

# Chapter 7

## Liquid and Gas Verification Systems – How to Interpret Information/ Document Requests

The purpose of the Liquid Verification System (LVS) and Gas Verification System (GVS) is to assure the validity of the volumes reported on the Oil and Gas Operations Report (OGOR) and/or the Production Allocation Schedule Report (PASR). The systems are integrated manual and automated processes that were developed for use by the Bureau of Safety and Environmental Enforcement (BSEE) and the Office of Natural Resources Revenue (ONRR).

The LVS/GVS systems verify volumes reported from Federal sales metering points to ensure accurate measurement and to assist in the collection of accurate royalties.

### 7.1 LVS/GVS Process Overview

This process verifies oil sales (LVS), gas sales (GVS), and quality (API Gravity for LVS and Btu content for GVS) reporting.

The LVS/GVS systems utilize metered sales volume reports (run tickets and gas volume statements) submitted by the facility operator(s) for each sales Facility Measurement Point (FMP) by comparing those volumes to the actual volumes reported on the OGOR-B and OGOR-C, submitted by the lease/agreement operator, and the PASR submitted by the facility operator(s).

### 7.2 Example Timeframe of the LVS/GVS Process

- Production Month: January 2011
- Run tickets for LVS are due to BSEE the 15th day of the month following production: February 15th
- Gas Volume Statements for GVS are due to BSEE the last day of the month following production: February 28<sup>th</sup>
- OGOR Reports are due to ONRR 45 days after the production month: March 15th

- Reconciliation of Meter Volume Statements and reported OGOR volume differences (ONRR): April 2011
- Reconciliation of LVS/GVS exceptions can be requested up to 7 years prior to the current production month

### 7.3 LVS/GVS Responsibilities

FMP and Lease/Agreement Operators:

- FMP operators send run ticket(s) and gas volume statement(s) to BSEE
- FMP operators send the PASR(s) to ONRR
- Lease/Agreement Operator(s) send OGOR(s) to ONRR

BSEE:

- Enters data from the pipeline run tickets and gas volume statements into the Technical Information Management System (TIMS).
- Verifies differences, i.e.; missing reports, data entry errors.
- Downloads ONRR OGOR/PASR data into TIMS.
- Runs the LVS/GVS comparison to generate exceptions.

The LVS/GVS comparison assures the validity of the data collected by BSEE and ONRR by comparing the Gas Volume Statements (GVS), Run Tickets (LVS), Proving Reports (LVS), and Tank Tickets (LVS) to the reported OGOR(s) and PASR(s).

ONRR:

- Runs the Monthly Volume Comparison (MTCMPVOL) and the Monthly Gas Volume Comparison (MTCMPGAS) exception reports.
- Analysts work with FMP operator(s), Lease/Agreement operator(s), and BSEE to resolve the exception(s).
- This process ensures 100% Verification.

Exceptions may be detected for the following reasons.

- An OGOR was accepted in ONRR before TIMS was updated:
  - There may be an exception due to the timing when the OGOR clears and when it is uploaded into the TIMS system.
- OGOR on hold:
  - The OGOR is waiting for corrections and has not been accepted into the ONRR system.

- OGOR(s) missing:
  - OGOR(s) for a facility measurement point (FMP)/lease/agreement have not been received from the operator.
- OGOR(s) volume misreported:
  - Volume is either over- or under-reported on the OGOR.
- OGOR(s) volume reported to a different FMP:
  - Operator erroneously reported the volume to another approved FMP for the property.
- The run ticket(s) or gas volume statement(s) has errors:
  - Data was keyed incorrectly, or
  - The run ticket or gas volume statement may be missing data, or
  - Run ticket or gas volume statement volumes may be missing or not processed in TIMS.
- Revised run ticket(s) or gas volume statement(s) should be submitted to BSEE:
  - A revision to the run ticket(s) or gas volume statement(s) was not received by BSEE and should be corrected in TIMS.
- PASR is on hold or missing that has “Other Sources” volumes:
  - “Other Sources” volume is added to the OGOR volumes for a reported volumes total.

