



AI# 1406  
T151584  
513-33933

PM 10/18/13

CERTIFIED MAIL #7011 1150 0000 0147 1294  
Department of Public Safety and Corrections  
Office of State Police  
TESS – Right-to-Know Unit, Mail Slip A-26  
P.O. Box 66614  
Baton Rouge, LA 70896

SERO  
Robert Braud  
Air-LP

Shell Chemical LP  
Norco Plant  
P.O. Box 10  
Norco, LA 70079-0010  
Tel +1 (504) 465 7443  
Fax +1 (504) 465 6360  
Internet <http://www.shell.com/chemicals>

October 18, 2013

**SUBJECT: PRELIMINARY RELEASE REPORT: October 11, 2013**  
**STATE POLICE CASE # 13-04528**  
**SHELL CHEMICAL LP - NORCO CHEMICAL PLANT - EAST SITE**  
**AI# 26336**

Dear Sir/Madam:

In accordance with the authorities listed below, Shell Chemical LP – East Site is providing a preliminary report for a verbal notification on August 31, 2013 at 0749 hours of a potential release of ethylene, nitrogen oxides and volatile organic compounds from flaring at the OL-5 Ground Flare (EPN 7-84) and OL-5 Elevated Flare (EPN 6-84). The flaring was caused by an unexpected power failure which resulted in the shutdown of several pumps in the OL-5 Process Unit leading to a process upset and flaring.

Authorities:

LAC 33:V.10111  
LAC 33:l:3925.A  
LAC 33:III.5107.B.4  
40 CFR 355.40(b)(3)  
Title V Permit 2520-V4

Data gathering to perform calculations and investigation are ongoing. Shell will provide an update within 60 days as required by LAC 33:l 3925.A.3. If you have any questions regarding this matter, please call Gerard M. Friloux at (504) 465-7443.

Sincerely,

Chrystal M. Landgraf  
Manager - HSSE

GMF/ito

Attachment

RECEIVED

OCT 22 2013

DEQ  
Single Point of Contact

Preliminary Release Report: October 11, 2013

October 18, 2013

Page 2

cc: CERTIFIED MAIL #7011 1150 0000 0147 2833  
Louisiana Department of Environmental Quality  
Office of Environmental Compliance  
ATTN : SURVEILLANCE DIVISION-SPOC  
"UNAUTHORIZED DISCHARGE NOTIFICATION REPORT"  
P. O. Box 4312  
Baton Rouge, LA 70821-4312

St. Charles Parish Emergency Planning Committee  
P. O. Box 302  
Hahnville, LA 70057

Louisiana Department of Environmental Quality  
Southeast Regional Office  
201 Evans Rd, Bldg. 4, Suite 420  
New Orleans, LA 70123

**SHELL CHEMICAL LP  
RELEASE NOTIFICATION FORM**

I.

<b>Company Name</b>	Shell Chemical LP - Norco Chemical Plant - East Site
<b>Physical Location</b>	15536 River Road, St. Charles Parish
<b>Street or P. O. Box</b>	P.O. Box 10
<b>City, State, Zip</b>	Norco, Louisiana 70079
<b>Telephone</b>	(504) 465-7443 (Gerard M. Friloux)

II. **Date and Time of Verbal Notifications:**

Initial Verbal Contact					
Agency	Agency Contact	Date	Time	Shell Caller	Case Number
State Police and LDEQ	Marta	10/11/2013	1500	WL Hall	13-04528
EOC	George	10/11/2013	1507	WL Hall	N/A

Follow-up Verbal Contact					
Agency	Agency Contact	Date	Time	Shell Caller	Case Number
State Police and LDEQ	Mason	10/12/2013	0015	RD White	13-04528
EOC	Brandon	10/12/2013	0017	RD White	N/A

III. **Release Start/End Time:**

Date/Time Start	Date/Time End	If Not Ended, Anticipated End Time	Weather Conditions At Start Time
10/11/2013 @ 1430	10/11/2013 @ 2231	N/A	East winds @ 9mph, Temperature is 81°F Cloudy

IV. **Release Event Description and Cause:**

On 10-11-2013 Shell Chemical's OL-5 Process Unit experienced an unexpected power failure which resulted in the shutdown of several pumps in the OL-5 Process Unit leading to a process upset and flaring at the OL-5 Ground Flare (6-84) and OL-5 Elevated Flare (7-84).

Data gathering to perform calculations and investigation are ongoing. Shell will provide an update within 60 days as required by LAC 33:I 3925.A.3.

