Deepwater Port License Application
Blue Marlin Offshore Port (BMOP) Project

Volume IIa – Appendix B

Submitted to:

Maritime Administration
Office of Deepwater Ports and Offshore Activities
1200 New Jersey Avenue SE, W21-309
Washington, DC 20590

United States Coast Guard
Commandant (CG-OES-2)
Stop 7509
2703 Martin Luther King Jr. Ave. SE
Washington, DC 20593-7509

Submitted by:

Blue Marlin Offshore Port LLC
8111 Westchester Drive
Suite 600
Dallas, Texas 75225

September 2020

Deepwater Port License Application
Blue Marlin Offshore Port (BMOP) Project

Volume I:	General (Public), including Deepwater Port License Application and Appendices (*under separate cover*)
Volume IIa:	**Offshore Project Components Environmental Evaluation (Public)** **(*herein*)**
Volume IIb:	Onshore Project Components, Environmental Evaluation (Public) Volume III: Technical Information [*Confidential*] (*under separate cover*)
Volume IV:	Company and Financial Information [*Confidential*] (*under separate cover*)

TABLE OF CONTENTS

APPENDIX B-1 AGENCY CORRESPONDENCE

United States Coast Guard
United States Army Corps of Engineers
United States Environmental Protection Agency
United States Maritime Administration
Bureau of Safety and Environmental Enforcement
National Marine Fisheries Service
Pipeline and Hazardous Materials Safety Administration
Louisiana Department of Wildlife and Fisheries
Texas Parks and Wildlife Department
Stakeholders within the Project Area

APPENDIX B-2 AGENCY MEETING MINUTES

LIST OF TABLES

TABLE B1-1
Summary of BMOP Agency Email Correspondence
TABLE B2-1
Summary of BMOP Agency Outreach Meetings and Contacts

ABBREVIATIONS AND ACRONYMS

BMOP	Blue Marlin Offshore Port
BSEE	Bureau of Safety and Environmental Enforcement
BSEE ORP	BSEE Office of Regulatory Programs
BSEE-OSTS	Office of Structural and Technical Support
CG-OES	United States Coast Guard -Office of Operating and Environment Standards
DWP	Deepwater Port
EFH	Essential Fish Habitat
EPA	United States Environmental Protection Agency
ET	Energy Transfer
EXP	exp Energy Services, Inc
GLO	Texas General Lands Office
LDNR	Louisiana Department of Natural Resources
LDNR OCM	LDNR Office of Coastal Management
LDWF	Louisiana Department of Wildlife and Fisheries
LNWMA	Lower Neches Wildlife Management Area
MARAD	United States Maritime Administration
NMFS	NOAA Fisheries
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
PCS	Project Consulting Services, Inc.
PHMSA	Pipeline and Hazardous Materials Safety Administration
THC	Texas Historical Commission
TPWD	Texas Parks and Wildlife Department
USACE	United States Army Corps of Engineers
USCG	United States Coast Guard
USDOT	United States Department of Transportation
USFWS	United States Fish and Wildlife Service

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APPENDIX B-1

AGENCY CORRESPONDENCE

TABLE B1-1 **Summary of BMOP Agency Email Correspondence**		
Agency	**Date**	**Topic**
Bureau of Safety and Environmental Enforcement (BSEE)	April 14, 2020	Platform information
	May 11, 2020	
	June 18, 2020	
	June 26, 2020	Correspondence between Energy Transfer (ET) and BSEE-OSTS (Office of Structural and Technical Support) concerning setting up a meeting to discuss platform information and conversion application
	June 29, 2020	
	June 29, 2020	
	July 1, 2020	
	July 7, 2020	
	September 8, 2020	Correspondence with Pipeline Section of BSEE concerning setting up a meeting to discuss the submittal of the different applications, ROW modifications to modify existing infrastructure, and applications for the new infield oil transfer lines and associated accessories
	September 9, 2020	
	September 16, 2020	
	September 18, 2020	
Louisiana Department of Wildlife and Fisheries (LDWF)	February 26, 2020	Survey protocols in Sabine Lake
	March 10, 2020	
NOAA Fisheries (NMFS)	February 26, 2020	Survey protocols in Sabine Lake
	February 28, 2020	
	March 10, 2020	
	June 10, 2020	ET provided a project status update
	June 18, 2020	NMFS provided agency contacts for Essential Fish Habitat (EFH) and Endangered Species Act (ESA)
Pipeline and Hazardous Materials Safety Administration (PHMSA)	April 22, 2020	Correspondence concerning setting a meeting for a discussion of the scope of work
	April 23, 2020	
	April 30, 2020	
	May 19, 2020	
	May 20, 2020	
	May 28, 2020	

TABLE B1-1 **Summary of BMOP Agency Email Correspondence**		
Agency	**Date**	**Topic**
	June 10, 2020	
	June 17, 2020	
Texas Historical Commission (THC)	May 28, 2020	Correspondence concerning cultural resources (onshore), namely the Terrestrial Archaeological Survey, and the Texas Antiquities Permit Application
	May 29, 2020	
	June 2, 2020	
	June 3, 2020	
	June 9, 2020	
	June 10, 2020	
	June 12, 2020	
	June 15, 2020	
	June 24, 2020	
	June 25, 2020	
	July 27, 2020	
	March 25, 2020	Correspondence concerning cultural resources (offshore), namely the Underwater Archaeological Survey and the Texas Antiquities Permit Application
	March 26, 2020	
	May 26, 2020	
	June 2, 2020	
	June 3, 2020	
	June 17, 2020	
Texas General Lands Office (GLO)	March 11, 2020	Correspondence concerning cultural resources (onshore), namely the Terrestrial Archeology Survey
	March 12, 2020	
	March 16, 2020	
	March 17, 2020	
	April 1, 2020	

TABLE B1-1 **Summary of BMOP Agency Email Correspondence**		
Agency	**Date**	**Topic**
	April 2, 2020	
	May 6, 2020	Correspondence concerning cultural resources (offshore), namely the Underwater Archaeological Survey and the Texas Antiquities Permit Application
	May 7, 2020	
	May 8, 2020	
	May 20, 2020	
	May 22, 2020	
	June 12, 2020	
Texas Parks and Wildlife Department (TPWD)	February 26, 2020	Survey protocols in Sabine Lake
	February 27, 2020	
	February 28, 2020	
	March 10, 2020	
	March 24, 2020	
	March 26, 2020	
	March 31, 2020	
	April 8, 2020	
	April 9, 2020	
	April 20, 2020	
	August 10, 2020	
	August 14, 2020	
	May 28, 2020	Correspondence concerning the Surface Use Agreement for geotechnical sampling on and the proposed route through the Lower Neches Wildlife Management Area (LNWMA)
	June 2, 2020	
	June 18, 2020	
	June 25, 2020	
	June 29, 2020	
	June 30, 2020	

TABLE B1-1 **Summary of BMOP Agency Email Correspondence**		
Agency	**Date**	**Topic**
	June 10, 2020	Correspondence concerning the Texas Antiquities Permit
	June 11, 2020	
	June 12, 2020	
	June 15, 2020	
	June 17, 2020	
United States Army Corps of Engineers (USACE)	February 25, 2020	ET submittal of field survey protocols and USACE response
	June 10, 2020	ET provided a project status update
	June 10, 2020	USACE response on Section 408 requirements
	June 16, 2020	Correspondence concerning the determination of permit application requirements, with USACE and ET coordination to provide pertinent platform information regarding location, original permits, and NWPs
	June 17, 2020	
	June 18, 2020	
	July 7, 2020	
United States Coast Guard (USCG)	April 14, 2020	ET submittal of Oil Spill Modeling Protocol
	April 17, 2020	Comments to Oil Spill Modeling Protocol
	May 7, 2020	
	May 18, 2020	
	May 19, 2020	
United States Environmental Protection Agency (EPA)	May 26, 2020	Correspondence concerning setting a meeting for a discussion of water permits
	June 4, 2020	
	June 29, 2020	Correspondence following up on meeting to discuss National Pollutant Discharge Elimination System (NPDES) permitting requirements
	June 29, 2020	
	July 1, 2020	
	September 22, 2020	Correspondence regarding the submittal of the MARAD DWP application and the NPDES permit.
United Stated Maritime Administration (MARAD)	April 14, 2020	ET submittal of Oil Spill Modeling Protocol
	April 16, 2020	MARAD provided guidance on the Deepwater Port (DWP) application materials

TABLE B1-1 **Summary of BMOP Agency Email Correspondence**		
Agency	**Date**	**Topic**
	April 23, 2020	ET notice of Geophysical Surveys
	April 17, 2020	Comments to Oil Spill Modeling Protocol
	May 7, 2020	
	May 19, 2020	

Bureau of Safety and Environmental Enforcement (BSEE)

From: Hosch, Peter A <Peter.Hosch@bsee.gov>
Sent: Thursday, June 18, 2020 4:11 PM
To: Estopinal, Eric F <Eric.Estopinal@energytransfer.com>
Cc: Sauls, Marilyn M <Marilyn.Sauls@bsee.gov>; Kapesis, Tommy J <Tommy.Kapesis@bsee.gov>; Versowsky, Paul <Paul.Versowsky@bsee.gov>
Subject: Fw: Energy Transfer - Deepwater Port WC 509

Good Afternoon Eric –

Per ET's notes from the 4/7/20 meeting:

ET/DNV GL understanding is that deck height should as minimum be above max crest height + 5ft per API 2INT-DG / 3.2. In addition, local strength needs to be checked for equipment / structure within max crest height + 5ft + 15% max crest height (hurricane water elevation) for impact loads. Tommy Kapesis wants to have further discussion on the additional 15% and offered to check what was done on other projects. Tommy will come back with clarifications.

BSEE Clarification:

Per API 2INT-DG

"…the minimum elevation of the underside of the deck should equal or exceed the "hurricane water elevation" which is defined as the 100-year maximum crest elevation, as defined in API RP 2INT-MET, plus 15% for the local random wave crest, plus a minimum of 1.5m (5ft.) of safety margin or air gap.

Alternatively, the added 15% for the local random wave crest may be omitted in establishing the minimum deck elevation, but, in this case, deck structure and any deck components and equipment that lie below the 'hurricane water elevation' should be designed to withstand the local wave force associated with the local random wave crest."

Hurricane water elevation = (100-yr max crest elevation x 1.15) + 5 ft = 56.175 ft

*The calculated deck height is 49.5 ft. → 44.5 ft (100-yr max crest elevation from 2INT-MET) + 5 ft air gap and ET is choosing to omit the 15% of local random wave crest. Bottom of deck documented as being 51 ft.

**values from the 4/7/20 presentation, slide 8*

The actual deck height is higher than the min. required deck height, however, since the 'hurricane water elevation' is equal to 56.175 ft, this means that all deck structure and components below this elevation must adequately withstand the wave in deck forces associated with the local random wave crest. Wave in deck forces need to be evaluated and accounted for in the structural analysis.

Note: The section 17 assessment criteria for deck height is not applicable in this case. The requirements of the 22nd edition of API RP 2A-WSD would have the max crest elevation around 59 ft, increasing wave in deck.

Please see BSEE's responses & questions to ET's responses/clarifications from 5/11/20 re: presentation 4/7/2020:

Comment No. 1: BSEE-OSTS's recommendations are in support of the conversion and should be considered and submitted along with the other information as a part of the formal application. The conversion application is not solely looking at just strength and fatigue, but the entire structure globally. BSEE is aware that the codes and standards currently incorporated by reference in the regulation are outdated, so understand that the regulatory requirements for codes and standards are subject to change and could be updated during this process. If that happens before ET submits their formal application into BSEE-OSTS, the analysis information will need to be in accordance with any and all codes and standards updates.

Comment No. 2: Please explain why the API RP 2INT-MET criteria was not used for the fatigue analysis as well. Is the AH Glenn site specific information more conservative? What API standard did AH Glenn use to create the site specific criteria?

Comment No. 3: Noted.

Comment No. 4: Noted.

Comment No. 5: BSEE does not agree with ET's position here. There will need to be a much more detailed level of inspection as recommended in Table 15.2.3.5 API RP 2A-WSD, 21st Edition Section 15. BSEE will not consider the proposed alternative approach that utilizes a life extension philosophy and does not think it would be more suitable. ET will need to perform inspections and obtain data in accordance with Table 15.2.3.5 and follow all criteria as it relates to re-use.

Diver risks can be mitigated with proper planning and the use of ROVs is also an option that can be used in inspection.

30 CFR 250.920(f)

The use of Section 17, Assessment of Existing Platforms, of API RP 2A– WSD is limited to existing fixed structures that are serving their original approved purpose. You must obtain approval from the Regional Supervisor for any change in purpose of the platform, following the provisions of API RP 2A–WSD, Section 15, Re-use.

Although the platform is not being reused at another location, the regulatory requirement for evaluating any change in the purpose of the platform is based on following the provisions in Section 15, Re-use in API RP 2A-WSD.

Comment No. 6: For any and all damage that will need repair, please see 30 CFR 250.905 for details on what information should be included as a part of the overall conversion application for the repairs that are planned.

Thanks,

Peter Hosch
Bureau of Safety and Environmental Enforcement
Office of Structural and Technical Support

Office: (504) 736-2868
email: peter.hosch@bsee.gov

From: Estopinal, Eric F <Eric.Estopinal@energytransfer.com>
Sent: Monday, May 11, 2020 2:58 PM
To: Sauls, Marilyn M <Marilyn.Sauls@bsee.gov>
Cc: Kapesis, Tommy J <Tommy.Kapesis@bsee.gov>; Hosch, Peter A <Peter.Hosch@bsee.gov>; Devarpiran, Sankar R <SANKAR.DEVARPIRAN@energytransfer.com>; Jegganathan, Balu <balu.jegganathan@energytransfer.com>; Jon Schmidt <jon.schmidt@exp.com>
Subject: [EXTERNAL] RE: WC 509 Energy Transfer: Follow-up to WebEx Meeting Last Week

Please find ET's responses to your comments related to the April 7 presentation on converting the Stingray WC 509 platform complex. Please review and provide your comments where necessary. Also, during our presentation we discussed API 2INT-DG/Section 3.2 in some detail. Per Item 2 of the meeting minutes (attached), Tommy was going to provide additional clarifications. If you would like we can setup a webex meeting for further discussion.

Eric F Estopinal
Off 713-989-7458
Cel 713-206-9702

From: Sauls, Marilyn M <Marilyn.Sauls@bsee.gov>
Sent: Tuesday, April 14, 2020 10:34 AM
To: Estopinal, Eric F <Eric.Estopinal@energytransfer.com>; Jegganathan, Balu <balu.jegganathan@energytransfer.com>
Cc: Kapesis, Tommy J <Tommy.Kapesis@bsee.gov>; Hosch, Peter A <Peter.Hosch@bsee.gov>
Subject: WC 509 Energy Transfer: Follow-up to WebEx Meeting Last Week

Good Morning Eric and Balu –

BSEE-OSTS wanted to follow up with you and share some comments we have after going through the presentation last week.

Please see the attached document.

Feel free to contact me with any questions.

Regards,

Marilyn M. Sauls
Office Of Structural & Technical Support (OSTS)
Bureau of Safety & Environmental Enforcement (BSEE)
Regional Field Operations
United States Department of the Interior

Email: marilyn.sauls@bsee.gov
Phone: (504)-736-7509

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---------- This communication may contain confidential and proprietary information. DO NOT DISCLOSE. ----------

From: Estopinal, Eric F <Eric.Estopinal@energytransfer.com>
Sent: Wednesday, July 1, 2020 4:31 PM
To: Sauls, Marilyn M <Marilyn.Sauls@bsee.gov>; Dessauer, Stephen P <Stephen.Dessauer2@bsee.gov>
Subject: BMOP Conversion application [EXTERNAL] follow-up to June 24th discussion

exp. CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Wondering if BSEE is in a position to provide the Regional Supervisor's requirements for the Conversion Application per 30 CFR 250.900(4)(i). We are pushing real hard to file something in August and the Platform complex conversion is very much part of our DWP development plans. Can you guys provide a list of the minimum requirements for us to meet 900(4)(i), recognizing that the Application process is long and complex and some things will change and maybe added over the course of the permitting process? This is on the agenda for Tuesday's meeting and is something we have to discuss. If this is not the proper meeting to have this discussion, I can schedule a separate meeting.

Eric F Estopinal
Off 713-989-7458
Cel 713-206-9702

From: Sauls, Marilyn M <Marilyn.Sauls@bsee.gov>
Sent: Monday, June 29, 2020 4:56 PM
To: Estopinal, Eric F <Eric.Estopinal@energytransfer.com>
Subject: RE: [EXTERNAL] follow-up to June 24th discussion

Thanks Eric –

Please invite Tommy Kapesis, Peter Hosch, Jarvis Abbott and Jay Welsch in this discussion. Stephen Dessauer and/or Otho Barnes may also be in the call.

Stephen Dessauer is the Regional Supervisor and he relies on his SMEs (in this instance, OSTS) to handle the data and information.

We will discuss the site specific metocean data more, as well as clarify any questions pertaining to the items you have listed.

Regards,

Marilyn M. Sauls
BSEE-OSTS
marilyn.sauls@bsee.gov
(504)-736-7509

From: Estopinal, Eric F <Eric.Estopinal@energytransfer.com>
Sent: Monday, June 29, 2020 3:25 PM
To: Sauls, Marilyn M <Marilyn.Sauls@bsee.gov>
Subject: RE: [EXTERNAL] follow-up to June 24th discussion

Hi Marilyn, thanks for the response. I will schedule the 7th. Would like the discussion group to be limited to Platform issues and Conversion Application. Attached are the AH Glenn reports we are using in the Strength and Fatigue analyses. These are site specific. That's a change from the April meeting where we used the Tables. Please let me know who would be in attendance in the next discussion from BSEE and I'll include them in the invite.

By the way, who would be considered the Regional Supervisor in relation to the Conversion Application pursuant to 30 CFR 250.900?

Eric F Estopinal
Off 713-989-7458
Cel 713-206-9702

From: Sauls, Marilyn M <Marilyn.Sauls@bsee.gov>
Sent: Monday, June 29, 2020 10:08 AM
To: Estopinal, Eric F <Eric.Estopinal@energytransfer.com>
Subject: RE: [EXTERNAL] follow-up to June 24th discussion

Hi Eric –

It is best for BSEE to push to next week.

Right now, July 7th is wide open. Let me know if this works for you.

Thanks,
Marilyn M. Sauls
BSEE-OSTS
marilyn.sauls@bsee.gov
(504)-736-7509

From: Estopinal, Eric F <Eric.Estopinal@energytransfer.com>
Sent: Friday, June 26, 2020 2:49 PM
To: Sauls, Marilyn M <Marilyn.Sauls@bsee.gov>
Subject: [EXTERNAL] follow-up to June 24th discussion

Per our discussion on July 24th, would like to follow-up with you on the various topics from Wednesday's discussion. Specifically the following:

1. Comparative analysis
2. Pushover analysis
3. AH Glenn reports and specific API standards and Guidelines used for Strength and Fatigue analysis

4. Regulation changes

Can set up small conference call with you and whomever at OSTS you would like. Will not be presenting, just discussing. My days are wide open July 1 and 2 of next week. Don't believe we are that far apart on any of the topics.

Can add more topics if you like.

Eric F Estopinal
Off 713-989-7458
Cel 713-206-9702

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From: Sauls, Marilyn M <Marilyn.Sauls@bsee.gov>
Sent: Tuesday, July 7, 2020 8:55 AM
To: Estopinal, Eric F <Eric.Estopinal@energytransfer.com>
Cc: Jegganathan, Balu <balu.jegganathan@energytransfer.com>
Subject: 7/7/20 Meeting Cancellation
Importance: High

Good Morning Eric -

BSEE-OSTS is awaiting guidance from HQ and have been advised to hold off on having this meeting. We will need to postpone the meeting until we have been given a clear path forward.

I have tried reaching you on both your cell and office phones. I left you a message on your cell phone.

Regards,

Marilyn M. Sauls
Chief, Office of Structural & Technical Support (OSTS)
Bureau of Safety & Environmental Enforcement (BSEE)
Regional Field Operations
United States Department of the Interior

Email: marilyn.sauls@bsee.gov
Phone: (504)-736-7509

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PUBLIC AWARENESS CONTACT DATA FORM **I.40A**

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Type of Contact – Check Appropriate Box

☐ Affected Public ☐ Emergency Official ☐ Excavator ☒ Public Official

Contact Information

Name:	Bimal Shrestha	Title:	Petroleum Engineer
Organization:	BSEE Pipeline Section	Phone:	504 736-2548
Address:	1201 Elmwood Park Blvd	E-mail address:	bimal.shrestha@bsee.gov
City, State, Zip:	New Orleans, LA 70123	Event Location:	
County	Jefferson	Date of Contact:	September 8, 2020

Type of Contact – Check Appropriate Box

☐ Personal Contact ☐ Phone ☐ Letter/Mail ☒ E-mail

☐ Mock Drill/Exercise ☐ Training ☐ Other _____

Comments – Summarize what was discussed

Email Bimal to follow up on our telephone call and to provide information for the requested meeting either tomorrow Wednesday or Thursday this week. The virtual meeting would be to discuss the submittal of the different applications; ROW modifications to modify existing infrastructure and applications for the new infield oil transfer lines and associated accessories.

Requested that in addition of yourself, that Steve Dessauer, Angie, and Jarvis Abbott attend the meeting from BSEE and also have someone form BOEM project NEPA document preparation also attend the meeting. And that will let him decided if someone form OSTS should also attend the meeting.

Action Items:

Rep: **Alex Alvarado**

Area:

ENERGY TRANSFER

PUBLIC AWARENESS CONTACT DATA FORM **I.40A**

AVAILABLE ELECTRONICALLY

Type of Contact – Check Appropriate Box

☐ Affected Public ☐ Emergency Official ☐ Excavator ☒ Public Official

Contact Information

Name:	Bimal Shrestha	Title:	Petroleum Engineer
Organization:	BSEE Pipeline Section	Phone:	504 736-2548
Address:	1201 Elmwood Park Blvd	E-mail address:	bimal.shrestha@bsee.gov
City, State, Zip:	New Orleans, LA 70123	Event Location:	
County	Jefferson	Date of Contact:	September 8, 2020

Type of Contact – Check Appropriate Box

☐ Personal Contact ☐ Phone ☐ Letter/Mail ☒ E-mail

☐ Mock Drill/Exercise ☐ Training ☐ Other _____

Comments – Summarize what was discussed

Email Bimal to follow up on earlier email toady as to whether to invite the ET project team to the meeting

Action Items:

Rep: **Alex Alvarado**

Area:

ENERGY TRANSFER

PUBLIC AWARENESS CONTACT DATA FORM **I.40A**

AVAILABLE ELECTRONICALLY

Type of Contact – Check Appropriate Box

☐ Affected Public ☐ Emergency Official ☐ Excavator ☒ Public Official

Contact Information

Name:	Bimal Shrestha	Title:	Petroleum Engineer
Organization:	BSEE Pipeline Section	Phone:	504 736-2548
Address:	1201 Elmwood Park Blvd	E-mail address:	bimal.shrestha@bsee.gov
City, State, Zip:	New Orleans, LA 70123	Event Location:	
County	Jefferson	Date of Contact:	September 8, 2020

Type of Contact – Check Appropriate Box

☐ Personal Contact ☐ Phone ☐ Letter/Mail ☒ E-mail

☐ Mock Drill/Exercise ☐ Training ☐ Other _____

Comments – Summarize what was discussed

Replied to Bimal's BSEE virtual meeting invite on the BMOP project.

Action Items:

Rep: **Alex Alvarado**

Area:

From: Shrestha, Bimal <Bimal.Shrestha@bsee.gov>
Sent: Wednesday, September 9, 2020 4:03 PM
To: Alvarado, Alex (Contractor) <aalvarado@projectconsulting.com>
Cc: Oram, Terry <toram@projectconsulting.com>; Jim Elgin <jelgin@projectconsulting.com>; Estopinal, Eric F <Eric.Estopinal@energytransfer.com>; Jon Schmidt <jon.schmidt@exp.com>; Steve Ellsworth <Steven.Ellsworth@exp.com>; Allen Brooks <Allen.Brooks@exp.com>
Subject: RE: [EXTERNAL] RE: Request for a Follow up Meeting with Energy Transfer- BMOP DWP Applications

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Ok .. thanks .. even Jarvis Abbot has not accepted yet..

Bimal Shrestha
Petroleum Engineer
Pipeline Section, BSEE
(504) 736-2548

From: Alvarado, Alex (Contractor) <aalvarado@projectconsulting.com>
Sent: Wednesday, September 09, 2020 3:57 PM
To: Shrestha, Bimal <Bimal.Shrestha@bsee.gov>
Cc: Oram, Terry <toram@projectconsulting.com>; Elgin, Jim <jelgin@projectconsulting.com>; Estopinal, Eric F <Eric.Estopinal@energytransfer.com>; Jon Schmidt <jon.schmidt@exp.com>; Steve Ellsworth <Steven.Ellsworth@exp.com>; Allen Brooks <Allen.Brooks@exp.com>
Subject: [EXTERNAL] RE: Request for a Follow up Meeting with Energy Transfer- BMOP DWP Applications

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Bimal,

In discussions with the Energy Transfer project team, it is preferred that if Steve and Angie are not available to participate in the meeting tomorrow morning, that the meeting be rescheduled to a date and time that they would be available. Will call you in the morning to confirm.

Thanks,

Alex Alvarado
Consultant
Compliance & Integrity Division
504 833-5321 Office
504 219-3471 Direct
504 247-7667 Cell

From: Alvarado, Alex (Contractor)
Sent: 8 September, 2020 2:17 PM
To: Bimal Shrestha (bimal.shrestha@bsee.gov) <bimal.shrestha@bsee.gov>
Cc: Oram, Terry <toram@projectconsulting.com>; Elgin, Jim <jelgin@projectconsulting.com>; Estopinal, Eric F <Eric.Estopinal@energytransfer.com>; Jon Schmidt <jon.schmidt@exp.com>; Steve Ellsworth <Steven.Ellsworth@exp.com>; Allen Brooks <Allen.Brooks@exp.com>
Subject: Request for a Follow up Meeting with Energy Transfer- BMOP DWP Applications

Bimal,

To follow up on our telephone call, here is information for the requested meeting either tomorrow Wednesday or Thursday this week. The virtual meeting would be to discuss the submittal of the different applications; ROW modifications to modify existing infrastructure and applications for the new infield oil transfer lines and associated accessories.

It is requested that in addition of yourself, that Steve Dessauer, Angie, and Jarvis Abbott attend the meeting from BSEE and also have someone form BOEM project NEPA document preparation also attend the meeting. Will let you decided if some form OSTS should also attend the meeting.

Thanks,

Alex Alvarado
Consultant
Compliance & Integrity Division
504 833-5321 Office
504 219-3471 Direct
504 247-7667 Cell

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ENERGY TRANSFER

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Type of Contact – Check Appropriate Box

☐ Affected Public ☐ Emergency Official ☐ Excavator ☒ Public Official

Contact Information

Name:	Bimal Shrestha	Title:	Petroleum Engineer
Organization:	BSEE Pipeline Section	Phone:	504 736-2548
Address:	1201 Elmwood Park Blvd	E-mail address:	bimal.shrestha@bsee.gov
City, State, Zip:	New Orleans, LA 70123	Event Location:	
County	Jefferson	Date of Contact:	September 9, 2020

Type of Contact – Check Appropriate Box

☐ Personal Contact ☐ Phone ☐ Letter/Mail ☒ E-mail

☐ Mock Drill/Exercise ☐ Training ☐ Other _____

Comments – Summarize what was discussed

Emailed BIMAL to advice that in discussions with the Energy Transfer project team, that it is preferred if Steve and Angie are not available to participate in the meeting tomorrow morning, that the meeting be rescheduled to a date and time that they would be available. Also, advised him that I will call him in the morning to confirm their participation.

Action Items:

Rep: **Alex Alvarado**

Area:

ENERGY TRANSFER

PUBLIC AWARENESS CONTACT DATA FORM **I.40A**

AVAILABLE ELECTRONICALLY

Type of Contact – Check Appropriate Box

☐ Affected Public ☐ Emergency Official ☐ Excavator ☒ Public Official

Contact Information

Name:	Angie Gobert	Title:	Chief, Pipeline Section
Organization:	BSEE Pipeline Section	Phone:	504 736-2876
Address:	1201 Elmwood Park Blvd	E-mail address:	angie.gobert@bsee.gov
City, State, Zip:	New Orleans, LA 70123	Event Location:	
County	Jefferson	Date of Contact:	September 16, 2020

Type of Contact – Check Appropriate Box

☐ Personal Contact ☐ Phone ☐ Letter/Mail ☒ E-mail

☐ Mock Drill/Exercise ☐ Training ☐ Other _____

Comments – Summarize what was discussed

Emailed Angie to find out if she had a chance to follow up with Jarvis Abbott on the status of BSEE participation in the MARAD review and issuing of ROW's for associated Deep Water Port facilities.

Action Items:

Rep: **Alex Alvarado**

Area:

ENERGY TRANSFER

PUBLIC AWARENESS CONTACT DATA FORM **I.40A**

AVAILABLE ELECTRONICALLY

Type of Contact – Check Appropriate Box

☐ Affected Public ☐ Emergency Official ☐ Excavator ☒ Public Official

Contact Information

Name:	Angie Gobert	Title:	Chief, Pipeline Section
Organization:	BSEE Pipeline Section	Phone:	504 736-2876
Address:	1201 Elmwood Park Blvd	E-mail address:	angie.gobert@bsee.gov
City, State, Zip:	New Orleans, LA 70123	Event Location:	
County	Jefferson	Date of Contact:	September 17, 2020

Type of Contact – Check Appropriate Box

☐ Personal Contact ☐ Phone ☐ Letter/Mail ☒ E-mail

☐ Mock Drill/Exercise ☐ Training ☐ Other _____

Comments – Summarize what was discussed

Emailed Angie to inform her that Energy Transfer is still requesting a meeting with BSEE/BOEM and as mentioned before, they are requesting that her and Stephen attend the meeting. Also advised her that one of the topics to be discussed is the different companies involved. Other topics being the submittal of the applications to the Pipeline Section, BOEM's involvement in the DWP NEPA process, and other topics that may come up. Asked if she could get Bimal to reschedule the meeting for some time next week.

Action Items:

Rep: **Alex Alvarado**

Area:

Louisiana Department of Wildlife and Fisheries (LDWF)

Allen Brooks

From: Michael Aubele
Sent: Tuesday, March 10, 2020 10:33 AM
To: Brett Soutar; Allen Brooks; Ryan Coleman; Jason Zoller; Kim Rhodes-Edelstein; Jon Schmidt
Subject: FW: ET LOPEX - proposed benthic survey protocol for Sabine Lake

Follow Up Flag: Follow up
Flag Status: Flagged

Michael C. Aubele
EXP | Vice President, Environmental and Regulatory
m : +1.713.985.9914 | e : Mike.Aubele@exp.com

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From: Christy McDonough <cmcdonough@wlf.la.gov>
Sent: Tuesday, March 10, 2020 9:31 AM
To: Michael Aubele <Mike.Aubele@exp.com>
Cc: Dave Butler <dbutler@wlf.la.gov>; Brett Soutar (bsoutar@benchmarkeco.com) <bsoutar@benchmarkeco.com>; Minter, Justin D <JUSTIN.MINTER@energytransfer.com>; Rusty Swafford - NOAA Federal <rusty.swafford@noaa.gov>
Subject: RE: ET LOPEX - proposed benthic survey protocol for Sabine Lake

The proposed protocol looks fine to me. The only thing I would add is that all material (living and dead) should be returned to the water bottoms of Sabine Lake. I'm happy to set up a meeting with you guys and our folks – I agree it's probably best to wait until after the survey is done and we've had time to review it.

Thanks,
Christy

Christy Lavergne McDonough
Public Oyster Seed Ground Management
LA Dept. of Wildlife and Fisheries
225-765-2386

From: Michael Aubele <Mike.Aubele@exp.com>
Sent: Tuesday, March 10, 2020 9:11 AM
To: Christy McDonough <cmcdonough@wlf.la.gov>
Cc: Dave Butler <dbutler@wlf.la.gov>; Brett Soutar (bsoutar@benchmarkeco.com) <bsoutar@benchmarkeco.com>; Minter, Justin D <JUSTIN.MINTER@energytransfer.com>; Rusty Swafford - NOAA Federal <rusty.swafford@noaa.gov>
Subject: RE: ET LOPEX - proposed benthic survey protocol for Sabine Lake

EXTERNAL EMAIL: Please do not click on links or attachments unless you know the content is safe.

Christy,

Just wanted to follow up on this request and let you know we have made some changes to the protocol/methodology based on some comments received from TPWD. Attached is the latest version of the plan and please let us know if you have any comments or suggests on the methods. Also, would like to find a convenient time to sit down and discuss the project further at your office. Perhaps better at this point to wait until we have survey results completed which would hopefully be sometime next month in April. Thanks again.

Mike

Michael C. Aubele
EXP | Vice President, Environmental and Regulatory
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From: Michael Aubele
Sent: Wednesday, February 26, 2020 5:42 PM
To: cmcdonough@wlf.la.gov
Cc: Dave Butler <dbutler@wlf.la.gov>; Brett Soutar <bsoutar@benchmarkeco.com>; Minter, Justin D <JUSTIN.MINTER@energytransfer.com>; Rusty Swafford - NOAA Federal <rusty.swafford@noaa.gov>
Subject: ET LOPEX - proposed benthic survey protocol for Sabine Lake

Christie,

Just following up from our meeting the other week and wanted to provide the proposed benthic survey protocol for Sabine Lake. The protocol that Benchmark prepared for Louisiana state waters is based on the LDWF's sampling protocol (2012). Please review and let us know if any comments or questions.

We will plan to figure out a date and time to sit down and further discuss the issues and concerns around the routing of a pipeline through the designated Tier 1 Oyster Seed Grounds.

Thanks and look forward to working with you on this project.

Mike

Michael C. Aubele
EXP | Vice President, Environmental and Regulatory
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Suite 850
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USA

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NOAA Fisheries (NMFS)

Allen Brooks

From: Michael Aubele
Sent: Friday, February 28, 2020 1:13 PM
To: Allen Brooks; Komi Hassan; Jason Zoller
Subject: Fwd: ET LOPEX Project Benthic Survey Protocol

------ Original message------
From: Rusty Swafford - NOAA Federal
Date: Fri, Feb 28, 2020 11:11 AM
To: Michael Aubele;
Cc: mike.morgan@tpwd.state.tx.us;jan.culbertson@tpwd.texas.gov;Minter, Justin D;Brett Soutar;
Subject: Re: ET LOPEX Project Benthic Survey Protocol

Thanks Mike.

I have no comments to provide.

Rusty

On Wed, Feb 26, 2020 at 5:59 PM Michael Aubele <Mike.Aubele@exp.com> wrote:

> Jan/Mike,
>
> Wanted to follow up on the conversation Jan and I had this past week regarding Energy Transfer's proposed LOPEX Project. As mentioned, the project will entail construction of a new 36 or 42-inch pipeline from Nederland to near Cameron to tie-in to the existing Stingray Pipeline. As such, it will involve the crossing of a good portion of Sabine Lake in both TX and LA state waters, but several miles north of the known oyster reef habitat within the lower estuary. We are just getting started with environmental surveys for the project and wanted to get the proposed benthic survey protocol to you for review and comment. Its based on your agency's most current version, but understand its being updated based on our conversation and the need to get these surveys consistent with the methods and results you all are collecting with your efforts. Anyhow, please review and provide us any feedback or recommended changes.
>
> Also, we would like to find a date and time where we can come to your office to introduce the project, purpose and schedule. If anytime in the next week or so would work, please let us know what would be the most convenient for you and we will try to make that work.
>
> Rusty, I copied you as well in the event you have any comments on the proposed methods or protocol?
>
> Thanks,

Mike

Michael C. Aubele
EXP | Vice President, Environmental and Regulatory
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Suite 850
Houston, TX 77027
USA

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--

Rusty Swafford
Supervisor, Gulf of Mexico Branch
Southeast Region, Habitat Conservation Division
NOAA Fisheries
U.S. Department of Commerce
4700 Av U, Galveston, TX 77551
Office: *(409) 766-3699*
FAX: *(409) 766-3575*
Rusty.Swafford@noaa.gov

50 Years of Science, Service, and Stewardship

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Allen Brooks

From: Michael Aubele
Sent: Wednesday, June 10, 2020 10:54 AM
To: Rusty Swafford - NOAA Federal
Cc: Allen Brooks
Subject: Energy Transfer's Deep Water Port Project - Blue Marlin Offshore Port (BMOP)

Rusty,

Hope all is well with you. Just wanted to follow up on Energy Transfer's Deepwater Port Project we had met on and spoke about earlier this year. Anyhow, we continue to work on the project and have been coordinating with MARAD along the way. The project is now called the Blue Marlin Offshore Port (BMOP) and we tentatively are looking to make the MARAD submittal in late August 2020. We have completed our geophysical surveys for the federal waters piece and will have completed the benthic surveys in Sabine Lake by the end of this week. We will be drafting the EFH assessments for the filing and coordination with your office and will get you a copy of the benthic survey report when available.

Who would be the best contact for us to reach out to in St. Petersburg regarding ESA, noise assessments, etc.? Anyhow, hope you are doing good and let us know if any questions or if you need any additional information at this time. I suspect we will have something to you for some early review in the coming months.

Thanks.

Mike

Michael C. Aubele
EXP | Vice President, Environmental and Regulatory
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Houston, TX 77027
USA

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Allen Brooks

From: Rusty Swafford - NOAA Federal <rusty.swafford@noaa.gov>
Sent: Thursday, June 18, 2020 10:44 AM
To: Michael Aubele
Cc: Allen Brooks
Subject: Re: Energy Transfer's Deep Water Port Project - Blue Marlin Offshore Port (BMOP)

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Yes Craig and January Murray in our Baton Rouge Field Office handle EFH consultations for Louisiana. FYI - January is also the POC for consultations in Mississippi and Alabama.

On Thu, Jun 18, 2020 at 9:39 AM Michael Aubele <Mike.Aubele@exp.com> wrote:

> Thanks. Should we also keep Craig copied for all correspondence related to the LA side?
>
> **Michael C. Aubele**
> EXP | Vice President, Environmental and Regulatory
> m : +1.713.985.9914 | e : Mike.Aubele@exp.com
>
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>
> **From:** Rusty Swafford - NOAA Federal <rusty.swafford@noaa.gov>
> **Sent:** Thursday, June 18, 2020 8:39 AM
> **To:** Michael Aubele <Mike.Aubele@exp.com>
> **Cc:** Allen Brooks <Allen.Brooks@exp.com>
> **Subject:** Re: Energy Transfer's Deep Water Port Project - Blue Marlin Offshore Port (BMOP)
>
> CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.
>
> Mike,
>
> I apologize for the late response. I would start with contacting Kelly Shotts (Kelly.Shotts@noaa.gov) in our Protected Resources Division. In addition, I have finally backfilled our vacant Texas Fishery Biologist position with Charrish Stevens. Charrish will handle all future EFH consultations in Texas, so please include her on future correspondence. Her email address is Charish.Stevens@noaa.gov. While all of NOAA Fisheries is on

mandatory telework currently, she is officially co-located in my office, so her physical mailing and phone contact information are the same as mine.

Rusty

On Thu, Jun 18, 2020 at 7:38 AM Michael Aubele <Mike.Aubele@exp.com> wrote:

> Rusty,
>
> My last one probably got lost in your inbox as that seems to happen to me all the time. Anyhow, see below. Appreciate the help and hope you are doing well. Thanks.
>
> Mike
>
> ---
>
> **From:** Michael Aubele
> **Sent:** Wednesday, June 10, 2020 9:54 AM
> **To:** Rusty Swafford - NOAA Federal <rusty.swafford@noaa.gov>
> **Cc:** Allen Brooks <Allen.Brooks@exp.com>
> **Subject:** Energy Transfer's Deep Water Port Project - Blue Marlin Offshore Port (BMOP)
>
> Rusty,
>
> Hope all is well with you. Just wanted to follow up on Energy Transfer's Deepwater Port Project we had met on and spoke about earlier this year. Anyhow, we continue to work on the project and have been coordinating with MARAD along the way. The project is now called the Blue Marlin Offshore Port (BMOP) and we tentatively are looking to make the MARAD submittal in late August 2020. We have completed our geophysical surveys for the federal waters piece and will have completed the benthic surveys in Sabine Lake by the end of this week. We will be drafting the EFH assessments for the filing and coordination with your office and will get you a copy of the benthic survey report when available.
>
> Who would be the best contact for us to reach out to in St. Petersburg regarding ESA, noise assessments, etc.? Anyhow, hope you are doing good and let us know if any questions or if you need any additional information at this time. I suspect we will have something to you for some early review in the coming months.

Thanks.

Mike

Michael C. Aubele
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USA

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Rusty Swafford
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--
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Office: *(409) 766-3699*
FAX: *(409) 766-3575*
Rusty.Swafford@noaa.gov

Pipeline and Hazardous Materials Safety Administration (PHMSA)

ENERGY TRANSFER

PUBLIC AWARENESS CONTACT DATA FORM I.40A

AVAILABLE ELECTRONICALLY

Type of Contact – Check Appropriate Box

☐ Affected Public ☐ Emergency Official ☐ Excavator ☒ Public Official

Contact Information

Name:	Rickenson Daniel / Susan Mathew	Title:	Project Manager
Organization:	PHMSA	Phone:	713-294-4090
Address:		E-mail address:	rickenson.daniel@dot.gov / susan.mathew@dot.gov
City, State, Zip:	Houston, TX	Event Location:	
County		Date of Contact:	4.22.20

Type of Contact – Check Appropriate Box

☐ Personal Contact ☒ Phone ☐ Letter/Mail ☒ E-mail

☐ Mock Drill/Exercise ☐ Training ☐ Other _____

Comments – Summarize what was discussed

4.22.20 - (Phone) Recieved phone call from Rickenson Daniel , Project Manager of the Southwest PHMSA Region requesting a general scope of work via email.

4.23.20 – (Email) Received email from Rickenson Daniel in regards to setting up a date to discuss project LOPEX via teleconference as early as next Monday (4.27.20)

4.30.20 – (Email) Received email from Rickenson Daniel agreeing to reschedule a date to discuss LOPEX project for the week of 5.4.20

5.19.20 – (Email) Received an email from Rickenson Daniel agreeing to schedule this meeting for 5.21.20

5.20.20 – (Phone) Received a phone call from Rickenson Daniel requesting to cancel 5.21.20 meeting and reschedule the following week on 5.28.20

5.28.20 – (Email) Received email from Rickenson Daniel requesting to cancel meeting and will follow up with a phone call to reschedule.

6.10.20 – (Phone) Received phone call from Rickenson Daniel and Susan Mathews and scheduled meeting for 6.22.20

6.17.20 – (Phone) Received phone call from Susan Mathew to reschedule meeting for 6.25.20.

Materials/Handouts – List materials given and quantities

Rep:

Alex Alcala

ENERGY TRANSFER

PUBLIC AWARENESS CONTACT DATA FORM **I.40A**

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Area:
Division:

Texas Historical Commission (THC)

From: Maggie Moore <Maggie.Moore@thc.texas.gov>

To: Wayne Boyko <WBoyko@rcgoodwin.com>, Bill Martin <Bill.Martin@thc.texas.gov>, Amy Borgens <Amy.Borgens@thc.texas.gov>

Date: 05/29/2020 12:08 PM

Subject: RE: Terrestrial Archaeological Concern - EXP - LOPEX - Nederland-Stingray THC Tracking No. 202009823

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Wayne,

The application has incomplete information, and I cannot review it at this time. Please address the following comments and submit a revised permit application and scope of work.

1. Please note that this permit application and scope of work is considered coordination under the Antiquities Code of Texas (ACT) only for the portions of the project on state-owned or -controlled land. If MARAD wants to coordinate a scope of work for the project as a whole under Section 106, that will need to be submitted separately for review.

2. We do not accept applications with co-Principal Investigators. Please submit an application with a single Principal Investigator who meets the qualifications under the Texas Administrative Code (TAC) Chapter §26.4.

3. To accommodate project delays and completion of additional requirements under TAC Chapter 26 for projects conducted under the ACT (e.g., curation), I strongly recommend asking for a longer permit duration such as 2 or 5 years. This avoids the potential need to apply for a permit extension if the permit cannot be completed within the 1-year timeframe.

4. While the project introduction should include information about the project as a whole (and the project's Area of Potential Effect under Section 106), the scope of work for the permit application should be explicit about the project area and tailored to the specific work being conducted and under the Texas Antiquities Permit.

5. The permit application states the SOW is for the work on GLO land; however, the scope of work attached describes survey of the private property as well as TPWD's Lower Neches Wildlife Management Area, and does not mention GLO land. It was my understanding from prior communications that the project crosses at least two properties owned by TPWD. Rather than pull a separate permit from each landowning entity, it is preferable to submit a single permit application with signature pages from all landowners.

6. Please clearly identify on the maps the portion(s) of the project area subject to the ACT and covered by this permit, and differentiate which agency owns each portion. Please specify the linear measurements, ROW widths, and total acreage of each state-owned or -controlled tract and provide the total acreage of project area investigated under this permit.

Once I receive this information, I will begin my review and let you know if I have comments on the scope of work. Please let me know if you need any additional clarification.

Maggie

TEXAS HISTORICAL COMMISSION
REAL PLACES TELLING REAL STORIES

Maggie Moore
Terrestrial Archeologist
Archeology Division
P.O. Box 12276, Austin, Texas, 78711-2276
Phone: +1 512 463 6508
thc.texas.gov

From: Wayne Boyko <WBoyko@rcgoodwin.com>
Sent: Thursday, May 28, 2020 4:54 PM
To: Bill Martin <Bill.Martin@thc.texas.gov>
Cc: Maggie Moore <Maggie.Moore@thc.texas.gov>
Subject: Terrestrial Archaeological Concern - EXP - LOPEX - Nederland-Stingray THC Tracking No. 202009823

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Good afternoon,

Attached please find our Texas Antiquities Permit application for the above referenced project. Please do not hesitate to contact me should the application require additional information to be submitted. Thanks,

Wayne Boyko

Wayne CJ Boyko

Senior Project Manager

R. Christopher Goodwin & Associates, Inc.

309 Jefferson Highway, Suite A

New Orleans, LA 70121

office: (504) 837-1940

fax: (504) 837-1550

cellular: (504) 201-1714

web: http://www.rcgoodwin.com

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From: Bill Martin <Bill.Martin@thc.texas.gov>
To: Wayne Boyko <WBoyko@rcgoodwin.com>
Cc: Maggie Moore <Maggie.Moore@thc.texas.gov>
Date: 06/02/2020 09:20 AM
Subject: CVs

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Wayne,
I can't remember if I asked you for your CV. We need to have a CV on file for each PI so that we can make sure they meet the qualifications in our rules (essentially an MA and 12 months of supervisory experience). Please send your CV and one for Peter Cropley.

Bill Martin
Archeologist and Reviewer
Archeology Division
P.O. Box 12276, Austin, Texas, 78711-2276
Phone: +1 512 463 5867
Fax: +1 512 463 8927
thc.texas.gov

From: Maggie Moore <Maggie.Moore@thc.texas.gov>
To: Wayne Boyko <WBoyko@rcgoodwin.com>
Cc: Laney Fisher <Laney.Fisher@thc.texas.gov>
Date: 06/25/2020 04:59 PM
Subject: RE: TAP for Lower Neches WMA

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Yes, my apologies, was typing too fast.

Maggie Moore

From: Wayne Boyko <WBoyko@rcgoodwin.com>
Sent: Thursday, June 25, 2020 4:58 PM
To: Maggie Moore <Maggie.Moore@thc.texas.gov>
Subject: RE: TAP for Lower Neches WMA

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Hi Maggie,

Did you mean 6/25/2022 for the expiration? Thanks for the quick turn around!

Wayne

Wayne CJ Boyko

Senior Project Manager

R. Christopher Goodwin & Associates, Inc.

309 Jefferson Highway, Suite A

New Orleans, LA 70121

office: (504) 837-1940

fax: (504) 837-1550

cellular: (504) 201-1714

web: http://www.rcgoodwin.com

From: Maggie Moore <Maggie.Moore@thc.texas.gov>
To: Wayne Boyko <WBoyko@rcgoodwin.com>
Cc: Laney Fisher <Laney.Fisher@thc.texas.gov>
Date: Thu, 25 Jun 2020 21:54:37 +0000
Subject: RE: TAP for Lower Neches WMA

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Wayne,

The permit number will be 9496, expiration date 6/25/2020. Good luck!

Maggie

Maggie Moore

From: Wayne Boyko <WBoyko@rcgoodwin.com>
Sent: Thursday, June 25, 2020 1:50 PM
To: Maggie Moore <Maggie.Moore@thc.texas.gov>
Subject: RE: TAP for Lower Neches WMA

CAUTION: External Email – This email originated from outside the THC email system. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Maggie,

Here is the revised Scope of Work - I believe that I've addressed all your comments. Thanks!

Wayne

Wayne CJ Boyko

Senior Project Manager

R. Christopher Goodwin & Associates, Inc.

309 Jefferson Highway, Suite A

New Orleans, LA 70121

office: (504) 837-1940

fax: (504) 837-1550

cellular: (504) 201-1714

web: http://www.rcgoodwin.com

From: Maggie Moore <Maggie.Moore@thc.texas.gov>
To: Wayne Boyko <WBoyko@rcgoodwin.com>
Date: Thu, 25 Jun 2020 16:49:33 +0000
Subject: RE: TAP for Lower Neches WMA

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Wayne,

Thank you for providing clarification on the Texas Antiquities Permitted portions of this project. I have the following comments on the scope of work. If you can get the revised scope back to me quickly, we should be able to get the permit number issued pretty quickly.

-Please include assessment for State Antiquities Landmark designation as well as NRHP eligibility for all sites on state land.

-Please review the SOW to ensure it complies with and specifies elements of the current CTA survey standards (https://www.thc.texas.gov/public/upload/publications/CTA-Intensive-Survey-Standards-2020.pdf), including that double negative shovel tests will be used in site delineation, provide a definition of what will constitute a site, and explicitly discuss the need and methods for deep testing or justify the lack of need for it.

-Site forms should be submitted to TARL for trinomials, not THC.

Let me know if you have any additional questions or need clarification.

Maggie

TEXAS HISTORICAL COMMISSION
REAL PLACES TELLING REAL STORIES

Maggie Moore

Terrestrial Archeologist

Archeology Division

P.O. Box 12276, Austin, Texas, 78711-2276

Phone: +1 512 463 6508

thc.texas.gov

From: Wayne Boyko <WBoyko@rcgoodwin.com>
Sent: Wednesday, June 24, 2020 10:02 AM
To: Bill Martin <Bill.Martin@thc.texas.gov>
Cc: Maggie Moore <Maggie.Moore@thc.texas.gov>
Subject: TAP for Lower Neches WMA

CAUTION: External Email – This email originated from outside the THC email system. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good morning folks,

I'm wondering if y'all have had a chance to look at our application for a Texas Antiquities Permit for the Lower Neches Wildlife Management Area? Our right-of-entry to do archaeological survey expires at the end of the month and we have a crew out in the area - as it will only take a day or so to do the fieldwork, I'm hoping we will not have to request an extension. Thanks,

Wayne

Wayne CJ Boyko

Senior Project Manager

R. Christopher Goodwin & Associates, Inc.

309 Jefferson Highway, Suite A

New Orleans, LA 70121

office: (504) 837-1940

fax: (504) 837-1550

cellular: (504) 201-1714

web: http://www.rcgoodwin.com

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From: Maggie Moore <Maggie.Moore@thc.texas.gov>
To: Wayne Boyko <WBoyko@rcgoodwin.com>, Bill Martin <Bill.Martin@thc.texas.gov>, Amy Borgens <Amy.Borgens@thc.texas.gov>
Date: 06/02/2020 09:16 AM
Subject: RE: Terrestrial Archaeological Concern - EXP - LOPEX - Nederland-Stingray THC Tracking No. 202009823

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Wayne,

Why would GLO be signing the permit instead of TPWD? That is not common practice to my knowledge. If the properties are TPWD, they should be signing the permit. Are there some other extenuating circumstances here that we need to be aware of?

Maggie

Maggie Moore

From: Wayne Boyko <WBoyko@rcgoodwin.com>
Sent: Friday, May 29, 2020 12:36 PM
To: Maggie Moore <Maggie.Moore@thc.texas.gov>; Bill Martin <Bill.Martin@thc.texas.gov>; Amy Borgens <Amy.Borgens@thc.texas.gov>
Subject: RE: Terrestrial Archaeological Concern - EXP - LOPEX - Nederland-Stingray THC Tracking No. 202009823

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Thanks Maggie. I will make the changes/additions regarding state-owned lands and send on back to you. I will take myself off as PI, leaving Pete Cropley. The two GLO properties crossed by the project are dis-contiguous portions of the Lower Neches Wildlife Management Area - we will clearly mark these on the maps. Thanks, and have a great weekend,

Wayne

Wayne CJ Boyko

Senior Project Manager

R. Christopher Goodwin & Associates, Inc.

309 Jefferson Highway, Suite A

New Orleans, LA 70121

office: (504) 837-1940

fax: (504) 837-1550

cellular: (504) 201-1714

web: http://www.rcgoodwin.com

From: Maggie Moore <Maggie.Moore@thc.texas.gov>
To: Wayne Boyko <WBoyko@rcgoodwin.com>, Bill Martin <Bill.Martin@thc.texas.gov>, Amy Borgens <Amy.Borgens@thc.texas.gov>
Date: Fri, 29 May 2020 17:08:23 +0000
Subject: RE: Terrestrial Archaeological Concern - EXP - LOPEX - Nederland-Stingray THC Tracking No. 202009823

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Hi Wayne,

The application has incomplete information, and I cannot review it at this time. Please address the following comments and submit a revised permit application and scope of work.

1. Please note that this permit application and scope of work is considered coordination under the Antiquities Code of Texas (ACT) only for the portions of the project on state-owned or -controlled land. If MARAD wants to coordinate a scope of work for the project as a whole under Section 106, that will need to be submitted separately for review.
2. We do not accept applications with co-Principal Investigators. Please submit an application with a single Principal Investigator who meets the qualifications under the Texas Administrative Code (TAC) Chapter §26.4.
3. To accommodate project delays and completion of additional requirements under TAC Chapter 26 for projects conducted under the ACT (e.g., curation), I strongly recommend asking for a longer permit duration such as 2 or 5 years. This avoids the potential need to apply for a permit extension if the permit cannot be completed within the 1-year timeframe.
4. While the project introduction should include information about the project as a whole (and the project's Area of Potential Effect under Section 106), the scope of work for the permit application should be explicit about the project area and tailored to the specific work being conducted and under the Texas Antiquities Permit.
5. The permit application states the SOW is for the work on GLO land; however, the scope of work attached describes survey of the private property as well as TPWD's Lower Neches Wildlife Management Area, and does not mention GLO land. It was my understanding from prior communications that the project crosses at least two properties owned by TPWD. Rather than pull a separate permit from each landowning entity, it is preferable to submit a single permit application with signature pages from all landowners.
6. Please clearly identify on the maps the portion(s) of the project area subject to the ACT and covered by this permit, and differentiate which agency owns each portion. Please specify the linear measurements, ROW widths, and total acreage of each state-owned or -controlled tract and provide the total acreage of project area investigated under this permit.

Once I receive this information, I will begin my review and let you know if I have comments on the scope of work. Please let me know if you need any additional clarification.

Maggie

TEXAS HISTORICAL COMMISSION
REAL PLACES TELLING REAL STORIES

Maggie Moore

Terrestrial Archeologist

Archeology Division

P.O. Box 12276, Austin, Texas, 78711-2276

Phone: +1 512 463 6508

thc.texas.gov

From: Wayne Boyko <WBoyko@rcgoodwin.com>
Sent: Thursday, May 28, 2020 4:54 PM
To: Bill Martin <Bill.Martin@thc.texas.gov>
Cc: Maggie Moore <Maggie.Moore@thc.texas.gov>
Subject: Terrestrial Archaeological Concern - EXP - LOPEX - Nederland-Stingray THC Tracking No. 202009823

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Good afternoon,

Attached please find our Texas Antiquities Permit application for the above referenced project. Please do not hesitate to contact me should the application require additional information to be submitted. Thanks,

Wayne Boyko

Wayne CJ Boyko

Senior Project Manager

R. Christopher Goodwin & Associates, Inc.

309 Jefferson Highway, Suite A

New Orleans, LA 70121

office: (504) 837-1940

fax: (504) 837-1550

cellular: (504) 201-1714

web: http://www.rcgoodwin.com

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From: Maggie Moore <Maggie.Moore@thc.texas.gov>
To: Wayne Boyko <WBoyko@rcgoodwin.com>
Cc: Bill Martin <Bill.Martin@thc.texas.gov>
Date: 06/09/2020 01:55 PM
Subject: FW: TAP for work in Lower Neches WMA

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Hi Wayne,
I checked with TPWD, and you will need to have them sign the terrestrial permit, GLO does not have the authority to do so in this case. Please submit the permit application and scope of work to TPWD, and then once they have signed it re-submit it to us. Let me know if you have any other questions.
Maggie

Maggie Moore

From: Dennis Gissell <Dennis.Gissell@tpwd.texas.gov>
Sent: Tuesday, June 9, 2020 12:58 PM
To: Michael Strutt <Michael.Strutt@tpwd.texas.gov>; Maggie Moore <Maggie.Moore@thc.texas.gov>
Cc: Bill Martin <Bill.Martin@thc.texas.gov>; Justin Dreibelbis <Justin.Dreibelbis@tpwd.texas.gov>; John Silovsky <John.Silovsky@tpwd.texas.gov>; shaun.seale@glo.texas.gov
Subject: RE: TAP for work in Lower Neches WMA

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Ms. Moore,

Thank you for advising Texas Parks and Wildlife Department (TPWD) about this permit request. TPWD is the landowner on this property, and we are the appropriate entity to review and comment on the permit request as landowner. I assume that the GLO is involved because the requestor intends to survey the open water areas as well. We provided approval in the form of a surface use agreement (SUA) for the applicant to conduct geophysical core tests in their research for a new pipeline easement route, which they could propose to cross TPWD property. The SUA contains a requirement for the archeological survey and the applicant should have been aware that they need to send their proposal for the archeological survey component to TPWD for review here as well.

