



December 7, 2011



Mr. Donald Weaver  
General Manager - Norco Manufacturing Complex  
Attorney in Fact - Shell Chemical LP  
Norco Chemical Plant – West Site  
15536 River Road  
Norco, LA 70079

Re: Ready for Reuse Determination  
Shell Chemical LP, Norco Chemical Plant – West Site  
LDEQ Agency Interest Number 4384  
EPA ID Number LAD980622104  
15536 River Road, Norco, Louisiana  
St. Charles Parish

Dear Mr. Weaver:

The Louisiana Department of Environmental Quality (LDEQ) and United States Environmental Protection Agency (EPA), Region 6 together have determined that the Shell Chemical LP, Norco Chemical Plant – West Site (the “Property”) is Ready for Reuse. A Ready for Reuse Determination is an acknowledgment by both agencies that environmental conditions on the property are protective of human health and the environment based on its current and anticipated future use.

The Property encompassed by this Ready for Reuse Determination is the entire area of the Norco Chemical Plant – West Site and consists of approximately 103 acres. The facility is located on River Road directly east of the town of Norco on the east bank of the Mississippi River. The Norco Chemical Plant was originally constructed in 1954 to manufacture organic and inorganic chemicals. The property previously was under cultivation. The plant’s current products, including calcium chloride, epichlorohydrin, hydrochloric acid, allyl chloride, high performance epoxy resins, and SHAC<sup>R</sup> Catalyst are manufactured in the five active units at the facility. The wastewater treatment (T) Unit is operated by Shell. The Epichlorohydrin (C) Unit, the Calcium Chloride (CaCl) Unit and the High Performance Resin Unit are operated by Hexion Specialty Chemicals. Dow Chemical operates the SHACAT II Unit.

With this Ready for Reuse Determination, LDEQ and EPA Region 6 agree that Shell Chemical LP has successfully conducted investigation and risk management activities, and the environmental conditions at the Property are protective of human health and the environment based on their current and planned future commercial and/or industrial uses. The Ready for Reuse Basis of Decision is provided as Enclosure 1 to this correspondence. Copies of relevant

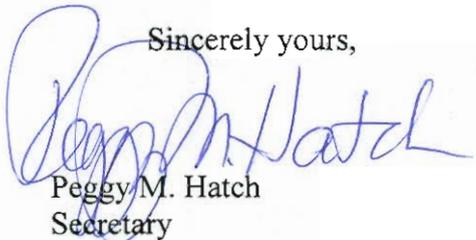
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documents may be obtained from LDEQ at the addresses provided in Enclosure 2 to this correspondence.

If conditions on the Property change, including environmental conditions, land use, site receptors, and remedy performance, the current owner/operator will notify LDEQ and it may become necessary to perform additional investigation and/or remediation to ensure continuing protectiveness. The undersigned expressly reserve all rights and authorities to require future action by owners or operators if new or additional information becomes apparent that impacts this Ready for Reuse Determination, whether such information is known as of this date, or is discovered in the future.

Congratulations on this most noteworthy achievement!

Sincerely yours,



Peggy M. Hatch  
Secretary  
Louisiana Department of  
Environmental Quality



Susan G. Spalding  
Associate Director  
RCRA Programs  
U.S. EPA, Region 6

Enclosures

## ENCLOSURE 1

### READY FOR REUSE BASIS OF DECISION SHELL CHEMICAL LP, NORCO CHEMICAL PLANT - WEST SITE

#### INTRODUCTION

The Louisiana Department of Environmental Quality (LDEQ) – Underground Storage Tank and Remediation Division (USTRD) has determined that the Shell Chemical LP, Norco Chemical Plant – West Site (LDEQ Agency Interest 4384; EPA ID Number LAD980622104) is Ready for Reuse. This facility meets the criteria for a Ready for Reuse Determination because the current environmental conditions at all known corrective action Solid Waste Management Units (SWMUs) and Areas of Contamination (AOCs) are protective of human health and the environment based upon their current and/or planned land use. Background information, results of investigations and risk management activities, and the units' current conditions are summarized in the following sections.

