Jan. 2020	Peak after Jan. 2020
1 Construction Materials	6%	59%
2 Copper and Copper Products	1%	58%
3 Metals and Metal Products: Nickel and Nickel-Base Alloy Mill Shapes	6%	59%
4 Metals and Metal Products: Hot Rolled Steel Bars, Plates, and Structural Shapes	6%	93%
5 Aluminum Sheet, Plate, and Foil Manufacturing	4%	44%
6 Ready-Mix Concrete Manufacturing: Ready-Mix Concrete for South Census Region	6%	37%
7 Lumber and Wood Products: Lumber	1%	111%

1 As illustrated in Table 5 and the corresponding Appendix B, the indices generally
2 show minimal price inflation during the 2017 through January 2020 period. However, after
3 January 2020, all materials experience significant price inflation, with the peak increase
4 ranging from 37% (concrete) to 111% (lumber). The significant inflation experienced in
5 each category of material prices was extraordinary and could not have been predicted in
6 2017 when EPE developed its initial cost estimate for Newman Unit 6, or when the
7 application for Newman Unit 6 CCN authorization was filed in November 2019. This
8 inflation clearly had a substantial impact on the cost of materials and equipment
9 manufactured inclusive of those materials used in the Newman Unit 6 construction project,
10 resulting in cost increases that could not have been foreseen.

11
12 Q20. WHAT HAS HAPPENED TO THE COSTS FOR MANUFACTURED EQUIPMENT
13 SINCE 2017?

14 A. In evaluating how the price of commodities and manufactured equipment have changed, I
15 again used PPI data from the relevant period. I identified data for several commodities and
16 equipment that are installed in combustion turbine power plants. A summary of the
17 percentage change in the indices from January 2017 through December 2023 is shown in
18 Table 6 below. Individual percentages for each commodity and equipment type, showing
19 how the percentage change in the index changed during the 2017 through 2023 period, are
20 provided in Appendix C to my testimony.

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**Table 6: Summary of the Producer Price Index Inflation
for Power Plant Commodities and Equipment**

Description	Inflation % Relative to 2017	
	Thru Jan. 2020	Peak after Jan. 2020
1 Metals and Metal Products: Electronic Wire and Cable	38%	84%
2 Metals and Metal Products: Power Wire and Cable	20%	176%
3 Machinery and Equipment: Noncurrent-Carrying Electrical Conduit and Conduit Fittings, Including Plastic Conduit and Fittings	6%	154%
4 Electric Power and Specialty Transformer Manufacturing	14%	83%
5 Power Boiler and Heat Exchanger Manufacturing: Fabricated Heat Exchangers and Steam Condensers (Excluding Nuclear Applications)	10%	46%
6 Power Boiler and Heat Exchanger Manufacturing	12%	52%
7 Turbine and Turbine Generator Set Units Manufacturing Vintage	6%	23%
8 Total Manufacturing Industries	5%	41%

As seen in Table 6 and Appendix C, the indices show relatively moderate price inflation during the 2017 through January 2020 period. However, after January 2020 all categories experienced significant price inflation, with the peak increase ranging from 23% (turbines) to 176% (power wire and cable). Not surprisingly, these price increases are similar to those experienced for power plant construction materials that were previously discussed and resulted in material cost increases in the Newman Unit 6 construction project.

Q21. AT A HIGH LEVEL, WHAT WERE THE CAUSES OF THESE EXTREME INCREASES IN CONSTRUCTION MATERIAL AND EQUIPMENT COSTS?

A. Primarily, the cost increases resulted from major supply chain delays and disruptions, which were driven by the COVID-19 pandemic, the Russia-Ukraine war, and sanctions against Russia following the outbreak of that war. These unpredictable and unforeseeable events impacted an already tight supply chain from mid-2020 through 2023.

1 **V. Labor Cost Impacts**

2 Q22. GENERALLY WHAT TYPES OF LABOR COSTS CAN IMPACT THE OVERALL
3 CONSTRUCTION COSTS OF A PLANT LIKE NEWMAN UNIT 6?

4 A. During the process of building power plants, there are many types of labor that are used.
5 Early in the project development process, the labor generally consists of power plant
6 architects and engineers, estimators, and contract specialists. During the construction
7 process, the construction labor forces include skilled craft, heavy equipment operators,
8 carpenters, masons and concrete finishers, ironworkers, electricians, welders,
9 boilermakers, millwrights, pipe fitters, riggers, insulators, teamsters, technicians, and
10 general laborers. These labor groups are used in the construction of the plant and the
11 installation of the equipment. In addition, throughout the entire project, project
12 management will be involved for both the owner and the project contractors. As previously
13 mentioned, labor itself is usually one of the largest components of the construction cost of
14 a power plant and is approximately 35% - 40% of the total project cost.¹⁰ Therefore, the
15 cost of each labor group has a direct and substantial impact on the overall total cost of a
16 power plant such as Newman Unit 6.

17
18 Q23. WHAT TYPE OF IMPACTS CAN INCREASED LABOR EXPENSES HAVE ON THE
19 COSTS OF CONSTRUCTING A PLANT LIKE NEWMAN UNIT 6?

20 A. Obviously, the wage rates of the various labor groups used during the construction of a
21 power plant, as well as the labor involved in the manufacturing and installation of the
22 equipment, will have a direct impact on the cost of labor and therefore the overall cost of
23 the power plant. In addition to wage rates, the use of overtime can impact the labor costs
24 since most of the labor, except for salaried employees, will be paid time and a half or double
25 time, depending on the number of hours worked and other factors.

26 Another component of the overall labor cost is the productivity of the workers. If
27 the workers are more productive than anticipated, the total hours worked will be less than
28 the estimate, so the cost of the labor will be reduced. However, if productivity is worse

¹⁰ https://www.eia.gov/analysis/studies/powerplants/capitalcost/pdf/capital_cost_AEO2025.pdf, pg. 69-70 and
https://www.eia.gov/analysis/studies/powerplants/capitalcost/pdf/capital_cost_aeo2020.pdf, pg. 77

1 than anticipated, the total labor hours incurred will increase, as will the associated cost of
2 the labor. The negative impact on productivity resulting from the COVID-19 pandemic is
3 discussed later in my testimony.

4 In construction there are generally two primary issues that can cause productivity
5 to decline - the use of overtime and stacking of trades. Numerous studies have been
6 conducted that show that the duration and the amount of overtime worked can adversely
7 impact productivity.¹¹ Stacking of trades occurs when congestion of labor forces is
8 experienced in a work area. This congestion slows down the craft, as they must work
9 around other craft, and as a result, the productivity of the craft is negatively impacted.

10 On construction projects, it is common to use overtime to accelerate project
11 completion. This in turn can also result in the stacking of trades. Another factor impacting
12 productivity is as the project nears completion, productivity is reduced. During the
13 construction of the Newman Unit 6 plant, it was deemed necessary to issue a change order
14 to Casey-MasTec for the addition of a night shift to accelerate the completion of the
15 project.¹² The \$6.7 million value of this change order is in part why the total cost of the
16 plant increased. The rationale and justification for executing this change order is discussed
17 in detail in the direct testimony of EPE witnesses Rodriguez and Victor Martinez.

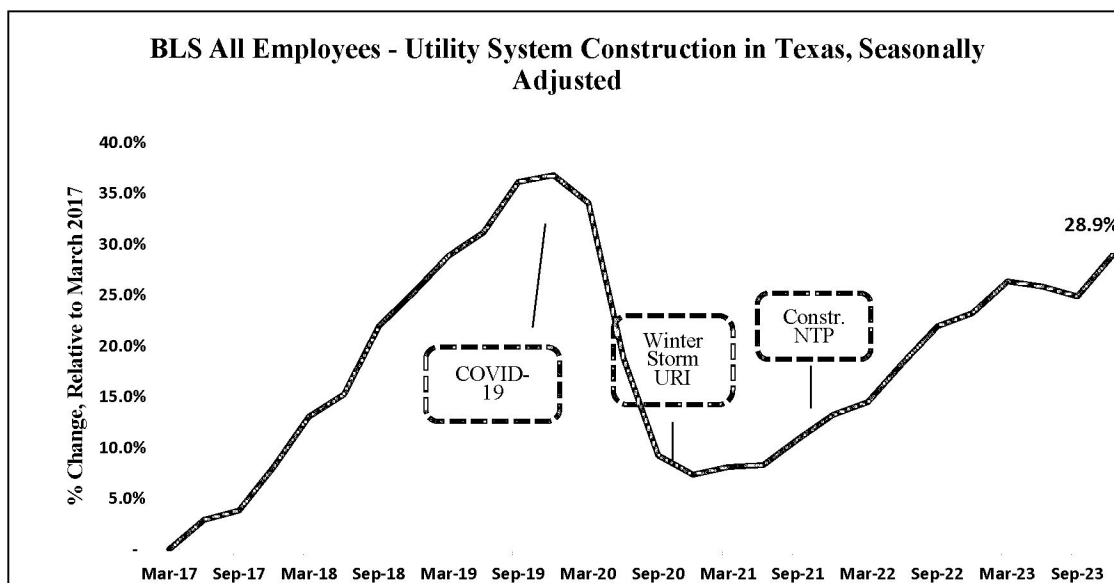
18
19 Q24. IN GENERAL, WHAT HAS HAPPENED TO THE COSTS OF LABOR IN THE POWER
20 PLANT CONSTRUCTION INDUSTRY SINCE 2017?

21 A. Since 2017, construction labor costs have increased over 33%. There have been significant
22 impacts on both the availability and the costs of construction labor since March 2017.
23 COVID-19 had a significant impact on the availability of construction labor worldwide.
24 Figure 1 below shows the change in the percentage of workers employed in the
25 construction of utility systems in Texas during the 2017-2023 period, based on data
26 provided by the BLS.

¹¹ The productivity studies include: National Electrical Contractors Association, *Overtime and Productivity in Electrical Construction*, 2nd Edition, 1989; and, The Construction Industry Institute, *Effects of Scheduled Overtime on Labor Productivity: A Quantitative Analysis*, 1994.

¹² Change Order 20 to Casey-MasTec's contract.

Figure 1: BLS for Construction Labor Population¹³



This figure depicts the extreme reduction in the utility system construction workforce in Texas starting at the beginning of the COVID-19 pandemic in the United States. This reduction continued until early 2021, when the workforce began to increase. However, even by the end of 2023, the workforce was still smaller than what it had been at its peak in early 2020.

This same trend is also seen in Figure 2 below, which depicts the fluctuation in the heavy and civil construction workforce in Texas over the 2017 through 2023 period. Heavy and civil work is generally the very first type of activity that is performed at a power plant construction site.

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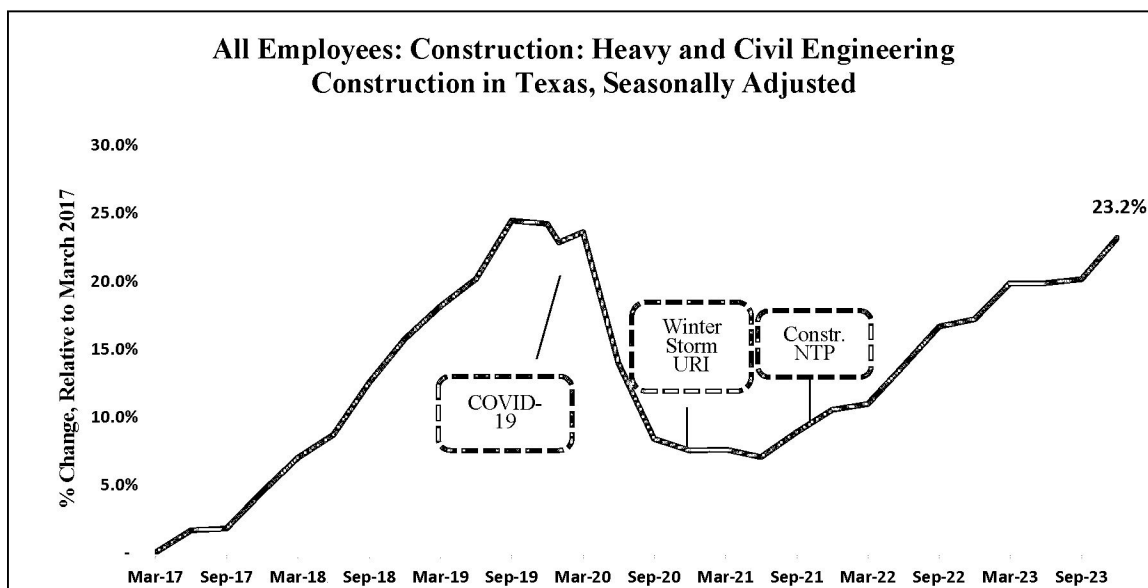
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¹³ <https://alfred.stlouisfed.org/series?seid=SMU48000002023710001SA>

1 **Figure 2: BLS for Construction for Heavy and Civil Engineering¹⁴**

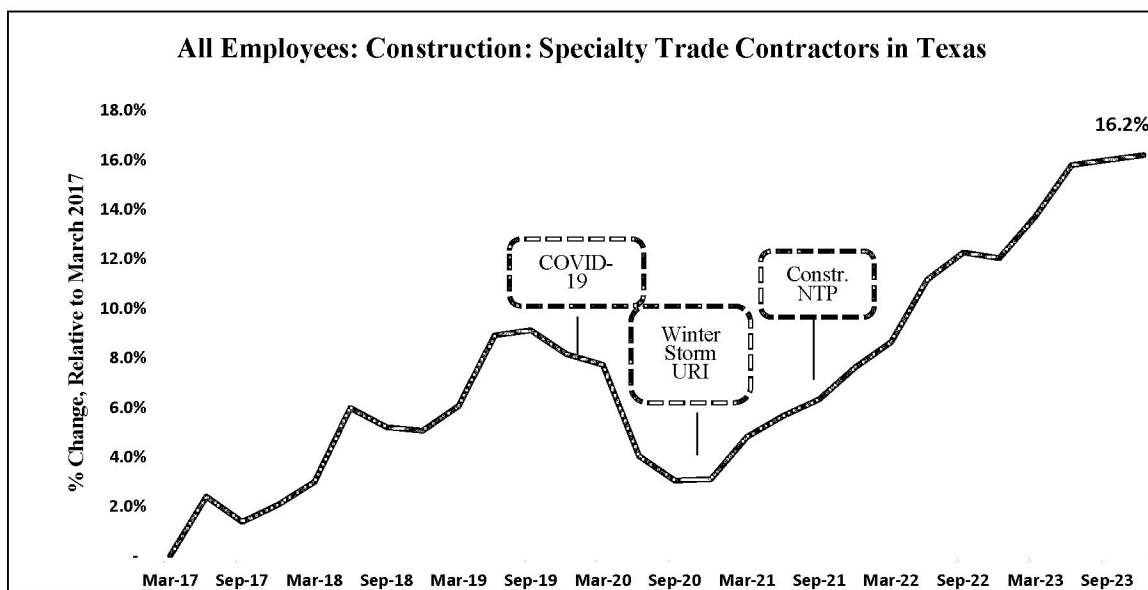


13 The construction of power plants includes the use of specialty trade contractors.

14 The fluctuation in the workforce of this labor group over the 2017 through 2023 period is

15 shown in Figure 3 below.