This release did not result in an emergency condition. There were no fatalities, injuries or road closures.



ATT# 1406

Pin 11/20/13

T151584

S13-33933

SERO

Robert Braud

Air-LP

Shell Chemical LP

Norco Plant

P.O. Box 10

Norco, LA 70079-0010

Tel +1 (504) 465 7443

Fax +1 (504) 465 6360

Internet <http://www.shell.com/chemicals>

**CERTIFIED MAIL #7011 1150 0000 0145 6383**

Department of Public Safety and Corrections

Office of State Police

TESS – Right-to-Know Unit, Mail Slip A-26

P.O. Box 66614

Baton Rouge, LA 70896

November 20, 2013

**SUBJECT: FINAL REPORT: October 11, 2013  
STATE POLICE CASE # 13-04528  
SHELL CHEMICAL LP - NORCO CHEMICAL PLANT - EAST SITE  
AI# 26336**

Dear Sir/Madam:

In accordance with the authorities listed below, Shell Chemical LP – East Site is providing a final report for a verbal notification on October 11, 2013 at 1500 hours of a potential release of ethylene, nitrogen oxides, and volatile organic compounds from flaring at the OL-5 Ground Flare (EPN 7-84) and OL-5 Elevated Flare (EPN 6-84). The flaring was caused by an unexpected power failure which resulted in the shutdown of several pumps in the OL-5 Process Unit leading to a process upset and flaring.

Authorities:

LAC 33:V.10111

LAC 33:I.3925.A

LAC 33:III.5107.B.4

40 CFR 355.40(b)

Following the investigation and calculations, Shell Chemical confirmed that reportable quantity for Highly Reactive Organic Compounds (ethylene and propylene) was exceeded. The maximum permitted limits were exceeded for carbon monoxide, nitrogen oxide, particulate matter, and volatile organic compounds. If you have any questions regarding this matter, please call Gerard Friloux at (504) 465-7443.

I certify, under provisions in Louisiana and United States law which provide criminal penalties for false statements, that based on information and belief formed after reasonable inquiry, the statements and information contained in this report, including all attachments, are true, accurate, and complete.

Sincerely,

SHELL CHEMICAL LP

Dai V. Nguyen, Attorney-in-Fact

NNN/lt

Attachments

RECEIVED

NOV 25 2013

DEQ

Single Point of Contact

cc: CERTIFIED MAIL #7011 1150 0000 0145 6390  
Louisiana Department of Environmental Quality  
Office of Environmental Compliance  
ATTN : SURVEILLANCE DIVISION-SPOC  
"UNAUTHORIZED DISCHARGE NOTIFICATION REPORT"  
P. O. Box 4312  
Baton Rouge, LA 70821-4312

St. Charles Parish Emergency Planning Committee  
P. O. Box 302  
Hahnville, LA 70057

Louisiana Department of Environmental Quality  
Southeast Regional Office  
201 Evans Rd, Bldg. 4, Suite 420  
New Orleans, LA 70123

**SHELL CHEMICAL LP  
RELEASE NOTIFICATION FORM**

I.

<b>Company Name</b>	<b>Shell Chemical LP - Norco Chemical Plant - East Site</b>
<b>Physical Location</b>	<b>15536 River Road, St. Charles Parish</b>
<b>Street or P. O. Box</b>	<b>P.O. Box 10</b>
<b>City, State, Zip</b>	<b>Norco, Louisiana 70079</b>
<b>Telephone</b>	<b>(504) 465-7443 (Gerard M. Friloux)</b>

II. **Date and Time of Verbal Notifications:**

Initial Verbal Contact					
Agency	Agency Contact	Date	Time	Shell Caller	Case Number
State Police and LDEQ	Marta	10/11/2013	1500	WL Hall	13-04528
EOC	George	10/11/2013	1507	WL Hall	N/A

Follow-up Verbal Contact					
Agency	Agency Contact	Date	Time	Shell Caller	Case Number
State Police and LDEQ	Mason	10/12/2013	0015	RD White	13-04528
EOC	Brandon	10/12/2013	0017	RD White	N/A

III. **Release Start/End Time:**

Date/Time Start	Date/Time End	If Not Ended, Anticipated End Time	Weather Conditions At Start Time	Duration of Flare Smoking <sup>1</sup>
10/11/2013 @ 1430	10/11/2013 @ 2231	N/A	East winds @ 9mph, Temperature is 81°F Cloudy	OL-5 EF (EPN 6-84) 8 hours 31 mins

<sup>1</sup> LAC 33:III.1105, which limits flare smoking to no more than 6 hours in any 10 consecutive days, was exceeded during this event for the OL-5 Elevated Flare.