#### BACKGROUND INFORMATION

The Shell Chemical LP, Norco Chemical Plant (also known as the West Site) is located on the north side (east bank) of the Mississippi River in St. Charles Parish, Louisiana. The primary facility entrance is located in Township 12 South, Range 8 East, in St. Charles Parish, at 29 degrees 59 minutes 58 seconds north latitude and 90 degrees 25 minutes 23 seconds west longitude. The site is bordered on the west by the east levee (lower guide levee) of the Bonnet Carre Floodway (spillway), on the south by River Road and the Mississippi River, and on the north by the tracks of the Canadian National Railroad (CNR). The Motiva Enterprises, LLC Norco Refinery (previously known as the East Site of the Shell Norco Manufacturing Complex) is located approximately one mile east of the chemical plant. The town of Norco is located directly to the east of the chemical plant.

The Norco Chemical Plant was originally constructed in 1954 to manufacture organic and inorganic chemicals. The property was in agricultural land use prior to construction of the facility. The current products manufactured are calcium chloride, epichlorohydrin, hydrochloric acid, allyl chloride, high performance epoxy resins, and SHAC<sup>R</sup> Catalyst. Prior to 1983, the plant also produced ethylene dichloride, sulfolane, and vinyl chloride. Prior to 1979, the plant produced acrolein, glycerine, acetone, acetaldehyde, and hydrogen peroxide. There are currently five active manufacturing units at the facility. The Wastewater Treatment (T) Unit is operated by Shell. The Epichlorohydrin (C) Unit, the Calcium Chloride (CaCl) Unit and the High Performance Resin Unit are operated by Hexion Specialty Chemicals. Dow Chemical operates the SHACAT III Unit. An additional six production units are no longer in operation: the Methyl Ethyl Ketone (M) Unit, the Secondary Butyl Alcohol (S) Unit, the Hydrogen Peroxide (HP) Unit, the AN/AG Unit, the Vinyl Chloride Monomer (VCM)/Ethylene Dichloride (EDC) Unit, and the Sulfolane (SA/ST) Unit.

The Shell Chemical Company, Norco Manufacturing Complex (West Site) was regulated by Resource Conservation and Recovery Act (RCRA) Hazardous Waste Treatment, Storage or Disposal (TSD) Facility Permit Number LAD980622104 issued by LDEQ with effective dates of

January 7, 1990 to January 7, 2000. The Hazardous and Solid Waste Amendments (HSWA) portion of the permit, Section VI.B.1, required an RCRA Facility Investigation (RFI) and corrective measures as warranted for SWMUs 1 through 5, 9, 16, 26, 59, 82, 89 and AOC B. (See Table 1 below.) This permit was modified in 1993 with revised effective dates of October 25, 1993 to January 7, 2000. This modified permit retained the same RFI and corrective action requirements as the original permit.

## **PROPERTY DESCRIPTION**

The Ready for Reuse Property consists of the entire developed area of the Shell Chemical LP, Norco Chemical Plant – West Site property, and includes approximately 103 acres.

## **INVESTIGATION**

A RCRA Facility Assessment (RFA) was performed by an EPA contractor in 1987. The resulting report dated February 29, 1988 identified 96 SWMUs and eight AOCs. Shell was required to perform a RCRA Facility Investigation at 11 SWMUs and one AOC in accordance with their RCRA Hazardous Waste TSD Operating Permit (LAD980622104) (effective January 7, 1990 and modified September 13, 1993). On June 12, 1992, LDEQ issued amended Groundwater Order No. G-E-90-017-A, requiring Shell to conduct groundwater assessment in four areas that also included three of the named SWMUs: the Sulfolane Contamination Area (includes SWMU 5, Closed Spent Raney Nickel Catalyst Impoundment), the Vinyl Chloride Monomer (VCM)/Ethylene Dichloride (EDC) Contamination Area (includes SWMU 82, the VCM/EDC Manufacturing Unit), the Dowtherm Contamination Area (includes AOC B, AN/AG Manufacturing Unit) and the Allyl Chloride Contamination Area.

