

IS/18  
dated --.--.2018

### Information Message on PRANA Predictive Analytics and Remote Monitoring System

PRANA predictive analytics and remote monitoring system registered “Periodic deviation of GBC technical condition in the parameter “Gas leakage pressure after 2nd stage seals (EKH23CP032\_XQ01)” (Fig. 1).

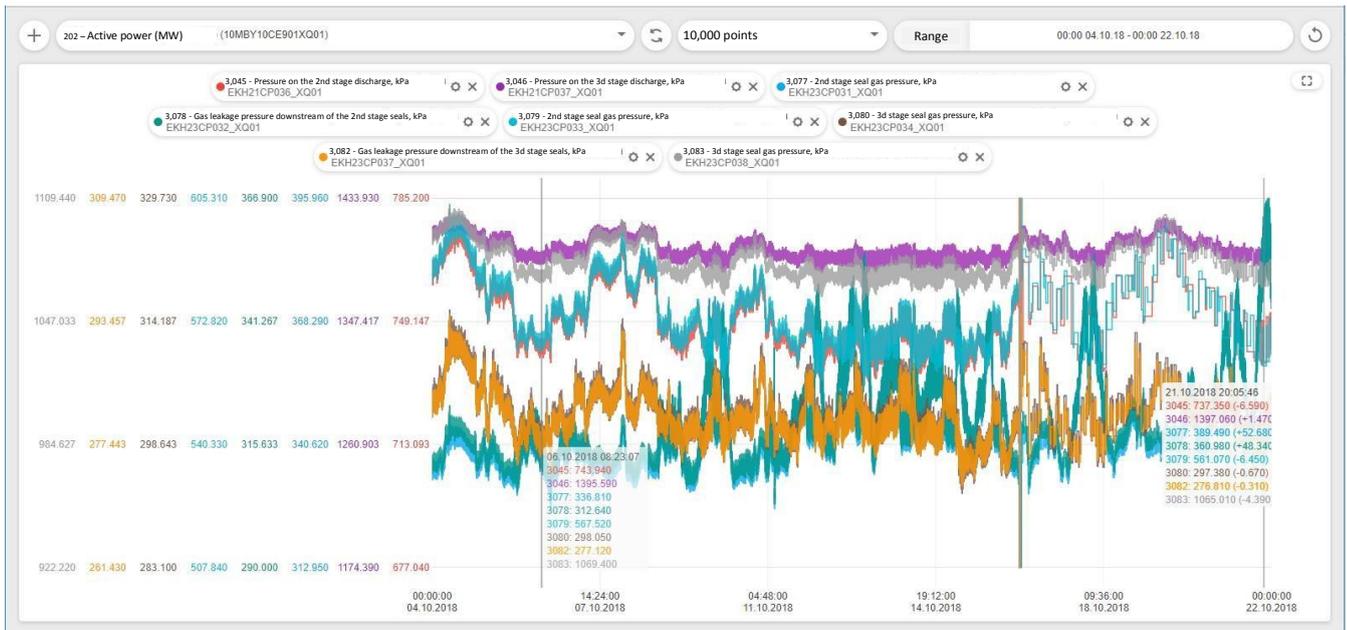


Fig. 1 Operation of DGS at the 2nd stage of GBC-A.

When GBC-A is operating, a periodic increase in gas leakage pressure after the 2nd-stage seals is revealed, and this deviation became clear after GBC-B emergency shutdown (--.--.2018). Also at the moments of deviation, an increase in the pressure of the secondary sealing gas (EKH23CP031\_XQ01) is registered.

Before the emergency shutdown of GBC-B (--.--.2018), the leakage pressure and the pressure of the secondary sealing gas on GBC-A were at the level of 300-320 kPa and 330-350 kPa respectively, with a pressure on the 2nd stage discharge of 740-760 kPa. After the emergency shutdown of GBC-B and subsequent loading of GBC-A, the leakage pressure and the pressure of the secondary sealing gas began to change towards 340–360 kPa and 380–390 kPa respectively, while the pressure on the 2nd stage discharge was less than 745 kPa.

Probable causes of such deviation may be:

- incorrect operation of the needle valve of the secondary sealing gas supply (EKN23AA802), which leads to an increase in the leakage pressure downstream of the 2nd stage;

- ingress of process gas into the 2nd stage seals (causing, thereby, an increase in gas leakage pressure downstream of the seal and reduction of DGS lifetime). With a decrease in pressure at the 2nd stage discharge, the pressure of the primary sealing gas decreases, and as far as the primary gas pressure is not sufficient for a normal operation of the seals (what was mentioned in the letter IS/18 dated --.--.2018), the DGS operation is influenced accordingly.

**It is recommended to:**

1. Verify the accuracy of readings of the gas leakage pressure sensor downstream of the seals (EKH23CP032) and pressure sensor of the secondary sealing gas (EKH23CP031).
2. Verify the correct functioning of the needle valve of the secondary sealing gas supply (EKH23AA802), adjust if necessary.
3. Adjust sealing gases pressure and the pressure of leaks separately for each stage according to the documentation of GBC equipment supplier.
4. Please report to the Situational Center on the actions taken.

Chief Specialist  
on Compressor Equipment

*/Signature/*

A.A. Pritulkin