16 **Figure 3: BLS for Construction: Specialty Trades¹⁵**



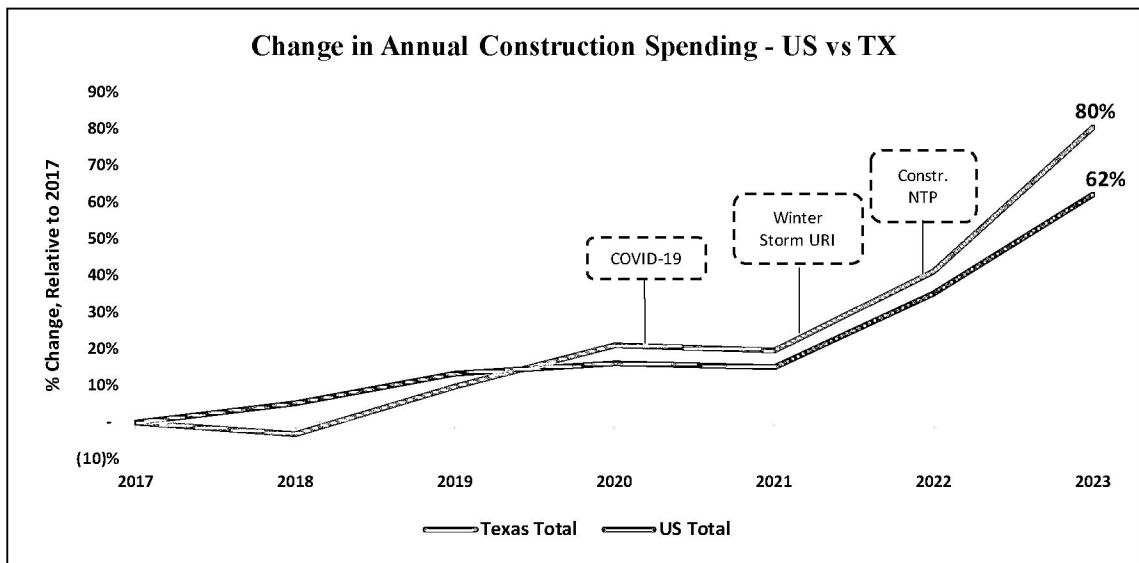
¹⁴ <https://alfred.stlouisfed.org/series?seid=SMU48000002023700001SA>

¹⁵ <https://alfred.stlouisfed.org/series?seid=SMU48000002023800001>

1 Figure 3 reflects the beginning of a reduction in the workforce of specialty trade
2 contractors in March 2020, at the time the COVID-19 pandemic began in the United States.
3 The workforce did not regain its pre-COVID-19 population until about the summer of
4 2022.

5 While the above figures show the significant reduction in the Texas construction
6 workforce that occurred in conjunction with the COVID-19 pandemic, the demand for the
7 workforce in Texas increased, as measured by the value of the construction that was
8 installed.¹⁶ The percentage change in the annual value of construction installed over the
9 2017 through 2023 period is shown in Figure 4 below. From this figure, it is evident that
10 the percentage change in Texas exceeded that of the United States.¹⁷

11 **Figure 4: Census Bureau: Change in Annual Construction Spending**

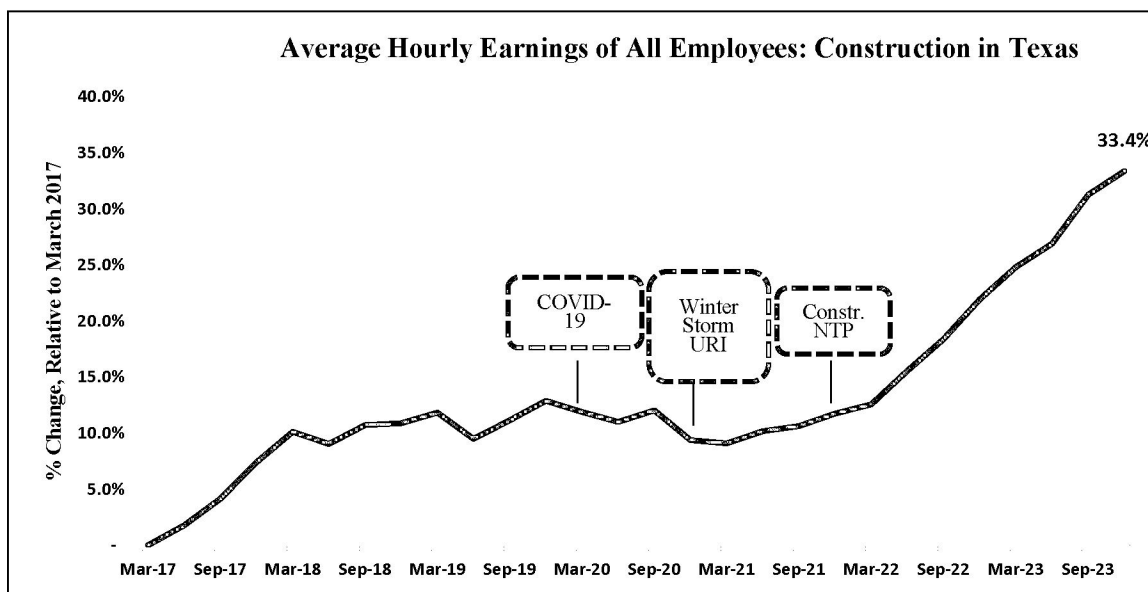


23 Due to the imbalance between the available workforce and the demand for their
24 services, contractors were forced to increase wages to retain existing employees and hire
25 new employees. Figure 5 below shows the increase in the average hourly earnings of
26 construction workers in Texas over the 2017 through 2023 period.

¹⁶ United States Census Bureau construction spending,
https://www.census.gov/construction/c30/historical_data.html

¹⁷ The percentage change was calculated using the combined annual installed construction value of state and local government projects, and, private non-residential construction projects, as reported by the United States Census Bureau.

1 **Figure 5: BLS for Average Hourly Wage Inflation in Texas¹⁸**



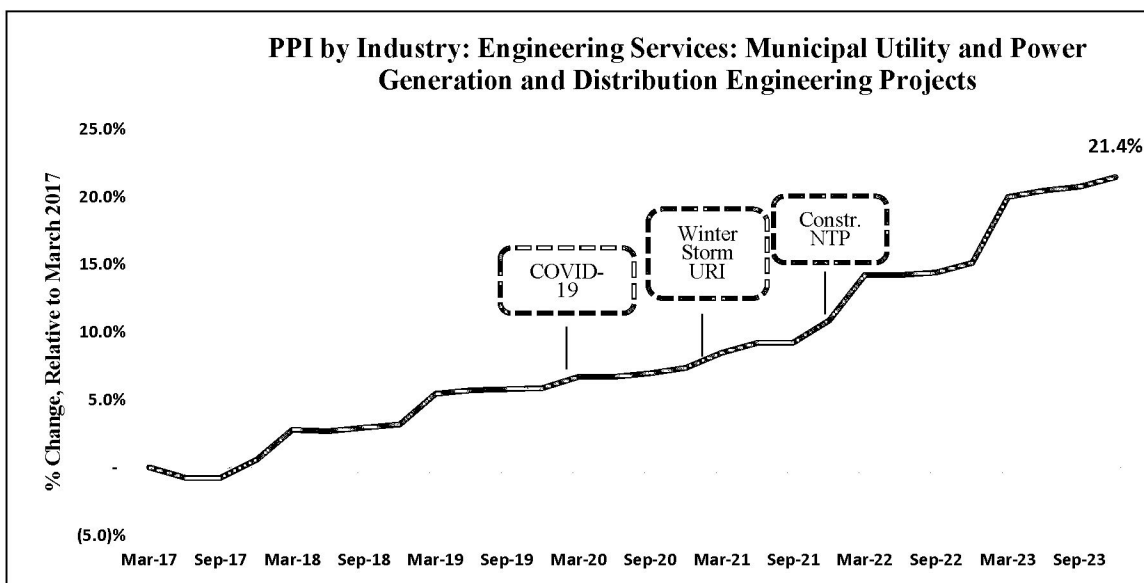
13 This figure shows that construction wages in Texas were relatively constant during the
 14 2018 through 2021 period. However, from 2022 through 2023, the average wage increased
 15 from approximately 13% to 33%, an increase of 20%. This unusually large and rapid
 16 increase in construction labor wages could not have been anticipated when the original cost
 17 estimate for the Newman Unit 6 project was developed in 2017 or at the time the
 18 application for CCN authorization for Newman Unit 6 was filed in November 2019.

19 In addition to construction wages increasing significantly, the cost of engineering
 20 services also increased. Figure 6 below shows the increase in the PPI for Engineering
 21 Services - Municipal Utility & Power Generation & Distribution Engineering Projects over
 22 the 2017 through 2023 period.

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¹⁸ <https://alfred.stlouisfed.org/series?seid=SMU48000002000000003>

1 **Figure 6: PPI for Power Generation Projects¹⁹**



13 This figure shows that the cost of engineering services gradually increased a total
14 of about 10% from 2017 through 2021. However, during the subsequent period of 2022
15 through 2023, the cost increased approximately 11%, which is more than the total increase
16 over the prior six years. Again, this rapid and substantial increase in engineering services
17 costs could not have been anticipated when the original cost estimate for the Newman Unit
18 6 project was developed in 2017 or when the CCN authorization application was filed.

19

20 Q25. WHAT IS THE IMPACT OF INCREASED LABOR COSTS AND LABOR
21 SHORTAGES ON DELAYS IN PROJECT COMPLETION?

22 A. The supply chains necessary to produce the wide array of equipment used in the
23 construction of a combustion turbine power plant are complex. For example, up to seven
24 global supply chain steps may be involved in producing a turbine blade.²⁰ Considering that
25 a combustion turbine contains more than 1,000 precision parts cast from a range of metal
26 alloys, one can start to grasp the vastness of the supply chains involved in producing power
27 plant equipment. Due to the numerous supply chains required and the complexity of the

¹⁹ <https://alfred.stlouisfed.org/series?seid=PCU541330541330202>

²⁰ Journal of Critical Infrastructure Policy, Spring/Summer 2020

1 manufacturing process, the delivery time for a combustion turbine and generator, like the
2 one installed at Newman Unit 6, is typically estimated to be two to three years.

3 A typical equipment supply chain includes acquiring raw material and then refining
4 and processing it. This is followed by the fabrication of a part and then multiple steps of
5 subcomponent and component assembly. Finally, multiple components are assembled into
6 the final piece of equipment. Each step of the process requires transportation of the
7 material and each part to a subsequent facility. A significant amount of skilled labor is
8 involved in each of these steps. As such, labor shortages can cause delays in the completion
9 of any of these steps, which then delays the final completion of the equipment, absent any
10 efforts to accelerate the completion date.

11 As previously discussed, labor cost is approximately 35%-40% of the power plant
12 construction cost. When there is a shortage of skilled labor on the construction site, the
13 progress of the work is slowed, which will extend the construction completion schedule
14 absent implementation of mitigating efforts. Even if the labor shortage is specific to one
15 of the trades, this will typically result in a delay to the project given the complex sequencing
16 and interrelationships between construction activities.

17 There are generally two options that can be used to address a labor shortage and
18 resulting delays to the project: 1) increase the wage rates offered to skilled labor to attract
19 more personnel to staff the project; and 2) implement the use of overtime to mitigate the
20 delays that result from a shortage of labor. Both of these options will result in an increase
21 to the cost of a project.

22
23 **VI. Impacts on Power Plant Construction**

24 Q26. PLEASE EXPLAIN GENERALLY THE CHANGES THAT OCCURRED IN THE
25 POWER PLANT CONSTRUCTION INDUSTRY FROM 2020 THROUGH THE
26 PRESENT.

27 A. Since 2020, two primary events have negatively impacted the scheduling and pricing
28 aspects of the power plant construction industry.

1 **COVID-19 Pandemic:**

2 The primary event that impacted the power plant construction industry was the
3 COVID-19 pandemic, which caused many businesses to shut down across the globe. In the
4 United States, this impact began in March 2020. By April 2020, numerous new electric
5 generating unit projects were reporting that they were experiencing delays in the planning,
6 permitting, construction or testing phases of their projects because of the pandemic.²¹ On
7 construction projects that were ongoing, the productivity of the labor workforce overall
8 was significantly impacted due to the protocols implemented to fight against the pandemic.
9 These protocols included social distancing, limiting groups to ten or less people, staggering
10 shifts and breaks, limiting tool sharing, sanitizing shared tools, and health screening of
11 employees.

12 The pandemic also resulted in shortages in labor, material, and supplies, both on
13 the construction site and with equipment manufacturers and suppliers. These shortages
14 resulted in delays and extended lead times in obtaining the necessary material, parts, and
15 equipment. Overall, the pandemic had a severely negative impact on the construction
16 supply chain and resulted in increased costs and project delays.

17
18 **Russia-Ukraine War:**

19 The other primary event that significantly impacted the power plant construction
20 industry during the time Newman Unit 6 was being constructed was Russia's invasion of
21 Ukraine on February 24, 2022, and the subsequent war. As a result of this war, sanctions
22 were implemented on numerous commodities and products exported by Russia, including
23 oil, gas, coal, various metals, and chemicals.²² These sanctions occurred as the United
24 States was slowly recovering from the effects of the COVID-19 pandemic and resulted in
25 renewed and compounded negative impacts on the construction supply chain. The
26 sanctions on Russian oil and gas caused a significant worldwide increase in the cost of
27 gasoline and diesel fuel. This in turn caused increases in the price of most commodities,

²¹<https://www.eia.gov/todayinenergy/detail.php?id=44376#:~:text=In%20March%202020%2C%20163%20of,COVID%2D19%20as%20a%20reason.>

²² <https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/sanctions-against-russia-8211-a-timeline-69602559>

1 materials, and equipment to cover the increased costs of manufacturing and transportation
2 resulting from the higher fuel prices.²³

3
4 Q27. WHAT IMPACT DID THE RATE OF INFLATION HAVE ON POWER PLANT
5 CONSTRUCTION COSTS BEGINNING IN 2020?

6 A. As previously discussed, many of the materials used in the construction of a power plant,
7 as well as the equipment installed in a power plant, experienced significant price increases
8 starting in late 2020 and early 2021. In addition, construction labor wages in Texas also
9 increased during this same period.

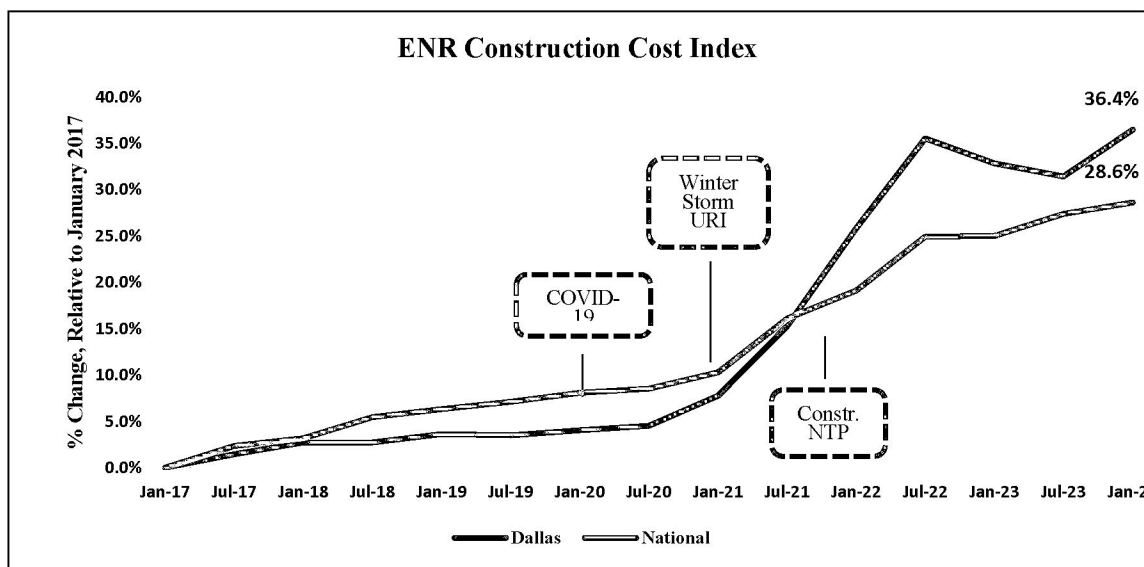
10 Since material, equipment and labor comprise a significant portion of the cost of
11 constructing a power plant, increases in the cost of these items would also substantially
12 increase the overall cost of the project construction.

13 Figure 7 below shows the national average Construction Cost Index over the 2017-
14 2023 period, as published by Engineering News Record ("ENR"), as well as the
15 corresponding index for the Dallas, Texas area. The ENR does not have a cost index for
16 El Paso, Texas. Of the 20 cities for ENR publishes an index, Dallas is the closest city. For
17 purposes of my testimony, Dallas is considered to be a good proxy for changes in
18 construction costs that were experienced in El Paso, Texas, during the same time period.