If you could please forward the permit request and associated proposed survey scope and methods for our review and comment, I would appreciate it.

I will request Dr. Strutt's group review as well, while we are in the process of soliciting applications for the Wildlife Archeologist position.

Thank you
Dennis Gissell

Dennis Gissell

Wildlife Management Areas
Texas Parks & Wildlife Department
4200 Smith School Road
Austin, Texas 78744

512-389-4407

From: Michael Strutt <Michael.Strutt@tpwd.texas.gov>
Sent: Tuesday, June 9, 2020 12:16 PM
To: Maggie Moore <Maggie.Moore@thc.texas.gov>
Cc: Bill Martin <Bill.Martin@thc.texas.gov>; Dennis Gissell <Dennis.Gissell@tpwd.texas.gov>
Subject: RE: TAP for work in Lower Neches WMA

Maggie,

I have copied here Dennis Gissell the director of facilities for WMAs. He can inform you of whom should be signing this permit. I am not familiar with it.

M

Michael Strutt
Michael Strutt Ph.D.
Director Cultural Resources Program
Texas Parks and Wildlife Dept.
512-389-4736
4200 Smith School Rd
Austin, Tx 78744

From: Maggie Moore <Maggie.Moore@thc.texas.gov>
Sent: Wednesday, June 3, 2020 7:41 AM
To: Michael Strutt <Michael.Strutt@tpwd.texas.gov>
Cc: Bill Martin <Bill.Martin@thc.texas.gov>
Subject: TAP for work in Lower Neches WMA

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Hi Michael,
I received a Texas Antiquities Permit application from a pipeline going through the Lower Neches WMA. They have obtained a special use permit from TPWD. However, they had the GLO sign the TAP as the land owner, apparently at the direction of Shaun Seale over at the GLO. I just wanted to check with you, since typically the owning agency is responsible for signing the permit application. Should they be contacting TPWD directly for permit signatures, or is there some agreement you have with the GLO for stepping in?

Thank you,
Maggie

TEXAS HISTORICAL COMMISSION
REAL PLACES TELLING REAL STORIES

Maggie Moore
Terrestrial Archeologist
Archeology Division
P.O. Box 12276, Austin, Texas, 78711-2276
Phone: +1 512 463 6508
thc.texas.gov

From: Maggie Moore <Maggie.Moore@thc.texas.gov>
To: Dennis Gissell <Dennis.Gissell@tpwd.texas.gov>, Wayne Boyko <WBoyko@rcgoodwin.com>
Cc: Bill Martin <Bill.Martin@thc.texas.gov>, Michael Strutt <Michael.Strutt@tpwd.texas.gov>
Date: 06/15/2020 09:28 AM
Subject: RE: TAP for work in the Lower Neches WMA

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Hi all,

Just a reminder, we will need TPWD to sign the permit application as the landowner.

Maggie

TEXAS HISTORICAL COMMISSION
REAL PLACES TELLING REAL STORIES

Maggie Moore
Terrestrial Archeologist
Archeology Division
P.O. Box 12276, Austin, Texas, 78711-2276
Phone: +1 512 463 6508
thc.texas.gov

From: Dennis Gissell <Dennis.Gissell@tpwd.texas.gov>
Sent: Monday, June 15, 2020 9:27 AM
To: Wayne Boyko <WBoyko@rcgoodwin.com>
Cc: Maggie Moore <Maggie.Moore@thc.texas.gov>; Bill Martin <Bill.Martin@thc.texas.gov>; Michael Strutt <Michael.Strutt@tpwd.texas.gov>
Subject: RE: TAP for work in the Lower Neches WMA

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Dr. Boyko,

Thank you. You might add “artifacts” to the items that would be curated with TPWD and I think that will be fine. If you agree, please make that last change and send it on to THC and note our approval.

Thank you

Dennis Gissell

Dennis Gissell
Wildlife Management Areas
Texas Parks & Wildlife Department
4200 Smith School Road
Austin, Texas 78744

512-389-4407

From: Wayne Boyko <WBoyko@rcgoodwin.com>
Sent: Friday, June 12, 2020 12:03 PM
To: Dennis Gissell <Dennis.Gissell@tpwd.texas.gov>
Cc: Maggie Moore <Maggie.Moore@thc.texas.gov>; Bill Martin <Bill.Martin@thc.texas.gov>; Michael Strutt <Michael.Strutt@tpwd.texas.gov>
Subject: RE: TAP for work in the Lower Neches WMA

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Here you go Mr. Gissell. Let me know if there is anything else I can do to facilitate your review. Thanks,

Wayne

Wayne CJ Boyko

Senior Project Manager

R. Christopher Goodwin & Associates, Inc.

309 Jefferson Highway, Suite A

New Orleans, LA 70121

office: (504) 837-1940

fax: (504) 837-1550

cellular: (504) 201-1714

web: http://www.rcgoodwin.com

> From: Dennis Gissell <Dennis.Gissell@tpwd.texas.gov>
> To: Wayne Boyko <WBoyko@rcgoodwin.com>
> Cc: Maggie Moore <Maggie.Moore@thc.texas.gov>, Bill Martin <Bill.Martin@thc.texas.gov>, Michael Strutt <Michael.Strutt@tpwd.texas.gov>
> Date: Fri, 12 Jun 2020 16:43:33 +0000
> Subject: RE: TAP for work in the Lower Neches WMA
>
> **CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.**
>
> Dr. Boykin,
>
> We have reviewed the proposed scope of work for the Texas Antiquities Permit application on the Lower Neches Wildlife Management Area project. Please correct this document to make Texas Parks and Wildlife Department the repository

for the artifacts and records of the project.

Thank you

Dennis Gissell

Dennis Gissell

Wildlife Management Areas

Texas Parks & Wildlife Department

4200 Smith School Road

Austin, Texas 78744

512-389-4407

From: Wayne Boyko <WBoyko@rcgoodwin.com>
Sent: Wednesday, June 10, 2020 3:00 PM
To: Dennis Gissell <Dennis.Gissell@tpwd.texas.gov>
Cc: Maggie Moore <Maggie.Moore@thc.texas.gov>; Bill Martin <Bill.Martin@thc.texas.gov>
Subject: TAP for work in the Lower Neches WMA

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Mr. Gissell,

As Maggie Moore has indicated to me, I am forwarding our Texas Antiquities Permit application to you along with our scope of work to you for review. If you require any additional information, or have any questions regarding the project, please do not hesitate to contact me. Thank you,

Wayne

Wayne CJ Boyko, PhD, RPA

Senior Project Manager

R. Christopher Goodwin & Associates, Inc.

309 Jefferson Highway, Suite A

New Orleans, LA 70121

office: (504) 837-1940

fax: (504) 837-1550

cellular: (504) 201-1714

web: http://www.rcgoodwin.com

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From:	Amy Borgens
To:	Steve Schmidt
Subject:	9418 Table 5 Revisions
Date:	Wednesday, June 17, 2020 5:21:56 PM
Attachments:	Port-Arthur-News-Feb-27-1933-p-1.jpg thc_email_signature_twitter_18px_a0320705-84ac-453d-b948-ce7b9ec24d9b.png thc_email_signature_yt_18px_87f9dc8d-8149-47b9-988d-88c487090614.png thc_email_signature_li_18px_5bdd2c5b-c609-480e-a872-4fe1572cd908.png Port-Arthur-News-Feb-27-1933-p-2.jpg thc_email_signature_ig_18px_b246144c-2e4c-4e72-a377-d3dbb77f8934.png 1920 Nov 27_Utina Adrift and Later Sinking_Galveston Tribune_Page 4.pdf thc_email_signature_fb_18px_f52434f2-a1bc-4678-9a22-33dd4606f18b.png thc_email_signature_url_2_9467b7d4-3cf0-4ad6-a56a-a173b9a5102c.png thc_email_signature_email_18px_61592cdc-f8f6-43c2-83c5-648830375491.png thc_email_logo_65px_e6b590e5-b608-48df-a46f-bbaf70308c09.png

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Steve,

As a follow-up to my earlier letter and our phone call, I have finished making updates to the Marine Archeology Program Shipwreck Database hosted in Atlas. As I mentioned on the phone, there were about a dozen Sabine Lake area wrecks that were missplotted about 150 miles off Freeport – these have all been rectified and replotted. Many of these already occurred in the SOW, not as THC file wrecks but from the Encyclopedia of American Shipwrecks. These revisions will therefore effect both parts of Table 5. In summary:

1. A dozen Sabine area shipwrecks were miss-plotted about 150 miles off of Freeport, Texas – these have all been relocated so you may want to check their proximity to the project area.
2. All of the coordinates and positional accuracies for the THC Shipwrecks have been updated. The "date of loss" category for charted shipwrecks (pre-dates) have also been revised. Please look up the Table 5 THC entries and double-check this information as it may need correction.
3. *Clarke Oil Tank No. 2* and *Motto* from Bergman and are THC Nos. 184 and 394. Both are at the town of Sabine which is closer to Sabine Pass.
4. *Humble*, *John I Brady* (this is a tug) are also in both Berman and the THC database. These vessels and *Dallas* (barge) and *Shenango* (not in these lists) were all lost at Texaco Island at Port Arthur in 1911 when *Humble* caught fire. It does not appear that you are listing shipwrecks in this area, however.
5. *City of Houston* is THC No. 178 and it is wrecked at Orange. I am confused as to its inclusion as the 21 THC shipwrecks in the river between Sabine Lake and No. 178 are omitted – most of which are WWI archeological sites.
6. *Hattie* (1898). Nor sure why a shipwreck near the Sabine lighthouse would be included – there are many THC shipwrecks in this area that are not included. This wreck has not yet been confirmed through research.
7. *Versa* is THC No. 521, lost in the Sabine River near Keith Lake – this is a pretty interesting vessel though it is somewhat south of the APE.
8. *Utina* is not a schooner but an Emergency Fleet Corporation steamship that was converted into a barge. This vessel sank in Aransas Pass in 1920. The NMR is greatly in error on this shipwreck as it was only adrift in Sabine Lake before being towed. This is THC No. 2430 but THC No. 512 may also be part of its wreckage (site no. 41NU292). See attached article – entry starts at the bottom of the first column.
9. *Albania*. This vessel was not in the THC database and has been added as No. 2560. It is plotted at Port Arthur, in the canal, halfway between the city itself and the historic docks – as described in the Galveston Daily News account.
10. *Santa Fez* has not yet been confirmed through research.

I will let you know if I have other additions or revisions.

Regards,

Amy

TEXAS HISTORICAL COMMISSION
REAL PLACES TELLING REAL STORIES

Amy Borgens
State Marine Archeologist
Archeology Division
P.O. Box 12276, Austin, Texas, 78711-2276
Phone: +1 512 463 9505
Fax: +1 512 463 8927
thc.texas.gov

From:	Katherine Clevenger
To:	Amy Borgens
Cc:	Steve Schmidt
Subject:	RE: Etrac
Date:	Thursday, March 26, 2020 1:43:05 PM
Attachments:	thc_email_signature_twitter_18px_a0320705-84ac-453d-b948-ce7b9ec24d9b.png thc_email_signature_yt_18px_87f9dc8d-8149-47b9-988d-88c487090614.png image003.png thc_email_signature_li_18px_5bdd2c5b-c609-480e-a872-4fe1572cd908.png image006.png thc_email_signature_email_18px_61592cdc-f8f6-43c2-83c5-648830375491.png thc_email_signature_ig_18px_b246144c-2e4c-4e72-a377-d3dbb77f8934.png image004.png thc_email_signature_fb_18px_f52434f2-a1bc-4678-9a22-33dd4606f18b.png thc_email_signature_url_2_9467b7d4-3cf0-4ad6-a56a-a173b9a5102c.png image008.png image007.png image002.png image005.png thc_email_logo_65px_e6b590e5-b608-48df-a46f-bbaf70308c09.png image001.png

---

Hi Amy,

The tracking number is 202009823. The project has terrestrial and underwater components.

Best,
Katie

Katherine L. Clevenger, M.A.
Nautical Archaeologist

241 East 4th Street, Suite 100
Frederick, MD 21701
O: (301) 694-0428 ext. 206
C: (301) 514-1290
F: (301) 695-5237
www.rcgoodwin.com

> From: Amy Borgens <Amy.Borgens@thc.texas.gov>
> To: Katherine Clevenger <KClevenger@rcgoodwin.com>
> Date: Thu, 26 Mar 2020 16:53:29 +0000
> Subject: RE: Etrac
>
> **CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.**
>
> Katie,
>
> The THC is working from home and eTRAC is still up and running. I do not see the LOPEX project in my review queue. Do you have the tracking no. for this?
>
> Regards,
>
> Amy

Amy Borgens
State Marine Archeologist
Archeology Division
P.O. Box 12276
P: 512-463-9505
F: 512-463-8927
thc.texas.gov

Amy Borgens
State Marine Archeologist
Archeology Division
P.O. Box 12276, Austin, Texas, 78711-2276
Phone: +1 512 463 9505

Fax: +1 512 463 8927
thc.texas.gov

From: Katherine Clevenger <KClevenger@rcgoodwin.com>
Sent: Wednesday, March 25, 2020 11:14 AM
To: Amy Borgens <Amy.Borgens@thc.texas.gov>
Subject: Etrac

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Good morning Amy,

We recently submitted an introduction letter for the upcoming LOPEX Project in Sabine Lake. Due to various shutdowns related to COVID, we wanted to verify that the ETrac system is still operational at this time and projects are still being reviewed. Thanks and hope you stay healthy.

Best,

Katie

Katherine L. Clevenger, M.A.

Nautical Archaeologist

241 East 4th Street, Suite 100

Frederick, MD 21701

O: (301) 694-0428 ext. 206

C: (301) 514-1290

F: (301) 695-5237

www.rcgoodwin.com

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From:	Amy Borgens
To:	Steve Schmidt
Cc:	Owen Wright (OWright@rcgoodwin.com)
Subject:	RE: Antiquities Permit Application LOPEX (La Grange PS&I Nederland to Stingray) Project - Antiquities Permit No. 9471
Date:	Wednesday, June 3, 2020 7:20:21 PM
Attachments:	image005.png image006.png thc_email_logo_65px_e6b590e5-b608-48df-a46f-bbaf70308c09.png image009.png thc_email_signature_twitter_18px_a0320705-84ac-453d-b948-ce7b9ec24d9b.png thc_email_signature_ig_18px_b246144c-2e4c-4e72-a377-d3dbb77f8934.png thc_email_signature_email_18px_61592cdc-f8f6-43c2-83c5-648830375491.png image001.png image002.png thc_email_signature_url_2_9467b7d4-3cf0-4ad6-a56a-a173b9a5102c.png image007.png image003.png thc_email_signature_fb_18px_f52434f2-a1bc-4678-9a22-33dd4606f18b.png thc_email_signature_yt_18px_87f9dc8d-8149-47b9-988d-88c487090614.png image004.png image008.png thc_email_signature_li_18px_5bdd2c5b-c609-480e-a872-4fe1572cd908.png Antiquities Permit_9471 PI Waiver_Borgens.pdf

---

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Hello Owen and Steve,

Thanks for chatting today. I have attached a letter waiving the PI requirement for permit no. 9471

Regards,

Amy

TEXAS HISTORICAL COMMISSION
REAL PLACES TELLING REAL STORIES

Amy Borgens
State Marine Archeologist
Archeology Division
P.O. Box 12276, Austin, Texas, 78711-2276
Phone: +1 512 463 9505
Fax: +1 512 463 8927
thc.texas.gov

From: Steve Schmidt <sschmidt@rcgoodwin.com>
Sent: Wednesday, June 3, 2020 1:09 PM
To: Amy Borgens <Amy.Borgens@thc.texas.gov>
Cc: Owen Wright (OWright@rcgoodwin.com) <OWright@rcgoodwin.com>
Subject: RE: Antiquities Permit Application LOPEX (La Grange PS&I Nederland to Stingray) Project - Antiquities Permit No. 9471

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Hi Amy,

Let us know if we should call your office number and if there is a particular time after 4pm (CST) that best fits into your schedule.

Best regards,

Steve

James "Steve" Schmidt M.A.
Senior Nautical Archaeologist
R. Christopher Goodwin & Associates, Inc.
241 East 4th Street, Suite 100
Frederick, MD 21701
O: (301) 694-0428 ext. 226
C: (301) 514-9014
F: (301) 695-5237
www.rcgoodwin.com

From: Amy Borgens <Amy.Borgens@thc.texas.gov>
Sent: Wednesday, June 3, 2020 1:08 PM
To: Steve Schmidt <sschmidt@rcgoodwin.com>
Cc: Owen Wright (OWright@rcgoodwin.com) <OWright@rcgoodwin.com>
Subject: RE: Antiquities Permit Application LOPEX (La Grange PS&I Nederland to Stingray) Project - Antiquities Permit No. 9471

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Steve,

I am available after 4 pm today.

Amy

Amy Borgens
State Marine Archeologist
Archeology Division
P.O. Box 12276, Austin, Texas, 78711-2276
Phone: +1 512 463 9505
Fax: +1 512 463 8927

thc.texas.gov

From: Steve Schmidt <sschmidt@rcgoodwin.com>
Sent: Wednesday, June 3, 2020 11:20 AM
To: Amy Borgens <Amy.Borgens@thc.texas.gov>
Cc: Owen Wright (OWright@rcgoodwin.com) <OWright@rcgoodwin.com>
Subject: RE: Antiquities Permit Application LOPEX (La Grange PS&I Nederland to Stingray) Project - Antiquities Permit No. 9471

CAUTION: External Email – This email originated from outside the THC email system. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Amy,

Would you be available for a short phone call this afternoon. We have some questions about the permit and COVID concerns and policy.

We're available today any time after 2:30 pm (CST).

Best regards,

Steve

James "Steve" Schmidt M.A.

Senior Nautical Archaeologist

R. Christopher Goodwin & Associates, Inc.

241 East 4th Street, Suite 100

Frederick, MD 21701

O: (301) 694-0428 ext. 226

C: (301) 514-9014

F: (301) 695-5237

www.rcgoodwin.com

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TEXAS HISTORICAL COMMISSION
real places telling real stories

23-Jul-20

Peter Cropley
R. Christopher Goodwin & Associates, Inc.
241 East 4th ST., Suite 100
Frederick, MD 21701

Re: Project review under the Antiquities Code of Texas
Final Report: La Grange PS&I NederLand to Stingray Pipeline Project
Texas Antiquities Permit # 9496

Dear Colleague:

Thank you for your Antiquities Permit Application for the above referenced project. This letter presents the final copy of the permit from the Executive Director of the Texas Historical Commission (THC), the state agency responsible for administering the Antiquities Code of Texas.
Please keep this copy for your records. The Antiquities Permit investigations requires the production and submittal of one printed copy of the final report, a completed abstract form submitted via our online system, two copies of the tagged PDF final report on CD (one with site location information & one without), and verification that any artifacts recovered and records produced during the investigations are curated at the repository listed in the permit. The abstract form maybe submitted via the THC website (www.thc.state.tx.us) or use url:
http://xapps.thc.state.tx.us/Abstract/login.aspx
Additionally, you must send the THC shapefiles showing the boundaries of the project area and the areas actually surveyed via email to archeological_projects@thc.texas.gov.

If you have any questions concerning this permit or if we can be of further assistance, please contact the reviewer, Maggie Moore at (512) 463-6508.

Sincerely,

Laney Fisher:
Antiquities Permit Coordinator
(512) 463-5394

Enclosures

Cc :Parks and Wildlife Department
EXP

State of Texas

TEXAS ANTIQUITIES COMMITTEE

ARCHEOLOGY PERMIT #9496

This permit is issued by the Texas Historical Commission, hereafter referred to as the Commission, represented herein by and through its duly authorized and empowered representatives. The Commission, under authority of the Texas Natural Resources Code, Title 9, Chapter 191, and subject to the conditions hereinafter set forth, grants this permit for:

Intensive Survey

To be performed on a potential or designated landmark or other public land known as:

Title: ***La Grange PS&I NederLand to Stingray Pipeline Project***
County: ***Jefferson***
Location: ***Lower Neches WMA, Jefferson and Orange Counties, Texas***

Owned or Controlled by: (hereafter known as the Permittee):

Parks and Wildlife Department
4200 Smith School Rd
Austin, Tx 78744

Sponsored by (hereafter known as the Sponsor

EXP
1800 West Loop South, Suite 850
Houston, TX 77027

The Principal Investigator/Investigation Firm representing the Owner or Sponsor is:

Peter Cropley
R. Christopher Goodwin & Associates, Inc.
241 East 4th ST., Suite 100
Frederick, MD 21701

This permit is to be in effect for a period of:

2 Years and 0 Months

and Will Expire on:

06/25/2022

During the preservation, analysis, and preparation of a final report or until further notice by the Commission, artifacts, field notes, and other data gathered during the investigation will be kept temporarily at:

R. Christopher Goodwin & Associates, Inc.

Upon completion of the final permit report, the same artifacts, field notes, and other data will be placed in a permanent curatorial repository at:

Texas Parks and Wildlife Department-Archeology Laboratory

Scope of Work under this permit shall consist of:

An intensive pedestrian archaeological survey with shovel testing of high probability areas that meets or exceeds the State Archeological Survey Standards for Texas. This includes, subsurface shovel testing of pedestrian survey transects and mechanical testing in appropriate alluvial areas. For details, see scope of work submitted with permit application.

ARCHEOLOGY PERMIT #9496

This permit is granted on the following terms and conditions:

1) This project must be carried out in such a manner that the maximum amount of historic, scientific, archeological, and educational information will be recovered and preserved and must include the scientific, techniques for recovery, recording, preservation and analysis commonly used in archeological investigations. All survey level investigations must follow the state survey standards and the THC survey requirements established with the projects sponsor(s).

2) The Principal Investigator/Investigation Firm, serving for the Owner/Permittee and/or the Project Sponsor, is responsible for insuring that specimens, samples, artifacts, materials and records that are collected as a result of this permit are appropriately cleaned, and cataloged for curation. These tasks will be accomplished at no charge to the Commission, and all specimens, artifacts, materials, samples, and original field notes, maps, drawings, and photographs resulting from the investigations remain the property of the State of Texas, or its political subdivision, and must be curated at a certified repository. Verification of curation by the repository is also required, and duplicate copies of any requested records shall be furnished to the Commission before any permit will be considered complete.

3) The Principal Investigator/Investigation Firm serving for the Owner/Permittee, and/or the Project Sponsor is responsible for the publication of results of the investigations in a thorough technical report containing relevant descriptions, maps, documents, drawings, and photographs. A draft copy of the report must be submitted to the Commission for review and approval. Any changes to the draft report requested by the Commission must be made or addressed in the report, or under separate written response to the Commission. Once a draft has been approved by the Commission, one (1) printed, unbound copy of the final report containing at least one map with the plotted location of any and all sites recorded and two copies of the report in tagged PDF format on an archival quality CD or DVD shall be furnished to the commission. One copy must include the plotted location of any and all sites recorded and the other should not include the site location data. A paper copy and an electronic copy of the completed Abstracts in Texas Contract Archeology Summary Form must also be submitted with the final report to the Commission. (Printed copies of forms are available from the Commission or also online at www.thc.state.tx.us.)

4) If the Owner/Permittee, Project Sponsor or Principal Investigator/Investigation Firm fails to comply with any of the Commission's Rules of Practice and Procedure or with any of the specific terms of this permit, or fails to properly conduct or complete this project within the allotted time, the permit will fall into default status. A notification of Default status shall be sent to the Principal Investigator/Investigation Firm, and the Principal Investigator will not be eligible to be issued any new permits until such time that the conditions of this permit are complete or, if applicable, extended.

5) The Owner/Permittee, Project Sponsor, and Principal Investigator/Investigation Firm, in the conduct of the activities hereby authorizes, must comply with all laws, ordinances and regulations of the State of Texas and of its political subdivisions including, but not limited to, the Antiquities Code of Texas; they must conduct the investigation in such a manner as to afford protection to the rights of any and all lessees or easement holders or other persons having an interest in the property and they must return the property to its original condition insofar as possible, to leave it in a state which will not create hazard to life nor contribute to the deterioration of the site or adjacent lands by natural forces.

6) Any duly authorized and empowered representative of the Commission may, at any time, visit the site to inspect the fieldwork as well as the field records, materials, and specimens being recovered.

7) For reasons of site security associated with historical resources, the Project Sponsor (if not the Owner/Permittee), Principal Investigator, Owner, and Investigation Firm shall not issue any press releases, or divulge to the news media, either directly or indirectly, information regarding the specific location of, or other information that might endanger those resources, or their associated artifacts without first consulting with the Commission, and the State agency or political subdivision of the State that owns or controls the land where the resource has been discovered.

8) This permit may not be assigned by the Principal Investigator/Investigation Firm, Owner/Permittee, or Project Sponsor in whole, or in part to any other individual, organization, or corporation not specifically mentioned in this permit without the written consent of the Commission.

9) Hold Harmless: The Owner/Permittee hereby expressly releases the State and agrees that Owner/Permittee will hold harmless, indemnify, and defend (including reasonable attorney's fees and cost of litigation) the State, its officers, agents, and employees in their official and/or individual capacities from every liability, loss, or claim for damages to persons or property, direct or indirect of whatsoever nature arising out of, or in any way connected with, any of the activities covered under this permit.The provisions of this paragraph are solely for the benefit of the State and the Texas Historical Commission and are not intended to create or grant any rights, contractual or otherwise, to any other person or entity.

10) Addendum: The Owner/Permittee, Project Sponsor and Principal Investigator/Investigation Firm must abide by any addenda hereto attached.

Upon a finding that it is in the best interest of the State, this permit is issued on 06/25/2020.

Brad Jones,
Archeology Division Director

Mark Wolfe,
Executive Director

Texas General Lands Office (GLO)

From: Shaun Seale <Shaun.Seale@GLO.TEXAS.GOV>
To: Wayne Boyko <WBoyko@rcgoodwin.com>
Date: 04/02/2020 08:54 AM
Subject: RE: [EXTERNAL] follow up to phone message

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You're welcome

Shaun Seale, MPA
Manager of Inventory and Sovereign Dispositions
Asset Management
Texas General Land Office
P.O. Box 12873
Austin, Texas 78711-2873
phone (512) 463-5174
shaun.seale@glo.texas.gov

"Quality is never an accident; it is always the result of high intention, sincere effort, intelligent direction and skillful execution; it represents the wise choice of many alternatives."

From: Wayne Boyko <WBoyko@rcgoodwin.com>
Sent: Wednesday, April 1, 2020 3:24 PM
To: Shaun Seale <Shaun.Seale@GLO.TEXAS.GOV>
Subject: RE: [EXTERNAL] follow up to phone message

Thank you!

Wayne

Wayne CJ Boyko

Senior Project Manager

R. Christopher Goodwin & Associates

309 Jefferson Highway, Suite A

New Orleans, LA 70121

office: (504) 837-1940

fax: (504) 837-1550

cellular: (504) 201-1714

web: http://www.rcgoodwin.com

From: Shaun Seale <Shaun.Seale@GLO.TEXAS.GOV>
To: Wayne Boyko <WBoyko@rcgoodwin.com>
Date: Wed, 1 Apr 2020 20:08:07 +0000
Subject: RE: [EXTERNAL] follow up to phone message

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Attached please find the signed authorization form and signed antiquities permit. Thanks

---

From: Wayne Boyko <WBoyko@rcgoodwin.com>
Sent: Monday, March 16, 2020 1:36 PM
To: Shaun Seale <Shaun.Seale@GLO.TEXAS.GOV>
Cc: Komi.Hassan@exp.com; Michael Aubele <Mike.Aubele@exp.com>; Steve Schmidt <sschmidt@rcgoodwin.com>; Peter Cropley <pcropley@rcgoodwin.com>
Subject: RE: [EXTERNAL] follow up to phone message

Thanks Shaun. It is attached.

Wayne

Wayne CJ Boyko

Senior Project Manager

R. Christopher Goodwin & Associates

309 Jefferson Highway, Suite A

New Orleans, LA 70121

office: (504) 837-1940

fax: (504) 837-1550

cellular: (504) 201-1714

web: http://www.rcgoodwin.com

From: Shaun Seale <Shaun.Seale@GLO.TEXAS.GOV>
To: Wayne Boyko <WBoyko@rcgoodwin.com>
Cc: "Komi.Hassan@exp.com" <Komi.Hassan@exp.com>, Michael Aubele <Mike.Aubele@exp.com>
Date: Mon, 16 Mar 2020 17:02:44 +0000

Subject: RE: [EXTERNAL] follow up to phone message

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Wayne, please complete and notarize the attached Authorization form. Thanks

Shaun Seale, MPA

Manager of Inventory and Sovereign Dispositions

Asset Management

Texas General Land Office

P.O. Box 12873

Austin, Texas 78711-2873

phone (512) 463-5174

shaun.seale@glo.texas.gov

"Quality is never an accident; it is always the result of high intention, sincere effort, intelligent direction and skillful execution; it represents the wise choice of many alternatives."

From: Wayne Boyko <WBoyko@rcgoodwin.com>
Sent: Thursday, March 12, 2020 12:52 PM
To: Shaun Seale <Shaun.Seale@GLO.TEXAS.GOV>
Cc: Komi.Hassan@exp.com; Michael Aubele <Mike.Aubele@exp.com>
Subject: RE: [EXTERNAL] follow up to phone message

Ms. Seale,

Attached please find the completed Antiquities Permit Application Form - Archeology and our Scope of Work/Research Design for the project. Please let me know if there is anything else your office requires. Thank you,

Wayne

Wayne CJ Boyko

Senior Project Manager

R. Christopher Goodwin & Associates

309 Jefferson Highway, Suite A

New Orleans, LA 70121

office: (504) 837-1940

fax: (504) 837-1550

cellular: (504) 201-1714

web: http://www.rcgoodwin.com

From: Shaun Seale <Shaun.Seale@GLO.TEXAS.GOV>
To: Wayne Boyko <WBoyko@rcgoodwin.com>
Date: Thu, 12 Mar 2020 11:42:24 +0000
Subject: RE: [EXTERNAL] follow up to phone message

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Mr. Boyko, please complete the attached form and return it with you Scope of Work. Thank you.

Shaun Seale, MPA

Manager of Inventory and Sovereign Dispositions

Asset Management

Texas General Land Office

P.O. Box 12873

Austin, Texas 78711-2873

phone (512) 463-5174

shaun.seale@glo.texas.gov

"Quality is never an accident; it is always the result of high intention, sincere effort, intelligent direction and skillful execution; it represents the wise choice of many alternatives."

From: Wayne Boyko <WBoyko@rcgoodwin.com>
Sent: Wednesday, March 11, 2020 4:33 PM
To: Shaun Seale <Shaun.Seale@GLO.TEXAS.GOV>
Subject: [EXTERNAL] follow up to phone message

Good afternoon Ms. Seale,

Basically I am looking for the GLO Authorization to Conduct Terrestrial Archeology that I can fill out and return to you with the Scope of Work. This project is associated with the nautical archeological investigation that I believe Katie Clevinger from our Frederick office has talked with you about. Thanks,

Wayne

Wayne CJ Boyko

Senior Project Manager

R. Christopher Goodwin & Associates

309 Jefferson Highway, Suite A

New Orleans, LA 70121

office: (504) 837-1940

fax: (504) 837-1550

cellular: (504) 201-1714

web: http://www.rcgoodwin.com

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From:	Steve Schmidt
To:	amy.nunez@glo.texas.gov
Cc:	Owen Wright (OWright@rcgoodwin.com); Christopher Dvorscak (CDvorscak@rcgoodwin.com)
Subject:	General Authorization to Conduct Underwater Archeology No. 20-011
Date:	Friday, June 12, 2020 11:37:00 AM
Attachments:	image002.png

Good morning Ms. Nunez,

In accordance with GLO Permit No. 20-011, this e-mail serves as notification of cultural resources survey work commencing in Sabine Lake. The work will consist of remote sensing data collection and will have no impacts to the lake bottom. Due to COVID-19 travel restrictions, our existing survey crew plans to complete survey operations by no later than Wednesday, June 17.

Please let us know if you have questions.

Best regards,
Steve

James "Steve" Schmidt M.A.
Senior Nautical Archaeologist
R. Christopher Goodwin & Associates, Inc.
241 East 4th Street, Suite 100
Frederick, MD 21701
O: (301) 694-0428 ext. 226
C: (301) 514-9014
F: (301) 695-5237
www.rcgoodwin.com

Texas Parks and Wildlife Department (TPWD)

Allen Brooks

From: Michael Aubele
Sent: Tuesday, March 31, 2020 9:20 PM
To: Allen Brooks; Ryan Coleman
Subject: Fwd: ET LOPEX Project Benthic Survey Protocol

Follow Up Flag: Follow up
Flag Status: Flagged

FYI.

-------- Original message --------
From: Jan Culbertson <Jan.Culbertson@tpwd.texas.gov>
Date: 3/31/20 4:47 PM (GMT-06:00)
To: Michael Aubele <Mike.Aubele@exp.com>
Cc: Mike Morgan <Mike.Morgan@tpwd.texas.gov>
Subject: RE: ET LOPEX Project Benthic Survey Protocol

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That is good news.

We would appreciate the shape files of whatever data you collect.

Thanks, Jan

From: Michael Aubele <Mike.Aubele@exp.com>
Sent: Tuesday, March 31, 2020 3:50 PM
To: Jan Culbertson <Jan.Culbertson@tpwd.texas.gov>
Cc: Mike Morgan <Mike.Morgan@tpwd.texas.gov>
Subject: RE: ET LOPEX Project Benthic Survey Protocol

ALERT: This email came from an external source. Do not open attachments or click on links in unknown or unexpected emails.

Thanks. Jan. I was on the phone with Brett earlier and he mentioned you talked through some of these and they were going to modify based on some of that discussion.

Will let you know if any questions and I told Brett to just send to you directly once he made the suggested changes and modifications.

Thanks.

Mike

From: Jan Culbertson <Jan.Culbertson@tpwd.texas.gov>
Sent: Tuesday, March 31, 2020 3:41 PM
To: Michael Aubele <Mike.Aubele@exp.com>
Cc: Mike Morgan <Mike.Morgan@tpwd.texas.gov>
Subject: RE: ET LOPEX Project Benthic Survey Protocol

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good Afternoon Mr. Aubele, My responses to your questions are next to your text below. No photograph of the patent tong was attached to your email.

Are these the photographs you intended to send me?


03 16 2020

TPWD has had many discussions with Benchmark on their patent tongs with specifications (enclosed).

Benchmark was going to be using these specific patent tongs to take four samples per acre at least 150 feet apart on each hard bottom target that was identified in their side scan sonar and subbottom profile results for another applicant in a different bay system, and I recommend you use the same methodology they used for your project.

This photograph shows a ruler measuring Benchmark's tongs as approximately 20 inches by 20 inches wide which is 50 cm by 50 cm wide which is what their specifications sheet enclosed also indicates. However, this jaw extension with hydraulic pressure provides the 0.25 meter square sample of the bottom as indicated in the oyster protocols they submitted to you because they calibrated it to that sample size.

I have recommended Benchmark amend their current scientific collection permit **SPR-1190-312** to include patent tongs which it did not currently have listed as a collection device for oysters so they are authorized to use this equipment in Texas State waters. We are currently working with them on getting that done today.

As TPWD has not formalized our specifications on the patent tongs in our oyster survey protocols and this document is considered "a work in progress", the dimensions or size of the patent tong is not as important as that it has been calibrated to collect a minimum sampling size on the bottom that measures 0.25 square meters. TPWD's patent tongs' jaw extents on the surface 0.3 meters by 0.5 meters wide (11.8 inches by 19.7 inches) but has been compared to our diver quadrats of 0.25 square meters on the bottom. So the shape of the jaws or the width at this point in time is not as important as what the patent tong is measuring on the bottom to substitute for diver quadrats.

Answers to your questions:

• Are non-Crassostrea shell species to be counted or documented?
Ans: Qualitative documentation of other benthic or sessile organisms is beneficial to any oyster assessment but we do not require you to count or measure them. Notation of abundance is always useful information. If a non-native or invasive species were attached to the shell (zebra mussel or tunicate) that might be important information to transmit to the resource agencies. Also if there was a great deal of ribbed mussels, boring sponge, boring clams (tons of holes in dead shell), or large numbers of Florida rock snail that might be important information to know about competitors or predator populations that may impact oyster mortality or survival in your sampling area.

• The dimensions for the gap of the patent oyster tongs is listed as 50 cm by 50 cm or 11.7 inches by 11.7 inches. These are conflicting measurements. We currently possess two sets of 50cm x 50cm (open jaw)/ 0.25 square meter hydraulic oyster tongs (pics attached). Will this be acceptable?
Ans: yes as discussed above. Those numbers were misinformation communicated to me. Benchmark straightened this question out today.

• Data can be converted and reported in Imperial units, but TPWD recommends measuring oysters in group sizes defined by metric millimeters. Please specify what units would be preferred for what datasets so we can make it as easy for the agency as possible.
Ans: If you are using calipers to measure the oysters those measurements are most likely in mm. those can be converted to size classes in inches easily. If this report were being provided to the USACE for permitting they may want it in inches. However if you are just determining how many oysters are in each size class per acre of bottom habitat then categorize them into size class bins is universally accepted method for transmittal of data to TPWD or the USACE.
0-1.57 inches = 0-40 mm Spat;
1.58-2.99 inches = 40.1-75.9 mm Juvenile or Sub-market; (Louisiana refers to this size class as Seed oysters). TPWD does not for resource management data but will accept this terminology)
>= 3.0 inches = >=76 mm Market

If you have any further questions please let me know. I am working from home so please call 281-910-9997 if you want to discuss over phone.

Best regards, Jan

From: Michael Aubele <Mike.Aubele@exp.com>
Sent: Tuesday, March 31, 2020 8:47 AM
To: Jan Culbertson <Jan.Culbertson@tpwd.texas.gov>
Subject: RE: ET LOPEX Project Benthic Survey Protocol

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Jan,

A couple questions while we are revising the methodology. Can you provide clarification for those below? Thanks.

- Are non-Crassostrea shell species to be counted or documented? Ans: Qualitative documentation of other benthic or sessile organisms is always helpful to an evaluation but we do not require you to count them. If Zebra mussels or some other invasive species were attached that might be important information to transmit to the resource agencies. Also if there was a great deal of ribbed mussels, boring sponge, boring clams (tons of holes in dead shell), or Florida rock snail that might be important information to know that the predator population is high and oyster population is impacted by these benthic organisms.

- The dimensions for the gap of the patent oyster tongs is listed as 50 cm by 50 cm or 11.7 inches by 11.7 inches. These are conflicting measurements. We currently possess two sets of 50cm x 50cm (open jaw)/ 0.25 square meter hydraulic oyster tongs (pics attached). Will this be acceptable? Ans: yes the dimensions I gave you were provided by one of your partners that sent us a photograph of these same patent tongs and also gave us those dimensions. That means they were giving us slightly inaccurate information. You might want to tell Ryan McCarthy that you did not convert the cm to inches

- Data can be converted and reported in Imperial units, but TPWD recommends measuring oysters in group sizes defined by metric millimeters. Please specify what units would be preferred for what datasets so we can make it as easy for the agency as possible.

Michael C. Aubele
EXP | Vice President, Environmental and Regulatory
m : +1.713.985.9914 | e : Mike.Aubele@exp.com

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From: Jan Culbertson <Jan.Culbertson@tpwd.texas.gov>
Sent: Thursday, March 26, 2020 1:40 PM
To: Michael Aubele <Mike.Aubele@exp.com>
Cc: Minter, Justin D <justin.minter@energytransfer.com>; Mike Morgan <Mike.Morgan@tpwd.texas.gov>; Emma Clarkson <Emma.Clarkson@tpwd.texas.gov>; Bryan Eastham <Bryan.Eastham@tpwd.texas.gov>; Christopher Maldonado <Christopher.Maldonado@tpwd.texas.gov>; Brett Soutar <bsoutar@benchmarkeco.com>
Subject: RE: ET LOPEX Project Benthic Survey Protocol

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Could you please send me a copy of that collection permit or the number assigned to it?

Thanks, Jan

From: Michael Aubele <Mike.Aubele@exp.com>
Sent: Thursday, March 26, 2020 12:26 PM
To: Jan Culbertson <Jan.Culbertson@tpwd.texas.gov>
Cc: Minter, Justin D <justin.minter@energytransfer.com>; Mike Morgan <Mike.Morgan@tpwd.texas.gov>; Emma Clarkson <Emma.Clarkson@tpwd.texas.gov>; Bryan Eastham <Bryan.Eastham@tpwd.texas.gov>; Christopher Maldonado <Christopher.Maldonado@tpwd.texas.gov>; Brett Soutar <bsoutar@benchmarkeco.com>
Subject: Re: ET LOPEX Project Benthic Survey Protocol

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Thanks. I will get with Benchmark and get the methodologies modified. For No. 1, I know they already have a collection permit for TX, but didn't yet for LA. Some of the language between states might be confusing so we will clean that up, too. Thanks and stay safe.

-------- Original message --------
From: Jan Culbertson <Jan.Culbertson@tpwd.texas.gov>
Date: 3/26/20 12:15 PM (GMT-06:00)
To: Michael Aubele <Mike.Aubele@exp.com>
Cc: "Minter, Justin D" <justin.minter@energytransfer.com>, Mike Morgan <Mike.Morgan@tpwd.texas.gov>, Emma Clarkson <Emma.Clarkson@tpwd.texas.gov>, Bryan Eastham <Bryan.Eastham@tpwd.texas.gov>, Christopher Maldonado <Christopher.Maldonado@tpwd.texas.gov>
Subject: RE: ET LOPEX Project Benthic Survey Protocol

Good afternoon Mr. Aubele,

Based on the methodology you sent me on 3-6-20, I have several concerns with your sampling protocols.

1. Your protocols indicate that a LA scientific collection permit is required to sample in LA waters. Please note that a TPWD scientific collection permit is required to sample in Texas State waters. See TAC Title 31, PT 2 TPWD, Ch 69 Resource Protection, Subchapter J Rules for Scientific, Educational, and Zoological Permits. Pleas see attached word document and pwd_0381_w7000 form.

https://tpwd.texas.gov/business/permits/land/wildlife/research/
https://texreg.sos.state.tx.us/public/readtac$ext.ViewTAC?tac_view=5&ti=31&pt=2&ch=69&sch=J&rl=Y

2) I have already indicated to you in earlier email the use of dredges for surveying oyster habitat in Texas waters is not appropriate for determining density of the oysters within the 500-ft buffer around the pipeline right of way that you have included in this survey protocol. Dredges only provide presence or absence information or oysters per hour (catch per unit effort) not numbers per area.

3) TPWD also recommends measuring and reporting numbers of each size class of oysters (spat <40 mm), juveniles (<76 mm) and market sized oysters >76 mm) and determining the numbers of oysters per acre (must be in English standard units for regulatory purposes) from your four diver quadrat samples (0.25 m by 0.25 m or 9.8 inches by 9.8 inches) collected per acre of hard bottom substrate that is verified.

TPWD protocols state: Count the numbers and measure the lengths of live and dead shell brought up by diver or dredge sample.

4) If you choose to use patent tongs as your alternative for diver quadrats the gap of the jaw should be 50 cm by 50 cm or 11.7 inches by 11.7 inches.

5) Photographs of either diver quadrats or patent tong samples at each location are also required in the survey report in addition to coordinates for each location sampled in a table and shape file submitted for our review.

6) You indicate on page 5
"While sub-bottom profiling is not required by LDWF, TPWD may require such data, and it is recommended by LDWF to determine bottom-type where shell does not exist. Use of a 200/50/12 KHz sub-bottom profiler is anticipated to ensure bottom types can be classified as requested by LDWF. Sub-bottom profiles will be tied to DGPS positional information and analyzed to determine start and stop of soft sediments along side-scan survey transects (60m) as well as surface shell. Target points along profiles will be provided as maps and ESRI-compatible shapefiles."

That is a TPWD requirement and is specifically stated in the guidance document dated October 2019. "Sub-bottom Profiler – no specific frequency is mandated for sub-bottom profiler equipment. Only requirement is that sub-bottom profiler is capable of detecting substrate strata type down to a depth of 25 feet."

In conclusion: The more difficult the data submitted is to interpret by TPWD biologist, the longer the review time.

Although sacks may be considered an appropriate unit of density measurement with 180 market sized oysters per sack by Louisiana, that is not an acceptable measure of oyster density in Texas. In a previous study by our game wardens they showed there was a variance of 150 to 300 oysters per sack on harvest landings. These numbers may change from year to year, reef to reef, bay to bay system. No specific number of oysters has been assigned to a sack in Texas. The market value of oysters is not a factor in TPWD's or the USACE's evaluation of oyster impacts. The regulatory agencies want to know how many oysters per area is impacted and how many oysters per area are avoided. Compensatory mitigation is currently one acre for one acre of impact. Not number of sacks impacted or value of those sacks. Oyster populations are composed of all size classes and not just market oysters.

It was brought to my attention that although Science and Resource Agencies often use Metric Units, the USACE Regulatory Program in particular communicates and regulates using English units only.

To avoid inconsistencies and errors from unit conversions by the USACE-regulated public, TPWD will be converting our metric units to English units for the purposes of permit regulatory process even though we may continue to use metric for scientific data that we collect to manage and protect this natural resource.

Please revise your protocols to meet Texas regulations and Texas oyster survey guidance recommendations. Although I have not updated the procedures from October 2019 document, the first page indicates this is "working document subject to change"

If you have any questions, please call my cell phone. 281-910-9997.

Thanks for pre-coordinating your survey protocols with TPWD, Jan

From: Michael Aubele <Mike.Aubele@exp.com>
Sent: Tuesday, March 24, 2020 8:34 AM
To: Jan Culbertson <Jan.Culbertson@tpwd.texas.gov>
Cc: Minter, Justin D <justin.minter@energytransfer.com>
Subject: Re: ET LOPEX Project Benthic Survey Protocol

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Hope you are well. Just wanted to check to see if you have had any availability to review this revised methodology for the benthic survey. When you are able, let us know if any comments or suggestions. Thanks again and take care.

-------- Original message --------
From: Michael Aubele <Mike.Aubele@exp.com>
Date: 3/10/20 9:07 AM (GMT-06:00)
To: Jan Culbertson <Jan.Culbertson@tpwd.texas.gov>, Mike Morgan <Mike.Morgan@tpwd.texas.gov>
Cc: "Minter, Justin D" <JUSTIN.MINTER@energytransfer.com>, Rusty Swafford - NOAA Federal <rusty.swafford@noaa.gov>, Brett Soutar <bsoutar@benchmarkeco.com>
Subject: RE: ET LOPEX Project Benthic Survey Protocol

Attached is a revised protocol/methodology based on your comments below and updates to the proposed plan. Please review and let us and Benchmark know if any additional comments. Thanks!

Mike

From: Jan Culbertson <Jan.Culbertson@tpwd.texas.gov>
Sent: Friday, February 28, 2020 3:45 PM
To: Michael Aubele <Mike.Aubele@exp.com>; Mike Morgan <Mike.Morgan@tpwd.texas.gov>
Cc: Minter, Justin D <JUSTIN.MINTER@energytransfer.com>; Rusty Swafford - NOAA Federal <rusty.swafford@noaa.gov>; Brett Soutar <bsoutar@benchmarkeco.com>
Subject: RE: ET LOPEX Project Benthic Survey Protocol

Hi Mr. Aubele,

Your report indicates on page 1 that you followed guidelines we gave you from the Texas Parks and Wildlife Department's (TPWD) Oyster Reef Survey Techniques for Oil and Gas Installations in Deep Water (August 2018). Those 2018 guidelines are outdated and would not be applicable to your current situation of both shallow and deep water habitat surveys.

TPWD is in the process of revising the October 2019 guidelines (enclosed) so those measures will be consistent with what TPWD presented at the USACE workshop on January 30, 2020 (powerpoint presentation). This presentation includes an outline of the revisions TPWD is developing.

In shallow water situations (less than 3 feet deep) we recommend setting up transect lines spaced 50-feet apart, and then poling the bottom by wading or by skiff using an aluminum pole with flanged end to hit the bottom to identify hard bottom substrate, then bringing each hard bottom sample to the surface using a rake or divers and recording the GPS

position and density of oysters encountered along these transect lines. The collective results of that type of survey may be post processed into a mosaic map of the oyster habitat encountered in shallow water areas.

Although your proposed survey methods indicate you will be surveying 500-feet on either side of the pipeline right of way, please note that if there are any workspaces outside of the pipeline right of way you should survey a buffer zone of 500-feet around entire perimeter of the workspace.

In addition, your survey methods have described the specification of the Biloxi dredge TPWD uses to verify presence or absence of oyster habitat, but that information is only useful if no impacts will be made to the oyster habitat within the footprint of the project site or if the oysters are >500-feet away from the project footprint and all workspaces. TPWD now recommends using 4 (quarter meter square) diver quadrats per acre of hard bottom habitat identified by side scan sonar survey, or 4 (quarter meter square) patent tong samples per acre. Each sample must come to the surface to measure and determine the density (numbers of oysters per acre) of oysters that may be located within the project footprint and workspaces in order to provide an assessment of all oyster habitat impacts. These four samples per acre of hard bottom habitat must be spaced at least 150-feet apart within that one acre sample area.

The side scan survey data will only identify acres of hard bottom habitat. Verification of oyster habitat density is necessary to determine compensation for unavoidable impacts. If you choose to not conduct density verifications, then TPWD will recommend that the entire acreage of the hard bottom habitat in the side scan survey data be compensated.

If you have more questions please let me know. At this point in time, it might be more helpful to provide us a with a revised oyster survey protocol to review prior to scheduling a meeting.

Thanks for coordinating with TPWD prior to the UASCE application process.

Best Regards, Jan

Dr. Jan Culbertson, Coastal Ecologist
Texas Parks and Wildlife Department
1502 FM 517 East
Dickinson, Texas 77539
281-534-0111 office
281-910-9997 cell
Jan.Culbertson@tpwd.texas.gov

From: Michael Aubele <Mike.Aubele@exp.com>
Sent: Thursday, February 27, 2020 8:09 AM
To: Jan Culbertson <Jan.Culbertson@tpwd.texas.gov>; Mike Morgan <Mike.Morgan@tpwd.texas.gov>
Cc: Minter, Justin D <JUSTIN.MINTER@energytransfer.com>; Rusty Swafford - NOAA Federal <rusty.swafford@noaa.gov>; Brett Soutar <bsoutar@benchmarkeco.com>
Subject: RE: ET LOPEX Project Benthic Survey Protocol

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Okay – whatever is most convenient for you all. Thanks.

From: Jan Culbertson <Jan.Culbertson@tpwd.texas.gov>
Sent: Thursday, February 27, 2020 8:08 AM
To: Michael Aubele <Mike.Aubele@exp.com>; Mike Morgan <Mike.Morgan@tpwd.texas.gov>
Cc: Minter, Justin D <JUSTIN.MINTER@energytransfer.com>; Rusty Swafford - NOAA Federal <rusty.swafford@noaa.gov>; Brett Soutar <bsoutar@benchmarkeco.com>
Subject: RE: ET LOPEX Project Benthic Survey Protocol

Hi Mr. Aubele,

I will be out of office most of next week so it would be best if we schedule this visit the following week or whenever Mike is available. Thanks, Jan

---

From: Michael Aubele <Mike.Aubele@exp.com>
Sent: Wednesday, February 26, 2020 5:59 PM
To: Mike Morgan <Mike.Morgan@tpwd.texas.gov>; Jan Culbertson <Jan.Culbertson@tpwd.texas.gov>
Cc: Minter, Justin D <JUSTIN.MINTER@energytransfer.com>; Rusty Swafford - NOAA Federal <rusty.swafford@noaa.gov>; Brett Soutar <bsoutar@benchmarkeco.com>
Subject: ET LOPEX Project Benthic Survey Protocol

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Jan/Mike,

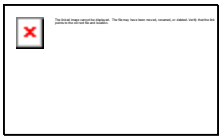
Wanted to follow up on the conversation Jan and I had this past week regarding Energy Transfer's proposed LOPEX Project. As mentioned, the project will entail construction of a new 36 or 42-inch pipeline from Nederland to near Cameron to tie-in to the existing Stingray Pipeline. As such, it will involve the crossing of a good portion of Sabine Lake in both TX and LA state waters, but several miles north of the known oyster reef habitat within the lower estuary. We are just getting started with environmental surveys for the project and wanted to get the proposed benthic survey protocol to you for review and comment. Its based on your agency's most current version, but understand its being updated based on our conversation and the need to get these surveys consistent with the methods and results you all are collecting with your efforts. Anyhow, please review and provide us any feedback or recommended changes.

Also, we would like to find a date and time where we can come to your office to introduce the project, purpose and schedule. If anytime in the next week or so would work, please let us know what would be the most convenient for you and we will try to make that work.

Rusty, I copied you as well in the event you have any comments on the proposed methods or protocol?

Thanks,

Mike



Michael C. Aubele
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From: Jan Culbertson <Jan.Culbertson@tpwd.texas.gov>
Sent: Monday, April 20, 2020 10:26 AM
To: Neil Henthorne <nhenthorne@benchmarkeco.com>
Cc: 'Brett Soutar' <bsoutar@benchmarkeco.com>; Michael Aubele <Mike.Aubele@exp.com>; Mike Morgan <Mike.Morgan@tpwd.texas.gov>; Christopher Maldonado <Christopher.Maldonado@tpwd.texas.gov>
Subject: RE: LOPEX/Sabine Lake Protocols

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Hi Mr. Henthorne, I wanted to let you know that we are currently in process of revising our oyster survey protocols. They are slightly more detailed than your current plan so I wanted to advise you of some additional specifications.

One question came up when we were reviewing your protocols. Why use dual beam with 400 and 900 KZ for the side scan sonar survey equipment.? According to our protocols a single beam 255 kz frequency could detect oysters slightly below the surface (light siltation) but 900 KZ would not. I have seen the dual beam scenario you indicated before by other consultants and wondered why you are using dual beam and also why 900KZ?

Also we want to emphasize that live and dead shell should be measured and not just live. The full density of the shell is what we want to know. Live and dead shell constitute viable oyster habitat.

Enclosed is our draft procedures that have been revised as of last week. It is still a working document but wanted you to know what your options were.

Best wishes, Jan

From: Neil Henthorne <nhenthorne@benchmarkeco.com>
Sent: Thursday, April 9, 2020 2:30 PM
To: Jan Culbertson <Jan.Culbertson@tpwd.texas.gov>
Cc: 'Brett Soutar' <bsoutar@benchmarkeco.com>; 'Michael Aubele' <Mike.Aubele@exp.com>; Mike Morgan <Mike.Morgan@tpwd.texas.gov>; Christopher Maldonado <Christopher.Maldonado@tpwd.texas.gov>
Subject: RE: LOPEX/Sabine Lake Protocols

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Thank you for the quick response. We look forward to working with you in the future!

Thank you,

Neil Henthorne
President
Benchmark Ecological Services, Inc.
Office (281) 934-3403, ext. 113
Mobile (281) 703-0257
www.benchmarkeco.com

From: Jan Culbertson [mailto:Jan.Culbertson@tpwd.texas.gov]
Sent: Thursday, April 9, 2020 2:23 PM
To: Neil Henthorne <nhenthorne@benchmarkeco.com>
Cc: 'Brett Soutar' <bsoutar@benchmarkeco.com>; 'Michael Aubele' <Mike.Aubele@exp.com>; Mike Morgan <Mike.Morgan@tpwd.texas.gov>; Christopher Maldonado <Christopher.Maldonado@tpwd.texas.gov>
Subject: RE: LOPEX/Sabine Lake Protocols

Hi Neil,

Your oyster and seagrass survey protocols are much improved from the original version, and targets all the methods that TPWD requested be used. I heard from another project that your vessels and staff are working on, and they told me you are equipped to make social distancing possible while you collect your samples and we are thankful to hear safety and cleaning JHAs have been implemented to protect all of your staff during these unusual circumstances. Our own vessels are restricted from surveying at this time.

I do not have any further recommendations to these protocols and believe these are comprehensive survey methods to use for the LOPEX project. If you need to revise your scientific permit to include other survey projects that you are currently working on or for future projects not yet listed, please let Chris or me know so that you are good to go in the field. We support your continued cooperation in adapting to Texas requirements and look forward to seeing the results of your survey. Thank you for your timely responses to our recommendations.

