

**Volumetrics – Changes to Fuel, Flare and Vent Definitions in Saskatchewan**

<b>Jurisdiction</b>	<b>Release/Revision Date</b>	<b>Location of Change in this Document</b>	<b>Comment</b>
SK	December 19, 2019		Initial Release

**Audience:** All Saskatchewan Operators

**Purpose:** To inform operators that new definitions of fuel, flare and vent that will come into effect on January 1, 2020.

**Background:** As a result of *The Oil and Gas Emissions Management Regulations (OGEMR), Directive PNG017: Measurement Requirements for Oil and Gas Operations* (Directive PNG017) has updated the definitions for fuel gas, flare gas and vent gas.

**Key Principles:** The definitions in Directive PNG017 are effective January 1, 2020; however, operators are strongly encouraged to adopt these new definitions prior to that date so that they can test their systems and be prepared when this reporting becomes mandatory.

Flare Gas: Gas that is combusted in a flare or incinerator at upstream oil and gas operations. Types of gas that must be reported as flare gas if combusted in a flare or incinerator include the following:

- Acid gas (routine and non-routine);
- Blanket gas, purge gas, or sweep gas;
- Dilution and make-up gas added to a flare gas stream before flaring or incineration;
- Gas from dehydrator still columns;
- Gas produced during well completions;
- Gas produced during well unloading operations;
- Gas that is flared or incinerated as a result of equipment failure or plant upsets;
- Gas used to operate pneumatic devices (instruments, pumps and compressors starters);
- Pilot gas; and
- Waste gas.

Fuel Gas – Gas that is combusted and the released energy is used in upstream oil and gas operations. Types of gas that must be reported as fuel gas include gas burned by the following:

- Catalytic heaters and other building heaters;
- Engines;
- Line heaters;
- Process vessel burners;
- Sulphur recovery unit reaction furnaces; and,
- Thermoelectric generators.

Vent Gas – Uncombusted gas that is released to the atmosphere at upstream oil and gas operations.

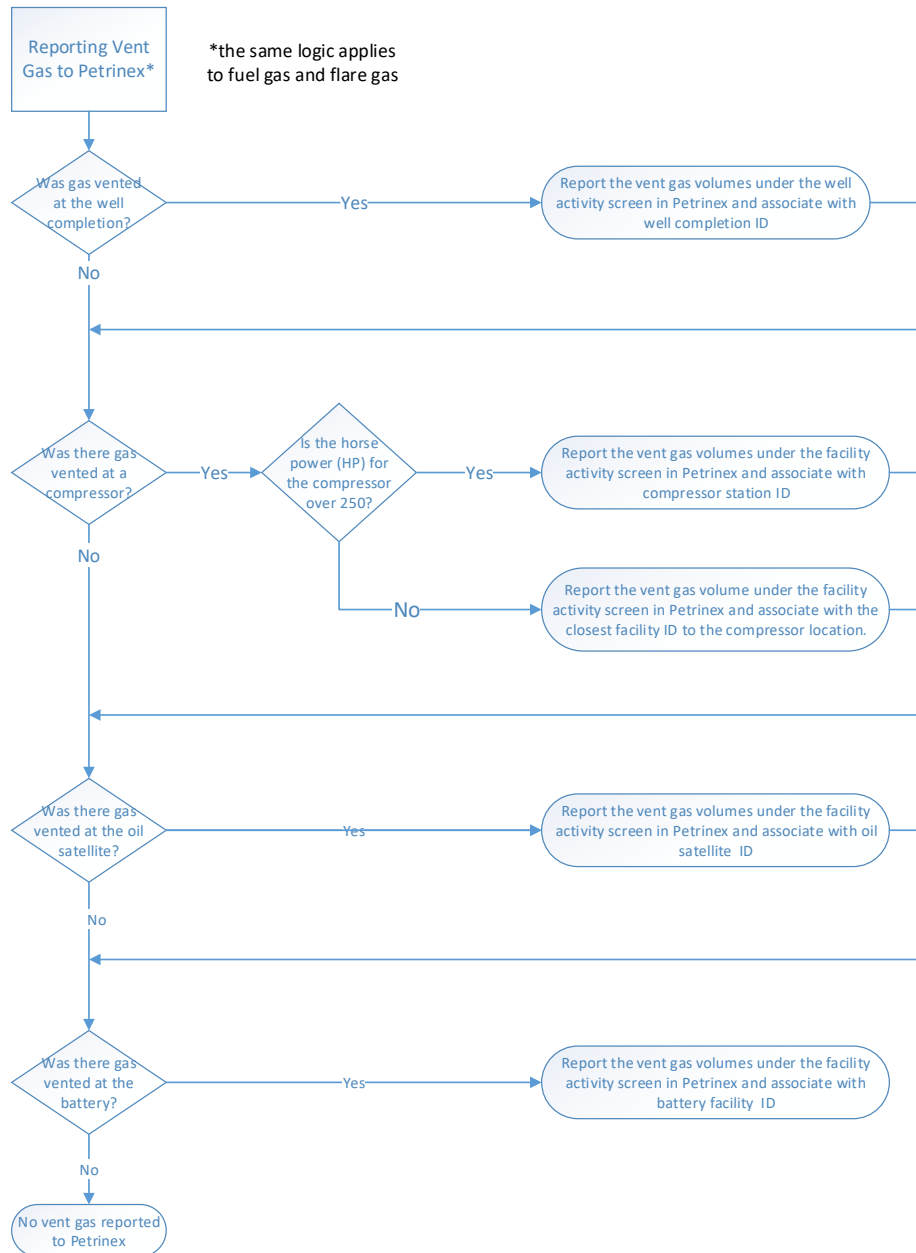
Vent gas includes:

- Blanket gas;
- Facility upsets and emergency shutdown;
- Fugitive emissions;
- Gas from compressor seals, starters, and blowdowns;
- Gas from dehydrator still columns;
- Gas from production tanks, not including methanol and chemical tanks;
- Gas produced during well completions;
- Gas produced during well unloading volumes;
- Gas released during pigging operations;
- Gas used to operate pneumatic devices; and,
- Waste gas.

Please note that the vent gas definition includes fugitive emissions. Volumes of fugitive emissions must be included as part of the vent gas reporting in Petrinex. As per Directive PNG017, volumes of fugitive emissions are estimated and reported starting when the fugitive emission is discovered until the fugitive emission is eliminated.

As per *Directive PNG032: Volumetric, Valuation and Infrastructure Reporting in Petrinex*, an operator must submit VENT to report the volume of gas vented during well or facility operations. The operator of the facility must identify where the vent occurred by entering the linked well completion ID, compressor station (CS) facility ID, oil satellite facility ID, or the reporting facility ID.

To determine how to report vent gas volumes in Petrinex, see Figure 1 for decision tree.



Below is an example of how to report vent to Petrinex

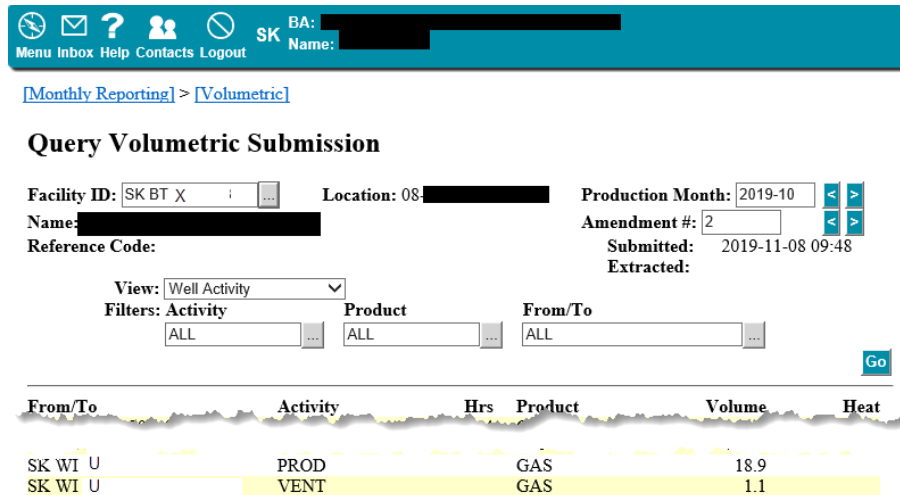
**Table 36: Summary of VENT volume reported to Petrinex for oil well completion (SK WI U), licensed compressor (SK CS Y), oil satellite (SK SA Z) and battery (SK BT X), for production month of January**

	Producing Well Completion, SK WI U (m <sup>3</sup> of gas)	Oil Satellite, SK SA Z (m <sup>3</sup> of gas)	Licensed Compressor, SK CS Y (m <sup>3</sup> of gas)	Battery, SK BT X (m <sup>3</sup> of gas)
Oil well head-Associated Gas Venting*	100			0
Uncontrolled tank - Flashing Losses		2380		3400
Uncontrolled tank - Breathing and working losses		50		100
Uncontrolled tank - Blanket Gas Venting		0		150
Hydrocarbon Liquid Loading Losses		0		10.2
Online gas analyzer		137.8		0
Solid desiccant dehydrator		9.376		0
Pig trap		7.789		0
Pneumatic device - Pneumatic instruments		283		397
Pneumatic device - Pneumatic pumps		362		73
Compressor**		1173.6	1095.4	
Glycol dehydrator		797.1		217.1
Blowdowns		2109		2531
Well Testing, Completions and Workover	100	0		0
Well venting for liquid unloading	925.4			0
Engine or Turbine Starts		853		1012
Fugitive emissions		421.30		2.51
Facility Turnaround		0		200
<b>TOTAL:</b>	<b>1125.4</b>	<b>8584.0</b>	<b>1095.4</b>	<b>8092.8</b>

\*Well head is not at the same location of the oil satellite

\*\*Compressor at oil satellite, SK SA Z, is not licensed therefore volumes must be reported under the oil satellite facility. Compressor located at battery, SK BT X, is licensed therefore volumes must be reported under the compressor facility ID, SK CS Y.

Total vent gas for oil well completion (SK WI U) is 1125.4 m<sup>3</sup>. This volume would be reported to Petrinex under battery facility ID (SK BT X) and associated with the well completion ID (SK WI U) with a volume of 1.1 10<sup>3</sup>m<sup>3</sup> see Figure 2



Menu Inbox Help Contacts Logout SK BA: [REDACTED] Name: [REDACTED]

[Monthly Reporting] > [Volumetric]

### Query Volumetric Submission

Facility ID: SK BT X Location: 08- [REDACTED] Production Month: 2019-10  
 Name: [REDACTED] Amendment #: 2  
 Reference Code: Submitted: 2019-11-08 09:48  
 Extracted:

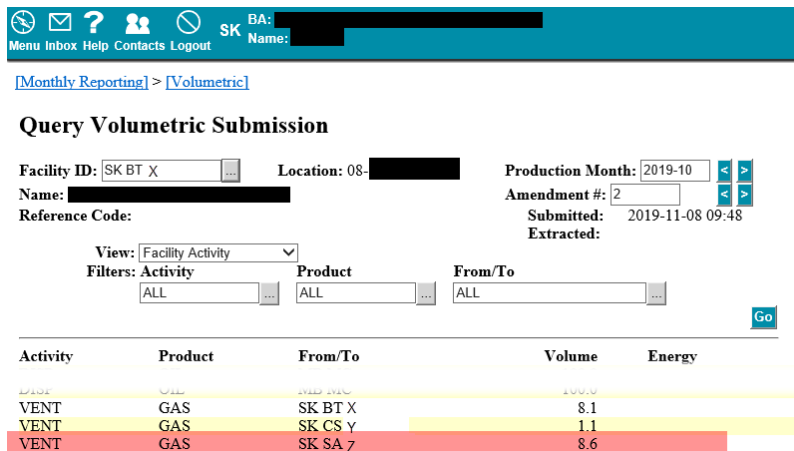
View: Well Activity  
 Filters: Activity: ALL Product: ALL From/To: ALL

Go

From/To	Activity	Hrs	Product	Volume	Heat
SK WI U	PROD		GAS	18.9	
SK WI U	VENT		GAS	1.1	

**Figure 2: How to report vent gas to well completion ID, SK WI U**

Total vent gas for oil satellite (SK SA Z) is 8584.0 m<sup>3</sup>. This volume would be reported to Petrinex under battery facility ID (SK BT X) and associated with the oil satellite facility ID (SK SA Z) with a volume of 8.6 10<sup>3</sup>m<sup>3</sup> as per Figure 3.