The RFI was performed in two phases. Phase I addressed the nine SWMUs that were not included in areas identified in the 1992 Order, and Phase II addressed the four contamination areas (including three SWMUs) that were included in the Order. An Amended Phase I RFI Work Plan dated February 20, 1992 was submitted to EPA and approved on September 21, 1992. The Phase I report was submitted to EPA on April 19, 1993. In a letter dated September 22, 1994, EPA determined that four of the SWMUs (SWMUs 1, 2, 3 and 4) required No Further Action (NFA). EPA also added one SWMU at this time, SWMU 97, which required investigation at the T-Unit. A work plan for further Phase I investigation was submitted February 23, 1995.

A Groundwater Assessment Plan for Phase II was submitted to EPA in August 13, 1992 and approved by EPA on February 1, 1994. The RFI Phase II Groundwater Assessment Report was submitted to EPA on February 21, 1995. On September 11, 1995, Shell, LDEQ, and EPA agreed to merge Phase I and II activities into one RFI effort. LDEQ approved the final Phase I and Phase II RCRA Facility Investigation Reports on May 13, 1998. In its approval of the Phase I report, LDEQ determined that no further action was required for SWMU 16, Stormwater Ditch System, and SWMU 89, Injection Well No. 2. Three additional areas were added to the investigation as a result of site evaluation under LDEQ's Risk Evaluation/Corrective Action Program. The High Performance Resins Unit, M Unit Process Area, and Solvent Tank Truck Loading Area were addressed in the RECAP Management Option 2 Report dated September 27, 2001.

Table 1. Solid Waste Management Units (SWMUs) and Areas of Concern (AOCS)

SWMU/AOC Name	RFI Phase
SWMU 1, East Ash Lagoon <sup>1</sup>	I
SWMU 2, East Ash Lagoon Sump <sup>1</sup>	I
SWMU 3, West Ash Lagoon <sup>1</sup>	I
SWMU 4, West Ash Lagoon Sump <sup>1</sup>	I
SWMU 5, Closed Spent Raney Nickel Catalyst Impoundment <sup>1,2</sup>	II
SWMU 9, Inactive Landfill <sup>1</sup>	I
SWMU 16, Stormwater Ditch System <sup>1</sup>	I
SWMU 26, pH Neutralization Basin Receiver Sump <sup>1</sup>	I
SWMU 59, Inactive Backwash Pit <sup>1</sup>	I
SWMU 82, Decommissioned VCM/EDC Manufacturing Unit <sup>1,2</sup>	II
SWMU 89, Injection well No. 2 <sup>1</sup>	I
AOC B , AN/AG Manufacturing Unit - Dowtherm Contamination Area <sup>1,2</sup>	II
Allyl Chloride Area <sup>2</sup>	II
SWMU 97, T Unit <sup>3</sup>	I
Sulfolane Area (associated with SWMU 5) <sup>2</sup>	II
Dowtherm Contamination Area <sup>2</sup>	II
High Performance Resins Unit <sup>4</sup>	N/A
M Unit Process Area <sup>4</sup>	N/A
Solvent Tank Truck Loading Area <sup>4</sup>	N/A

<sup>1</sup> RFI imposed by RCRA Hazardous Waste TSD Operating Permit (LAD980622104), effective 01/07/90

<sup>2</sup> Assessment required by LDEQ amended Groundwater Order No. G-E-90-017-A, 06/12/92

<sup>3</sup> SWMU added to RFI by EPA letter of 09/22/94

<sup>4</sup> Areas added and addressed in the RECAP Management Option 2 Report, 09/27/01

## INTERIM STABILIZATION MEASURES

Shell has undertaken Interim Stabilization Measures in several areas of the plant.

Sulfolane Contamination Area – A recovery system has been operating since July 1984 in the Sulfolane Contamination Area for the recovery of sulfolane-contaminated water. Two wells were installed in June 1984 and a third in February 1992.

VCM/EDC Contamination Area – Two interceptor trenches were installed in March 1986 for the recovery of EDC-contaminated water in the VCM/EDC Contamination Area. A total of four wells were installed at the ends of the trenches and the system became operational in May 1986.

Allyl Chloride Contamination Area and the Dowtherm Contamination Area – Nine recovery wells were installed as part of groundwater remediation activities in the Allyl Chloride Contamination Area and the Dowtherm Contamination Area. The wells were installed in December 1990 and became operational in June 1991.

