ATTACHMENT B

ExxonMobil Santa Ynez Unit (SYU)

Offshore Power System
Reliability- B (OPSRB) Project

EXECUTION PLAN- PHASE 2

December 2013

Rev 1

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Section 4.0

1.0 INTRODUCTION

This document describes the activities associated with Phase 2 of the OPSRB Project and provides a general description of the approach to be used to retrieve the out-of-service power cable and install the replacement power cables at the Santa Ynez Unit facilities. The Phase 2 activities are to be conducted after the OPSRB Phase 1 minor modifications at Platform Harmony and Heritage have been essentially completed with some overlap at Platform Harmony and Heritage. Specific information on the OPSRB Phase 1 activities associated with the platform modifications was provided in a previous submittal dated December 7, 2012.

1.1 Offshore Power System Reliability- B (OPSRB) Project Overview

The overall objective of the OPSRB project is to enhance reliability of the power system distribution system to the offshore facilities at the ExxonMobil SYU facility near Santa Barbara, California. The project has been divided into the following two phases:

- Phase 1: Install, as an initial phase, minor facility modifications on Platforms Harmony (HA) and Heritage (HE) required for the submarine cable installation activities that will occur in Phase 2. In addition, replace aging high voltage switchgear and electrical components and install new electrical equipment and high voltage GIS switchgear for the replacement power cables. [See Phase 1 project description for additional details- Phase 1 is currently underway.]
- Phase 2:
    - Install installation aids on Platform Harmony, Platform Heritage, and onshore (LFC) needed for the Phase 2 activities;
    - Conduct nearshore soil sampling and pre and post Phase 2 marine surveys;
    - Mobilize dive support vessels in the near shore and mobilize cable installation vessel (CIV) and support vessels, as required;
    - Retrieve Out-of-Service Submarine Cable Segments: Retrieve C1 and A (or B) cable segments in State Waters and C1 and A (or B) cable segments adjacent to platforms using the cable installation vessel (CIV) to allow reuse of existing platform risers and routes; [The decision on which of the two cables, Cable A or B, to replace will be made based on a detailed analysis of the condition of each cable prior to installation. Currently documents depict Cable A as being replaced]
    - Install Replacement Submarine Power Cables: Install Cables A2 (or B2) and F2 from Platform Harmony to onshore (LFC) and Cable G2 between Platform Harmony and Platform Heritage; Utilize proposed or alternative routes;
    - Demobilize dive support vessels in the near shore and demobilize cable installation vessel (CIV) and support vessels, as required;
    - Complete splicing of replacement cables to existing cables on platforms and

at LFC;

- Conduct testing of circuits and energize systems.

In order to provide information to allow the reviewing regulatory agency to complete an analysis of the Phase 2 activities, ExxonMobil has included with this submittal a number of supporting documents that describe the entire project and the associated environmental impacts.

The proposed execution approach for the OPSRB Project is very similar to the OPSR-A project successfully completed in 2003. The main differences between the two projects is that the OPSRB project will replace two cables instead of one, reconfigure one circuit into two and also requires minor structural and facility modifications on Platform Harmony prior to cable installation.

1.2 Summary of Phase 2 Activities

The activities associated with the OPSRB Phase 2 work at SYU include both onshore activities and offshore activities. The onshore activities will occur at the ExxonMobil Las Flores Canyon (LFC) facilities, the tunnel under Highway 101 and the railroad, and the buried conduits connecting the tunnel to offshore. The offshore activities will occur from the nearshore area at the cable conduit terminus to Platforms Harmony (HA) and from Platform Harmony to Platform Heritage (HE).