Best wishes, Jan

From: Neil Henthorne <nhenthorne@benchmarkeco.com>
Sent: Wednesday, April 8, 2020 7:03 PM
To: Jan Culbertson <Jan.Culbertson@tpwd.texas.gov>

Cc: 'Brett Soutar' <bsoutar@benchmarkeco.com>; 'Michael Aubele' <Mike.Aubele@exp.com>
Subject: RE: LOPEX/Sabine Lake Protocols

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No problem, thank you for the quick response.

Neil Henthorne
President
Benchmark Ecological Services, Inc.
Office (281) 934-3403, ext. 113
Mobile (281) 703-0257
www.benchmarkeco.com

From: Jan Culbertson [mailto:Jan.Culbertson@tpwd.texas.gov]
Sent: Wednesday, April 8, 2020 4:36 PM
To: Neil Henthorne <nhenthorne@benchmarkeco.com>
Cc: 'Brett Soutar' <bsoutar@benchmarkeco.com>; 'Michael Aubele' <Mike.Aubele@exp.com>
Subject: RE: LOPEX/Sabine Lake Protocols

Thanks Neil, I have been inundated with conference calls all day. Will try to get to this tomorrow and let you know if I have any questions. Thanks for your patience. Jan

From: Neil Henthorne <nhenthorne@benchmarkeco.com>
Sent: Wednesday, April 8, 2020 10:50 AM
To: Jan Culbertson <Jan.Culbertson@tpwd.texas.gov>
Cc: 'Brett Soutar' <bsoutar@benchmarkeco.com>; 'Michael Aubele' <Mike.Aubele@exp.com>
Subject: LOPEX/Sabine Lake Protocols

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Attached is the latest set of benthic survey protocols associated with the LOPEX project in Sabine Lake.

We have removed all the information associated with Louisiana. I reviewed and incorporated your comments from past correspondence and previous documents.

Please let me know if you have any questions or suggestions for changes.

Thank you,

Neil Henthorne
President
Benchmark Ecological Services, Inc.
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Mobile (281) 703-0257
www.benchmarkeco.com

BESI Benchmark Ecological Services, Inc.

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TPWD Oyster Survey Methods
for Pipeline Installation Projects
in Deep Water (>2.5-foot depths)
April 2020
(working document subject to change)

Side Scan Survey Specifications

- Side scan surveys should be run with parallel transect lines that provide 150% coverage with 50% overlap of the entire pipeline route footprint and includes a 500-foot radius of the pipeline route, any workspaces, and access routes used to bring in heavy equipment or vessels that may impact oyster (or serpulids reef) habitat.
- The range of the side scan sonar systems should not exceed 10 times the water depth.
- A high-resolution side scan sonar system (with frequency 255 or 400 KHz) is recommended to identify or detect partially sedimented hard bottom habitat.
- Survey speed of vessel should be maintained around 4 knots, but no greater than 4.5 knots.
- Surveys should be conducted when winds are less than 15 knots and wave height is less than 1.5 feet.
- Side scan sonar surveys should not be conducted during active rainfall.
- All positional data should be collected with a minimum requirement of using higher level DGPS technologies or RTK GPS that provide sub-meter accuracy.
- Digital sonar data should be collected and tied real time to the position information.
- Horizontal resolution of sufficient precision (< 1 m) should be used to distinguish oyster shell from sediment.
- All GPS positioning should be continuously recorded with side scan equipment.
- Output product should be provided in a georeferenced TIFF (GeoTIFF) image.
- Habitats identified by side scan survey should be delineated from the imagery with a minimum mapping unit of 100 m^2.

Sub-bottom profiler specifications

- Sub-bottom profiler data should also be collected to determine substrate strata type down to a depth of 25 feet. The appropriate frequency should be selected for 25-foot penetration in brackish waters. This survey can be conducted in conjunction with a hazard survey to determine if there are any underwater obstructions or marine archeological artifacts.
- Sub-bottom profiles should be tied to DGPS positional information and analyzed to determine start and stop of soft sediments and surface shell alongside scan survey transects (50-60 m).
- Target points along sub-bottom profiles should be provided as digital maps and ESRI-compatible shapefiles.

Bathymetric Survey Specifications

- A bathymetric survey should be conducted of the entire project area footprint including the 500-foot radius of the project area including any workspaces and vessel access routes. If the same frequency is used for bathymetry equipment as the side scan equipment, then two separate surveys may be required to be conducted (due to interference with signals). If the frequency is not the same for both types of equipment, then the two surveys may not have to be conducted at same time. Although interference can still occur if the instruments operate on

frequencies that are mathematically related (one frequency is a multiple of the other or evenly divisible by the other). Bottom elevation data should be digitally recorded at a minimum pulse rate of 5 Hz (e.g. pulses per second). Gaps between soundings should be no greater than one meter.

- Bathymetric positional data should include a motion-reference input data source to correct for heave, pitch, and roll.
- Bathymetric positional data should be integrated with soundings in real time via a DGPS or RTK GPS appropriate antenna, a survey grade echosounder or other bathymetric sonar, a computer, and all required survey and acquisition software.
- Raw water depths should be corrected to the nearest USGS tide-gauging station MLW elevation and interpolated to derive a bathymetric surface in contour format maps and ESRI-compatible shapefiles.

Quality Assurance Measures

- Before initiating daily survey activities, quality assurance measures should be conducted and recorded in the field logs. Calibration procedures should be performed on any transducers as required. The survey should not commence until readings are verified accurate and speed of sound is calculated.
- After post processing of side scan data, sub-bottom profiler data and bathymetry data, the substrate should be identified in final report using the following terminology for consistency: mud, scattered shell on mud (brown substrate), buried shell (black substrate), viable oyster habitat (viable oyster habitat is predominantly characterized by presence of live or dead shell (> 25 mm) on firm substrates, regardless of the presence of live oysters).

Hard Bottom Verification Procedures

- All bivalve data collection data may only be done by appropriately permitted individuals that have an authorized TPWD Scientific collection permit for the specific project and specific methodology used to collect this data.
- TPWD should be consulted when the results of the side scan sonar imagery collected within 500-feet of the pipeline route and any workspaces shows no hard bottom signatures and is classified as “mud”. If TPWD agrees with side scan survey classification of the imagery collected, then ground truthing the substrate will not be required. However, if TPWD disagrees with the side scan survey classification of the imagery collected or there appears to be discrepancies in the data collected or the method used to collect the data, then ground-truthing of these specific areas will be required.
- If all hard bottom signatures within 500-feet of the project area including 500-foot buffers around workspaces are classified “viable oyster habitat” and will be avoided by HDD then there is no need for ground truth sampling of hard bottom habitat and the total acreage of oyster habitat avoided based on side scan data should be included in the final report submitted to TPWD.
- If all hard bottom signatures in the side scan data within 500-feet of the project area including 500-foot buffers around workspaces are not going to be avoided by HDD, then all hard bottom targets are required to be verified for “viable oyster habitat” to assess oyster density and acreage of the habitat being impacted.
- All hard bottom targets should be verified by collecting four one-quarter meter square quadrats per acre of hard bottom identified, with each quadrat sample spaced a minimum distance of 150 feet apart.
- Each quadrat verification sample should be collected manually by divers (preferred) or by hydraulic patent tongs (submit photograph of equipment and design specifications to TPWD

for pre-survey coordination approval). (e.g. patent tongs with open jaw dimensions 50 cm by 50 cm is capable of sampling 0.25 square meter quadrat sample on bottom). Dimensions of patent tongs may vary depending on manufacturer, but bottom sample collected should be comparable with 0.25 square meter sample size.

- All hard bottom verification samples must be brought to surface and photographed.
- All live and dead oyster shell brought to the surface must be enumerated, lengths measured (in 5 mm increments) and recorded in final report using following categories (# Spat (0-1.5 inches = 0-40 mm), # Submarket/Juvenile (1.5-2.9 inches = 41-75 mm), # Market (3.0+ inches = 76+ mm).
- The number of live and dead oysters per acre of each hard bottom target within the project area and within the 500-foot buffer around workspaces should be determined to provide an estimate of number of acres of all viable oyster habitat impacted or avoided in final report.
- Although oyster dredges may be used to determine presence or absence of oysters, or other mollusk species (Rangia clams, etc.), dredge data may not be used to determine density of oysters impacted or avoided. It is not acceptable to use dredges in areas where serpulid reefs are suspected to be present.

Report Documentation

Datasets based on all field investigations should include, at a minimum, the following information:

- Geo-referenced, negative mosaic maps of side scan sonar data collected
- Mapped proposed access channel routes
- ESRI-compatible (ArcView 9.0+) georectified and gain normalized mosaic side scan imagery of project area including all identified habitats, hard bottom verification targets, and reef crest and edge positions identified during the side scan survey and ESRI-compatible shapefiles (GPS positioning in Decimal Degrees in North American Datum 1983 projected to UTM 15 North).
- Coordinates of all hard bottom targets' positions referenced in tabular form with GPS coordinates (Decimal Degrees in North American Datum 1983).
- ESRI-compatible (ArcView 9.0+) shape files of bottom types identified in the survey area
- Bathymetry figures and ESRI-compatible (ArcView 9.0+) shape file bottom contours
- Hard Bottom Verification data
    - Photographs of all Verification Samples
    - Coordinates of All Hard Bottom Identified
    - Shell qualifications and length measurements
- Acreages of Habitat Avoided and/or Impacted
- Sonar Survey Details
    - Range and Swath distance
    - Equipment type/frequencies used
    - Verification of sonar coverage (transect spacing and % overlap)
    - GPS positioning data and targets (Decimal Degrees)
    - Positional information in North American Datum 1983 with electronic files projected to the appropriate UTM projection (15 North for Galveston, Sabine, and East Matagorda Bay; 14 North for South of East Matagorda Bay).

Report should also include the following detailed information:

- The U.S. Army Corps of Engineers permit application number
- Date sampled
- Methods used, including all equipment used, the swath distance, and verification that 150% coverage was achieved after adjacent images were mosaiced together to present an accurate image of the entire bottom.

- Results with post-processed mosaic map that identifies all substrate types – mud, scattered shell on mud, buried shell, and consolidated shell (reef).
- All survey information presented in both graphical and tabular form.
- Geographic coordinates (in decimal degrees) of all hard bottom returns.
- GIS shape files that are produced from the survey data with metadata projected in UTM Zone 15 with a GIS (ArcView 9.0+) .prj shape file.
- GPS positioning data recorded with side scan equipment and all associated targets.
- Bathymetry data in tabular form to accompany the sidescan substrate data.
- Location (geographic coordinates in decimal degrees) and extent (acreage) of every oyster habitat area encountered by side scan equipment and ground truthing (diver or patent tong).
- Photographs of each diver or patent tong sample brought to the surface with corresponding geographic coordinates (in decimal degrees).
- Counts and lengths of live and dead shell as specified under Hard Bottom Verification procedures
- Acreage of all Avoided or Impacted Habitat encountered in the survey area including brown shell, buried black shell, viable oyster habitat, or seagrass habitat

From: Neil Henthorne <nhenthorne@benchmarkeco.com>
Sent: Friday, August 14, 2020 11:30:57 AM
To: 'Mike Morgan' <Mike.Morgan@tpwd.texas.gov>
Cc: 'Bryan Eastham' <Bryan.Eastham@tpwd.texas.gov>; Michael Aubele <Mike.Aubele@exp.com>; 'Brett Soutar' <bsoutar@benchmarkeco.com>; 'Robert Moleski' <rmoleski@benchmarkeco.com>
Subject: RE: Sabine Lake Oyster Surveys

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Thank you Mike,

We will add the figures you suggested in future submittals.

We look forward to working with you!

Neil Henthorne
President
Benchmark Ecological Services, Inc.
Office (281) 934-3403, ext. 113
Mobile (281) 703-0257
www.benchmarkeco.com

BESI Benchmark Ecological Services, Inc.

From: Mike Morgan <Mike.Morgan@tpwd.texas.gov>
Sent: Friday, August 14, 2020 10:39 AM
To: Neil Henthorne <nhenthorne@benchmarkeco.com>
Cc: Bryan Eastham <Bryan.Eastham@tpwd.texas.gov>
Subject: RE: Sabine Lake Oyster Surveys

Hi Neil,

I have reviewed the information contained in the letter dated August 1 / July 31 with the subject of "Proposed Scope of Work to Conduct Benthic Natural Resources Quantification of Oyster Habitats along the Proposed Blue Marlin Offshore Port Project in Sabine Lake, TX."

Based on the information included with the letter, you may proceed with the oyster quantification survey protocols described in Section 2.6 and Section 3.0 of Attachment A.

To expedite our review of all future reports for pipeline projects, I suggest an additional map be provided that shows sequentially numbered "panels" or "sheets" along the route (example attached).

Thank you for your continued coordination on this project.

Mike Morgan
Coastal Ecologist

Texas Parks and Wildlife Department
Coastal Fisheries Division
(281) 534-0146

From: Neil Henthorne <nhenthorne@benchmarkeco.com>
Sent: Monday, August 10, 2020 5:51 PM
To: Mike Morgan <Mike.Morgan@tpwd.texas.gov>
Subject: Sabine Lake Oyster Surveys

I wanted to touch base and see if you have time to discuss the proposed quantification survey locations in Sabine Lake Justin Cournoyer sent you.

We look forward to working with you.

Thank you,

Neil Henthorne
President
Benchmark Ecological Services, Inc.
Office (281) 934-3403, ext. 113
Mobile (281) 703-0257
www.benchmarkeco.com

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---------- This communication may contain confidential and proprietary information. DO NOT DISCLOSE. ----------

From: Minter, Justin D <JUSTIN.MINTER@energytransfer.com>
Sent: Tuesday, June 30, 2020 9:02 AM
To: Michael Aubele <Mike.Aubele@exp.com>; Dennis Gissell <Dennis.Gissell@tpwd.texas.gov>
Cc: Ted Hollingsworth <Ted.Hollingsworth@tpwd.texas.gov>; Len Polasek <Len.Polasek@tpwd.texas.gov>; Michael Rezsutek <Michael.Rezsutek@tpwd.texas.gov>
Subject: RE: Energy Transfer Geotech LNWMA 03-28-20

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That's exactly right Mike.

We are continuing our evaluation of alternative routes that may reduce the footprint and/or avoid the WMA altogether. As we progress the alternatives analysis, we will continue to coordinate with you guys. Ultimately, if the only prudent and feasible route crosses the WMA, we want you guys to fully support any proposal prior to it being taken before the Commission for consideration.

As far as the geotech work along the current route, please let me know if it's permissible to proceed on the basis of Energy Transfer/Sunoco Pipeline having executed the agreement. In addition to the insurance certificate that I previously shared with you, we have secured the bond as required by the agreement and I expect to send it to you today or tomorrow. In the meantime, I will let the contractor know that we're on stand-by pending further direction from TPWD.

Thanks,
Justin

From: Michael Aubele <Mike.Aubele@exp.com>
Sent: Monday, June 29, 2020 6:15 PM
To: Dennis Gissell <Dennis.Gissell@tpwd.texas.gov>; Minter, Justin D <JUSTIN.MINTER@energytransfer.com>
Cc: Ted Hollingsworth <Ted.Hollingsworth@tpwd.texas.gov>; Len Polasek <Len.Polasek@tpwd.texas.gov>; Michael Rezsutek <Michael.Rezsutek@tpwd.texas.gov>
Subject: RE: Energy Transfer Geotech LNWMA 03-28-20

Dennis,

Not to speak for Justin, but we are not at a point to be wanting to take this in front of the Commission. As mentioned on the phone the other week, we are in the early stages of the permitting, in fact we have even really started. So, I think there will be a lot more consideration and discussion with you and TPWD staff before we get to that point throughout this year and probably into early next year. When we do get there, hopefully we will have a route that is understood to make sense to all with the least impact and a robust alternative analysis that can be taken before the Commission. Hopefully by that time, the project will be able demonstrate that the preferred route would meet the high bar required by the regulations for allowance of a pipeline on the WMA. Thanks and we look forward to working with all of you on this project.

Mike

Michael C. Aubele
EXP | Vice President, Environmental and Regulatory
m : +1.713.985.9914 | e : Mike.Aubele@exp.com

exp.com | legal disclaimer
keep it green, read from the screen
From: Dennis Gissell <Dennis.Gissell@tpwd.texas.gov>
Sent: Monday, June 29, 2020 5:31 PM
To: Minter, Justin D <justin.minter@energytransfer.com>
Cc: Michael Aubele <Mike.Aubele@exp.com>; Ted Hollingsworth <Ted.Hollingsworth@tpwd.texas.gov>; Len Polasek <Len.Polasek@tpwd.texas.gov>; Michael Rezsutek <Michael.Rezsutek@tpwd.texas.gov>
Subject: RE: Energy Transfer Geotech LNWMA 03-28-20

Thank you Justin! Do you believe that this is the information you would want the Texas Parks and Wildlife Commission to consider for a possible easement? I believe you will likely either need to reconsider the open trench installation technique or provide very strong justification for it, realizing that they take a very strong position on open trenching.

I have submitted the SUA for signatures and notary, but the last I heard, our Director will be on vacation all next week and may not get it signed until July 6th. I will double check on that to see if there might be an alternative procedure.

Thank you
Dennis Gissell

Dennis Gissell
Wildlife Management Areas
Texas Parks & Wildlife Department
4200 Smith School Road
Austin, Texas 78744

512-389-4407

From: Minter, Justin D <JUSTIN.MINTER@energytransfer.com>
Sent: Monday, June 29, 2020 1:36 PM
To: Dennis Gissell <Dennis.Gissell@tpwd.texas.gov>
Cc: Mike Aubele (mike.aubele@exp.com) <mike.aubele@exp.com>; Ted Hollingsworth <Ted.Hollingsworth@tpwd.texas.gov>; Len Polasek <Len.Polasek@tpwd.texas.gov>; Michael Rezsutek <Michael.Rezsutek@tpwd.texas.gov>
Subject: RE: Energy Transfer Geotech LNWMA 03-28-20

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Dennis,

Attached are a couple of figures that I owed you from last week. The first figure (LNWMA Crossing Map) depicts the current preferred route (yellow line) and the original route (purple line) that was initially presented to Mike when we first met to introduce the project. The second figure (MARAD Alternative Routes) depicts the alternative routes that will be included in the MARAD filing.

The table below provides distances on the WMA for both the original route and the current preferred route. As you can see, the current preferred route reduced the footprint within the WMA by approximately 1 mile. With the current construction methods that we've discussed on the WMA, the current preferred route includes approximately 3,000' of conventional construction (open cut).

Row Labels	Sum of Length (miles)	
20191206 Centerline	**2.96**	< Old Line
Nelda Stark Boundary	0.48	
Old River Unit	2.49	
Project Centerline (Onshore)	**1.83**	< New Line Total
Nelda Stark Boundary	0.46	
Old River Unit	1.37	
Grand Total	**4.79**	

Hopefully the above is what you are looking for at this time. Also, I just spoke to our geotechnical contractor and learned they are wanting to begin collection of the core sample identified as NC-BH-06C on Wednesday 7/1. I'm uncertain as to whether this particular sample location is technically on the WMA or not and have attached the geotech map for ease of reference. Nonetheless, I wanted to coordinate with you guys to ensure we are clear to proceed at this location on 7/1. The other locations within the WMA will not proceed until after the holiday. I know we haven't received the fully executed SUA yet, but barring this, do you guys see anything that would prevent the contractor from drilling at this location beginning on 7/1?

Mike R. – Considering all of the current COVID measures, please let me know how you would like to handle any orientation requirements prior to initiation of the work. If preferable, I can set up a WebEx telecom with you guys and the contractor to cover any site specific requirements.

Thanks,

Justin D. Minter
Sr. Manager – Env. Projects
Engineering & Construction
Energy Transfer
office: 409.749.3902
cell: 409.377.0054

From: Dennis Gissell <Dennis.Gissell@tpwd.texas.gov>
Sent: Thursday, June 25, 2020 3:06 PM
To: Minter, Justin D <JUSTIN.MINTER@energytransfer.com>
Cc: Mike Aubele (mike.aubele@exp.com) <mike.aubele@exp.com>; Ted Hollingsworth <Ted.Hollingsworth@tpwd.texas.gov>; Len Polasek <Len.Polasek@tpwd.texas.gov>; Michael Rezsutek <Michael.Rezsutek@tpwd.texas.gov>
Subject: RE: Energy Transfer Geotech LNWMA 03-28-20

Thank you Justin! I am routing for signatures right now. Can you provide me with a recent map of the various routing options, along with approximate lengths that could be on TPWD lands please? Has any of this changed, based upon our teleconference last week?

Thank you
Dennis

Dennis Gissell
Wildlife Management Areas
Texas Parks & Wildlife Department
4200 Smith School Road
Austin, Texas 78744

512-389-4407

From: Minter, Justin D <JUSTIN.MINTER@energytransfer.com>
Sent: Thursday, June 25, 2020 3:02 PM
To: Dennis Gissell <Dennis.Gissell@tpwd.texas.gov>
Cc: Mike Aubele (mike.aubele@exp.com) <mike.aubele@exp.com>
Subject: RE: Energy Transfer Geotech LNWMA 03-28-20

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Dennis,

Just wanted to follow-up on this and verify that the signed SUA was received. I've also attached a copy of the Certificate of Insurance listing TPWD for your reference.

To give you an update on timing of the work, THC has indicated they expect to issue the Antiquities Permit early next week. We have been working with the geotech contractor on mobilization and, preliminarily, they are scheduled to mobile and begin sampling on Monday July 6th.

Please let me know if you need anything additional from us in order to get the agreement executed on your side.

Thanks,

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Justin D. Minter
Sr. Manager – Env. Projects
Engineering & Construction
Energy Transfer
office: 409.749.3902
cell: 409.377.0054

From: Minter, Justin D
Sent: Thursday, June 18, 2020 10:19 AM
To: Dennis Gissell <Dennis.Gissell@tpwd.texas.gov>
Cc: Len Polasek <Len.Polasek@tpwd.texas.gov>; Michael Rezsutek <Michael.Rezsutek@tpwd.texas.gov>
Subject: RE: Energy Transfer Geotech LNWMA 03-28-20

Dennis,

Attached is the signed SUA for geotechnical sampling on the LNWMA. Please let me know if you would like an original copy of the signed agreement. If so, I can get a copy out today via FedEx. Also, can you forward me a copy of the fully executed agreement for our project files?

Again, thanks for your cooperation on this and we look forward to speaking with you guys tomorrow.

Justin D. Minter
Sr. Manager – Env. Projects
Engineering & Construction
Energy Transfer
office: 409.749.3902
cell: 409.377.0054

From: Dennis Gissell <Dennis.Gissell@tpwd.texas.gov>
Sent: Tuesday, June 2, 2020 11:43 AM
To: Minter, Justin D <JUSTIN.MINTER@energytransfer.com>
Cc: Len Polasek <Len.Polasek@tpwd.texas.gov>; Michael Rezsutek <Michael.Rezsutek@tpwd.texas.gov>
Subject: FW: Energy Transfer Geotech LNWMA 03-28-20

Justin,

Attached is the SUA for the Geotech coring project you proposed on the Lower Neches WMA in Orange County. Please add the appropriate contact information, save as a pdf, sign it and return it for our signatures.

Thank you
Dennis Gissell

Dennis Gissell
Wildlife Management Areas
Texas Parks & Wildlife Department
4200 Smith School Road
Austin, Texas 78744

512-389-4407

From: Dennis Gissell
Sent: Thursday, May 28, 2020 5:09 PM
To: Michael Rezsutek <Michael.Rezsutek@tpwd.texas.gov>
Cc: Len Polasek <Len.Polasek@tpwd.texas.gov>
Subject: Energy Transfer Geotech LNWMA 03-28-20

Here is the Surface Use Agreement for Energy Transfer's proposed core tests on Lower Neches WMA. I am cleaning up the exhibits and getting them ready to attach, so I may still make some changes to those references in the SUA, but we should be about ready to go.

All of the comments received caused me to rethink large portions of this SUA and I will feel pretty good about using it again in the future, as we will have several instances to do so.

How's it look?

Thank you
Dennis

Dennis Gissell
Wildlife Management Areas
Texas Parks & Wildlife Department
4200 Smith School Road
Austin, Texas 78744

512-389-4407

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From: Dennis Gissell <Dennis.Gissell@tpwd.texas.gov>
To: Wayne Boyko <WBoyko@rcgoodwin.com>
Cc: Maggie Moore <Maggie.Moore@thc.texas.gov>, Bill Martin <Bill.Martin@thc.texas.gov>, Michael Strutt <Michael.Strutt@tpwd.texas.gov>, Michael Rezsutek <Michael.Rezsutek@tpwd.texas.gov>
Date: 06/15/2020 10:11 AM
Subject: RE: TAP for work in the Lower Neches WMA

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Very well sir – thank you for the reminder. We are working remotely, without scanning equipt., but I will go into the office to do that in the next few days.

Thank you

Dennis

Dennis Gissell
Wildlife Management Areas
Texas Parks & Wildlife Department
4200 Smith School Road
Austin, Texas 78744

512-389-4407

From: Wayne Boyko <WBoyko@rcgoodwin.com>
Sent: Monday, June 15, 2020 10:00 AM
To: Dennis Gissell <Dennis.Gissell@tpwd.texas.gov>
Cc: Maggie Moore <Maggie.Moore@thc.texas.gov>; Bill Martin <Bill.Martin@thc.texas.gov>; Michael Strutt <Michael.Strutt@tpwd.texas.gov>; Michael Rezsutek <Michael.Rezsutek@tpwd.texas.gov>
Subject: RE: TAP for work in the Lower Neches WMA

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Thanks Mr. Gissell. Please see Maggie Moore's email she recently sent; you folks will need to fill out and sign the Landowner section of the permit. If you could send the signed document back to me, I will send on to the THC. Thanks,

Wayne

Wayne CJ Boyko

Senior Project Manager

R. Christopher Goodwin & Associates, Inc.

309 Jefferson Highway, Suite A

New Orleans, LA 70121

office: (504) 837-1940

fax: (504) 837-1550

cellular: (504) 201-1714

web: http://www.rcgoodwin.com

From: Dennis Gissell <Dennis.Gissell@tpwd.texas.gov>
To: Wayne Boyko <WBoyko@rcgoodwin.com>
Cc: Maggie Moore <Maggie.Moore@thc.texas.gov>, Bill Martin <Bill.Martin@thc.texas.gov>, Michael Strutt <Michael.Strutt@tpwd.texas.gov>, Michael Rezsutek <Michael.Rezsutek@tpwd.texas.gov>
Date: Mon, 15 Jun 2020 14:46:09 +0000
Subject: RE: TAP for work in the Lower Neches WMA

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Dr. Boyko,

Thank you sir, this looks fine. Please submit to the Texas Historical Commission for consideration of a permit. Also, please notify our Project Leader, Dr. Michael Rezsutek, 48 hours prior to entering the Lower Neches WMA. Dr. Rezsutek's telephone is 409-736-2551, ext. 22

Please let me know if you need anything else from Texas Parks and Wildlife Department.

Thank you

Dennis

Dennis Gissell

Wildlife Management Areas

Texas Parks & Wildlife Department

4200 Smith School Road

Austin, Texas 78744

512-389-4407

Sent from Mail for Windows 10

From: Wayne Boyko
Sent: Monday, June 15, 2020 9:38 AM
To: Dennis Gissell
Cc: Maggie Moore; Bill Martin; Michael Strutt
Subject: RE: TAP for work in the Lower Neches WMA

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Mr. Gissell,

Attached please find the amended Scope of Work. Let me know if you need another copy of the TAP application, and if so, I will send it on. Thanks all,

Wayne

Wayne CJ Boyko

Senior Project Manager

R. Christopher Goodwin & Associates, Inc.

309 Jefferson Highway, Suite A

New Orleans, LA 70121

office: (504) 837-1940

fax: (504) 837-1550

cellular: (504) 201-1714

web: http://www.rcgoodwin.com

> From: Dennis Gissell <Dennis.Gissell@tpwd.texas.gov>
> To: Wayne Boyko <WBoyko@rcgoodwin.com>
> Cc: Maggie Moore <Maggie.Moore@thc.texas.gov>, Bill Martin <Bill.Martin@thc.texas.gov>, Michael Strutt <Michael.Strutt@tpwd.texas.gov>
> Date: Mon, 15 Jun 2020 14:27:25 +0000
> Subject: RE: TAP for work in the Lower Neches WMA

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Dr. Boyko,

Thank you. You might add "artifacts" to the items that would be curated with TPWD and I think that will be fine. If you agree, please make that last change and send it on to THC and note our approval.

Thank you

Dennis Gissell

Dennis Gissell

Wildlife Management Areas

Texas Parks & Wildlife Department

4200 Smith School Road

Austin, Texas 78744

512-389-4407

From: Wayne Boyko <WBoyko@rcgoodwin.com>
Sent: Friday, June 12, 2020 12:03 PM
To: Dennis Gissell <Dennis.Gissell@tpwd.texas.gov>
Cc: Maggie Moore <Maggie.Moore@thc.texas.gov>; Bill Martin <Bill.Martin@thc.texas.gov>; Michael Strutt <Michael.Strutt@tpwd.texas.gov>
Subject: RE: TAP for work in the Lower Neches WMA

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Here you go Mr. Gissell. Let me know if there is anything else I can do to facilitate your review. Thanks,

Wayne

Wayne CJ Boyko

Senior Project Manager

R. Christopher Goodwin & Associates, Inc.

309 Jefferson Highway, Suite A

New Orleans, LA 70121

office: (504) 837-1940

fax: (504) 837-1550

cellular: (504) 201-1714

web: http://www.rcgoodwin.com

From: Dennis Gissell <Dennis.Gissell@tpwd.texas.gov>
To: Wayne Boyko <WBoyko@rcgoodwin.com>
Cc: Maggie Moore <Maggie.Moore@thc.texas.gov>, Bill Martin <Bill.Martin@thc.texas.gov>, Michael Strutt <Michael.Strutt@tpwd.texas.gov>
Date: Fri, 12 Jun 2020 16:43:33 +0000
Subject: RE: TAP for work in the Lower Neches WMA

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Dr. Boykin,

We have reviewed the proposed scope of work for the Texas Antiquities Permit application on the Lower Neches Wildlife Management Area project. Please correct this document to make Texas Parks and Wildlife Department the repository for the artifacts and records of the project.

Thank you

Dennis Gissell

Dennis Gissell

Wildlife Management Areas

Texas Parks & Wildlife Department

4200 Smith School Road

Austin, Texas 78744

512-389-4407

From: Wayne Boyko <WBoyko@rcgoodwin.com>
Sent: Wednesday, June 10, 2020 3:00 PM
To: Dennis Gissell <Dennis.Gissell@tpwd.texas.gov>
Cc: Maggie Moore <Maggie.Moore@thc.texas.gov>; Bill Martin <Bill.Martin@thc.texas.gov>
Subject: TAP for work in the Lower Neches WMA

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Mr. Gissell,

As Maggie Moore has indicated to me, I am forwarding our Texas Antiquities Permit application to you along with our scope of work to you for review. If you require any additional information, or have any questions regarding the project, please do not hesitate to contact me. Thank you,

Wayne

Wayne CJ Boyko, PhD, RPA

Senior Project Manager

R. Christopher Goodwin & Associates, Inc.

309 Jefferson Highway, Suite A

New Orleans, LA 70121

office: (504) 837-1940

fax: (504) 837-1550

cellular: (504) 201-1714

web: http://www.rcgoodwin.com

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From: Michael Strutt <Michael.Strutt@tpwd.texas.gov>
To: Dennis Gissell <Dennis.Gissell@tpwd.texas.gov>, Wayne Boyko <WBoyko@rcgoodwin.com>
Cc: Maggie Moore <Maggie.Moore@thc.texas.gov>, Bill Martin <Bill.Martin@thc.texas.gov>, Michael Rezsutek <Michael.Rezsutek@tpwd.texas.gov>, Aina Dodge <Aina.Dodge@tpwd.texas.gov>
Date: 06/15/2020 05:12 PM
Subject: RE: TAP for work in the Lower Neches WMA

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Thank you all for working through the details of the permit application.

Mr. Boyko,

When you are finished with the project all the artifacts and records will be sent to our archeological curation facility here in Austin. I have CCed here Aina Dodge, who will be your contact for submitting the materials. All artifacts are to be packaged meeting the CTA/THC standards.

Thank you.

Michael Strutt

Michael Strutt Ph.D.
Director Cultural Resources Program
Texas Parks and Wildlife Dept.
512-389-4736
4200 Smith School Rd
Austin, Tx 78744

From: Dennis Gissell <Dennis.Gissell@tpwd.texas.gov>
Sent: Monday, June 15, 2020 10:12 AM
To: Wayne Boyko <WBoyko@rcgoodwin.com>
Cc: Maggie Moore <Maggie.Moore@thc.texas.gov>; Bill Martin <Bill.Martin@thc.texas.gov>; Michael Strutt <Michael.Strutt@tpwd.texas.gov>; Michael Rezsutek <Michael.Rezsutek@tpwd.texas.gov>
Subject: RE: TAP for work in the Lower Neches WMA

Very well sir – thank you for the reminder. We are working remotely, without scanning equipt., but I will go into the office to do that in the next few days.

Thank you

Dennis

Dennis Gissell
Wildlife Management Areas
Texas Parks & Wildlife Department
4200 Smith School Road
Austin, Texas 78744

512-389-4407

From: Wayne Boyko <WBoyko@rcgoodwin.com>
Sent: Monday, June 15, 2020 10:00 AM
To: Dennis Gissell <Dennis.Gissell@tpwd.texas.gov>
Cc: Maggie Moore <Maggie.Moore@thc.texas.gov>; Bill Martin <Bill.Martin@thc.texas.gov>; Michael Strutt <Michael.Strutt@tpwd.texas.gov>; Michael Rezsutek <Michael.Rezsutek@tpwd.texas.gov>
Subject: RE: TAP for work in the Lower Neches WMA

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Thanks Mr. Gissell. Please see Maggie Moore's email she recently sent; you folks will need to fill out and sign the Landowner section of the permit. If you could send the signed document back to me, I will send on to the THC. Thanks,

Wayne

Wayne CJ Boyko

Senior Project Manager

R. Christopher Goodwin & Associates, Inc.

309 Jefferson Highway, Suite A

New Orleans, LA 70121

office: (504) 837-1940

fax: (504) 837-1550

cellular: (504) 201-1714

web: http://www.rcgoodwin.com

> From: Dennis Gissell <Dennis.Gissell@tpwd.texas.gov>
> To: Wayne Boyko <WBoyko@rcgoodwin.com>
> Cc: Maggie Moore <Maggie.Moore@thc.texas.gov>, Bill Martin <Bill.Martin@thc.texas.gov>, Michael Strutt <Michael.Strutt@tpwd.texas.gov>, Michael Rezsutek <Michael.Rezsutek@tpwd.texas.gov>
> Date: Mon, 15 Jun 2020 14:46:09 +0000
> Subject: RE: TAP for work in the Lower Neches WMA

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Dr. Boyko,

Thank you sir, this looks fine. Please submit to the Texas Historical Commission for consideration of a permit. Also, please notify our Project Leader, Dr. Michael Rezsutek, 48 hours prior to entering the Lower Neches WMA. Dr. Rezsutek's telephone is 409-736-2551, ext. 22

Please let me know if you need anything else from Texas Parks and Wildlife Department.

Thank you

Dennis

Dennis Gissell

Wildlife Management Areas

Texas Parks & Wildlife Department

4200 Smith School Road

Austin, Texas 78744

512-389-4407

Sent from Mail for Windows 10

From: Wayne Boyko
Sent: Monday, June 15, 2020 9:38 AM
To: Dennis Gissell
Cc: Maggie Moore; Bill Martin; Michael Strutt
Subject: RE: TAP for work in the Lower Neches WMA

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Mr. Gissell,

Attached please find the amended Scope of Work. Let me know if you need another copy of the TAP application, and if so, I will send it on. Thanks all,

Wayne

Wayne CJ Boyko

Senior Project Manager

R. Christopher Goodwin & Associates, Inc.

309 Jefferson Highway, Suite A

New Orleans, LA 70121

office: (504) 837-1940

fax: (504) 837-1550

cellular: (504) 201-1714

web: http://www.rcgoodwin.com

From: Dennis Gissell <Dennis.Gissell@tpwd.texas.gov>
To: Wayne Boyko <WBoyko@rcgoodwin.com>
Cc: Maggie Moore <Maggie.Moore@thc.texas.gov>, Bill Martin <Bill.Martin@thc.texas.gov>, Michael Strutt <Michael.Strutt@tpwd.texas.gov>
Date: Mon, 15 Jun 2020 14:27:25 +0000
Subject: RE: TAP for work in the Lower Neches WMA

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Dr. Boyko,

Thank you. You might add "artifacts" to the items that would be curated with TPWD and I think that will be fine. If you agree, please make that last change and send it on to THC and note our approval.

Thank you

Dennis Gissell

Dennis Gissell

Wildlife Management Areas

Texas Parks & Wildlife Department

4200 Smith School Road

Austin, Texas 78744

512-389-4407

From: Wayne Boyko <WBoyko@rcgoodwin.com>
Sent: Friday, June 12, 2020 12:03 PM
To: Dennis Gissell <Dennis.Gissell@tpwd.texas.gov>
Cc: Maggie Moore <Maggie.Moore@thc.texas.gov>; Bill Martin <Bill.Martin@thc.texas.gov>; Michael Strutt <Michael.Strutt@tpwd.texas.gov>
Subject: RE: TAP for work in the Lower Neches WMA

ALERT: This email came from an external source. Do not open attachments or click on links in unknown or unexpected emails.

Here you go Mr. Gissell. Let me know if there is anything else I can do to facilitate your review. Thanks,

Wayne

Wayne CJ Boyko

Senior Project Manager

R. Christopher Goodwin & Associates, Inc.

309 Jefferson Highway, Suite A

New Orleans, LA 70121

office: (504) 837-1940

fax: (504) 837-1550

cellular: (504) 201-1714

web: http://www.rcgoodwin.com

> From: Dennis Gissell <Dennis.Gissell@tpwd.texas.gov>
> To: Wayne Boyko <WBoyko@rcgoodwin.com>
> Cc: Maggie Moore <Maggie.Moore@thc.texas.gov>, Bill Martin <Bill.Martin@thc.texas.gov>, Michael Strutt <Michael.Strutt@tpwd.texas.gov>
> Date: Fri, 12 Jun 2020 16:43:33 +0000
> Subject: RE: TAP for work in the Lower Neches WMA
>
> **CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.**

Dr. Boykin,

We have reviewed the proposed scope of work for the Texas Antiquities Permit application on the Lower Neches Wildlife Management Area project. Please correct this document to make Texas Parks and Wildlife Department the repository for the artifacts and records of the project.

Thank you

Dennis Gissell

Dennis Gissell

Wildlife Management Areas

Texas Parks & Wildlife Department

4200 Smith School Road

Austin, Texas 78744

512-389-4407

From: Wayne Boyko <WBoyko@rcgoodwin.com>
Sent: Wednesday, June 10, 2020 3:00 PM
To: Dennis Gissell <Dennis.Gissell@tpwd.texas.gov>
Cc: Maggie Moore <Maggie.Moore@thc.texas.gov>; Bill Martin <Bill.Martin@thc.texas.gov>
Subject: TAP for work in the Lower Neches WMA

ALERT: This email came from an external source. Do not open attachments or click on links in unknown or unexpected emails.

Mr. Gissell,

As Maggie Moore has indicated to me, I am forwarding our Texas Antiquities Permit application to you along with our scope of work to you for review. If you require any additional information, or have any questions regarding the project, please do not hesitate to contact me. Thank you,

Wayne

Wayne CJ Boyko, PhD, RPA

Senior Project Manager

R. Christopher Goodwin & Associates, Inc.

309 Jefferson Highway, Suite A

New Orleans, LA 70121

office: (504) 837-1940

fax: (504) 837-1550

cellular: (504) 201-1714

web: http://www.rcgoodwin.com

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From: Dennis Gissell <Dennis.Gissell@tpwd.texas.gov>
To: Wayne Boyko <WBoyko@rcgoodwin.com>
Cc: "michael.strutt@tpwd.texas.com" <michael.strutt@tpwd.texas.com>
Date: 06/17/2020 04:58 PM
Subject: RE: Page 1 THC Antiquities Permit

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Yes sir – thank you.

Dennis

Dennis Gissell
Wildlife Management Areas
Texas Parks & Wildlife Department
4200 Smith School Road
Austin, Texas 78744

512-389-4407

From: Wayne Boyko <WBoyko@rcgoodwin.com>
Sent: Wednesday, June 17, 2020 4:53 PM
To: Dennis Gissell <Dennis.Gissell@tpwd.texas.gov>
Cc: michael.strutt@tpwd.texas.com
Subject: Re: Page 1 THC Antiquities Permit

ALERT: This email came from an external source. Do not open attachments or click on links in unknown or unexpected emails.

Excellent, thank you Mr. Gissell.

Wayne

Wayne CJ Boyko

Senior Project Manager

R. Christopher Goodwin & Associates, Inc.

309 Jefferson Highway, Suite A

New Orleans, LA 70121

office: (504) 837-1940

fax: (504) 837-1550

cellular: (504) 201-1714

web: http://www.rcgoodwin.com

From: Dennis Gissell <Dennis.Gissell@tpwd.texas.gov>
To: "wboyko@rcgoodwin.com" <wboyko@rcgoodwin.com>
Cc: "michael.strutt@tpwd.texas.com" <michael.strutt@tpwd.texas.com>
Date: Wed, 17 Jun 2020 21:48:10 +0000
Subject: Page 1 THC Antiquities Permit

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dr. Boyko,

Attached is page 1 of the permit.

Thank you

Dennis Gissell

WIldlife Management Areas

Texas Parks and Wildlife Department

4200 Smith School Road

Austin, Texas 78744

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received this message in error, please notify us immediately by reply email to the sender and confirm that the original message and any attachments and copies have been destroyed and deleted from your system.

United States Army Corps of Engineers (USACE)

-----Original Message-----
From: Michael Aubele
Sent: Tuesday, July 7, 2020 9:26 AM
To: Minter, Justin D <justin.minter@energytransfer.com>
Subject: RE: Energy Transfer LOPEX VLCC Project (UNCLASSIFIED)

Can you check on what some of the original entities for the Stingray line was with legal so maybe we can help them locate the original permits Thanks.

-----Original Message-----
From: Michael Aubele
Sent: Tuesday, July 7, 2020 9:25 AM
To: Barbara, Darrell S CIV USARMY CEMVN (USA) <Darrell.Barbara@usace.army.mil>
Cc: McMillan, Kristi N CIV USARMY CESWG (USA) <Kristi.N.McMillan@usace.army.mil>; Davis, Andria E CIV USARMY CESWG (US) <Andria.E.Davis@usace.army.mil>; Mayer, Martin S CIV USARMY CEMVN (USA) <Martin.S.Mayer@usace.army.mil>; Minter, Justin D <justin.minter@energytransfer.com>; Ryan Coleman <rcoleman@map2llc.com>
Subject: RE: Energy Transfer LOPEX VLCC Project (UNCLASSIFIED)

Thanks Darrell.

Let me follow up on the operator names from when originally permitted as I forgot to do that to maybe help locate the original platform and pipeline permits for Stingray.

Good on the idea of submitting one and breaking up into two based on the district line, that is easy enough.

With regard to NWP 12, I think the fill material that will be necessary at 501 where we interconnect with the existing Stingray may exceed the 0.5 acres. Some of the easement requirements with NGPL will not allow removal of some of the facilities and the new pig traps will have to go on the south side leading to an expansion of the facility that will likely exceed the NWP threshold. So, I think we will have to proceed as an IP for now and that will also reduce risk depending on what the 9th circuit does with the appeal.

Thanks.

Michael C. Aubele
EXP | Vice President, Environmental and Regulatory m : +1.713.985.9914 | e : mike.aubele@exp.com exp.com | legal disclaimer keep it green, read from the screen -----Original Message-----
From: Barbara, Darrell S CIV USARMY CEMVN (USA) <Darrell.Barbara@usace.army.mil>
Sent: Tuesday, July 7, 2020 9:13 AM
To: Michael Aubele <Mike.Aubele@exp.com>
Cc: McMillan, Kristi N CIV USARMY CESWG (USA) <Kristi.N.McMillan@usace.army.mil>; Davis, Andria E CIV USARMY CESWG (US) <Andria.E.Davis@usace.army.mil>; Mayer, Martin S CIV USARMY CEMVN (USA) <Martin.S.Mayer@usace.army.mil>
Subject: RE: Energy Transfer LOPEX VLCC Project (UNCLASSIFIED)

[External Email]

Mike, Andria Davis I believe is out for the next few weeks with the USCG, but I have been coordinating with Kristi McMillan over there on this too. As you are already aware, SWG (i.e. Kristi M.) decided to take the entire application for the soil borings for this project. On 6/30/20, I sent an email to them both, asking their thought on processing two separate applications and permits for the primary project, but I hadn't checked back to see if they concur. In discussing with Martin Mayer, I feel it may be best that we each process separate permits, since the

larger portion of pipeline and impacts are within Galveston, and a smaller portion of pipeline and the offshore port facility are within N.O. Dist. You all would need to submit one joint permit application to LDNR for the entire project, then we will subsequently require you to break up the application into two, for each USACE District's area of responsibility.

Next, in our last discussion about the offshore facility, I let you know that we could not find a permit for that existing docking strcuture out there under the names provided. I thought that Nathan in our file room had asked you if you could look for any other previous names and/or owners of that structure, that he could search by? Any luck on that?

Lastly, it is my understanding that the US Supreme Court issued an order yesterday which stayed the NWP-12 "nation-wide" vacatur by the lower courts, limiting the applicability of Judge Morris' ruling only to only the Keystone XL pipeline. Therefore, it is my anticipation that we may be able to utilize a NWP 12 and NWP 8 for this project, if the project fits under the parameters and allowances of those NWPs. If either District has to process their portion as a Standard Permit, then both Districts will need to.

Thx Mike and let me know if you have any questions.

DARRELL S. BARBARA
Chief, Western Evaluation Section, Regulatory Br.
U.S. Army Corps of Engineers, New Orleans Dist.
7400 Leake Ave.
New Orleans, LA 70118-3651
(504) 862-2261

-----Original Message-----
From: Michael Aubele [mailto:Mike.Aubele@exp.com]
Sent: Tuesday, July 7, 2020 8:41 AM
To: Barbara, Darrell S CIV USARMY CEMVN (USA) <Darrell.Barbara@usace.army.mil>
Subject: [Non-DoD Source] RE: Energy Transfer LOPEX VLCC Project (UNCLASSIFIED)

Did you and Andria ever come up with how would be best for us to make our filing on BMOP next month. One single and complete application to LDNR that includes the work in fed waters, LA (MVN and SWG) and TX (SWG) would obviously be preferable to us to simplify things. Anyhow, hope you are good and let me know your thoughts. Thanks.

-----Original Message-----
From: Barbara, Darrell S CIV USARMY CEMVN (USA) <Darrell.Barbara@usace.army.mil>
Sent: Thursday, June 18, 2020 7:39 AM
To: Michael Aubele <Mike.Aubele@exp.com>
Cc: Minter, Justin D <justin.minter@energytransfer.com>
Subject: RE: Energy Transfer LOPEX VLCC Project (UNCLASSIFIED)

[External Email]

Yep I agree. Let me know if you find any other relevant names. Thx

-----Original Message-----
From: Michael Aubele [mailto:Mike.Aubele@exp.com]
Sent: Thursday, June 18, 2020 7:32 AM

To: Barbara, Darrell S CIV USARMY CEMVN (USA) <Darrell.Barbara@usace.army.mil>
Cc: Minter, Justin D <justin.minter@energytransfer.com>
Subject: [Non-DoD Source] RE: Energy Transfer LOPEX VLCC Project (UNCLASSIFIED)

I agree. It likely is under a different name as I know it changed multiple times and maybe we can figure out what name it was constructed under as their should be something for all the platforms and the pipe I would think.

-----Original Message-----
From: Barbara, Darrell S CIV USARMY CEMVN (USA) <Darrell.Barbara@usace.army.mil>
Sent: Thursday, June 18, 2020 7:29 AM
To: Michael Aubele <Mike.Aubele@exp.com>
Cc: Minter, Justin D <justin.minter@energytransfer.com>
Subject: RE: Energy Transfer LOPEX VLCC Project (UNCLASSIFIED)

[External Email]

However, Nathan in our file room said that it could be under another name, so if you all find out any info on who may have originally constructed that, let me know. At the end of the day, it should not make much of any difference, as we would not go after something that old as a violation, but it would be good to know if there was a permit, for record keeping sake. Thx

-----Original Message-----
From: Barbara, Darrell S CIV USARMY CEMVN (USA)
Sent: Thursday, June 18, 2020 7:26 AM
To: Michael Aubele <Mike.Aubele@exp.com>
Cc: Minter, Justin D <justin.minter@energytransfer.com>
Subject: RE: Energy Transfer LOPEX VLCC Project (UNCLASSIFIED)

Mike, we were unable to find any DA permits in our records, related to the 509 Platform.

-----Original Message-----
From: Michael Aubele [mailto:Mike.Aubele@exp.com]
Sent: Wednesday, June 17, 2020 2:06 PM
To: Barbara, Darrell S CIV USARMY CEMVN (USA) <Darrell.Barbara@usace.army.mil>
Cc: Adams, Angela M CIV USARMY CEMVN (USA) <Angela.M.Adams@usace.army.mil>; Minter, Justin D <justin.minter@energytransfer.com>; Watts, Nathan E CTR (US) <Nathan.E.Watts@usace.army.mil>
Subject: [Non-DoD Source] RE: Energy Transfer LOPEX VLCC Project (UNCLASSIFIED)

Stringray is the owner now. The original owner may have been NGPL and was early 70s install.

-----Original Message-----
From: Barbara, Darrell S CIV USARMY CEMVN (USA) <Darrell.Barbara@usace.army.mil>
Sent: Wednesday, June 17, 2020 2:04 PM
To: Michael Aubele <Mike.Aubele@exp.com>
Cc: Adams, Angela M CIV USARMY CEMVN (USA) <Angela.M.Adams@usace.army.mil>; Minter, Justin D <justin.minter@energytransfer.com>; Watts, Nathan E CTR (US) <Nathan.E.Watts@usace.army.mil>
Subject: RE: Energy Transfer LOPEX VLCC Project (UNCLASSIFIED)

[External Email]

Mike, who owns that 509 platform, and do you know what name it may have been under when/if a permit was issued? See questions below.

-----Original Message-----
From: Watts, Nathan E CTR (US)
Sent: Wednesday, June 17, 2020 1:57 PM
To: Barbara, Darrell S CIV USARMY CEMVN (USA) <Darrell.Barbara@usace.army.mil>; Adams, Angela M CIV USARMY CEMVN (USA) <Angela.M.Adams@usace.army.mil>
Subject: RE: Energy Transfer LOPEX VLCC Project (UNCLASSIFIED)

CLASSIFICATION: UNCLASSIFIED

To
Darrell
There is nothing showing up in my database.
If we have it. I would assume it was issued under another name.
I will need more information.
Thanks,
Nathan

-----Original Message-----
From: Barbara, Darrell S CIV USARMY CEMVN (USA)
Sent: Wednesday, June 17, 2020 1:49 PM
To: Adams, Angela M CIV USARMY CEMVN (USA) <Angela.M.Adams@usace.army.mil>; Watts, Nathan E CTR (US) <Nathan.E.Watts@usace.army.mil>
Subject: FW: Energy Transfer LOPEX VLCC Project

Angie and/or Nathan, could you see if you can find any permit related to the offshore structure called the 509 Platform. It's gonna be located at the far south end of the yellow line in the Gulf of Mexico, and the existing structure will be proposed for a new Deepwater Port. We are trying to find out if its permitted, and have to believe it surely is. See attached info. Let me know if any questions.

-----Original Message-----
From: Michael Aubele [mailto:Mike.Aubele@exp.com]
Sent: Wednesday, June 17, 2020 12:57 PM
To: Barbara, Darrell S CIV USARMY CEMVN (USA) <Darrell.Barbara@usace.army.mil>; Davis, Andria E CIV USARMY CESWG (US) <Andria.E.Davis@usace.army.mil>
Cc: Minter, Justin D <justin.minter@energytransfer.com>
Subject: [Non-DoD Source] RE: Energy Transfer LOPEX VLCC Project

We are guessing that we won't be able to "easily" find it. So, if you do find a copy ,we would appreciate getting it too. Thanks.

-----Original Message-----
From: Barbara, Darrell S CIV USARMY CEMVN (USA) <Darrell.Barbara@usace.army.mil>
Sent: Wednesday, June 17, 2020 10:52 AM
To: Michael Aubele <Mike.Aubele@exp.com>; Davis, Andria E CIV USARMY CESWG (US) <Andria.E.Davis@usace.army.mil>
Cc: Minter, Justin D <justin.minter@energytransfer.com>
Subject: RE: Energy Transfer LOPEX VLCC Project

[External Email]

Sounds good. If you can't easily find anything, I will have my EP Assistant do search. Thx

-----Original Message-----

From: Michael Aubele [mailto:Mike.Aubele@exp.com]
Sent: Wednesday, June 17, 2020 10:43 AM
To: Barbara, Darrell S CIV USARMY CEMVN (USA) <Darrell.Barbara@usace.army.mil>; Davis, Andria E CIV USARMY CESWG (US) <Andria.E.Davis@usace.army.mil>
Cc: Minter, Justin D <justin.minter@energytransfer.com>
Subject: [Non-DoD Source] RE: Energy Transfer LOPEX VLCC Project

Let us find out - it should I would think.

-----Original Message-----
From: Barbara, Darrell S CIV USARMY CEMVN (USA) <Darrell.Barbara@usace.army.mil>
Sent: Wednesday, June 17, 2020 10:41 AM
To: Michael Aubele <Mike.Aubele@exp.com>; Davis, Andria E CIV USARMY CESWG (US) <Andria.E.Davis@usace.army.mil>
Cc: Minter, Justin D <justin.minter@energytransfer.com>
Subject: RE: Energy Transfer LOPEX VLCC Project

[External Email]

Mike, do you know off hand if the 509 platform had an original DA permit?

DARRELL S. BARBARA
Chief, Western Evaluation Section, Regulatory Br.
U.S. Army Corps of Engineers, New Orleans Dist.
7400 Leake Ave.
New Orleans, LA 70118-3651
(504) 862-2261

-----Original Message-----
From: Michael Aubele [mailto:Mike.Aubele@exp.com]
Sent: Wednesday, June 17, 2020 10:31 AM
To: Barbara, Darrell S CIV USARMY CEMVN (USA) <Darrell.Barbara@usace.army.mil>; Davis, Andria E CIV USARMY CESWG (US) <Andria.E.Davis@usace.army.mil>
Cc: Minter, Justin D <justin.minter@energytransfer.com>
Subject: [Non-DoD Source] RE: Energy Transfer LOPEX VLCC Project

Here's a kmz for reviewing location of the port too. Thanks.

-----Original Message-----
From: Michael Aubele
Sent: Wednesday, June 17, 2020 10:27 AM
To: Barbara, Darrell S CIV USARMY CEMVN (USA) <Darrell.Barbara@usace.army.mil>; Davis, Andria E CIV USARMY CESWG (US) <Andria.E.Davis@usace.army.mil>
Cc: Minter, Justin D <justin.minter@energytransfer.com>
Subject: RE: Energy Transfer LOPEX VLCC Project

I'm still working to get a kmz for the offshore part which would include repurposing the 509 platform, installation of loading lines, calm bouys, etc. The offshore Stingray Pipeline is already in place as is the platform. The platform would include some modification, but mostly on the deck.

This figure should give a good overview though.

Thanks.

-----Original Message-----
From: Barbara, Darrell S CIV USARMY CEMVN (USA) <Darrell.Barbara@usace.army.mil>
Sent: Tuesday, June 16, 2020 10:37 AM
To: Davis, Andria E CIV USARMY CESWG (US) <Andria.E.Davis@usace.army.mil>; Michael Aubele <Mike.Aubele@exp.com>
Cc: Mayer, Martin S CIV USARMY CEMVN (USA) <Martin.S.Mayer@usace.army.mil>; McMahan, Joseph A CIV USARMY CESWG (USA) <Joseph.A.Mcmahan@usace.army.mil>; Minter, Justin D <justin.minter@energytransfer.com>
Subject: RE: Energy Transfer LOPEX VLCC Project

[External Email]

I agree with Andria. Once we can get a better grasp on the full project, me and Andria will loop back around and discuss whether this would be better handled by one district or both. Thx all.

-----Original Message-----
From: Davis, Andria E CIV USARMY CESWG (US)
Sent: Tuesday, June 16, 2020 10:35 AM
To: Michael Aubele <Mike.Aubele@exp.com>; Barbara, Darrell S CIV USARMY CEMVN (USA) <Darrell.Barbara@usace.army.mil>
Cc: Mayer, Martin S CIV USARMY CEMVN (USA) <Martin.S.Mayer@usace.army.mil>; McMahan, Joseph A CIV USARMY CESWG (USA) <Joseph.A.Mcmahan@usace.army.mil>; Minter, Justin D <justin.minter@energytransfer.com>
Subject: RE: Energy Transfer LOPEX VLCC Project

Michael,

Please send Darrel and I a map of the single and complete project (KMZ would be helpful).