SWMUs 9, 26, 97, 5, Area of Concern B, and the Allyl Chloride Area – A workplan for Interim Corrective Measures was submitted to LDEQ dated December 6, 1999. This plan proposed interim measures at SWMUs 9, 26, and 97, and enhancement of existing groundwater systems at SWMU 5, Area of Concern B, and the Allyl Chloride Area. The plan was approved by LDEQ on January 19, 2000. A report certifying the completion of the interim measures at SWMUs 26 and 97 was submitted to LDEQ dated February 26, 2002.

Table 2. Interim Measures at SWMUs 9, 26, 97, 5, AOC B, and the Allyl Chloride Area.

Unit name	Impacted media	Interim measures
SWMU 9, Inactive Landfill	Surface soil exposure to onsite workers; ground water zones I, II, and IV	Restricted access to area using a safety barricade; evaluated natural attenuation and phytoremediation processes
SWMUs 26 and 97	Groundwater	Installed two interceptor trenches and sumps for groundwater recovery, groundwater and surface water monitoring
Sulfolane Area (includes SWMU 5), Dowtherm Area (includes AOC B), and Allyl Chloride Area	Groundwater	Enhanced groundwater recovery systems including lower-maintenance pumping systems and redevelopment of recovery wells

Ditch 6/Subsurface Stormwater System, Former VCM Unit – Shell submitted an Interim Corrective Measures Plan to LDEQ on March 29, 2004 for the Ditch 6/Subsurface Stormwater System, Former VCM Unit. The plan was approved by LDEQ on April 19, 2004, and a report dated December 21, 2005 documenting the completion of the measures was submitted.

## **RISK EVALUATION/CORRECTIVE ACTION PROGRAM (RECAP) EVALUATION**

LDEQ uses a tiered approach for the risk-based evaluation of contaminated sites, beginning with the most conservative Screening Option, followed by three levels of site Management Options. Each level allows the consideration of increasing amounts of site-specific information. In 1999, Shell completed a RECAP Screening Option (SO) evaluation of the facility and provided the resulting report to LDEQ on January 7, 1999. In this report, Shell proposed to move directly to Management Option 2 (MO-2) to further evaluate potential risk from impacted soil and groundwater. The RECAP MO-2 Report was submitted on September 27, 2001 as part of Shell's revised Corrective Measures Study (CMS) Work Plan. This document also included a RECAP Management Option 3 (MO-3) Work Plan and a Scope of Work for a Corrective Measures Study. These submittals were approved by LDEQ on July 4, 2003.

LDEQ's approval of the MO-2 report included a determination that no further action was required for SWMU 5, SWMU 16, SWMU 89, the Sulfolane Area, the Dowtherm Area (including AOC B), the Allyl Chloride Area, the High Performance Resins Unit, the M Unit Process area, and the Solvent Tank Truck Loading Area. The MO-3 Report was submitted September 30, 2004 and included the following remaining SWMUs: 9, 26, 59, 82, and 97. The report was approved by LDEQ on December 15, 2006. Corrective action is necessary for all five of these SWMUs.

Table 3. Summary of SWMUs and Areas of Contamination

Unit Name	Status
SWMU 1, East Ash Lagoon	NFA, EPA, 09/22/94
SWMU 2, East Ash Lagoon Sump	NFA, EPA, 09/22/94
SWMU 3, West Ash Lagoon	NFA, EPA, 09/22/94
SWMU 4, West Ash Lagoon Sump	NFA, EPA, 09/22/94
SWMU 5, Closed Spent Raney Nickel Catalyst Impoundment	NFA, LDEQ, 07/24/03
SWMU 16, Stormwater Ditch System	NFA, LDEQ, 05/13/98
SWMU 89, Injection well No. 2	NFA, LDEQ, 05/13/98
Allyl Chloride Area	NFA, LDEQ, 07/24/03
Dowtherm Contamination Area (including AOC B)	NFA, LDEQ, 07/24/03
High Performance Resins Unit	NFA, LDEQ, 07/24/03
M Unit Process Area	NFA, LDEQ, 07/24/03
Solvent Tank Truck Loading Area	NFA, LDEQ, 07/24/03
Sulfolane Area (associated with SWMU 5)	NFA, LDEQ, 07/24/03
SWMU 9, Inactive Landfill	Corrective action required, LDEQ, 12/15/06; Final remedy approved and constructed, 06/29/11
SWMU 26, pH Neutralization Basin Receiver Sump	Corrective action required, LDEQ, 12/15/06; Final remedy approved and constructed, 06/29/11
SWMU 59, Inactive Backwash Pit	Corrective action required, LDEQ, 12/15/06; Final remedy approved and constructed, 06/29/11
SWMU 82, Decommissioned VCM/EDC Manufacturing Unit	Corrective action required, LDEQ, 12/15/06; Final remedy approved and constructed, 06/29/11
SWMU 97, T Unit	Corrective action required, LDEQ, 12/15/06; Final remedy approved and constructed, 06/29/11