The existing Cable C1 will be replaced with two replacement cables. Cable F2 will be routed from Platform Harmony to LFC and Cable G2 will be routed from Platform Harmony to Platform Heritage. In State Waters, Cable F2 will be located within the existing State Lands Lease. In the OCS, both Cable F2 and G2 will be located within the previously surveyed and cleared areas using either the proposed or alternative routes. Existing Cable A (or B) will be replaced with the Cable A2 (or B2) from Platform Harmony to LFC. In State Waters, Cable A2 (or B2) will be located within the existing State Lands Lease. In the OCS, the cables will be located in the same general area and within the previously surveyed and cleared routes. Several contingency scenarios have been included in the OPSRB Execution Plan- Phase 2 in case one of the existing out-of-service power cables cannot be removed from or a replacement cable cannot be installed in a conduit or platform riser. These contingency measures involve laying the cable that cannot be installed on the ocean floor parallel to the installed cable until an acceptable plan can be implemented. As indicated, the decision on which of the two cables, Cable A or B, to replace will be made based on a detailed analysis of the condition of each cable prior to installation. Currently documents depict Cable A as being replaced.

1.2.1 Phase 2 Operations Areas

The major activities associated with Phase 2 involve the retrieval of the onshore and State Waters segments of the out-of-service cables and the installation of the replacement submarine power cables (each with three phase/three conductors and fiber

core configuration) within the power supply system using a dynamic positioning (DP) cable installation vessel (CIV) in the following six separate areas over a several month period:

- LFC Onshore: Surveying, staging of equipment, excavation and trenching, retrieval and installation of submarine power cables, removal of existing splices, completion of new splices from existing land-based cables to replacement submarine cable in LFC, and routing of fiber optic cable to upper LFC facilities through new and existing conduits; Isolation and de-isolation of cables at the Offshore Sub-Station (OSS) and protective circuitry calibration at the OSS control room. Backfilling and grading of excavated areas and equipment removal.
- Tunnel: Preparing tunnel for submarine power cable retrieval and installation. Retrieval and installation of submarine power cables in tunnel with minor support operations at bike path in El Capitan State Beach; Removal of existing Cable A splice in tunnel. Equipment removal.
- Nearshore Area: Nearshore soil sampling and pre- and post-installation marine biological surveys; Mobilization of diving support vessels. Retrieval and installation of submarine power cables in existing conduits and at POPCO crossing; Demobilization of survey and diving support vessels.
- State Lands Lease: Mobilizing CIV and support vessels. Retrieval and installation of submarine power cables within State Lands Lease from conduit terminus to State/Federal Boundary; Demobilizing CIV and support vessels.
- OCS Corridor: Retrieval of out-of-service cables in platform risers and adjacent to platforms; Installation of replacement submarine power cable in previously surveyed and cleared routes from State/Federal Boundary to Platform Harmony and from Platform Harmony to Platform Heritage.
- HA and HE Platforms: Installation of replacement submarine power cables to platform topsides through existing J-Tube, Long I-Tube or curved conductor risers; Completion of splices to platform power cables; Interconnection of cables to GIS equipment; Testing and energization of cables to and from GIS; Disconnection of existing HA switchgear from service and preservation.

1.2.2 Phase 2 Sequence of Execution and Shutdown Summary

As part of the installation and integration of the replacement power cables into the SYU facilities, there will be a sequences of planned platform electrical and production shutdowns as summarized below. (Proposed sequence of operation based on preliminary design and engineering; sequence and could change based on further study or forced to change by subsequent failure of existing cables.)

- Transfer field load to Cables A and B; De-energize Cable C1; Clear conduit terminus and POPCO crossing of sediment around Cable C1 (option of before or during shutdown), Cut Cable C1 offshore; De-energize Cables A and B; Cut Cable C1 onshore and remove Cable C1 from tunnel; Transfer HO load from Cable D to

Cable D1; (HO, HA & HE shutdown required);

- De-energize Cables A and B; Install Cable F2 from nearshore through tunnel to LFC; (HO, HA & HE shutdown required);
- Splice Cable F2 to Platform Cable and LFC Land Cable; Test Cable F2; Accept and energize Cable F2; De-energize Cable F2; Align switchgear for Cable F2 to supply power to Cable D1; (HO shutdown); Remove Cable C1 from HE; Install Cable G2 from HA to HE; Splice Cable G2 to Platform Cables on HA and HE; Test Cable G2; Accept and energize Cable G2;
- De-energize Cable A; Clear conduit terminus and POPCO crossing of sediment above Cable A (option of before or during shutdown); Cut Cable A offshore; De-energize Cables B and F2; Cut Cable A onshore and remove Cable A from tunnel; (HO, HA & HE shutdown required);
- De-energize Cables B and F2; Install Cable A2 from nearshore through tunnel to LFC; (HO, HA & HE shutdown required);
- Splice Cable A2 to Platform Cable and LFC Land Cable; Test Cable A2; Accept and energize Cable A2; De-energize Cables A2 and F2; Align switchgear; (HO & HA shutdown required);
- Load balance distribution system from OSS to platforms and place in operational configuration.