We will remove Martin and Joe form the next set of emails to keep the email traffic down to those required. Darrel and I will coordinate with them as needed.

Thank you,
Andria

-----Original Message-----
From: Michael Aubele [mailto:Mike.Aubele@exp.com]
Sent: Tuesday, June 16, 2020 10:29 AM
To: Barbara, Darrell S CIV USARMY CEMVN (USA) <Darrell.Barbara@usace.army.mil>; Davis, Andria E CIV USARMY CESWG (US) <Andria.E.Davis@usace.army.mil>
Cc: Mayer, Martin S CIV USARMY CEMVN (USA) <Martin.S.Mayer@usace.army.mil>; McMahan, Joseph A CIV USARMY CESWG (USA) <Joseph.A.Mcmahan@usace.army.mil>; Minter, Justin D <justin.minter@energytransfer.com>
Subject: [Non-DoD Source] Re: Energy Transfer LOPEX VLCC Project

Would that be for the Deepwater Port too? We were looking to include it as well with this submittal as didnt think the regulations allowed for its seperation. Assume that will be okay and you can divide the review as necessary? Thanks.

_____

From: Davis, Andria E CIV USARMY CESWG (US) <Andria.E.Davis@usace.army.mil>
Sent: Tuesday, June 16, 2020 9:54:58 AM
To: Michael Aubele <Mike.Aubele@exp.com>; Barbara, Darrell S CIV USARMY CEMVN (USA) <Darrell.Barbara@usace.army.mil>
Cc: Mayer, Martin S CIV USARMY CEMVN (USA) <Martin.S.Mayer@usace.army.mil>; McMahan, Joseph A CIV USARMY CESWG (USA) <Joseph.A.Mcmahan@usace.army.mil>
Subject: RE: Energy Transfer LOPEX VLCC Project

[External Email]

Mike,

After a discussion with Darrell, the Galveston District will evaluate the subject pipeline. You will need to submit one Joint Permit Application to DNR, and then the application will be forward over to Galveston District for evaluation. Please note that since all the details for the proposed line have not been disclosed, additional discussions and permitting paths may change as new information is provided.

Thanks you,
Andria

-----Original Message-----
From: Michael Aubele [mailto:Mike.Aubele@exp.com]
Sent: Tuesday, June 16, 2020 8:12 AM
To: Barbara, Darrell S CIV USARMY CEMVN (USA) <Darrell.Barbara@usace.army.mil>; Davis, Andria E CIV USARMY CESWG (US) <Andria.E.Davis@usace.army.mil>
Cc: Mayer, Martin S CIV USARMY CEMVN (USA) <Martin.S.Mayer@usace.army.mil>; McMahan, Joseph A CIV USARMY CESWG (USA) <Joseph.A.Mcmahan@usace.army.mil>
Subject: [Non-DoD Source] RE: Energy Transfer LOPEX VLCC Project

Should the IP submittal be prepared as a single application and should we speak to the district boundary break or do we need not be concerned with that and just submit as single complete project to both your offices or how best to handle. Want to start putting an outline/template together and just curious on best approach or format. Goal is to have submitted by late August concurrent with our MARAD filing. Thanks.

-----Original Message-----
From: Barbara, Darrell S CIV USARMY CEMVN (USA) <Darrell.Barbara@usace.army.mil>
Sent: Wednesday, June 10, 2020 12:56 PM
To: Michael Aubele <Mike.Aubele@exp.com>
Cc: Minter, Justin D <justin.minter@energytransfer.com>; Komi Hassan <Komi.Hassan@exp.com>; Davis, Andria E CIV USARMY CESWG (US) <Andria.E.Davis@usace.army.mil>; Allen Brooks <Allen.Brooks@exp.com>; Richard, Judy F CIV USARMY CEMVN (USA) <Judy.F.Richard@usace.army.mil>; Garcia, Francisco T Jr CIV USARMY CESWG (USA) <Frank.T.Garcia@usace.army.mil>; Mairs, David E CIV USARMY CESWG (USA) <David.E.Mairs@usace.army.mil>; Mayer, Martin S CIV USARMY CEMVN (USA) <Martin.S.Mayer@usace.army.mil>
Subject: RE: Energy Transfer LOPEX VLCC Project

[External Email]

Mike, based on our map overlay, the route(s) you sent would not show to require a 408 review by this District. (see attached) The yellow line is the Galveston/LA District boundary. However, Real-estate is a separate office from our Operations Division and 408 reviews, so you may want to check with them to see if there could be any Real-estate interests, or Instruments that would be required. You could contact Ms. Just Richard with our Real Estate Div., to see if they could maybe do a quick assessment. She can be reached at Judy.F.Richard@usace.army.mil or (504) 862-1158. I have also copied Ms. Judy and our Branch Chief on this email. Thx

DARRELL S. BARBARA
Chief, Western Evaluation Section, Regulatory Br.
U.S. Army Corps of Engineers, New Orleans Dist.
7400 Leake Ave.
New Orleans, LA 70118-3651
(504) 862-2261

-----Original Message-----
From: Michael Aubele [mailto:Mike.Aubele@exp.com]
Sent: Wednesday, June 10, 2020 11:32 AM
To: Garcia, Francisco T Jr CIV USARMY CESWG (USA) <Frank.T.Garcia@usace.army.mil>; Mairs, David E CIV USARMY CESWG (USA) <David.E.Mairs@usace.army.mil>
Cc: Minter, Justin D <justin.minter@energytransfer.com>; Komi Hassan <Komi.Hassan@exp.com>; Davis, Andria E CIV USARMY CESWG (US) <Andria.E.Davis@usace.army.mil>; Barbara, Darrell S CIV USARMY CEMVN (USA) <Darrell.Barbara@usace.army.mil>; Allen Brooks <Allen.Brooks@exp.com>
Subject: [Non-DoD Source] FW: Energy Transfer LOPEX VLCC Project

Just following up on this from back when things were a little more normal pre-COVID. Anyhow, I doubt you ever had a chance to look at the route to determine where the USACE might have real estate or easement interests for civil works. If you could, can you take a look at the attached and let us know, We are still progressing this project (now referred to as Blue Marlin Offshore Port - BMOP) and are looking to make an application with the MARAD under the DPA in late August 2020. As required, we will plan to submit to your agency concurrently for the 404/10 IP and 408 permission for proposed HDDs under the Neches River and ICWW. Just want to be sure there are not other areas of interest that would trigger something for Real Estate or 408 that we need to be aware of.

Darrel/Andria: In light of the new developments from Judge Morris on the NWP12 availability to oil and gas pipelines plans we once considered for trying to stay within the confines of the NWP, we have scrapped that of course and will be filing an IP for the project. Anyhow, over the course next couple months we will be processing the field data and starting to get things together and will coordinate as we get closer on that submittal and doing a pre-app meeting.

Also, Energy Transfer has decided on a project name and developed an LLC for the project - Blue Marlin Offshore Port (BMOP)

Thanks and hope you are all doing well.

Mike

Michael C. Aubele
EXP | Vice President, Environmental and Regulatory m : +1.713.985.9914 | e : mike.aubele@exp.com exp.com | legal disclaimer keep it green, read from the screen -----Original Message-----
From: Davis, Andria E CIV USARMY CESWG (US) <Andria.E.Davis@usace.army.mil>
Sent: Tuesday, February 25, 2020 11:45 AM
To: Michael Aubele <Mike.Aubele@exp.com>; Barbara, Darrell S CIV USARMY CEMVN (USA) <Darrell.Barbara@usace.army.mil>; Little, James W Jr CIV USARMY CEMVN (USA) <James.Little@usace.army.mil>

Cc: Minter, Justin D <JUSTIN.MINTER@energytransfer.com>; Garcia, Francisco T Jr CIV USARMY CESWG (USA) <Frank.T.Garcia@usace.army.mil>; Harry, Charlene Y CIV USARMY (USA) <Charlene.Y.Harry@usace.army.mil>; Mairs, David E CIV USARMY CESWG (USA) <David.E.Mairs@usace.army.mil>
Subject: RE: Energy Transfer LOPEX VLCC Project

Michael,

Once we receive an application we will review and coordinate with our building on Internal Review. This coordination will let us know if something is subject to a Section 408 review for Navigation and/or Flood Risk Management, a Real Estate Review, and Archeology review.

Please contact Mr. Frank Garcia for all information that will be required for a Navigation 408 review and Ms. Charlene Harry for a Flood Risk Management 408 Review. The information required might be difference for different types of projects and for each office.
-in general a KMZ is helpful.
-Geotech (depending on project)

Please contact Mr. David Maris for all information required for a Real Estate Review. The information required might be difference for different types of projects.
-in general the following may be required:
1. Articles of Incorporation
2. W-9
3. CADD/GIS files/KMZ
4. T4
5. Real Estate Application

Hope this information is helpful. All POCs are copy furnished on this email.

Thank you,
Andria

-----Original Message-----
From: Michael Aubele [mailto:Mike.Aubele@exp.com]
Sent: Tuesday, February 25, 2020 10:37 AM
To: Davis, Andria E CIV USARMY CESWG (US) <Andria.E.Davis@usace.army.mil>; Barbara, Darrell S CIV USARMY CEMVN (USA) <Darrell.Barbara@usace.army.mil>; Little, James W Jr CIV USARMY CEMVN (USA) <James.Little@usace.army.mil>
Cc: Minter, Justin D <JUSTIN.MINTER@energytransfer.com>
Subject: [Non-DoD Source] Energy Transfer LOPEX VLCC Project

Attached is the planned draft protocol for the wetland delineation for ET's LOPEX Project. As we had discussed, we do intend to use the drone for some areas, but found out yesterday we may access with an airboat anyhow so will supplement with the drone data as necessary in certain areas. We are planning to begin some of the fieldwork in both MVN and SWG starting next week for bio and wetland surveys. We will be getting survey protocols for you maybe later this week or next week for review for cultural surveys.

Andria, remind me the latest process in your district for the 408 folks to review the project against civil works interest properties. I think the last was with the preparation of a real estate application and providing a shapefile, but just want to confirm and if we should reach out to Frank for that need? I think we are now at a point where we can provide this information to you for the project.

Thanks again and please let me know if any comments or you need any additional information.

Mike

Michael C. Aubele
EXP | Vice President, Environmental and Regulatory m : +1.713.985.9914 | e : Mike.Aubele@exp.com
<mailto:Mike.Aubele@exp.com>
1800 West Loop South
Suite 850
Houston, TX 77027
USA

exp.com
<BlockedBlockedBlockedBlockedBlockedBlockedBlockedBlockedBlockedBlockedhttps://can01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.exp.com%2F%3Futm_medium%3Demail%26utm_source%3Doutlook%26utm_campaign%3Dhomepage&data=02%7C01%7CRyan.McDonald%40exp.com%7C149c14d9337241d30a4508d82282c519%7C4ac47f737479484a903a7c08b6270689%7C0%7C0%7C637297292333731047&sdata=TP92d120ISV6NMLUhKBDVlLpWJhDSWhEqvjl0aA7HY8%3D&reserved=0> | legal disclaimer
<BlockedBlockedBlockedBlockedBlockedBlockedBlockedBlockedBlockedBlockedhttps://can01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.exp.com%2Fprivacy-policy%2F%3Futm_medium%3Demail%26utm_source%3Doutlook%26utm_campaign%3Dprivacy-policy&data=02%7C01%7CRyan.McDonald%40exp.com%7C149c14d9337241d30a4508d82282c519%7C4ac47f737479484a903a7c08b6270689%7C0%7C0%7C637297292333731047&sdata=LL8m8VggkVbd3rjybDK0xLAL4jSp2UnCSNj%2BoG%2F8gqU%3D&reserved=0>
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United States Coast Guard (USCG)

Allen Brooks

From: Jon Schmidt
Sent: Tuesday, April 14, 2020 3:36 PM
To: Greenway, Myles J CDR
Cc: Fields, Yvette (MARAD); Lopez, Efrain (MARAD); Allen Brooks; Estopinal, Eric F; Minter, Justin D
Subject: Oil Spill Modeling Protocol for the LOPEX Project
Attachments: RPS_EXPDWP_Modeling_Approach_20200409.pdf

Commander Greenway,

As discussed on April 9, 2020, Energy Transfer is planning to submit a Deepwater Port application to construct and operate a new oil export facility in the Gulf of Mexico off of the coast of Louisiana. Application submittal is currently planned for the end of August. As recommended by yourself and Yvette Fields of the Maritime Administration, we are submitting for review and comment the attached modeling approach in support of assessing the risk and consequences of an oil spill from the proposed facility and associated pipeline. Energy Transfer has contracted the RPS Group to conduct the modeling and we appreciate your approval of the approach prior to initiating the modeling sequences. We would like to receive you approval by April 24, 2020.

I may be reached by email at jon.schmidt@exp.com or by phone at (850) 508-7306 for any questions or for additional information.

Jon Schmidt, Ph.D.
EXP | Vice President, Environment and Regulatory Services
c : +1.850.508.7306 | e : jon.schmidt@exp.com
1300 Metropolitan Boulevard
Tallahassee, FL 32308
USA

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MODELING IN SUPPORT OF ASSESSING THE RISK OF ACTIVITIES ASSOCIATED WITH A DEEPWATER PORT IN THE GULF OF MEXICO

Modeling Approach

RPS Modeling Approach
EXP DWP Risk Support
April 9, 2020

rpsgroup.com

Prepared by:

RPS

Matt Horn, Ph.D.
Director, Ocean Science

Lisa McStay
Ocean Engineer
55 Village Square Drive
South Kingstown RI 02879

T +1 401 661-8606
E matt.horn@rpsgroup.com

Prepared for:

EXP

Allen Brooks
Environmental Project Manager

1300 Metropolitan Blvd
Tallahassee, FL 32308

T +1 727 2348 8979
E allen.brooks@exp.com

1 INTRODUCTION

RPS has been requested by Energy Transfer and EXP to provide a modeling approach document summarizing the modeling analyses that are proposed to support the assessment of risk (likelihood and consequence) associated with a Deepwater Port (DWP) in the Gulf of Mexico. One of the main focuses of the assessment involves computational oil spill modeling of accidental or intentional events that may compromise cargo containment (i.e., oil spills) and would need to satisfy the requirements of a U.S. Coast Guard (USCG) DWP application.

This document describes the proposed modeling approach and analysis that would be conducted by RPS that is associated with a matrix of scenarios. The scope of work provided here is based upon RPS knowledge from previous and ongoing applications in the Gulf of Mexico for similar projects and MARAD direction for those projects.

Expected oil transport and exposure will be modeled using the RPS' OILMAPLand and SIMAP modeling software to assess these releases. The goals of the proposed work include:

1. Accessing the best-available environmental input data (e.g., currents and winds);
2. Calculating the release volumes/rates;
3. Assessing the potential frequency and magnitude of oil spills from various project components;
4. Projecting the behavior of spilled oil using the state-of-the-art oil transport and fate models, and producing model output quantifying and illustrating oil exposure, such as areas affected by floating oil, length and location of shoreline oiled, shoreline and habitat types affected, mass balance graphs, and visual representations for various scenarios;
5. Identifying species and habitats of concern;
6. Assessing the socioeconomic and ecological impacts from the hypothetical proposed oil spill scenarios using an overlay analysis, HCA analysis, and biological effects modeling;
7. Assessing pool fires;
8. Providing detailed discussion of possible response tactics that would facilitate rapid and effective incident response; and
9. Provide a safety and security assessment of the oil spill potential.

RPS has worked with the client to develop a specific number of scenarios and underlying assumptions, including:

- Spill locations;
- Oil types, and
- Spill volumes and durations.

It is recognized that communication between the proponent and the project review team is paramount to the project's success. Therefore, RPS is proposing several engagement workshops with ETP, USCG, MARAD, EXP, RPS, and any other relevant stakeholders to discuss:

1. Preliminary aspects of the modeling, prior to initializing any simulations, to finalize:
    a. modeling approach (i.e. OILMAPLand and SIMAP tools and application);
    b. modeling assumptions (e.g. product and volume released, simulation duration, etc.); and
    c. scenarios to be simulated (i.e. stochastic and deterministic scenarios).
2. Results of the spill modeling, with a presentation of findings from each scenario and discussion of how these findings will be used to address concerns of likelihood and potential consequence following any release (prior to completing a draft EIS).
3. Relevant findings from the EIS related to spill modeling and other aspects.

RPS would Should there be any comments, questions, or concerns related to this modeling approach, please feel free to reach out directly to Dr. Matt Horn.

2 RPS COMPANY BRIEF

RPS Ocean Science is part of the RPS Group plc, a 4,500 employee, $570 million, publicly-held multinational environmental consultancy and energy resources company with US headquarters in Houston, Texas, which advises clients on the built and natural environment across diverse public and private economic sectors. The Rhode Island office of RPS is a firm specializing in modeling of oil and chemical pollutants in the aquatic environment, oceanographic and coastal sciences, spatial (GIS) and metocean data management, web-based data portal development, and NEPA/permitting support. Our Purpose is to create shared value by solving complex problems that matter. Our team of professional scientists and technical staff has worked together for over 30 years to provide high quality environmental consulting, both nationally and internationally. Through deep expertise and pragmatic methods, we have exceeded the expectations of our customers with absolute delivery of creative solutions. Our goal is to achieve our client's objectives within expected time frames, while maintaining high regard for scientific principles.

RPS is a recognized leader with nearly 40 years of experience supporting industry and government clients with various services related to oil spill modeling and response. RPS staff have diverse technical backgrounds specializing in the characterization and analysis of marine, freshwater, air, and land resources; computer modeling of physical, chemical, and biological processes; data management; and is an authority on the fate and transport of spilled oil and its impacts on components of the marine environment. Led by Dr. French-McCay, RPS has performed numerous oil spill modeling studies evaluating the implications of spill response options and risk (e.g., French-McCay et al. 2004a,b,c; 2005a,b,c; 2006a,b,c; 2009; 2012; 2014; 2017; 2018d; French-McCay and Graham 2014; Bock et al. 2018; references available upon request). RPS's oil spill risk analysis is a three-part process consisting of: 1) probability analysis of the likelihood of a spill or release, 2) spill transport modeling to predict the likelihood and degree of exposure to ecological and/or socioeconomic resources, and where applicable, 3) evaluation and reporting of the resulting impacts through oil spill response plans (OSRP), environmental impact analyses (EIA), natural resource damage assessments (NRDA), net environmental benefit analyses (NEBA), and cost/benefit analyses.

3 PROJECT TEAM

Dr. Matt Horn will serve as project director and technical lead for oil spill fate modeling. Dr. Horn is a director on the executive team for RPS in South Kingstown, RI and a manager for a team of expert scientists, engineers, and technical staff. He is a senior scientist, specializing in unmitigated and response mitigated oil and chemical trajectory and fate modeling. Dr. Horn has experience working on Natural Resource Damage Assessments (NRDA), including the Deepwater Horizon oil spill, and has provided evidence and expert testimony for several regulatory hearings in Canada and the U.S. related to offshore exploration and development, pipeline projects, and rail. His most recent work has focused on numerous Ecological and Human Health Risk Assessments (EHHRA) and Environmental Impact Statements (EIS) in the U.S. and Canada related to hydrocarbon releases onto land and into water from pipelines, rail corridors, facilities, and offshore infrastructure related to oil and gas exploration and development. Dr. Horn provides modeling contributions and technical documentation internationally for Environmental Impact Assessments (EIA), Risk Assessments (RA), Net Environmental Benefit Analysis (NEBA), and other assessments. Dr. Horn received a B.S. in Science of Earth Systems, focusing on oceanography and climate dynamics from Cornell University in 2004, with distinction in research. He received a Ph.D. in oceanography from the University of Rhode Island, Graduate School of Oceanography in 2011. Dr. Horn has a range of modeling experience including determining the fate of spilled chemicals / hydrocarbons within marine, estuarine, and freshwater environments (river and lake) both inland and offshore, overland trajectory and fate, hydrodynamic modeling, developing hydrocarbon parameters used in modeling, biogeochemical cycling, chemistry, and other oceanographic processes. He has expertise developing, testing, and maintaining proprietary software used in oil spill modeling.

Jill Rowe is also a director and a manager of scientific staff at RPS Ocean Science in RI. She specializes in biological and environmental data gathering, analysis and management; natural resource damage assessment (NRDA) modeling and analysis of pollutant fates and effects; ecological risk assessment; impact assessment of dredging and development projects, preparing sections of Environmental Impacts Statements; providing NEPA support, and GIS mapping and analysis. Ms. Rowe has applied her marine biological and GIS expertise to biological data set development, as well as mapping habitats and biological resource distributions that could ultimately be affected by oil/chemical spills and development projects. She performs quantitative assessments and modeling of aquatic ecosystems and populations, pollutant transport and fates, and biological response to pollutants. The populations to which she applies these models include plankton, benthic invertebrates, fisheries, birds and mammals. She has analyzed data and has applied water quality, food web and ecosystem models to case studies in freshwater, marine and wetland ecosystems.

Ms. Gabrielle McGrath will serve as RPS's Technical Lead for the tactical response assessment. As part of her 26 years of dedicated service in the United States Coast Guard, Ms. McGrath performed risk analyses and developed mitigation plans to reduce risk for both oil spill response and maritime security planning. Her work included the development of Area Contingency Plans and Area Maritime Security Plans on both the East and West Coasts of the United States. For example, in her role as Chief, Contingency Planning and Force Readiness Department for USCG Marine Safety Office Boston, Ms. McGrath developed the first ever Area Maritime Security Plan for the port. She also led planning of all Maritime Security (MARSEC) security actions to implement for MARSEC Levels 1, 2, and 3 for the Captain of the Port (COTP) zone.

Jeremy Fontenault is the Director of Geospatial Services at RPS, in South Kingstown, Rhode Island. He specializes in GIS and data management, specifically regarding the modeling of the fate and transport of hazardous liquids and vapors in terrestrial environments (on land and in streams). He has nearly 9 years of experience in land-based spill modeling from hundreds of pipelines and facilities throughout the United States and Canada, and around the world. This experience includes compiling and preparing input data, performing the spill model simulations, and developing and improving the models. This work has supported

integrity management plans, pipeline risk assessments, Ecological and Human Health Risk Assessments (EHHRA), Environmental Impact Statements (EIS), emergency management/planning, spill response planning, etc.

Ms. Crowley is a senior consulting environmental scientist and project manager at RPS. She has experience working on issues and projects related to various aspects of environmental science such as environmental data analysis, hydrodynamic, sediment transport and water quality modeling and analysis, coastal processes modeling and analysis, coastal facility design support, operational/industrial and accidental discharge modeling and assessment, environmental impact assessment in coastal and marine environments and permitting and regulatory compliance analysis and support. She is one of the model developers for RPS' OILMAPDeep and has expertise assessing blowouts in the near field including plume analysis and droplet size predictions. Additionally, she has experience assessing the near field plume dynamics of various discharges including operational discharges such as those from wastewater facilities or produced water for oil and gas operations. Ms. Crowley's experience includes numerous studies of hydrodynamics, sediment transport, water quality and water discharge assessments. Areas of experience include model development and application, field program design and support, environmental impact assessment (marine resources), geospatial analysis, environmental data analysis and technical writing.

Dr. Dagmar Schmidt Etkin has 45 years of experience in environmental analysis -14 years investigating issues in population biology and ecological systems, and 31 years specializing in the analysis of oil spills. Since 1999, she has been president of Environmental Research Consulting (ERC) specializing in environmental risk assessment, spill response and cost analyses, and expert witness research and testimony. ERC's work focuses on providing regulatory agencies and industry with sound scientific data and perspectives for responsible environmental decision-making and risk assessment. She received a BA in Biology from University of Rochester, and an MA and PhD from Harvard University in Organismic and Evolutionary Biology where she focused on ecology, statistics, and modeling.

CV's have been provided for the key personnel leading each section of this proposed work. Additional CV's are available upon request for additional technical team members.

4 RELEASE VOLUME MODELING

RPS proposes to calculate release volumes with their OILMAPLand model system. To maximize the conservative nature of this assessment, we propose to simulate full bore rupture scenarios. A full bore rupture (i.e., complete severing of the pipeline) of the pipeline would be modeled along each on-land hypothetical release location. In addition, conservative assumptions would be used to account for the time for full shutdown of the affected pipeline (i.e., taking into account elapsed time for alarm notification, stopping the pumps – totaling 9 minutes, and closure of the shut-off valves – an additional 3.9 minutes). The maximum volume of crude oil hypothetically released at each site over this ~13 minute timeframe would therefore include both the initial release volume prior to shutdown (i.e., actively pumping out), as well as hydraulic drain down of the pipeline (i.e., gravity drained oil within the pipeline between the valves), following shutdown at that site. Small volume and slow releases are not considered to be a credible worst case for this project as the pipeline passes through areas that have large amounts of water (e.g. Neches River, Sabine Lake, and many marshes). Even small volumes of crude oil released into aquatic ecosystems rapidly sheen on the surface and are likely to be spotted by people within the area. It is unlikely that small volume releases would occur for long periods of going unnoticed. Therefore, full bore rupture scenarios would be considered more conservative than small volume slow releases, as they would maximize the volume leaving the pipeline and therefore maximize the potential for effects.

OILMAPLand is a land and surface water spill model system for predicting full-bore rupture release volumes and simulating the trajectory, fate, and effects of hazardous liquids from pipelines and storage facilities. Release volumes will be estimated at sites spaced at 100-foot intervals along the pipeline and at each watercourse crossing. At each hypothetical release site, a full-bore rupture of the pipeline will be assumed. The volume lost is calculated assuming a guillotine break and an opening equal to the pipeline inside diameter. When a pipeline break occurs the liquid flows from the break under pressure until response actions are taken to depressurize the line and isolate the damaged segment.

In the first phase of the calculation, liquid flows from the break in the pipeline at the operating flow rate until the pumps are completely stopped. During this phase, the volume pumps out of the rupture point from the upstream portion of the pipeline. The product is assumed to be pumped out of the upstream side of the rupture point at the full designed flow rate, until the pumps are completely shut down. In the second phase of the calculation, the product drains from the break under the force of gravity before valves are closed. Once valves have been closed, the volume available for gravity flow is restricted to the liquid contained in the pipeline segment between closed valves up- and down-stream from the break which are hydraulically above the break point (Figure 4-1). The total release volume is the sum of pressurized flow volume plus the gravity drain down volume.

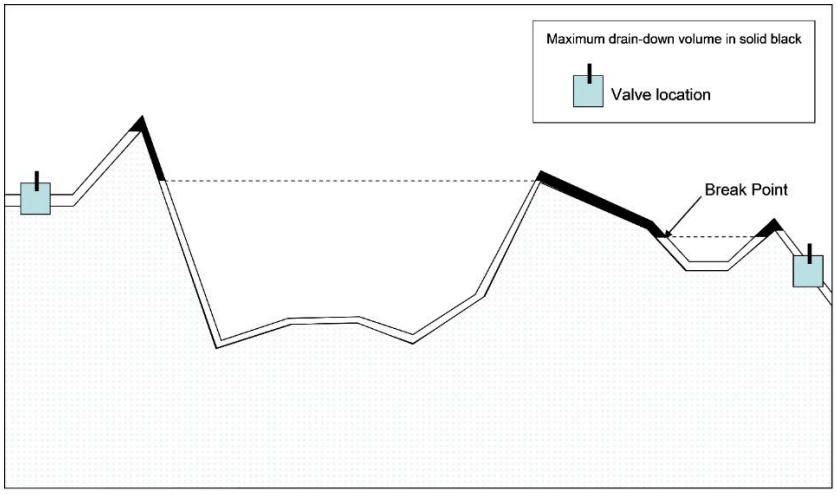

Figure 4-1. Diagram depicting pipeline drain down.

5 OIL SPILL RISK (PROBABILITY ASSESSMENT)

The Oil Spill Risk (Probability) Assessment for the DWP includes assessing the potential frequency and magnitude of oil spills from the various components of the project (Figure 5-1). These components include both onshore segments (i.e. pipeline through Sabine Lake between tank farm and the shoreline near Holly Beach, LA) and offshore segments (pipeline between shoreline and two single-point mooring systems at the DWP, and the moorings systems).

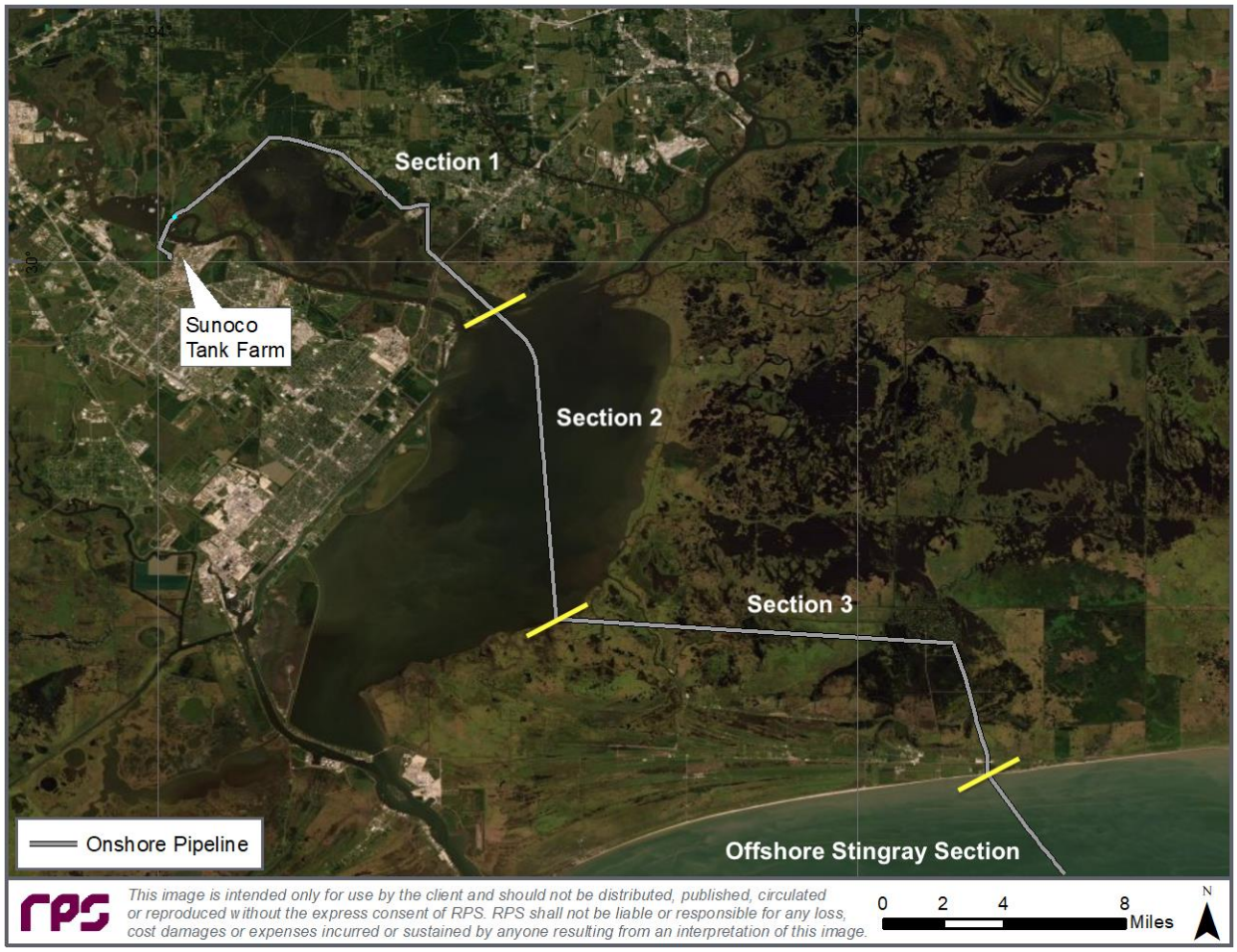

Figure 5-1. DWP onshore project components (i.e., on land Pipeline Section 1, Pipeline Section 2 through Lake Sabine and on land Pipeline Section 3

5.1 Probability Assessment Approach

Dr. Dagmar Schmidt Etkin of Environmental Research Consulting (ERC) will conduct an analysis of the probability of oil spills in each of the onshore and offshore project components. For the analysis, the new 42-inch onshore pipeline will be considered in three separate sections–the segment from the existing Sunoco tank farm to the northwestern shore of Sabine Lake, the segment that crosses Sabine Lake, and the segment from the eastern shore of Sabine Lake to the shoreline near Holly Beach, Louisiana. The reason for separating the analyses on the three segments is to provide a probability analysis that will coordinate with the spill modeling conducted by RPS Group. This will allow ERC to assign a probability to the modeled hypothetical spill scenarios for the two on-land pipeline segments (Sections 1 and 3) as well as the Sabine Lake segment (Section 2), each of which would have different potentials for trajectory, fate, and environmental effects (Figure 5-1). The probability analyses for the offshore components will include independent analyses for spills that might occur along the offshore Stingray pipeline and spills that might occur at the DWP mooring system (Figure 5-2). The latter could include spillage from any storage at the mooring system and during oil transfer operations to tankers. It is assumed that the probability analysis will specifically exclude tanker transport once the fully-loaded tankers leave the DWP (i.e. vessel traffic study).

The probability analysis also excludes any spills from offshores supply vessels servicing the DWP. However, both of these components will be included in the oil spill risk assessment portion.

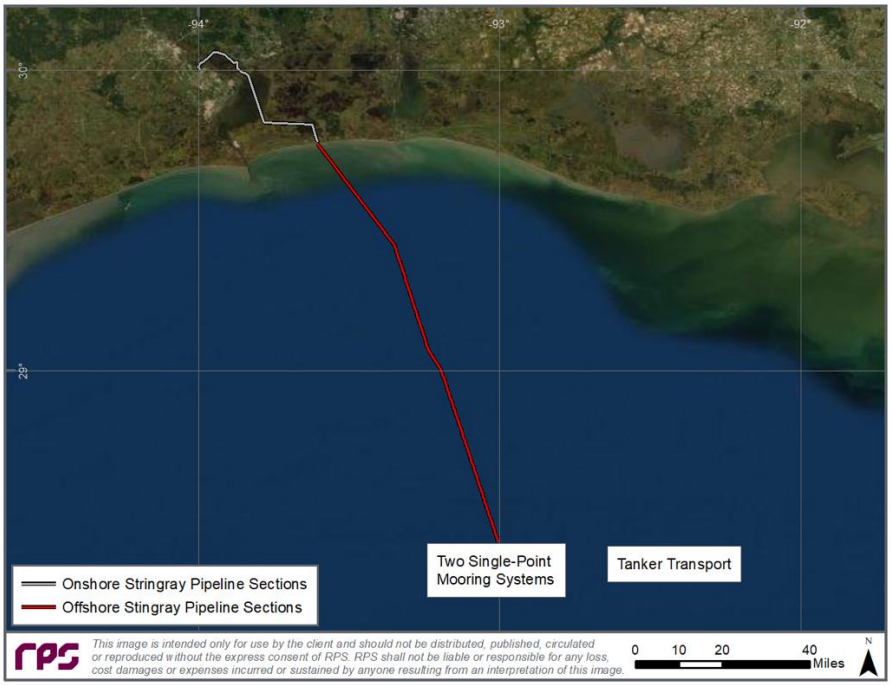

Figure 5-2. DWP offshore project components (i.e., Stingray pipeline, single-point mooring systems, and tanker transport)

The probability analysis will take into account the types of spills that might occur in the various project components (e.g., corrosion-caused pipeline leakage; third-party damage by construction; vessel strikes, or anchor dragging; operational errors; oil transfer errors) based on historical data (e.g., probability of corrosion leakage per pipeline-mile for pipelines of that age and flow rate) adjusted for any preventive or mitigative measures in place. The analysis would also provide a probability distribution function of spill volumes (magnitude of spillage) based on spill cause and project component. The probability of the modeled hypothetical spill scenarios will also be provided in coordination with RPS Group.

While it is difficult to determine the probability of intentional attacks accurately, historical data will be reviewed to capture the frequency of these events in recent years. For oil spill modeling, whether the event was considered to be accidental or intentional, the scenarios would both be considered catastrophic, with a complete loss of the oil volume. Therefore, no additional oil spill modeling would be required for an attack, unless a different release volume (i.e. not a complete loss) was to be assessed.

6 OIL SPILL MODELING

6.1 Oil Spill Model Systems

RPS proposes to use their OILMAPLand model system to help assess releases from the onshore portion of the pipeline. As stated in Section 4, OILMAPLand is a two-dimensional land and surface water spill model system for predicting full-bore rupture release volumes and simulating the trajectory, fate, and effects of hazardous liquids from pipelines and storage facilities. Mass balance calculations allow for a complete

accounting of the product spilled and a determination of the path and timing of the released product. The predicted plume footprints can be overlaid with High Consequence Areas (HCA) and other sensitive receptors to assess potential impacts in the event of a loss of containment.

Following the modeling of onshore releases onto land using OILMAPLand, RPS proposes to use their three-dimensional state-of-the-art oil transport, fate, and effects model SIMAP (French-McCay 2004, 2009; French-McCay et al. 2018) to evaluate transport and weathering of oil released in-water in the project region of interest. SIMAP uses site specific wind and current data, and state-of-the-art transport and oil weathering algorithms in its physical fate model (Figure 6-1) to quantify areas swept by floating surface oil of varying thicknesses, concentrations of subsurface oil components (dissolved and particulate, including BTEX, PAH's, and many other compounds/chemical groups of interest) in space and over time, and areas of shoreline impacted to varying degrees. In this more extensive analysis, the SIMAP exposure model further evaluates areas/volumes where habitats and wildlife exposures would occur, accounting for the distribution and behavior of the organisms. SIMAP is a 3-dimensional Lagrangian model, meaning that each component of the spilled oil is represented by an ensemble of independent mathematical (Lagrangian) particles or "spillets" that are tracked through the many different transport and fate processes (Figure 6-2). Each spillet is a sub-set of the total mass spilled and is transported by both currents and surface wind drift. Various response actions can be modeled including mechanical removal, surface and subsurface dispersant application, and in situ burning. A description of SIMAP and an example application can be found in the attached recent publication French-McCay et al. (2018, Appendix A).

Processes simulated in the SIMAP physical fates model include oil spreading (gravitational and by shearing), evaporation, transport, vertical and horizontal dispersion, emulsification, entrainment (natural and facilitated by dispersant), dissolution, volatilization of dissolved hydrocarbons from the surface water, adherence of oil droplets to suspended sediments, adsorption of soluble and sparingly-soluble aromatics to suspended sediments, sedimentation, and degradation (Figure 6-2). SIMAP is unique in that it not only models particulate oil content at the surface and in the water column, but it also accounts for the dissolved component of oil. SIMAP calculates the dissolved in-water concentrations and tracks them over time.

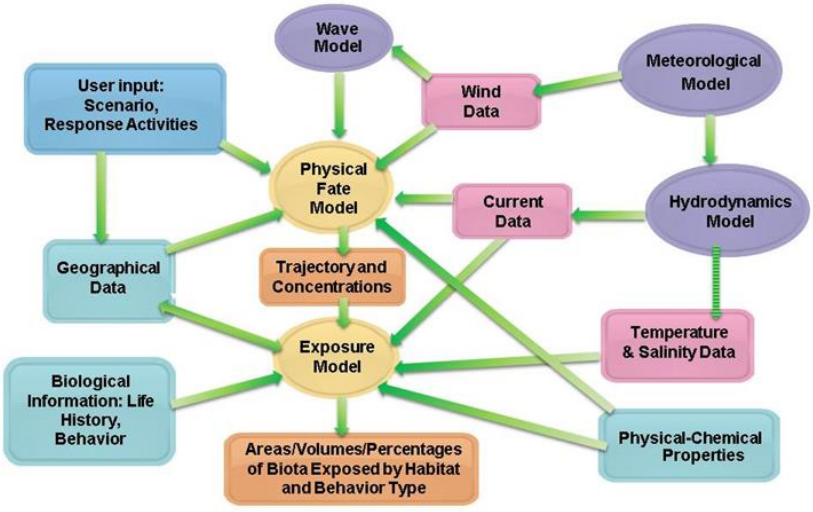

Figure 6-1. The RPS SIMAP 3-D oil fate and exposure model components and inputs flow diagram.

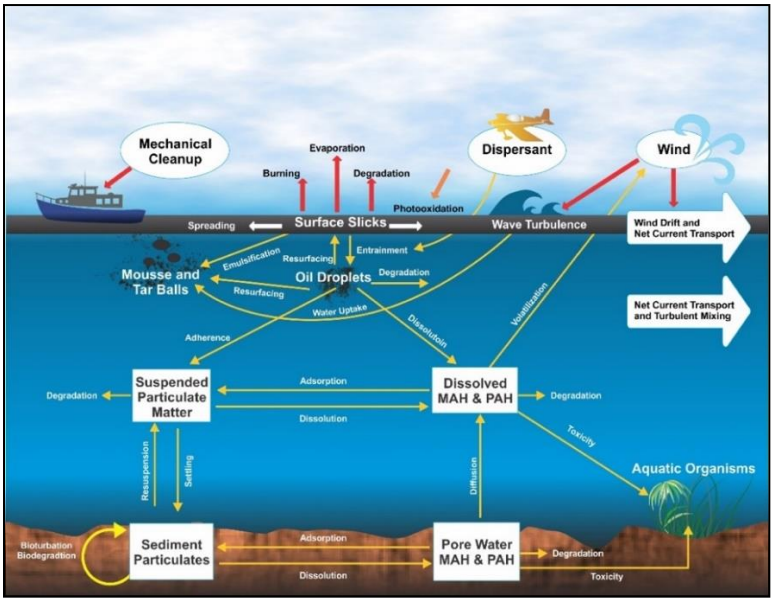

Figure 6-2. Open water oil fates and behavior processes simulated in the RPS SIMAP modeling system.

Both the OILMAPLand and SIMAP models are used extensively by industry and governments (French-McCay, 2004; Horn and French-McCay, 2015; Horn and Fontenault, 2018; Horn et al., 2018). Detailed descriptions of the algorithms and assumptions in the SIMAP model and validations to field and laboratory data may be found in published papers (French McCay, 2002; 2003; 2004; 2009; French McCay et al. 2015; 2018). Hindcasts and modeling studies span marine, estuarine, and freshwater environments, including river cases and orimulsion studies (French et al. 1997; French McCay 2003; 2004; French McCay et al., 2005; Horn and French McCay, 2015; French McCay et al. 2015; 2018a,b,c).

The two products to be investigated will include a light crude oil (Bakken), and heavy crude oil (Cold Lake Blend, or CLB) spanning the range of API crude oils that may be shipped. The hypothetical release locations that will be investigated span the distance from the offshore platforms to the tank farm and include a nearshore location and two inland locations (*Neches River and Sabine Lake) (Table 6-1; Table 6-2).

Table 6-1. Tentative crude oil types that will be simulated.

Oil Name	Oil Type	Density (g/m^2)	Viscosity (cP)	Interface Tension (dyne/cm)	Emulsion maximum Water Content (%)
Light Crude Oil (e.g., Bakken)	*High API Crude	0.81650	3.88 @ 10ºC	27.3	0.005
Heavy Crude Oil (e.g. CLB)	*Low API Crude	0.9177	150 @ 15ºC	27.1	53
Diesel 2002	Diesel Fuel	0.83	2.76 @ 25ºC	27.5	0.00
HFO 380	Heavy Fuel Oil	0.9888	22,800 @15ºC	not measurable	57.7

Table 6-2. Tentative release locations that will be modeled.

Site Name	Type / Block	Comments*	Latitude N	Longitude W	Water Depth (m)
DWP Platform	WC 433	WC433 CALM Loc 1	28°40'21.00"N	93°5'52.00"W	33 m
Preferred		WC433 Platform	28°40'21.17"N	93°5'05.58"W	
DWP Platform	WC 509	WC509 CALM Loc 1	28°26'47.33"N	93 00'13.3"W	48 m
Alternate		WC509 Platform	28°26'00"N	93°00’16.0"W	
Nearshore pipeline location	WC 44	13 km offshore	29°39'31.41"N	93°31'50.32"W	10 m
Pipeline release into coastal waterway	MP 19.5	Sabine Lake	29°55'6.67"N	93°49'2.22"W	3 m
Pipeline release into coastal waterway	MP1	Neches River	30° 0'45.97"	93°59'50.59"W	15 m

*Note that pipeline and support vessel releases will be simulated at the platform, while the VLCC releases will be simulated at the buoy locations.

6.2 Oil Spill Modeling Approach

6.2.1 Onshore Pipeline Releases (OILMAPLand)

In the first phase of the proposed study, OILMAPLand will be used to model the transport and fate of crude oil releases (Bakken and CLB) along the pipeline, using the full-bore rupture release volumes predicted, and/or some other smaller release volume. A release will be simulated at each release location along the pipeline (100-foot interval and each watercourse crossing). Spill plume simulations will be run until one of the following conditions is met:

- All of the released product has evaporated, adhered to land cover, filled depressions in the land surface, spread to a minimum thickness on a lake surface, and/or adhered to stream shores.
- Released product remaining on the water surface has been transported for a predefined period of time from the start of the simulation.
- Release reaches open/tidal waterbody (i.e., Gulf of Mexico, Sabine Lake). When this occurs, the volume predicted to reach water can be used to inform scenarios designed to simulate the offshore trajectory, fate, and effects.

Model generated spill plumes and spill location points will be delivered in ESRI GIS format. The spill plumes can also be used to perform an HCA Analysis to assess potential impacts from releases onshore.

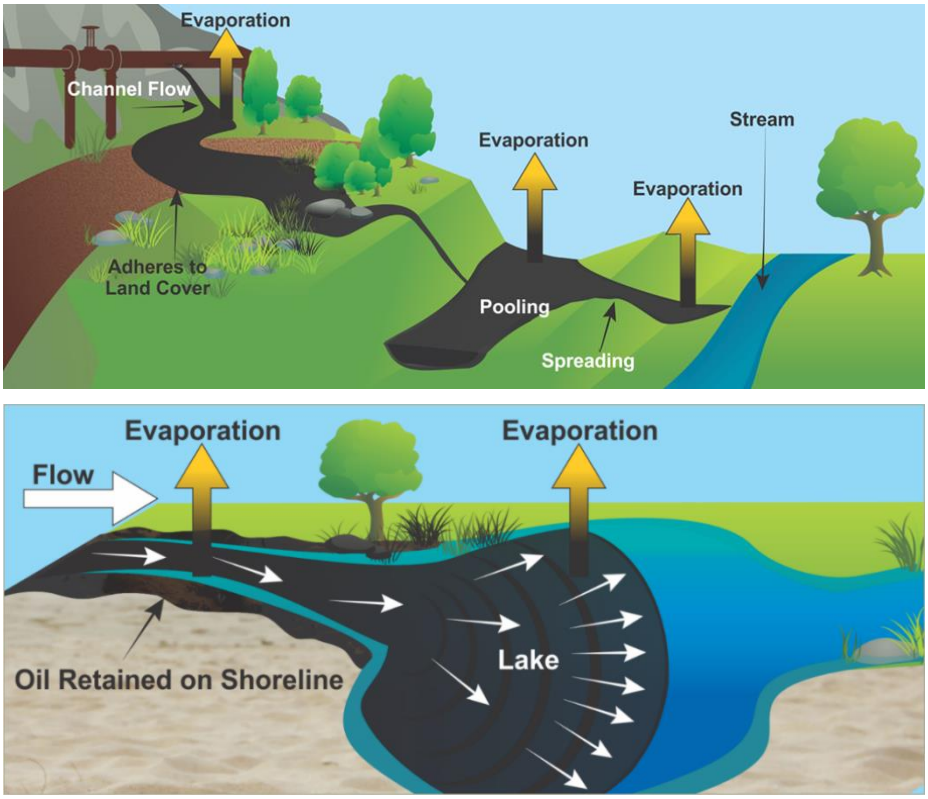

Figure 6-3. Oil fate and behavior processes simulated in the RPS OILMAPLand model for on land (top) and in water spills (bottom).

6.2.1.1 OILMAPLand Input Data

The OILMAPLand model utilizes geographic and environmental data, often obtained from public sources, to define the land elevation, water features, and land cover type which are then used to predict pathways of the released product. The following datasets will be used:

Elevation data (DEM):

- United State Geological Survey (USGS) 1/9 arc second (approximately 3 meter) resolution National Elevation Dataset (NED)
- High resolution National Hydrographic Dataset (NHD) – for the inland surface water transport modeling
- USGS and United States Environmental Protection Agency (EPA) NHDPlus dataset – to define flow and current velocity information within waterways, that can be applied to the NHD high resolution network.
- 2016 National Land Cover Database (NLCD) – to define the land cover types within the region

The following inputs required by the OILMAPLand model are being determined in conjunction with RPS, EXP, and Energy Transfer:

- Pipeline centerline
- Pipeline elevation profile (if available)
- Pipeline inside diameter or outside diameter and wall thickness
- Pipeline flow rate
- Valve locations, types, and closure time(s)
- Leak detection and pump shutdown time
- Product specifications for each product type – density, viscosity, name, etc.

6.2.1.2 OILMAPLand Reporting

A draft of the OILMAPLand modeling report will be provided, which will include a summary of the assumptions, inputs, model system details, and results. The draft report will be revised according to comments received to produce a final report. Georeferenced data (e.g., shapefile for specific scenarios) will be made available on request.

6.2.2 Open Water / Offshore Releases (SIMAP)

In the second phase of the proposed study, SIMAP's stochastic model will be used to evaluate the likelihood that various locations and resources would have the potential to be oiled above specific socioeconomic and/or ecological thresholds by releases in open water and offshore environments. The stochastic analysis is a statistical analysis of oil spill model results generated from many different individual trajectories (>100 individual simulations) of the same spill event (i.e. scenario). Each trajectory has a different spill start time selected at random from a relatively long-term window. The random start time allows for the same type of spill to be analyzed over the varying environmental conditions that may occur on timescales from hours to years. The favored approach is to use historical observed multiple-year wind record(s) and hindcast hydrodynamic models to perform the simulations within the coinciding time period. This allows for reproduction of the natural variability of the wind direction and speed. Optimally, the minimum time window

for stochastic analysis is at least five years, therefore a minimum of five years of wind (NCEP NARR 2004-2010) and current data (ECHYCOM 2004-2010) will be used.

The stochastic analysis provides two types of information: 1) areas associated with probability of oiling, and 2) the shortest time required for oil to reach any point within the areas predicted to be oiled. Together, probability and minimum time can be interpreted to read: “There is X% probability that oil is predicted to exceed the identified threshold at a specific location, and this exceedance could occur in as little as Y days.” The predicted cumulative footprint (area) and probabilities of oiling are generated by a statistical analysis of all the individual trajectories. The stochastic model is also capable of evaluating areas affected and concentrations over a prescribed minimum threshold or cut-off value, and at oiling probabilities above a certain percent (e.g., >1%). Stochastic modeling results include predicted spatial distributions of hydrocarbons and probabilities that water surface (i.e. surface oil thickness), water column (i.e. concentrations of total petroleum hydrocarbons, dissolved constituents, PAH’s, etc.), and shoreline (i.e. mass per unit area or thickness) areas will be affected, as well as oil exposure levels (i.e. any specified threshold). These exposures can be described and summarized in tables by mean and standard deviation for indices of interest (e.g., water surface swept by oil, shoreline oiled, water volume contaminated, etc.).

Subsequent to the stochastic modeling, individual (“deterministic”) trajectories will be selected from the stochastic parent scenario that are representative of a specific condition or exposure level (e.g., 95th percentile for shoreline oiling) to evaluate oil fate and weathering information in detail. In addition to a specific trajectory, the results of the deterministic simulations provide a time history of oil weathering over the duration of the spill (mass balance), expressed as the percentage of spilled oil on the water surface, on the shoreline, evaporated, entrained in the water column, and degraded. Deterministic model results include mass balance graphs; tabular exposure information; and times series maps (or videos) of individual trajectories showing mass of floating surface oil, water column concentrations (of defined component: TPH, dissolved. PAH, BTEX, etc.), and shoreline oiling.

6.2.2.1 Proposed Scenarios

Oil spill modeling assumes that a release has occurred, independent of whether the release was accidental or intentional. For this assessment, accidental and intentional releases would be assumed to result in worst case discharge (WCD) volumes. In the case of an onshore facility and deepwater port, the WCD is the largest foreseeable discharge in adverse weather (i.e., accidental) conditions. It is anticipated that the spill volumes from an accidental event would be the entire vessel cargo, the entire contents of the pipeline affected, or the entire volume of oil at the DWP Marine transportation-related facility (MTR facility). For this assessment, we propose to model 20 offshore and 4 inland (Sabine Lake) release scenarios that span numerous oil types (Table 6-1), release locations (Table 6-2), discharge volumes, and release durations to capture the range of potential releases (Table 6-3; Table 6-4). This includes:

Table 6-3. Tentative offshore stochastic oil spill scenarios

Scenario ID	Spill Site	Spill Event	Oil Type	Release Depth	Spill Duration	Total Spilled Volume	Model Duration	Comments*
OS-1	WC433	VLCC – WCD Vessel cargo	Bakken	Surface	1 hr	2.1 million bbl	60 days	VLCC Cargo Capacity – 1 vessel WCD
OS-2			CLB				60 days	
OS-3		Platform – WCD facility infrastructure	Bakken	Surface	1 hr	42,000 gal	60 days	Statistics or Infrastructure Plan & Dimensions
OS-4			CLB				60 days	
OS-5		Service fuel spill (at the SPM)	Diesel fuel	Surface	Near instantaneous	107,309 gal	60 days	Largest tugboat capacity; maximum number of tugs on scene
OS-6		VLCC fuel oil spill	HFO 380	Surface		48,891 bbl	60 days	VLCC fuel tank capacity; 1 VLCC
OS-7		Pipeline at DWP (at PLEM)	Bakken	33 m	1 hr	208,331 gal	60 days	Total volume in single platform-PLEM pipeline + total volume in single riser
OS-8			CLB				60 days	
OS-9	WC 44 (WC433 Option)	Nearshore pipeline location	Bakken	10 m	1 hr	21,564,828 gal	60 days	Total volume in pipeline
OS-10			CLB				60 days	
OS-9(a)	WC 44 (WC509 Option)	Nearshore pipeline location	Bakken	10 m	1 hr	26,004,772 gal	60 days	Total volume in pipeline
OS-10(b)			CLB				60 days	
OS-11	WC509	VLCC – WCD Vessel cargo	Bakken	Surface	1 hr	2.1 million bbl	60 days	VLCC Cargo Capacity – 1 vessel WCD
OS-12			CLB				60 days	
OS-13		Platform – WCD facility infrastructure	Bakken	Surface	1 hr	42,000 gal	60 days	Statistics or Infrastructure Plan & Dimensions
OS-14			CLB					
OS-15		Service fuel spill (at the SPM)	Diesel fuel	Surface	Near instantaneous	107,309 gal	60 days	Largest tugboat capacity; maximum number of tugs on scene
OS-16		VLCC fuel oil spill	HFO 380	Surface	Near instantaneous	48,891 bbl	60 days	VLCC fuel tank capacity; 1 VLCC
OS-17		Pipeline at DWP (at PLEM)	Bakken	48 m	1 hr	211,245 gal	60 days	Total volume in single platform to PLEM pipeline + total volume in single riser
OS-18			CLB				60 days	

6.2.2.2 Input Data

6.2.2.2.1 Geographic and Bathymetric Data

For geographical reference, SIMAP uses a rectilinear grid to designate the location of the shoreline, the water depth (bathymetry), and the shore or habitat type. The grid is generated from a digital coastline using the ESRI Arc/Info compatible Spatial Analyst program. The cells are then coded for depth and habitat type. For US applications such as this one, the digital shoreline, shore type, and habitat mapping are obtained from the Environmental Sensitivity Index (ESI) Atlas database distributed by NOAA Hazmat (Seattle, WA). Habitats are coded as described in French-McCay (2009).

Depth data are obtained from hydrographic survey data, such as that supplied by the US Department of Commerce, National Oceanic and Atmospheric Administration, National Geophysical Data Center.

Hydrographic survey data consist of large numbers of individual depth soundings. The depth soundings are gridded using the ESRI ArcInfo compatible Spatial Analyst program.

6.2.2.2.2 Winds

The oil spill model uses multiple years of spatially- and temporally-varying wind speed and direction data for spill simulations. Long term (>5 years) historical wind data are typically obtained from global or regional meteorological models. For example, the US Department of Commerce, National Oceanic and Atmospheric Administration (NOAA), National Center for Environmental Prediction (NCEP) provides global and North American regional reanalysis models that may be used. Here, we propose to use the NCEP NARR from 2004-2010.

6.2.2.2.3 Currents

In addition to the wind data, the oil spill model uses current data applicable to the same time period as the wind data set. For shelf and open ocean regions such as in the Gulf of Mexico area of interest, global hydrodynamic models provide suitable currents for oil spill modelling. The US Department of Commerce, National Oceanic and Atmospheric Administration (NOAA), National Center for Environmental Prediction (NCEP) and US Naval Research Lab (NRL) both provide their real-time operational GLOBAL HYbrid Coordinate Ocean Model (HYCOM) simulation products on US government websites. Here, we propose to use the ECHYCOM from 2004-2010.