## CORRECTIVE MEASURES STUDY AND PROPOSED FINAL REMEDIES

The Corrective Measures Study (CMS) Report was submitted September 30, 2004. The objectives of the CMS were to identify, evaluate, and recommend corrective measure alternatives for affected environmental media with constituent concentrations above the appropriate RECAP remedial standards. A broad spectrum of corrective measures technologies typically used for constituent exceedances similar in nature to those detected at the facility were evaluated, and Final Corrective Measures Alternatives were recommended. Following LDEQ's approval of the Corrective Measures Study Report on December 15, 2006, Shell initiated construction, operation, and monitoring to ensure that the measures effectively addressed the RECAP standards approved for the site.

Corrective measures alternatives were evaluated with regard to the following general standards:

- (1) Protection of human health and the environment;
- (2) Attainment of corrective measures objectives (RECAP standards);
- (3) Control of the sources of releases so as to reduce or eliminate, to the extent practicable, further releases that may pose a threat to human health and the environment; and
- (4) Compliance with applicable standards for management of wastes.

Subsequent remedy selection evaluation criteria included the following factors: long-term reliability and effectiveness; reduction in the toxicity, mobility, or volume of wastes; short-term effectiveness; implementability (technical and administrative feasibility); and cost.

The selected remedial alternatives include capping, groundwater recovery and on-site treatment, Monitored Natural Attenuation (MNA), and Institutional Controls (ICs). Alternative remedies that were identified and evaluated may be considered by LDEQ in the future in the event that (1) the preferred remedy is shown by future monitoring or other information not to be adequately effective; (2) a change in land use or ownership makes continuation of the selected remedy impractical; or (3) Shell requests to supplement the selected remedy in order to expedite achievement of the remedy standard. Any changes to the approved remedy must be requested in writing and approved by LDEQ prior to implementation. Letters documenting the selection and construction of the facility-wide final remedy at the Norco Chemical Plant – West Site, Shell Chemical LP were sent by LDEQ on June 29, 2011.

A facility-wide conveyance notification was filed by Shell on December 1, 2011 with the St. Charles Parish Clerk of Court notifying the public that past and future areas of concern have been or will be closed using industrial standards. Additionally, in accordance with LAC 33:I. Chapter 13, if land use is going to be changed from industrial to non-industrial, the responsible party shall notify LDEQ within 30 days and the site shall be reevaluated to determine if conditions are appropriate for the proposed land use. Future use may dictate additional remedial activities.