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²³ <https://crsreports.congress.gov/product/pdf/IF/IF12092>.

1 **Figure 7: ENR Construction Cost Index²⁴**



13 As seen in the above Figure 7, the rate of inflation in the cost of construction both
14 nationally and in the Dallas, Texas, area increased significantly after July 2020. In addition,
15 the figure shows that the inflation during this period in Dallas, Texas, increased more
16 quickly and peaked higher than the national average for this index. From July 2020 to July
17 2022, the national average increased approximately 16%, well above the increase of 7%
18 experienced over the preceding period from January 2017 through July 2020. However,
19 during the July 2020 to July 2022 period, inflation in the Dallas area increased 30%, which
20 is almost two times higher than the national average over the same two-year period. This
21 extremely high rate of inflation that was experienced nationwide and in the Dallas area
22 after July 2020 could not have been predicted when the construction cost estimate for the
23 Newman Unit 6 plant was developed in 2017 or when the CCN authorization filing for
24 Newman Unit 6 was made in November 2019.

25

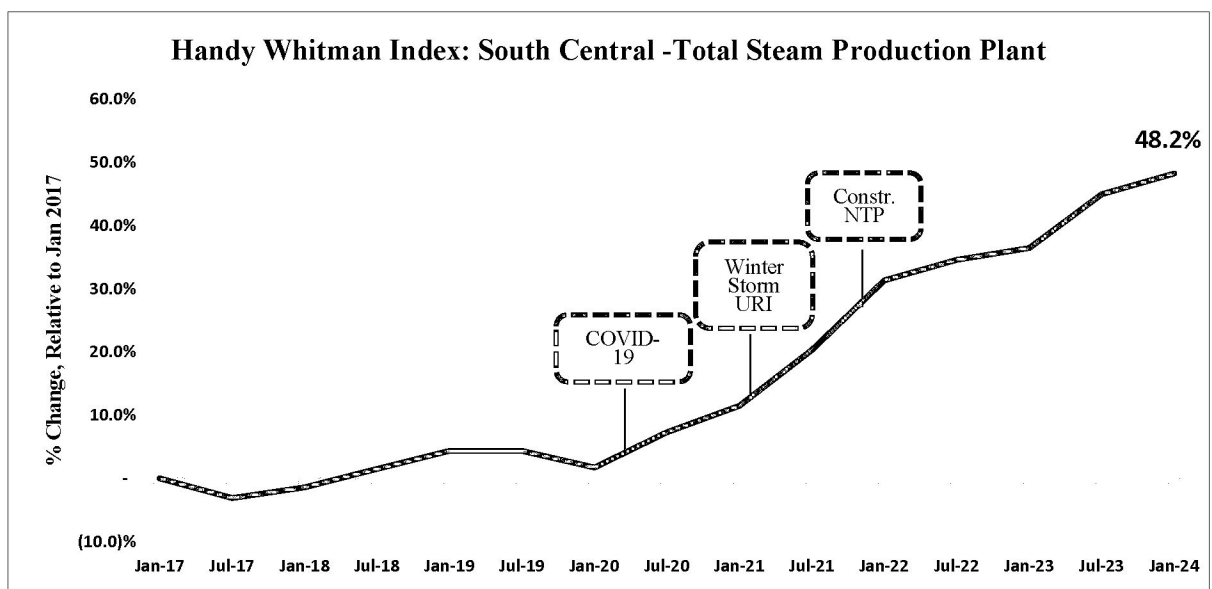
26 Q28. IS THERE ADDITIONAL DATA THAT CORRELATES WITH THE ENR
27 CONSTRUCTION COST INDEX FINDINGS CONCERNING INFLATION IN THE
28 CONSTRUCTION INDUSTRY SINCE JULY 2020?

²⁴ https://www.enr.com/economics/historical_indices/construction_cost_index_history; and
https://www.enr.com/economics/historical_indices/Dallas.

A. Yes. I also reviewed the Handy-Whitman Index of Public Utility Construction Costs, which is a nationally-recognized index published on January 1 and July 1 of each year by Whitman, Requardt and Associates, LLP. The Handy-Whitman Index tracks the changes in cost of constructing public utility infrastructure, including power plants and transmission lines, across different regions. It is primarily used by regulatory agencies and Independent System Operators ("ISOs") such as PJM, New England ISO, ERCOT, CAISO, NYISO and others to monitor fluctuations in power-related generation and transmission capital projects, based on current construction costs (including materials, labor, and equipment) in each specific region. From the power plant perspective, the Handy-Whitman Index is used by the ISOs for determining the annual escalation factors in the calculation of power plant maintenance adders, as part of the variable maintenance cost calculations.

The index helps assess how construction costs for utilities fluctuate over time. Figure 8 below shows the percentage change in the published index for the South-Central Region (which includes Texas) from January 2017 through January 2024.

Figure 8: Handy-Whitman Index – South-Central Region



As seen in Figure 8, the cost of power plant construction after January 2020 experienced a significant jump – increasing by approximately 46% by the end of 2023, when construction of Newman Unit 6 was completed. The post-January 2020 inflation in power plant construction costs in the South-Central region, per the Handy-Whitman Index,

1 is very similar to the inflation of general construction costs in the Dallas, Texas, area
2 reflected in the ENR index shown above in Figure 7.

3 As a result of the high inflation post-January 2020 that was experienced across the
4 construction industry, and specifically in power plant construction as seen in the Handy-
5 Whitman Index, typical power plant construction projects with budgets that were
6 developed in 2017 and with construction start dates after January 2020 would have
7 experienced substantial cost overruns.

8
9 Q29. WHAT WAS THE IMPACT ON POWER PLANT PROJECT COSTS OF THE
10 WORLDWIDE DEMAND AND COMPETITION FOR COMBUSTION TURBINE
11 POWER PLANT CONSTRUCTION RESOURCES BEGINNING IN 2020?

12 A. According to the Gas Turbine World publication, global demand for power generation
13 equipment between 2017 and 2020 saw a decline.²⁵ This downturn resulted in a reduced
14 demand for equipment across all power generation technologies; however, renewable
15 energy sources like solar and wind saw a continued increase in investment during this time,
16 and the demand for renewable balance of plant equipment grew. In fact, the generation
17 capacity added in the form of renewable power plants increased over 50% worldwide
18 between 2022 and 2023 for a record addition of 507 GW. The ramp up of the intermittent
19 renewable power plant sources (solar and wind primarily) and the retirement of coal-fired
20 generation capacity coincided with a rebound in gas turbine demand aimed at addressing
21 the need for back-up power generation for renewable resources and for electric utility
22 peaking. This increase in gas turbine demand is evidenced by the addition of 9,132 MW
23 of new natural gas-fired turbine generating capacity in the United States in 2023.²⁶ This
24 total consisted of 7,376 MW of gas turbine capacity in new combined-cycle plants and
25 1,756 MW of new simple cycle gas turbine capacity.²⁷

26

²⁵ <https://gasturbineworld.com/gas-turbine-market-forecast-2021/>

²⁶ <https://gasturbineworld.com/market-forecast/>

²⁷ *Id.*

1 **Impact of Inflation and Interest Rates:**

2 Q30. WHAT WAS THE INTEREST RATE AND INFLATIONARY ENVIRONMENT
3 DURING THE TIME FRAME THAT NEWMAN UNIT 6 WAS DEVELOPED AND
4 CONSTRUCTED?

5 A. The United States Federal Reserve's monetary policy is geared towards keeping prices
6 stable and maximizing employment. To achieve that, the Federal Open Market Committee
7 adjusts the "Federal Funds Rate" in response to economic activity and signals. Generally
8 speaking, if the economy starts experiencing too much inflation, it raises interest rates, and
9 when the economy starts to weaken (*i.e.*, high unemployment), interest rates decrease.

10 In addition to these basic tenets, several other factors play into the Federal Reserve's
11 decisions on interest rates, including consumer spending, gross domestic product growth,
12 and major events such as a large terrorist attack, a financial crisis or a global pandemic.

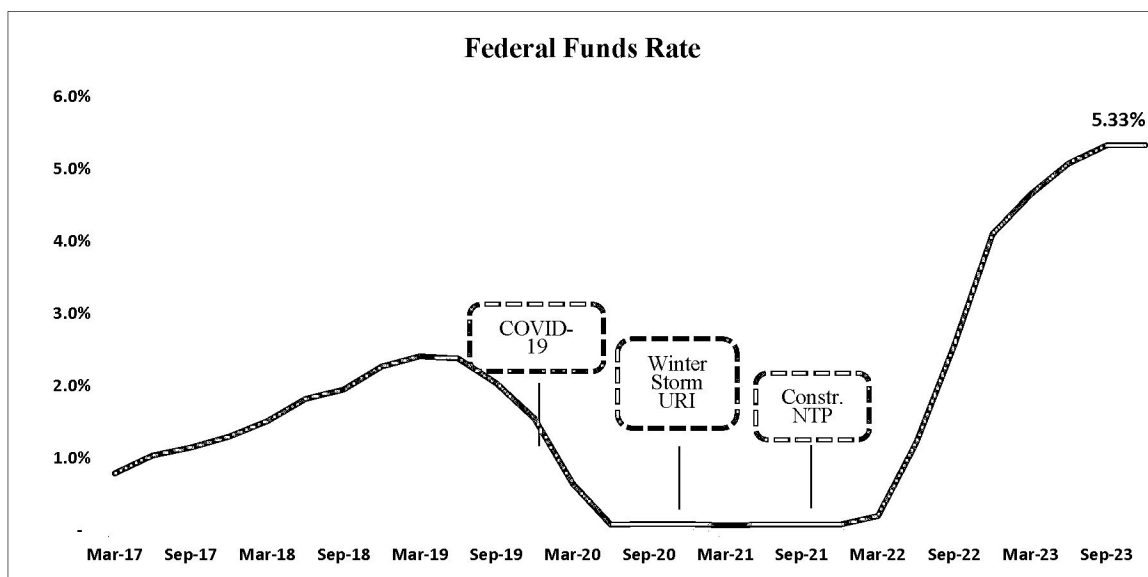
13 Over the period of 2018 through 2023, the financial markets experienced an
14 atypical cycle where the interest rates were constant for the first few years, with the Federal
15 Funds Rate ranging from approximately 1.5% to 2.5% through the spring of 2019 and then
16 declining gradually until the COVID-19 pandemic occurred beginning in early 2020.

17 The pandemic sent the markets into a period of uncertainty, affecting interest rates
18 around the globe. With the pandemic spreading across the globe and lockdowns being
19 imposed, the economy quickly began falling into a recessionary state, causing widespread
20 unemployment.²⁸

21 As a result, the Federal Reserve cut rates twice in March 2020 and the resulting low
22 rate (close to 0%) environment continued from April 2020 until the beginning of 2022,
23 despite the economy having shown signs of recovery as early as mid-2020. Once inflation
24 increased sharply in early 2022, the Federal Reserve raised rates aggressively over the next
25 16 months by more than 5% to help curb the increasingly higher prices. The changes in
26 the Federal Funds Rate are evidenced in Figure 9 below.

²⁸ <https://www.bls.gov/opub/mlr/2021/article/unemployment-rises-in-2020-as-the-country-battles-the-covid-19-pandemic.htm>

Figure 9: Interest Rates²⁹



The increase in the Federal Funds Rate in 2022 and 2023 impacted the cost of capital throughout the entire supply chain that is necessary for the construction of power generation plants, including Newman Unit 6.

Q31. WHAT WAS THE IMPACT OF INCREASED BORROWING COSTS ON POWER PLANT CONSTRUCTION DURING THE TIME FRAME THAT NEWMAN UNIT 6 WAS DEVELOPED AND CONSTRUCTED?

A. Utilities typically finance the cost of constructing a power plant via some level of borrowing. When constructing a power plant, utilities typically use a regulatory method known as Allowance for Funds Used During Construction ("AFUDC") to recover the costs of financing new facilities.³⁰

EPE's 2017 estimated cost of the Newman Unit 6 project was \$154.3 million, which included \$16.2 million in AFUDC costs. At the end of the project, the total cost of the plant was \$217.3 million, including \$17.9 million in AFUDC. As a result, the AFUDC cost overran the budget value by approximately \$1.7 million. An increase in the AFUDC

²⁹ <https://fred.stlouisfed.org/series/FEDFUNDS>.

³⁰ <https://ferc.gov/enforcement-legal/enforcement/accounting-matters/allowance-funds-used-during-construction>.

1 cost would be expected given the increase in the total project cost, as well as the delay of
2 over six months in completing the project.

3
4 **Extreme Weather Events**

5 Q32. WHAT WAS THE IMPACT OF WINTER STORMS ON TEXAS POWER PLANT
6 PROJECTS IN PARTICULAR DURING THE 2020 THROUGH 2023 TIME FRAME?

7 A. In February 2021, while the impact of COVID-19 was still prevalent, Texas experienced
8 Winter Storm Uri, which is one of the five deadliest and most expensive storms to ever hit
9 Texas. The weather was so severe that it caused freezing of fuel supply pipelines and
10 related facilities, including wellheads at natural gas production facilities, along with
11 freezing of compressors and generating stations. As a result of the issues experienced
12 during Winter Storm Uri, FERC and NERC published a joint report in November 2021
13 with key findings, causes, lessons learned and recommendations to revise NERC reliability
14 standards to prevent such an occurrence in the future. As a follow-up to that report, NERC
15 has issued a set of requirements and measures for Generator Owners to comply with to help
16 mitigate the reliability impacts of extreme cold weather on their power plants. As a result
17 of these measures, each power plant unit in commercial operation prior to October 1, 2027
18 (the category that Newman 6 would fall into) is required to implement freeze protection
19 measures for critical components so that the power plant is capable of operating the unit in
20 extreme cold weather temperatures, or to develop a corrective action plan to add new or
21 modify existing freeze protection measures to make the unit capable of operating in
22 extreme cold weather temperatures. These new weatherization requirements resulted in an
23 increase in capital costs for existing as well as new generators not just in Texas, but all
24 over the country. The construction labor market also saw a jump in demand, as not only
25 did new generators require skilled labor, but existing generators needing to weatherize
26 existing plants required skilled labor as well.

27
28 Q33. DID YOU DIRECTLY EXPERIENCE THE IMPACTS OF THESE OVERALL
29 CHANGES AS PART OF YOUR CONSULTING BUSINESS?

30 A. Yes. I was directly involved in power plant projects during the time frame in which
31 Newman Unit 6 was developed and constructed. These projects included the Entergy Lake

1 Charles Power Station, the Entergy St. Charles Power Station, the Duke Ashville
2 Combined Cycle Power Station, Indiana Power & Light's Eagle Valley Generating Station,
3 the PSEG Keys Energy Center, and the Calpine York 2 Energy Center. Specifically, in
4 Texas, I was involved in Entergy's Montgomery County Power Station and the power
5 plants located at Freeport LNG and Cameron LNG projects along the Texas Gulf Coast.

6 Like Newman Unit 6, each of these projects experienced significant supply chain
7 delays and price escalation, labor shortages, construction delays and resulting overall cost
8 overruns.

9
10 Q34. WHAT ARE SOME INDUSTRY-WIDE SOURCES OF DATA FOR CHANGES IN
11 POWER PLANT CONSTRUCTION COSTS?

12 A. There are several industry-wide resources that are commonly used to analyze the total cost
13 of constructing a power plant, selected aspects of the construction cost, and in some
14 instances the historical changes in these costs. Some of these resources include the Handy-
15 Whitman Index, reports published by the EIA, the data sets produced by ENR, Gas Turbine
16 World handbooks, and RS Means handbooks, among others.

17
18 **VII. Conclusions Regarding Newman Unit 6 Cost Increases**

19 Q35. HOW WOULD YOU CHARACTERIZE THE COST INCREASES EXPERIENCED ON
20 THE NEWMAN UNIT 6 PROJECT FROM THE ORIGINAL COST ESTIMATE
21 PRESENTED IN THE CCN FILING TO THE FINAL ACTUAL COST?

22 A. Based on the \$154.3 million budget for the Newman Unit 6 plant that was prepared in 2017
23 and the \$217.3 million final cost of the plant when it was completed in December 2023,
24 the total cost increase was 41%, as shown in Table 7.