6.2.2.2.4 Oil Types

RPS proposes to model two crude oil type spanning the range of products that might be exported, including both a heavy and light crude oil (Table 6-1). RPS has previously developed oil property data for a range of crude oils that are likely to be shipped.

Data are also available for the fuel oils used on VLCCs: Heavy Fuel Oil (HFO) 380 and diesel. Diesel is also used on most service vessels, including tugs. RPS has developed typical physical/chemical properties for these types of oils under prior projects (based on well-established public sources, such as Environment Canada's data base), and recommends that we use the data we have developed.

6.2.2.3 Reporting

A draft of the SIMAP modeling report will be provided which will include an overview of the project, physical description of the study area, description of the modeling systems, description of the model application used for each scenario, summary of the results of each scenario with accompanying maps and tabulated data, and study conclusions. Model outputs include static maps of the trajectory and maximum oil exposure, charts showing mass balance of the oil in various environmental compartments over time, and summary tables of exposure metrics such as shoreline oiling by shore type.

The draft report will be revised according to comments received to produce a final report. Georeferenced data (e.g. shapefile for specific scenarios) will be made available on request.

6.2.3 Inshore/Coastal Releases (SIMAP)

RPS also proposes to examine hypothetical oil releases directly into coastal tidal water bodies originating from the onshore pipeline, including the Neches River (MP 1) and Sabine Lake (MP-21). In order to model such releases, RPS will first need to map the land and water boundaries, the habitats (wetlands, shore

types) and water depths, as well as develop needed current data (via hydrodynamic modeling) to predict tidal and freshwater flow related currents.

These release locations could affect the Sabine National Wildlife Refuge and other sensitive receptors. RPS would use SIMAP to model expected oil trajectory, weathering, dilution, degradation and exposure concentrations. These results may be used to evaluate potential spill response requirements, as well as potential for adverse effects.

Inshore/coastal modeling will follow the same approach and procedures as for the offshore modeling (Section 6.2.2). This involves simulating numerous releases over a long period of time using a stochastic approach. Multiple simulations with randomized start dates and times over >5 years would capture the range of wind and current data over this period. The worst-case simulation for shoreline exposure would be the focus of the reported deterministic analysis.

6.2.3.1 Proposed Scenarios

Worst Case Discharges (WCD) of two oil types will be simulated at each inshore/coastal hypothetical release location, totaling an additional four stochastic scenarios(Table 6-4).

Table 6-4. Tentative list of inshore/coastal stochastic oil spill scenarios

Scenario ID	Spill Site	Spill Event	Oil Type	Release Depth	Spill Duration	Total Spilled Volume	Model Duration	Comments*
CS-1	Sabine Lake MP-19.5	Pipeline Release	Bakken	3 m	13 min	Pipeline WCD calculation	14 days	Pipeline WCD calculation (pump out for 9 min. + drain down)
CS-2			CLB	3 m			14 days	
CS-3	Neches River MP-1	Pipeline Release	Bakken	15 m	13 min	Pipeline WCD	14 days	Pipeline WCD calculation (pump out for 9 min. + drain down)
CS-4			CLB	15 m			14 days	

*Note that the WCD volume calculation for pipeline releases is as follows:

$$WCD = (h_{shutdown} \times \frac{bbl}{h}) + bbl_{drainage}$$

where: h = hours; and $bbl_{drainage}$= bbl in drainage after shutdown

6.2.3.2 Input Data

Most of the required environmental data are available from the offshore modeling portion of the project (Section 6.2.2.2). The environmental data to be used are as follows:

- Habitat mapping – Environmental Sensitivity Index (NOAA)
- Bathymetry – NOAA database
- Winds – NOAA meteorological models (NCEP/NARR)
- Currents – BFHYDRO and WQMAP with tidal constituents and freshwater inputs
- Temperature and Salinity – GOM environmental atlas by NOAA

6.2.3.2.1 Geographic Data

For geographical reference, SIMAP uses a rectilinear grid to designate the location of the shoreline, the water depth (bathymetry), and the shore or habitat type. The grid is generated from a digital coastline using the ESRI Arc/Info compatible Spatial Analyst program. The cells are then coded for depth and habitat type. For US applications such as this one, the digital shoreline, shore type, and habitat mapping are obtained from the Environmental Sensitivity Index (ESI) Atlas database distributed by NOAA Hazmat (Seattle, WA). Habitats are coded as described in French-McCay (2009).

Depth data are obtained from hydrographic survey data, such as that supplied by the US Department of Commerce, National Oceanic and Atmospheric Administration, National Geophysical Data Center. Hydrographic survey data consist of large numbers of individual depth soundings. The depth soundings are gridded using the ESRI ArcInfo compatible Spatial Analyst program.

6.2.3.2.2 Winds

The oil spill model uses multiple years of spatially- and temporally-varying wind speed and direction data for spill simulations. Long term (>5 years) historical wind data are typically obtained from global or regional meteorological models. For example, the US Department of Commerce, National Oceanic and Atmospheric Administration (NOAA), National Center for Environmental Prediction (NCEP) provides global and North American regional reanalysis models that may be used. Here, we propose to use the NCEP NARR from 2004-2010.

6.2.3.2.3 Currents

This task is concerned with the development of hydrodynamic data that is required for use in oil fate and transport modeling. The oil fate and transport modeling will be used to assess the potential for oil to reach specific areas of interest and/or habitats based on a hypothetical release from a pipeline that traverses Sabine Lake, an inland water body that connects to the Gulf of Mexico. The approximate study area that would be characterized and used in the model study are depicted in Figure 6-4.

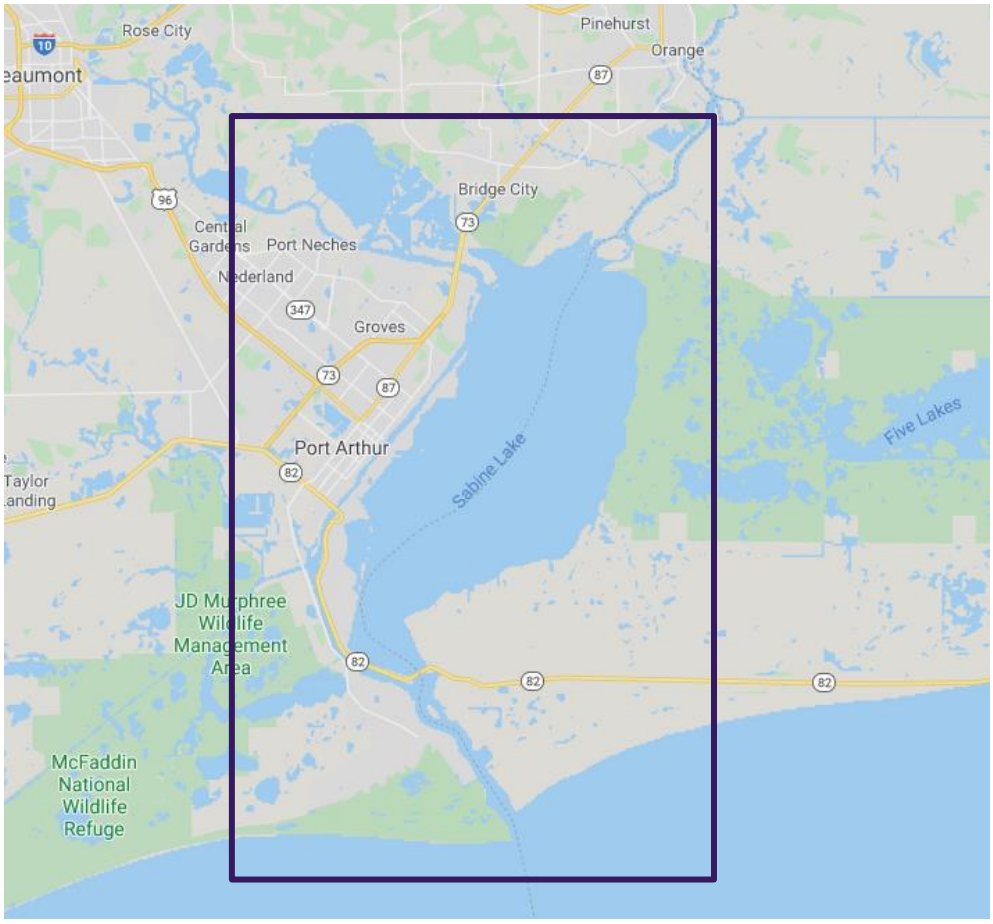

Figure 6-4. Approximate extent of coastal/inland modeling study area (black box).

Sabine lake is connected to a number of smaller channels and extensive marshland on the eastern side. In order to support the objectives of the oil spill modeling, the hydrodynamic modeling will focus on the circulation in the main body of the lake, including the Neches and Sabine Rivers and have simplified representations of the smaller channels. The model domain will include representation of the relatively larger channel connections including the connection to the open coast at the southern end and the channels that connect to the lake in the northwest and northeast. The hydraulic connections through the marsh will not be included.

The characterization of geographic, environmental, and hydrodynamic conditions with Sabine Lake will be accomplished through the following subtasks:

- Literature and data search to define the shoreline, bathymetry and environmental conditions relative to the circulation (tides, winds and river flows).
- Development of a hydrodynamic model application (gridding, forcing, and tuning as possible based on available observations/information. The hydrodynamic modeling will be performed using RPS in house model BFHYDRO which is part of the WQMAP modeling system.
- Simulations for use in the oil fate and transport modeling will be performed and post processed to provide cyclical tidal hydrodynamics and a representative wind and residual flows of the river (if applicable).
- Report section detailing the modeling inputs, assumptions, and results.

6.2.3.2.3.1 Hydrodynamic Modeling System WQMAP

Hydrodynamic modeling will be carried out using the Water Quality Mapping and Analysis Program, (WQMAP) that was developed by RPS (Mendelsohn, et al., 1995). WQMAP integrates geographic information (land use, watersheds, etc.), environmental data (water quality parameters, surface elevations and velocities, stream flows, bathymetry, etc.) and models (analytical and numerical, hydrodynamic, pollutant transport, etc.). The power of such a system is that it allows the user to model and analyze many different scenarios efficiently. A graphical user interface simplifies user inputs and allows a graphical display of model output. In addition, one of the modeling components within WQMAP has been specifically developed for application to the study of effluent fates in coastal waters.

The WQMAP computational engine is a family of general curvilinear coordinate system computer models including a boundary conforming gridding model (BFGRID), a hydrodynamic and hydrothermal model (BFHYDRO), a single constituent mass transport model (BFMASS) and an eight-state variable water quality, eutrophication model (BFWASP). The BFGRID, and BFHYDRO models will be used in this study and are described briefly in the following sections.

Hydrodynamic Model Grid - BFGRID

The boundary fitted grid generation model, BFGRID, is a tool used to build a grid of the study area on which the hydrodynamics and pollutant transport models run. The boundary-fitted coordinate system approach generates transformation functions such that all domain boundaries are coincident with coordinate lines. The grid generation is accomplished by using a set of coupled quasi-linear elliptic transformation equations to map an arbitrary horizontal multi-connected region from physical space to a rectangular mesh structure in the transformed horizontal plane (Mendelsohn, 1995; Spaulding, 1984; Thompson et al., 1977). While the transformed set of equations is considerably more complex than the original set, the transformed boundary conditions are specified on straight lines and the coordinate spacing is uniform in the transformed plane. It should further be noted that the orthogonal and conformal curvilinear grids, as well as the simple stretched rectangular grids, are special cases of the general curvilinear, boundary-fitted coordinate approach used here.

Key boundary points are specified by the user and the structure of computational grid (I, J coordinates) is defined on the map, interactively in a map based graphical user interface. After specifying key grid nodes (grid corners) along the domain boundary, the model interpolates the remaining boundary node locations and then solves the transformed equations to locate the interior nodes. The resulting non-orthogonal grid contains quadrilaterals of various sizes and orientation to both resolve fine details where needed and cover large areas where resolution is not required. The hydrodynamic and water quality models then use this grid in their numerical solution of the appropriate conservation equations.

Hydrodynamic Model - BFHYDRO

BFHYDRO is a three-dimensional, general curvilinear coordinate, boundary-fitted computer model (Muin and Spaulding, 1997; Huang and Spaulding, 1995a; Muin, 1993) used to predict elevations, and current velocities in river, lake, coastal and ocean waters. The boundary-fitted model matches the model coordinates with the shoreline boundaries of the water body, accurately representing the study area. This system also allows the user to adjust the model grid resolution as desired. Development of the boundary fitted model approach has proceeded over more than two decades (Mendelsohn, 1998; Huang and Spaulding, 1995b; Muin, 1993; and Spaulding, 1984). The model may be applied in either two or three dimensions, depending on the nature of the inquiry and its complexity.

The three-dimensional conservation of mass and momentum equations, with approximations suitable for lakes, rivers, and estuaries (Swanson, 1986; Muin, 1993) that form the basis of the hydrodynamic model, are then solved in transformed space. In addition, a sigma stretching system is used in the vertical to map the free surface and bottom onto coordinate surfaces. The resulting equations are solved using an efficient

semi-implicit finite difference algorithm for the exterior mode (two dimensional vertically averaged) and by an explicit finite difference leveled algorithm for the vertical structure of the interior mode (three dimensional) (Swanson, 1986). The velocities are represented in their contra-variant form. A sigma stretching system is used to map the free surface and bottom to resolve bathymetric variations.

The basic equations are written in spherical coordinates to allow for accurate representation of large modeled areas. The conservation equations for water mass, momentum (in three dimensions) and constituent mass (temperature [heat] and salinity) form the basis of the model, and are well established. It is assumed that the flow is incompressible, that the fluid is in hydrostatic balance, the horizontal friction is not significant and the Boussinesq approximation applies all customary assumptions.

A detailed description of the model, with associated test cases, can be found in Muin and Spaulding (1997). The publication was originally part of a Ph.D. dissertation (Muin, 1993), which extended the boundary fitted model capabilities developed by Swanson (1986), applying a contra-variant velocity formulation to the transformed momentum equations.

6.2.3.3 Oil Properties

RPS proposes to model the same two (2) oil crude types described in Section 6.2.2.2.4 (Table 6-1).

6.2.4 Reporting

The reporting of the inshore/coastal releases will be included within the offshore releases modeling report, which will focus on results from the RPS SIMAP model.

7 OIL SPILL CONSEQUENCES

The proposed oil spill consequence assessment of socioeconomic and ecological impacts consists of the following four components:

1) an overview of species and habitats of concern in nearshore and offshore environment;
2) a High Consequence Area (HCA) analysis for segments along the on-land portion of the pipeline; and
3) a pool fire analysis
4) a biological effects analysis for inshore, coastal and offshore waters.

7.1 Overview of Species and Habitats of Concern

The initial step in an oil spill consequence assessment is to identify the species and habitats of particular ecological and/or regulatory concern in the nearshore and offshore environments of Louisiana and Texas. Examples of species and habitats of concern to be reviewed and summarized include threatened or endangered species, nesting sites for migratory birds or sea turtles, critical habitats, and national seashores.

7.2 HCA Analysis

Using the outputs from the OILMAPLand plume modeling, RPS will overlay the on land plume trajectories with High Consequence Area (HCA) data, as defined by PHMSA (Pipeline and Hazardous Materials Safety Administration) to generate HCA “could affect” segments along the pipeline and to summarize the receptors that could be impacted. HCA data should, at a minimum, consist of the standard HCA datasets provided through PHMSA’s National Pipeline Mapping System (NPMS), but can also be supplemented by other receptor GIS data to account for other Areas of Interest (AOI). Version 4 high population data (HPA) and

other populated areas (OPA), and version 5 commercially navigable waterways (CNW), can be acquired by RPS. Ecologically sensitive areas (ECO), drinking water areas (DW), and any other areas of interest will need to be provided by Energy Transfer.

HCA impacts will be categorized as direct (pipeline intersects the HCA) or indirect (a release from the pipeline has potential to impact the HCA). The indirect affects will be based on the results from the release modeling with OILMAPLand. The results of the HCA analysis will consist of polyline "could affect" segments along the pipeline in an ESRI GIS format. Each segment will be classified as either direct or indirect and will be attributed with information identifying the distance along the pipeline and which HCA has the potential to be affected. Results can also be presented in tables summarizing HCA mileage by individual HCA, type of HCA, and/or overall, or in figures showing HCA "could affect" segments plotted along the pipeline (Figure 7-1).

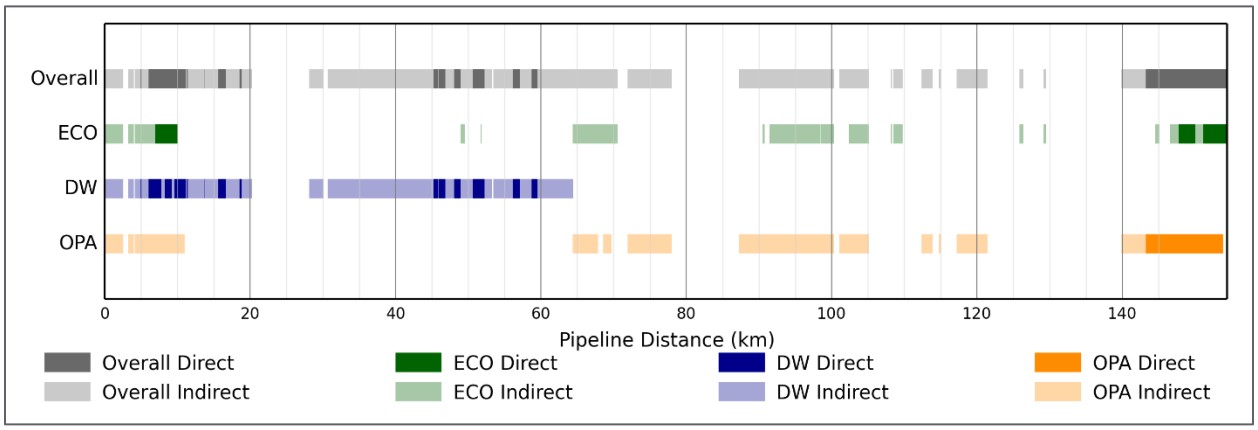

Figure 7-1. Example of HCA "could affect" segments plotted along a pipeline.

7.3 Pool Fire Analysis

A release of a flammable liquid (crude oil) could form pools of liquid around the pipeline or along the model predicted downslope trajectory overland. If ignited, a pool fire could form, which could generate intense heat that could harm nearby receptors (outside of the flames) due to the thermal (heat) radiation from the flames. Modeling can be performed to assess the distance from the pool that heat radiation could exceed recommended limits based on the probability of mortality to exposed people. Using results from the overland plume modeling, a range of potential pool surface areas can be determined. RPS will assess the resulting heat radiation using the U.S. Nuclear Regulatory Commission's (NRC) Quantitative Fire hazard analysis methods at various distances from a pool fire (Iqbal et al, 2004). Combustion properties for crude oil will be used to evaluate radiant heat flux as distance from the pool fire increases, and thus the maximum distance to various threshold radiation levels. One of the largest factors affecting the amount of heat radiation, is the size of the burning pool. Therefore, this will be assessed for a range of pool sizes, to develop a relationship that can be used to estimate the impacts for a pool of any size associated with the pipeline.

7.4 Biological Effects Analysis

RPS proposes to use the trajectory and fates results from the inshore/nearshore and offshore oil spill modeling (Sections 6.2.2 and 6.2.3) to conduct an overlay assessment which would identify the potential resources located near the hypothetical release locations that may be affected. The GIS overlay assessment includes a count of any publicly-available resource features (points, lines, or polygons) that intersect the trajectory of the released oil (e.g. NOAA ESI data, etc.; Table 7-1). These data layers contain several sub-types for which area counts and 'Location/Description/Species' names were combined, when

appropriate. In this type of GIS assessment, any oil that passes through a resource is assumed to have had the potential to affect the identified resource. Any resource features that are located adjacent to shorelines, but not directly intersected by the oiling, would also be assumed to be affected. These data represent a snapshot of the spatial distribution of resources obtained from static datasets, and the spatial distribution and extent of these resources may change over time.

Table 7-1. Examples of geographic data layers used in the overlay analyses.

Layer ID	Data Layer Name	Geometry Type	Citation
1	NOAA ESI Socioeconomic Resource Points	Point	NOAA, 2016c
2	NOAA ESI Socioeconomic Resource Lines	Line	
3	NOAA ESI Nest Points	Point	
4	NOAA ESI Fish Lines	Line	
5	NOAA ESI Management Area Polygons	Poly	
6	NOAA ESI Invertebrate Polygons	Poly	
7	NOAA ESI Fish Polygons	Poly	
8	NOAA ESI Bird Polygons	Poly	
9	NOAA ESI Marine Mammal Points	Point	

Affected resources could include the following categories of environmentally sensitive areas:

- socioeconomic resources (e.g., parks, management areas, public access points, fishing areas),
- aquatic resources (e.g., fish spawning areas), and
- avian and terrestrial resources (e.g., bird colonies, nesting areas, wetlands, biodiversity corridors, and wildlife observations).

Summary tables will be prepared for each release location identifying the type and count of each resource potentially affected by the simulated oil trajectories. This analysis is strictly a count of spatial features that were intersected by the oil trajectory. Therefore, identified counts of affected features may overstate a portion of the resources potentially affected and should only be used to compare the relative effects from one modeled release to another, rather than a quantified number of affected resources.

In addition, a biological effects modeling assessment would be conducted on deterministic scenarios to determine the potential short-term (acute) exposure of organisms to floating, shoreline, sediment, and subsurface (i.e. in the water column) oil contamination to estimate the resulting equivalent area of 100% predicted mortality. The biological exposure model associated with SIMAP (French-McCay, 2009) estimates the area or volume where organisms are adversely affected by surface oil, concentrations of oil components in the water, and/or sediment contamination. The model estimates percentage losses in discrete habitat areas or volumes by behavior group (e.g., aerial seabirds in areas, pelagic fish in volumes), translating these to equivalent areas and volumes of 100% loss (i.e., by summing the percent loss times area or volume affected). To bound the range of potential effects, biological effects will be assessed using two biological thresholds of concern. The dose (concentration and duration) of exposure will be assessed using thresholds representing sensitive (LC_{50} = 5 µg/L) and average sensitivity (LC_{50} = 50 µg/L) aquatic receptors. These results would provide information related to the areas, lengths of shoreline, and volumes within the water column that may be affected in the event of a release.

7.5 Reporting

Although the oil spill consequence analysis is proposed as separate tasks, the reporting of these tasks will be incorporated into the OILMAPLand and SIMAP modeling reports. The HCA and pool fire analysis will be contained within the OILMAPLand report, and the overlay analysis and the overview of species and habitats of concern and the biological effects analysis will be included in the SIMAP report.

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APPENDIX A: SIMAP MODEL DESCRIPTION

Please refer to the enclosed French-McCay et al. (2018) publication for a description of the SIMAP model and an example application for examining spill response options in the Gulf of Mexico.

From: Bachman, Roddy C CIV <Roddy.C.Bachman@uscg.mil>
Sent: Tuesday, May 19, 2020 9:20 AM
To: Jon Schmidt <jon.schmidt@exp.com>
Cc: Nabach, William A CIV <William.A.Nabach2@uscg.mil>; Greenway, Myles J CDR <Myles.J.Greenway@uscg.mil>; Brown, Patrick J LCDR <Patrick.J.Brown@uscg.mil>; Gates, Kimberly M LT <Kimberly.M.Gates@uscg.mil>
Subject: RE: Oil Spill Modeling Protocol for the LOPEX Project- USCG Comments

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Jon

Please see attached with our informal comments.

As mentioned previously, excellent proposal, but two primary points would be the need to consider "worst credible" in addition to worse case spills to provide a realistic analysis for both offshore and onshore spill volumes and do you really need 100 ft intervals on the pipeline spill modeling? Your call but seems a bit much.

In addition I'd like to introduce you to:

Mr. William Nabach
(202) 372-1437
William.A.Nabach2@uscg.mil.

He will be the Coast Guard Application Project Manager for ET. Will is a retired USCG Officer, a P.E. and is current Project Manager on the SPOT Project

We're still determining a NEPA specialist assignment. We'll know soon.

Please contact Will or myself if you have any questions on this or anything throughout your application process. Happy to assist. It just may take us a little time. And please also keep us posted as to the status for planning purposes.

Thanks

Roddy

Roddy C. Bachman
Project Manager, Deepwater Ports
Vessel and Facility Operating Standards CG-OES-2 U.S. Coast Guard Headquarters
Office: 202-372-1451 Cell: 540-850-2228
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COMMANDANT (CG-OES-2)

ATTN: VESSEL AND FACILITY OPERATING STANDARDS DIVISION US COAST GUARD STOP 7509
2703 MARTIN LUTHER KING JR AVE SE
WASHINGTON, DC 20593-7509

From: Jon Schmidt <jon.schmidt@exp.com>
Sent: Monday, May 18, 2020 10:21 AM
To: Bachman, Roddy C CIV <Roddy.C.Bachman@uscg.mil>
Subject: [Non-DoD Source] RE: Oil Spill Modeling Protocol for the LOPEX Project

That's great. Thanks. j

Jon Schmidt, Ph.D.
EXP | Vice President, Environment and Regulatory Services
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From: Bachman, Roddy C CIV <Roddy.C.Bachman@uscg.mil>
Sent: Monday, May 18, 2020 9:20 AM
To: Jon Schmidt <jon.schmidt@exp.com>
Subject: RE: Oil Spill Modeling Protocol for the LOPEX Project

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Jon

Should have comments to you tomorrow mid-day. Two other critical things here have me tied up today.

Thanks

Roddy

From: Jon Schmidt <jon.schmidt@exp.com>
Sent: Monday, May 18, 2020 10:17 AM
To: Bachman, Roddy C CIV <Roddy.C.Bachman@uscg.mil>
Subject: [Non-DoD Source] RE: Oil Spill Modeling Protocol for the LOPEX Project

Just following back up again. Hate to be a pain but we've been holding off the modeling effort but it will start getting critical to schedule here this week. Thanks, j

Jon Schmidt, Ph.D.
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From: Bachman, Roddy C CIV <Roddy.C.Bachman@uscg.mil>
Sent: Thursday, May 7, 2020 11:23 AM
To: Jon Schmidt <jon.schmidt@exp.com>; Greenway, Myles J CDR <Myles.J.Greenway@uscg.mil>
Cc: Fields, Yvette (MARAD) <Yvette.Fields@dot.gov>; McKitrick, Bradley CIV <Bradley.K.McKitrick@uscg.mil>; Brown, Patrick J LCDR <Patrick.J.Brown@uscg.mil>; Gates, Kimberly M LT <Kimberly.M.Gates@uscg.mil>
Subject: RE: Oil Spill Modeling Protocol for the LOPEX Project

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Jon

I assumed review and coordinating comments. I hope to get back to you sometime next week. There have been other statutory project priorities ahead of ET in line and with everyone teleworking due to the pandemic, we are not at optimum efficiency. In a cursory look I've had time for, its very comprehensive, and likely more than needed for the application process though may be needed for other regulatory requirements such as contingency plans. For example in our offshore and currently in development onshore spill, we use worst credible versus total volumes.

Again, looks very comprehensive so I don't think there will be any major recommendations.

Please give me a call on cell if you wish to discuss further

And apologies but please understand the delay – you are not the only project anxious (we are too)

Roddy

Roddy C. Bachman
Project Manager, Deepwater Ports, CG-OES-2

540-850-2228

From: Jon Schmidt <jon.schmidt@exp.com>
Sent: Thursday, May 7, 2020 12:06 PM
To: Greenway, Myles J CDR <Myles.J.Greenway@uscg.mil>
Cc: Fields, Yvette (MARAD) <Yvette.Fields@dot.gov>; Bachman, Roddy C CIV <Roddy.C.Bachman@uscg.mil>; McKitrick, Bradley CIV <Bradley.K.McKitrick@uscg.mil>; Brown, Patrick J LCDR <Patrick.J.Brown@uscg.mil>; Gates, Kimberly M LT <Kimberly.M.Gates@uscg.mil>
Subject: [Non-DoD Source] RE: Oil Spill Modeling Protocol for the LOPEX Project

I'm following up to see if there are any comments to the modeling approach. Thanks, Jon

Jon Schmidt, Ph.D.
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From: Greenway, Myles J CDR <Myles.J.Greenway@uscg.mil>
Sent: Friday, April 17, 2020 7:45 AM
To: Jon Schmidt <jon.schmidt@exp.com>
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Subject: FW: Oil Spill Modeling Protocol for the LOPEX Project

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Mr. Schmidt,

Good Morning. Thank you for transmitting the modeling approach in support of assessing the risk and consequences of an oil spill from the proposed facility and associated pipeline. Please note.. at this time the 24 APR timeframe as requested will more than likely be towards the beginning of May timeframe since staff members are underway with current applications and working remotely. I will be in touch as I get information from staff. Apologize for the inconvenience – take care.

V/R
CDR Myles Greenway
COMMANDANT (CG-OES-2)
ATTN: Vessel & Facility Operating Standards US COAST GUARD STOP 7509, Office 5R16-20
2703 MARTIN LUTHER KING JR AVE SE
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From: Jon Schmidt <jon.schmidt@exp.com>
Sent: Tuesday, April 14, 2020 3:36 PM
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Cc: Fields, Yvette (MARAD) <Yvette.Fields@dot.gov>; Lopez, Efrain (MARAD) <efrain.lopez@dot.gov>; Allen Brooks <Allen.Brooks@exp.com>; Estopinal, Eric F <Eric.Estopinal@energytransfer.com>; Minter, Justin D <justin.minter@energytransfer.com>
Subject: [Non-DoD Source] Oil Spill Modeling Protocol for the LOPEX Project

Commander Greenway,

As discussed on April 9, 2020, Energy Transfer is planning to submit a Deepwater Port application to construct and operate a new oil export facility in the Gulf of Mexico off of the coast of Louisiana. Application submittal is currently planned for the end of August. As recommended by yourself and Yvette Fields of the Maritime Administration, we are submitting for review and comment the attached modeling approach in support of assessing the risk and consequences of an oil spill from the proposed facility and associated pipeline. Energy Transfer has contracted the RPS Group to conduct the modeling and we appreciate your approval of the approach prior to initiating the modeling sequences. We would like to receive you approval by April 24, 2020.

I may be reached by email at jon.schmidt@exp.com or by phone at (850) 508-7306 for any questions or for additional information.

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USCG Informal Comments on RPS Spill Modeling Proposal
for the
ET Deepwater Port 19 May 2020

Jon

This is in response to your request for our comments regarding the RPS proposal for offshore and onshore spill modeling for the ET Deepwater port. Again I apologize for not getting back to you as requested. Work load and this pandemic simply did not allow time.

To be clear this is not a formal USCG review. It was simply a couple of us with knowledge of deepwater ports application process and risk assessment offering our thoughts based on lessons learned.

Regarding lessons learned. We are still learning. Though we have experience from quite a few LNG ports, oil ports and addressing oil spills onshore as well is fairly new to us.

Though the Coast Guard is currently developing more detailed guidance for both offshore and onshore deepwater port oil spill modeling, there is still a learning curve involved with the initial active applications submitted. We are not yet in the position to provide such detailed guidance on the modeling processes to be used. We have to look to the deepwater port applicants and environmental/spill/risk consultants for that experience and expertise.

Compliments

Our compliments ET for initiating this work relatively early in the process and consulting with us. As we discussed. In the first pre-application meeting the closer an applicant comes to meeting offshore and onshore spill modeling needs in the application saves both time and expense in the future when we get into the risk assessment process if we can simply validate existing work than have to do it or re do it.

As a bit of caution here though, there is no guarantee that this will be the end-all modeling need. The risk assessment process may identify additional requirements.

Also complements on selecting RPS for this work. Many feel they are tops in the industry and they've worked other DWPs.

Comments on the Proposal

1. Excellent approach and extremely comprehensive. It will meet and exceed regulatory requirements. but in addition…

2. It may possibly provide too much unrealistic potential impacts and too much detail. For example following worst case regulatory requirements – the most "conservative" spill in the proposal, would have you emptying an entire VLCC in the GoM.

    a. *Recommend keep what you have (it's great) but add "worst credible case" to both offshore and onshore modeling. This will enable us to provide a realistic potential impact to the public, agencies and decision makers.* At the end of this document under "Regulatory Framework and Inconsistencies*"* is a little more discussion on this.

b. *Recommend onshore modeling effort should reflect a spill at representative incremental release points along the pipeline. A risk-based approach should be used to determine interval spacing along each isolatable section as appropriate based on topography, waterways, waterbodies, wetlands, other environmentally sensitive areas and high consequence areas.* The proposal recommends release volumes be estimated at sites spaced at 100 ft intervals. That just seems a lot. It may be needed and we are not the experts at this but it seems a bit excessive and possible could be reduced to a more risk based approach.

3. I would suggest have RPS include regulatory references in the proposal or rather the report generated by the proposal simply because so many regs apply and it determines volumes.

4. The models should include actual oil specs as close as possible to what is planned for the project. If there is to be variation in the oils then a good range should be used.

5. Good job on modeling two potential locations of the DWP platforms.

6. Include provision for RPS to provide the shape files to our 3rd party contractors once application is submitted.

A COUPLE SUGGESTIONS

Schedule

Our goal is to include the Phase I Risk Assessment report including the associated spill modeling for both offshore and onshore in the DRAFT EIS to enable public and agency comment. You've seen from the generic timeline this should fall around 5 months following application submittal. Regarding the risk assessment, in that 5 months we needed to include risk consultant contracting, Phase I stakeholder Hazard Identification meetings, modeling, issue a report and incorporate that info into the DEIS.

Where with LNG we used to have the environmental consultant on board immediately, we usually delayed the risk consultant some, however we've found the complexity of oil spill impact assessment takes more time. As such we recommend initiating our 3rd party risk assessment consultant process at the same time as the environmental consultant and prior to application supplication so they are on board prior to the application submittal. The risk consultant may be a separate contractor, the same as environmental contractor, or subcontracted by the environmental contractor, or whatever other proposals you'd wish to discuss.

Current Reference

For some reference we point you to the SPOT DRAFT EIS available on regulations.gov docket # MARAD-2019-0011-0036 Vol II Appendix H, I and X. Appendix H is the Phase I risk assessment report developed through CG working with stakeholders and risk consultants (ERM in this case) and is used to feed into the EIS itself Personally, I feel this particular report could be a lttle clearer but it should give you a general idea what is needed.

Texas GulfLink's EIS should also be available in the near future.

Regulatory Framework and Inconsistencies

In addition to the requirements of the Deepwater Port Act and NEPA, the primary regulatory framework for spill modleing are PHMSA's 49 CFR Subchapter D Pipeline Safety and in particular Part 194 Response Plans for Onshore Pipelines and Part 195 Transportation of Hazardous Liquids by Pipeline and USCG res 33 CFR Part 154 Facilities Transferring Oil or Hazardous Material in Bulk and Part 155 Oil or Hazardous Material Pollution Prevention Regulations for Vessels and other and various levels of federal, state and local contingency and response planning.

Some regs, especially contingency and response planning require "*worst case"* volumes to be used. In other words, the total volume of oil even though that may be totally unrealistic for a given situation and would not provide accurate information for decision makers.

Some regs such as PHMSA's say "*worst case discharge"* but actually allow for a calculated reduction based on controls or *"largest foreseeable discharge"* based on historical data or calculated rupture size, etc. A more pragmatic approach.

Historically in both LNG and oil deepwater ports, the Coast Guard has used an engineered "*worst credible*" spill volumes based on calculated hole sizes, other design criteria, and operations. CG regs addressing shoreside facilities, offshore pipelines and vessels in 33 CFR 154 and 155 consider "*average most probable discharge and "maximum most probable discharge"* though in response planning worst case is still considered.

By regulation, NEPA cannot mandate that "*worst case*" be analyzed but, if not used, examine "*maximum reasonably foreseeable*". Uncertainties of analysis should be discussed including justification as to how and why such parameters as hole size and volume were determined.

Thanks

Roddy

United States Environmental Protection Agency (EPA)

Allen Brooks

From: Jon Schmidt
Sent: Thursday, June 4, 2020 3:15 PM
To: Mohon, Mitty; Angove, Sharon; Chen, Isaac
Cc: Allen Brooks; Minter, Justin D; Tidmore, Guy
Subject: RE: Blue Marlin Offshore Port Project

Presentation for discussion purposes. Mainly project overview and where we are with design. j

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From: Mohon, Mitty <mohon.mitty@epa.gov>
Sent: Thursday, June 4, 2020 2:12 PM
To: Jon Schmidt <jon.schmidt@exp.com>; Angove, Sharon <Angove.Sharon@epa.gov>; Chen, Isaac <Chen.Isaac@epa.gov>
Cc: Allen Brooks <Allen.Brooks@exp.com>; Minter, Justin D <justin.minter@energytransfer.com>; Tidmore, Guy <tidmore.guy@epa.gov>
Subject: RE: Blue Marlin Offshore Port Project

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Jon,

I am waiting on one person to respond but in the meantime, will you be doing a presentation or just a conference call?

Mitty Mohon
Offshore Oil and Gas Coordinator
Energy Sector Compliance Section
U.S. Environmental Protection Agency
1201 Elm Street, 500 (ECD-WE)
Dallas, Texas 75270
(214) 665-6497 (Office)
eMail: mohon.mitty@epa.gov

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From: Jon Schmidt <jon.schmidt@exp.com>
Sent: Thursday, June 04, 2020 11:41 AM
To: Mohon, Mitty <mohon.mitty@epa.gov>; Angove, Sharon <Angove.Sharon@epa.gov>; chen.issac@epa.gov
Cc: Allen Brooks <Allen.Brooks@exp.com>; Minter, Justin D <justin.minter@energytransfer.com>; Tidmore, Guy <tidmore.guy@epa.gov>
Subject: RE: Blue Marlin Offshore Port Project

Just checking back on some potential dates. Thanks, Jon

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From: Mohon, Mitty <mohon.mitty@epa.gov>
Sent: Tuesday, May 26, 2020 1:53 PM
To: Jon Schmidt <jon.schmidt@exp.com>; Angove, Sharon <Angove.Sharon@epa.gov>; chen.issac@epa.gov
Cc: Allen Brooks <Allen.Brooks@exp.com>; Minter, Justin D <justin.minter@energytransfer.com>; Tidmore, Guy <tidmore.guy@epa.gov>
Subject: RE: Blue Marlin Offshore Port Project

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Jon,

We have received your email and need a few days to review the information and may request some additional information. I will let you know our availability for the June 15-22, 2020 timeframe. Due to the COVID19 pandemic it will need to be a virtual meeting but we can discuss the logistic once I have a better understanding of everyone's schedule. If you have any further questions please feel free to contact me.

Mitty Mohon
Offshore Oil and Gas Coordinator
Energy Sector Compliance Section
U.S. Environmental Protection Agency
1201 Elm Street, 500 (ECD-WE)
Dallas, Texas 75270
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From: Jon Schmidt <jon.schmidt@exp.com>
Sent: Tuesday, May 26, 2020 10:54 AM
To: Mohon, Mitty <mohon.mitty@epa.gov>; Angove, Sharon <Angove.Sharon@epa.gov>; chen.issac@epa.gov
Cc: Allen Brooks <Allen.Brooks@exp.com>; Minter, Justin D <justin.minter@energytransfer.com>
Subject: Blue Marlin Offshore Port Project

Blue Marlin Offshore Port LLC, a subsidiary of Energy Transfer, is proposing to build a Deepwater port for oil export off the coast of Louisiana that will be licensed by MARAD/USCG through the Deepwater Port Act. The Project will entail the conversion of an existing natural gas platform complex and pipeline to oil export service. The existing natural gas pipeline is the mainline for the Stingray pipeline system from West Cameron OCS block 509 to shore, near Holly Beach Louisiana. Conversion will entail hydrostatically testing the existing natural gas pipeline with seawater and conversion of the existing platform complex at 509 to facilitate both gas service (natural gas gathered from offshore will be routed to the existing Sea Robin system) and oil export service. Operations of the platform complex will require an NPDES discharge permit application to be included with the MARAD application, contemplated to be filed at the end of August, 2020.

The Stingray pipeline system currently has a general NPDES discharge permit for platform operations (GMG290031), issued 9/29/2017, and transferred when Energy Transfer acquired the system (transfer request filed 10/1/2019 (Account reference 34819)).

We would like to have a WebEx meeting with you sometime by mid-June to discuss what you would require to be filed with you in order for your participation in the MARAD review process. We have noted that other applicants for a DWP license have filed draft NPDES application materials, but there was not a lot of consistency in the level of information required between the applications. We would like to get some firm direction, if possible, prior to filing our application with MARAD. Please indicate some suitable dates/times we could arrange a WebEx meeting the week of June 15th or 22nd. If you'd prefer an in-person meeting, please indicate that as well. Thanks, Jon

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From: Mohon, Mitty <mohon.mitty@epa.gov>
Sent: Wednesday, July 1, 2020 9:15 AM
To: Jon Schmidt <jon.schmidt@exp.com>; Tidmore, Guy <tidmore.guy@epa.gov>
Cc: Minter, Justin D <justin.minter@energytransfer.com>; Allen Brooks <Allen.Brooks@exp.com>
Subject: RE: Conference call presentation

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Thank you for submitting these document and information. We will review them and get to you as soon as possible.

Mitty Mohon
Offshore Oil and Gas Coordinator
Energy Sector Compliance Section
U.S. Environmental Protection Agency
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Dallas, Texas 75270
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From: Jon Schmidt <jon.schmidt@exp.com>
Sent: Monday, June 29, 2020 2:48 PM
To: Mohon, Mitty <mohon.mitty@epa.gov>; Tidmore, Guy <tidmore.guy@epa.gov>
Cc: Minter, Justin D <justin.minter@energytransfer.com>; Allen Brooks <Allen.Brooks@exp.com>
Subject: Conference call presentation

As indicated in the previous email. Jon

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Allen Brooks

From: Allen Brooks
Sent: Tuesday, September 22, 2020 10:25 AM
To: 'Mohon, Mitty'
Cc: Jon Schmidt
Subject: BMOP Deepwater Port
Attachments: BMOP NPDES Permit Applicability_092220.pdf

Good Morning

As discussed during a coordination meeting on June 25, 2020, Blue Marlin Offshore Port LLC, an Affiliate of Energy Transfer, is proposing the Blue Marlin Offshore Port (BMOP) Project on the continental shelf in the Gulf of Mexico. Blue Marlin Offshore Port LLC is submitting a Deepwater Port Application to the U.S. Coast Guard/ United States Maritime Administration and has prepared the attached National Pollutant Discharge Elimination System applicability information in support of the Deepwater Port Application. We look forward to working with you further on the BMOP DWP Project.

Thank you, Allen

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United States Maritime Administration (MARAD)

Allen Brooks

From: Jon Schmidt
Sent: Tuesday, April 14, 2020 3:36 PM
To: Greenway, Myles J CDR
Cc: Fields, Yvette (MARAD); Lopez, Efrain (MARAD); Allen Brooks; Estopinal, Eric F; Minter, Justin D
Subject: Oil Spill Modeling Protocol for the LOPEX Project
Attachments: RPS_EXPDWP_Modeling_Approach_20200409.pdf

Commander Greenway,

As discussed on April 9, 2020, Energy Transfer is planning to submit a Deepwater Port application to construct and operate a new oil export facility in the Gulf of Mexico off of the coast of Louisiana. Application submittal is currently planned for the end of August. As recommended by yourself and Yvette Fields of the Maritime Administration, we are submitting for review and comment the attached modeling approach in support of assessing the risk and consequences of an oil spill from the proposed facility and associated pipeline. Energy Transfer has contracted the RPS Group to conduct the modeling and we appreciate your approval of the approach prior to initiating the modeling sequences. We would like to receive you approval by April 24, 2020.

I may be reached by email at jon.schmidt@exp.com or by phone at (850) 508-7306 for any questions or for additional information.

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MODELING IN SUPPORT OF ASSESSING THE RISK OF ACTIVITIES ASSOCIATED WITH A DEEPWATER PORT IN THE GULF OF MEXICO

Modeling Approach

RPS Modeling Approach
EXP DWP Risk Support
April 9, 2020

rpsgroup.com

Prepared by:

RPS

Matt Horn, Ph.D.
Director, Ocean Science

Lisa McStay
Ocean Engineer
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1 INTRODUCTION

RPS has been requested by Energy Transfer and EXP to provide a modeling approach document summarizing the modeling analyses that are proposed to support the assessment of risk (likelihood and consequence) associated with a Deepwater Port (DWP) in the Gulf of Mexico. One of the main focuses of the assessment involves computational oil spill modeling of accidental or intentional events that may compromise cargo containment (i.e., oil spills) and would need to satisfy the requirements of a U.S. Coast Guard (USCG) DWP application.

This document describes the proposed modeling approach and analysis that would be conducted by RPS that is associated with a matrix of scenarios. The scope of work provided here is based upon RPS knowledge from previous and ongoing applications in the Gulf of Mexico for similar projects and MARAD direction for those projects.

Expected oil transport and exposure will be modeled using the RPS' OILMAPLand and SIMAP modeling software to assess these releases. The goals of the proposed work include:

1. Accessing the best-available environmental input data (e.g., currents and winds);
2. Calculating the release volumes/rates;
3. Assessing the potential frequency and magnitude of oil spills from various project components;
4. Projecting the behavior of spilled oil using the state-of-the-art oil transport and fate models, and producing model output quantifying and illustrating oil exposure, such as areas affected by floating oil, length and location of shoreline oiled, shoreline and habitat types affected, mass balance graphs, and visual representations for various scenarios;
5. Identifying species and habitats of concern;
6. Assessing the socioeconomic and ecological impacts from the hypothetical proposed oil spill scenarios using an overlay analysis, HCA analysis, and biological effects modeling;
7. Assessing pool fires;
8. Providing detailed discussion of possible response tactics that would facilitate rapid and effective incident response; and
9. Provide a safety and security assessment of the oil spill potential.

RPS has worked with the client to develop a specific number of scenarios and underlying assumptions, including:

- Spill locations;
- Oil types, and
- Spill volumes and durations.

It is recognized that communication between the proponent and the project review team is paramount to the project's success. Therefore, RPS is proposing several engagement workshops with ETP, USCG, MARAD, EXP, RPS, and any other relevant stakeholders to discuss:

1. Preliminary aspects of the modeling, prior to initializing any simulations, to finalize:
    a. modeling approach (i.e. OILMAPLand and SIMAP tools and application);
    b. modeling assumptions (e.g. product and volume released, simulation duration, etc.); and
    c. scenarios to be simulated (i.e. stochastic and deterministic scenarios).
2. Results of the spill modeling, with a presentation of findings from each scenario and discussion of how these findings will be used to address concerns of likelihood and potential consequence following any release (prior to completing a draft EIS).
3. Relevant findings from the EIS related to spill modeling and other aspects.

RPS would Should there be any comments, questions, or concerns related to this modeling approach, please feel free to reach out directly to Dr. Matt Horn.

2 RPS COMPANY BRIEF

RPS Ocean Science is part of the RPS Group plc, a 4,500 employee, $570 million, publicly-held multinational environmental consultancy and energy resources company with US headquarters in Houston, Texas, which advises clients on the built and natural environment across diverse public and private economic sectors. The Rhode Island office of RPS is a firm specializing in modeling of oil and chemical pollutants in the aquatic environment, oceanographic and coastal sciences, spatial (GIS) and metocean data management, web-based data portal development, and NEPA/permitting support. Our Purpose is to create shared value by solving complex problems that matter. Our team of professional scientists and technical staff has worked together for over 30 years to provide high quality environmental consulting, both nationally and internationally. Through deep expertise and pragmatic methods, we have exceeded the expectations of our customers with absolute delivery of creative solutions. Our goal is to achieve our client's objectives within expected time frames, while maintaining high regard for scientific principles.

RPS is a recognized leader with nearly 40 years of experience supporting industry and government clients with various services related to oil spill modeling and response. RPS staff have diverse technical backgrounds specializing in the characterization and analysis of marine, freshwater, air, and land resources; computer modeling of physical, chemical, and biological processes; data management; and is an authority on the fate and transport of spilled oil and its impacts on components of the marine environment. Led by Dr. French-McCay, RPS has performed numerous oil spill modeling studies evaluating the implications of spill response options and risk (e.g., French-McCay et al. 2004a,b,c; 2005a,b,c; 2006a,b,c; 2009; 2012; 2014; 2017; 2018d; French-McCay and Graham 2014; Bock et al. 2018; references available upon request). RPS's oil spill risk analysis is a three-part process consisting of: 1) probability analysis of the likelihood of a spill or release, 2) spill transport modeling to predict the likelihood and degree of exposure to ecological and/or socioeconomic resources, and where applicable, 3) evaluation and reporting of the resulting impacts through oil spill response plans (OSRP), environmental impact analyses (EIA), natural resource damage assessments (NRDA), net environmental benefit analyses (NEBA), and cost/benefit analyses.

3 PROJECT TEAM

Dr. Matt Horn will serve as project director and technical lead for oil spill fate modeling. Dr. Horn is a director on the executive team for RPS in South Kingstown, RI and a manager for a team of expert scientists, engineers, and technical staff. He is a senior scientist, specializing in unmitigated and response mitigated oil and chemical trajectory and fate modeling. Dr. Horn has experience working on Natural Resource Damage Assessments (NRDA), including the Deepwater Horizon oil spill, and has provided evidence and expert testimony for several regulatory hearings in Canada and the U.S. related to offshore exploration and development, pipeline projects, and rail. His most recent work has focused on numerous Ecological and Human Health Risk Assessments (EHHRA) and Environmental Impact Statements (EIS) in the U.S. and Canada related to hydrocarbon releases onto land and into water from pipelines, rail corridors, facilities, and offshore infrastructure related to oil and gas exploration and development. Dr. Horn provides modeling contributions and technical documentation internationally for Environmental Impact Assessments (EIA), Risk Assessments (RA), Net Environmental Benefit Analysis (NEBA), and other assessments. Dr. Horn received a B.S. in Science of Earth Systems, focusing on oceanography and climate dynamics from Cornell University in 2004, with distinction in research. He received a Ph.D. in oceanography from the University of Rhode Island, Graduate School of Oceanography in 2011. Dr. Horn has a range of modeling experience including determining the fate of spilled chemicals / hydrocarbons within marine, estuarine, and freshwater environments (river and lake) both inland and offshore, overland trajectory and fate, hydrodynamic modeling, developing hydrocarbon parameters used in modeling, biogeochemical cycling, chemistry, and other oceanographic processes. He has expertise developing, testing, and maintaining proprietary software used in oil spill modeling.

Jill Rowe is also a director and a manager of scientific staff at RPS Ocean Science in RI. She specializes in biological and environmental data gathering, analysis and management; natural resource damage assessment (NRDA) modeling and analysis of pollutant fates and effects; ecological risk assessment; impact assessment of dredging and development projects, preparing sections of Environmental Impacts Statements; providing NEPA support, and GIS mapping and analysis. Ms. Rowe has applied her marine biological and GIS expertise to biological data set development, as well as mapping habitats and biological resource distributions that could ultimately be affected by oil/chemical spills and development projects. She performs quantitative assessments and modeling of aquatic ecosystems and populations, pollutant transport and fates, and biological response to pollutants. The populations to which she applies these models include plankton, benthic invertebrates, fisheries, birds and mammals. She has analyzed data and has applied water quality, food web and ecosystem models to case studies in freshwater, marine and wetland ecosystems.

Ms. Gabrielle McGrath will serve as RPS's Technical Lead for the tactical response assessment. As part of her 26 years of dedicated service in the United States Coast Guard, Ms. McGrath performed risk analyses and developed mitigation plans to reduce risk for both oil spill response and maritime security planning. Her work included the development of Area Contingency Plans and Area Maritime Security Plans on both the East and West Coasts of the United States. For example, in her role as Chief, Contingency Planning and Force Readiness Department for USCG Marine Safety Office Boston, Ms. McGrath developed the first ever Area Maritime Security Plan for the port. She also led planning of all Maritime Security (MARSEC) security actions to implement for MARSEC Levels 1, 2, and 3 for the Captain of the Port (COTP) zone.

Jeremy Fontenault is the Director of Geospatial Services at RPS, in South Kingstown, Rhode Island. He specializes in GIS and data management, specifically regarding the modeling of the fate and transport of hazardous liquids and vapors in terrestrial environments (on land and in streams). He has nearly 9 years of experience in land-based spill modeling from hundreds of pipelines and facilities throughout the United States and Canada, and around the world. This experience includes compiling and preparing input data, performing the spill model simulations, and developing and improving the models. This work has supported

integrity management plans, pipeline risk assessments, Ecological and Human Health Risk Assessments (EHHRA), Environmental Impact Statements (EIS), emergency management/planning, spill response planning, etc.

Ms. Crowley is a senior consulting environmental scientist and project manager at RPS. She has experience working on issues and projects related to various aspects of environmental science such as environmental data analysis, hydrodynamic, sediment transport and water quality modeling and analysis, coastal processes modeling and analysis, coastal facility design support, operational/industrial and accidental discharge modeling and assessment, environmental impact assessment in coastal and marine environments and permitting and regulatory compliance analysis and support. She is one of the model developers for RPS' OILMAPDeep and has expertise assessing blowouts in the near field including plume analysis and droplet size predictions. Additionally, she has experience assessing the near field plume dynamics of various discharges including operational discharges such as those from wastewater facilities or produced water for oil and gas operations. Ms. Crowley's experience includes numerous studies of hydrodynamics, sediment transport, water quality and water discharge assessments. Areas of experience include model development and application, field program design and support, environmental impact assessment (marine resources), geospatial analysis, environmental data analysis and technical writing.

Dr. Dagmar Schmidt Etkin has 45 years of experience in environmental analysis -14 years investigating issues in population biology and ecological systems, and 31 years specializing in the analysis of oil spills. Since 1999, she has been president of Environmental Research Consulting (ERC) specializing in environmental risk assessment, spill response and cost analyses, and expert witness research and testimony. ERC's work focuses on providing regulatory agencies and industry with sound scientific data and perspectives for responsible environmental decision-making and risk assessment. She received a BA in Biology from University of Rochester, and an MA and PhD from Harvard University in Organismic and Evolutionary Biology where she focused on ecology, statistics, and modeling.

CV's have been provided for the key personnel leading each section of this proposed work. Additional CV's are available upon request for additional technical team members.

4 RELEASE VOLUME MODELING

RPS proposes to calculate release volumes with their OILMAPLand model system. To maximize the conservative nature of this assessment, we propose to simulate full bore rupture scenarios. A full bore rupture (i.e., complete severing of the pipeline) of the pipeline would be modeled along each on-land hypothetical release location. In addition, conservative assumptions would be used to account for the time for full shutdown of the affected pipeline (i.e., taking into account elapsed time for alarm notification, stopping the pumps – totaling 9 minutes, and closure of the shut-off valves – an additional 3.9 minutes). The maximum volume of crude oil hypothetically released at each site over this ~13 minute timeframe would therefore include both the initial release volume prior to shutdown (i.e., actively pumping out), as well as hydraulic drain down of the pipeline (i.e., gravity drained oil within the pipeline between the valves), following shutdown at that site. Small volume and slow releases are not considered to be a credible worst case for this project as the pipeline passes through areas that have large amounts of water (e.g. Neches River, Sabine Lake, and many marshes). Even small volumes of crude oil released into aquatic ecosystems rapidly sheen on the surface and are likely to be spotted by people within the area. It is unlikely that small volume releases would occur for long periods of going unnoticed. Therefore, full bore rupture scenarios would be considered more conservative than small volume slow releases, as they would maximize the volume leaving the pipeline and therefore maximize the potential for effects.

OILMAPLand is a land and surface water spill model system for predicting full-bore rupture release volumes and simulating the trajectory, fate, and effects of hazardous liquids from pipelines and storage facilities. Release volumes will be estimated at sites spaced at 100-foot intervals along the pipeline and at each watercourse crossing. At each hypothetical release site, a full-bore rupture of the pipeline will be assumed. The volume lost is calculated assuming a guillotine break and an opening equal to the pipeline inside diameter. When a pipeline break occurs the liquid flows from the break under pressure until response actions are taken to depressurize the line and isolate the damaged segment.

In the first phase of the calculation, liquid flows from the break in the pipeline at the operating flow rate until the pumps are completely stopped. During this phase, the volume pumps out of the rupture point from the upstream portion of the pipeline. The product is assumed to be pumped out of the upstream side of the rupture point at the full designed flow rate, until the pumps are completely shut down. In the second phase of the calculation, the product drains from the break under the force of gravity before valves are closed. Once valves have been closed, the volume available for gravity flow is restricted to the liquid contained in the pipeline segment between closed valves up- and down-stream from the break which are hydraulically above the break point (Figure 4-1). The total release volume is the sum of pressurized flow volume plus the gravity drain down volume.

