

LEGEND

- ⊗ VALVE (NORMALLY OPEN)
- ⊘ VALVE (NORMALLY CLOSED)
- ⊘ VALVE (NORMALLY THROTTLED)
- ⊘ CHECK VALVE
- ⊘ RELIEF VALVE
- ⊘ ORIFICE
- ⊘ PRESSURE GAUGE
- ⊘ THERMOMETER
- ⊘ ELECTRICAL CONNECTION
- ⊘ PRESSURE SWITCH
- ⊘ SEAL OIL FILTER

CONDENSED OPERATING INSTRUCTIONS

(SEE INSTRUCTION BOOK FOR COMPLETE OPERATING INSTRUCTIONS)

GENERAL - SEAL OIL PRESSURE MUST BE MAINTAINED AT THE HYDROGEN SEALS WHEN HYDROGEN IS IN THE GENERATOR OR WHEN THE SHAFT IS TURNING.

THE HYDROGEN PRESSURE MAY BE VARIED UP TO 60 PSIG. SEAL OIL PRESSURE IS NORMALLY MAINTAINED AT 12 PSI ABOVE THE HYDROGEN PRESSURE. (3 PSI IS REQUIRED TO MAINTAIN A SEAL WHEN RUNNING)

THE VAPOR EXTRACTORS SHOULD BE OPERATED CONTINUOUSLY WHEN THE GENERATOR IS FILLED WITH HYDROGEN.

HYDROGEN SHOULD BE PURGED FROM THE GENERATOR BEFORE MAIN OIL RESERVOIR IS DRAINED.

THE GENERATOR CAN BE OPERATED WITH THE HYDROGEN SIDE SEAL OIL PUMP OFF.

TURN SEAL OIL FILTERS UNTIL FREE EVERY EIGHT HOURS.

SEAL OIL SUPPLY - EMERGENCY SOURCES

- MAIN OIL PUMP ON TURBINE SHAFT
- SEAL OIL BACKUP PUMP ON MAIN OIL RESERVOIR
- AIR SIDE SEAL OIL BACKUP PUMP

WILL MAINTAIN 60 PSIG HYDROGEN PRESSURE

TURNING GEAR BEARING OIL PUMPS - WILL MAINTAIN 2 PSIG HYDROGEN PRESSURE

THE TURBINE BACKUP REGULATOR VALVE 264 OPENS WHEN THE DIFFERENTIAL PRESSURE AT THE SEALS DECREASES TO 8 PSI. THEN IF THE SEAL DIFFERENTIAL PRESSURE DECREASES TO 5 PSI, PRESSURE SWITCH [10] ACTIVATES THE AIR SIDE SEAL OIL BACKUP PUMP ON THE SEAL OIL UNIT AND THE DIFFERENTIAL PRESSURE IS RESTORED TO 12 PSI.

THE NEXT AVAILABLE SOURCES OF EMERGENCY OIL AFTER THE AIR SIDE SEAL OIL BACKUP PUMP ARE THE TURNING GEAR BEARING OIL PUMPS ON THE MAIN OIL RESERVOIR. THESE CAN MAINTAIN A HYDROGEN PRESSURE OF 2 PSIG ONLY. WHEN THE AIR SIDE SEAL OIL BACKUP PUMP IS RUNNING, HYDROGEN PRESSURE SHOULD BE REDUCED TO 2 PSIG IF THE SEAL OIL BACKUP PUMP ON THE MAIN OIL RESERVOIR IS NOT AVAILABLE.

