



S-30

How to Complete the S-30 Monthly Gas Processing Plant Sulphur Balance Report

May 2001

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Monthly Gas Processing Plant Sulphur Balance Report (S-30)

Shaded areas do not apply for EUB purposes.

Plant Name _____

Operator _____

Location _____

LSD	SEC	TWP	RGE		M
				W	

Monthly Measurement Diff (t) _____

Emission Monitor Down (h) _____

PLANT CODE	YEAR	MONTH

Day	Sulphur In			Sulphur Out						
	Plant Feedstock			Sulphur Production	Sulphur Stack Emission	Flared Gas			Injected / Other	Total
	Approved Max. (10 ³ m ³)		Approved Max. (t)			10 ³ m ³	% H ₂ S	t		
	10 ³ m ³	% H ₂ S	t	t	t				t	
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
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20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										
31										
Month Total										
Quarterly Total										
Sulphur Recovery Efficiency				Minimum Approved %	Actual Monthly %	Cumulative Quarterly %				

Contact Name _____

Telephone _____

Signature _____

Date _____

How to Complete the S-30 Monthly Gas Processing Plant Sulphur Balance Report

Identification

TOPIC

DESCRIPTION

Plant Name

Plant Name _____

Enter the name of the gas processing plant as given on your gas processing facility approval or from *ST-50: Gas Processing Plants in Alberta* (typically operator's name and the first field name).

Operator

Operator _____

Enter the operator name.

Location

LSD	SEC	TWP	RGE		M
				W	

Enter the legal description of the plant as shown on the approval.

Monthly Measurement Difference (t)

Monthly Measurement Diff (t) _____

After completing the rest of this S-30 report, enter the measurement difference in tonnes of sulphur between the inlet sulphur and the total outlet sulphur for the reporting month to 1 decimal place. The difference should not be more than 5 per cent of the inlet sulphur.

Monthly Measurement Difference (t) = Monthly Sulphur In (t) – Monthly Sulphur Out Total (t)

Emission Monitor Down (h)

Emission Monitor Down (h) _____

Enter the number of hours the continuous stack emission monitor (CSEM) was not in service during the reporting month.

Plant Code

PLANT CODE

Enter the gas processing plant facility code. The field size is 4 numeric characters.

- The facility code must exist on the EUB database (see *Guide 42: Facility Code List*, also available on the EUB Web site [www.eub.gov.ab.ca]).
- You can obtain plant codes for new facilities by filling out Appendix 3 and forwarding it to the EUB Production and Reporting Data Services (fax: 403-297-7303 OR 403-297-4790).

Year and Month

YEAR	MONTH

Enter the 4-digit year and the 2-digit number of the month being reported. The field size is 6 numeric characters.

Reporting Data (General)

TOPIC

DESCRIPTION

You must file an S-30 report if you are an operator of a gas processing plant in which raw gas is processed for the removal of hydrogen sulphide (H₂S).

Report gas volumes in 10³ m³ at 101.325 kPa pressure and 15°C.

Report sulphur in tonnes (t) to 1 decimal place.

Day

Day
1
2

Enter the data on the row of the corresponding day of the month.

Sulphur In

**Plant Feedstock—
Approved Maximum
(10³ m³)**

Sulphur In
Plant Feedstock
Approved Max. (10 ³ m ³)

Enter the approved maximum volume of plant feedstock (raw gas plus gas equivalent of inlet condensate), as stated in the approval, or the most recent application approved (see Schedule 2, *Guide 56: Energy Development Application Guide and Schedules*) in 10³ m³ to 1 decimal place.

**Plant Feedstock—
Approved Maximum (t)**

Sulphur In
Plant Feedstock
Approved Max. (t)

Enter the approved maximum of inlet sulphur in tonnes per day to 1 decimal place, as stated in the approval or the most recent application approved (see Schedule 2, *Guide 56: Energy Development Application Guide and Schedules*).

Enter the daily values for sulphur inlet and outlet as detailed below in the row alongside each appropriate date.

**Plant Feedstock
(10³ m³)**

Sulphur In
Plant Feedstock
Approved Max. (10 ³ m ³)
10 ³ m ³

Enter the actual volume of plant feedstock (raw gas plus gas equivalent of inlet condensate) received by the plant on this day in 10³ m³ to 1 decimal place. (See *Guide 46: Production Audit Handbook*, Appendix E-3.)

TOPIC

DESCRIPTION

**Plant Feedstock
(% H₂S)**

Sulphur In
Plant Feedstock
% H ₂ S

Enter the daily percentage of H₂S contained in the recombined plant feedstock (raw gas and condensate) on this day to 1 decimal place; if less than 0.10%, enter the percentage to 4 decimal places.

Plant Feedstock (t)

Sulphur In
Plant Feedstock
Approved Max (t)
t

Enter the daily calculated total inlet sulphur to the plant in tonnes to 1 decimal place.

- Calculate the tonnes of sulphur using the following formula:

$$\text{Sulphur (t)} = \text{Plant Feedstock Volume (10}^3 \text{ m}^3) \times \text{Recombined H}_2\text{S}\% \times 1.35592 \text{ (Conversion Factor)}$$

Sulphur Out

Sulphur Production (t)

Sulphur Out
Sulphur Production
t

Enter the daily sulphur produced in tonnes to 1 decimal place.

Sulphur Stack Emission (t)

Sulphur Out
Sulphur Stack Emission
t

Enter the daily sulphur emissions in tonnes to 1 decimal place as recorded by the continuous stack emission monitor (CSEM).