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Table 7 – Calculation of Newman Unit 6 Cost Increases (Decreases)

Description	Budget	Actual Cost (as of Sept. 30, 2024)	Cost Increase	% Change from Total Budget
Turbine/Generator with Auxilliaries and Hot SCR	\$ 59,500,000	\$ 69,541,901	\$ 10,041,901	7%
Balance of Plant Equipment	\$ 14,444,000	\$ 19,825,943	\$ 5,381,943	3%
Construction, Engineering and Owner Costs	\$ 64,160,971	\$ 110,031,098	\$ 45,870,127	30%
Plant Cost Subtotal (excluding Substation)	\$ 138,104,971	\$ 199,398,943	\$ 61,293,972	40%
AFUDC (excluding Substation)	\$ 16,212,498	\$ 17,911,719	\$ 1,699,222	1%
Total Plant Cost (excluding Substation)	\$ 154,317,469	\$ 217,310,662	\$ 62,993,194	41%

The total project costs for Newman Unit 6 increased approximately 41% from the 2017 cost estimate developed and bid into the 2017 RFP to the final actual costs that were incurred through September 30, 2024. Table 7 also shows that the 7% cost growth in the turbine and generator with auxiliaries and hot SCR equipment as well as the 30% cost growth in the engineering, construction and owner costs comprise almost all of the total cost increases for the Newman Unit 6 project on a percentage basis.

As previously shown above in Table 6 above, the inflation in the PPIs for various commodities and equipment was significant, ranging from 23% to 176% during the 2017 through December 2023 period. This level of inflation is higher than the overall 7% cost growth in the turbine and generator costs or the 3% cost growth in the balance of plant equipment that was experienced at the Newman Unit 6 plant. Based on the PPI information, the cost increase at Newman Unit 6 for the turbine generator and balance of plant equipment is reasonable.

The ENR Construction Cost Index for the Dallas, Texas area showed: 1) that inflation during the 2017 through 2023 period peaked at over 35%, and 2) that from the onset of the COVID-19 pandemic in 2020 through 2023, inflation was approximately 30%. In addition, the Handy-Whitman Index for the South-Central Region as discussed above and shown in Figure 8 identified a 48% increase in power plant construction costs from January 2020 through January 2024. The inflation experienced during the period of 2020 through 2023, as determined by both the ENR and Handy-Whitman indices, is higher than the overall 41% cost growth that was experienced at the Newman Unit 6 plant.

Therefore, based on the PPI information as well as the data from the ENR and Handy-Whitman indices, it is my opinion that the overall cost growth at Newman Unit 6 is reasonable.

1
2 Q36. WHAT ADDITIONAL ISSUES SHOULD BE CONSIDERED WHEN ANALYZING
3 THE COST GROWTH AT NEWMAN UNIT 6?

4 A. My review of the estimated and actual costs for the Newman Unit 6 project revealed two
5 other issues that I believe should be considered when analyzing the cost growth. They are
6 contingency and cost of acceleration.

7 **Contingency:**

8 In reviewing the \$154.3 million budget for the Newman Unit 6 plant, the contingency is
9 listed as \$5.1 million. This is about 3.4% of the budgeted costs, which I view as a
10 conservative budget for contingencies. As previously mentioned, the typical contingency
11 for a project like Newman Unit 6 is in the 5% to 15% range. Therefore, it is my opinion
12 that the contingency level in the original Newman Unit 6 budget is less than what is
13 included as a typical contingency.

14 **Acceleration:**

15 Additionally, as mentioned previously, Casey-MasTec's actual construction cost included
16 approximately \$6.7 million for acceleration activities. The EPE project team deemed it
17 reasonable, prudent and necessary to add a night shift in an effort to complete the project
18 before the end of the summer peak period. As such, this cost is not due to inflation or a
19 change in scope. However, I understand that this was the least-cost option for EPE at that
20 late stage of the construction process in an effort to finish the project as close to the original
21 schedule as possible and help meet the capacity needs that EPE had forecasted for the
22 summer of 2023. EPE's witness Martinez discusses in his direct testimony the analysis that
23 led to the decision to fund the acceleration activities rather than purchasing equivalent
24 capacity and energy on the market.

25 After incorporating the adjustments for both contingency and acceleration, the
26 Newman Unit 6 plant incurred a cost growth in the range of 22% to 34%.³¹ The cost growth
27 range of 22% to 34% is considerably less than the approximately 48% inflation in power
28 plant construction costs in the South-Central Region from the onset of the COVID-19

³¹ The calculation of these values consists of calculating a revised budget range to include 5% and 15% contingency, along with the associated AFUDC, and calculating a revised actual cost by deducting the cost of the night shift work included in Casey-MasTec's change order 20, along with the associated AFUDC. The cost growth range was then calculated using the revised budget values and the revised actual cost.

1 pandemic in 2020 through 2023, as reported by the Handy-Whitman Index and shown
2 above in Figure 8.

3 Or said another way, even with the high inflationary environment that was
4 experienced during the time that Newman Unit 6 was being constructed, the overall cost
5 growth was well-managed by EPE.
6

7 Q37. IS THERE ANOTHER WAY TO EVALUATE THE REASONABLENESS OF THE
8 TOTAL COST OF THE NEWMAN UNIT 6 BESIDES IN COMPARISON TO
9 INFLATION RATES?

10 A. Yes. In addition to looking at the recent growth trends in the cost of constructing power
11 plants, I have analyzed the cost of construction, on a dollar per kilowatt basis, for gas-fired
12 power plant projects that were completed in 2023 and 2024.

13 The EIA publishes operating generator data annually based on its annual survey
14 Form EIA-860, that is supplemented monthly by survey Form EIA-860M, "Monthly
15 Update to Annual Electric Generator Report." This report monitors the status of existing
16 and proposed generating units at power plants that are 1 MW or more of combined
17 nameplate capacity and reflects EIA's research on new generating units. Based on the EIA
18 report published as of August 2024, the generator data for units that came online between
19 2023 and 2024, for a range of nameplate capacities that are similar to that of Newman
20 Unit 6, is shown in Table 8 below.

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Table 8: Power Plants with COD 2023-2024³²

Natural Gas Fired Power Plants (COD 2023-2024) per EIA Reports							
Entity Name	Plant Name	Plant State	Nameplate Capacity (MW)	Technology	Operating Date	Total Cost to Construct (\$M)	Cost (\$/kW)
Cooperative Energy	R D Morrow	MS	156	Natural Gas Fired Combined Cycle	Mar-23	\$ 442	\$ 2,833
PowerSouth Energy Cooperative	Lowman Energy Center	AL	274	Natural Gas Fired Combined Cycle	Sep-23	\$ 540	\$ 1,973
Alabama Power Co	Barry	AL	310	Natural Gas Fired Combined Cycle	Nov-23	\$ 518	\$ 1,671
Nevada Power Co	Silverhawk ^(a)	NV	456	Natural Gas Fired Combustion Turbine	Jul-24	\$ 515	\$ 1,130
El Paso Electric Co	Newman	TX	231	Natural Gas Fired Combustion Turbine	Dec-23	\$ 228	\$ 986
Tennessee Valley Authority	Paradise	KY	694	Natural Gas Fired Combustion Turbine	Dec-23	\$ 416	\$ 600
Tennessee Valley Authority	Colbert	AL	694	Natural Gas Fired Combustion Turbine	Jul-23	\$ 385	\$ 555

(a) The Nevada Power Co.'s IRP states that the amount of \$514.9 million does not include AFUDC. As such, the Total Cost to Construct and the Cost (\$/kW) values would be higher with the inclusion of AFUDC.

The summary data published by the EIA includes all costs incurred towards the construction and installation of the relevant power plants, including AFUDC costs except for the Silverhawk project as noted in the footnote to Table 8. This table shows that the cost per kilowatt ranges from \$555/kW to \$2,833/kW for the seven plants listed, with Newman Unit 6's being the third lowest at \$986/kW.³³

The two plants that have a lower cost per kilowatt, TVA's Colbert and Paradise plants, both have a significantly higher capacity rating (694 MW) than Newman Unit 6's approximate 231 MW capacity. Based on the economies of scale in the construction process, I would expect that the larger TVA plants would have a lower cost per kilowatt

³² The operational information for the plants was obtained from EIA at <https://www.eia.gov/electricity/data/eia860m/>. The construction cost of each plant was obtained from separate sources for each plant, from which the cost per kW was calculated. See Appendix D for details regarding the source of the costs.

³³ For purposes of comparison of cost per kilowatt, the cost of the substation and associated AFUDC for Newman Unit 6 have been included for a total of \$227.7 million.

1 than Newman Unit 6 regardless of unforeseen or unpredictable market or economic factors
2 driving cost increases across the board.

3 In addition to the data collected annually by the EIA via Form EIA-860, EIA also
4 commissions an independent study every few years to evaluate the capital cost and the
5 performance characteristics for various types of utility-scale electric generators. The most
6 recent report was published by EIA in January 2024.³⁴ The report includes the performance
7 and cost characteristics for newly constructed power plants. The costs reported in the study
8 are capital costs, fixed O&M costs and variable O&M costs. The capital cost estimates
9 represent a complete power plant facility on a generic site at a non-specific location in the
10 United States. The basis of the capital costs is defined as all costs to engineer, procure,
11 construct, and commission all equipment within the plant facility fence line, as well as
12 interconnections to electrical transmission and fuel distribution networks, as applicable.
13 The capital costs provided are overnight capital costs in 2023 price levels. Overnight
14 capital costs represent the total cost a developer would expect to incur during the
15 construction of a project, excluding AFUDC costs. The EIA report includes the estimated
16 cost of construction of a single combustion turbine plant in a simple cycle configuration,
17 which is a similar type of plant as Newman Unit 6.³⁵ The estimated capital cost for
18 construction of such a plant was reported in the study to be \$836/kW, which includes the
19 cost associated with land purchase and electrical interconnection. My report addresses the
20 \$199.4 million in construction costs as well as \$17.9 million in AFUDC.³⁶ As such, for
21 comparison to Newman Unit 6, the associated estimated costs of interconnection and land
22 were excluded from the EIA cost estimate, resulting in an adjusted cost of \$825/kW, which
23 is similar to the \$863/kW for Newman Unit 6. The calculation of these values is shown in
24 Table 9 below.

25 /
26 /
27 /

³⁴ https://www.eia.gov/analysis/studies/powerplants/capitalcost/pdf/capital_cost_AEO2025.pdf

³⁵ https://www.eia.gov/analysis/studies/powerplants/capitalcost/pdf/capital_cost_AEO2025.pdf, pg. 69-70

³⁶ These costs exclude substation costs that are addressed by Alexander Aboytes as well as land costs which were not incurred by EPE.

Table 9: Comparison of Power Plant Construction Cost on \$/kW Basis

Cost Type	Cost per EIA Study - Simple Cycle Plant (419MW)	Cost for Newman Unit 6 (231MW)
Estimated Total Cost	\$ 345,808,000	\$ 217,310,662
Less:		
- Land	\$ (1,240,000)	\$ -
- Electrical Interconnection	\$ (3,040,000)	\$ -
- AFUDC	\$ -	\$ (17,911,719)
Net Cost	\$ 341,528,000	\$ 199,398,943
\$/kW Cost	\$ 815	\$ 863

It is my opinion that the construction cost of Newman Unit 6 of \$863/kW is reasonable when compared to the costs of the various plants shown in Table 8 as well as when compared to the results of the EIA study on estimated cost of power plant construction.

VIII. Conclusion

Q38. WHAT IS YOUR CONCLUSION REGARDING THE REASONABLENESS OF THE TOTAL COST TO CONSTRUCT THE NEWMAN UNIT 6 PLANT?

A. In this testimony, I first reviewed the scope, budgeted cost, and schedule for Newman Unit 6 as originally developed by EPE in 2017 and included in its request to the PUCT for amendment to its CCN, which request was approved in 2020. In the time that Newman Unit 6 was constructed (*i.e.* from 2021 until commercial operation at the end of 2023), the construction labor, materials, and equipment supply chains experienced unprecedented inflation and uncertainty as I discussed in detail. Based on my analysis of the relevant PPIs, the ENR Construction Cost Indices, the Handy-Whitman Index, and the BLS wage and employment data, the cost growth experienced by EPE is not surprising nor unreasonable. This is especially true when considering the original cost estimate was a Class 3 level of accuracy. Adding to the amount that the final cost deviated from the original estimate, EPE used a relatively low contingency budget. Unfortunately, the budgeted contingency turned out to be insufficient given the intervening circumstances, including the global pandemic and Russia-Ukraine war. To combat project delays, EPE

1 authorized a second shift to accelerate construction progress which added \$6.7 million to
2 the project cost.

3 No prudent utility could have estimated impacts from the unknown unknowns of
4 the COVID-19 pandemic and the Russian invasion of Ukraine which resulted in sanctions.
5 These impacts resulted in an inflationary environment that had not been experienced in the
6 United States in over 30 years.

7 However, even with all of the above challenges, when reviewing this plant on an
8 installed cost per kilowatt basis, it compares reasonably to other plants built during this
9 period, being less expensive on an installed cost per kilowatt basis than four of six other
10 plants.

11 Based on the above, I conclude that the total cost incurred by EPE to complete
12 construction of the Newman Unit 6 plant was reasonable.

13
14 Q39. DOES THIS CONCLUDE YOUR TESTIMONY?

15 A. Yes, this concludes my testimony.

Ellen Smith's Curriculum Vitae

Curriculum Vitae of Ellen S. Smith

Ellen S. Smith

Senior Managing Director

Corporate Finance, Power & Utilities

200 State Street, 8th Floor – Boston, MA 02109

Ellen.Smith@FTIConsulting.com

Professional Affiliations

Institute of Electrical and Electronics Engineers

Education

B.S., Mechanical Engineering, Union College, Schenectady

M.S.E., Power Systems, Union College, Schenectady

Experience

FTI Consulting: (2013-Present)

Ms. Smith's expertise includes consulting and advisory matters regarding asset management, capital planning and management, operations, power reliability, utility regulatory strategy, emergency response.

Ms. Smith acted in the role of managing member of the Greenleaf Power projects in California for 18 months until the plants were successfully sold.

Ms. Smith has worked for the official unsecured creditors' committees ("UCC") in the First Energy Solutions, Brazos Electric Cooperative, and PG&E chapter 11 proceedings. In these assignments, she provided the UCCs with industry and operational insights into complex issues surrounding each situation,

including nuclear power plant NRC license transfers, decommissioning trusts, wildfire risk assessment, affordability, cold weather power plant performance, and other key issues.

Ms. Smith is engaged by the Puerto Rico Public Private Partnership Authority to provide advisory services during the transformation of the Puerto Rico Electric Power Authority, including the electric transmission and distribution system and the legacy generating power plants. This assignment includes significant separation requirements.

National Grid US: COO (2009 - 2013)

As COO, Ms. Smith was responsible for all aspects of National Grid's US operations, including asset management, construction, system operation and maintenance of electric, gas, LNG, and power generation systems, and control room operations. In this role, she was responsible for a \$4 billion annual capital plan and a \$1 billion O&M budget. In support of all work, Ms. Smith led the operations support organization, which included material warehouses, the fleet of 6,000 pieces of equipment and vehicles, flight services, and emergency response. She provided infrastructure testimony in rate case proceedings and other matters.

HESS Corp: President VP of Refining & Marketing Strategy (2003 - 2009)

Ms. Smith was the VP of downstream strategy and provided on-site leadership at the Hovensa oil refinery for the power and utilities operations. In this role, she provided day-to-day oversight of the power and utilities operations at the refinery in support of all refinery operating units. She deployed asset management and project management practices in this role, and she monitored the asset health of the power and utilities infrastructure which included gas turbines and generators, steam turbines and generators, heat recovery steam generators, desalinization units, electrical distribution, and controls for the refinery. She was part of a team that conducted a strategic study of the refinery, which led to short and

long-term capital planning for the power and utility assets. During Ms. Smith's time at Hovensa, she was part of an emergency response team during Hurricane Omar.