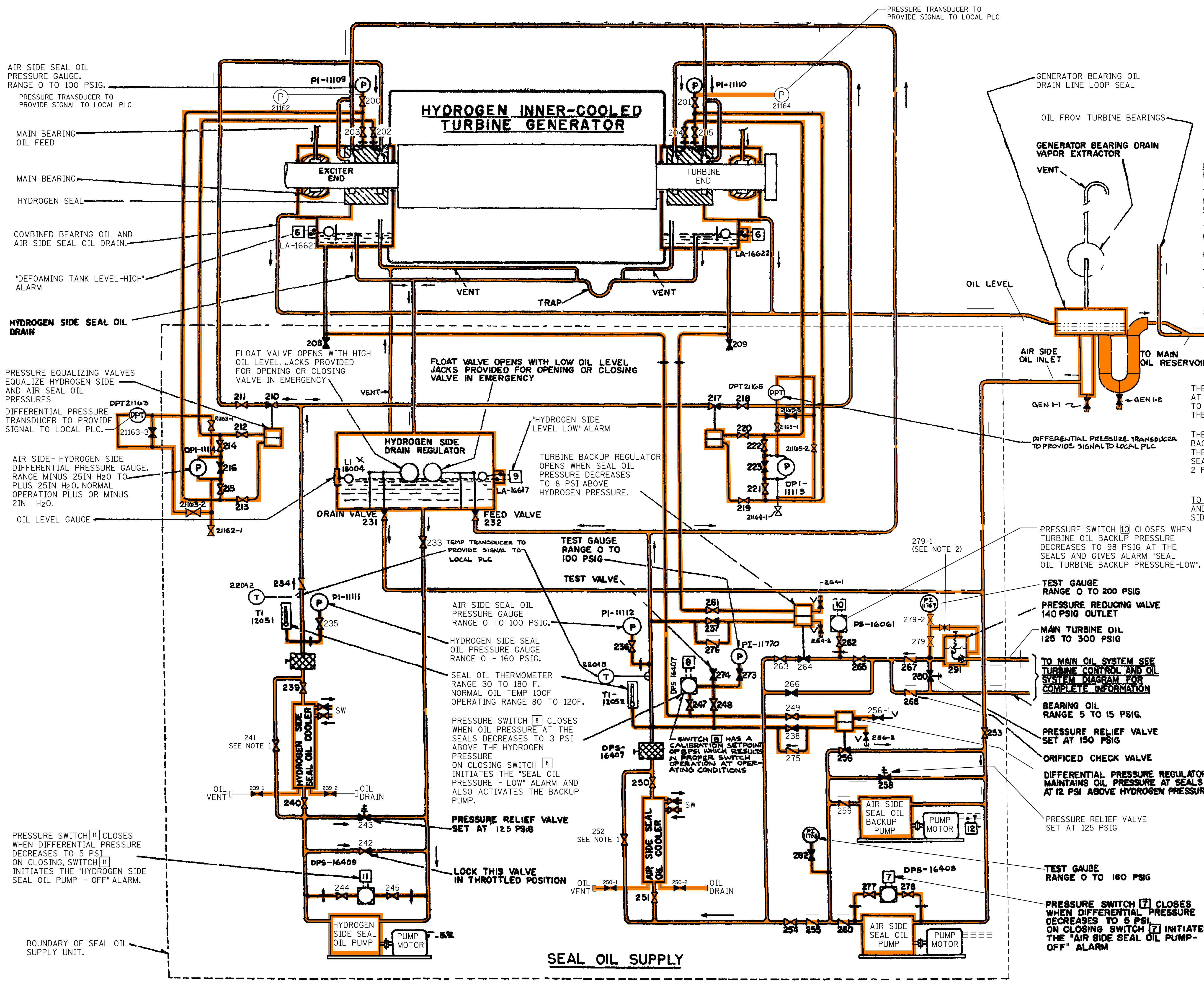
TO PLACE EQUIPMENT IN OPERATION - SET VALVES AS INDICATED, START AIR SIDE SEAL OIL PUMP AND FILL DEFOAMING TANKS AND HYDROGEN SIDE DRAIN REGULATOR. START HYDROGEN SIDE SEAL OIL PUMP. EQUIPMENT IS THEN IN NORMAL OPERATION.

OIL ALARMS

- [6] DEFOAMING TANK LEVEL - HIGH
- [7] AIR SIDE SEAL OIL PUMP OFF
- [8] SEAL OIL PRESSURE - LOW
- [9] HYDROGEN SIDE LEVEL - LOW
- [10] SEAL OIL TURBINE BACKUP PRESSURE - LOW
- [11] HYDROGEN SIDE SEAL OIL PUMP - OFF
- [12] AIR SIDE SEAL OIL BACKUP PUMP - RUNNING

NOTES:

1. THROTTLED OPEN TO MAINTAIN SW-2010-1 (2020-1) CONTROLLING BETWEEN 25% - 75% OF VALVE STROKE.
2. IF SYSTEM IS UNSTABLE DUE TO PRESSURE FLUCTUATIONS, SLOWLY THROTTLE CLOSED UNTIL THE SYSTEM BECOMES STABLE.



SEAL OIL DIAGRAM

DOMINION ENERGY KEWAUNEE, INC.
KEWAUNEE POWER STATION

LICENSE RENEWAL DRAWING
AC TURBINE GENERATOR
SEAL OIL

APPROVED	DRAWN	DATE	REV.
REVIEWED	SCALE	LRXX-101-64	0

LICENSE RENEWAL DRAWING LEGEND

- 84/EGM GENERATOR (MECH) AND AUXILIARIES
- IN SCOPE FOR LR PER 10CFR 54.4 (a) (2)
- IN SCOPE FOR LR PER 10CFR 54.4 (a) (3)

REFERENCED PER MASTER DRAWING: XK-101-64

REV. 2P

REV '2P' PER LAST UPDATE