IV. **Release Event Description and Cause:**

On 10-11-2013 Shell Chemical's OL-5 Process Unit experienced the loss of several breakers in their main central control room. The transformer that supplies power to these breakers tripped unexpectedly. This resulted in the shutdown of several pumps in the OL-5 Process Unit. Most of the pumps that shutdown had back-up spare pumps available and the spare pumps either automatically started or Operations manually started them. The ethylene product pump did not have a back-up spare pump available. OL-5 was unable to send ethylene product to the downstream pipeline. This resulted in an inability to remove ethylene product from OL-5's C2 Splitter column and the pressure of the C2 Splitter increased. Elevated pressure in the C2 Splitter column was controlled by relieving to the OL-5 Ground Flare (6-84) and OL-5 Elevated Flare (7-84).

This event did not result in an emergency condition. There were no fatalities, injuries or road closures.

**V.a Materials Released Above an RQ:**

Name	CAS Number	US DOT Hazard Class	EHS?	Physical State (solid, liquid, gas)	RQ Standard	RQ (lbs)	Amount Released Above Reportable Quantities (lbs)
HRVOCs (including ethylene and propylene)	N/A	Flammable	No	Gas	LDEQ	100	1360

**V.b Permitted Source Emissions (if applicable):**

The OL-5 Ground Flare is permitted in AQD Permit # 2520-V4.

October 11, 2013

Emission Point Identification (EPN)	Pollutant	Permit Limit Avg (lb/hr)	Permit Limit Max (lb/hr)	Event Duration	Total Quantity Released by Event (lbs)	Amount Released Above Permitted Quantity (lbs) <sup>1</sup>
7-84 (OL-5 Ground Flare, FE-101)	CO	20.00	97.90	8.33	2079.24	1430.59
	NO <sub>x</sub>	3.68	18.00	8.33	382.13	262.76
	PM	0.69	3.39	8.33	1067.72	1045.31
	VOC's	5.76	105.00	8.33	1102.81	273.72

The OL-5 Elevated Flare is permitted in AQD Permit # 2520-V3.

October 11, 2013

Emission Point Identification (EPN)	Pollutant	Permit Limit Avg (lb/hr)	Permit Limit Max (lb/hr)	Event Duration	Total Quantity Released by Event (lbs)	Amount Released Above Permitted Quantity (lbs) <sup>1</sup>
6-84 (OL-5 Elevated Flare, FE-101)	CO	8.53	86.40	8.33	3794.32	3145.42
	NO <sub>x</sub>	1.57	15.90	8.33	697.34	578.05
	PM	0.30	2.99	8.33	1948.44	1925.95
	VOC's	4.47	104.00	8.33	2012.46	1185.80

<sup>1</sup> This is the quantity of material released above permitted maximum emission rates. It is this number-summed for each pollutant- which Shell evaluates against reportable quantities in the table in section V.a of this report. It is calculated using the formula below. This formula conservatively assumes the flare is emitting at its average rate just prior to and during the event.

$$\text{Amount Released Above Permitted Quantity} = \text{Total Quantity Released by Event} - [(\text{Permit Limit}_{\text{max}} - \text{Permit Limit}_{\text{avg}}) * \text{Event Duration}]$$

**V.c Description of methodology used for calculations and estimates:**

Emission calculations were performed using process knowledge and information, stream speciation, physical properties, and appropriate AP-42 emissions factors. See attached calculations.

**VI. Statement of actual or probable fate or disposition of the material:**

All released materials were dispersed naturally in the atmosphere from the OL5 Ground and OL5 Elevated flare stacks. No fatalities or injuries resulted from this release. No road closures or evacuations were required.

**VII. Immediate remedial or corrective actions taken, or to be taken, to stop the release and/or to recover pollutants:**

To minimize impacts, spared pumps automatically started and operations started spare pumps manually that don't auto start. After securing and stabilizing the unit, OL-5 operations contacted electrical engineering and maintenance to repair the tripped transformer. On the evening of October 11, 2013, repairs to the transformer were completed, the transformer was placed back in service and flaring stopped.

**VIII. Procedures or measures which have or will be adopted to prevent recurrence of the incident or similar incidents:**

It has been determine that there are not any measures that could be taken to prevent the recurrence of this incident or a similar incident.