Table 4. Final Remedies for SWMUs Requiring Corrective Action

Unit Name	Media Requiring Corrective Action and Remedy	Comments
SWMU 9, Inactive Landfill	Soil - capping Groundwater Zones I, II and IV - MNA	Soils were capped to eliminate direct contact by onsite workers, minimize/prevent infiltration of precipitation, and mitigate soil-to-groundwater leaching impacts. The existing cap of five to six feet of native clay is maintained to ensure its integrity against erosion or compromise from root penetration from large vegetation. A conveyance notification was filed with the St. Charles Parish Clerk of Court as an Institutional Control.
SWMU 26, pH Neutralization Basin Receiver Sump	Zone II Groundwater - Groundwater recovery trench and MNA	Two interceptor trenches and sumps were installed in 2000-2001 downgradient of SWMUs 26 and 97 to control groundwater flow and intercept discharge of groundwater to the shallow ditches located to the north of the plant fence line. Monthly operation and sampling of the recovery system began in June 2001. Operation of the extraction trenches is monitored with a network of piezometers/ wells completed in Zones I and II. It is anticipated that the extraction trenches will remediate the groundwater to a low asymptotic level in the foreseeable future. At such time, Shell will recommend to the LDEQ that the extraction trenches cease operation and allow natural attenuation to remediate the remaining constituents of concern. A conveyance notification was filed with the St. Charles Parish Clerk of Court as an Institutional Control.
SWMU 59, Inactive Backwash Pit	Zone II Groundwater - MNA	The preferred remedy is MNA, however a contingent corrective measure - groundwater extraction and treatment - will be performed if MNA does not demonstrate sufficient effectiveness. A conveyance notification was filed with the St. Charles Parish Clerk of Court as an Institutional Control.
SWMU 82, Decommissioned VCM/EDC Manufacturing Unit	Soil - Institutional Controls (ICs) and MNA  Zone II and IV Groundwater - Recovery Trench and MNA for groundwater	Institutional controls are in place. The LA One Call Program will prevent on-site worker contact with the vadose (unsaturated) zone soils, and a conveyance notification was filed with the St. Charles Parish Clerk of Court. MNA is the preferred remedial alternative for the saturated soils. The EDC/VCM (Vinyl Chloride Monomer) recovery system, consisting of recovery sump R-4-EDC (South interceptor trench) was installed in 1986 to control groundwater flow. Monthly operation and sampling of the recovery system is ongoing, and the operation of the trench is currently being monitored with a network of wells in Zone II. When the groundwater is remediated to a low asymptotic level, MNA may be proposed to remediate the remaining COCs.
SWMU 97, T Unit	Zone I, II and IV Groundwater - Recovery Trench and MNA	See remedy for SWMU 26.

Determinations of the Government Performance Results Act (GPRA) Environmental Indicators Human Exposures Controlled (CA 725) and Releases to Groundwater Controlled (CA 750) were made by LDEQ on June 26, 2002.

## **CURRENT ENVIRONMENTAL CONDITIONS**

The Constituents of Concern (COCs), constituent concentrations, and Limiting Remedial Standards (LRS) for the closed SWMUs and AOCs at the Norco Chemical Plant – West Site may be found in the Phase I and Phase II RFI Reports and the RECAP evaluation reports (SO, MO-2 and MO-3) (see Enclosure 1 Reference Section for citations). Contact information for questions regarding the environmental conditions described in this Ready For Reuse Basis of Decision are provided in Enclosure 2 to the Ready For Reuse Determination Letter.

## **REFERENCES**

Documents related to the investigations, evaluations, and remedial actions at the Shell Chemical LP, Norco Chemical Plant – West Site are public records, and are available through LDEQ's Electronic Document Management System (EDMS). Contact information for obtaining access to these records is provided in Enclosure 2 to the Ready For Reuse Determination Letter. A list of documents supporting this Ready For Reuse Determination Basis of Decision is provided below.

1988 Preliminary Review/Visual Site Inspection Report (RFA Report); A. T. Kearney; February 29, 1988

1990 RCRA Hazardous Waste TSD Facility Permit LAD980622104, Shell Chemical Company, Norco Manufacturing Complex (West Site); LDEQ; effective date January 7, 1990 to January 7, 2000 [EDMS Document No. 663059] (Note: HSWA Section VI.B.1 requires an RFI and corrective measures as warranted.)

1992 Modified RFI Work Plan (Amended) (Phase I); Dames and Moore; February 20, 1992 [EDMS Document Nos. 679921, 679926, and 269924]

Amended Order No. G-E-90-017-A; LDEQ Groundwater Protection Division; issued June 12, 1992 [EDMS Document No. 853240]

Groundwater Assessment Plan for the West Site of the Shell Norco Manufacturing Complex (Amended, RFI Phase II); Dames and Moore; August 13, 1992 [EDMS Document Nos. 679976, 679979, 679980, 852498, 852499]