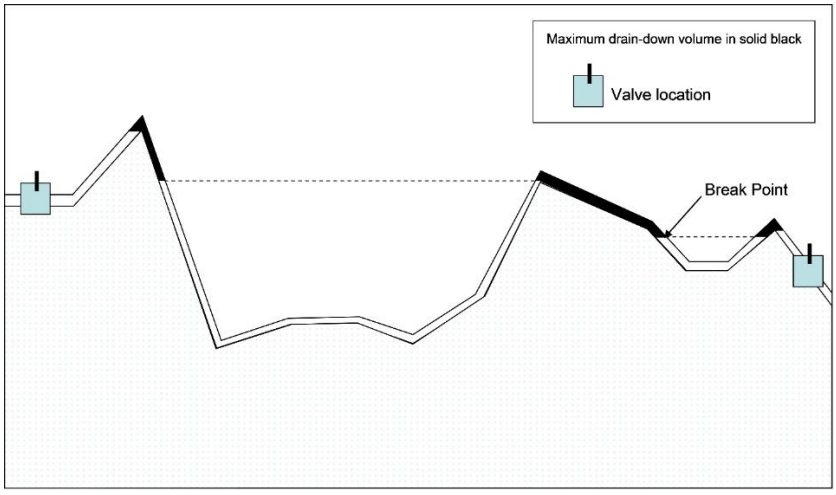

Figure 4-1. Diagram depicting pipeline drain down.

5 OIL SPILL RISK (PROBABILITY ASSESSMENT)

The Oil Spill Risk (Probability) Assessment for the DWP includes assessing the potential frequency and magnitude of oil spills from the various components of the project (Figure 5-1). These components include both onshore segments (i.e. pipeline through Sabine Lake between tank farm and the shoreline near Holly Beach, LA) and offshore segments (pipeline between shoreline and two single-point mooring systems at the DWP, and the moorings systems).

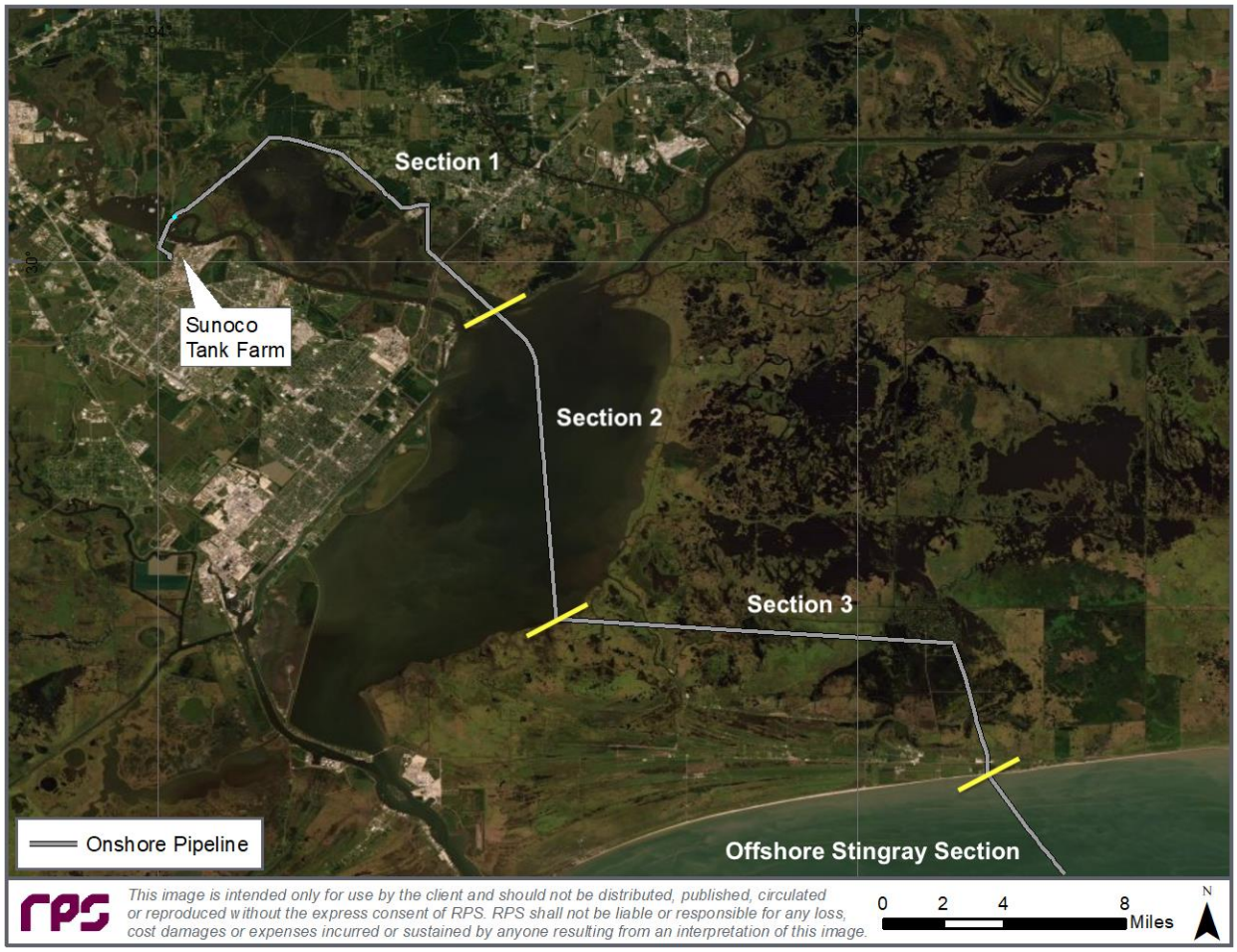

Figure 5-1. DWP onshore project components (i.e., on land Pipeline Section 1, Pipeline Section 2 through Lake Sabine and on land Pipeline Section 3

5.1 Probability Assessment Approach

Dr. Dagmar Schmidt Etkin of Environmental Research Consulting (ERC) will conduct an analysis of the probability of oil spills in each of the onshore and offshore project components. For the analysis, the new 42-inch onshore pipeline will be considered in three separate sections–the segment from the existing Sunoco tank farm to the northwestern shore of Sabine Lake, the segment that crosses Sabine Lake, and the segment from the eastern shore of Sabine Lake to the shoreline near Holly Beach, Louisiana. The reason for separating the analyses on the three segments is to provide a probability analysis that will coordinate with the spill modeling conducted by RPS Group. This will allow ERC to assign a probability to the modeled hypothetical spill scenarios for the two on-land pipeline segments (Sections 1 and 3) as well as the Sabine Lake segment (Section 2), each of which would have different potentials for trajectory, fate, and environmental effects (Figure 5-1). The probability analyses for the offshore components will include independent analyses for spills that might occur along the offshore Stingray pipeline and spills that might occur at the DWP mooring system (Figure 5-2). The latter could include spillage from any storage at the mooring system and during oil transfer operations to tankers. It is assumed that the probability analysis will specifically exclude tanker transport once the fully-loaded tankers leave the DWP (i.e. vessel traffic study).

The probability analysis also excludes any spills from offshores supply vessels servicing the DWP. However, both of these components will be included in the oil spill risk assessment portion.

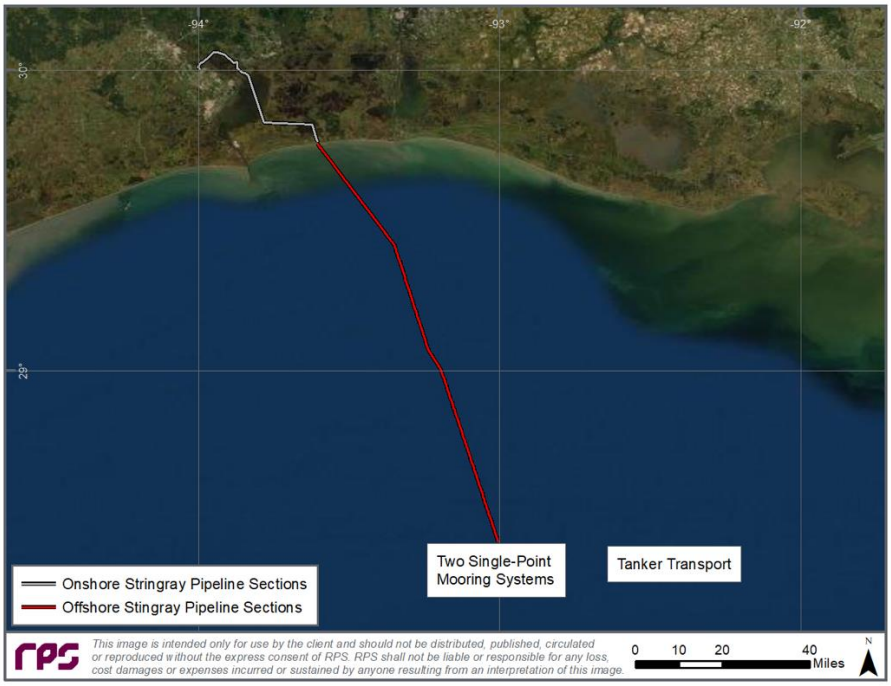

Figure 5-2. DWP offshore project components (i.e., Stingray pipeline, single-point mooring systems, and tanker transport)

The probability analysis will take into account the types of spills that might occur in the various project components (e.g., corrosion-caused pipeline leakage; third-party damage by construction; vessel strikes, or anchor dragging; operational errors; oil transfer errors) based on historical data (e.g., probability of corrosion leakage per pipeline-mile for pipelines of that age and flow rate) adjusted for any preventive or mitigative measures in place. The analysis would also provide a probability distribution function of spill volumes (magnitude of spillage) based on spill cause and project component. The probability of the modeled hypothetical spill scenarios will also be provided in coordination with RPS Group.

While it is difficult to determine the probability of intentional attacks accurately, historical data will be reviewed to capture the frequency of these events in recent years. For oil spill modeling, whether the event was considered to be accidental or intentional, the scenarios would both be considered catastrophic, with a complete loss of the oil volume. Therefore, no additional oil spill modeling would be required for an attack, unless a different release volume (i.e. not a complete loss) was to be assessed.

6 OIL SPILL MODELING

6.1 Oil Spill Model Systems

RPS proposes to use their OILMAPLand model system to help assess releases from the onshore portion of the pipeline. As stated in Section 4, OILMAPLand is a two-dimensional land and surface water spill model system for predicting full-bore rupture release volumes and simulating the trajectory, fate, and effects of hazardous liquids from pipelines and storage facilities. Mass balance calculations allow for a complete

accounting of the product spilled and a determination of the path and timing of the released product. The predicted plume footprints can be overlaid with High Consequence Areas (HCA) and other sensitive receptors to assess potential impacts in the event of a loss of containment.

Following the modeling of onshore releases onto land using OILMAPLand, RPS proposes to use their three-dimensional state-of-the-art oil transport, fate, and effects model SIMAP (French-McCay 2004, 2009; French-McCay et al. 2018) to evaluate transport and weathering of oil released in-water in the project region of interest. SIMAP uses site specific wind and current data, and state-of-the-art transport and oil weathering algorithms in its physical fate model (Figure 6-1) to quantify areas swept by floating surface oil of varying thicknesses, concentrations of subsurface oil components (dissolved and particulate, including BTEX, PAH's, and many other compounds/chemical groups of interest) in space and over time, and areas of shoreline impacted to varying degrees. In this more extensive analysis, the SIMAP exposure model further evaluates areas/volumes where habitats and wildlife exposures would occur, accounting for the distribution and behavior of the organisms. SIMAP is a 3-dimensional Lagrangian model, meaning that each component of the spilled oil is represented by an ensemble of independent mathematical (Lagrangian) particles or "spillets" that are tracked through the many different transport and fate processes (Figure 6-2). Each spillet is a sub-set of the total mass spilled and is transported by both currents and surface wind drift. Various response actions can be modeled including mechanical removal, surface and subsurface dispersant application, and in situ burning. A description of SIMAP and an example application can be found in the attached recent publication French-McCay et al. (2018, Appendix A).

Processes simulated in the SIMAP physical fates model include oil spreading (gravitational and by shearing), evaporation, transport, vertical and horizontal dispersion, emulsification, entrainment (natural and facilitated by dispersant), dissolution, volatilization of dissolved hydrocarbons from the surface water, adherence of oil droplets to suspended sediments, adsorption of soluble and sparingly-soluble aromatics to suspended sediments, sedimentation, and degradation (Figure 6-2). SIMAP is unique in that it not only models particulate oil content at the surface and in the water column, but it also accounts for the dissolved component of oil. SIMAP calculates the dissolved in-water concentrations and tracks them over time.

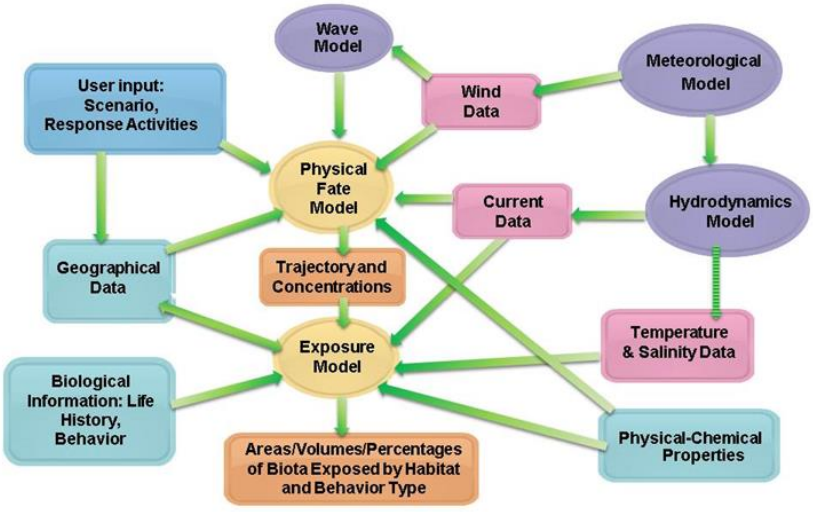

Figure 6-1. The RPS SIMAP 3-D oil fate and exposure model components and inputs flow diagram.

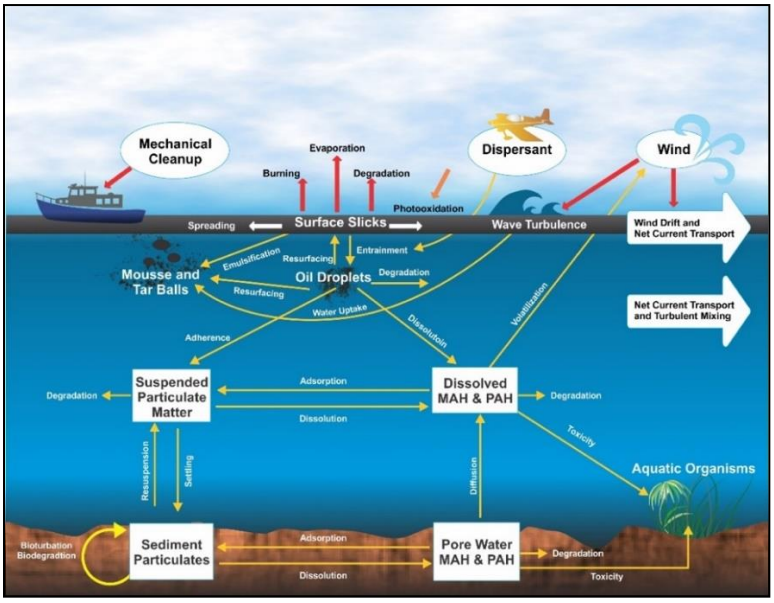

Figure 6-2. Open water oil fates and behavior processes simulated in the RPS SIMAP modeling system.

Both the OILMAPLand and SIMAP models are used extensively by industry and governments (French-McCay, 2004; Horn and French-McCay, 2015; Horn and Fontenault, 2018; Horn et al., 2018). Detailed descriptions of the algorithms and assumptions in the SIMAP model and validations to field and laboratory data may be found in published papers (French McCay, 2002; 2003; 2004; 2009; French McCay et al. 2015; 2018). Hindcasts and modeling studies span marine, estuarine, and freshwater environments, including river cases and orimulsion studies (French et al. 1997; French McCay 2003; 2004; French McCay et al., 2005; Horn and French McCay, 2015; French McCay et al. 2015; 2018a,b,c).

The two products to be investigated will include a light crude oil (Bakken), and heavy crude oil (Cold Lake Blend, or CLB) spanning the range of API crude oils that may be shipped. The hypothetical release locations that will be investigated span the distance from the offshore platforms to the tank farm and include a nearshore location and two inland locations (*Neches River and Sabine Lake) (Table 6-1; Table 6-2).

Table 6-1. Tentative crude oil types that will be simulated.

Oil Name	Oil Type	Density (g/m^2)	Viscosity (cP)	Interface Tension (dyne/cm)	Emulsion maximum Water Content (%)
Light Crude Oil (e.g., Bakken)	*High API Crude	0.81650	3.88 @ 10ºC	27.3	0.005
Heavy Crude Oil (e.g. CLB)	*Low API Crude	0.9177	150 @ 15ºC	27.1	53
Diesel 2002	Diesel Fuel	0.83	2.76 @ 25ºC	27.5	0.00
HFO 380	Heavy Fuel Oil	0.9888	22,800 @15ºC	not measurable	57.7

Table 6-2. Tentative release locations that will be modeled.

Site Name	Type / Block	Comments*	Latitude N	Longitude W	Water Depth (m)
DWP Platform	WC 433	WC433 CALM Loc 1	28°40'21.00"N	93°5'52.00"W	33 m
Preferred		WC433 Platform	28°40'21.17"N	93°5'05.58"W	
DWP Platform	WC 509	WC509 CALM Loc 1	28°26'47.33"N	93 00'13.3"W	48 m
Alternate		WC509 Platform	28°26'00"N	93°00’16.0"W	
Nearshore pipeline location	WC 44	13 km offshore	29°39'31.41"N	93°31'50.32"W	10 m
Pipeline release into coastal waterway	MP 19.5	Sabine Lake	29°55'6.67"N	93°49'2.22"W	3 m
Pipeline release into coastal waterway	MP1	Neches River	30° 0'45.97"	93°59'50.59"W	15 m

*Note that pipeline and support vessel releases will be simulated at the platform, while the VLCC releases will be simulated at the buoy locations.

6.2 Oil Spill Modeling Approach

6.2.1 Onshore Pipeline Releases (OILMAPLand)

In the first phase of the proposed study, OILMAPLand will be used to model the transport and fate of crude oil releases (Bakken and CLB) along the pipeline, using the full-bore rupture release volumes predicted, and/or some other smaller release volume. A release will be simulated at each release location along the pipeline (100-foot interval and each watercourse crossing). Spill plume simulations will be run until one of the following conditions is met:

- All of the released product has evaporated, adhered to land cover, filled depressions in the land surface, spread to a minimum thickness on a lake surface, and/or adhered to stream shores.
- Released product remaining on the water surface has been transported for a predefined period of time from the start of the simulation.
- Release reaches open/tidal waterbody (i.e., Gulf of Mexico, Sabine Lake). When this occurs, the volume predicted to reach water can be used to inform scenarios designed to simulate the offshore trajectory, fate, and effects.

Model generated spill plumes and spill location points will be delivered in ESRI GIS format. The spill plumes can also be used to perform an HCA Analysis to assess potential impacts from releases onshore.

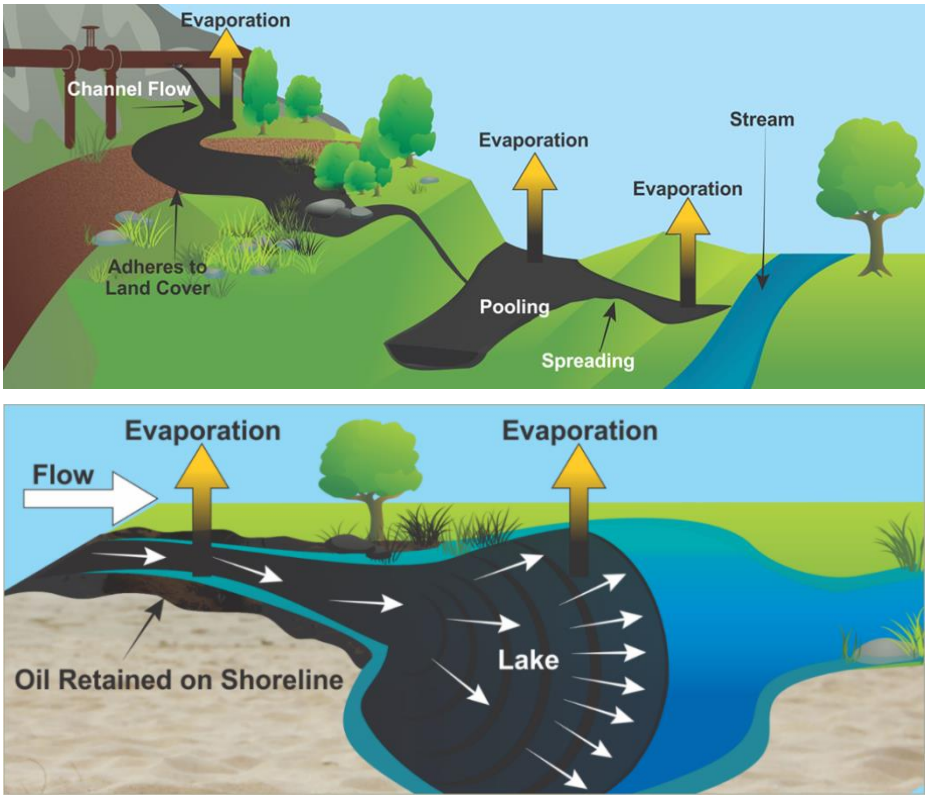

Figure 6-3. Oil fate and behavior processes simulated in the RPS OILMAPLand model for on land (top) and in water spills (bottom).

6.2.1.1 OILMAPLand Input Data

The OILMAPLand model utilizes geographic and environmental data, often obtained from public sources, to define the land elevation, water features, and land cover type which are then used to predict pathways of the released product. The following datasets will be used:

Elevation data (DEM):

- United State Geological Survey (USGS) 1/9 arc second (approximately 3 meter) resolution National Elevation Dataset (NED)
- High resolution National Hydrographic Dataset (NHD) – for the inland surface water transport modeling
- USGS and United States Environmental Protection Agency (EPA) NHDPlus dataset – to define flow and current velocity information within waterways, that can be applied to the NHD high resolution network.
- 2016 National Land Cover Database (NLCD) – to define the land cover types within the region

The following inputs required by the OILMAPLand model are being determined in conjunction with RPS, EXP, and Energy Transfer:

- Pipeline centerline
- Pipeline elevation profile (if available)
- Pipeline inside diameter or outside diameter and wall thickness
- Pipeline flow rate
- Valve locations, types, and closure time(s)
- Leak detection and pump shutdown time
- Product specifications for each product type – density, viscosity, name, etc.

6.2.1.2 OILMAPLand Reporting

A draft of the OILMAPLand modeling report will be provided, which will include a summary of the assumptions, inputs, model system details, and results. The draft report will be revised according to comments received to produce a final report. Georeferenced data (e.g., shapefile for specific scenarios) will be made available on request.

6.2.2 Open Water / Offshore Releases (SIMAP)

In the second phase of the proposed study, SIMAP's stochastic model will be used to evaluate the likelihood that various locations and resources would have the potential to be oiled above specific socioeconomic and/or ecological thresholds by releases in open water and offshore environments. The stochastic analysis is a statistical analysis of oil spill model results generated from many different individual trajectories (>100 individual simulations) of the same spill event (i.e. scenario). Each trajectory has a different spill start time selected at random from a relatively long-term window. The random start time allows for the same type of spill to be analyzed over the varying environmental conditions that may occur on timescales from hours to years. The favored approach is to use historical observed multiple-year wind record(s) and hindcast hydrodynamic models to perform the simulations within the coinciding time period. This allows for reproduction of the natural variability of the wind direction and speed. Optimally, the minimum time window

for stochastic analysis is at least five years, therefore a minimum of five years of wind (NCEP NARR 2004-2010) and current data (ECHYCOM 2004-2010) will be used.

The stochastic analysis provides two types of information: 1) areas associated with probability of oiling, and 2) the shortest time required for oil to reach any point within the areas predicted to be oiled. Together, probability and minimum time can be interpreted to read: “There is X% probability that oil is predicted to exceed the identified threshold at a specific location, and this exceedance could occur in as little as Y days.” The predicted cumulative footprint (area) and probabilities of oiling are generated by a statistical analysis of all the individual trajectories. The stochastic model is also capable of evaluating areas affected and concentrations over a prescribed minimum threshold or cut-off value, and at oiling probabilities above a certain percent (e.g., >1%). Stochastic modeling results include predicted spatial distributions of hydrocarbons and probabilities that water surface (i.e. surface oil thickness), water column (i.e. concentrations of total petroleum hydrocarbons, dissolved constituents, PAH’s, etc.), and shoreline (i.e. mass per unit area or thickness) areas will be affected, as well as oil exposure levels (i.e. any specified threshold). These exposures can be described and summarized in tables by mean and standard deviation for indices of interest (e.g., water surface swept by oil, shoreline oiled, water volume contaminated, etc.).

Subsequent to the stochastic modeling, individual (“deterministic”) trajectories will be selected from the stochastic parent scenario that are representative of a specific condition or exposure level (e.g., 95th percentile for shoreline oiling) to evaluate oil fate and weathering information in detail. In addition to a specific trajectory, the results of the deterministic simulations provide a time history of oil weathering over the duration of the spill (mass balance), expressed as the percentage of spilled oil on the water surface, on the shoreline, evaporated, entrained in the water column, and degraded. Deterministic model results include mass balance graphs; tabular exposure information; and times series maps (or videos) of individual trajectories showing mass of floating surface oil, water column concentrations (of defined component: TPH, dissolved. PAH, BTEX, etc.), and shoreline oiling.

6.2.2.1 Proposed Scenarios

Oil spill modeling assumes that a release has occurred, independent of whether the release was accidental or intentional. For this assessment, accidental and intentional releases would be assumed to result in worst case discharge (WCD) volumes. In the case of an onshore facility and deepwater port, the WCD is the largest foreseeable discharge in adverse weather (i.e., accidental) conditions. It is anticipated that the spill volumes from an accidental event would be the entire vessel cargo, the entire contents of the pipeline affected, or the entire volume of oil at the DWP Marine transportation-related facility (MTR facility). For this assessment, we propose to model 20 offshore and 4 inland (Sabine Lake) release scenarios that span numerous oil types (Table 6-1), release locations (Table 6-2), discharge volumes, and release durations to capture the range of potential releases (Table 6-3; Table 6-4). This includes:

Table 6-3. Tentative offshore stochastic oil spill scenarios

Scenario ID	Spill Site	Spill Event	Oil Type	Release Depth	Spill Duration	Total Spilled Volume	Model Duration	Comments*
OS-1	WC433	VLCC – WCD Vessel cargo	Bakken	Surface	1 hr	2.1 million bbl	60 days	VLCC Cargo Capacity – 1 vessel WCD
OS-2			CLB				60 days	
OS-3		Platform – WCD facility infrastructure	Bakken	Surface	1 hr	42,000 gal	60 days	Statistics or Infrastructure Plan & Dimensions
OS-4			CLB				60 days	
OS-5		Service fuel spill (at the SPM)	Diesel fuel	Surface	Near instantaneous	107,309 gal	60 days	Largest tugboat capacity; maximum number of tugs on scene
OS-6		VLCC fuel oil spill	HFO 380	Surface		48,891 bbl	60 days	VLCC fuel tank capacity; 1 VLCC
OS-7		Pipeline at DWP (at PLEM)	Bakken	33 m	1 hr	208,331 gal	60 days	Total volume in single platform-PLEM pipeline + total volume in single riser
OS-8			CLB				60 days	
OS-9	WC 44 (WC433 Option)	Nearshore pipeline location	Bakken	10 m	1 hr	21,564,828 gal	60 days	Total volume in pipeline
OS-10			CLB				60 days	
OS-9(a)	WC 44 (WC509 Option)	Nearshore pipeline location	Bakken	10 m	1 hr	26,004,772 gal	60 days	Total volume in pipeline
OS-10(b)			CLB				60 days	
OS-11	WC509	VLCC – WCD Vessel cargo	Bakken	Surface	1 hr	2.1 million bbl	60 days	VLCC Cargo Capacity – 1 vessel WCD
OS-12			CLB				60 days	
OS-13		Platform – WCD facility infrastructure	Bakken	Surface	1 hr	42,000 gal	60 days	Statistics or Infrastructure Plan & Dimensions
OS-14			CLB					
OS-15		Service fuel spill (at the SPM)	Diesel fuel	Surface	Near instantaneous	107,309 gal	60 days	Largest tugboat capacity; maximum number of tugs on scene
OS-16		VLCC fuel oil spill	HFO 380	Surface	Near instantaneous	48,891 bbl	60 days	VLCC fuel tank capacity; 1 VLCC
OS-17		Pipeline at DWP (at PLEM)	Bakken	48 m	1 hr	211,245 gal	60 days	Total volume in single platform to PLEM pipeline + total volume in single riser
OS-18			CLB				60 days	

6.2.2.2 Input Data

6.2.2.2.1 Geographic and Bathymetric Data

For geographical reference, SIMAP uses a rectilinear grid to designate the location of the shoreline, the water depth (bathymetry), and the shore or habitat type. The grid is generated from a digital coastline using the ESRI Arc/Info compatible Spatial Analyst program. The cells are then coded for depth and habitat type. For US applications such as this one, the digital shoreline, shore type, and habitat mapping are obtained from the Environmental Sensitivity Index (ESI) Atlas database distributed by NOAA Hazmat (Seattle, WA). Habitats are coded as described in French-McCay (2009).

Depth data are obtained from hydrographic survey data, such as that supplied by the US Department of Commerce, National Oceanic and Atmospheric Administration, National Geophysical Data Center.

Hydrographic survey data consist of large numbers of individual depth soundings. The depth soundings are gridded using the ESRI ArcInfo compatible Spatial Analyst program.

6.2.2.2.2 Winds

The oil spill model uses multiple years of spatially- and temporally-varying wind speed and direction data for spill simulations. Long term (>5 years) historical wind data are typically obtained from global or regional meteorological models. For example, the US Department of Commerce, National Oceanic and Atmospheric Administration (NOAA), National Center for Environmental Prediction (NCEP) provides global and North American regional reanalysis models that may be used. Here, we propose to use the NCEP NARR from 2004-2010.

6.2.2.2.3 Currents

In addition to the wind data, the oil spill model uses current data applicable to the same time period as the wind data set. For shelf and open ocean regions such as in the Gulf of Mexico area of interest, global hydrodynamic models provide suitable currents for oil spill modelling. The US Department of Commerce, National Oceanic and Atmospheric Administration (NOAA), National Center for Environmental Prediction (NCEP) and US Naval Research Lab (NRL) both provide their real-time operational GLOBAL HYbrid Coordinate Ocean Model (HYCOM) simulation products on US government websites. Here, we propose to use the ECHYCOM from 2004-2010.

6.2.2.2.4 Oil Types

RPS proposes to model two crude oil type spanning the range of products that might be exported, including both a heavy and light crude oil (Table 6-1). RPS has previously developed oil property data for a range of crude oils that are likely to be shipped.

Data are also available for the fuel oils used on VLCCs: Heavy Fuel Oil (HFO) 380 and diesel. Diesel is also used on most service vessels, including tugs. RPS has developed typical physical/chemical properties for these types of oils under prior projects (based on well-established public sources, such as Environment Canada's data base), and recommends that we use the data we have developed.

6.2.2.3 Reporting

A draft of the SIMAP modeling report will be provided which will include an overview of the project, physical description of the study area, description of the modeling systems, description of the model application used for each scenario, summary of the results of each scenario with accompanying maps and tabulated data, and study conclusions. Model outputs include static maps of the trajectory and maximum oil exposure, charts showing mass balance of the oil in various environmental compartments over time, and summary tables of exposure metrics such as shoreline oiling by shore type.

The draft report will be revised according to comments received to produce a final report. Georeferenced data (e.g. shapefile for specific scenarios) will be made available on request.

6.2.3 Inshore/Coastal Releases (SIMAP)

RPS also proposes to examine hypothetical oil releases directly into coastal tidal water bodies originating from the onshore pipeline, including the Neches River (MP 1) and Sabine Lake (MP-21). In order to model such releases, RPS will first need to map the land and water boundaries, the habitats (wetlands, shore

types) and water depths, as well as develop needed current data (via hydrodynamic modeling) to predict tidal and freshwater flow related currents.

These release locations could affect the Sabine National Wildlife Refuge and other sensitive receptors. RPS would use SIMAP to model expected oil trajectory, weathering, dilution, degradation and exposure concentrations. These results may be used to evaluate potential spill response requirements, as well as potential for adverse effects.

Inshore/coastal modeling will follow the same approach and procedures as for the offshore modeling (Section 6.2.2). This involves simulating numerous releases over a long period of time using a stochastic approach. Multiple simulations with randomized start dates and times over >5 years would capture the range of wind and current data over this period. The worst-case simulation for shoreline exposure would be the focus of the reported deterministic analysis.

6.2.3.1 Proposed Scenarios

Worst Case Discharges (WCD) of two oil types will be simulated at each inshore/coastal hypothetical release location, totaling an additional four stochastic scenarios(Table 6-4).

Table 6-4. Tentative list of inshore/coastal stochastic oil spill scenarios

Scenario ID	Spill Site	Spill Event	Oil Type	Release Depth	Spill Duration	Total Spilled Volume	Model Duration	Comments*
CS-1	Sabine Lake MP-19.5	Pipeline Release	Bakken	3 m	13 min	Pipeline WCD calculation	14 days	Pipeline WCD calculation (pump out for 9 min. + drain down)
CS-2			CLB	3 m			14 days	
CS-3	Neches River MP-1	Pipeline Release	Bakken	15 m	13 min	Pipeline WCD	14 days	Pipeline WCD calculation (pump out for 9 min. + drain down)
CS-4			CLB	15 m			14 days	

*Note that the WCD volume calculation for pipeline releases is as follows:

$$WCD = (h_{shutdown} \times \frac{bbl}{h}) + bbl_{drainage}$$

where: h = hours; and $bbl_{drainage}$= bbl in drainage after shutdown

6.2.3.2 Input Data

Most of the required environmental data are available from the offshore modeling portion of the project (Section 6.2.2.2). The environmental data to be used are as follows:

- Habitat mapping – Environmental Sensitivity Index (NOAA)
- Bathymetry – NOAA database
- Winds – NOAA meteorological models (NCEP/NARR)
- Currents – BFHYDRO and WQMAP with tidal constituents and freshwater inputs
- Temperature and Salinity – GOM environmental atlas by NOAA

6.2.3.2.1 Geographic Data

For geographical reference, SIMAP uses a rectilinear grid to designate the location of the shoreline, the water depth (bathymetry), and the shore or habitat type. The grid is generated from a digital coastline using the ESRI Arc/Info compatible Spatial Analyst program. The cells are then coded for depth and habitat type. For US applications such as this one, the digital shoreline, shore type, and habitat mapping are obtained from the Environmental Sensitivity Index (ESI) Atlas database distributed by NOAA Hazmat (Seattle, WA). Habitats are coded as described in French-McCay (2009).

Depth data are obtained from hydrographic survey data, such as that supplied by the US Department of Commerce, National Oceanic and Atmospheric Administration, National Geophysical Data Center. Hydrographic survey data consist of large numbers of individual depth soundings. The depth soundings are gridded using the ESRI ArcInfo compatible Spatial Analyst program.

6.2.3.2.2 Winds

The oil spill model uses multiple years of spatially- and temporally-varying wind speed and direction data for spill simulations. Long term (>5 years) historical wind data are typically obtained from global or regional meteorological models. For example, the US Department of Commerce, National Oceanic and Atmospheric Administration (NOAA), National Center for Environmental Prediction (NCEP) provides global and North American regional reanalysis models that may be used. Here, we propose to use the NCEP NARR from 2004-2010.

6.2.3.2.3 Currents

This task is concerned with the development of hydrodynamic data that is required for use in oil fate and transport modeling. The oil fate and transport modeling will be used to assess the potential for oil to reach specific areas of interest and/or habitats based on a hypothetical release from a pipeline that traverses Sabine Lake, an inland water body that connects to the Gulf of Mexico. The approximate study area that would be characterized and used in the model study are depicted in Figure 6-4.

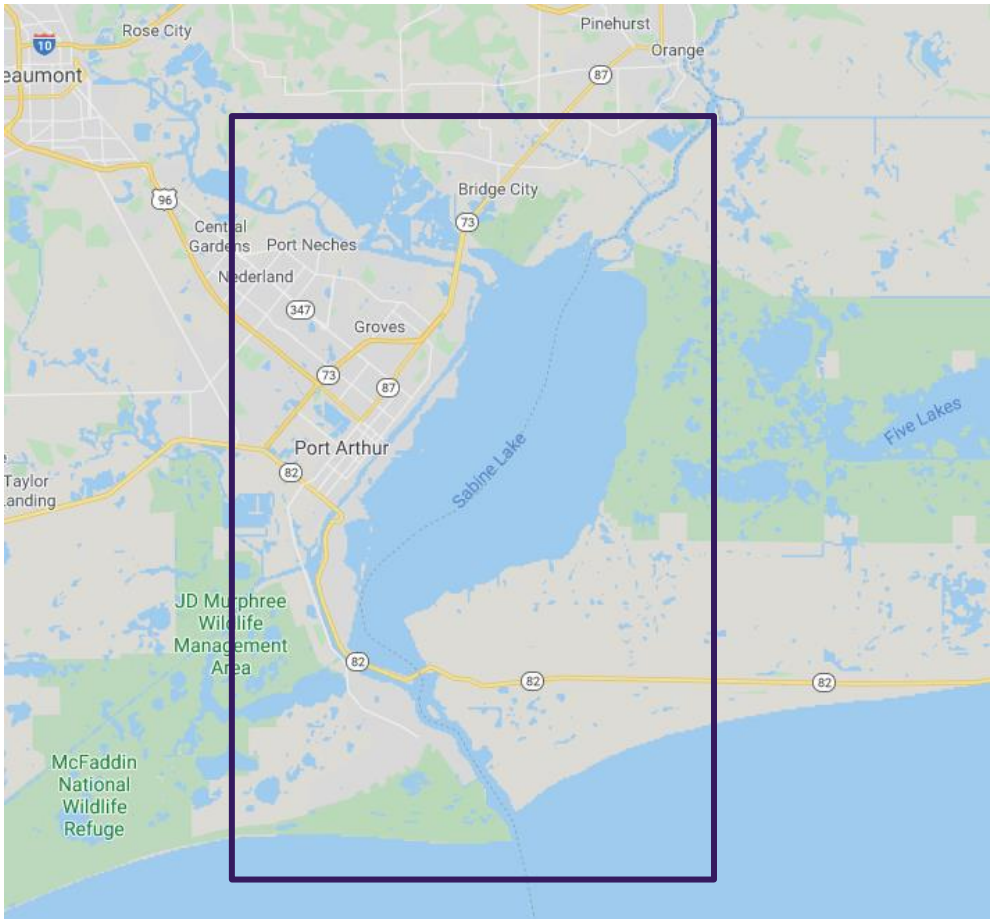

Figure 6-4. Approximate extent of coastal/inland modeling study area (black box).

Sabine lake is connected to a number of smaller channels and extensive marshland on the eastern side. In order to support the objectives of the oil spill modeling, the hydrodynamic modeling will focus on the circulation in the main body of the lake, including the Neches and Sabine Rivers and have simplified representations of the smaller channels. The model domain will include representation of the relatively larger channel connections including the connection to the open coast at the southern end and the channels that connect to the lake in the northwest and northeast. The hydraulic connections through the marsh will not be included.

The characterization of geographic, environmental, and hydrodynamic conditions with Sabine Lake will be accomplished through the following subtasks:

- Literature and data search to define the shoreline, bathymetry and environmental conditions relative to the circulation (tides, winds and river flows).
- Development of a hydrodynamic model application (gridding, forcing, and tuning as possible based on available observations/information. The hydrodynamic modeling will be performed using RPS in house model BFHYDRO which is part of the WQMAP modeling system.
- Simulations for use in the oil fate and transport modeling will be performed and post processed to provide cyclical tidal hydrodynamics and a representative wind and residual flows of the river (if applicable).
- Report section detailing the modeling inputs, assumptions, and results.

6.2.3.2.3.1 Hydrodynamic Modeling System WQMAP

Hydrodynamic modeling will be carried out using the Water Quality Mapping and Analysis Program, (WQMAP) that was developed by RPS (Mendelsohn, et al., 1995). WQMAP integrates geographic information (land use, watersheds, etc.), environmental data (water quality parameters, surface elevations and velocities, stream flows, bathymetry, etc.) and models (analytical and numerical, hydrodynamic, pollutant transport, etc.). The power of such a system is that it allows the user to model and analyze many different scenarios efficiently. A graphical user interface simplifies user inputs and allows a graphical display of model output. In addition, one of the modeling components within WQMAP has been specifically developed for application to the study of effluent fates in coastal waters.

The WQMAP computational engine is a family of general curvilinear coordinate system computer models including a boundary conforming gridding model (BFGRID), a hydrodynamic and hydrothermal model (BFHYDRO), a single constituent mass transport model (BFMASS) and an eight-state variable water quality, eutrophication model (BFWASP). The BFGRID, and BFHYDRO models will be used in this study and are described briefly in the following sections.

Hydrodynamic Model Grid - BFGRID

The boundary fitted grid generation model, BFGRID, is a tool used to build a grid of the study area on which the hydrodynamics and pollutant transport models run. The boundary-fitted coordinate system approach generates transformation functions such that all domain boundaries are coincident with coordinate lines. The grid generation is accomplished by using a set of coupled quasi-linear elliptic transformation equations to map an arbitrary horizontal multi-connected region from physical space to a rectangular mesh structure in the transformed horizontal plane (Mendelsohn, 1995; Spaulding, 1984; Thompson et al., 1977). While the transformed set of equations is considerably more complex than the original set, the transformed boundary conditions are specified on straight lines and the coordinate spacing is uniform in the transformed plane. It should further be noted that the orthogonal and conformal curvilinear grids, as well as the simple stretched rectangular grids, are special cases of the general curvilinear, boundary-fitted coordinate approach used here.

Key boundary points are specified by the user and the structure of computational grid (I, J coordinates) is defined on the map, interactively in a map based graphical user interface. After specifying key grid nodes (grid corners) along the domain boundary, the model interpolates the remaining boundary node locations and then solves the transformed equations to locate the interior nodes. The resulting non-orthogonal grid contains quadrilaterals of various sizes and orientation to both resolve fine details where needed and cover large areas where resolution is not required. The hydrodynamic and water quality models then use this grid in their numerical solution of the appropriate conservation equations.

Hydrodynamic Model - BFHYDRO

BFHYDRO is a three-dimensional, general curvilinear coordinate, boundary-fitted computer model (Muin and Spaulding, 1997; Huang and Spaulding, 1995a; Muin, 1993) used to predict elevations, and current velocities in river, lake, coastal and ocean waters. The boundary-fitted model matches the model coordinates with the shoreline boundaries of the water body, accurately representing the study area. This system also allows the user to adjust the model grid resolution as desired. Development of the boundary fitted model approach has proceeded over more than two decades (Mendelsohn, 1998; Huang and Spaulding, 1995b; Muin, 1993; and Spaulding, 1984). The model may be applied in either two or three dimensions, depending on the nature of the inquiry and its complexity.

The three-dimensional conservation of mass and momentum equations, with approximations suitable for lakes, rivers, and estuaries (Swanson, 1986; Muin, 1993) that form the basis of the hydrodynamic model, are then solved in transformed space. In addition, a sigma stretching system is used in the vertical to map the free surface and bottom onto coordinate surfaces. The resulting equations are solved using an efficient

semi-implicit finite difference algorithm for the exterior mode (two dimensional vertically averaged) and by an explicit finite difference leveled algorithm for the vertical structure of the interior mode (three dimensional) (Swanson, 1986). The velocities are represented in their contra-variant form. A sigma stretching system is used to map the free surface and bottom to resolve bathymetric variations.

The basic equations are written in spherical coordinates to allow for accurate representation of large modeled areas. The conservation equations for water mass, momentum (in three dimensions) and constituent mass (temperature [heat] and salinity) form the basis of the model, and are well established. It is assumed that the flow is incompressible, that the fluid is in hydrostatic balance, the horizontal friction is not significant and the Boussinesq approximation applies all customary assumptions.

A detailed description of the model, with associated test cases, can be found in Muin and Spaulding (1997). The publication was originally part of a Ph.D. dissertation (Muin, 1993), which extended the boundary fitted model capabilities developed by Swanson (1986), applying a contra-variant velocity formulation to the transformed momentum equations.

6.2.3.3 Oil Properties

RPS proposes to model the same two (2) oil crude types described in Section 6.2.2.2.4 (Table 6-1).

6.2.4 Reporting

The reporting of the inshore/coastal releases will be included within the offshore releases modeling report, which will focus on results from the RPS SIMAP model.

7 OIL SPILL CONSEQUENCES

The proposed oil spill consequence assessment of socioeconomic and ecological impacts consists of the following four components:

1) an overview of species and habitats of concern in nearshore and offshore environment;
2) a High Consequence Area (HCA) analysis for segments along the on-land portion of the pipeline; and
3) a pool fire analysis
4) a biological effects analysis for inshore, coastal and offshore waters.

7.1 Overview of Species and Habitats of Concern

The initial step in an oil spill consequence assessment is to identify the species and habitats of particular ecological and/or regulatory concern in the nearshore and offshore environments of Louisiana and Texas. Examples of species and habitats of concern to be reviewed and summarized include threatened or endangered species, nesting sites for migratory birds or sea turtles, critical habitats, and national seashores.

7.2 HCA Analysis

Using the outputs from the OILMAPLand plume modeling, RPS will overlay the on land plume trajectories with High Consequence Area (HCA) data, as defined by PHMSA (Pipeline and Hazardous Materials Safety Administration) to generate HCA “could affect” segments along the pipeline and to summarize the receptors that could be impacted. HCA data should, at a minimum, consist of the standard HCA datasets provided through PHMSA’s National Pipeline Mapping System (NPMS), but can also be supplemented by other receptor GIS data to account for other Areas of Interest (AOI). Version 4 high population data (HPA) and

other populated areas (OPA), and version 5 commercially navigable waterways (CNW), can be acquired by RPS. Ecologically sensitive areas (ECO), drinking water areas (DW), and any other areas of interest will need to be provided by Energy Transfer.

HCA impacts will be categorized as direct (pipeline intersects the HCA) or indirect (a release from the pipeline has potential to impact the HCA). The indirect affects will be based on the results from the release modeling with OILMAPLand. The results of the HCA analysis will consist of polyline "could affect" segments along the pipeline in an ESRI GIS format. Each segment will be classified as either direct or indirect and will be attributed with information identifying the distance along the pipeline and which HCA has the potential to be affected. Results can also be presented in tables summarizing HCA mileage by individual HCA, type of HCA, and/or overall, or in figures showing HCA "could affect" segments plotted along the pipeline (Figure 7-1).

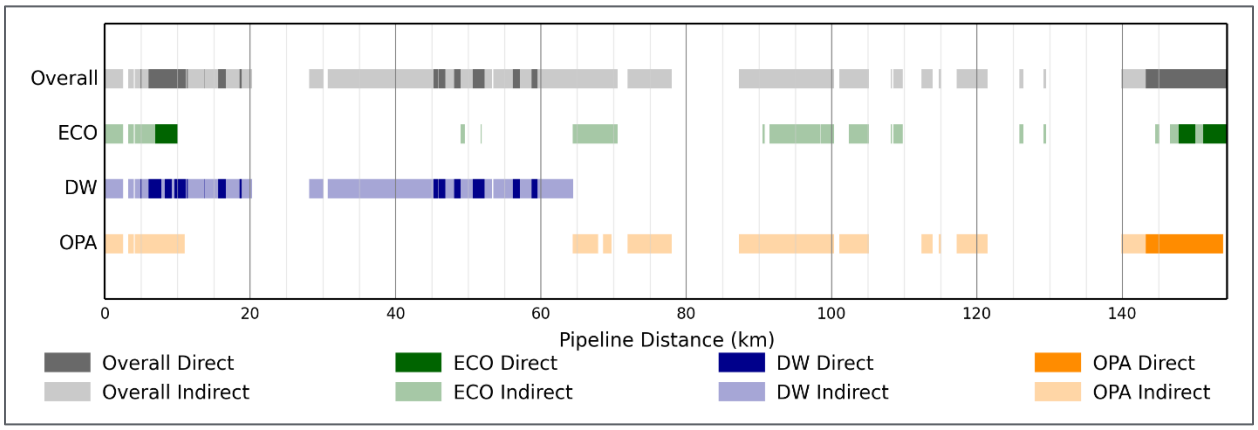

Figure 7-1. Example of HCA "could affect" segments plotted along a pipeline.

7.3 Pool Fire Analysis

A release of a flammable liquid (crude oil) could form pools of liquid around the pipeline or along the model predicted downslope trajectory overland. If ignited, a pool fire could form, which could generate intense heat that could harm nearby receptors (outside of the flames) due to the thermal (heat) radiation from the flames. Modeling can be performed to assess the distance from the pool that heat radiation could exceed recommended limits based on the probability of mortality to exposed people. Using results from the overland plume modeling, a range of potential pool surface areas can be determined. RPS will assess the resulting heat radiation using the U.S. Nuclear Regulatory Commission's (NRC) Quantitative Fire hazard analysis methods at various distances from a pool fire (Iqbal et al, 2004). Combustion properties for crude oil will be used to evaluate radiant heat flux as distance from the pool fire increases, and thus the maximum distance to various threshold radiation levels. One of the largest factors affecting the amount of heat radiation, is the size of the burning pool. Therefore, this will be assessed for a range of pool sizes, to develop a relationship that can be used to estimate the impacts for a pool of any size associated with the pipeline.

7.4 Biological Effects Analysis

RPS proposes to use the trajectory and fates results from the inshore/nearshore and offshore oil spill modeling (Sections 6.2.2 and 6.2.3) to conduct an overlay assessment which would identify the potential resources located near the hypothetical release locations that may be affected. The GIS overlay assessment includes a count of any publicly-available resource features (points, lines, or polygons) that intersect the trajectory of the released oil (e.g. NOAA ESI data, etc.; Table 7-1). These data layers contain several sub-types for which area counts and 'Location/Description/Species' names were combined, when

appropriate. In this type of GIS assessment, any oil that passes through a resource is assumed to have had the potential to affect the identified resource. Any resource features that are located adjacent to shorelines, but not directly intersected by the oiling, would also be assumed to be affected. These data represent a snapshot of the spatial distribution of resources obtained from static datasets, and the spatial distribution and extent of these resources may change over time.

Table 7-1. Examples of geographic data layers used in the overlay analyses.

Layer ID	Data Layer Name	Geometry Type	Citation
1	NOAA ESI Socioeconomic Resource Points	Point	NOAA, 2016c
2	NOAA ESI Socioeconomic Resource Lines	Line	
3	NOAA ESI Nest Points	Point	
4	NOAA ESI Fish Lines	Line	
5	NOAA ESI Management Area Polygons	Poly	
6	NOAA ESI Invertebrate Polygons	Poly	
7	NOAA ESI Fish Polygons	Poly	
8	NOAA ESI Bird Polygons	Poly	
9	NOAA ESI Marine Mammal Points	Point	

Affected resources could include the following categories of environmentally sensitive areas:

- socioeconomic resources (e.g., parks, management areas, public access points, fishing areas),
- aquatic resources (e.g., fish spawning areas), and
- avian and terrestrial resources (e.g., bird colonies, nesting areas, wetlands, biodiversity corridors, and wildlife observations).

Summary tables will be prepared for each release location identifying the type and count of each resource potentially affected by the simulated oil trajectories. This analysis is strictly a count of spatial features that were intersected by the oil trajectory. Therefore, identified counts of affected features may overstate a portion of the resources potentially affected and should only be used to compare the relative effects from one modeled release to another, rather than a quantified number of affected resources.

In addition, a biological effects modeling assessment would be conducted on deterministic scenarios to determine the potential short-term (acute) exposure of organisms to floating, shoreline, sediment, and subsurface (i.e. in the water column) oil contamination to estimate the resulting equivalent area of 100% predicted mortality. The biological exposure model associated with SIMAP (French-McCay, 2009) estimates the area or volume where organisms are adversely affected by surface oil, concentrations of oil components in the water, and/or sediment contamination. The model estimates percentage losses in discrete habitat areas or volumes by behavior group (e.g., aerial seabirds in areas, pelagic fish in volumes), translating these to equivalent areas and volumes of 100% loss (i.e., by summing the percent loss times area or volume affected). To bound the range of potential effects, biological effects will be assessed using two biological thresholds of concern. The dose (concentration and duration) of exposure will be assessed using thresholds representing sensitive (LC_{50} = 5 µg/L) and average sensitivity (LC_{50} = 50 µg/L) aquatic receptors. These results would provide information related to the areas, lengths of shoreline, and volumes within the water column that may be affected in the event of a release.

7.5 Reporting

Although the oil spill consequence analysis is proposed as separate tasks, the reporting of these tasks will be incorporated into the OILMAPLand and SIMAP modeling reports. The HCA and pool fire analysis will be contained within the OILMAPLand report, and the overlay analysis and the overview of species and habitats of concern and the biological effects analysis will be included in the SIMAP report.

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APPENDIX A: SIMAP MODEL DESCRIPTION

Please refer to the enclosed French-McCay et al. (2018) publication for a description of the SIMAP model and an example application for examining spill response options in the Gulf of Mexico.

From: Smith, Chrystal (MARAD) <chrystal.smith@dot.gov>
Sent: Thursday, April 16, 2020 4:10 PM
To: Jegganathan, Balu <balu.jegganathan@energytransfer.com>; Jon Schmidt <jon.schmidt@exp.com>; Estopinal, Eric F <Eric.Estopinal@energytransfer.com>; Devarpiran, Sankar R <sankar.devarpiran@energytransfer.com>
Cc: Fields, Yvette (MARAD) <Yvette.Fields@dot.gov>; Lopez, Efrain (MARAD) <efrain.lopez@dot.gov>; Greenway, Myles J CDR <Myles.j.greenway@uscg.mil>; Bachman, Roddy C CIV <Roddy.C.Bachman@uscg.mil>; Tone, Kevin P CIV <Kevin.P.Tone@uscg.mil>; Hanan, Christopher (MARAD) <Christopher.Hanan@dot.gov>
Subject: Deepwater Port Pre-Application Information

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good afternoon,

Attached please find guidance that should prove helpful as you move towards submitting your Deepwater Port application. There may be some duplication with what you have received previously as we want to ensure that all bases have been covered.

Please let us know if you have any questions or concerns as you progress through the process.

Best regards,

Chrystal Smith
Transportation Industry Analyst
U.S. Department of Transportation, Maritime Administration
Office of Deepwater Port Licensing & Port Conveyance (MAR-530)
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FINANCIAL RESPONSIBILITY

The Maritime Administration's (MARAD) application review process requires the Maritime Administrator to make a determination that the applicant is financially responsible and has the financial resources to own, construct, operate, and decommission the deepwater port, as required by the Deepwater Port Act of 1974, as amended (the Act), and to render a finding that the applicant can meet the requirements of the Oil Pollution Act of 1990 (33 USC 2716).

MARAD's financial review is highly detailed and will involve open and frequent communication between MARAD officials and the applicant and/or representatives acting on behalf of the applicant. In order for MARAD to begin its "Financial Responsibility Review Process" the following financial information, at a minimum, must be included in the initial application submittal to MARAD:

1) Detailed Financial Plan – The written financial plan should identify all sources that will provide financing for <u>construction, operation and decommissioning</u> of the proposed deepwater port. At a minimum, the financial plan should:

    a. Specify the proposed percentages (i.e. 100% or a fraction) of the total project costs for which the proposed investors will provide financing, including identification of those sources providing debt and those providing equity.

    b. Include documentation to support the details of the proposed financial plan to include draft written agreements, letters of credit, etc. from sources, such as banks or investment firms that have agreed to provide debt or equity financing or financial guarantees.

        i. Draft agreements should specifically identify the exact amounts to be financed and the basic terms of repayment, such as a term sheet.

    c. MARAD will require final review and approval of any draft financial agreement proposed for the project.

2) Decommissioning Plan – The Decommissioning Plan must provide a detailed and itemized cost estimate for full removal of the proposed deepwater port, at the end of its useful life. The plan should:

    a. Include a detailed cost estimate that specifies a phase-by-phase breakdown of all required removal activities, including the associated costs, to be undertaken by the deepwater port operator at the time of decommissioning.

    b. All costs must be reflected in current U.S. dollars.

c. The costs identified in the Decommissioning Plan must be reflected in the Financial Plan as well as the applicant's proposed structure or approach to ensure such costs are provided for.

3) Audited Financial Statements – The application package should include 3 years of prior audited financial statements for all proposed financial investors, guarantors, owners and affiliates. This requirement also extends to the applicant for which pro forma financials will be accepted. All financial statements submitted to the Maritime Administration must be prepared in accordance with U.S. GAAP.

4) Organizational Structure – The application package should include a current and detailed diagram of the corporate organizational structure of the applicant, including its ownership structure and affiliates, including Affidavits of Citizenship for the owner of the proposed deepwater port.

5) Credit Rating – All proposed financial participants, guarantors or bonding companies will need to meet the definition of creditworthiness as set forth by MARAD. As such, applicants must provide a current Full Credit Rating Analysis Report from either Standard & Poor's and/or Moody's ratings services.
    a. Rating reports should include a financial statement analysis of the proposed financial investors, guarantors and/or bonding companies.

6) OPA 90 Requirements –The application package should include draft documented evidence that validates the applicant's financial ability to obtain the maximum oil spill liability coverage as set forth by the provisions of OPA 90 (33 USC 2716).