## 7.4 **ONRR’s Processes for Working Exceptions**

Retrieve the MTCMPVOL / MTCMPGAS report for the production month(s) in question. (See examples located on pages 6 and 10 of this Chapter.)

Verify whether the lease/agreement was active during the production month being worked.

- The MTCMPVOL / MTCMPGAS report may show a “NO OGOR” or “NO FMP” indicator next to the lease/agreement.
- If there is no OGOR:
  - the OGOR accepted after LVS/GVS run, or
  - the OGOR may be on hold.
- Determine if the volume(s) will resolve the exception. The LVS/GVS analyst will contact the appropriate OGOR error correction representative to correct the OGOR.
- Verify that all OGOR volumes are accounted for (new or modified OGORs may have accepted since the exception was generated)

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- If there is no FMP:
  - the OGOR volume may be reported to different sales FMP, or
  - If the lease/agreement is approved to flow through a different meter, check the effective date—the volume may be reported to the wrong FMP, or
  - The LVS/GVS analyst will verify the MTCMPVOL or MTCMPGAS to check if volumes were reported to another FMP.

If the Commingling Indicator (CI) is a “3” (see **Chapter 6**), a PASR is required. PASR data is displayed on the MTCMPVOL / MTCMPGAS.

- If the reported PASR and OGOR volume(s) do not match the run ticket or gas volume statement total, the FMP operator will be contacted and requested to modify the PASR to include “Other Sources,” if applicable.
- If the PASR matches the run ticket or gas volume statement totals, ONRR uses this as a tool to verify the allocation for the leases in question.

### 7.4.1

#### ***ONRR’s Initial Contact with the Operator***

If misreporting or non-reporting is discovered, an ONRR LVS/GVS analyst will:

- Identify the sales periods, operator, and FMP(s),
- Verify whether it is continuing into subsequent production month(s),
- Prepare Data Request(s) (example shown on following page) and establish a due date, and
- Prepare an email to the operator(s), attach the Data Request(s), and the MTCMPVOL / MTCMPGAS report(s)

### 7.4.2

#### ***Requirements for Operator Actions***

The operator has 10 days from receipt of the Data Request to:

- Submit original or revised run tickets or gas volume statements to BSEE.
- Submit original or revised OGOR volumes, or provide documentation to support reported volumes.
- Submit an original or revised PASR and include “Other Sources” (if applicable).
- Contact the LVS/GVS analyst to request an extension.

7.4.3

### ONRR LVS/GVS Analyst Follow-up

The LVS/GVS analyst will:

- Monitor the exceptions, and
- Follow up with the FMP operator and/or lease/agreement operator(s).

If there is no response from the operator(s) within 10 days,

- An Order to Report (OTR) will be sent to the operator(s).

If there is no response to the OTR,

- A Notice of Non-Compliance (NONC) will be sent to the operator.

