

RF EOP-011 AND FUTURE EOP-012 ON-SITE WALKDOWNS

Beth Rettig- ReliabilityFirst

James Baird- Springdale Power, LLC

Colleen Campbell- LS Power

Sandra Kennedy- LS Power

Dec. 18, 2023, Technical Talk with RF



RELIABILITY FIRST

AGENDA

RELIABILITYFIRST- BETH RETTIG

- EOP-011-2
 - Recent walkdowns conducted
- 2024 and beyond
 - EOP-012

SPRINGDALE ENERGY- JAMES BAIRD

- Springdale Energy facility introduction
- Winterization plan in place
- RF/Springdale walkdown perspective

LS POWER- COLLEEN CAMPBELL & SANDRA KENNEDY

- LS Power introduction
- RF/Springdale walkdown perspective
- Best practice sharing across fleet

COLD WEATHER PREPAREDNESS EOP-011-2

- Effective 4/1/2023
- RF Tech Talk in July 2023
 - Winterization Assist Visit Program vs. Compliance Engagements
- On-site Spot Check Winterization Walkdowns in November 2023
 - EOP-011 R7, R8



EOP-011 ON-SITE WALKDOWN- SPRINGDALE ENERGY, LLC



- RF team reviewed compliance evidence submitted
- Prepared questions for onsite demonstrations
 - Cold weather preparation
 - Open task management
 - Facility walk-through
 - Recent upgrades or plans looking ahead to EOP-012 and increased reliability

RECENT PUBLICATIONS AND EVENTS

Nov. 7 ● FERC/NERC issued final report on December 2022's Winter Storm Elliott [Winter Storm Elliott Report: Inquiry into Bulk-Power System Operations During December 2022 | Federal Energy Regulatory Commission \(ferc.gov\)](#)

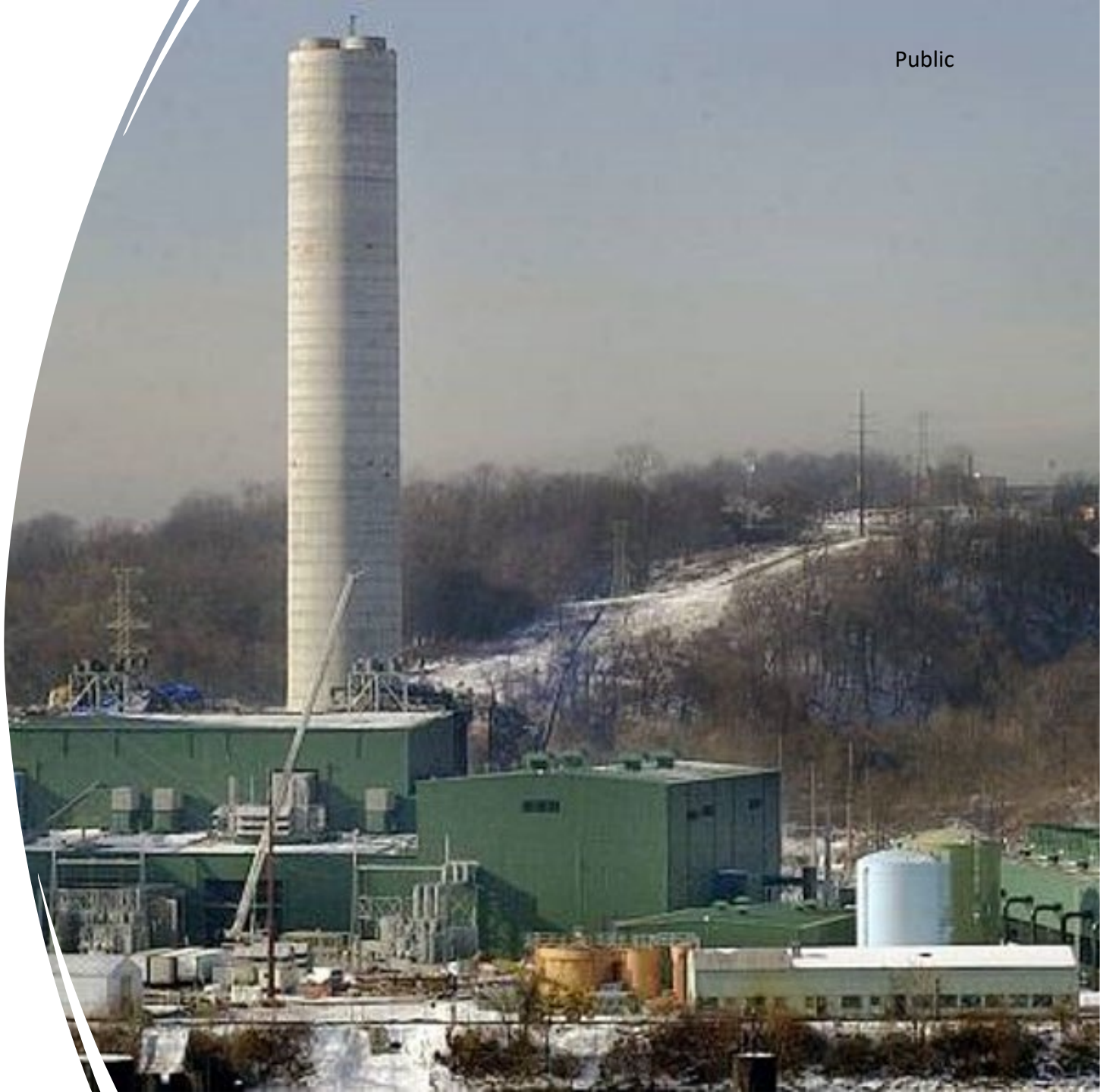
Nov. 8 ● NERC released its 2023 Winter Reliability Assessment [NERC WRA 2022.pdf](#)