As a final note, upon completion of its initial review of the application package, MARAD may request other additional information as required by the Deepwater Port Act or other applicable laws and regulations to support the agency's financial responsibility determination.

SAMPLE
CONSTRUCTION AND OPERATIONAL GUARANTY AGREEMENT

This construction and operational guaranty is made and entered into as of this _____, 20_____ by _____(Guarantor), a privately-owned _____company organized and existing under the laws of _____(hereinafter called "Guarantor"), to _____, a limited liability company organized and existing under the laws of the state of _____(hereinaffer called "Licensee"), and the Secretary of Transportation, United States of America, as represented by the Maritime Administrator (hereinafter called the "Secretary"), with Guarantor, Licensee, and the Secretary sometimes individually referred to as a "Party," and collectively as the "Parties":

WITNESSETH:

WHEREAS, Licensee is an ultimate subsidiary of Guarantor, being a subsidiary of _____, a _____company, which itself is a subsidiary of_____, an entity organized and existing under the laws of _____, which itself is a subsidiary of _____, an entity organized and existing under the laws of _____, which itself is a subsidiary of Guarantor:

WHEREAS, the Secretary issued his record of decision dated _____, approving the deepwater port license application submitted by Licensee, which is the _____, United States Coast Guard (USCG) public docket _____), subject to certain conditions, *inter alia,* that Licensee demonstrate that it has the financial resources (i) to construct and to operate the deepwater port described in such decision, (ii) to pay, if required, liabilities under the Oil Pollution Act of 1990, as amended, arising from oil spills created by such port, and (iii) in a separate guaranty agreement, to pay the costs of removal of the components of such port upon termination or revocation of the License granted by the Secretary;

WHEREAS, Guarantor hereby provides Licensee with the financial and operational resources it requires to satisfy the first condition enumerated in the second recital above in accordance with and subject to the provisions of this construction and operational guarantee.

NOW, THEREFORE, IN CONSIDERATION OF THE PREMISES, Guarantor does hereby covenant and agree with Licensee and the Secretary, as follows:

1. As a condition of, and in consideration for, the issuance by the Secretary of the License (hereinafter called the "License") to Licensee to own, construct, and operate a deepwater port under the Deepwater Port Act of 1974, as amended, (hereinafter called the "Act"), Guarantor hereby agrees to furnish Licensee such financial, management and technical support as may from time to time be necessary or appropriate to enable Licensee to perform fully its construction, management, and operational obligations under the License. Guarantor hereby unconditionally guaranties pursuant to the terms of this Guaranty Agreement the due and punctual performance of such obligations of Licensee, and in case of default by Licensee in any such obligations Guarantor agrees punctually to perform the same, irrespective of any enforcement against Licensee of any of the rights of the Secretary under the License.

2. Guarantor hereby agrees to comply with all provisions and conditions of the License specifically applying to members or shareholders and guarantors of Licensee and to cooperate in all corporate actions necessary to enable Licensee to comply with the provisions of the License.

3. Guarantor shall furnish to the Secretary, promptly upon transmission thereof, copies of all material, regular, and periodic reports by Guarantor, if any are applicable to Guarantor, to the Securities and Exchange Commission pursuant to any act administered by such Commission, and such other information as the Secretary reasonably may request from time to time with respect to the financial condition of Guarantor.

4. This Guaranty Agreement may be enforced by the Secretary and any other governmental agency having a claim against Licensee under the License or under a separately executed agreement with Licensee, in respect to the matters covered by this Guaranty Agreement; provided, however, this Guaranty Agreement shall not create for any such agency any rights or causes of action separate from those rights such agency shall have pursuant to any separately executed agreement between Licensee and such agency or pursuant to governing law and regulations, and, to the extent that such rights shall not exist in a separately executed agreement between Licensee and such agency or pursuant to law, this Guaranty Agreement shall not be deemed in any way to create such additional rights in law or equity.

5. This Guaranty Agreement shall be governed by the Federal law of the United States of America or in the absence of applicable Federal law by the laws of the State of New York, notwithstanding its laws of conflict-of-laws.

6. The Guarantor hereby irrevocably and unconditionally waives: (i) notice of any of the matters referred to in this Guaranty Agreement and any action by the Secretary in reliance thereon; (ii) all notices which may be required by statute, rule of law or otherwise to preserve any rights against the Guarantor hereunder, including without limitation, any demand, protest, proof of notice of non-performance by the Licensee to perform or comply with any covenant, term or obligation of any agreement to which it is a party; (iii) any requirement for the enforcement, assertion or exercise of any right, remedy, power or privilege under or with respect to the Licensee; (iv) any requirement of diligence; (v) any requirement that the Licensee be joined as a party to any proceedings for the enforcement of any provision of this Guaranty Agreement or that the Secretary proceed against any other guarantor executing any other guaranty agreement; (vi) any and all defenses to performance hereunder, except the defense of payment or performance already made, and agrees to confess without contesting liability hereunder for any judgment entered hereon; (vii) the right to require the Secretary to pursue any remedy in the Secretary's power whatsoever.

7. The Guarantor shall pay all reasonable costs and expenses (including, without limitation, attorneys' fees and expenses) incurred in connection with the enforcement of the obligations of the Guarantor under this Guaranty Agreement.

8. The License may be amended or modified without notice to and the consent of the Guarantor.

9. The Secretary may enforce the Guarantor's obligations hereunder without in any way first pursuing any other rights or remedies which the Secretary may have against the Licensee or any other person, firm or corporation or against any security the Secretary may hold.

10. Any proceeding to enforce this Guaranty Agreement may be brought in the Federal courts of the United States of America located in the District of Columbia of the United States of America. The Guarantor hereby irrevocably waives any present or future objection to such venue, and for itself and in respect of any of its properties hereby irrevocably consents and submits unconditionally to the exclusive jurisdiction of those courts. The Guarantor further irrevocably waives any claim that any such court is not a

convenient forum for any such proceeding. The Guarantor agrees that any service of process, writ, judgment or other notice of legal process shall be deemed and held in every respect to be effectively served upon it in connection with proceedings in the District of Columbia of the United States of America, if delivered to _____ of _____, , which it irrevocably designates and appoints as its authorized agent for the service of process in the District and Federal courts in the District of Columbia of the United States of America. The Guarantor further agrees that final judgment against it in any such action or proceeding arising out of or relating to this Agreement shall be conclusive and may be enforced in any other jurisdiction within or outside the United States of America by suit on the judgment, a certified or exemplified copy of which shall be conclusive evidence of that fact and of the judgment.

11. The obligations of Guarantor herein set forth shall terminate upon the satisfaction of the obligations of Licensee under the License and the Act; provided, however, such obligations of Guarantor shall continue only so long as Guarantor continues to own Licensee. In the event that Licensee assigns a fraction, but less than all, of its interest in the facility to a third party, or in the event that a third party acquires a fractional interest in Licensee, Guarantor shall be relieved of its obligations hereunder in proportion to the fractional interest so assigned or acquired, provided that at the time of such assignment or acquisition the assignee or acquisitor is a creditworthy entity (possessing an investment grade rating by Standard & Poor's, a division of the McGraw-Hill Companies, Inc., or by another similar company approved by the Maritime Administrator) or that the assignee or acquisitor provides a guarantee equivalent to this guarantee from a creditworthy entity, and the Maritime Administrator approves such transfer, assignment, or acquisition in accordance with the license and the act.

12. Guarantor hereby acknowledges that it has received copies of the License and is fully aware of all the terms and conditions thereof. For purposes of this Guaranty Agreement, references herein to the license include all Licensee initiated and Maritime Administrator authorized amendments or supplements thereto.

13. Guarantor makes the following representations to Licensee and to the Secretary:

    a. Guarantor has been duly organized and is validly existing under the laws of _____, has full legal right, power, and authority to enter into this Guaranty Agreement, and to carry out and consummate all transactions contemplated by this Guaranty Agreement, and by proper corporate action has duly authorized the execution and delivery of this Guaranty Agreement to Licensee and the Secretary.

    b. The execution and delivery of this Guaranty Agreement and the consummation of the transactions herein contemplated will not conflict with or constitute on the part of Guarantor a breach of or default under its certificate of incorporation or certificate of formation, as amended, effective on the date hereof_____, its limited liability company operating agreement or by-laws, as amended, effective on the date hereof, _____ or any indenture, or other material agreement or instrument to which Guarantor is a party or by which it or its properties are bound, or any order, rule, or regulation of any court or governmental agency or body having jurisdiction over Guarantor or any of its activities or properties.

    c. This Guaranty Agreement has been duly made, entered into, covenanted, agreed, authorized, executed, and delivered by Guarantor, and constitutes the valid and binding obligation of Guarantor.

14. All notices and other communications to Guarantor, Licensee, or the Secretary may be communicated electronically, or hand delivered, or sent by overnight courier, to any party hereto at the addresses as provided below. Notices shall be effective upon receipt.

    a. All communications intended for guarantor shall be delivered to:

    Address: _____

    Attn: _____

    E-mail: _____

    Fax number: _____

    b. All communications intended for licensee shall be delivered to:

    Address:

    Attn:

    E-mail:
    Fax number:

    c. All communications intended for the Maritime Administrator, by delegated authority granted by the Secretary, shall be delivered to:

    United States Department of Transportation
    Maritime Administration
    1200 New Jersey Avenue, S.E., Room W21-201
    Washington, DC 20590-0001
    Attention: Maritime Administrator

    Fax number: 202-366-3890

    Or electronic correspondence and other communications may be sent to the following Maritime Administration Deepwater Port Licensing Program e-mail address:
    deepwater.ports@dot.gov

15. This Guaranty Agreement shall be binding upon Guarantor and its assigns, transferees, and successors, and inure to the benefit of Licensee and its assigns, transferees, and successors, and to the benefit of the Secretary, and the Secretary's assigns, transferees, and successors.

16. No failure or delay by Licensee or the Secretary in exercising any right, power, or privilege hereunder shall operate as a waiver thereof, nor shall any single or partial exercise thereof preclude any other or further exercise thereof, or the exercise of any other right, power, or privilege. The remedies herein provided are cumulative and not exclusive of any remedies provided by law.

17. This writing constitutes the entirety of this Guaranty Agreement. There are no terms or conditions applying to this Guaranty Agreement other than those in this writing. This writing supersedes all prior and contemporaneous terms, conditions, or representations, written or oral, among or by the parties. No statement or promise made by Guarantor that is not contained herein shall be binding on Guarantor as to this Guaranty Agreement.

18. No agreement shall be effective to change or modify, supplement, amend or discharge in whole or in part this Guaranty Agreement unless such agreement is in writing, signed by the Guarantor and the Secretary.

19. This Guaranty Agreement shall take effect as of the day and date first above written and shall remain in effect until such time as it is terminated with the prior written consent of the secretary.

20. This Guaranty Agreement shall be executed in two duplicate original copies. Both such duplicate originals shall be deemed to be originals and shall together constitute but one and the same instrument. This is duplicate original copy _____ of two.

In witness whereof, _____(Guarantor), has caused this Guaranty Agreement to be made, entered into, and executed in its name and on its behalf by its duly authorized officer as of the effective date first above written.

Guarantor:

By:_____

Title:_____

Dated:_____

SAMPLE
DECOMMISSIONING GUARANTY AGREEMENT

This Decommissioning Guaranty (this "Guaranty Agreement") is made and entered into as of the ___ day of _____, 20__, by (**Name of Guarantor**), a (**type of entity**) organized and existing under the laws of (**State**) (hereinafter called "Guarantor"), to (**Licensee**), a (**type of entity**) organized and existing under the laws of the state of _____ (hereinafter called "Licensee"), and the United States of America, represented by the Secretary of Transportation, acting by and through the Maritime Administrator (hereinafter called the "Secretary"), with Guarantor, Licensee, and the Secretary sometimes individually referred to as a Party, and collectively as the "Parties".

WITNESSETH:

WHEREAS, Licensee is (**description of affiliation with Guarantor**);

WHEREAS, the Secretary issued his record of decision dated _____, 20__, approving the deepwater port license application submitted by Licensee, which is the (**Name of Applicant**) Deepwater Port License application, United States Coast Guard Public Docket (**Docket Number**) (the "License") subject to certain conditions, *inter alia*, that Licensee demonstrate that it has the financial resources (i) to pay the costs of removal of the components of such port upon termination or revocation of the License granted by the Secretary, (ii) in a separate guaranty agreement, to complete construction of and to operate the deepwater port described in such decision and (iii) to pay, if required, liabilities under the Oil Pollution Act of 1990, as amended, arising from oil spills created by such port;

WHEREAS, by this Guaranty Agreement Guarantor provides the Secretary with a guaranty of the financial and operational resources it requires to satisfy the first condition enumerated in the second recital above in accordance with and subject to the provisions of this Guaranty Agreement.

NOW, THEREFORE, in consideration of the premises, Guarantor does hereby covenant and agree with Licensee and the Secretary, as follows:

1. Guaranty. Guarantor hereby unconditionally guaranties, pursuant to the terms of this Guaranty Agreement, the due and punctual performance of Licensee's obligations to decommission the deepwater port facility in the manner required by the License or by subsequent agreement of Licensee with governmental bodies having jurisdiction over said decommissioning, and in case of default by Licensee in any such obligations Guarantor agrees punctually to perform the same, irrespective of any enforcement against the License or any of the rights of the Secretary under the License.

2. Cooperation. As a condition of, and in consideration for, the issuance by the Secretary of the License to Licensee to own, construct, and operate a deepwater port under the Deepwater Port Act of 1974, as amended, (hereinafter called the "Act"), Guarantor hereby agrees to cooperate in all corporate actions necessary to enable Licensee to comply with the decommissioning provisions of the License.

3. Information. Guarantor shall furnish to the Secretary such information as the Secretary reasonably may request from time to time with respect to the financial condition of Guarantor. Further, Guarantor shall provide annual financial statements to the Maritime Administrator to demonstrate continued financial capability to fund the full costs of decommissioning the deepwater port.

4. Enforcement. This Guaranty Agreement may be enforced by the Secretary and any other governmental agency having a claim against Licensee under the License or under a separately executed agreement with Licensee, in respect of the decommissioning of the facilities constructed under the License.

5. Governing Law. This Guaranty Agreement shall be governed by the Federal law of the United States of America or in the absence of applicable Federal law by the laws of the State of New York, notwithstanding its laws of conflict-of-laws.

6. Unlimited Liability. Guarantor's liability hereunder is for the full amount of decommissioning costs for the deepwater port. Without limiting such liability for the full amount of decommissioning costs in any manner whatsoever, such costs are currently estimated to be equal to the sum of $_____ which estimate, for planning purposes only, will be adjusted annually on the anniversary date of the issuance of the License by the percentage increase in the consumer price index established by the United States Department of Labor, Bureau of Labor Statistics, to cover the anticipated decommissioning costs for the deepwater port. In the event that Licensee is unable to fund fully the decommissioning costs for the deepwater port, Guarantor shall provide the required funding for all decommissioning expenses and any additional or unforeseen decommissioning costs incurred in accordance with Article 20 of the License.

7. Waivers. The Guarantor hereby irrevocably and unconditionally waives: (i) notice of any of the matters referred to in this Guaranty Agreement and any action by the Secretary in reliance thereon; (ii) all notices which may be required by statute, rule of law or otherwise to preserve any rights against the Guarantor hereunder, including without limitation, any demand, protest, proof of notice of non-performance by the Licensee to perform or comply with any covenant, term or obligation of any agreement to which it is a party; (iii) any requirement for the enforcement, assertion or exercise of any right, remedy, power or privilege under or with respect to the Licensee; (iv) any requirement of diligence; (v) any requirement that the Licensee be joined as a party to any proceedings for the enforcement of any provision of this Guaranty Agreement or that the Secretary proceed against any other guarantor executing any other guaranty agreement; (vi) any and all defenses to performance hereunder, except the defense of payment or performance already made, and agrees to confess without contesting liability hereunder for any judgment entered hereon; (vii) the right to require the Secretary to pursue any remedy in the Secretary's power whatsoever.

8. Continuation and Reinstatement. The Guarantor hereby agrees that this Guaranty Agreement shall continue to be effective or shall be reinstated, as the case may be, if at any time payment of any sum hereby guarantied is rescinded or must be otherwise restored or returned by the Secretary, upon the insolvency, bankruptcy or reorganization of the Licensee, or otherwise, all as though such payment had not been made. The Guarantor further agrees that a default under the terms of the License shall constitute a default for the purpose of this Guaranty Agreement without demand or notice to the Guarantor.

9. No Reduction. Any amount payable hereunder shall not be subject to any reduction by reason of any counterclaim, set-off, deduction, abatement or otherwise.

10. Costs and Expenses. The Guarantor shall pay all reasonable costs and expenses (including, without limitation, attorneys' fees and expenses) incurred in connection with the enforcement of the obligations of the Guarantor under this Guaranty Agreement.

11. License Amendments. The License may be amended or modified without notice to and the consent of the Guarantor.

12. Secretary's Right of Enforcement. The Secretary may enforce the Guarantor's obligations hereunder without in any way first pursuing any other rights or remedies which the Secretary may have against the Licensee or any other person, firm or corporation or against any security the Secretary may hold.

13. No Licensee Payments to Guarantor. Until all obligations to the Secretary pursuant to the License have been satisfied in full, the Guarantor may not enforce any right to receive payment and may not accept any payment from the Licensee under any legal or equitable right (including any right of subrogation) the Guarantor may have or be entitled to claim against the Licensee.

14. Secretary's Rights. The Guarantor authorizes the Secretary, without notice or demand and without affecting the Guarantor's liability hereunder, to take and hold security for the payment of this Guaranty Agreement and/or any of the obligations guarantied herein and exchange, enforce, waive and release any such security; and to apply such security and direct the order or manner of sale thereof as the Secretary in his discretion may determine; and to obtain a guaranty of any of the obligations guarantied herein from any one or more persons, corporations or entities whomsoever and at any time or times to enforce, waive, rearrange, modify, limit or release such other persons, corporations or entities from their obligations under such guaranties.

15. Primary Liability. It is expressly agreed that the liability of the Guarantor for the payment of the obligations guarantied herein shall be primary and not secondary.

16. Termination. The obligations of Guarantor herein set forth shall terminate upon the satisfaction of the decommissioning obligations of Licensee under the License and the Act. In the event that Licensee assigns a fraction, but less than all, or its interest in the facility to a third party, or in the event that a third party acquires a fractional interest in Licensee, Guarantor may be relieved of its obligations hereunder in proportion to the fractional interest so assigned or acquired, provided that i) at the time of such assignment or acquisition the assignee or acquirer is creditworthy (possessing an investment grade rating by Standard & Poor's, a division of the McGraw-Hill Companies, Inc., or by another similar company approved by the Secretary) or ii) the assignee or acquiring entity provides a guaranty equivalent to this guaranty from a creditworthy entity, and further provided in all cases that the Secretary provides its prior written consent to such transfer, assignment or acquisition in accordance with the License and the Act.

17. License Agreement. Guarantor hereby acknowledges that it has received copies of the License and is fully aware of all the terms and conditions thereof. For purposes of this Guaranty Agreement, references herein to the License include all Licensee initiated and Maritime Administrator authorized amendments or supplements thereto.

18. Representation and Warranties. Guarantor represents and warrants to Licensee and Secretary as follows:

    a. Guarantor has been duly organized and is validly existing under the laws of (**State**), has full legal right, power, and authority to enter into this Guaranty Agreement, and to carry out and consummate all transactions contemplated by this Guaranty Agreement, and by proper corporate action has duly

authorized the execution and delivery of this Guaranty Agreement to Licensee and the Secretary.

b. The execution and delivery of the Guaranty Agreement and the consummation of the transactions herein contemplated will not conflict with or constitute on the part of Guarantor a breach of or default under its certificate of incorporation, as amended, in effect on the date hereof, its by-laws, as amended, in effect on the date hereof, or any indenture, or other material agreement or instrument to which Guarantor is a party or by which it or its properties are bound, or any order, rule, or regulation of any court or governmental agency or body having jurisdiction over Guarantor or any or its activities or properties.

c. This Guaranty Agreement has been duly authorized, executed and delivered by the Guarantor and constitutes the legal, valid and binding obligation of the Guarantor enforceable against the Guarantor in accordance with its terms;

d. The Guarantor's guaranty pursuant to this Guaranty Agreement may be expected to benefit, directly or indirectly, the Guarantor;

e. The Guarantor has fully adequate financial resources, funds, and assets to satisfy its obligations under this Guaranty Agreement, and the Guarantor will in the future retain financial resources, funds, and assets to fully satisfy its obligations under this Guaranty Agreement.

19. Jurisdiction and Consent to Suit. Any proceeding to enforce this Guaranty Agreement may be brought in the Federal courts of the United States of America located in the District of Columbia of the United States of America. The Guarantor hereby irrevocably waives any present or future objection to such venue, and for itself and in respect of any of its properties hereby irrevocably consents and submits unconditionally to the exclusive jurisdiction of those courts. The Guarantor further irrevocably waives any claim that any such court is not a convenient forum for any such proceeding. The Guarantor agrees that any service of process, writ, judgment or other notice of legal process shall be deemed and held in every respect to be effectively served upon it in connection with proceedings in the District of Columbia of the United States of America, if delivered to _____ of _____, _____, which it irrevocably designates and appoints as its authorized agent for the service of process in the District and Federal courts in the District of Columbia of the United States of America. The Guarantor further agrees that final judgment against it in any such action or proceeding arising out of or relating to this Agreement shall be conclusive and may be enforced in any other jurisdiction within or outside the United States of America by suit on the judgment, a certified or exemplified copy of which shall be conclusive evidence of that fact and of the judgment.

20. Payments in U.S. Currency. This Guaranty is part of an international financial transaction in which the specification of United States currency is of the essence, and such currency shall be the currency of account in all events. The payment obligations of the Guarantor hereunder shall not be discharged by an amount paid in another currency, whether pursuant to a judgment or otherwise, to the extent that the amount so paid on prompt conversion to such currency under normal banking procedures does not yield after deduction of any and all fees, taxes or any other charges imposed on the payment of such amount of United States dollars then due. In the event that any payment by the Guarantor, whether pursuant to a judgment or otherwise, upon conversion and transfer, does not result in the

payment of such amount of United States currency at the place such amount is due, the Secretary shall be entitled to demand immediate payment of, and shall have a cause of action against the Guarantor for, the additional amount necessary to yield the amount then due. In the event the Secretary, upon the conversion of such judgment into currency, shall receive (as a result of currency exchange rate fluctuations) an amount greater than that to which it was entitled, the Guarantor shall be entitled to immediate reimbursement of the excess amount. The terms "U.S. currency" or the "dollars" or the symbol "$" as used herein shall mean dollars in any coin or currency of the United States of America.

21. Immunity. The Guarantor represents and warrants that it is subject to civil and commercial law with respect to its obligations under this Agreement, that the making and performance of this Agreement constitutes private and commercial acts rather than governmental or public acts and that neither the Guarantor nor any of its properties or revenues has any right of immunity on the grounds of Sovereignty or otherwise from suit, court jurisdiction, attachment prior to judgment, attachment in aid of execution of a judgment, set-off, execution of a judgment or from any other legal process with respect to its obligations under this Agreement. To the extent that the Guarantor may hereafter be entitled, in any jurisdiction in which judicial proceedings may at any time be commenced with respect to this Agreement to claim for itself or its revenues or assets any such immunity, and to the extent that in any such jurisdiction there may be attributed to the Guarantor such an immunity (whether or not claimed), the Guarantor hereby irrevocably agrees not to claim and hereby irrevocably waives such immunity. The foregoing waiver of immunity shall have effect under the United States Sovereign Immunities Act of 1976.

22. Counterparts. This Guaranty Agreement shall be executed in two duplicate original copies. Both such duplicate originals shall be deemed to be originals and shall together constitute but one and the same instrument. This is duplicate original copy of two.

23. Amendments and Supplements. No agreement shall be effective to change or modify, supplement, amend or discharge in whole or in part to this Guaranty Agreement, unless such agreement is in writing, signed by the Guarantor and the Secretary.

24. Notices. All notices and other communications to Guarantor, Licensee, or the Secretary may be communicated electronically, or hand delivered, or sent by overnight courier, to any party hereto at the addresses as provided below. Notices shall be effective upon receipt.

    a. All communication intended for Guarantor shall be delivered to:

       Address:
       Attn:
       E-mail:
       Fax Number:

    b. All communications intended for Licensee shall be delivered to:

       Address:
       Attn:
       E-mail:
       Fax Number:

c. All communication intended for the Secretary shall be delivered to:

United States Department of Transportation
Maritime Administration
1200 New Jersey Avenue, S.E., Room W21-201
Washington, D.C. 20590-0001
Attention: Maritime Administrator

Or electronic correspondence and other communications may be sent to the following Maritime Administration Deepwater Port Licensing program e-mail address: Deepwaterports@dot.gov.

25. No Assignment. This Guaranty Agreement may not be assigned or otherwise transferred by Guarantor without the prior written consent of the Secretary. This Guaranty Agreement shall be binding upon Guarantor and its permitted assigns, transferees, and successors, and inure to the benefit of Licensee and its assigns, transferees, and successors, and to the benefit of the Secretary, and the Secretary's assigns, transferees, and successors.

26. No Waiver by Secretary. No failure or delay by Licensee or the Secretary in exercising any right, power, or privilege hereunder shall operate as a waiver thereof, nor shall any single or partial exercise thereof preclude any other or further exercise thereof, or the exercise of any other right, power, or privilege. The remedies herein provided are cumulative and not exclusive of any remedies provided by law.

27. Integration. This writing constitutes the entirety of this Guaranty Agreement. There are no terms or conditions applying to this guaranty other than those contained herein. This Guaranty Agreement supersedes all prior and contemporaneous terms, conditions, or representation, written or oral, among or by the Parties. No statement or promise made by Guarantor that is not contained herein shall be binding on Guarantor as to this Guaranty Agreement.

28. Effective Date. This Guaranty Agreement shall take effect as of the day and date first above written.

IN WITNESS WHEREOF, (**Guarantor**), has caused this Decommissioning Guaranty to be made, entered into, and executed in its name and on its behalf by its duly authorized officer as of the effective date first above written.

Guarantor:

SEAL

By:_____

Title:_____

Dated:_____

[Name]
Maritime Administrator
U.S. Department of Transportation
Maritime Administration
1200 New Jersey Avenue, SE
Washington, DC 20590

Re: Sample Letter of Undertaking Regarding the Financing of the Proposed _____Deepwater Port

Dear Administrator [Name]:

_____(Guarantor) is the ultimate owner of (COMPANY NAME). We control directly _____% of the ownership interests in _____and 100% of the ownership interest in (COMPANY NAME).

_____(Guarantor) has provided substantial financial support to (COMPANY NAME) in the development of the proposed project and of the application of (COMPANY NAME) to build and operate the _____ Deepwater Port off of the coasts of (STATE). In connection with the (COMPANY NAME) application, we understand that you are now in the process of reviewing the financial responsibility of (COMPANY NAME) to make a determination that it has the financial resources necessary to meet the requirements of the Deepwater Port Act of 1974, as amended, (Act) for the construction, operation and decommissioning of the proposed _____Deepwater Port. We further understand that, as evidence of financial support and in order to issue a Record of Decision for the _____ Deepwater Port License Application, the Maritime Administration (MARAD) requires submission this Letter of Undertaking from the owner and guarantor of proposed project.

As such, _____(Guarantor), in continuation of its financial support for the project, undertakes to execute guarantees for 100% of the cost of the construction, operation and decommissioning of the _____ Deepwater Port, in the form attached hereto (the Construction and Operational Guaranty and the Decommissioning Guaranty), with such Guarantees to be executed prior to the issuance by MARAD of a Deepwater Port License under the Act to _____Deepwater Port.

_____(Guarantor) understands that this undertaking will terminate if, and at such time as, either (1) (COMPANY NAME)provides debt and equity commitments for the cost of the construction, operation and decommissioning of the _____Deepwater Port in form and substance satisfactory to MARAD, or (2) (COMPANY NAME) withdraws its application for a license for the _____Deepwater Port and the owner advises MARAD in writing that it is withdrawing its Letter of Undertaking. Following the occurrence of either of these events, this Letter of Undertaking shall be of no further force or effect.

_____(Guarantor), _____(applicant) and other related affiliates have submitted under separate cover audited financials and will provide such other financial information as MARAD may reasonably request to be used by the MARAD to confirm the capability of _____(guarantor) to perform under the Guarantees, if and at such time as the Guarantees are required and executed.

We are highly confident that, with the support of _____(Guarantor) , the _____ Deepwater Port project will be financed and can be successfully operated.

Sincerely yours,

(Signature of A Duly-Authorized Officer of Guarantor: _____

Title:_____

Dated:_____

SAMPLE U.S. MANNING AGREEMENT

To provide employment and educational opportunities to American officers and mariners in the operation of the _____Deepwater Port, the Licensee agrees to the following:

I. The Licensee will endeavor to employ and train U.S. licensed or unlicensed mariners in the operation of the _____ Deepwater port and on board the vessels servicing the _____Deepwater Port.

II. The Licensee will employ, within _____ years of commencement of operations, ___% percent of U.S. licensed or unlicensed mariners serving on the Licensee's vessels calling at the _____ Deepwater Port and serving in overall deepwater port operations, provided that any U.S. citizen so considered for employment qualifies according to prevailing international laws and conventions.

III. The Licensee will comply with the requirements of 33 U.S.C 1504(c)(2)(K) in providing to the Maritime Administration, prior to issuance of the _____Deepwater Port License, information regarding the nationality of the flag state of vessels, officers and crew it intends to utilize in the operations of the _____Deepwater Port facility.

It is agreed that (1) the Licensee shall retain the discretion, not to be unreasonably invoked, to determine whether any such U.S. mariner is adequately qualified for the positions that may become available, and (2) the Maritime Administrator shall have the right to extend the above referenced timeline should qualified U.S. mariners not be available to satisfy the percentages identified above.

ANNEX D
STATEMENT OF ASSURANCE

PURSUANT TO SECTION 4 (C) (1) OF THE DEEPWATER PORT ACT OF 1974, AS AMENDED [33 U.S.C. §1503 (C) (1)], _____, OR ITS SUCCESSORS, HEREBY PROVIDES ASSURANCE, ON BEHALF OF THE LICENSEE _____, THAT IT WILL MEET THE REQUIREMENTS OF SECTION 1016 [33 U.S.C. §2716] OF THE OIL POLLUTION ACT OF 1990.

DATED:_____

GUARNATOR:_____

BY:_____

NAME:_____

TITLE: _____

Allen Brooks

From: Jon Schmidt
Sent: Thursday, April 23, 2020 4:04 PM
To: Lopez, Efrain (MARAD)
Cc: Fields, Yvette (MARAD); Estopinal, Eric F; Allen Brooks
Subject: VLCC (or LOPEX) Project

Dr. Lopez, as indicated in our meeting on January 30th, Energy Transfer is planning to conduct geophysical surveys of the proposed project area and alternative location starting next week. The surveys will take approximately 30 days, depending upon weather. We will keep you informed as to our progress in finalizing the project design and will schedule a meeting accordingly. Thanks, Jon

Jon Schmidt, Ph.D.
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USCG Informal Comments on RPS Spill Modeling Proposal
for the
ET Deepwater Port 19 May 2020

Jon

This is in response to your request for our comments regarding the RPS proposal for offshore and onshore spill modeling for the ET Deepwater port. Again I apologize for not getting back to you as requested. Work load and this pandemic simply did not allow time.

To be clear this is not a formal USCG review. It was simply a couple of us with knowledge of deepwater ports application process and risk assessment offering our thoughts based on lessons learned.

Regarding lessons learned. We are still learning. Though we have experience from quite a few LNG ports, oil ports and addressing oil spills onshore as well is fairly new to us.

Though the Coast Guard is currently developing more detailed guidance for both offshore and onshore deepwater port oil spill modeling, there is still a learning curve involved with the initial active applications submitted. We are not yet in the position to provide such detailed guidance on the modeling processes to be used. We have to look to the deepwater port applicants and environmental/spill/risk consultants for that experience and expertise.

Compliments

Our compliments ET for initiating this work relatively early in the process and consulting with us. As we discussed. In the first pre-application meeting the closer an applicant comes to meeting offshore and onshore spill modeling needs in the application saves both time and expense in the future when we get into the risk assessment process if we can simply validate existing work than have to do it or re do it.

As a bit of caution here though, there is no guarantee that this will be the end-all modeling need. The risk assessment process may identify additional requirements.

Also complements on selecting RPS for this work. Many feel they are tops in the industry and they've worked other DWPs.

Comments on the Proposal

1. Excellent approach and extremely comprehensive. It will meet and exceed regulatory requirements. but in addition…

2. It may possibly provide too much unrealistic potential impacts and too much detail. For example following worst case regulatory requirements – the most "conservative" spill in the proposal, would have you emptying an entire VLCC in the GoM.

    a. *Recommend keep what you have (it's great) but add "worst credible case" to both offshore and onshore modeling. This will enable us to provide a realistic potential impact to the public, agencies and decision makers.* At the end of this document under "Regulatory Framework and Inconsistencies*"* is a little more discussion on this.

b. *Recommend onshore modeling effort should reflect a spill at representative incremental release points along the pipeline. A risk-based approach should be used to determine interval spacing along each isolatable section as appropriate based on topography, waterways, waterbodies, wetlands, other environmentally sensitive areas and high consequence areas.* The proposal recommends release volumes be estimated at sites spaced at 100 ft intervals. That just seems a lot. It may be needed and we are not the experts at this but it seems a bit excessive and possible could be reduced to a more risk based approach.

3. I would suggest have RPS include regulatory references in the proposal or rather the report generated by the proposal simply because so many regs apply and it determines volumes.

4. The models should include actual oil specs as close as possible to what is planned for the project. If there is to be variation in the oils then a good range should be used.

5. Good job on modeling two potential locations of the DWP platforms.

6. Include provision for RPS to provide the shape files to our 3rd party contractors once application is submitted.

A COUPLE SUGGESTIONS

Schedule

Our goal is to include the Phase I Risk Assessment report including the associated spill modeling for both offshore and onshore in the DRAFT EIS to enable public and agency comment. You've seen from the generic timeline this should fall around 5 months following application submittal. Regarding the risk assessment, in that 5 months we needed to include risk consultant contracting, Phase I stakeholder Hazard Identification meetings, modeling, issue a report and incorporate that info into the DEIS.

Where with LNG we used to have the environmental consultant on board immediately, we usually delayed the risk consultant some, however we've found the complexity of oil spill impact assessment takes more time. As such we recommend initiating our 3rd party risk assessment consultant process at the same time as the environmental consultant and prior to application supplication so they are on board prior to the application submittal. The risk consultant may be a separate contractor, the same as environmental contractor, or subcontracted by the environmental contractor, or whatever other proposals you'd wish to discuss.

Current Reference

For some reference we point you to the SPOT DRAFT EIS available on regulations.gov docket # MARAD-2019-0011-0036 Vol II Appendix H, I and X. Appendix H is the Phase I risk assessment report developed through CG working with stakeholders and risk consultants (ERM in this case) and is used to feed into the EIS itself Personally, I feel this particular report could be a lttle clearer but it should give you a general idea what is needed.

Texas GulfLink's EIS should also be available in the near future.

Regulatory Framework and Inconsistencies

In addition to the requirements of the Deepwater Port Act and NEPA, the primary regulatory framework for spill modleing are PHMSA's 49 CFR Subchapter D Pipeline Safety and in particular Part 194 Response Plans for Onshore Pipelines and Part 195 Transportation of Hazardous Liquids by Pipeline and USCG res 33 CFR Part 154 Facilities Transferring Oil or Hazardous Material in Bulk and Part 155 Oil or Hazardous Material Pollution Prevention Regulations for Vessels and other and various levels of federal, state and local contingency and response planning.

Some regs, especially contingency and response planning require "*worst case"* volumes to be used. In other words, the total volume of oil even though that may be totally unrealistic for a given situation and would not provide accurate information for decision makers.

Some regs such as PHMSA's say "*worst case discharge"* but actually allow for a calculated reduction based on controls or *"largest foreseeable discharge"* based on historical data or calculated rupture size, etc. A more pragmatic approach.

Historically in both LNG and oil deepwater ports, the Coast Guard has used an engineered "*worst credible*" spill volumes based on calculated hole sizes, other design criteria, and operations. CG regs addressing shoreside facilities, offshore pipelines and vessels in 33 CFR 154 and 155 consider "*average most probable discharge and "maximum most probable discharge"* though in response planning worst case is still considered.

By regulation, NEPA cannot mandate that "*worst case*" be analyzed but, if not used, examine "*maximum reasonably foreseeable*". Uncertainties of analysis should be discussed including justification as to how and why such parameters as hole size and volume were determined.

Thanks

Roddy

Stakeholders within the Project Area

Title	Contact	Date	County	State	Description	Follow Up	Follow Up Description	Follow Up Dea	Follow Up Rem	Follow Up Remin	Follow Up Recipient	Modified	Modified By
Met with County Judge 7/1/20	James Ellis	7/1/2020 10:00	Harris	Texas		TRUE	Call back about XYZ	##########	8/7/2020 6:00	8/7/2020 7:00	Ellis, James;#22	8/18/2020 8:13	Admin, James
Attempt to contact Texas Governor's Office	Greg Abbott	9/9/2020 9:45	Travis	Texas	Jason Damen left a voicemail for Luis Saenz, Chief of Staff to Governor Abbott. Mr. Damen explained in the voicemail that he had a project that he needd to brief Mr. Saenz on and also asked for Mr. Saenz to identify any additional Governor's staff that he wished to have briefed on said project. Mr. Damen left his contact info in the voicemail and requested Mr. Saenz call him back.	FALSE			##########			9/15/2020 9:57	Damen, Jason E
Attempt to contact Chief of Staff to the Speaker of the Texas House of Representatives	Dennis Bonnen	9/9/2020 10:00	Travis	Texas	Mr. Damen attempted to contact Texas House Speaker Dennis Bonnen. Mr. Damen left a voicemail for Gavin Massingill, Chief of Staff to Speaker Dennis Bonnen. Mr. Damen explained in the voicemail that he had a project that he needd to brief Mr. Massingill on and also asked for Mr. Massingill to identify any additional Speaker's staff that he wished to have briefed on said project. Mr. Damen left his contact info in the voicemail and requested Mr. Massingill call him back.	FALSE			##########			9/15/2020 11:47	Damen, Jason E
Phone call with Chief of Staff to Sate Senator Brandon Creighton	Tara Garcia	9/9/2020 10:15	Travis	Texas	Jason Damen spoke to Tara Garcia and briefed her on project. She had no concerns with scope of project and indicated that she would immediately brief Senator Creighton on said project. Ms. Garcia stated that she would contact Mr. Damen with any questions or concerns of hers or Senator Creighton's should they arise.	FALSE			##########			9/9/2020 10:21	Damen, Jason E
Attempt to contact the office of State Senator Robert Nichols	Angus Lupton	9/9/2020 10:25	Travis	Texas	Mr. Damen left a voicemail for Angus Lupton, Chief of Staff to State Senator Robert Nichols. Mr. Damen explained in the voicemail that he had a project that he needd to brief Mr. Luptont. Mr. Damen left his contact info in the voicemail and requested Mr. Lupton call him back.	FALSE			##########			9/9/2020 10:27	Damen, Jason E
Jefferson County EMC project call	Robert Grimm	9/9/2020 10:00	Jefferson	TX	Max Shilstone spoke to Robert Grimm, who is the Deputy Assistant to Michael White (Chief for Jefferson County EMF) for the Jefferson County EMC. Max explained the Blue Marlin project and plans to file for an environmental permit with MARAD and USCG. Robert did not have any questions and stated that he would provide Michael White with the details for the Blue Marlin project. Additionally, Max confirmed to Robert Grimm that Max would send a Blue Marlin Offshore Port data sheet to Robert's email (rgrimm@co.jefferson.tx.us) with a copy to Michael White (mwhite@co.jefferson.tx.us). Call ended.	FALSE			##########			9/9/2020 10:33	Shilstone, Max
Jefferson County EMC project call	Michael White	9/9/2020 10:00	Jefferson County	TX	Max Shilstone tried to call Michael White at 409.835.8757 with the Jefferson County EMC. Max was unable to reach Michael White and instead spoke to Robert Grimm, who is the Deputy to Michael White for the Jefferson County EMC. See note for Robert Grimm regarding contact made to the Jefferson County EMC.	FALSE			##########			9/9/2020 10:37	Shilstone, Max
City of Nederland Fire Department	Terry Morton	9/9/2020 10:30	Jefferson	TX	Max Shilstone spoke with the City of Nederland Fire Chief Terry Morton at 409.723.1531 to provide project information on the Blue Marlin Offshore Port. Max explained the project and need for permits from MARAD and USCG. Chief Terry Morton appreciated the call and did not have any further questions. Max sent Chief Terry Morton a Blue Marlin Offshore Port fact sheet to Chief Morton's email address which is tmorton@ci.nederland.tx.us.	FALSE			##########			9/9/2020 10:42	Shilstone, Max
Attempt to contact Office of State Representative Dade Phelan	Zach Johnson	9/9/2020 10:45	Travis	Texas	Mr. Damen left a voicemail for Zach Johnson, chief of staff to State Representative Dade Phelan. Mr. Damen explained that Energy Transfer had a project that would include a portion of Representative Pehlan's district and asked for the opportunity to brief Mr. Johnson and/or Rep. Phelan. Mr. Damen left his contact information in the voicemail and requested that Mr. Johnson return the call.	FALSE			##########			9/9/2020 10:50	Damen, Jason E
Attempt to contact Office of State Representative Joe Deshotel	Melissa Quevedo	9/9/2020 11:25	Travis	Texas	Jason Damen attmepted to contact Melissa Quevedo in State Representative Joe Deshotel's office. No message service was available. Mr. Damen will try again tomorrow.	TRUE		##########	##########			9/9/2020 11:27	Damen, Jason E
Conversation with Gov. Abbott Chief of Staff Luis Saenz	Greg Abbott	9/9/2020 12:00	Travis	Texas	Jason Damen was unable to reach Governor Abbott but spoke to Luis Saenz, Chief of Staff to Texas Governor Greg Abbott. Mr. Damen explained the Blue Marlin project to Mr. Saenz. Mr. Saenz said he thougt the project sounded like a good idea and that the Govenror had been supportive of similar projects. Mr. Saenz thanked Mr. Damen for bringing the project to his attention.	FALSE			##########			9/15/2020 9:58	Damen, Jason E

Title	Contact	Date	County	State	Description	Follow Up	Follow Up Description	Follow Up Dea	Follow Up Rem	Follow Up Remin	Follow Up Recipient	Modified	Modified By
Jefferson County Judge meeting	Fred Jackson	9/9/2020 14:00	Jefferson	TX	information about the Blue Marlin Offshore Port. Max was instructed by the receptionist to send an email to the Judge's Deputy, Fred Jackson (fjackson@co.jefferson.tx.us) with project information. The receptionist also requested Max's email and phone number in the event Mr. Jackson wanted to contact Max. Below is the email that Max sent to Fred Jackson along with an Blue Marlin Offshore Port fact sheet: "Mr. Jackson: I just spoke to the Judge's office and was provided your email contact information. I am with Energy Transfer and we are developing a crude oil offshore loading project. The project will utilize an existing pipeline that originates in Cameron Parish, LA and extends 100 miles offshore to an existing platform. The source for the crude oil will originate from our storage assets in Nederland, Tx. BMOP involves the building of a new 37 mile pipeline from Nederland to Cameron Parish where we would connect to the existing pipeline that then extends offshore. This project will involve the need for federal permits, processed by the Maritime Administration and the United States Coast Guard. We are contacting you and Judge Branick to provide you advanced notice and project information about our efforts to obtain federal permits. In the coming weeks, you will also be contacted by either the Maritime Administration and/or the United States Coast Guard to ensure you have been made aware of our permitting efforts and requirements. As to serve as additional information about the BMOP project, we have attached a project summary sheet which offers additional specific project information.	FALSE			##########		9/9/2020 14:23	Shilstone, Max
Jefferson County Judge meeting	Jeff Branick	9/9/2020 14:00	Jefferson	TX	Max Shilstone attempted to contact Judge Banick, however was directed to contact Judge Banick's deputy, Fred Jackson. All information about the project will be conveyed to Judge Banick via Fred Jackson. Please refer to Fred Jackson project note written on 9/9/2020.	FALSE			##########			9/9/2020 14:26	Shilstone, Max
Jefferson County Precinct 2 County Commissioner	Mike Trahan	9/9/2020 15:20	Jefferson	TX	Max Shilstone called 409.727.2173 to reach County Commissioner Precinct 2 Brent Weaver. Commissioner Weaver was not avaiable and Max was directed to Superintendent Mike Trahan, who reports to Commissioner Weaver. Max explained the Blue Marlin Offshore Port project to Mike Trahan. Mike Trahan appreciated the information and said he would provide Commissioner Weaver with the project information. Max also said he would send Trahan an email with the Blue Marlin project facts. The call then ended.	FALSE			##########			9/9/2020 15:23	Shilstone, Max
Jefferson County Commissioner Precinct 2 meeting	Brent Weaver	9/9/2020 15:20	Jefferson	TX	Max Shilstone called Commissioner Weaver however Commissioner Weaver was not available and Max was provided with the Commissioner's superintendent's contact information, Mike Trahan. Max called Mike Trahan and provided project information. Please refer to contact meeting note for Mike Trahan.	FALSE			##########			9/9/2020 15:32	Shilstone, Max
Phone converstaion with Texas Speaker of the House Chief of Staff	Gavin Massingill	9/9/2020 16:30	Travis	State	Jason Damen spoke to Gavin Massingill who is the Chief of Staff for Texas Speaker of the House Dennis Bonnen. Mr. Massingill said the project sounded fine but wanted to also schedule a call between Jason Damen, Mr. Massingill and another member of the Speaker's staff for 9:30AM Sept. 10, 2020	FALSE	Follow up occurred. No concerns or questions were raised.	##########	9/3/2020 9:30			9/10/2020 9:54	Damen, Jason E
Jefferson County Precinct 3 Commissioner	Michael Sinegal	9/9/2020 16:00	Jefferson	TX	Max Shilstone called 409.835.8300 to speak with Jefferson County Commissioner Precinct 3 Michael Sinegal. Max spoke with Shenite Keys who is the office administrator and directed Max to Superintendent Mark Bernard. Please refer to the project notes for Mark Bernard for summary of conversation.	FALSE			##########			9/9/2020 16:58	Shilstone, Max
Jefferson County Commissioner Precinct 3 meeting	Mark Bernard	9/9/2020 16:00	Jefferson	TX	Max Shilstone spoke with Mark Bernard at 409.983.8300 who is the Precinct 3 superintendent for Commissioner Michael Sinegal. Max explained the Blue Marlin project and permitting plans to Mark Bernard who appreciated the update and said he would visit with Commissioner Sinegal to ensure the Commissioner was aware of our permitting plans and efforts. Max also send Mark Bernard a copy of the Blue Marlin project fact sheet. The call then ended.	FALSE			##########			9/9/2020 17:02	Shilstone, Max

Title	Contact	Date	County	State	Description	Follow Up	Follow Up Description	Follow Up Dea	Follow Up Rem	Follow Up Remin	Follow Up Recipient	Modified	Modified By
Jefferson County Judge Branick	Fred Jackson	9/10/2020 7:30	Jefferson	TX	Max Shilstone received the below email from Fred Jackson on 9.10.20: "Mr. Shilstone, thank you for the notice and we wish you success. Just call me if I can ever be of any assistance, Fred L. Jackson Attorney to County Judge Associate Judge for Mental Hearings Jefferson County, Texas P.O. Box 4025 Beaumont, TX 77704 (409) 835-8466 Fax: (409) 839-2311 fjackson@co.jefferson.tx.us "What you do today can improve all your tomorrows" Ralph Marston"	FALSE		##########			9/10/2020 9:48	Shilstone, Max
Conversation with Texas Speaker of the House Staff	Gavin Massingill	9/10/2020 9:50	Travis	Texas	Jaosn Damen had a follow up call with Speaker's Chief of Staff Gavin Massingill, Mark Bell(Deputy Chief of Staff), and Jesse Sifuentes(Policy Analyst). Mr. Damen explained the project to the group. The group had no concerns or questions and indicated that they would reach out to Mr. Damen in the future should they feel necessary.	FALSE		##########			9/10/2020 9:53	Damen, Jason E
Conversation with Texas Governor staff	Ryland Ramos	9/10/2020 10:05	Travis	Texas	Jason Damen spoke to Ryland Ramos, Oil and Gas Policy Analyst to Texas Governor Greg Abbott. Mr. Damen explained the Blue Marlin project to Mr. Ramos. Mr. Ramos said he thougt the project sounded great. Mr. Ramos thanked Mr. Damen for bringing the project to his attention and indicated that if he had any questions in the future that he would reach out to Mr. Damen.	FALSE		##########			9/10/2020 10:11	Damen, Jason E
Attempt to contact office of Texas Lieutenant Governor Dan Patrick	Dan Patrick	9/10/2020 10:15	Travis	Texas	Jason Damen left a voicemail for Lt. Gov. Chief of Staff Darrell Davila. Mr. Damen explained that he wanted to inform M. Davila about a project Energy Transfer was working on.	FALSE		##########			9/17/2020 10:26	Damen, Jason E
Attempt to contact Ryan Fisher in the Texas Attorney General's office	Ken Paxton	9/10/2020 11:45	Travis	Texas	Jason Damen called the Texas Attorney General's office and left a voicemail for Ryan Fisher, Director of Governmental affairs. Mr. Damen explained in the voicemail that he wanted to frief Mr. Fisher on an Energy Transfer project.	FALSE		##########			9/17/2020 10:29	Damen, Jason E
Congressman Randy Weber contact, TX-14	Randy Weber	9/9/2020 10:00	Jefferson	TX	Adam Ingols contacted Congressman Weber's office by emailing Chief of Staff Jeanette Whitener and Legislative Director Tom Harvey and provided project information and plans along with project fact sheet. Adam Ingols received a response from the Congressman's office that they received the email and appreciated Energy Transfer's continued investment in the Nederland area and offered the Congressman's continued support.	FALSE		##########			9/10/2020 11:55	Shilstone, Max
Congressman Randy Weber, TX-14	Jeanette Whitener	9/9/2020 16:00	Jefferson	TX	Adam Ingols contacted Congressman Weber's office by emailing Chief of Staff Jeanette Whitener and Legislative Director Tom Harvey and provided project information and plans along with project fact sheet. Adam Ingols received a response from the Congressman's office that they received the email and appreciated Energy Transfer's continued investment in the Nederland area and offered the Congressman's continued support.	FALSE		##########			9/10/2020 11:56	Shilstone, Max
Senator John Cornyn meeting	John Cornyn	9/9/2020 14:00		TX	Adam Ingols emailed Senator John Cornyn's office, and sent email to Laura Atcheson (laura_atcheson@cornyn.senate.gov), Energy Advisor to Senator Cornyn, to provide project information to the Senator. Adam Ingols also sent a project data sheet. Adam Ingols received a response from Laura Atcheson that they appreciated the information and notification about the project.	FALSE		##########			9/10/2020 12:14	Shilstone, Max
Senator John Cornyn meeting	Laura Atcheson	9/9/2020 13:00		TX	Adam Ingols emailed Senator John Cornyn's office, and sent email to Laura Atcheson (laura_atcheson@cornyn.senate.gov), Energy Advisor to Senator Cornyn, to provide project information to the Senator. Adam Ingols also sent a project data sheet. Adam Ingols received a response from Laura Atcheson that they appreciated the information and notification about the project.	FALSE		##########			9/10/2020 12:19	Shilstone, Max
Congressman Clay Higgins	Clay Higgins	9/9/2020 10:00	Cameron Parish	LA	Adam Ingols sent an email to Congressman Clay Higgins Chief of Staff, Kathee Facchiano (kathee.facchiano@mail.house.gov) and advised the Congressman's office of the project and plans as well as attaching a copy of the project data sheet.	FALSE		##########			9/10/2020 13:24	Shilstone, Max
Senator Ted Cruz, Texas	Ted Cruz	9/9/2020 10:00		TX	Adam Ingols sent an email to Senator Ted Cruz's Chief of Staff, Steve Chartan (steve_chartan@cruz.senate.gov) to provide information about the project and plans for the project. Adam Ingols also included a copy of the project fact sheet. Adam Ingols received an email confirmation from Austin Smithson (austin_smithson@cruz.senate.gov) that the Senator had received the email and appreciated the notification.	FALSE		##########			9/10/2020 13:31	Shilstone, Max

Title	Contact	Date	County	State	Description	Follow Up	Follow Up Description	Follow Up Dea	Follow Up Rem	Follow Up Remin	Follow Up Recipient	Modified	Modified By
Senator Bill Cassidy meeting	Bill Cassidy	9/9/2020 11:00		LA	Adam Ingols sent an email to James Quinn (james_quinn@cassidy.senate.gov) with information about the development plans for the Blue Marlin project. Adam Ingols also included a project fact sheet. Adam Ingols received an email response from Chris Gillott (chris_gillott@cassidy.senate.gov), Legislative Director and Deputy Chief of Staff and Ron Anderson (ron_anderson@cassidy.senate.gov) Senior Policy Advisor that Adam Ingol's email and been received and appreciated the update.	FALSE		##########				9/10/2020 13:39	Shilstone, Max
Attempt to contact Texas Senate President Pro Tem Joan Huffman	Joan Huffman	9/10/2020 13:45	Travis	Texas	Jason Damen called Senator Joan Huffman's office in an attempt to speak to the Senator. He was told to email Senator Huffman's chief of staff. Jason Damen sent an email to Molly Spratt(Chief of Staff Senator Huffman) explaining the Blue Marlin project. Mr. Damen included a fact sheet with information regarding the project and asked that if Ms. Spratt had any questions or concerns to please contact him.	FALSE		##########				9/17/2020 10:35	Damen, Jason E
Congressman Brian Babin meeting	Brian Babin	9/9/2020 8:00	Orange	TX	Adam Ingol's emailed Ben Couhig (ben.couhig@mail.house.gov), Chief of Staff, to notify the Congressman about the Blue Marlin project. In addition, Adam Ingols included a project fact sheet.	FALSE		##########				9/10/2020 13:52	Shilstone, Max
Senator John Kennedy meeting	John Kennedy	9/9/2020 16:00		LA	Adam Ingols sent an email to David Stokes (david_stokes@kennedy.senate.gov), Chief of Staff, to notify the Senator about the description and plans for the Blue Marlin project. Adam Ingols also included a project data sheet. John Steitz (john_steitz@kennedy.senate.gov), Legislative Director, confirmed receipt of the email and appreciated the update.	FALSE		##########				9/10/2020 13:58	Shilstone, Max
Jefferson County Sheriff Zena Stephens	Zena Stephens	9/9/2020 14:00	Jefferson	TX	Max Shilstone called 409.835.8411 to speak with Sheriff Stephens to provide Blue Marlin project information. Max was sent to Sheriff Stephen's assistant, Marcia Guillory (ext 2579) who did not answer yet Max Shilstone left a voice message requesting a return call.	FALSE		##########				9/10/2020 14:05	Shilstone, Max
Sheriff Zena Stephens	Zena Stephens	9/10/2020 14:00	Jefferson	TX	Max Shilstone called 409.835.8411 a second time to speak with Sheriff Stephens to provide Blue Marlin project information. Max was sent to Sheriff Stephen's assistant, Marcia Guillory (ext 2579) who did not answer yet Max Shilstone left a voice message requesting a return call.	FALSE		##########				9/10/2020 14:06	Shilstone, Max
Conversation with Texas Office of Attorney General Staff	Ryan Fisher	9/10/2020 15:00	Travis	Texas	Jason Damen spoke to Ryan Fisher, Associate Director of Intergovernmental Relations for the Texas Office of the Attorney GEneral. Mr. Damen explained the Blue Marlin project to Mr. Fisher. Mr. Fisher said he thougt the project sounded great. Mr. Fisher thanked Mr. Damen for bringing the project to his attention and asked that Mr. Damen send an information sheet to him at his earliest convenience. Mr. Damen then emailed Mr. Fisher the project summary.	FALSE		##########				9/10/2020 15:04	Damen, Jason E
Emial conversation with Senator Joan Huffman's office	Molly SPratt	9/10/2020 15:15	Travis	Texas	Molly Spratt, Chief of Staff to State Senator Joan Huffman replied to Jason Damen's email that detailed the Blue Marlin project with the response "Thanks for letting me know about the project. No questions on my end. I will certainly let you know if anything comes up."	FALSE		##########				9/10/2020 15:20	Damen, Jason E
Orange County Sheriff	Lane Mooney	9/10/2020 16:00	Orange	Tx	Max Shilstone called Orange County Sheriff Lane Mooney at 409.882.7958 to inform the Sheriff about the Blue Marlin Project. Max Shilstone was directed to Chief Deputy Keith Reneau. Max explained the project to Keith Reneau and who appreciated the information and commented about the possibly opportunities for jobs in the area. Max concluded the call by sending a project fact sheet to Keith Reneau at kreneau@co.orange.tx.us.	FALSE		##########				9/10/2020 16:16	Shilstone, Max
City of Orange Fire Department	David Frenzel	9/10/2020 16:30	Orange	Tx	Max Shilstone called the City of Orange, Tx Fire Department at 409.883.1050 to speak with Fire Chief David Frenzel. Max was directed to the Chief's secretary, Mary. Max explained the reason for the call and the Blue Marlin project. Mary said the Chief was not avaiable however to send the project fact sheet to Chief Frenzel's email at dfrenzel@orangefd.com. Max sent the fact sheet as requested.	FALSE		##########				9/10/2020 16:33	Shilstone, Max
Orange County Judge John Gothia	John Gothia	9/10/2020 16:45	Orange	TX	Max Shilstone called the Orange County Judge's office to speak with County Judge John Gothia. The Judge was not available and Max spoke with the Judge's assistant, Christina Pickard. Max explained the reason for the call and project facts about the Blue Marlin project. Christina asked that Max send the a project fact sheet to the Judge (jgothia@co.orange.tx.us), to Christina Pickard (cpickard@co.orange.tx.us) and to Lisa Roberts (lroberts@co.orange.tx.us). Max sent an email with the project facts to those three email addresses as requested on 09.10.20.	FALSE		##########				9/10/2020 16:56	Shilstone, Max
Response from Orange County Judge John Gothia	John Gothia	9/11/2020 8:25	Orange	TX	Max Shilstone received the below email from Christina Pickard who is the assistant to Judge John Gothia. Below is a copy of the email response: "Thank you Mr. Shilstone. We have received your email. I will be sure to discuss with Judge Gothia. Have a nice day. cp"	FALSE		##########				9/11/2020 8:54	Shilstone, Max