Menu Inbox Help Contacts Logout SK BA: [REDACTED] Name: [REDACTED]

[Monthly Reporting] > [Volumetric]

### Query Volumetric Submission

Facility ID: SK BT X Location: 08- [REDACTED] Production Month: 2019-10  
 Name: [REDACTED] Amendment #: 2  
 Reference Code: Submitted: 2019-11-08 09:48  
 Extracted:

View: Facility Activity  
 Filters: Activity: ALL Product: ALL From/To: ALL

Go

Activity	Product	From/To	Volume	Energy
OIL		SK BT X	100.0	
VENT	GAS	SK BT X	8.1	
VENT	GAS	SK CS Y	1.1	
VENT	GAS	SK SA Z	8.6	

**Figure 3: How to report vent gas to an oil satellite**

Total vent gas for compressor (SK CS Y) is 1095.4 m<sup>3</sup>. This volume would be reported to Petrinex under battery facility ID (SK BT X) and associated with the compressor facility ID (SK CS Y) with a volume of 1.1 10<sup>3</sup>m<sup>3</sup> see Figure 4.

Menu Inbox Help Contacts Logout SK BA: [REDACTED] Name: [REDACTED]

[\[Monthly Reporting\]](#) > [\[Volumetric\]](#)

### Query Volumetric Submission

Facility ID: SK BT X Location: 08- [REDACTED] Production Month: 2019-10  
 Name: [REDACTED] Amendment #: 2  
 Reference Code: Submitted: 2019-11-08 09:48  
 Extracted:

View: Facility Activity  
 Filters: Activity Product From/To  
 ALL ALL ALL

[Go](#)

Activity	Product	From/To	Volume	Energy
VENT	GAS	SK BT X	8.1	
VENT	GAS	SK CS Y	1.1	
VENT	GAS	SK SA Z	8.6	

**Figure 4: How to report vent gas to a licenced compressor**

The remainder of the gas was vented at the battery, SK BT X, therefore the total vent gas for Battery (SK BT X) is 8092.8 m<sup>3</sup>. This volume would be reported to Petrinex under battery facility ID (SK BT X) and reported at the battery facility ID SK BT X with a volume of 8.1 10<sup>3</sup>m<sup>3</sup> as per Figure 5.

Menu Inbox Help Contacts Logout SK BA: [REDACTED] Name: [REDACTED]

[\[Monthly Reporting\]](#) > [\[Volumetric\]](#)

### Query Volumetric Submission

Facility ID: SK BT X Location: 08- [REDACTED] Production Month: 2019-10  
 Name: [REDACTED] Amendment #: 2  
 Reference Code: Submitted: 2019-11-08 09:48  
 Extracted:

View: Facility Activity  
 Filters: Activity Product From/To  
 ALL ALL ALL

[Go](#)

Activity	Product	From/To	Volume	Energy
VENT	GAS	SK BT X	8.1	
VENT	GAS	SK CS Y	1.1	
VENT	GAS	SK SA Z	8.6	

**Figure 5: How to report vent gas to a battery**

The new definitions also apply to EPAP Declaration Theme 10: Fuel/Flare/Vent.

For more details on the fuel gas, flare gas and vent gas definitions, please refer to Appendix 2 of Directive PNG017, found at Saskatchewan.ca.



TIP

**More information:**

ER Service Desk

Phone: 1-855-219-9373

E-mail: [ER.Servicedesk@gov.sk.ca](mailto:ER.Servicedesk@gov.sk.ca)