Oct. 1, 2024 ● EOP-012-1 goes into affect



Springdale Energy EOP -11 Overview

Presented by: James Baird



Springdale Energy LLC

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- Plant Overview
 - Program Action Levels /ECWT
 - Plant Program Improvements
 - Lessons Learned
 - RF Walkdown Experience Plant Perspective



Plant Overview

Springdale Combined Cycle

Plant view



Operating Statistics

	2020	2021	2022	2023 Q3
Net Capacity Factor	89.3%	73.1%	90.6%	91.3%
Net Generation MWh	4,338,678	3,589,743	4,405,161	3,421,613
Avg. Net Heat Rate	6,925	7,037	6,959.798	6,844
Annual Service Hours	8,251	6,763.00	8,239	6,180
EFORd	0.61	0.08	0.7	1.53

Fact Sheet

COD	Aug 2003
Capacity	537 MW (Summer Corrected 88F) 585 MW (Winter Corrected 16.5F)
Location	Springdale, PA
Baseload Heat Rate	7,110 mmBTU/kW
Equipment	2 501FD(2)3 Combustion Turbines 1 HE Steam Turbine 2 NEM HRSGs
Fuel Type	Natural Gas
NERC Region	Reliability First
Electric Interconnection	West Penn Power (138 kV)
Gas Interconnection	Dominion
Water Supply	Springdale Municipality
Employees	22
Air Permit	2.5 ppm NO _x 3hr rolling 10 ppm CO hourly average NH ₃ Slip < 10 ppm annual stack test

- Springdale 3,4,5 operated as a peaking plant until February 2012
- Operates in 2x1 or 1x1 operation
- Unit was updated from an FD2 to an FD3 engine in 2015. Nominal increase of 26 MW on the power block

SITE SPECIFIC WINTER READINESS

- Event Types – Winter Warning Levels

- LEVEL I** – Issued at the beginning of September and carry anytime ambient temperatures are **40°F or below**.
- LEVEL II** – Medium risk. Issued when ambient temp. drop **below 29°F**.
- LEVEL III** – Highest risk. Issued any time ambient temperatures **drop below 20°F** or issued severe winter storm warning.