7.5

### GVS Data Request Example

Office of Natural Resources Revenue (ONRR) Information/Document Request				
Production Accounting and Verification GVS Exceptions			GVS Internal Tracking: <span style="border: 1px solid black; border-radius: 50%; padding: 2px 5px;">1</span>	FMP Number:
PART I	Firm Name:	Request Submitted To:	Date of Request:	Date Information Due: <span style="border: 1px solid black; border-radius: 50%; padding: 2px 5px;">2</span>
PART II	<p><b>Request Information:</b> The ONRR reporting systems have generated a Gas Verification System (GVS) Exception. GVS Exception(s) indicate a discrepancy between the Oil and Gas Operations Report (OGOR MMS Form-4054), the Production Allocation Schedule Report (PASR MMS Form-4058) and/or the Gas Volume Statement(s) reported to The Bureau of Safety and Environmental Enforcement (BSEE).</p> <p><b>Property:</b> <b>Production Month:</b></p> <p><i>Please verify your gas volume statement against your reported OGOR volume or verify that there are no amended gas volume statements. Please revise your OGOR, if necessary, or submit an amended gas volume statement to BSEE.</i></p> <p><i>Please make sure that all BTU factors are correct before submission of any revised OGORS</i></p> <p> <input type="checkbox"/> Reporting Gas Volumes to the Incorrect FMP  <input type="checkbox"/> Reporting Incorrect Gas Volumes (over/under) on the OGOR(s)  <input type="checkbox"/> Reporting Incorrect Gas Volumes (over/under) on the PASR(s) <span style="border: 1px solid black; border-radius: 50%; padding: 2px 5px;">3</span>  <input type="checkbox"/> Failure to Submit Original and/or Revised Gas Volume Statement(s)  <input type="checkbox"/> Specified Reason(s) for GVS Exception(s).                 </p> <p><small>It is your company's responsibility to ensure that all OGOR, PASR, Gas Volume Statements and 2014 information is accurately and timely reported to ONRR.</small></p> <p><small>The requested information must reach ONRR by the date due. If your company does not reply to this Data Request and correct the GVS Exception(s), an Order to Report or Notice of Noncompliance may be issued.</small></p> <p><small>Your company must notify me via e-mail as soon as the documents to resolve the GVS Exception have been submitted to ONRR.</small></p> <p><small>Thank you for your assistance.</small></p>			
PART III	<p><b>ONRR Representative Requesting Data:</b></p> <p>Name: Phone: Fax: Email <span style="border: 1px solid black; border-radius: 50%; padding: 2px 5px;">4</span></p>			

#### Legend

1 - Number assigned by an analyst.

2 - The date corrections are due to ONNR.

3 - Explains the property, month(s) and reason for the exception.

4 - Contact information for questions.

# 7.6 MTCMPGAS Report Example

Page 1

MTCMPGAS				UNITED STATES DEPARTMENT OF THE INTERIOR		METERS	
Commingling System Number: FMP Number: 3017707BB0L Date Range: 01/2011 - 01/2011 FMP Output: ALL Format: PUB				MINERALS MANAGEMENT SERVICE GULF OF MEXICO REGION Monthly Gas Volume Comparison		10-JAN-2012 PAGE: 1	
REPORT MONTH: 01/2011 SYSTEM NUMBER: BB.0 FMP: 3017707BB0L LOCATION NAME: SM 0217 A				COMGL IND: 3 OPERATOR: 00111/XYZ FACILITY NAME: TO PORT HENRY SEP FACILITY			
METER NUMBER	METER ID	VOLUME (MCF@14.73)	HEATING VALUE (Btu/scf)	ENERGY (MMBtu)			
5391	106-0004						
A09CH001-A	106-1066	1505386	1098.0	1652914			
A09CH001-B	106-0167	1526885	1098.0	1676520			
A09CH001-C	106-0168	1532753	1098.0	1682963			
TOTAL VOLUME:		4565024	VWAQ: 1098.0	Total: 5012396			
APPROVED LEASE/UNITS	AREA BLOCK	OGOR VOLUME	QUALITY	MMBtu			
00310	SM 207 M	4523554	1098.0	4966862			
APPROVED LEASE/UNITS TOTAL VOLUME:		4523554	Total:	4966862			
OGOR B's (& PASR OTHER SOURCES)	AREA BLOCK	OPERATOR: OGOR VOLUME	QUALITY	MMBtu			
00310	SM 207 M	3017707BB0L 4523554	1098.0	4966862			
OTHER SOURC		42291	1098.0	46436			
OGOR B's (& PASR OTHER SOURCES) TOTAL:		4565845	VWAQ: 1098.0	Total: 5013298			