Title	Contact	Date	County	State	Description	Follow Up	Follow Up Description	Follow Up Dea	Follow Up Rem	Follow Up Remin	Follow Up Recipient	Modified	Modified By
Response from Orange County Sheriff Mooney's office	Lane Mooney	9/11/2020 7:45	Orange	TX	Max received the below email from Chief Deputy Keith Reneau in response to an email that Max Shilstone sent to Keith Reneau on 09.10.20. "Max, We received your information, thank you. Keith Reneau, Chief Deputy Orange County Sheriff's Office 205 S.Border St., Orange TX. 77630 Office (409)883-2612 Fax (409)670-4156 Cell (409)233-9233"	FALSE			##########			9/11/2020 9:01	Shilstone, Max
Robert Viator County Commissioner Precinct 4 meeting	Robert Viator	9/11/2020 11:00	Orange	TX	Max Shilstone spoke to Commissioner Robert Viator (409.656.6974) to explain the Blue Marlin project. Max described the 37 mile new development pipeline crossing the Neches River and if this pipeline would include Precinct 4. Robert Viator noted that he did not believe our new pipeline would be in his county. Max said that he would like to send Robert a copy of the project fact sheet. Robert said that he would appreciate the fact sheet. The call then ended.	FALSE			##########			9/11/2020 11:17	Shilstone, Max
Orange County Commissioner Johnny Trahan Precinct 1	Johnny Trahan	9/11/2020 14:15	Orange	TX	Max Shilstone spoke to Commissioner johnny Trahan at 409.746.2593 and explained the Blue Marlin project. Commissioner Trahan was not sure if the new 37 mile pipeline would be in his Precinct, however Commissioner Trahan appreciated the project information. Max Shilstone said he would send Commissioner Trahan a Blue Marlin fact sheet to the Commissioner's email address, jtrahan@co.orange.tx.us. The call then ended.	FALSE			##########			9/11/2020 14:23	Shilstone, Max
Orange County Commissioner Kirk Roccaforte	Kirk Roccaforte	9/11/2020 14:30	Orange	TX	Max Shilstone spoke to Commissioner Kirk Roccaforte at 409.882.5308 and explained the Blue Marlin project. Commissioner Roccaforte appreciated call and the project information. Max Shilstone said he would send Commissioner Roccaforte a Blue Marlin fact sheet to the Commissioner's email address, (kroccaforte@co.orange.tx.us). The call then ended.	FALSE			##########			9/11/2020 14:35	Shilstone, Max
Contact with Louisiana Office of Secretary of State	Kyle Ardoin	9/11/2020 9:00		Louisiana	Attempted to contact office of Secretary of State Kyle Ardoin. Spoke to his Chief of Staff Joe Salter. Explained Blue Marlin project to him and the purpose of contacting him at this time. Committed to email him the Blue Marlin fact sheet. Advised him that Energy Transfer would be filing with US Maritime Administration, DOT, for an approved permit. Also, advised him that he may be contacted by a federal regulatory agency regarding project.	FALSE			##########			9/15/2020 11:20	Damen, Jason E
Conversation with Cameron Parish Fire Chief	Tim Dupont	9/11/2020 10:00		Louisiana	Explained Blue Marlin project to him and the purpose of contacting him at this time. Committed to email him the Blue Marlin fact sheet. Advised him that Energy Transfer would be filing with US Maritime Administration, DOT, for an approved permit. Also, advised him that he may be contacted by a federal regulatory agency regarding project.	FALSE			##########			9/14/2020 15:55	Damen, Jason E
Conversation with Cameron County Police Juror	Butch Guidry	9/11/2020 11:00		Louisiana	Explained Blue Marlin project to him and the purpose of contacting him at this time. Committed to email him the Blue Marlin fact sheet. Advised him that Energy Transfer would be filing with US Maritime Administration, DOT, for an approved permit. Also, advised him that he may be contacted by a federal regulatory agency regarding project. Mr. guidry made it clear that he was preoccupied with hurricane recovery but appreciated the heads up nad htat he would do whatever he could to assist.	FALSE			##########			9/14/2020 15:55	Damen, Jason E
Conversation with Cameron Parish Emergency Preparedness	Ashley Buller	9/11/2020 12:00		LA	Explained Blue Marlin project to Ms. Buller and the purpose of contacting her at this time. Committed to email her the Blue Marlin fact sheet. Advised her that Energy Transfer would be filing with US Maritime Administration, DOT, for an approved permit. Also, advised her that he may be contacted by a federal regulatory agency regarding project.	FALSE			##########			9/14/2020 15:56	Damen, Jason E
Conversation with Louisiana Public Service Commission	Mike Francis	9/11/2020 13:00		Louisiana	Explained Blue Marlin project to him and the purpose of contacting him at this time. Committed to email him the Blue Marlin fact sheet. Advised him that Energy Transfer would be filing with US Maritime Administration, DOT, for an approved permit. Also, advised him that he may be contacted by a federal regulatory agency regarding project.	FALSE			##########			9/14/2020 15:57	Damen, Jason E
Conversation with Louisiana Speaker Pro Tem	Tanner Magee	9/11/2020 14:00			Explained Blue Marlin project to Tanner Magee and the purpose of contacting him at this time. Committed to email him the Blue Marlin fact sheet. Advised him that Energy Transfer would be filing with US Maritime Administration, DOT, for an approved permit. Also, advised him that he may be contacted by a federal regulatory agency regarding project.	FALSE			##########			9/17/2020 9:43	Shilstone, Max
Conversation with Senator Mark Abraham	Mark Abraham	9/11/2020 15:00			Explained Blue Marlin project to him and the purpose of contacting him at this time. Committed to email him the Blue Marlin fact sheet. Advised him that Energy Transfer would be filing with US Maritime Administration, DOT, for an approved permit. Also, advised him that he may be contacted by a federal regulatory agency regarding project.	FALSE			##########			9/14/2020 15:58	Damen, Jason E

Stakeholders within the Project Area - Contacts

Title	Contact	Date	County	State	Description	Follow Up	Follow Up Description	Follow Up Dea	Follow Up Rem	Follow Up Remin	Follow Up Recipient	Modified	Modified By
COnversation with Louisiana Speaker of the House	Clay Schexnayder	9/11/2020 12:00			Explained Blue Marlin project to him and the purpose of contacting him at this time. Committed to email him the Blue Marlin fact sheet. Advised him that Energy Transfer would be filing with US Maritime Administration, DOT, for an approved permit. Also, advised him that he may be contacted by a federal regulatory agency regarding project.	FALSE			##########			9/14/2020 15:58	Damen, Jason E
Conversation with the Office of Senator Page Cortez	Page Cortez	9/14/2020 11:00			Attempted to contact Senate Majority Leader Page Cortez. Made contact with his Legislative Assistant Julie Sandridge. Explained Blue Marlin project to Ms. Sandridge and the purpose of contacting her at this time. Committed to email her the Blue Marlin fact sheet. Advised her that Energy Transfer would be filing with US Maritime Administration, DOT, for an approved permit. Also, advised her that he may be contacted by a federal regulatory agency regarding project.	FALSE			##########			9/15/2020 11:29	Damen, Jason E
Conversation with office of Lt. Gov. Billy Nungesser	Billy Nungesser	9/14/2020 11:00			Attempted to contact Lt. Gov. Nungesser in regards to the Blue Marlin Project. Spoke with his Chief of Staff Julie Samson. Explained Blue Marlin project to Ms. Samson and the purpose of contacting her at this time. Committed to email her the Blue Marlin fact sheet. Advised her that Energy Transfer would be filing with US Maritime Administration, DOT, for an approved permit. Also, advised her that he may be contacted by a federal regulatory agency regarding project.	FALSE			##########			9/15/2020 11:33	Damen, Jason E
Consersation with State Representative Ryan Bourriaque	Ryan Bourriaque	9/11/2020 15:00			Explained Blue Marlin project to him and the purpose of contacting him at this time. Committed to email him the Blue Marlin fact sheet. Advised him that Energy Transfer would be filing with US Maritime Administration, DOT, for an approved permit. Also, advised him that he may be contacted by a federal regulatory agency regarding project.	FALSE			##########			9/14/2020 15:53	Damen, Jason E
Conversation with Secretary of Louisiana Dept of Wildlife and Fisheries	Jack Montoucet	9/11/2020 16:00			Explained Blue Marlin project to him and the purpose of contacting him at this time. Committed to email him the Blue Marlin fact sheet. Advised him that Energy Transfer would be filing with US Maritime Administration, DOT, for an approved permit. Also, advised him that he may be contacted by a federal regulatory agency regarding project.	FALSE			##########			9/14/2020 15:52	Damen, Jason E
Conversation with Beth Mizell, President Pro Tempore	Beth Mizell	9/12/2020 9:00			Explained Blue Marlin project to Senator Mizell and the purpose of contacting her at this time. Committed to email her the Blue Marlin fact sheet. Advised her that Energy Transfer would be filing with US Maritime Administration, DOT, for an approved permit. Also, advised her that he may be contacted by a federal regulatory agency regarding project.	FALSE			##########			9/14/2020 15:52	Damen, Jason E
Conversation with Louisiana DOTD	Tammy York	9/14/2020 12:00			Explained Blue Marlin project to Ms. York and the purpose of contacting her at this time. Committed to email her the Blue Marlin fact sheet. Advised her that Energy Transfer would be filing with US Maritime Administration, DOT, for an approved permit. Also, advised her that he may be contacted by a federal regulatory agency regarding project.	FALSE			##########			9/14/2020 15:51	Damen, Jason E
Conversation with Zach Johnson(Chief of Staff to Dade Phelan)	Zach Johnson	9/14/2020 15:40			Jason Damen spoke to Zach Johnson, Chief of Staff to State Representative Dade Phelan. Mr. Damen explained the project to Mr. Johnson. Mr. Johnson had no concerns or questions and thanked Mr. Damen for the information and the heads up regarding the project.	FALSE			##########			9/14/2020 15:43	Damen, Jason E
Conversation with President of SWLA Eco Devo Alliance	George Swift	9/14/2020 15:00			Explained Blue Marlin project to Mr. Swift and the purpose of contacting him at this time. Committed to email him the Blue Marlin fact sheet. Advised him that Energy Transfer would be filing with US Maritime Administration, DOT, for an approved permit. Also, advised Mr. Swift that he may be contacted by a federal regulatory agency regarding project.	FALSE			##########			9/14/2020 15:46	Damen, Jason E
Conversation with Louisiana Dept of Economic Development	Brad Lambert	9/12/2020 9:00			Explained Blue Marlin project and the purpose of contacting Brad Lambert at this time. Committed to email the Blue Marlin Fact Sheet. Advised Mr. Lambert that Energy Transfer will be filling with US Maritime Administration for permit to build pipeline. Also, advised Mr. Lambert that he may be contacted to make sure that he has been informed of project and plans for new pipline.	FALSE			##########			9/17/2020 10:11	Shilstone, Max
Attempt to contact State Representative Joe Moody	Joe Moody	9/15/2020 11:40	Travis	Texas	Jason Damen attempted to contact Texas House Speaker Pro Tempore Joe Moody. Mr. Damen spoke to his legislative assistant Rachel Wetsal. Explained the project to her and she thanked Mr. Damen and indicated that if the Representative had any questions, she woul dlet Mr. Damen know.	FALSE			##########			9/15/2020 11:44	Damen, Jason E
Congressman Clay Higgins	Clay Higgins	9/15/2020 14:00	Cameron Parish	LA	Congressman Clay Higgins representative Ward Cormier (ward.cormier@mail.house.gov) emailed Adam Ingols to acknowledge that the fact sheet for the Blue Marlin Offshore Port had been received and appreciated the information.	FALSE			##########			9/15/2020 13:47	Shilstone, Max
Conversation with Dept of Natural Resources Secretary	Thomas Harris	9/14/2020 18:00		Louisiana	Explained Blue Marlin project to Secretary Harris and the purpose of contacting him at this time. Committed to email him the Blue Marlin fact sheet. Advised him that Energy Transfer would be filing with US Maritime Administration, DOT, for an approved permit. Also, advised him that he may be contacted by a federal regulatory agency regarding project.	FALSE			##########			9/15/2020 15:58	Damen, Jason E
Email between Louisiana Economic Development and Don Pierson	Donald Pierson	9/15/2020 9:00		Louisiana	Brad Lambert, Deputy Secretary of Louisiana Economic Development, sent an email to Secretary Don Pierson informing him of the Blue Marlin project and also including the Blue Marlin Fact Sheet.	FALSE			##########			9/15/2020 16:02	Damen, Jason E
Email to Mark Cooper	Mark Cooper	9/14/2020 14:55		Louisiana	Tom Harris, Secretary of the Louisiana Department of Natural Resources sent an email to Mr. Cooper explaining the Blue Marlin project and included t Bhelue Marlin Fact sheet which was provided by Energy Transfer.	FALSE			##########			9/15/2020 16:18	Damen, Jason E

Stakeholders within the Project Area - Contacts

Title	Contact	Date	County	State	Description	Follow Up	Follow Up Description	Follow Up Dea	Follow Up Rem	Follow Up Remin	Follow Up Recipient	Modified	Modified By
email to Governor John Bel Edwards	John Edwards	9/14/2020 14:55		Louisiana	Tom Harris, Secretary of the Louisiana Department of Natural Resources sent an email to Governor Edwards explaining the Blue Marlin project and included the Blue Marlin Fact sheet which was provided by Energy Transfer.	FALSE			##########			9/15/2020 16:19	Damen, Jason E
Email to Chuck Brown, Secretary Louisiana Department of Environmental Quality	Chuck Brown	9/14/2020 14:55		Louisiana	Tom Harris, Secretary of the Louisiana Department of Natural Resources sent an email to Secretary Brown explaining the Blue Marlin project and included the Blue Marlin Fact sheet which was provided by Energy Transfer.	FALSE			##########			9/15/2020 16:19	Damen, Jason E
email to Thomas Clark Commissioner Louisiana Department of Transportation	Thomas Clark	9/14/2020 14:55		Louisiana	Tom Harris, Secretary of the Louisiana Department of Natural Resources sent an email to Commissioner Clark explaining the Blue Marlin project and included the Blue Marlin Fact sheet which was provided by Energy Transfer.	FALSE			##########			9/15/2020 16:20	Damen, Jason E
email to Matthew BRock, Executive Counsel to Governor Edwards	Matthew Brock	9/14/2020 14:55		Louisiana	Tom Harris, Secretary of the Louisiana Department of Natural Resources sent an email to Mr. Brock explaining the Blue Marlin project and included the Blue Marlin Fact sheet which was provided by Energy Transfer.	FALSE			##########			9/15/2020 16:17	Damen, Jason E
Attempt to contact Paula Ramsey	Paula Ramsey	9/14/2020 0:00			Spoke with George Swift, the CEO of the SWLA Alliance, rather than Paula Ramsey. When called Paula's # at the Alliance , Mr. Swift answered. He is the CEO of the Alliance and Paula Ramsey is one of his Vice Presidents. She was not in their office due to Laura. Mr. Swift was in the office so he was informed of Blue MArlin Project and sent Blue Marlin fact sheet.	FALSE			##########			9/17/2020 13:33	Damen, Jason E

Appendix B-2
Agency Meeting Minutes

TABLE B2-1 Summary of BMOP Agency Outreach Meetings and Contacts					
Meeting Date	**Agency - Location**	**Discussion Topic**	**Agency/Company**	**Attendees**	**Contact Information**
December 13, 2018	MARAD - DC	Preliminary Project Introduction	MARAD	Bernadette Brennan	bernadette.brennan@dot.gov
			MARAD	Yvette Fields (Director)	yvette.fields@dot.gov
			MARAD	Wade Morefield	Wade.morefield@dot.gov
			USCG	Curtis Boreland	Curtis.e.boreland@uscg.mil
			EXP	Jon Schmidt	jon.schmidt@exp.com
			Energy Transfer	Eric Estopinal	eric.estopinal@energytransfer.com
			EXP	Allen Brooks*	allen.brooks@exp.com
			EXP	Mike Aubele	mike.aubele@exp.com
			PCS	Gary Vogt	Gvogt@projectconsulting.com
			PCS	Terry Oram*	Toram@projectconsulting.com
			EPA Region 6	Rob Lawrence	lawrence.rob@epa.gov
			BSEE	Jarvis Abbott*	jarvis.Abbott@bsee.gov
			USDOT PHMSA	Joseph Sieve*	joseph.sieve@dot.gov
December 19, 2019	BSEE - OSTS	Conceptual Deepwater Port	BSEE – OSTS	Marilyn Sauls	marilyn.sauls@bsee.gov
			BSEE	Bill Shed	Not Available
			BOEM	Michelle Picou	Michelle.picou@boem.gov
			BSEE	Otho Barnes	ortho.barnes@bsee.gov
			BSEE - ORP	Jarvis Abbot	jarvis.Abbott@bsee.gov
			BSEE - OSTS	Tommy Kapesis	tommy.kapesis@bsee.gov
			BOEM	Peter Hosch	peter.hosch@bsee.com
			BOEM	Laura Christensen	Laura.Christensen@boem.gov
			BOEM	Michelle Evans	Michelle.evans@boem.gov
			BSEE	Bimal Shrestha	bimal.shrestha@bsee.gov
			Energy Transfer	Raj Devarpiran	sankar.devarpiran@energytransfer.com
			Energy Transfer	Eric Estopinal	eric.estopinal@energytransfer.com

TABLE B2-1 Summary of BMOP Agency Outreach Meetings and Contacts					
Meeting Date	**Agency - Location**	**Discussion Topic**	**Agency/Company**	**Attendees**	**Contact Information**
			PCS	Alex Alvarado	Not Available
			PCS	Gary Vogt	Gvogt@projectconsulting.com
			PCS	Jim Elgin	Not Available
March 9, 2020	PHMSA Phone Correspondence	E&C Project Compliance	PHMSA	Zaid Obeidi*	Zaid.obeidi@dot.gov
			Energy Transfer	Rob Burke*	Robert.burke@energytransfer.com
March 18, 2020	U.S. EPA Region 6 via WebEx	Project Introduction for Air Permit	EPA Region 6	Jeff Robinson*	robinson.jeffrey@Epa.gov
			EPA Region 6	Cynthia Kaleri*	kaleri.cynthia@Epa.gov
			EPA Region 6	Melanie Magee*	magee.melanie@Epa.gov
			EPA Region 6	Ashley Mohr*	mohr.ashley@Epa.gov
			EPA Region 6	Joshua Olszewski*	olszewski.joshua@Epa.gov
			EPA Region 6	Brad Toups*	toups.brad@Epa.gov
			EPA Region 6	Aimee Wilson*	wilson.aimee@Epa.gov
			EPA Region 6	Jonathan Ehrhart*	ehrhart.jonathan@Epa.gov
			EPA Region 6	Aaron Vargas*	vargas.aaron@Epa.gov
			EPA Region 6	Nbudisi Ogbodo*	ogbodo.ndubisi@Epa.gov
			Energy Transfer	Sankar Devarpiran*	sankar.devarpiran@enenergytransfer.com
			Energy Transfer	Eric Estopinal*	eric.estopinal@energytransfer.com
			Energy Transfer	Jeff Weiler*	jeff.weiler@energytransfer.com
			Energy Transfer	Lisa Garcia*	lisa.garcia@energytransfer.com
			Energy Transfer	Weston Threeton*	weston.threeton@energytransfer.com
			Trinity Consultants	Michael Ballenger*	mballenger@trinityconsultants.com
			EXP	Jon Schmidt*	jon.schmidt@exp.com
			Baker Botts	Jennifer Keane*	jennifer.keaner@bakerbotts.com
March 20, 2020		Air Permit	EPA Region 6	Melanie Magee*	magee.melanie@Epa.gov

TABLE B2-1 Summary of BMOP Agency Outreach Meetings and Contacts					
Meeting Date	**Agency - Location**	**Discussion Topic**	**Agency/Company**	**Attendees**	**Contact Information**
	U.S. EPA Region 6 Phone Correspondence		Trinity Consultants	Michael Ballenger*	mballenger@trinityconsultants.com
April 7, 2020	U.S. EPA Region 6 Phone Correspondence	Air Permit	EPA Region 6	Melanie Magee*	Magee.melanie@Epa.gov
			Trinity Consultants	Michael Ballenger*	mballenger@trinityconsultants.com
April 7, 2020*	BOEM and BSEE	Update on Project/ Regulatory Filing Requirements	BSEE	Marilyn Sauls	marilyn.sauls@bsee.gov
			BOEM	Laura Christensen	Laura.Christensen@boem.gov
			BSEE	Otho Barnes	ortho.barnes@bsee.gov
			BSEE	Tommy Kapesis	tommy.kapesis@bsee.gov
			BSEE	Michel Picou	Michelle.picou@boem.gov
			BOEM/BSEE	Bimal Shrestha	bimal.shrestha@bsee.gov
			BOEM	Michel Evans	Michelle.evans@boem.gov
			BSEE	Jarvis Abbott	jarvis.abbott@bsee.gov
			BSEE	Phillip Steal	Not Available
			BSEE	Peter Hosch	peter.hosch@bsee.com
			BOEM/BSEE	Stephen Dessau	Not Available
			Energy Transfer	Eric Estopinal	eric.estopinal@energytransfer.com
			Energy Transfer	Sankar Devarpiran	sankar.devarpiran@energytransfer.com
			Energy Transfer	Balu Jegganathan	balu.jegganathan@energytransfer.com
			EXP	Jon Schmidt	jon.schmidt@exp.com
			DNV GL	Grzegorz Malinowski	Not Available
			DNV GL	Piotr Szalewski	Not Available
June 19, 2020	TPWD	Lower Neches Wildlife Management	TPWD	Mike Rezsutek	Michael.Rezutek@tpwd.texas.gov
			TPWD	Dennis Gissell	Dennis.Gissell@tpwd.texas.gov
			TPWD	Ted Hollingsworth	Ted.Hollingsworth@tpwd.texas.gov

TABLE B2-1 Summary of BMOP Agency Outreach Meetings and Contacts					
Meeting Date	**Agency - Location**	**Discussion Topic**	**Agency/Company**	**Attendees**	**Contact Information**
		Area Pipeline Crossing	TPWD	Andrew Peters	Andrew.Peters@tpwd.texas.gov
			Energy Transfer	Justin Minter	Justin.Minter@EnergyTransfer.com
			PCS	Jeff Richardson	Jricharson@projectconsulting.com
			EXP	Mike Aubele	Mike.Aubele@exp.com
			EXP	Ryan Coleman	RCOLEMAN@MAP2LLC.COM
			EXP	Allen Brooks	Allen.Brooks@exp.com
September 8, 2020	BSEE – Phone Correspondence	Request for Meeting to Discuss Different Permit & Application Submittals	Energy Transfer	Alex Alvarado*	Not Available
			BSEE Pipeline Section	Bimal Shrestha*	bimal.shrestha@bsee.gov
September 9, 2020	BSEE – BSEE – Phone Correspondence	Meeting Scheduling	Energy Transfer	Alex Alvarado*	Not Available
			BSEE Pipeline Section	Bimal Shrestha*	bimal.shrestha@bsee.gov
September 10, 2020	BSEE – Phone Correspondence	Participant Attendance in Meeting and Discussion of Application Submittals			
			Energy Transfer	Alex Alvarado*	Not Available
			BSEE Pipeline Section	Bimal Shrestha*	bimal.shrestha@bsee.gov
September 10, 2020	BSEE – Phone Correspondence	Discussion of Requested Meeting and Permit and Application Submittals	Energy Transfer	Alex Alvardo*	Not Available
			BSEE Pipeline Section	Angie Gobert*	angie.gobert@bsee.gov

TABLE B2-1 **Summary of BMOP Agency Outreach Meetings and Contacts**					
Meeting Date	**Agency - Location**	**Discussion Topic**	**Agency/Company**	**Attendees**	**Contact Information**
September 16, 2020	BSEE – Phone Correspondence	Request for Contact Regarding Ongoing Discussions of MARAD DWP Permitting Process	Energy Transfer	Alex Alvardo*	Not Available
			BSEE Pipeline Section	Angie Gobert*	angie.gobert@bsee.gov
*Attendance via conference call					

Meeting Minutes

Date: December 14, 2018	Meeting Date: December 13, 2018
Project Name: Energy Transfer Partners Stingray Conversion Project	
Subject: Informal Discussion	
Participants: (sign in sheet pending) Energy Transfer Partners: Erik Estopinal, Michael Aubele PCS: Gary Vogt (phone: Terry Oram) EXP: Jon Schmidt (phone: John Auriemma, Allen Brooks) MARAD: Yvette Fields (Director), Wade Morefield, Curtis Boreland, Bernadette Brennan (plus one) USCG: Commander Jose XXXXX PHMSA (on the phone): Joseph Sieve (HQ) USDOI, BSEE (on the phone): Jarvis Abbott USEPA Region 6 (on the phone): Rob Lawrence There were others on the phone that will be added when the sign-in sheet is distributed.	
Location: USDOT HQ, Washington, DC	Prepared By: Jon Schmidt, EXP
Distribution: Michael Aubele, ETP; Erik Estopinal, ETP; Terry Oram, PCS; Gary Vogt, PCS; John Auriemma, EXP	

An informal discussion and question and answer meeting was held at MARAD to discuss the potential conversion of the Stingray natural gas pipeline system to oil export service.

The MARAD Deepwater Port Act (DWP) process is similar to the FERC 7(c) process. A complete application is filed following MARAD guidelines, a third-party consultant is hired to prepare a NEPA document, and MARAD works to complete the review and approval of the project within their statutory timelines (356 from the notice of application—when it has been deemed complete). Their timelines stop if the applicant has not provided permit application level detail necessary for other federal agencies to cooperate with MARAD on the EIS. This includes PHMSA, USACE, USEPA, USDOI (BOEM, BSEE), and USFWS and NFMS. MARAD completes a NEPA document (most likely and EIS for this project) and writes a Record of Decision (ROD). ***The license is not issued until the applicant has met all the conditions stated in the ROD***. These could be financial commitments (bonds or other guarantees), surveys, studies, or other permitting not already completed. Therefore, an applicant has to decide whether to complete all the required work prior to filing a DWP application, or filing only what is necessary for agencies to review and approve, knowing they cannot go to work until those studies and surveys are completed.

After a brief overview of the project concept, and addressing questions from MARAD, USCG, PHMSA and EPA, MARAD offered the following guidance/advice when and if the project is decided to move forward:

1. Conversion from natural gas to oil is feasible and from a NEPA perspective a “good” project since there would be less of an impact and it utilizes infrastructure that would be abandoned in place.
2. It is recommended to file with FERC first to start the abandonment process, but we can also file with MARAD and have the processes run simultaneously. The Project they gave an example of doing this was Delfin that converted an abandoned system and received their FERC 7(b) abandonment order prior to MARAD finishing their process which helps MARADs NEPA analysis.

3. Surveys of the system wouldn't be required except where replacement is necessary or where new facilities are built.
4. Whether all the integrity work needs to be completed prior to filing with MARAD, or after filing but before their decision would be up to PHMSA. MARAD will condition their Record of Decision (ROD) with requirements that have to be met *prior* to issuance of the license. Integrity work could be part of those requirements if PHMSA agrees.
5. Meet with PHMSA and other agencies prior to coming back to MARAD with a formal pre-application meeting. It is OK to invite MARAD to these meetings, but ETP should focus on determining the available information that each agency will require in order to review and approve the conversion project.
6. Once ETP understands the information required to be included in the MARAD application to satisfy other agencies (especially PHMSA with the conversion), then an application can be prepared and filed with MARAD for completeness review.
7. MARAD likes the conversion concept but cautioned that ETP would need to align with PHMSA on the requirements needed for the application. The Delfin project had one clock stoppage for PHMSA incompleteness comments. The PHMSA representative on the phone was non-committal on the information required to be necessary for confirmation that Stingray is approved for pipeline conversion. PHMSA recommended following up with the Southwest regional office (and himself) to schedule a meeting for discussion.
8. There were other discussion points related to agency consultation, but it was apparent from the meeting that converting the Stingray pipeline to oil service would not be rejected. Work would be necessary to determine the level of studies required to accompany the DWP application with consultation with each federal agency.

Project:	18220 – BSEE OSTS Meeting	**Meeting Date:**	December 19, 2019
Subject:	Conceptual Deep Water Port	**Author:**	Jim Elgin

Attendees:

BSEE		Energy Transfer	
Marilyn Sauls	OSTS – BSEE	Raj Devarpiran	Energy Transfer
Bill Shed	Geophysicist - BOEM	Eric Estopinal	Energy Transfer
Michelle Picou	BOEM – Plans	Alex Alvarado	PCS
Otho Barnes	BSEE – Dep. Reg. Super.	Gary Vogt	PCS
Jarvis Abbott	BSEEE – ORP	Jim Elgin	PCS
Tommy Kapesis	OSTS - BSEE		
Peter Hosch	OSTS - BSEE		
Laura Christensen	BOEM - Plans		
Michelle Evans	BOEM - Plans		
Bimal Shrestha	BSEE – Pipeline		

Attachments: Sign-In Sheet

DISCUSSION

- **Introduction of Conceptual Deepwater Port Project**
  - Energy Transfer (ET) is exploring options to develop a crude oil export facility from its existing storage facilities in Nederland, Texas.
  - One of the options ET is considering is to reuse an existing offshore pipeline, Stingray natural gas trunkline, which originates offshore at WC 509 and terminates onshore in Cameron Parish, Louisiana.
  - The system being investigated includes:
    - Three options for onshore pipeline segments, which are currently being inspected.
    - The Stingray marine trunkline, which would be converted to oil service by redirecting product flow.
    - Retrofitting the WC 509 to a receiving platform including pig receivers, metering facilities and a surge tank. No processing equipment or storage facilities would be required on WC 509.
    - Safety equipment on WC 509 and onshore would include Emergency Shut Down (ESD) components inclusive of communications links between the two facilities.
    - The system would be designed to accommodate 80,000 barrels per hour.
    - The WC 509 complex is currently serving as a natural gas receiving hub. Five pipelines are currently delivering product to the "A" structure. The product is dispatched to shore through the Stingray Pipeline. This natural gas would be rerouted from the "A" structure into the nearby Sea Robin System, resulting in no change of service for the "A" platform. The "B" platform is currently a gas compression platform which would be converted to receive the crude oil from shore.

DISCUSSION

- New crude export pipelines, approximately 4,000 feet long, and appurtenances would be installed to transfer product from the "B" platform to CALM buoys, through which the crude would be transferred into crude-carrying ships.

- **BSEE Guidance on WC 509 "B" Design Codes**
  - 30 CFR 250.900 (b)(4) provides guidance on conversion requirements.
  - API RP-2A-WSD, 21st Edition, discusses re-use design criteria.
  - The re-use criteria would apply to WC 509 "B" due to its proposed change of purpose from gas to oil.
  - ET confirmed it is following API RP-2A-WSD, 21st Edition. BSEE confirmed use of 21st Edition as per current code is appropriate.
  - BSEE is uncertain of the timeline for adoption of API RP-2A-WSD, 22nd Edition. Due to this uncertainty, if a permit application for re-use of the WC 509 "B" analyzed in accordance with API RP-2A-WSD, 21st Edition, would not be superseded by 22nd Edition criteria should it be adopted in the interim period prior to permit issuance.
  - Platform inspection results of WC 509 "B" have not historically been submitted to BSEE. Therefore, BSEE would not recommend pursing the use of risk-based criteria as part of the analysis.

- **Permit Submittals**
  - While ET met with MARAD in Washington one year ago this month, ET has not filed a MARAD permit application.
  - ET is planning conceptual project presentations with USACOE and USEPA in January.
  - ET anticipates submittal of a MARAD permit application 2Q 2020 or 3Q 2020.
  - MARAD would send copies of the permit application to all cooperating agencies, one of which is BSEE. PHMSA reviews would be triggered by the MARAD distribution.
  - It was noted that governors of adjacent States have veto authority of the MARAD permit.
  - It was noted that receipt of MARAD Record of Determination (ROD) does not equate to a permit to operate the port; a DOE permit for export is also required.
  - A pipeline permit application can be submitted to BSEE and the application will be reviewed, although BSEE traditionally waits until the MARAD permit is approved to issue the pipeline permit. The permit application will have been reviewed and issuance of pipeline-related permits could occur within 24-hours of the MARAD permit issuance.
  - ET anticipates submittal of permit applications for platform modifications, flow reversal of the existing pipeline and Right of Way (ROW) for the new pipelines within approximately one month

DISCUSSION

of submittal of the MARAD application. BSEE noted that there may be some risk to early submittal of BSEE permits due to changes resulting from comments to the MARAD application.

- BSEE recommended that permit submittals should be based on the single ET-preferred system as opposed to submitting options for consideration.
- BSEE noted that decommissioning plans for all structures and pipelines associated with the system must be submitted as part of the permit applications.
- MARAD would determine financial liability for removal of system facilities.
- BSEE noted that pipelines in significant sediment resource areas have typically required abandonment and removal as part of the decommissioning plan. Geotechnical samples may be taken and analyzed along the route to verify whether the areas may be comprised of sediment that would be considered significant.

- **Surveys Required to Support Permit Applications**
  - Geotechnical samples must be acquired at Catenary Anchor Leg Mooring (CALM) buoy locations. Results of the sample analyses should be submitted as part of the permit applications.
  - Environmental and archaeological surveys and results will be required for new pipeline ROW permit applications.
  - Geophysical hazard surveys are required for new pipeline ROW permit applications and for vessel egress and ingress routes between fairways and CALM buoys. As far as BSEE/BOEM are concerned, no such surveys would be required for vessel routes between fairways and buoys.
  - Existing pipelines would require surveys for areas of seafloor disturbances.
  - Repairs to existing pipelines do not require surveys.

MEETING NOTES

ENERGY TRANSFER/EPA REGION 6 TELECONFERENCE

Call date: March 18, 2020

Subject: MACT Y/Section 112(g) Applicability

EPA Attendees: Jeff Robinson (Bureau Chief, Air Permitting Division)
Cynthia Kaleri (Section Chief, Air Permitting Division)
Melanie Magee (Assigned air permit writer)
Ashley Mohr (modeler)
Joshua Olszewski
Brad Toups (air permits)
Aimee Wilson
Jonathan Ehrhart
Aaron Vargas (legal)
Ndubisi Ogbodo

For Energy Transfer:

Lisa M. Garcia (Energy Transfer)
Sankar R. Devarpiran (Energy Transfer)
Eric F. Estopinal (Energy Transfer)
Jeff Weiler (Energy Transfer)
Weston Threeton (Energy Transfer)
Jon Schmidt (exp
Michael Ballenger (Trinity)
Jennifer Keane (Baker Botts)

I. General Scope

A. Eric Estopinal provided a general scope of the project – WC433 with WC509 as alternate, 2 CALM bouys 4,000ft from the platform, Sea Robin will play a role in abandonment, 42" or 36" pipe to Cameron and 36" after, ~30 ships a month and not all will be VLCCs.

II. MACT Y Discussion Overview

A. Various projects have been brought to EPA Region 6 in past several years and those companies have also discussed their projects and MACT Y applicability with EPA Headquarters. Conversations with EPA included the former Assistant Administrator Bill Wehrum and the current Deputy Assistant Administrator Anne Idsal.

B. Enterprise (SPOT) took the position that MACT Y was applicable and did not want to submit a case-by-case Section 112(g) analysis or submit "either/or" application (with both options utilizing VCU as control technology).

1. EPA processes applications it receives and will not second guess decision on MACT applicability, 95% DRE, or 99% capture efficiency represented in application

2. Enterprise took the position that it has a "marine loading terminal"

3. Enterprise claims onshore VCU technology "easily transferrable" to deepwater – could transfer onshore terminal design to offshore

4. SPOT's legal counselor was prior-EPA counsel

C. TGTI took the position that MACT Y was not applicable and that its project was fundamentally different.

1. TGTI position: not a "marine loading terminal" because very different design (2 lines, no platform). Also no platform was needed because they were only 14 miles offshore, pipeline control room was onshore

2. TGTI: They argued controls weren't cost feasible (submitted cost analysis) based on their scope (single buoy, smaller operations) and got very close to public comment/draft permit stage

3. Section 112(g) controls were submerged fill. Most applicants have taken position that MACT Y is not applicable. This includes Bluewater. The EPA articulated the risk the permit can be challenged or overturned.

D. EPA has had internal discussions regarding applicability of MACT Y. OAQPS leadership recognizes that offshore scenarios discussed today were not fully evaluated during MACT Y development (different to load a ship from a pier with access to natural gas supply).

1. Internal discussion whether there is a need to go back and do a supplemental evaluation for deepwater projects. If in operation, SPOT could influence a subsequent MACT Y revision.

(i) No hard direction given at this time

E. MACT Y does not have specific capture efficiency, just a 95% Destruction Removal Efficiency (DRE). The EPA does not see any issues meeting 95% DRE. Look to nearest on-shore state for collection efficiency and application statements (consistent with assumptions made for dispersion modeling).

1. Texas guidance 99% capture

2. Louisiana may not have guidance

III. Section 112(g) Case-by-Case Overview

A. EPA willing to allow Section 112(g) submittal but any application would be a "heavy lift" for completeness/review

B. EPA Region 6 does have some "lessons learned" by working with other applicants and is willing to share them for this effort – impacts schedule of EPA review

1. Sufficient data to articulate project scope, compared to others

2. Why MACT Y does not apply (more than just arguing that not a "marine loading terminal")

C. Texas Gulflink did Section 112(g) analysis

1. Completeness letter not yet issued but PSD expected this week

D. Bluewater did Section 112(g) analysis

1. Their PSD and 112g was deemed complete.

(i) Plan is to propose PSD/Title V/Section 112(g) simultaneously for public comment

E. Applicants must understand high uncertainty risk, both legally and technically:

1. NGOs may raise MACT Y applicability during public comment period

2. Issued air permits could be overturned if submerged fill is control technology [and a court finds MACT Y applicable]

3. EPA only evaluating air quality – safety concerns with application still must be reviewed by USCG and MARAD

F. Applicants must understand high hurdle:

1. Application must rely on company's specific approach

2. Requires very detailed analysis. Much more detailed than BACT/LAER. Very different analysis than BACT because cannot eliminate a control solely on it not demonstrated in practice.

(i) Section 40 CFR 63.43 provides description of requirements

(a) Pay attention to subsection (d) in particular

3. Issue is that regulations are broad in scope and it is hard to get analysis narrow enough for the record to defend the applicant's actions regarding control decisions

4. Must go through source categories: what are potentially transferrable technologies and evaluate. Must list MACT floor for state of control and how others may or may not fit with your design

5. If potentially transferrable, you must evaluate controls in beyond-the-floor analysis

    (i) EPA Sector Policy Group of OAQPS (Petroleum group that writes the Refinery MACT rules) thought VCU was a "transferrable" control, based on discussions during TGTI evaluation.

    (ii) EPA needs to see the cost, non-air environmental impacts, and energy impacts

6. Must also evaluate under Section 112(h)(2) work practices

G. OAQPS has likened Section 112(g) process to development of a NESHAP rule but under 112(g)

1. Adequacy of HAP speciation an issue

    (i) TGTI was only West Texas crude but had to submit detailed HAP information

    (ii) Melanie: Must review and submit authorization for each individual HAP and conduct crude oil analysis for each crude. Worst-case scenario

        (a) Pay close attention to vapor analysis

        (b) Can't rely on standard literature

        (c) Need more than vapor pressures

H. Melanie: willing to have a follow up call to discuss in more detail:

1. Can share case law references to use as guides

2. Can share important take-aways

3. She also suggested speaking with Water Department at EPA

IV. EPA's Position on Safety Issues

A. EPA will defer to USCG or MARAD if they determine VCU design unsafe, but this would require providing enough design for USCG to evaluate, either in the MARAD application or the 112(g) application.

B. No FEIS and ROD yet on SPOT project

1. It is possible that SPOT is deferring the detailed design until after the ROD is issued and prior to implementing the MARAD license conditions.

V. More Discussion on SPOT and MACT Y

A. Will not know if SPOT can meet MACT Y or 99% capture until constructed and operating

B. Specific question of what happens if they don't meet it has not been explored by EPA Region 6

1. Jeff: Common for companies to request alternative monitoring scenarios

2. Jeff: Stated a company could petition for relief and rulemaking.

C. Michael Ballenger asked about the maintenance allowance in 63.562(b)(6). Can requests be made after construction and during operations? They were not familiar with it.

VI. Impacts of Future MACT Y Rulemakings

A. Michael: What happens if a company got a 112(g) determination (submerged fill) and EPA later reopened MACT Y either to clarify current applicability or to develop new subcategory?

B. Jeff: Would be treated as "existing" facility and have 3 years to attain standard.

1. Note: Need to confirm once we elect to go Section 112(g)/submerged fill

VII. Action Items

A. Further discussions with EPA on 112(g) lessons learned, create template for 112(g) application from that information;

B. Conduct HAZID of proposed solution as well as any reasonable alternatives to justify proposed method of vapor capture;

C. Determine schedule required to complete 1 and 2, adjust Project schedule and budget accordingly.

D. Schedule subsequent call to review a modeling protocol consistent with the above.

MEETING NOTES

ENERGY TRANSFER/BOEM and BSEE TELECONFERENCE

Call date: April 7, 2020

Subject: Update on Stingray Conversion Analysis/regulatory filing requirements

BOEM/BSEE Attendees:	Marilyn Sauls, Laura Christianson, Otho Barnes, Tommy Kapesis, Michel Picou, Shrestha Bimal, Michel Evans, Jarvis Abbott, Phillip Steal, Peter Hosch, Stephen Dessaur
Project Attendees:	Eric Estopinal, Sankar Devarpiran, Balu Jegganathan (ET) Jon Schmidt (EXP) Grzegorz Malinowski, Piotr Szalewski (DNV GL)

<u>High level meeting summary:</u>

1. All 509 platforms and structures need to be considered as re-use, that BSEE considers as a "Conversion" per their regulations
2. ET/DNV GL understanding is that deck height should as minimum be above max crest height + 5ft per API 2INT-DG / 3.2. In addition, local strength needs to be checked for equipment / structure within max crest height + 5ft + 15% max crest height (hurricane water elevation) for impact loads. Tommy Kapesis wants to have further discussion on the additional 15% and offered to check what was done on other projects. Tommy will come back with clarifications.
3. Discuss how we accounted for the new risers and the removal of marine growth before we actually calculated loading—need to provide the backup on the analysis so that they can evaluate if it is enough to consider for conversion.
4. Mentioned we were using the 100-year Full Population Hurricane conditions in our design level analysis.
5. Must follow 30 CFR 250.900.b(4) for a conversion application.
6. High level discussion about possibly continuing to need a ROW Grant for the natural gas transportation.
7. The CALM Buoy and PLEM falls under BSEE and an application for each pipeline/PLEM and hose to buoy needed for a ROW Grant. Should prepare a package with the information for them to process a grant for these facilities coming from the existing platform.
8. VCU burners would be reviewed by BSEE local districts
9. Analysis methodology presented during meeting is confirmed as in line with existing standards, DNV GL will continue to complete report
10. Repair method (Grouting) presented during meeting received no specific comments, ET will purse developing this repair method

ACTION ITEMS:

1. Continue to work conversion analysis and complete a package for BSEE/BOEM review prior to filing MARAD application (July 2020).

2. Prepare ROW Grant applications for pipelines from platform to CALM buoys for review and discussion with BOEM/BSEE prior to filing MARAD application (July 2020).

	Meeting Minutes BMOP Project	Date: 6/19/2020
		Page 1

Meeting Details			
Functional Team	Engineering/Environmental	**Date of Meeting**	6/19/2020
Meeting Subject	Lower Neches Wildlife Management Area Pipeline Crossing		

Attendees (* = via phone)

Name	Organization (Role)	Email Address
Mike Rezsutek	TPWD	Michael.Rezutek@tpwd.texas.gov
Dennis Gissell	TPWD	Dennis.Gissell@tpwd.texas.gov
Ted Hollingsworth	TPWD	Ted.Hollingsworth@tpwd.texas.gov
Andrew Peters	TPWD	Andrew.Peters@tpwd.texas.gov
Justin Minter	Energy Transfer	Justin.Minter@EnergyTransfer.com
Jeff Richardson	PCS	Jricharson@projectconsulting.com
Mike Aubele	EXP	Mike.Aubele@exp.com
Ryan Coleman	EXP	RCOLEMAN@MAP2LLC.COM
Allen Brooks	EXP	Allen.Brooks@exp.com

Agenda Items

Item	Agenda Item(s)	Leader	Time
1	Overview of the project	Justin Minter	10 Minutes
2	Permitting overview and schedule	Justin Minter / Mike Aubele	5 Minutes
3	Review of current pipeline route	Justin Minter	45 Minutes
4			

Action Items

Item	Action Items/Topics	Actions Assigned To	Due Date
1	BMOP to evaluate the proposed open cut portion of the route	ET/PCS	Prior to MARAD filing
2	BMOP to further develop pipeline route alternatives	ET/PCS/EXP	Prior to MARAD filing
3	Coordinate with ENTERGY over routing plans that include being adjacent to the canal	ET	Ongoing
4	Submit Section 408 review to USACE	EXP/ET	Prior to MARAD filing
5			
6			
7			

8			
9			

Meeting Notes:

Justin Minter (BMOP) provided an overview of the project and gave a google earth tour of the proposed pipeline route through two areas of the Lower Neches Wildlife Management Area (WMA), including proposed construction methods within the WMA.

TPWD stated that the project would have to be approved in accordance with Chapter 26 of the TPWD Code which includes the standards that pipeline easements must meet. In the last 10 years there has only been one pipeline project approved within the WMA that was open-cut. Historically there has not been success in pipeline ROWs returning to pre-construction conditions, the TPWD's experience is that they always leave a scar. HDD is the preferred construction method by the Commission.

The Commission will not only review alternatives through the WMA but will also review all alternatives that could be used to completely avoid crossing the WMA. Cost is not a consideration in determining a favorable alternative, it will have to be based on environmental impacts.

Justin Minter asked if TPWD knew if there was a pipeline along the ENTERGY canal. TPWD confirmed there is an abandoned and flushed pipeline there. TPWD has previously had to cut the pipeline and has identified the owner.

TPWD will expect BMOP to maintain any ROW through the WMA such that it will consist of native marsh species.

Adjacent to the ENTERGY canal there is an upland area (spoil area) with Baccharis present. It would be favorable to convert this back to marsh if the pipeline is placed there. The closer to the canal the better (i.e., converting uplands to marsh). A review to ensure that the area is not preferred by some bird species (i.e., colonies present) is warranted.

The shoreline area leading to Sabine Lake is a past restoration project conducted by TPWD.

It is believed that the ENTERGY canal is not a USACE project subject to Section 408 permitting. TBD.

TPWD suggested getting the project in front of the Commission very early, as soon as the route is frozen. Even if the USCG FEIS is developed, the Commission may still request a change if the route is not favorable.

	Meeting Minutes BMOP Project	Date: 6/25/2020
		Page 1

Meeting Details			
Functional Team	Engineering/Environmental	**Date of Meeting**	6/25/2020
Meeting Subject	National Pollutant Discharge Elimination System (NPDES) Permitting Requirements with the U.S. Environmental Protection Agency (EPA)		

Attendees (* = via phone)

Name	Organization (Role)	Email Address
Mitty Mohon	EPA	mohon.mitty@epa.gov
Guy Tidmore	EPA	tidmore.guy@epa.gov
Kayla Woods	EPA	
Isaac Chen	EPA	chen.issac@epa.gov
Justin Minter	Energy Transfer	Justin.Minter@EnergyTransfer.com
Jon Schmidt	EXP	jon.schmidt@exp.com
Mike Aubele	EXP	Mike.Aubele@exp.com
Kim Rhodes	EXP	kim.rhodes-edelstein@exp.com
Allen Brooks	EXP	allen.brooks@exp.com

Agenda Items

Item	Agenda Item(s)	Leader	Time
1	Overview of the project	Jon Schmidt	10 Minutes
2	Overview of water discharges (construction and operations)	Jon Schmidt	10 Minutes
3	Permitting needs	Jon Schmidt	10 Minutes
4			

Action Items

Item	Action Items/Topics	Actions Assigned To	Due Date
1	Provide a copy of the power point (marked BCI) and existing permit information to EPA for their review and assessment of what permits may be required	EXP	Following meeting
2	EPA to review the project material and get back to BMOP on additional EPA staff to consult with and also information on anticipated permitting required	EPA	Follow-up to occur after July 4th
9			

Meeting Notes:

Jon Schmidt representing BMOP provided an overview of the:

- Project location;
- Anticipated water discharge needs and location for construction hydrostatic test water (offshore); and
- Anticipated water discharge needs during Deepwater Port (DWP) operations.

It was noted that other DWP Applicants have provided draft NPDES permits with their MARAD Application.

EPA asked if BMOP was consulting with either the Bureau of Ocean Energy Management or Bureau of Safety and Environmental Enforcement concerning the proposed pipelines and conversion. It was confirmed that BMOP has begun coordinating with them. No applications have been filed to date.

EPA asked if anything had been submitted to the Maritime Administration yet. It was noted that the MARAD DWP Application is expected to be filed at the end of August.

A discussion was held concerning if the existing NPDES permit for the WC 509 complex could be modified for the project or if a new individual permit was required. Based on the proposed activities, it is anticipated that a new individual permit will be required. However, the EPA will review the existing permit and make a recommendation of next actions. The permit number was provided, but copies of the permit will be sent with the power point presentation for EPA to review.

The EPA questioned why permitting for operations was being addressed now instead of just construction based on the Project schedule. BMOP indicated that they assumed that both construction and operation would be covered jointly and that MARAD would want that information included in the DWP application since the EPA will be a cooperating agency.

Relative to construction discharges, the EPA is going to need to know all of the chemicals that will be used, including corrosion inhibitors. The more specific BMOP can be the better. However, if information is not known, the range of different scenarios (i.e., probable specific chemical options) should be provided. Also, based on recent evaluations, providing MSDS sheets with specifics is also very beneficial for the EPA's review.

The EPA asked if a U.S. Coast Guard approved marine sanitation system would be used for the DWP. BMOP confirmed it would be.

The meeting was concluded that BMOP should provide a copy of the project description and current WC 509 permit for the EPA to further review and determine a path forward for permitting requirements. It was confirmed that this meeting was a good first step.

ENERGY TRANSFER

PUBLIC AWARENESS CONTACT DATA FORM **I.40A**

AVAILABLE ELECTRONICALLY

Type of Contact – Check Appropriate Box

☐ Affected Public ☐ Emergency Official ☐ Excavator ☒ Public Official

Contact Information

Name:	Bimal Shrestha	Title:	Petroleum Engineer
Organization:	BSEE Pipeline Section	Phone:	504 736-2548
Address:	1201 Elmwood Park Blvd	E-mail address:	bimal.shrestha@bsee.gov
City, State, Zip:	New Orleans, LA 70123	Event Location:	
County	Jefferson	Date of Contact:	September 8, 2020

Type of Contact – Check Appropriate Box

☐ Personal Contact ☒ Phone ☐ Letter/Mail ☐ E-mail

☐ Mock Drill/Exercise ☐ Training ☐ Other _____

Comments – Summarize what was discussed

Had telephone discussion with Bimal S. on request for ET meeting this week to discuss different applications submittals including companies involved and followed up with email to him ant team with meeting details.

Action Items:

Rep: **Alex Alvarado**

Area:

ENERGY TRANSFER

PUBLIC AWARENESS CONTACT DATA FORM **I.40A**

AVAILABLE ELECTRONICALLY

Type of Contact – Check Appropriate Box

☐ Affected Public ☐ Emergency Official ☐ Excavator ☒ Public Official

Contact Information

Name:	Bimal Shrestha	Title:	Petroleum Engineer
Organization:	BSEE Pipeline Section	Phone:	504 736-2548
Address:	1201 Elmwood Park Blvd	E-mail address:	bimal.shrestha@bsee.gov
City, State, Zip:	New Orleans, LA 70123	Event Location:	
County	Jefferson	Date of Contact:	September 9, 2020

Type of Contact – Check Appropriate Box

☐ Personal Contact ☒ Phone ☐ Letter/Mail ☐ E-mail

☐ Mock Drill/Exercise ☐ Training ☐ Other _____

Comments – Summarize what was discussed

Followed up with Bimal about possibly delaying tomorrow's meeting if Steve Dessauer and Angie Gobert are not able to participate.

Action Items:

Rep: **Alex Alvarado**

Area:

ENERGY TRANSFER

PUBLIC AWARENESS CONTACT DATA FORM **I.40A**

AVAILABLE ELECTRONICALLY

Type of Contact – Check Appropriate Box

☐ Affected Public ☐ Emergency Official ☐ Excavator ☒ Public Official

Contact Information

Name:	Bimal Shrestha	Title:	Petroleum Engineer
Organization:	BSEE Pipeline Section	Phone:	504 736-2548
Address:	1201 Elmwood Park Blvd	E-mail address:	bimal.shrestha@bsee.gov
City, State, Zip:	New Orleans, LA 70123	Event Location:	
County	Jefferson	Date of Contact:	September 10, 2020

Type of Contact – Check Appropriate Box

☐ Personal Contact ☒ Phone ☐ Letter/Mail ☐ E-mail

☐ Mock Drill/Exercise ☐ Training ☐ Other _____

Comments – Summarize what was discussed

Called Bimal S. to follow up on Steve and Angie attending virtual meeting today, also discusses any BSEE submittals by SPOT for their DWP project. Coordinated with team on the cancelling of the meeting and information on the SPOT project

Action Items:

Rep: **Alex Alvarado**

Area:

ENERGY TRANSFER

PUBLIC AWARENESS CONTACT DATA FORM **I.40A**

AVAILABLE ELECTRONICALLY

Type of Contact – Check Appropriate Box

☐ Affected Public ☐ Emergency Official ☐ Excavator ☒ Public Official

Contact Information

Name:	Angie Gobert	Title:	Chief, Pipeline Section
Organization:	BSEE Pipeline Section	Phone:	504 736-2876
Address:	1201 Elmwood Park Blvd	E-mail address:	angie.gobert@bsee.gov
City, State, Zip:	New Orleans, LA 70123	Event Location:	
County	Jefferson	Date of Contact:	September 10, 2020

Type of Contact – Check Appropriate Box

☐ Personal Contact ☒ Phone ☐ Letter/Mail ☐ E-mail

☐ Mock Drill/Exercise ☐ Training ☐ Other _____

Comments – Summarize what was discussed

Had 25 minutes telephone discussion with Angie G. on requested BSEE/BOEM meeting to discuss permitting for BMOP project including ongoing discussions with BSEE HQ on agency involvement in the MARAD DWP permitting process, prepared summary of discussion and forwarded to team.

Action Items:

Rep: **Alex Alvarado**

Area:

ENERGY TRANSFER

PUBLIC AWARENESS CONTACT DATA FORM **I.40A**

AVAILABLE ELECTRONICALLY

Type of Contact – Check Appropriate Box

☐ Affected Public ☐ Emergency Official ☐ Excavator ☒ Public Official

Contact Information

Name:	Angie Gobert	Title:	Chief, Pipeline Section
Organization:	BSEE Pipeline Section	Phone:	504 736-2876
Address:	1201 Elmwood Park Blvd	E-mail address:	angie.gobert@bsee.gov
City, State, Zip:	New Orleans, LA 70123	Event Location:	
County	Jefferson	Date of Contact:	September 16, 2020

Type of Contact – Check Appropriate Box

☐ Personal Contact ☒ Phone ☐ Letter/Mail ☐ E-mail

☐ Mock Drill/Exercise ☐ Training ☐ Other _____

Comments – Summarize what was discussed

Contacted Angie G. to get update on her contacting Jarvis Abbott at HQ on ongoing discussions in agency participation in MARAD DWP permitting process and followed up with email to project team.

Action Items:

Rep: **Alex Alvarado**

Area: