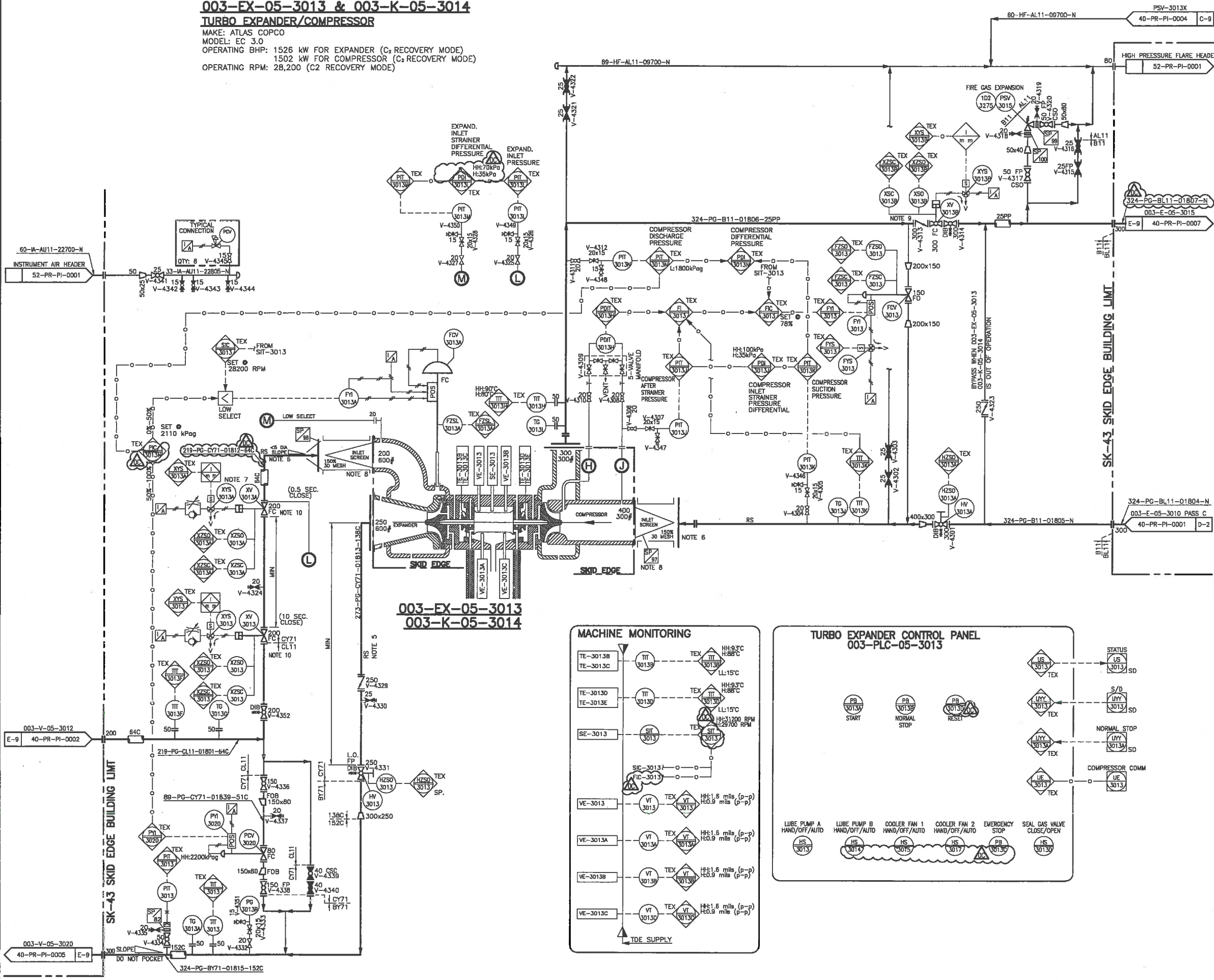


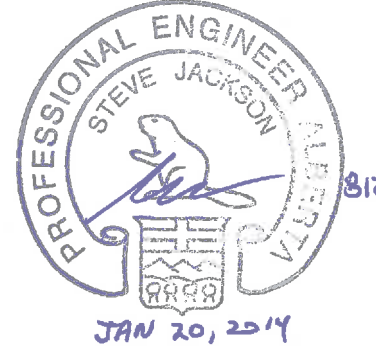
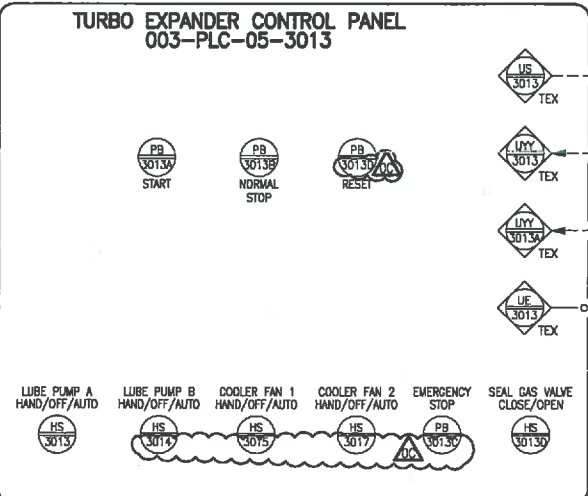
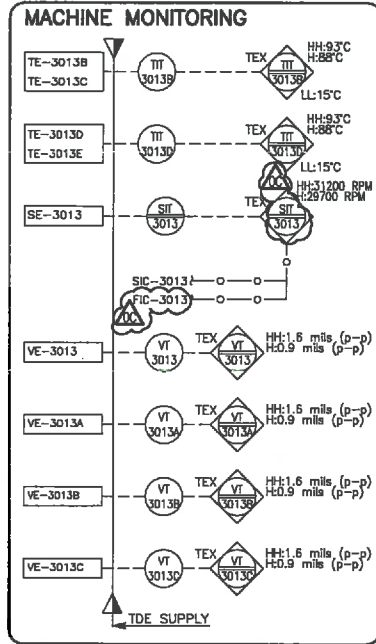
UPDATER: Friday, November 15, 2013 2:34:04 PM BY: Manual  
DRAWN: Monday, January 20, 2014 8:15:59 AM DWG NAME: H:\PROJECTS New N05\Design Drawings\Process\DFR\DFR-40-PR-PI-0003 REV 00.dwg  
PLOTTER: Monday, January 20, 2014 8:15:59 AM DWG NAME: H:\PROJECTS New N05\Design Drawings\Process\DFR\DFR-40-PR-PI-0003 REV 00.dwg

**003-EX-05-3013 & 003-K-05-3014**  
**TURBO EXPANDER/COMPRESSOR**  
MAKE: ATLAS COPCO  
MODEL: EC 3.0  
OPERATING BHP: 1526 kW FOR EXPANDER (C<sub>2</sub> RECOVERY MODE)  
1502 kW FOR COMPRESSOR (C<sub>2</sub> RECOVERY MODE)  
OPERATING RPM: 28,200 (C<sub>2</sub> RECOVERY MODE)



- NOTES:**
1. ALL PIPING 40 NPS AND SMALLER THREADED UNLESS OTHERWISE NOTED.
  2. HIGH POINT BLEEDS AND LOW POINT DRAINS ADDED AS REQUIRED.
  3. DELETED.
  4. TUBE INSTRUMENT MANIFOLD VENTS TO SAFE AREA.
  5. REMOVABLE PIPE SPOOL.
  6. MINIMUM OF 5 STRAIGHT PIPE DIAMETERS UPSTREAM OF COMPRESSOR AND EXPANDER INLETS AND OUTLETS.
  7. MINIMIZE DISTANCE TO XV-3013A TO APPROXIMATELY 5 DIAMETERS UPSTREAM OF EXPANDER INLET.
  8. CONE STRAINERS TO BE NON-COLLAPSIBLE TYPE.
  9. XV-3013B TO CLOSE 20 SECONDS AFTER XV-3013/3013A CONFIRMED CLOSE.
  10. METAL SEATED BUTTERFLY VALVE TO BE USED.
  11. ALL INSTRUMENT TAG NUMBERS SHALL FOLLOW ITS ASSOCIATED EQUIPMENT TAG NUMBERS, UNLESS OTHERWISE INDICATED (EX. PG-1010 ON EQUIPMENT 003-V-03-1010, FULL INSTRUMENT TAG NUMBER SHALL BE 003-PG-03-1010).
  12. ALL INSTRUMENT SYMBOLS ON THIS PID TO BE PREFIXED BY 05.

**003-EX-05-3013**  
**003-K-05-3014**



NO.	REVISION	DATE	BY
0C	REVISED AS MARKED	NOV.12/13	MFF
0B	REVISED AS MARKED	OCT.09/13	SSE
0A	REVISED AS MARKED	AUG.30/13	SSE
0	RELEASED FOR FABRICATION	APR.5/13	MFF

PROJECT NAME: <b>FERRIER CENTRAL PROCESSING FACILITY</b>	
CLIENT: <b>DEVON CANADA c/o WORLEY PARSONS</b>	
DOCUMENT NAME: <b>TURBO EXPANDER/COMPRESSOR PIPING AND INSTRUMENTATION DIAGRAM</b>	
THERMO DESIGN ENGINEERING LTD. OIL & GAS PRODUCTION EQUIPMENT DESIGN • FABRICATION • INSTALLATION EDMONTON, ALBERTA, CANADA AFSISA PERMIT NUMBER: P2800	
THIS DRAWING IS THE CONFIDENTIAL PROPERTY OF TDE AND IS BASED ON THE UNDERSTANDING THAT NOTHING IS TO BE COPIED OR COMMUNICATED TO A THIRD PARTY WITHOUT THE WRITTEN AUTHORIZATION OF TDE.	
12-118	
DFR-40-PR-PI-0003	OC