**IX. If an unpermitted or unlicensed site or facility was involved in the release, a schedule for submitting a permit or license application to the department, or rationale for not requiring a permit or license:**

No unpermitted or unlicensed facility was involved in this release.

**X. For discharges to the ground or ground water, the following information shall also be included: all information of which the reporting party is aware that indicates pollutants are migrating, including, but not limited to, monitoring well data; possible routes of migrations; and all information of which the reporting party is aware regarding any public or private wells in the area of the migration used for drinking, stock watering, or irrigation:**

N/A

**XI. Reporting party's status, other responsible parties:**

Shell Chemical, LP is the owner and operator of both the OL5 Ground and OL5 Elevated Flares.

**XII. A determination of whether or not the release was preventable; if not, an explanation of why the release was not preventable.**

Shell Chemical has determined that this event was not preventable. The transformer tripping was unexpected.



Table 1 - Flow Information

Material	Total Flow (lbs)	Duration (hrs)	Heating Value (btu/lb)	Calculated Value - Heat Input (MMBtus)	Distribution of Vent	
					OL-5 GF	OL-5 EF
C2 Splitter PIC 5415	786684.5	8.33	20179	15875	35%	65%

Table 2 - Material Information

Material	Wt. % Composition		Total VOC (Incl. Listed)
	Ethylene	Propylene	
C2 Splitter PIC 5415	78%	0.20%	79%

Table 3 - Emission Factors

Pollutant	Value	Notes
NOx (lb/MMBtu)	0.068	AP-42 Chapter 13.5 (9/91) gives 0.068 lb/mmmbtu.
PM (lb/MMBtu)	0.19	Given that AP-42 Ch. 13 for Industrial Flares (9/91) provides a wide range of values (0 - 274 ug/L).
CO (lb/MMBtu)	0.37	Factor for CO from AP-42 Ch. 13 (9/91) Table 13.5-1.
OL5 GF Destruction Efficiency	99.5%	Destruction Efficiency based on internal Shell testing efforts.
OL5 EF Destruction Efficiency	99.5%	Destruction Efficiency based on internal Shell testing efforts.
H2S to SO2 Conversion Calculation	1.88	Conversion of H2S components in stream to SO2 based on molecular weight of SO2 (64 lb/lb.mole) divided by molecular weight of H2S (34 lb/lb.mole). Multiply lbs H2S by 64 lb/lb.mole (MW SO2) / 34 lb/lb.mole (MW H2S).

Table 4 - Calculated Release Emissions

Pollutant	OL5 GF	OL5 EF
	lbs	lbs
CO	2079.24	3794.32
NOx	382.13	697.34
PM	1067.72	1948.44
Total VOC*	1102.81	2012.46

Calculation Notes

1. NOx, PM, and CO emissions are calculated by summing the product of the individual stream Heat Input values from Table and the corresponding emission factor in lb/MMBtu from Table 3.
2. Total VOC and speciated VOC emissions are calculated by multiplying the individual total flows from Table 1 by the corresponding material composition in Table 2. A destruction efficiency from Table 3 is utilized to estimate the un-combusted emissions that would be emitted from the flare.
3. SO2 emissions are calculated by multiplying the product of the individual stream quantity of flow from Table 1 in lbs. and the H2S content from Table 2. This value is then converted to SO2 emissions utilizing the conversion factor from Table 3.

LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY  
INCIDENT REPORT

Incident ID: 151584

**Incident Description**

**Incident Type:** Release/Spill, Facility Air Release  
**Incident Date:** 10/11/2013  
14:30:00  
**Parish:** St. Charles  
**Municipality:** Norco  
**Location:** 15536 River Road - Norco  
**Lat/Lon:**  
**Basin/Segment:**  
**Substance(s):** Ethylene  
Nitrogen oxides  
VOCs unk qty  
**Media Impacted:** Air  
**Incident Desc:** s13-33933 release of ethylene, nitrogen oxides, and VOCs to flare due to electrical outage  
CML

**Incident Status**

**Lead Investigator:** Robert Braud  
**Incident Region:** Southeast  
**Incident Status:** Closed  
**Followup Status:**  
**As Of:**

**Incident Reporter 1**

**Received By:** Spo Contact  
**Received Date:** 10/11/2013 15:09:00  
**Dispatch #:** s13-33933  
**Reported By:** Walter Hall  
**Phone:** 504-465-7342 or 504-915-9325 (cell) (Work phone number)  
**Reporter Title:**  
**Organization:** Motiva Enterprises  
**Address:**  
  