All marine cable retrieval and installation activities will be conducted using a dynamic positioning (DP) cable installation vessel (CIV) that does not require the use of anchors. A CIV support tug could be required during certain field operations. The CIV support tug may utilize the boat buoy near HA when on standby in the field or leave the area. One or more dive support vessels with temporary anchors will be required in the nearshore area to support cable retrieval and installation operations. In addition, several small motor craft (skiffs) will be used to support cable activities in the nearshore area. The sequence of retrieval of the out-of-service cables and installation of the replacement cables may be changed depending on the preferred sequence of operations determined during final construction planning.

In addition to the surveys conducted as part of the Pre-Project Surveys (reference Attachment A- OPSRB Project Description), three additional surveys will be executed pre- and post- cable retrieval and installation. The first survey will be a Pre-Installation Soil Sampling Survey of the soil at the nearshore conduit terminus and at the POPCO crossing utilizing the procedures contained in the Sampling and Analysis Plan. The second survey will be a Pre-Installation Marine Biological Survey, similar to the one executed in 2011, which will be conducted with divers a few months before the start of the Phase 2 submarine cable retrieval/installation operations to define initial environmental conditions. The third survey will be a Post-Installation Marine Biological Survey that will be conducted with divers soon after the completion of the Phase 2 submarine cable installation operations to define any project-related environmental impacts. Certain

identified impacts to marine plant life determined by the marine biological survey could require restoration in the nearshore areas to comply with permit requirements.

2.0 ENVIRONMENTAL CONSIDERATIONS

This Phase 2 Execution Plan has been developed to minimize impact to the environment to the extent feasible throughout the various work activities. Items considered and addressed as part of this plan are included in the OPSRB Environmental Impact Analysis- Attachment E, which includes a review of the entire OPSRB Project and contains proposed mitigation measures to further reduce impacts.

3.0 PHASE 2 GENERAL EXECUTION OPERATIONS

Phase 2 execution activities include work required to be completed during the various stages of the project and include off-site fabrication, pre-mobilization, several mobilizations, onshore and offshore pre-installation work, onshore and offshore execution, and several demobilizations.

3.1 Off-Site Fabrication

All fabrication of submarine power cables and associated components will be performed in accordance with applicable ExxonMobil Construction Specifications and applicable Industry Standards. The power cables will be manufactured in Europe. To the extent possible, associated components will be fabricated at off-site locations.

3.2 Pre-Mobilization Activities

The pre-mobilization tasks will be comprised of the development of various engineering and operational plans and procedures, agency notifications, equipment and materials procurement and fabrication, and component testing. Engineering tasks will include structural, mechanical, instrumentation and electrical reviews. Procurement and fabrication reviews and inspections will be conducted as required.

As part of the pre-mobilization tasks, ExxonMobil will complete all required agency notifications and submittals as required by the project permits and approvals.

3.3 Mobilization of Marine Vessels

A number of mobilizations of marine vessel will occur throughout the OPSRB Phase 2 activities.

3.3.1 Mobilizations Using SYU DPV Crew and Supply Boats

Mobilizations of equipment and components to the Harmony and Heritage Platforms will

occur from Port Hueneme using regularly scheduled SYU DPV supply boat and will occur throughout the OPSRB Phase 2 activities. Personnel required for the Phase 2 work will be transported to and from the platforms or the CIV from Ellwood Pier using regularly scheduled SYU DPV crew boats. The existing Harmony and Heritage Platform cranes will be used to transfer all equipment and installation components to and from the SYU supply boats that service the platform.

