

Centrifugal Compressor – Part 6

Penulis:

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Can anti-surge system fails? Simple answer it can, as long as made by human, it can fail. Not really necessary fail cause by "hi-tech" electronic control devices inside, but sometimes could be caused by error when setting the surge control line.

Well, this is rare. But, what did about if anti-surge system fail caused by the process??? Very rare again, but it does not mean cannot happen.

Let me imagine for you folks...

A set of wells just be work over, then reservoir engineer expect significant gain, valuable 10% NPV, very quick pay back period, increase production both oil and gas, USD, Rp, etc..mmmhhhh

Long pipeline having several tie-in points along segment, we called trunkline is ready for use. Just waiting the wells, Operation Superintendent is not patient and decides to start centrifugal compressor. The compressor is set-up to be run in recycle mode and not in un-load mode.

Well, rather that waiting those guys who did purging on satellite trunkline, we can cheat the start...he said.

Soon, after the wells are ready, compressor shutdowns due to vibration/surge.

Compressor surge looks like delay to shutdown, so hi-hi vibration takes over this job. Why?

Continue re-circulation of gas have impact reducing heavier components because of condensing gas after repetitive across after-cooler, so it cause molecular weight of gas decreases. Reducing molecular weight means you have to re-calibrate your surge slope and probably surge control line, because if not, he will not sense that he already surge.....then vibration switch takes over. .

Reference:

Larry L. Lily PhD, Gas Conditioning & Processing Course, " Compressor and Driver Equipment", Ho Chi Minh City, Vietnam, March – April 2001.