**Municipality:**  
**State:** LA  
**Zip Code:**  
**Comments:**

rgb

LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY  
INCIDENT REPORT

Incident ID: 151584

**Incident Source 1**

**Source Name:** Motiva Enterprises LLC - Norco Refinery  
**Address:** 15536 River Rd  
(portion of)

**Municipality:** Norco  
**State:** LA  
**Phone:** 5044657609 (Work phone number)  
**Parish:** St. Charles  
**AI #:** 1406  
**Related Permits:**

**Comments:** Verbal and written notifications were submitted in accordance with LAC 33:I.Chapter 39 and General Condition XI of the facility air emissions permit. Motiva's written notification states that, the incident occurred due to unexpected shutdown due to electrical outage. Based on the information obtained during this investigation, it appears at this time that the incident was not preventable. This incident appears to qualify as an upset as described in LAC 33:III.507.J.1

ryb

**Robert Braud**

---

**From:** Stephen Lorio  
**Sent:** Wednesday, October 16, 2013 3:41 PM  
**To:** Robert Braud  
**Subject:** FW: [Incident#1333933] SERO s13-33933 T 151584 LSP # 13-04528  
**Attachments:** SERO s13-33933 T 151584 LSP # 13-04528.txt

AT - 1406

---

**From:** SPOC [mailto:spoc.otrs@la.gov]  
**Sent:** Wednesday, October 16, 2013 3:21 PM  
**To:** \_DEQ-SEROAdmin  
**Subject:** [Incident#1333933] SERO s13-33933 T 151584 LSP # 13-04528

SPOC  
Charles Lato

--  
Louisiana Department of Environmental Quality  
Single Point Of Contact  
Phone: (225) 219-3640  
Fax: (225) 219-4044  
--

--- Forwarded message from <Marta.Marcase@dps.la.gov> ---

Subject: LSP Hazardous Material Incident Incident # 13-04528  
Date: 2013-10-11 15:09:04

INCIDENT # 13-04528 SOURCE: STATE POLICE HAZMAT HOTLINE  
877-925-6595 / 225-925-6595

\*\* (INITIAL REPORT) DATE AND TIME \*\*\*\*\*  
HOTLINE NOTIFIED: 10/11/13 14:59  
INCIDENT OCCURRED: 10/11/13 14:30

\*\* (INITIAL REPORT) INCIDENT LOCATION \*\*\*\*\*  
PARISH: St Charles  
ADDRESS: 15536 River Road  
CITY: Norco

\*\* (INITIAL REPORT) CALLER INFORMATION \*\*\*\*\*  
CALLER'S NAME: Walter Hall  
CALLER'S ADDRESS OR EMPLOYER: Motiva Enterprises  
CALLER'S PHONE NUMBER: 504-465-7342 or 504-915-9325 (cell)

\*\* (INITIAL REPORT) RESPONSIBLE PARTY \*\*\*\*\*  
NAME: Motiva Enterprises  
MAILING ADDRESS: PO Box 10  
CITY,STATE,ZIP: Norco, LA 70079

\*\* (INITIAL REPORT) DETAILS \*\*\*\*\*  
At 1430 there was electrical outage and it tripped several pumps...  
There are trying to get these pumps back running... This is causing  
intermittent flaring... They are in the process of resolving the

problem...

\*\* (INITIAL REPORT) CHEMICAL INFORMATION \*\*\*\*\*

CHEMICAL 1: Ethylene

QTY: Unk

RELEASED STATE: Gas CLASS: Flammable Gas ID: 1962 EHS: No

CHEMICAL 2: Nitrogen Oxides

QTY: Unk

RELEASED STATE: Gas CLASS: ID: 1955 EHS: No

CHEMICAL 3: Volatile Organic Compounds

QTY: Unk

RELEASED STATE: Gas CLASS: ID: EHS:

\*\* (INITIAL REPORT) RELEASE INFORMATION \*\*\*\*\*

INCIDENT CLASSIFICATION: Unusual Event

DID MATERIAL GO OFFSITE? Yes

RELEASED TO: Flare

ANY OFF-SITE PROTECTIVE ACTION?

No

RELEASE EFFECTS:

FIRE: No

INJURIES: No :

FATALITIES: No :

\*\* (INITIAL REPORT) FIXED SITE \*\*\*\*\*

Process Unit

--- End forwarded message ---