



# Compressor Venting Interpretation

## Background

Alberta Energy Regulator (AER) Directive 060 requires operators to periodically measure venting from compressors which includes piston-rod-packing, the distance-piece and the crankcase. This summary provides an interpretation of the regulation that can help operators plan and schedule these tests.

## Interpretations

### Section 8.6.2.1:

1) *For any compressor seal that emits vent gas, the duty holder must test the seal at least every 9000 hours that it is pressurized.*

### Controlled Vents

If the compressor seal vents are controlled (e.g. piped to the flare or a VRU etc.) then seal vent measurement is not required.

### Pressurized time

If you run the compressor 24/7, then the 9000 hour-timer rings after 375 days: you had better schedule annual tests before this timer expires.

If you run the compressor less than 24/7, then the timer is delayed. How much delay depends on the duty of your compressor but it might extend well past 375 days if the compressor is operated intermittently. **The bottom line is the tests are not necessarily annual.**

### Pressurized???

So, what does “pressurized” mean? According to discussions with the AER, a compressor is considered depressurized when its isolation valves are closed. In this state, the operator can blowdown the compressor or let the pressure slowly diminish through the various seals. **Advice: if you want to extend the time between seal vent measurements, then isolate idle compressors from the process.**

### Section 8.6.2.1 – Test Requirements

2) *The test must.... [Be Representative]*

This section lists criteria to ensure a representative test such as back pressure limits, instrument accuracy and inclusion of all sources.

**GreenPath** uses equipment that meets these specifications and ensures our technicians have comprehensive training and the right experience to conduct representative tests.

2e) *The test must be conducted within 10 percent of the average revolutions per minute and discharge pressure of the compressor. The average is to be based on the 168 pressurized hours prior to testing.*

What this clause says is that operators must not fiddle with the operation of the compressor to get a lower vent rate during the vent measurements. The AER wants the vent rate to be representative.



This is a fair request but introduces some operational challenge for compressors that have just turned on or off.

**The following is advice on how to conduct these tests - practicality can be applied in these fringe situations:**

### **Shut In Compressors**

The keyword when assessing the required frequency of vent testing is “pressurized”. So, if the compressor will accumulate less than 9000 pressurized hours before the next scheduled seal measurement, then there is no need to conduct the test now. **This means idle compressors can remain idle and do not need to be started just for the sake of the test.**

### **Recently Started**

Most operators run their compressors at typical speeds and pressures. Therefore, if the compressor has just been restarted, then hours during its last operation period (whether 1 week, 1 month or 1 year ago) count towards the 168 hour-clock. **The clock is not necessarily the last 168 calendar-hours.**

### **GreenPath Recommendations**

- 1. Operators do not need to re-start shut in compressors to conduct seal tests.**
- 2. Measure vents from running compressors.**
- 3. No need to measure vents from properly isolated compressors.**
- 4. No need to measure vents from compressor seal vents which are tied to control.**
- 5. Ensure idle compressors are isolated from the process.**
- 6. Record keeping relative to run-time will be key to defer annual testing to reduce cost.**

**Plan and schedule Compressor Vent Testing with GreenPath.**