Approval of Amended RFI Phase I Work Plan; US EPA Region 6; September 21, 1992

1993 Phase I RFI Draft Report; Groundwater Tech., Inc.; April 19, 1993 [EDMS Document No. for cover letter 4145357]

- Final Modified RCRA Hazardous Waste TSD Facility Permit LAD980622104, Shell Chemical Company, Norco Manufacturing Complex (West Site); LDEQ; revised effective dates October 25, 1993 to January 7, 2000 [EDMS Document No. 663062]
- 1994 Approval of Phase II RFI Work Plan; US EPA Region 6; February 1, 1994
- Comments: Draft RFI Phase I Report; US EPA Region 6; September 22, 1994 [EDMS Document No. 4145524] (Note: NFA for SWMUs 1, 2, 3 and 4; added T Unit as a new SWMU; required an Amended Phase I RFI Workplan for SWMUs 9, 16, 26, 59, 89, and T Unit)
- 1995 Phase II Draft RFI/Groundwater Assessment Report; Shell Oil/Shell Chemical Company; submitted February 21, 1995 [EDMS Document No: Cover letter 859926]
- Amended Phase I RFI Work Plan; Shell Chemical Company; February 23, 1995 [EDMS Document Nos. 859924 and 680214] (Note: Included further investigation in response to Phase I RFI Report)
- Corrective Action Summary Report, Shell Chemical Company; PRC Environmental Inc.; October 2, 1995 [EDMS Document No. 855233]
- 1997 Amended Phase I Draft Report, Shell Norco Chemical Plant - West Site; Woodward Clyde; October 1, 1997; [EDMS Document Nos. 680057, 680060, 680062]
- Phase II RFI/Groundwater Assessment Final Report, Shell Norco West Site; Woodward Clyde; October 1, 1997 [EDMS Document Nos. 680057, 680058, and 680051]
- 1998 LDEQ Approval of the Phase I and Phase II RFI Reports; LDEQ; May 13, 1998 [EDMS Document No. 855050]
- 1999 RECAP Screening Option Report: Risk-based Assessment for the RCRA Corrective Measures Study; Shell Chemical Company; November 1998; submitted January 7, 1999 [EDMS Document No. 680894]
- Corrective Measures Study (CMS) Work Plan; Shell Chemical Company; April 29, 1999 [EDMS Document Nos. 855105 and 680910] (Note: Includes CMS Scope of Work, Management Option 2 Report, and Management Option 3 Work Plan)
- Approval of Work Plan for Screening Level Human Health and Ecological Risk Assessment for Shell Norco Chemical Plant – West Site; LDEQ; September 30, 1999 [EDMS Document No. 1531432]
- Interim Measures Work Plan; Shell Chemical Company; December 6, 1999 [EDMS Document No. 680899] [Interceptor trenches, SWMUs 26 and 97]
- 2000 Approval of Interim Measures Work Plan; LDEQ; January 19, 2000 [EDMS Document No. 855042] [Interceptor trenches, SWMUs 26 and 97]

- 2001 RCRA Corrective Measures Study (CMS) Work Plan (Revision 2); Shell Chemical Company; September 27, 2001 [EDMS Document No. 7533791] [Note: Includes Corrective Measures Study Scope of Work, RECAP MO-2 Report and RECAP MO-3 Work Plan]
- 2002 Interim Measures Certification Report; Shell Chemical Company; February 26, 2002 [EDMS Document No. 1164519] [Interceptor trenches, SWMUs 26 and 97]
- Determinations of GPRA Environmental Indicators Human Exposures Controlled (CA 725) and Releases to Groundwater Controlled (CA 750); LDEQ; June 26, 2002
- 2003 Approval of Corrective Measures Study Work Plan (Revision 2); LDEQ; July 24, 2003 [EDMS Document No. 1892784] (Note: Includes approval of Corrective Measures Study Scope of Work, RECAP MO-2 Report, and RECAP MO-3 Work Plan)
- 2004 Interim Corrective Measures Plan, Ditch 6 Surface Water Impacts; Shell Chemical Company; March 29, 2004 [EDMS Document No. 2285926]
- Approval of Interim Corrective Measures Plan, Ditch 6/Subsurface Stormwater System, Former VCM Unit; LDEQ; April 19, 2004 [EDMS Document No. 2307117]
- Notification of Corrective Action Completion Ditch 6/Subsurface Stormwater System, Former VCM Unit; LDEQ; December 21, 2005 [EDMS Document No. 5253024]
- Corrective Measures Study Report (RCRA Corrective Measures Study Volume I); Shell Chemical Company; September 30, 2004 [EDMS Document No. 2457383]
- RECAP Management Option 3 Report: Risk-based Assessment for the RCRA Corrective Measures Study (RCRA Corrective Measures Study Volumes II and III); Shell Chemical Company; September 30, 2004 [EDMS Document Nos. 32432646 and 32432544]
- 2006 Approval of RCRA Corrective Measures Study (CMS) Report and RECAP Management Option 3 Report; LDEQ; December 15, 2006 [EDMS Document No. 3145407]
- 2011 Facility-wide Final Remedy Selection, Shell Chemical LP Norco Chemical Plant – West Site; LDEQ; June 29, 2011 [EDMS Document No. 8018356]
- LDEQ Confirmation of Remedy Construction, Facility-wide Final Remedy Selection, Shell Chemical LP, Norco Chemical Plant – West Site; LDEQ; June 29, 2011 [EDMS Document No. 8018354]