Pratt & Whitney: VP Commercial Engine Programs and President, PW Power Systems: (1999 - 2003)

Ms. Smith led the Pratt & Whitney in service engine programs including the PW2000, 4000 and 6000 and the JV engine programs. She was the Executive PW liaison with Boeing and AIRBUS. As the President of PW Power Systems, developed a group of 5 California power plants (CalPeak). These plants remain operational today.

GE Power Systems: (1980-1999)

VP Energy Services Sales: Led a 1,200-person sales force dedicated to supporting customers' in-service equipment to ensure high availability and efficiency over time.

General Manager, 6-Sigma: (1996-1998) Created a 6-sigma program across the global Power Systems organizations. This role included identifying 400 FTEs, developing, and providing training, and working with business leaders to develop the 6-sigma strategy and goals.

General Manager, F-Class Turbine Program: (1995 - 1996) Ms. Smith led a technical and commercial task force to solve early technical issues with the Frame 7F and Frame 9F unit projects worldwide. This role led to the upgrade programs for the entire F-class fleet of turbines and generators.

General Manager, Parts & Product Service: (1993 - 1994) Ms. Smith was the General Manager of technical product support for all gas-turbine, steam-turbine and generator equipment, and GE supplied electric equipment worldwide. She was responsible for the group that authored GE's service bulletins. In this role, Ms. Smith led the development of many technical life extension products in support of customer in-service equipment.

Manager, GE Operations & Maintenance Services Contracts/Projects: (1990 - 1992) GE provided all plant management, operators, and maintenance technicians to operate customer power plants safely and

reliably under long-term contracts. This included a 12-year contract with Stanford University to provide electricity, chilled water, steam, and air to the University and the University hospital.

Project Manager, Egypt Projects (USAID Projects): (1988 - 1990) GE was the consortium lead where Ms. Smith was in the role of Deputy Project Manager responsible for all technical and commercial coordination between the Consortium Partners and between the Consortium and the Egyptian Electric Authority and their engineer. The project had technical issues with respect to diverter dampers and the inlet air filtration that had to be solved via design changes and post-COD implementation of solution.

Penobscot Energy Recovery Project: (1987 – 1988) Ms. Smith was the Electrical Project Engineer responsible for one-line diagrams, equipment arrangements, and specifications.

Board Positions:

Northland Power (TSX: NPI): (November 2023-present)

Board Member and Member of the Audit Committee and the Human Resources Committee. NPS is a leader in renewable energy projects.

Union College (<https://www.union.edu/>): (2010-Present)

Trustee Emeritus - Union College is an independent engineering and liberal arts college in upstate NY committed to integrating the humanities and social sciences with science and engineering in new and exciting ways.

Sunrun (NASDAQ: RUN): (2020-2021)

Board Member - Sunrun acquired Vivint in 2020. RUN provides home solar and rechargeable battery storage services from coast to coast in twenty-two states, plus Puerto Rico and the District of Columbia.

Velo3D (NYSE: VLD): (2021-2024)

Board Member and Member of the Audit Committee - Velo3D provides a metal 3D printing solution for mission-critical parts used for space exploration, power plants and aircraft engines.

Vivint Solar (NYSE: VSLR); (2020-2021)

Board Member - Vivint provided home solar and rechargeable battery storage services in the United States.

Publications

- Smith E, Arsenault RJ (April 2014) Improved Utility Storm Planning Begins Here. Energy Manager Today.
- Smith E, Corzine S, Racey D, Dunne P, Hassett C, Weiss J (2016 September, October) Going Beyond Cybersecurity Compliance: What Power and Utility Companies Really Need to Consider. IEEE PES. (ISSN:1540-7977)
- Smith E, Hassett C (February 2016) Social Media: An Evolving Platform for Utilities to Connect with Customers During Snowstorms. Philadelphia Business Journal.
- Smith E, Hassett C (November 2016) The Case for Eliminating Animal-Caused Outages in Electric Substations and On Powerlines. FTI Consulting White Paper.

Expert Testimony

(2024 – ongoing) Petition to the City and County of San Francisco for a Valuation of Certain Pacific Gas & Electric Company Property Pursuant to the Public Utilities Code Section 1401-1421. Petition 21-07-012 (Filed July 27, 2021). My role is to provide the separation analysis and testimony.

(2024) University of Iowa Electric Coop v. University of Iowa. Provided rebuttal Expert Report as to Prudent Industry Practices.

(2024) Commonwealth of Puerto Rico, Puerto Rico Electric Power Authority (“PREPA”) in the Title 3 Proceedings. Provided trial testimony in support of PREPA’s infrastructure needs.

(2024) City of Birmingham versus Trane. Provided an Expert Report and deposition testimony relating to energy management services including chilled water, lighting, water management, and HVAC.

(2023) Core Electric Cooperative v. Public Service Company of Colorado, Case No.2021CV032787: Provided Expert Report and deposition testimony for a case relating to PSCo’s failure to operate a jointly owned power plant in accordance with its contractual obligations and Prudent Utility Practices.

(2021) UTIER et al.(collectively, “Plaintiffs”) v. Commonwealth of Puerto Rico, PREPA, the Oversight Board, the Puerto Rico Fiscal Agency and Financial Advisory Authority, the Puerto Rico Public-Private Partnership Authority ("P3"), LUMA Energy, Governor Pierluisi, et al (collectively, "Defendants"), Motion for Preliminary Injunction to Enjoin the Execution of the O&M Agreement, Case No. 17-BK-3283 (LTS) (Jointly Administered) Case No. 17-BK-4780 (LTS). Provided declaration in Support of Defendants’ Joint Opposition to Preliminary Injunction Motion.

(2021) Siemens Energy v. SNCL, Case No. CAL19-12953: Provided Expert Report and deposition testimony related to power generation equipment.

(2021) Brazos Electric Power Cooperative, Inc. v. Electric Reliability Council of Texas, Inc., Case No.21-30725 (DRJ): Provided Expert Report, Rebuttal Report, and deposition testimony for Brazos’ Complaint, as the Debtor, objecting to the allowance and classification of ERCOT’s proof of claim related to excessive charges incurred during Winter Storm Uri.

(2021) Olin Corporation and Blue Cube Operations LLC v. The Dow Chemical Company, Provided Expert Report and Rebuttal Report for an Arbitration related to breach of operative agreements related to manufacturing facilities and operations at Dow's Plaquemine Site.

(2021) ASG Ghana Limited v. Electricity Company of Ghana Ltd., Provided an Expert report, and deposition testimony on behalf of ASG Ghana for a dispute related to the contract cancellation of a power purchase agreement associated with a power plant ASG was developing for installation in Ghana.

(2020) GPGC v. The Government of Ghana, International Tribunal Arbitration, PCA CASE N° AA725: Provided Expert report and deposition testimony on behalf of GPGC with total judgment in GPGC's favor of US\$164 million. The dispute was related to the contract cancellation by the Government of Ghana and associated early termination fees associated with a 107MW fast-track power plant GPGC installed in Ghana.

(2017) GenOn Energy, Inc. et al. Debtors, Chapter 11, Case No.17-33695 (DRJ): Provided Expert report and deposition testimony.

(2017) Navaho Transition Energy Company v. Arizona Public Service Company et al, CASE NO.01-17-0003-4505: Provided Expert analysis.

(2014-2016) ExxonMobil v. Southern California Edison, docket 2:12-cv-10001: Provided Power Systems Power Quality Expert report, deposition testimony, and federal court testimony.

(2013) Sunoco, Inc (R&M) v. Kimberly Clark Pennsylvania LLC, docket 2:13-cv-01822: Provided Power Systems Power Quality Expert report, including switching and deposition testimony.

(2013) NYS Mooreland Commission on Utility Storm Response: Provided informal testimony with respect to National Grid's approach to storms.

(2010) NY DPS Case 10-E-0050: As COO, provided company operations infrastructure testimony for the 2010 Niagara Mohawk Rate Case.

(1996) Tenaska v. Bonneville Power Authority Arbitration. Ms. Smith testified as a fact witness on behalf of Tenaska, where Tenaska was awarded \$176 million. The dispute was related to BPA's cancellation of a power purchase agreement with Tenaska. Ms. Smith's testimony was related to the operational suitability of the GE F-class gas gas-turbine-generator machines.

Analysis of Producer Price Index Inflation for Materials

In an effort to evaluate the inflation that has incurred from the period of 2017 through 2023 in materials that are commonly used in the construction of electric utility power plants, I have utilized data from the Producer Price Index. The results of these analyses are summarized in the following table.

Table B1 - Summary of the Producer Price Index Inflation for Materials

Figure	Description	Inflation % Relative to 2017	
		Thru Jan. 2020	Peak after Jan. 2020
B1	1 Construction Materials	6%	59%
B2	2 Copper and Copper Products	1%	58%
B3	3 Metals and Metal Products: Nickel and Nickel-Base Alloy Mill Shapes	6%	59%
B4	4 Metals and Metal Products: Hot Rolled Steel Bars, Plates, and Structural Shapes	6%	93%
B5	5 Aluminum Sheet, Plate, and Foil Manufacturing	4%	44%
B6	6 Ready-Mix Concrete Manufacturing: Ready-Mix Concrete for South Census Region	6%	37%
B7	7 Lumber and Wood Products: Lumber	1%	111%

The percentage change in the Producer Price Index, relative to the 2017 Index value, for the period of 2017 through 2023 is shown in the following figures for each of the materials analyzed.

Figure B1 – Construction Materials, Pricing Change Percentage 2017-2023 ¹

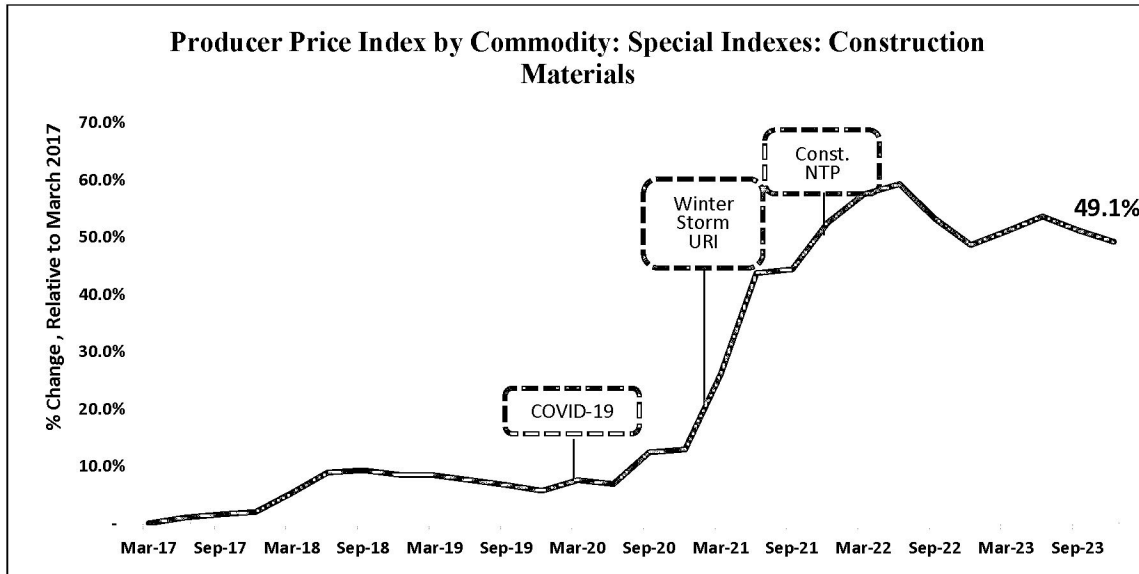
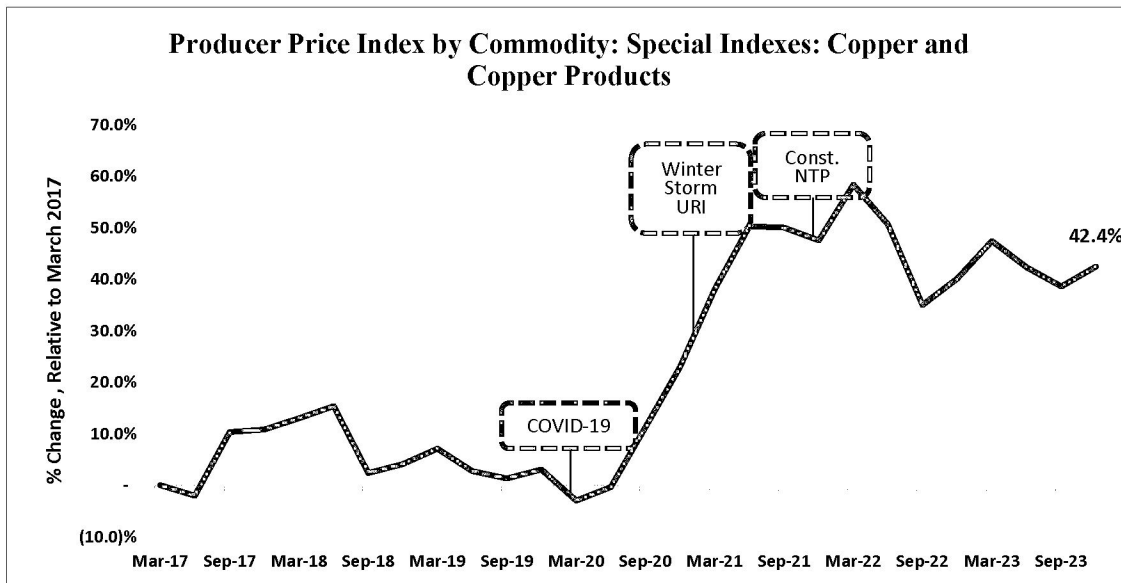


Figure B2 – Copper and Copper Products, Pricing Change Percentage 2017-2023 ²



¹ <https://fred.stlouisfed.org/series/WPUSI012011>

² <https://fred.stlouisfed.org/series/WPUSI019011>

Figure B3 – Metals and Metal Products: Nickel and Nickel-Base Alloy Mill Shapes, Pricing Change Percentage 2017-2023 ³

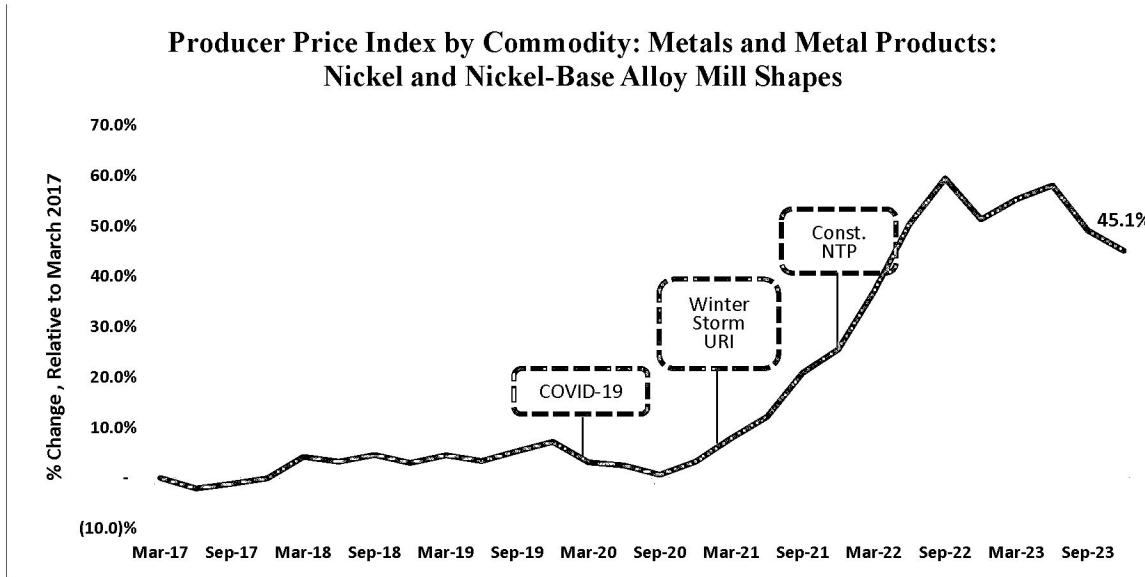
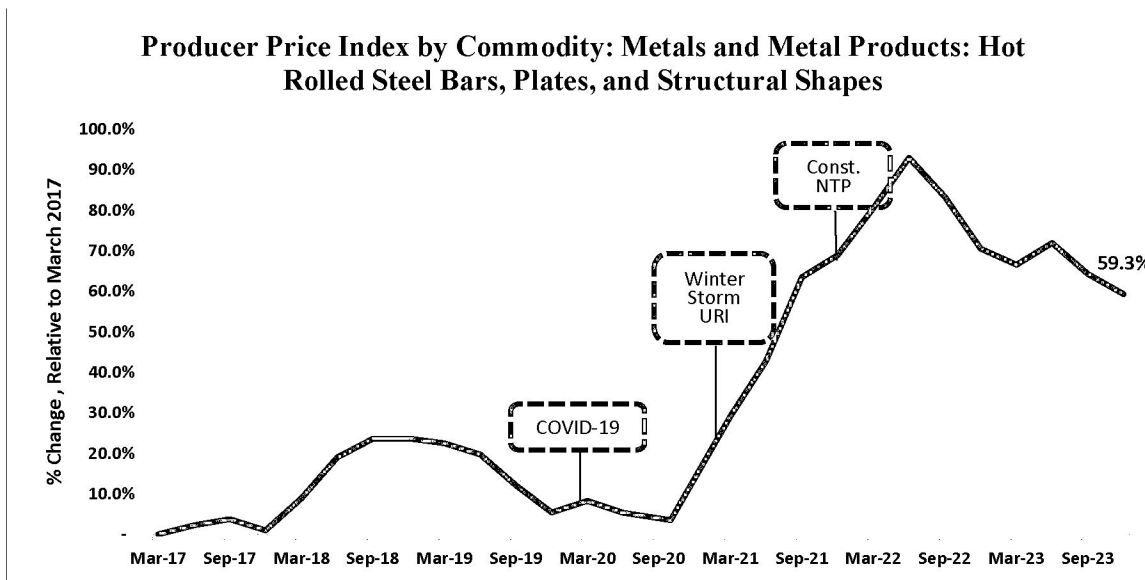


Figure B4 – Metals and Metal Products: Hot Rolled Steel Bars, Plates, and Structural Shapes, Pricing Change Percentage 2017-2023 ⁴



³ <https://fred.stlouisfed.org/series/WPU102504>

⁴ <https://fred.stlouisfed.org/series/WPU101704>

Figure B5 - Aluminum Sheet, Plate, and Foil Manufacturing, Pricing Change Percentage 2017-2023 ⁵

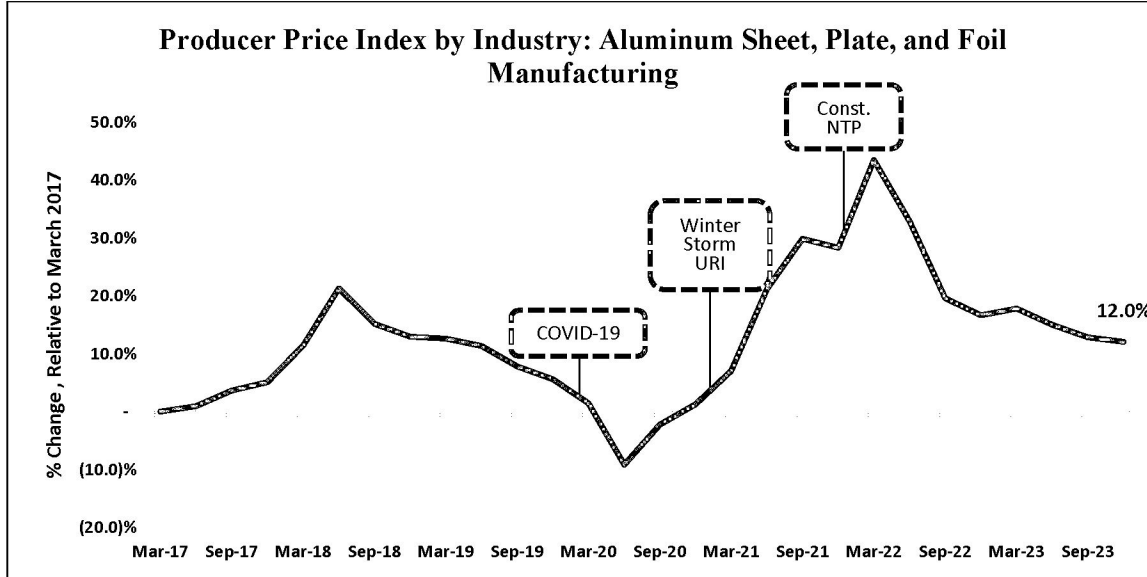
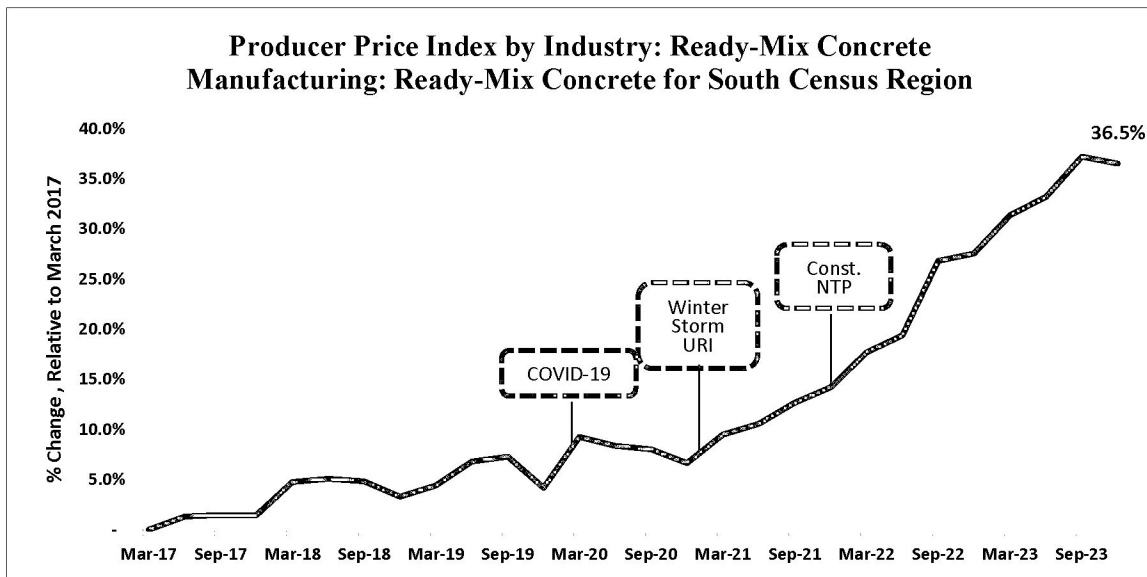


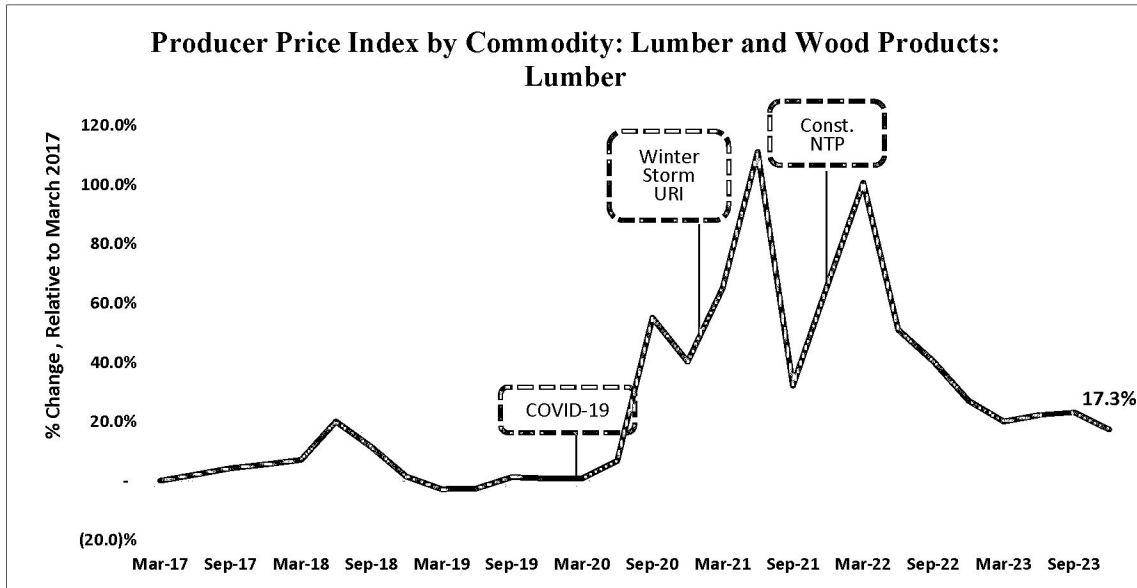
Figure B6 – Ready-Mix Concrete Manufacturing, Pricing Change Percentage 2017-2023 ⁶



⁵ <https://fred.stlouisfed.org/series/PCU331315331315>

⁶ <https://fred.stlouisfed.org/series/PCU327320327320C>

Figure B7 - Lumber and Wood Products: Lumber, Pricing Change Percentage 2017-2023 ⁷



⁷ <https://fred.stlouisfed.org/series/WPU081>

Analysis of Producer Price Index Inflation for Power Plant Commodities and Equipment

In an effort to evaluate the inflation that has incurred from the period of 2017 through 2023 in commodities and equipment that are commonly used in the construction of electric utility power plants, I have utilized data from the Producer Price Index. The results of the analyses are summarized in the following table.

Table C1 - Summary of the Producer Price Index Inflation for Power Plant Commodities and Equipment

Figure	Description	Inflation % Relative to 2017	
		Thru Jan. 2020	Peak after Jan. 2020
C1	1 Metals and Metal Products: Electronic Wire and Cable	38%	84%
C2	2 Metals and Metal Products: Power Wire and Cable	20%	176%
C3	3 Machinery and Equipment: Noncurrent-Carrying Electrical Conduit and Conduit Fittings, Including Plastic Conduit and Fittings	6%	154%
C4	4 Electric Power and Specialty Transformer Manufacturing	14%	83%
C5	5 Power Boiler and Heat Exchanger Manufacturing: Fabricated Heat Exchangers and Steam Condensers (Excluding Nuclear Applications)	10%	46%
C6	6 Power Boiler and Heat Exchanger Manufacturing	12%	52%
C7	7 Turbine and Turbine Generator Set Units Manufacturing Vintage	6%	23%
C8	8 Total Manufacturing Industries	5%	41%

The percentage change in the Producer Price Index, relative to the 2017 Index value, for the period of 2017 through 2023 is shown in the following figures for each of the commodities and equipment analyzed.

Figure C1 – Metals and Metal Products: Electronic Wire and Cable, Pricing Change Percentage 2017-2023 ⁸

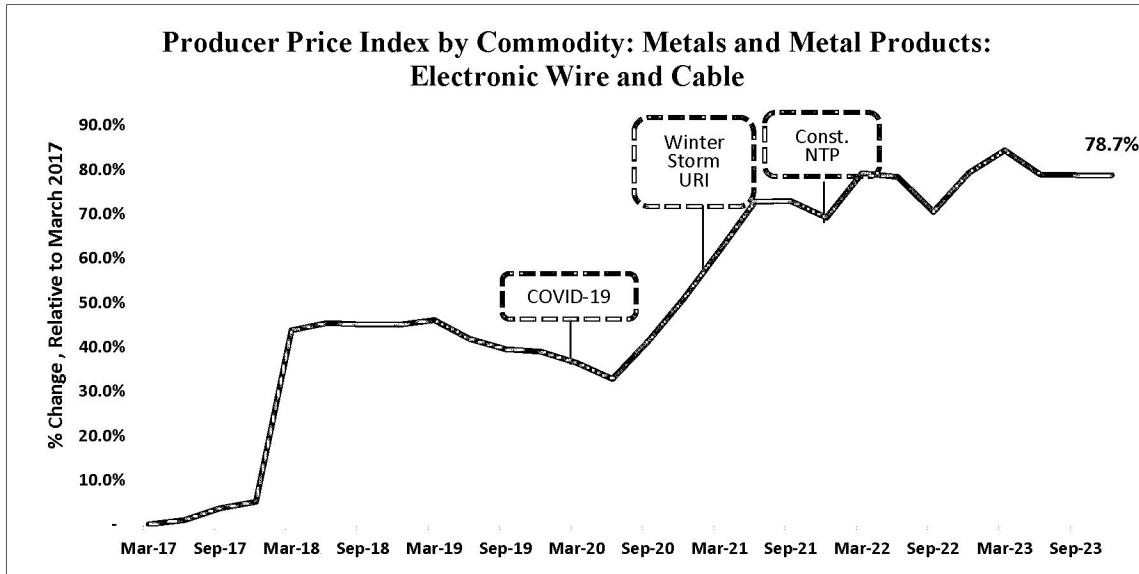
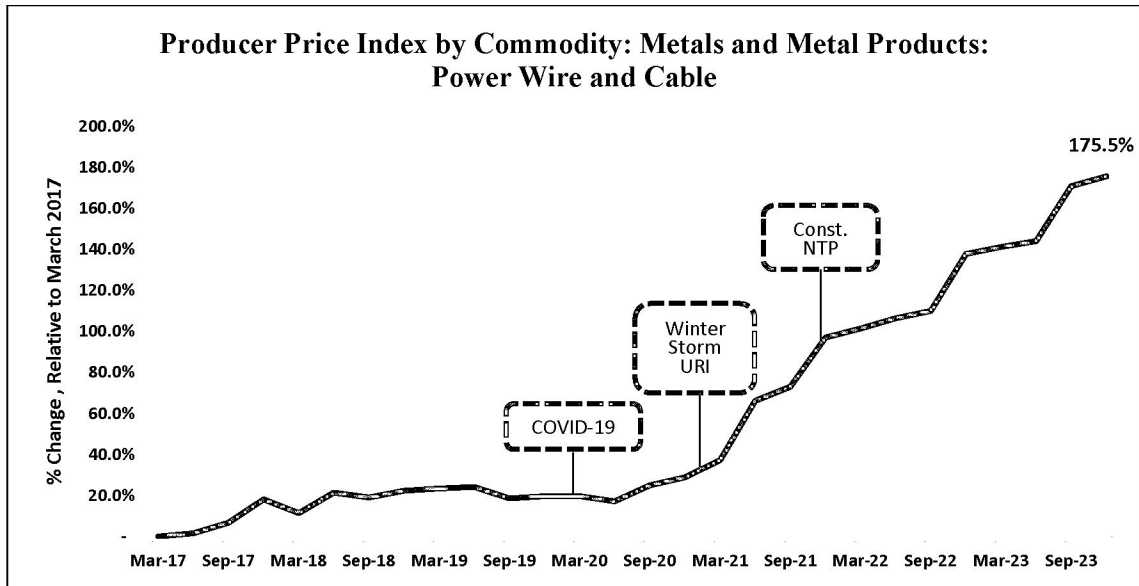


Figure C2 - Metals and Metal Products: Power Wire and Cable, Pricing Change Percentage 2017-2023 ⁹



⁸ <https://fred.stlouisfed.org/series/WPU10260301>

⁹ <https://fred.stlouisfed.org/series/WPU10260332>

Figure C3 – Machinery and Equipment: Noncurrent-Carrying Electrical Conduit and Conduit Fittings, Including Plastic Conduit and Fittings, Pricing Change Percentage 2017-2023 ¹⁰

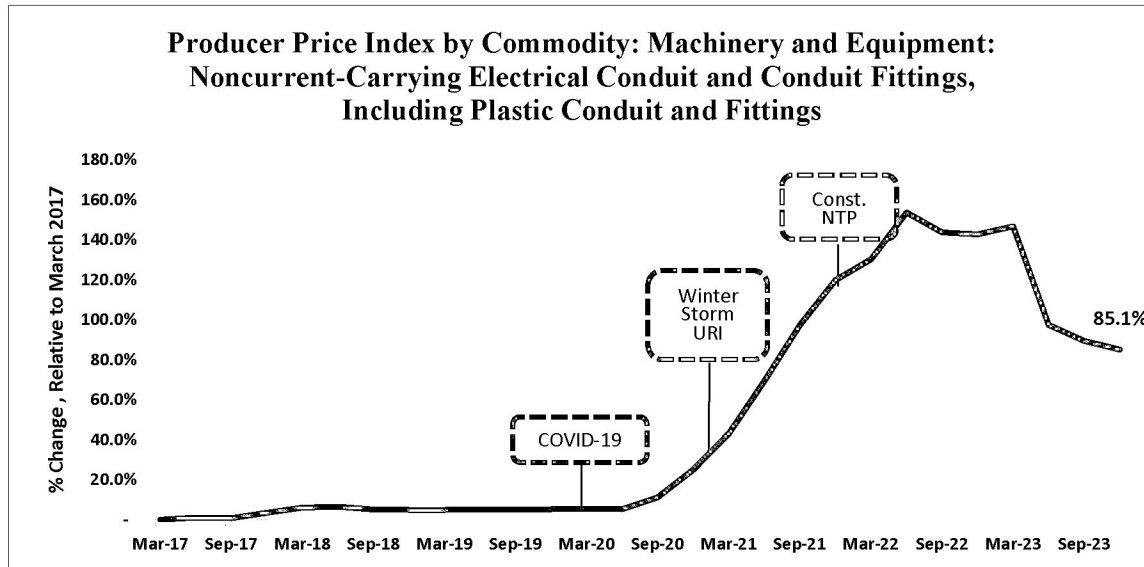
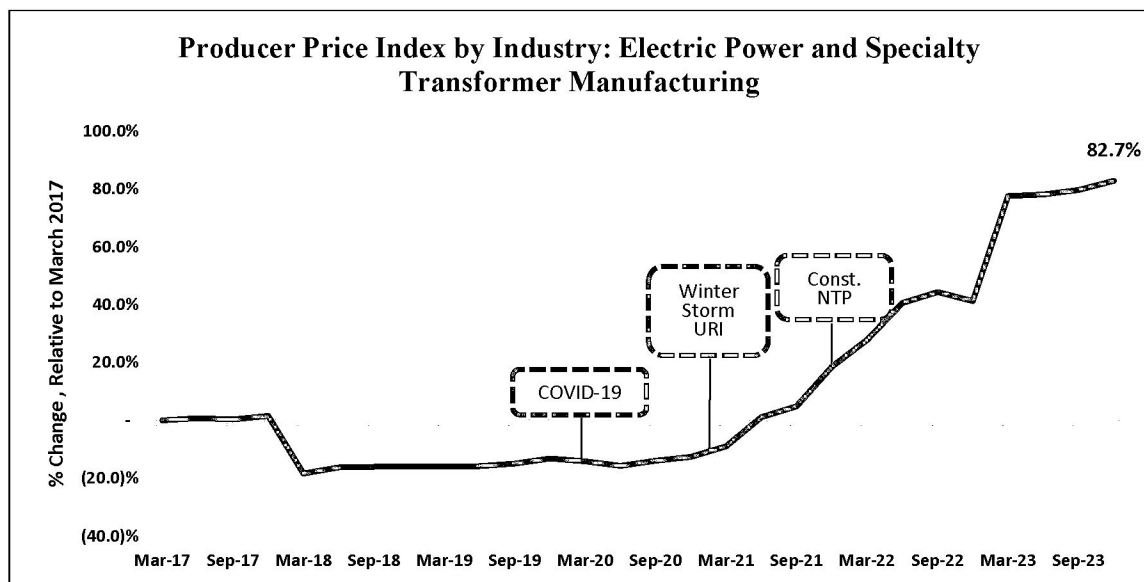


Figure C4 - Electric Power and Specialty Transformer Manufacturing, Pricing Change Percentage 2017-2023 ¹¹



¹⁰ <https://fred.stlouisfed.org/series/WPU11710216>

¹¹ <https://fred.stlouisfed.org/series/PCU335311335311>

Figure C5- Power Boiler and Heat Exchanger Manufacturing: Fabricated Heat Exchangers and Steam Condensers (Excluding Nuclear Applications) , Pricing Change Percentage 2017-2023 ¹²

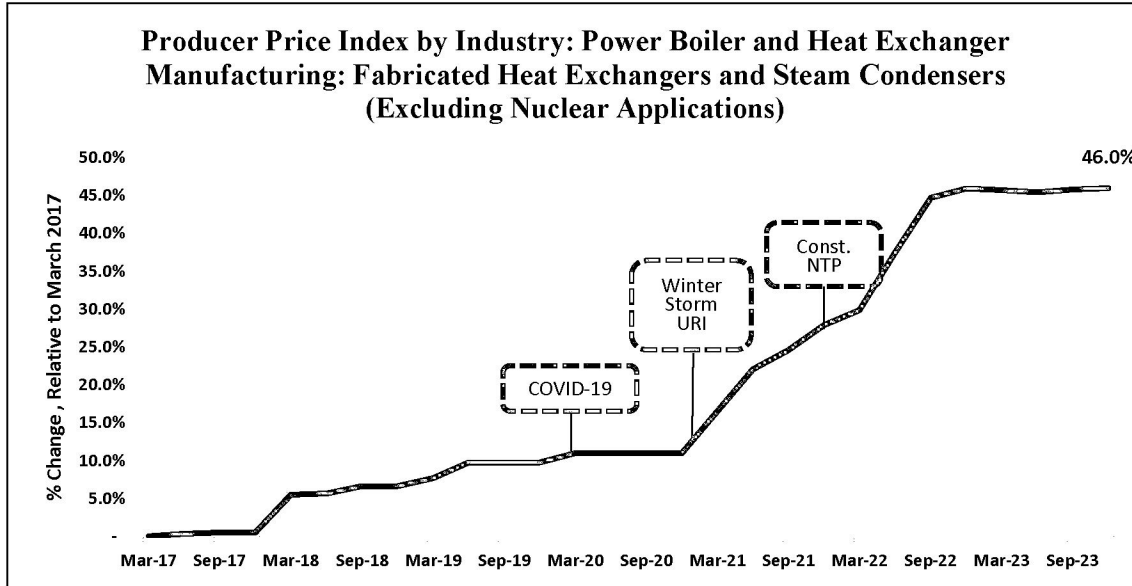
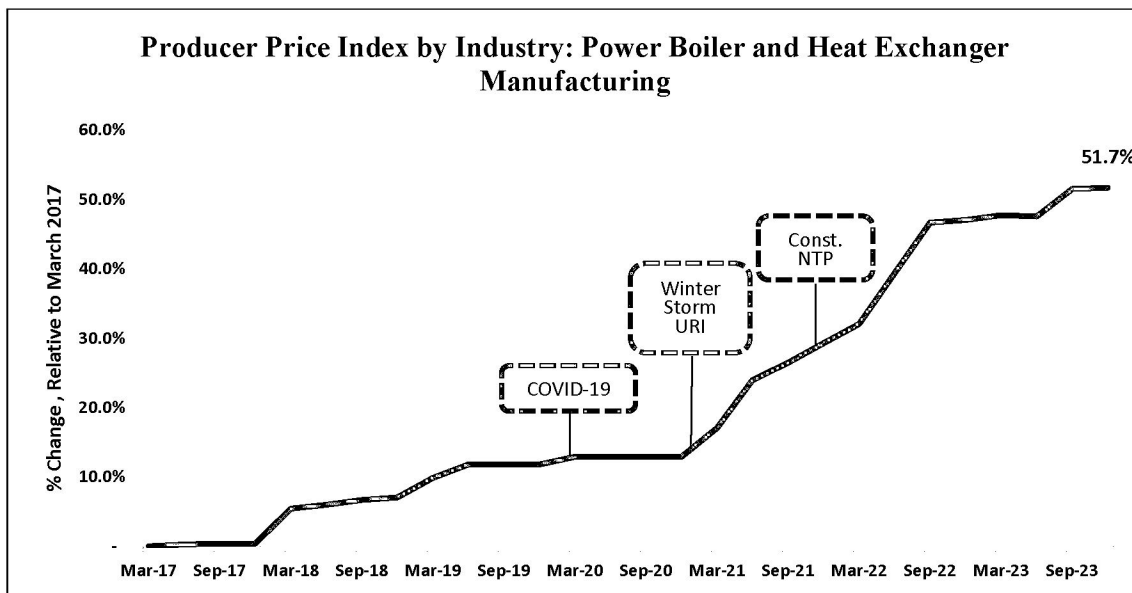


Figure C6 – Power Boiler and Heat Exchanger Manufacturing, Pricing Change Percentage 2017-2023 ¹³



¹² <https://fred.stlouisfed.org/series/PCU3324103324101>

¹³ <https://fred.stlouisfed.org/series/PCU332410332410>

Figure C7 - Turbine and Turbine Generator Set Units Manufacturing Vintage, Pricing Change Percentage 2017-2023 ¹⁴

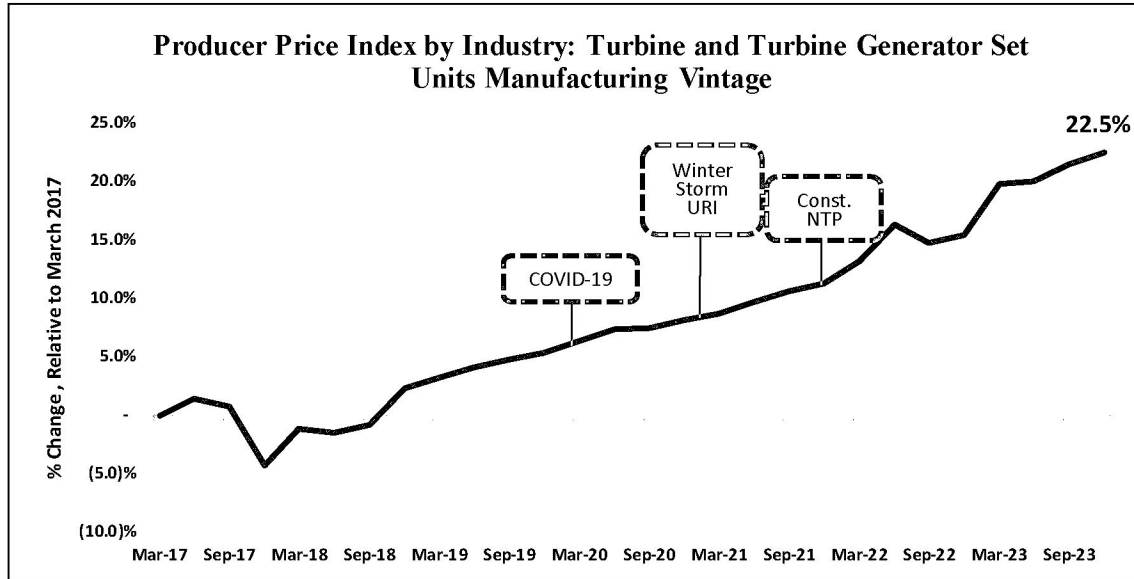
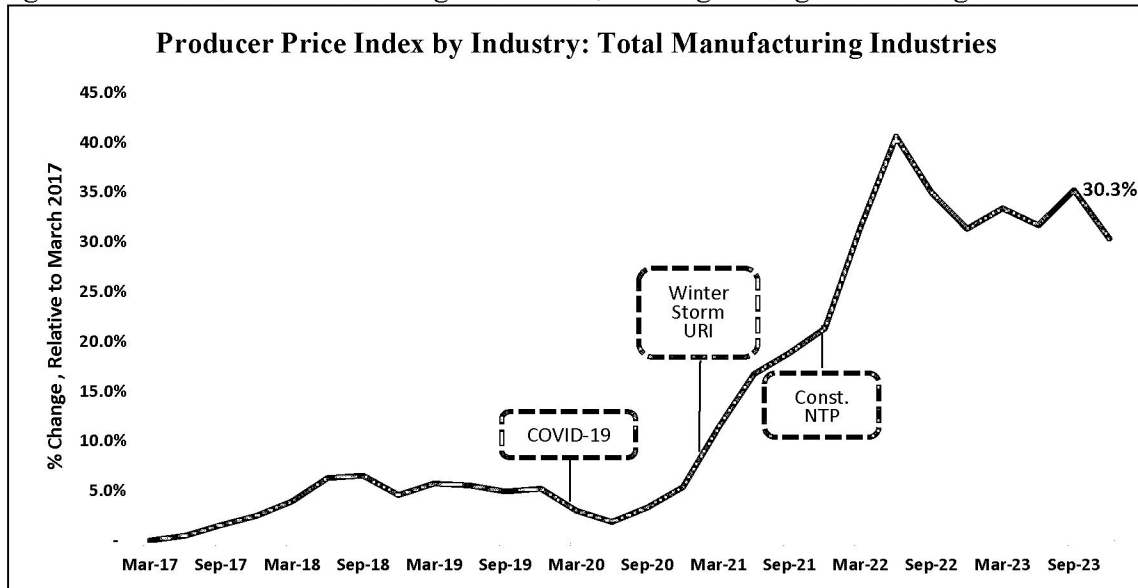


Figure C8 – Total Manufacturing Industries, Pricing Change Percentage 2017-2023 ¹⁵



¹⁴ <https://fred.stlouisfed.org/series/PCU333611333611>

¹⁵ <https://fred.stlouisfed.org/series/PCUOMFGOMFG>

Power Plants with Commercial Operational Date in 2023-2024

The following table contains a list of power plants, identified from EIA reports, which became operational in 2023 and 2024 and have a generating capacity that was similar to that of Newman Unit 6. The table also identifies the sources of the information used to calculate the \$/KW value for each plant.

Table D1 - Summary of Construction Cost Per Kilowatt For Similar Power Plants Completed in 2023 - 2024

Natural Gas Fired Power Plants (COD 2023-2024) per EIA Reports ⁽¹⁾									
Entity Name	Plant Name	Plant State	Nameplate Capacity (MW)	Technology	Operating Date	Total Cost to Construct (\$M)	Cost (\$/kW)	Document Type	Source of Total Cost to Construct
									Link to Source
Cooperative Energy	R D Morrow	MS	156	Natural Gas Fired Combined Cycle	Mar-23	\$ 442	\$ 2,833	Company PSC Filing	https://etsportal.psc.ms.gov/portal/Workflow/Run?workflowid=2de856dc-0e14-4250-9e46-9d7f635e5b1a&evd=sRwl0idDITSSKXhK90Qx0n6NsA6tZlmRPEY4OxvAMMsShpfiKd11kdHTzuAeU3ePduOg%3d%3d
PowerSouth Energy Cooperative	Lowman Energy Center	AL	274	Natural Gas Fired Combined Cycle	Sep-23	\$ 540	\$ 1,973	nsenergybusiness.com	https://www.nenergybusiness.com/projects/lowman-energy-center/?cf-view
Alabama Power Co	Barry	AL	310	Natural Gas Fired Combined Cycle	Nov-23	\$ 518	\$ 1,671	Company 10K	https://s27.q4cdn.com/273397814/files/doc_financials/2022/q4/9859ce71-86a9-43d3-ba0e-ba5b5e060bb6.pdf
Nevada Power Co ⁽²⁾	Silverhawk	NV	456	Natural Gas Fired Combustion Turbine	Jul-24	\$ 515	\$ 1,130	Company IRP	https://www.nvenergy.com/publish/content/dam/nvenergy/brochures_arch/about-nvenergy/rates-regulatory/recent-regulatory-filings/irp/IRP-Volume-8.pdf
El Paso Electric Co	Newman Unit 6	TX	231	Natural Gas Fired Combustion Turbine	Dec-23	\$ 228	\$ 986	Testimony	Direct testimonies of EPE's witnesses Alex Aboytes and David Rodriguez
Tennessee Valley Authority	Paradise	KY	694	Natural Gas Fired Combustion Turbine	Dec-23	\$ 416	\$ 600	Company 10K	https://d18m0p25nwr6d.cloudfront.net/CIK-0001376986/b1d84fa0-fe4c-4285-a4c7-cdd3b623ec0.pdf
Tennessee Valley Authority	Colbert	AL	694	Natural Gas Fired Combustion Turbine	Jul-23	\$ 385	\$ 555	Company 10K	https://d18m0p25nwr6d.cloudfront.net/CIK-0001376986/b1d84fa0-fe4c-4285-a4c7-cdd3b623ec0.pdf

Notes:

(1) The source of the operational information for each of the plants was obtained from EIA via the following website:

<https://www.eia.gov/electricity/data/eia860m/>

The link to the source used to obtain the Total Cost to Construct each plant is listed in the above table.

(2) The Nevada Power Co.'s IRP states that the amount of \$514.9 million does not include AFUDC. As such, the Total Cost to Construct and the Cost (\$/kW) values would be higher with the inclusion of AFUDC.

DOCKET NO. 57568

APPLICATION OF EL PASO
ELECTRIC COMPANY TO CHANGE
RATES

§
§

PUBLIC UTILITY COMMISSION
OF TEXAS

DIRECT TESTIMONY

OF

CARY D. HARBOR

OF

ARIZONA PUBLIC SERVICE COMPANY

FOR

EL PASO ELECTRIC COMPANY

JANUARY 2025

EXECUTIVE SUMMARY

Cary Harbor is Senior Vice President of Site Operations at the Palo Verde Generating Station ("Palo Verde" or "PVGS"). Mr. Harbor is employed by Arizona Public Service Company ("APS"), the operator of PVGS. EPE owns a 15.8 percent share of Palo Verde and receives an allocation of approximately 633 Mega-Watts ("MW") from PVGS when at full power. The purpose of Mr. Harbor's testimony is to describe Palo Verde and support EPE's request to include Palo Verde invested capital in EPE's rate base and Palo Verde operations and maintenance ("O&M") expenses in EPE's cost of service. Mr. Harbor's testimony describes these capital investments and O&M expenditures from the total plant perspective, unless otherwise noted. EPE's share of these total plant costs is identified in other parts of EPE's Application, including the direct testimony of EPE witness Victor Martinez.

Mr. Harbor's testimony begins with a description of Palo Verde. This description includes identification of some of the unique aspects of nuclear power and, in particular, Palo Verde, including the Water Resources Facility that supplies water to Palo Verde. This section of the testimony includes a description of the ownership structure of Palo Verde, as well as the operations and oversight arrangements provided for by the owners' Participation Agreement.

Mr. Harbor's testimony next supports those capital projects that have been placed in service from January 1, 2021 (the first day after the end of the test year in EPE's previous rate case, Docket No. 52195) through September 30, 2024. His testimony discusses the efficient capital cost management approach taken at Palo Verde. That approach is multi-tiered with several layers of scrutiny and review designed to ensure that capital expenditures are reasonable and necessary. Mr. Harbor's testimony discusses in detail major individual capital additions with the most significant costs, explaining why they were undertaken.

In supporting Palo Verde O&M expense, Mr. Harbor's testimony describes Palo Verde's approach to efficient O&M management and the effect of the Water Resources Facility on O&M expenses. While O&M expenses incurred during the test year are in line with the industry average, there has been an increase in O&M over the 2022-2024 time period. This increase is reflective of changes that were made particularly in staffing and compensation to ensure the attraction and retention of quality personnel. Mr. Harbor explains these personnel were essential to arrest a trend of declining plant performance that had been seen in the years prior to the change.

DIRECT TESTIMONY OF
CARY D. HARBOR

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EXHIBITS

CDH-1– Schedules Sponsored or Co-Sponsored

I. Introduction and Purpose of Testimony

Q1. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Cary D. Harbor. My business address is Palo Verde Generating Station, 5801 S. Wintersburg Road, Tonopah, Arizona 85354-7529.

Q2. HOW ARE YOU EMPLOYED?

A. I am employed by Arizona Public Service Company ("APS").

Q3. WHAT IS YOUR CURRENT POSITION AT APS?

A. I am the Senior Vice President of Site Operations at Palo Verde Generating Station ("Palo Verde" or "PVGS").

Q4. PLEASE DESCRIBE YOUR EDUCATIONAL AND PROFESSIONAL QUALIFICATIONS.

A. Prior to joining APS in 2022, I spent more than 33 years at PG&E's Diablo Canyon Power Plant, where I served most recently as Station Director. I held leadership roles in engineering, emergency services, business operations, risk, compliance, maintenance, construction, quality assurance, licensing, chemistry, radiation protection and operations, including time as a control room supervisor and shift manager. I began my career at Palo Verde Generating Station as the Vice President of Nuclear Regulatory & Oversight. In 2024 I was named Senior Vice President of Site Operations.

I hold a Bachelor of Science degree in nuclear engineering from the University of California, Santa Barbara and attended Stanford University's Executive Education Program.

Q5. PLEASE DESCRIBE YOUR CURRENT RESPONSIBILITIES WITH APS.

A. As Senior Vice President of Site Operations, I am responsible for overseeing the day-to-day nuclear operations including engineering, training, industrial safety, water resources, and training activities for Palo Verde Generating Station. I function as a member of the Site Senior Leadership Team in establishing policies, developing procedures and maintaining standards of performance that ensure safe and economical operation of the

1 site. I am responsible for ensuring a high level of performance by directing Nuclear
2 Operations strategic planning, providing visionary leadership, developing, implementing
3 and communicating a strategic plan that meets or exceeds targets. My role includes the
4 management of the administration, budgeting and contracting functions to ensure sound
5 fiscal management, seeking out improvement opportunities, and maintaining a highly
6 skilled work force.

7 Beyond these direct responsibilities, I am experienced in shaping effectiveness
8 initiatives like technical conscience, human-error reduction, and nuclear safety culture
9 promotion which are vital underpinning elements of the nuclear organization.

10
11 Q6. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS CASE?

12 A. I am testifying on behalf of El Paso Electric Company ("EPE").
13

14 Q7. WHAT IS EPE'S SHARE OF PALO VERDE?

15 A. EPE owns a 15.8 percent share of each Palo Verde unit and the common facilities. EPE
16 receives an allocation of approximately 633 Mega-Watts ("MW") from the entire PVGS
17 when at full power.
18

19 Q8. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS CASE?

20 A. The purpose of my testimony is to describe Palo Verde and support EPE's request to include
21 Palo Verde invested capital into its rate base and Palo Verde operations and maintenance
22 ("O&M") expenses in its cost of service. The capital investments at Palo Verde that I support
23 are those that have been placed in service from January 1, 2021 (the first day after the end of
24 the test year in EPE's previous rate case, Docket No. 52195) through September 30, 2024,
25 the end of the test year for EPE in this proceeding. The O&M expenses I support are those
26 incurred during the 12 months ending September 30, 2024, the Test Year for this proceeding.
27 My testimony describes these capital investments and O&M expenses from the total plant
28 perspective, unless otherwise noted. EPE's share of these total plant costs is identified in
29 other parts of this Application, including the direct testimony of EPE witness
30 Victor Martinez.
31

1 **II. Description of Sponsored Schedules**

2 Q9. WHAT SCHEDULES FROM THE FILING PACKAGE DO YOU SPONSOR OR
3 CO-SPONSOR?

4 A. I co-sponsor the schedules shown on Exhibit CDH-1.

5
6 **III. Overview of Palo Verde Generating Station**

7 Q10. PLEASE DESCRIBE PALO VERDE.

8 A. Palo Verde is a nuclear electric generating station located on an approximately 4,000-acre
9 site approximately 50 miles west of Phoenix, Arizona. The facility consists of three
10 separates, standardized generating units and a variety of common support facilities with a
11 total design electrical rating of 4,003 MW (average yearly conditions). Palo Verde is the
12 second largest nuclear power plant in the U.S.

13 The Unit 1 low power license (NPF-34) was approved by the Nuclear Regulatory
14 Commission (NRC) on December 31, 1984, with the full power License (NPF-41) approved
15 on June 1, 1985. The unit entered service in 1986. The Unit 2 low power License (NPF-46)
16 was approved by the NRC on December 9, 1985, with the full power License (NPF-51)
17 approved on April 24, 1986. The unit entered service in 1986. The Unit 3 low power
18 License (NPF-65) was approved by the NRC on March 25, 1987, with the full power
19 License (NPF-74) approved on November 25, 1987. The unit entered service in 1988. The
20 units have been uprated twice in their operating history, to a current approximate design
21 electrical rating of 1,334 MW per Unit.

22 On December 11, 2008, APS submitted an application to the NRC to extend the
23 licenses of each unit for an additional 20 years. The NRC approved the license renewal
24 application on April 21, 2011. The new expiration dates for the NRC operating licenses for
25 the three Palo Verde Units are June 1, 2045 (Unit 1), April 24, 2046 (Unit 2), and
26 November 25, 2047 (Unit 3).

27 Palo Verde also has a switchyard that operates at 500 KV. Photograph CDH-1 is an
28 overhead photo of the Palo Verde site.

1 **Photograph CDH-1 – Palo Verde Site**



13 Q11. HOW IS PALO VERDE OWNED AND OPERATED?

14 A As detailed in the testimony of EPE witness Victor Martinez, Palo Verde is owned by seven
15 southwestern utilities ("Owners") and operated by APS. The Owners of the project are
16 APS, EPE, the Salt River Project Agricultural Improvement and Power District, Southern
17 California Edison Company, Public Service Company of New Mexico, Southern
18 California Public Power Authority, and Los Angeles Department of Water and Power.

19
20 Q12. WHAT ARE BASE LOAD PLANTS AND WHAT MAKES NUCLEAR POWER BASE
21 LOAD PLANTS UNIQUE?

22 A. Base load electricity generating plants are the production facilities used to meet the steady
23 and continuous needs of electricity to run our homes, businesses, hospitals, schools,
24 military bases, and other facilities. Nuclear power plants are ideal base load generating
25 plants because their operations are predictable and reliable, and they have low incremental
26 operating costs and high-capacity factors.

27
28 Q13. WHAT ARE OTHER UNIQUE ASPECTS OF NUCLEAR POWER PLANTS IN
29 COMPARISON TO TRADITIONAL FOSSIL FUELED PLANTS?

30 A. Nuclear power plants in the United States are regulated by the Nuclear Regulatory
31 Commission ("NRC"). As a condition of its NRC license, each station is required to

1 develop and maintain strict plant operating standards, plant designs, and technical
2 specifications that must be complied with to meet the license requirements. Under certain
3 off-normal conditions, technical specifications require that certain actions must be
4 performed, and conditions met within specific timeframes in order to continue to operate
5 the unit. In some cases, when these prescribed actions cannot be met within predetermined
6 timeframes, the technical specifications require that the unit be taken out of service. NRC
7 regulations, radiological conditions, and prescriptive operating procedures require the unit
8 operators to follow a specific process for shutdown, outages, and restart.

9 Nuclear power plants are strictly regulated to assure their safety. The operating
10 requirements are vastly different from those applicable to coal or gas-fired plants of similar
11 size. For example, the radiological conditions of a nuclear plant are highly controlled and
12 monitored, and access to specific areas is restricted during normal plant operations. When
13 a nuclear plant is taken out of service, access to certain areas is restricted until radiological,
14 temperature, and other conditions are met. Due to radiological conditions in some areas of
15 nuclear power plants, actions not required at fossil stations are taken to minimize personnel
16 exposure. These actions, such as using protective clothing, and installing and working
17 around lead shielding, increase the amount of time, and therefore cost, required to perform
18 work.

19 Each U.S. nuclear station contains multiple systems and operational features that
20 create redundancy - or multiple barriers - to ensure safe operations. Regulations and
21 maintenance practices in nuclear stations are in place to replace, repair, and ensure the
22 safety margin of critical primary and secondary systems. This means that the unit may be
23 down powered or removed from service to repair a system that does not directly impact the
24 operations or output of the plant but is done to ensure the safe operation of the back-up
25 systems. Palo Verde has specific operations and maintenance procedures (and
26 corresponding training for personnel) to control plant operation. These procedures cover
27 not only normal plant operation, but a multitude of other conditions such as abnormal
28 operations and emergencies. As a result, plant operators have limited discretion in how the
29 plant is to be operated. By contrast, fossil-fueled units do not have strict technical
30 specifications that require the unit to be taken out of service under similar circumstances.

1 Additionally, from the time a nuclear unit is shut down for refueling, approximately
2 100 hours are needed to ensure the decay heat from the reactor core has reached a point
3 that it is safe to begin refueling operations. At the end of an outage, returning to the grid
4 from shutdown conditions takes about two days. To return to 100 percent power takes an
5 additional one to two days. In contrast, to remove and return a gas or coal plant to service
6 can be achieved in as little as, or less than, one day.

7
8 Q14. WHAT ARE THE ADVANTAGES OF THE PALO VERDE PLANT
9 CONFIGURATION?

10 A. Palo Verde is the second largest nuclear power station in the United States and consistently
11 produces the most power of any power production facility in the country. Furthermore, it
12 is the first and only power plant in the country (of any fuel source) to produce more than
13 32 million megawatt-hours ("MWh") in one year. Since startup, the plant has exceeded
14 30 million MWh twelve times. Indeed, in 2020 PVGS achieved a first ever milestone in
15 the nuclear industry when it produced a cumulative one billion MWh. The APS -operated
16 PVGS achieved its 30th consecutive year as the nation's largest power producer.
17 Palo Verde owners place a high emphasis on reliability during the summer months. During
18 the peak period of June 15 through September 15, 2024, Palo Verde achieved a 100%
19 capacity factor and produced 32.4 million MWh during the test year.

20 The Palo Verde units are three identical, independent, stand-alone Pressurized
21 Water Reactor units with an independent Water Resources Facility. The units are
22 Combustion Engineering ("CE") System 80 plants, which were designed to maximize
23 reliability and performance. As identical units, there is economy of scale with engineering
24 of modifications to the plant, training of operators and mechanics, outage planning, and
25 other activities that are replicated on each unit.

26 Other advantages include that Palo Verde provides continuous clean and reliable
27 power to the customers of the Owners in the Southwest. Since it started operation in 1986,
28 the electricity generated by Palo Verde has enabled its Owners to avoid the emission of
29 significant amounts of carbon dioxide, sulfur dioxide (which contributes to acid rain), and
30 nitrogen oxides (which contribute to the formation of ground level smog). The electricity

1 EPE sells to its customers is generated using a variety of fuels and methods, the largest
2 percentage of which comes from the nuclear energy produced at Palo Verde.
3

4 Q15. ARE THERE UNIQUE CHALLENGES RESULTING FROM THE PALO VERDE
5 PLANT CONFIGURATION?

6 A. Yes. The three Palo Verde units and Water Resources Facility occupy a large footprint
7 relative to other nuclear plants, with the units being approximately 1/4 mile apart.
8 Palo Verde's large footprint, approximately 4,000 acres, also gives it a unique challenge
9 relative to the country's three other three-unit nuclear power plants (which cover 840, 700,
10 and 510 acres). The sheer size requires larger physical security systems and a greater
11 number of security guards to meet operational and regulatory requirements. There also is
12 minimal sharing of systems between the three units. All of these factors require additional
13 staff. As an example, each unit has its own separate control room (versus a shared control
14 room as is found in many two-unit- plants) requiring three sets of operators. Each unit also
15 has a chemistry lab, which must be staffed by chemists at each location.

16 The CE System 80 plant, by design, has approximately 20% more pumps, motors, valves,
17 etc., than other comparably sized Pressurized Water Reactors, such as the South Texas
18 Project and Waterford nuclear stations. The CE System 80 plant was designed for greater
19 reliability; however, more people are required to maintain and operate the additional
20 equipment. Because the units are identical, an issue at one can be transportable to the other
21 units. A degraded or non-conforming condition in any one unit must immediately be
22 analyzed in the other two units to determine if it is applicable there. Therefore, a design or
23 maintenance issue in any unit could require actions (including shut down) to be taken in
24 all three units.
25

26 Q16. PLEASE DESCRIBE THE PALO VERDE WATER RESOURCES FACILITY AND ITS
27 OPERATION.

28 A. One aspect of Palo Verde that distinguishes it from any other nuclear power plant in the
29 world is that it is not located on or near a large body of water. Therefore, it must obtain
30 water from other sources and must discharge any wastewater to a system that will not
31 adversely impact surface or underground water supplies. This unique aspect of Palo Verde