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MTCMPGAS		UNITED STATES DEPARTMENT OF THE INTERIOR		METERS
Commingling System Number:		MINERALS MANAGEMENT SERVICE		10-JAN-2012
FMP Number: 3017707BB0L		GULF OF MEXICO REGION		PAGE: 2
Date Range: 01/2011 - 01/2011		Monthly Gas Volume Comparison		
FMP Output: ALL				
Format: PUB				
<hr/>				
REPORT MONTH: 01/2011	SYSTEM NUMBER: BB.0	FMP: 3017707BB0L	COMGL IND: 3	OPERATOR: 00111/XV7
LOCATION NAME: SM 0217	A		FACILITY NAME: TO PORT HENRY SEP FACILITY	
<hr/>				
QUANTITY (MCF) & QUALITY (Btu/scf & TOTAL MMBtu) COMPARISONS:				
6	12	16		
GAS VOLUME STATEMENT	OGOR VOLUME OTHER SOURCES	VOLUME DIFFERENCE		
4565024	4565845	821		
<hr/>			PERCENT DIFFERENCE	
			0.0	
<hr/>			PERCENT DIFFERENCE	
			0.0	
<hr/>			PERCENT DIFFERENCE	
			0.0	
<hr/>				
8	15	17		
GAS VOL. STATEMENT	TOTAL ENERGY	TOTAL ENERGY		
QUALITY (Btu)	OGOR QUALITY (Btu)	DIFFERENCE (MMBtu)		
1098.0	1098.0	0.0		
<hr/>			PERCENT DIFFERENCE	
			0.0	
<hr/>				
8	15	17		
GAS VOL. STATEMENT	TOTAL ENERGY	TOTAL ENERGY		
TOTAL ENERGY (MMBtu)	OGOR TOTAL ENERGY (MMBtu)	DIFFERENCE (MMBtu)		
5012396	5013298	902		
<hr/>			PERCENT DIFFERENCE	
			0.0	

Page 3

MTCMPGAS		UNITED STATES DEPARTMENT OF THE INTERIOR		METERS
Commingling System Number:		MINERALS MANAGEMENT SERVICE		10-JAN-2012
FMP Number: 3017707BB0L		GULF OF MEXICO REGION		PAGE: 3
Date Range: 01/2011 - 01/2011		Monthly Gas Volume Comparison		
FMP Output: ALL				
Format: PUB				
<hr/>				
REPORT MONTH: 01/2011	SYSTEM NUMBER: BB.0	FMP: 3017707BB0L	COMGL IND: 3	OPERATOR: 00111/XYZ
LOCATION NAME: SM 0217	A		FACILITY NAME: TO PORT HENRY SEP FACILITY	
<hr/>				
SALES PASR	PASR			
LEASE/UNIT/METER	VOLUMES			
00310	4522733			
OTHER SOURC	42291			
<hr/>		GAS VOLUME STATEMENT	DIFFERENCE	
SALE/PASR TOTAL:	4565024	4565024	0	

7.6.1

**MTCMPGAS Field Descriptions**

1. Date Range – Criteria Dates in report
2. Run Date – Date the report was generated
3. Report Month- Month in which production was measured through the FMP
4. FMP – assigned by BSEE, unique number for each specific sales meter and location
5. Operator Name – FMP Operator according to BSEE records
6. Total Gas Volume Statement for the FMP
7. Volume Weighted Average Btu content of Total Gas Volume
8. Total MMBtu of gas measured through the FMP
9. Approved Leases/Units – to flow through the FMP
10. OGOR B reported volumes for this FMP and production month
11. Total “OTHER SOURCES” volume from the PASR
12. Total reported OGOR/PASR volume(s)
13. Calculated MMBtu from OGOR
14. Calculated MMBtu from PASR “Other Sources”
15. Calculated MMBtu from OGOR/PASR
16. Difference between total of the Gas Volume Statement(s) and the combined reported OGOR/PASR volumes – MCF
17. Difference between total gas MMBtu produced and the combined reported OGOR/ PASR “Other Sources” volumes – MMBtu
18. Differences shown in percentage
19. Combined OGOR and PASR volume (CI 3)