**ENCLOSURE 2**  
**READY FOR REUSE AGENCY CONTACTS**

SHELL CHEMICAL LP, NORCO CHEMICAL PLANT - WEST SITE  
Norco (St. Charles Parish) Louisiana

For a copy of the administrative record providing detailed information regarding environmental conditions at the Shell Chemical LP, Norco Chemical Plant – West Site, please contact:

Louisiana Department of Environmental Quality  
Public Records Center  
Galvez Building, Room 127  
602 North Fifth Street  
Baton Rouge, LA 70802  
(225) 219-3168

For questions regarding the environmental conditions described in the Ready for Reuse Basis of Decision for the Shell Chemical LP, Norco Chemical Plant – West Site, please contact:

Mr. Fernando Iturralde  
Geologist III  
Underground Storage Tank and Remediation Division  
Office of Environmental Compliance  
Louisiana Department of Environmental Quality  
Post Office Box 4312  
Baton Rouge, LA 70821-4312  
Telephone: (225) 219-3689  
E-mail: [fernando.iturralde@la.gov](mailto:fernando.iturralde@la.gov)

or

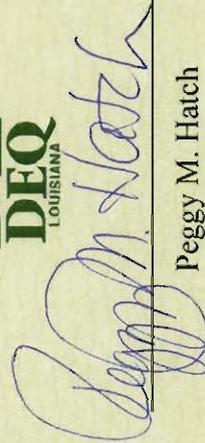
Mr. Andy Englande  
Water/Waste Coordinator, Environmental  
Motiva Enterprises LLC  
Post Office Box 10  
Norco, LA 70079  
Telephone: (504) 465-7011  
E-mail: [andrew.englande@motivaent.com](mailto:andrew.englande@motivaent.com)

*On this Day, December 7, 2011,*  
**the Louisiana Department of Environmental Quality and  
the U.S. Environmental Protection Agency, Region 6**

Present to  
**Shell Chemical LP  
Norco Chemical Plant - West Site  
*Ready for Reuse Determination***

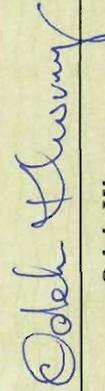
In recognition of Shell Chemical Company's efforts to investigate and remediate its Norco Chemical Plant - West Site, the Louisiana Department of Environmental Quality and the United States Environmental Protection Agency, Region 6 have together determined that this property is Ready for Reuse. As documented in the Ready for Reuse Determination Letter of December 7, 2011, a Ready for Reuse Determination is an acknowledgement that environmental conditions at this facility are protective of human health and the environment based on its current and anticipated future industrial use.



  
Peggy M. Hatch  
Secretary

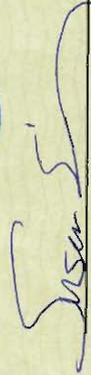
Louisiana Department of  
Environmental Quality



  
Odeh Khouury

Production Manager  
Norco Manufacturing Complex



  
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U.S. EPA, Region 6