Springdale Energy Turnover Sheet

Public

Date:

12/2/2023

Time:

Cloudy, with a low around 46. Light northeast wind. Chance of a tenth and quarter of an inch possible.

deg. F

12/4/2023

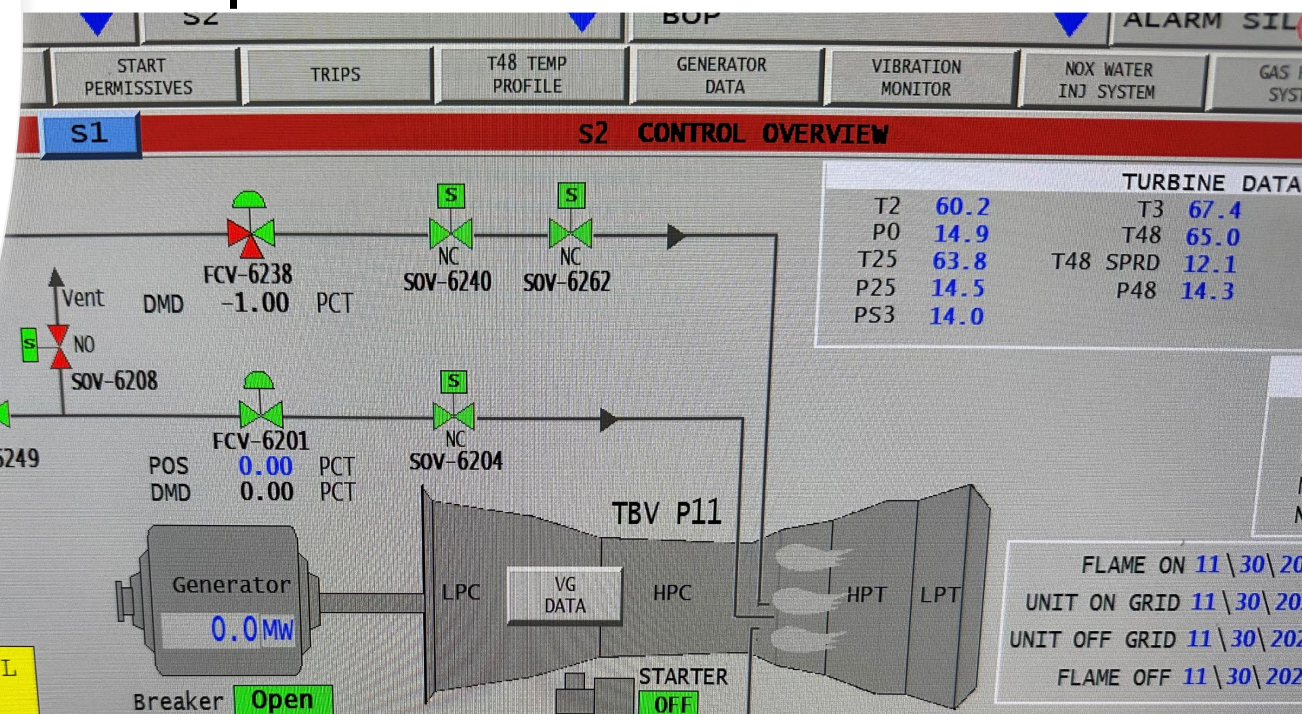
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deg. F

Level 1

12/5/2023

33



PERCENTAGE OF TASKS COMPLETE TO REPORT ON MORNING CALL

%

Note: This is a live document that will be updated and changed at any time

Date Activity Scheduled to Start	Date Activity to be Completed	Date Activity Completed	Percent Complete	% Weight on Category	Notes
Winterization & PM Program					
					Review of winterization procedure for the 5 year cold weather average equipment/areas that had freezing in the last year.
					Minimal equipment operating in the winter.
					How to Perform Area Walk-downs and Requests for Following Conditions.
					Heater & Heat Trace Deficiencies Identified
					Heaters, Temporary Heat Tracing.

Plant Program Improvements

- Insulated and heat trace around Clarifier Tanks.
- Upgraded I/A Dryer Skid.
- Built Permanent Enclosures.
- Upgrade heat trace panels to alarm into DCS.
- Installed alarms in the DCS system.
- Localized storage of winter readiness supplies.
- Pre and Routine checks of winter equipment.
- Transition to Electric Heaters instead of Kerosene.
- Install more outlet around plant in problem area to prevent the use of extension cords.
- New PM'S for compartment heater and building damper maintenance.
- Installed windows on heater control boxes to detect faults.
- Developed new rounds on critical instrumentation, compartment temperatures, and heat trace panels.
- Heat trace and insulated hose for DI trailer.