7.7 | **Example of LVS Data Request**

Office of Natural Resources Revenue (ONRR) Information/Document Request				
<b>Production Accounting and Verification LVS Exceptions</b>				Internal Tracking <b>1</b>
PART I	Firm Name:	Request Submitted To:	Date of Request:	Date Information Due: <b>2</b>
<b>PART II</b>	<p><b>Request Information:</b> The ONRR reporting systems have generated a Liquid Verification System (LVS) Exception. LVS Exception(s) indicate a discrepancy between the Oil and Gas Operations Report (OGOR MMS Form-4054), the Production Allocation Schedule Report (PASR MMS Form-4058) and/or the Run Ticket(s) volumes reported to Bureau of Safety and Environmental Enforcement (BSEE).</p> <p><b>FMP:</b></p> <p><b>Property:</b> <b>3</b></p> <p><b>Sales Month(s):</b></p> <p><b>Explanation:</b></p> <p>It is your company's responsibility to ensure that all OGOR, PASR, Run Tickets and 2014 information is accurately and timely reported to ONRR. The requested information must reach ONRR by the due date shown above. If your company does not reply to this Data Request and correct the LVS Exception(s), an Order to Report or Notice of Noncompliance may be issued.</p> <p>Thank you for your assistance.</p>			
<b>PART III</b>	<p><b>ONRR Representative Requesting Data:</b></p> <p><b>Name:</b></p> <p><b>Phone:</b> <b>4</b></p> <p><b>Fax:</b></p> <p><b>Email:</b></p> <p><b>Mailing Address:</b> Office of Natural Resources Revenue Financial Management Division Production Accounting and Verification Branch P.O. Box 25165, Mail Stop 633208 Denver, CO 80225</p>			

7.7.1 | **Data Request Field Title and Description**

1. LVS Internal Tracking – Number assigned to each individual Analyst
2. Date Information Due – Date in which corrections are due to ONRR
3. Request Information – This will indicate the property, month(s) and reason for the exception
4. ONRR Representative Requesting **Data** – Contact information for questions

# 7.8 Example of an MTCMPVOL Report

Page 1

MTCMPVOL				UNITED STATES DEPARTMENT OF THE INTERIOR				METERS	
Date Range: 01/2003 - 01/2003				MINERALS MANAGEMENT SERVICE				26-FEB-2010	
FMP Output: ALL				GULF OF MEXICO REGION				PAGE: 1	
Format: PUB				FMP Volume Comparison Report for the Liquid Verification System					
Log Errors: N									
Comingling System Number:									
FMP Number: 2017709260F									
REPORT MONTH: 01/2003				COMGL IND: 3 OPERATOR: 11111/IOU					
SYSTEM NUMBER: 26.0 FMP: 2017709260F				FACILITY NAME:					
LOCATION NAME: EI 0189 B									
METER SERIAL NUMBER: EB16654 (S2)				METER ID:					
PROVING DATE: 12/22/2002 REPORT NUMBER: 012				REPORTED M.F.: 1.0048 APPLIED MMS M.F.: 1.0048					
RUN TICKET: 01/01/2003 - 01/18/2003 TICKET NUM: 841032				OPER NET VOL: 13696.95 NET VOL: 13696.21				GRAV: 36.9	
PROVING DATE: 01/18/2003 REPORT NUMBER: 001				REPORTED M.F.: 1.0027 APPLIED MMS M.F.: 1.0027					
RUN TICKET: 01/18/2003 - 02/01/2003 TICKET NUM: 255778				OPER NET VOL: 0.00 NET VOL: 0.00				GRAV: 36.9	
METER SERIAL NUMBER: EB16660 (S1)				METER ID:					
PROVING DATE: 12/22/2002 REPORT NUMBER: 012				REPORTED M.F.: 1.0060 APPLIED MMS M.F.: 1.0060					
RUN TICKET: 01/01/2003 - 01/18/2003 TICKET NUM: 353501				OPER NET VOL: 0.00 NET VOL: 0.00				GRAV: 36.9	
PROVING DATE: 01/18/2003 REPORT NUMBER: 001				REPORTED M.F.: 1.0069 APPLIED MMS M.F.: 1.0069					
RUN TICKET: 01/18/2003 - 02/01/2003 TICKET NUM: 255777				OPER NET VOL: 16531.06 NET VOL: 16532.00				GRAV: 36.9	
TOTAL OPERATOR & CALCULATED RUN TICKET NET VOLUME:				30228				VWAG: 36.9	
APPROVED LEASE/UNITS			OGOR	ADJUSTMENT	TOTAL				
APPROVED LEASE/UNIT	AREA BLOCK	OPERATOR (a*)	VOLUME	VOLUME	VOLUME				
00423	EI 189 P	( 11111/IOU/	17826	0	17826				
00443	EI 188	( 22222/KLM	6602	0	6602				
G08707	SS 128	( 11111/IOU	NO OGOR	0	2498				
G10736	EI 187	( 11111/IOU	2498	0	1409				
G11953	EI 167	( 11111/IOU	1409	0	1409				
G14030	EI 189 P	( 77777/ARC	NO OGOR	0					
APPROVED LEASE/UNITS TOTAL:					28335				
OGOR B/C (WITH OTHER SOURCES)			OGOR	ADJUSTMENT	OGOR	GRAV	APPROVED	OGOR	
LEASE/UNIT	AREA BLOCK	OPERATOR	VOLUME	VOLUME	GRAV	DIFF	LSE/UNIT	B/C	
00423	EI 189 M	11111/IOU	17826	0	36.8	-.1	Y	B	
00443	EI 188	11111/IOU	6602	0	36.8	-.1	Y	B	
G10736	EI 187	11111/IOU	2498	0	36.8	-.1	Y	B	
G11953	EI 167	11111/IOU	1409	0	36.9	.0	Y	B	
* * * * * GOVERNMENT USE ONLY * * * * *									