TOPIC

DESCRIPTION

Flared Gas (10³ m³)

Sulphur Out	
Flared Gas	
10 ³ m ³	

Enter the amount of gas flared from the plant in 10³ m³ to 1 decimal place.

- Include all sour gas flared.
- Also report acid gas flared from plants that do not recover sulphur in this column.

Flared Gas (% H₂S)

Sulphur Out	
Flared Gas	
% H ₂ S	

Enter the daily percentage of H₂S contained in the flared gas to 1 decimal place.

Flared Gas (t)

Sulphur Out	
Flared Gas	
t	

Enter the daily tonnes of sulphur contained in the flared gas to 1 decimal place.

- Calculate the tonnes of sulphur using the following formula:

$$\text{Sulphur (t)} = \text{Flared Gas Volume (10}^3 \text{ m}^3) \times \text{Flared Gas H}_2\text{S}\% \times 1.35592 \text{ (Conversion Factor)}$$

Injected/Other (t)

Sulphur Out	
Injected/Other	
t	

Enter the daily tonnes of sulphur injected to subsurface formations or disposed of in any manner other than described above (e.g., nonregenerative sweetening) to 1 decimal place.

Total (t)

Sulphur Out	
Total	t

Enter the daily total outlet sulphur from the plant in tonnes to 1 decimal place.

- Calculate the total daily tonnage of sulphur outlet using the following formula:

$$\text{Total daily tonnage} = \text{Sulphur production (t)} + \text{Sulphur stack emission (t)} + \text{flared gas (t)} + \text{Injected others (t)}$$

Month Total

	10 ³ m ³	% H ₂ S	t	t	t	10 ³ m ³	% H ₂ S	t	t	t
Month Total										

Enter the sum of each column except that of % H₂S (Sulphur In, Sulphur Out).

Quarterly Total

	10 ³ m ³	% H ₂ S	t	t	t	10 ³ m ³	% H ₂ S	t	t	t
Quarterly Total										

Enter the sum of the monthly totals except that of % H₂S content.

- The EUB defines the quarters as January-March; April-June; July-September; and October-December. Thus, for example, if you are filing for February, enter the monthly total for January plus February; if filing for March, enter the monthly total for January plus February plus March; if filing for April, enter the monthly total only for April.

Be sure to enter at the top of the S-30 form the measurement difference in tonnes of sulphur between the inlet sulphur and the total outlet sulphur for the reporting month to 1 decimal place.

- If negative, show the difference in brackets.

Sulphur Recovery Efficiency

Complete this section only if the plant recovers elemental sulphur or injects acid gas.

Minimum Approved %

Sulphur Recovery Efficiency	Minimum Approved %
-----------------------------	--------------------

Enter the approved minimum quarterly sulphur recovery efficiency, as stated in the approval or from *ST-50: Gas Processing Plants in Alberta*.

Actual Monthly %

Actual Monthly %

Enter the calculated actual monthly sulphur recovery efficiency for the reporting period.

- You must use one of the following three approved methods for this calculation. The EUB recommends the first method for plants recovering sulphur and the second method for plants injecting acid gas.

Method 1.

$$\text{Actual Monthly Sulphur Recovery Efficiency} = \frac{\text{Sulphur Production (t)}}{\text{Sulphur Production (t)} + \text{Emissions (t)} + \text{Flared (t)}} \times 100$$

Sulphur production is measured by pit gauge.

Sulphur emissions are measured by CSEM.

Sulphur in all flared gas is calculated using normal metering facilities and H₂S content of gas.

Method 2.

$$\text{Actual Monthly Sulphur Recovery Efficiency} = \frac{\text{Plant Sulphur Inlet (t)} - \text{Emissions (t)} - \text{Flared (t)}}{\text{Plant Sulphur Inlet (t)}} \times 100$$

Sulphur in inlet is calculated from recombined inlet gas volume plus gas equivalent of inlet condensate and H₂S content of recombined stream.

Sulphur emissions from an incinerator stack are measured by a CSEM.

Sulphur in flared gas is calculated using normal metering facilities and H₂S content of gas.

Method 3.

$$\text{Actual Monthly Sulphur Recovery Efficiency} = \frac{\text{Sulphur Plant Inlet (t)} - \text{Emissions (t)} - \text{Flared (t)}}{\text{Sulphur Plant Inlet (t)}} \times 100$$

Sulphur in acid gas to sulphur plant is calculated from acid gas volume and H₂S content of acid gas.

Sulphur emissions are measured by CSEM.

Sulphur in flared gas is calculated using normal metering facilities and H₂S content of gas.

TOPIC

DESCRIPTION

Cumulative Quarterly %

Cumulative Quarterly %

Enter the calculated cumulative quarterly sulphur recovery efficiency using the one of the above approved methods.

- The EUB defines the quarters as January-March; April-June; July-September; and October-December. Thus, for example, if you are filing for February, enter the total monthly for January plus February; if filing for March, enter the monthly total for January plus February plus March; if filing for April, enter the monthly total only for April.

Contact

Contact Name _____ Enter the full name of the person who accepts responsibility and to whom enquiries regarding this report should be directed.

Signature _____ Sign the statement.

Telephone _____ Enter the person's business telephone number, including area code. (Please print)

Date _____ Enter the date this S-30 report is completed.

When to File

Your monthly S-30 report must be received by the EUB Operations Group by 4:30 p.m. on the 18th day of the month following the month being reported. If the 18th day is not a business day, you must file on the first business day after the 18th.

Send the S-30 report by mail, courier, or fax to:
Alberta Energy and Utilities Board
Operations Group
640 - 5 Avenue SW
Calgary, AB T2P 3G4
Fax: (403) 297-2691