Public

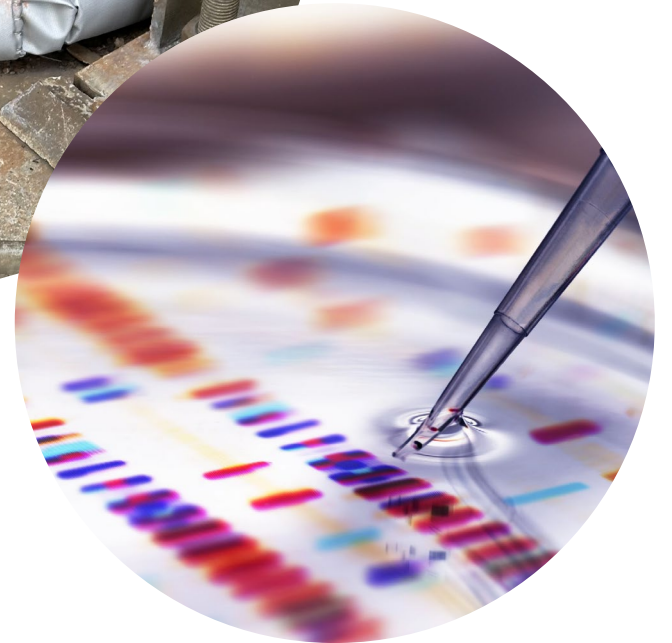
APPENDIX G: LESSONS LEARNED, PROBLEM AREAS

UNIT	EVENT	REPAIR PLAN – ACTIONS TAKEN
UNIT 3	"A"& "B" LP DRUM TRANSMITTER FROZE, DUE TO DAMPER STUCK OPEN IN DOG HOUSE (12/2022) <i>*CAUSED UNIT 3 TRIP AND PLANT DERATE*</i>	REPLACED DAMAGED ACTUATOR (COMPLETE 12/24/22); INSTALL TEMPORARY INSULATION PRIOR TO START OF WINTER SEASON; LONG-TERM - INSTALL COMPARTMENT TEMPERATURE TO ALARM IN DCS)
UNIT 3	GAS CURTAILMENT <i>*50 MW DERATE TO PREVENT OVER BURN*</i>	
UNIT 3	"C" IP LEVEL TRANSMITTER FROZE DUE TO DAMAGED INSULATION	INSULATION WAS REPAIRED
BOP	ECA PRESSURE AND FLOW TRANSMITTERS FROZE	OBRIAN BOX HEATER WAS REPAIRED
BOP	DISCHARGE LINE FROM FILTRATE SUMP TO REACTOR TANK FROZE	DAMAGED WINTER HUT, ELECTRIC HEATER OUTLETS; HUT INSPECTION SHEETS NOW PERFORMED
UNIT 3	SCR NH3 FLOW TRANSMITTER STARTED TO FREEZE (HIGH WINDS DAMAGED CURTAINS)	REPLACE DAMAGE CURTAIN STRAPS; INSTALL TEMP HEAT SOURCE DURING WINTER OPERATION.
UNIT 4	SCR NH3 FLOW TRANSMITTER STARTED TO FREEZE (HIGH WINDS DAMAGED CURTAINS)	REPLACE DAMAGE CURTAIN STRAPS; INSTALL TEMP HEAT SOURCE DURING WINTER OPERATION
BOP	UNIT 3/4 HRSG BLOWDOWN TANK COOLING WATER LINE STARTED TO FREEZE	STAGE TEMPORARY HEATER WHEN TEMPERATURES ARE EXPECTED TO DROP BELOW ECWT

Lessons Learned



RF Walkdown



LS Power Overview

- Industry Focus
 - Power Generation
 - Electric Transmission
 - Energy Infrastructure
- Parent-Holding Company
 - 23 NERC-Registered Power Plants
 - RF, NPCC, SERC, TRE
- Compliance Functions
 - Oversight
 - Monitoring
 - Support



EOP-011 Walkdown Experience

- Discussion based
- Not the traditional 'audit' feel



Lessons Learned – Best Practices



Leveraging engagement outcomes



Preparing for EOP-012

QUESTIONS & ANSWERS

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