MTCMPVOL		UNITED STATES DEPARTMENT OF THE INTERIOR				METERS	
Date Range: 01/2003 - 01/2003		MINERALS MANAGEMENT SERVICE				26-FEB-2010	
FMP Output: ALL		GULF OF MEXICO REGION				PAGE: 2	
Format: PUB		FMP Volume Comparison Report for the Liquid					
Log Errors: N		Verification System					
Comingling System Number:							
FMP Number: 2017709260F							
REPORT MONTH: 01/2003							
SYSTEM NUMBER: 26.0		FMP: 2017709260F		CONGL IND: 3	OPERATOR: 11111/IOU		
LOCATION NAME: EI 0189 B		FACILITY NAME:					
G15282	SS 151	33333/L&M	3	0	36.9	.0	Y B
G16357	EI 189	10101/ROCK	1906	0	41.0	4.1	Y B
OGOR		B/C (WITH OTHER SOURCES)		30244			
RUN TICKET	OGOR	DIFFERENCE	PERCENT				
NET VOLUME	VOLUME		DIFFERENCE				
30228 ← 6	30244 ← 10	- 16 ← 11	0.1				
SALES PASR		PASR					
LEASE/UNIT/METER		VOLUMES					
2217709260D		28335 ← 12					
G15282		0					
G16357		2080					
SALE/PASR TOTAL:		30415 ← 13	RUN TICKET	DIFFERENCE			
			30228 ← 6	- 187 ← 14			
***** GOVERNMENT USE ONLY *****							

7.8.1

**MTCMPVOL Field Descriptions**

1. Date Range – Criteria Dates in report
2. Run Date – Date the report was generated
3. Report Month – Month in which production flowed through the meter
4. FMP assigned by BSEE, unique number for specific sales meter and location
5. Operator Name – FMP operator according to BSEE records
6. Run Ticket Net Volume – Sum of all run tickets received for the production month
7. Volume Weighted Average Gravity – all run tickets received for the production month
8. Approved Leases/Units – to flow through the FMP
9. OGOR B/C (With “Other Sources”) – reported volumes for this FMP and production month
10. Total reported OGOR/PASR volume(s)

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11. Difference between total of the run ticket(s) and the combined reported OGOR/PASR volumes
12. Sales PASR Lease/Unit/Meter – reported PASR Volume(s)
13. Sale/PASR total – total reported PASR Volume(s)
14. Difference between total Sale/PASR Total and Run Ticket(s)