3.3.2 Mobilizations for Soil Sampling and Marine Biological Diving Surveys

Mobilizations of a vessel and required equipment and components to conduct the OPSRB Phase 2 nearshore soil sample survey and marine biological surveys (one survey prior to cable installation and one survey after cable installation) is expected to occur from a local marina or port. It is not anticipated that the vessel will need to be anchored during these activities. Spot charter vessels allowed under the SYU PTOs are expected to be utilized for these activities. Personnel required for the Phase 2 work will travel to the local marina or port and return there.

Small dive survey vessels will be required in the nearshore area to conduct the soil and marine biological surveys. If vessel anchors are required, they will be located in selected locations and will be installed and retrieved vertically. The vessels will de-mobilize to a local marina or port.

3.3.3 Mobilizations to Support Construction Diving and Anchor Handling Activities

Mobilizations of vessels and required equipment and components to support construction diving and anchor handling in the nearshore and POPCO crossing areas is expected to occur from a local marina or port during specific scheduled times throughout the OPSRB Phase 2 activities. Spot charter vessels, allowed under the SYU PTOs, are expected to be utilized for these activities. Personnel required for the Phase 2 work will travel to the local marina or port and return there.

One or more dive support vessel will be required to anchor in the nearshore area to support the retrieval and installation of the Phase 2 cables. Anchors for dive support vessel are planned to be installed and removed approximately two times at the POPCO crossing location and one to two times at the conduit terminus location. At the conduit terminus, the project anticipated being able to leave the anchors with surface buoys (navigational aids attached) in place for the duration of the nearshore activities. The vessel anchors will be located in pre-surveyed locations and will be installed and retrieved vertically by an anchor handling vessels where required. Each anchor line will be connected to a floating buoy with a line to the vessel.

De-Mobilizations of vessel and required equipment and components supporting construction diving and anchor handling is expected to occur at a local marina or port. Personnel required for the Phase 2 work will debark at either the port or another designated location.

3.3.4 Mobilization of Cable Installation Vessel

The cable installation vessel (CIV) will be mobilized to Port Hueneme towed by a sea-going tug from Europe. The vessel will contain the fabricated cables from the manufacturing site. The CIV is expected to remain in port for several days to complete the following activities: mobilize ROVs, load equipment that has been staged at the ExxonMobil warehouse, off load spare cable reels, bunker CARB low sulfur diesel fuel, complete regulatory and safety inspections, complete regulatory and safety training, conduct any agency inspections, transfer required personnel and complete other activities. If required, a local support tug will be mobilized to Port Hueneme and utilized to transit the CIV to the work area.

After installation of Cables F2 and G2, the CIV is expected to return to Port Hueneme to offload the retrieved C1 cable over a several day period. The vessel may also take on supplies and transfer personnel.

After Cable F2 acceptance, the CIV is expected to return to the work area to complete the remaining scope. If required, a local support tug will be mobilized to Port Hueneme and utilized to transit the CIV to the work area.

The cable installation vessel (CIV) and support tug, if required, will be de-mobilized to Port Hueneme after completion of the work scope and will contain any extra replacement cables and remaining retrieved out-of-service cables. The vessel is expected to remain in port for several days to complete the following activities: de-mobilize ROVs, off-load equipment to be staged at the ExxonMobil warehouse, off-load spare cable, off-load equipment, off-load retrieved cable, and, transfer required personnel and other activities.

3.3.5 Nearshore Kelp Cutting

A commercial kelp cutting vessel is anticipated to be used to cut off the tops of the kelp in the nearshore area in the vicinity of the conduit terminus. The removal is required to prevent damage to vessel propellers from entanglement in kelp during cable retrieval and installation activities. The vessel will mobilize and demobilize from a local port.

3.4 CIV Pre-Execution Sea Trials

The cable installation vessel (CIV) and support tug, if required, will conduct pre-execution sea trials to confirm DP operation, ROV operation, survey equipment, mechanical response and operational response prior to commencing work. These trials will be conducted outside of Port Hueneme prior to entering Santa Barbara County Waters. If any problems are encountered, the vessel may be required to return to port to complete repairs prior to proceeding to the work site.

3.5 Coordination with Platform Production and Drilling Operations

The ExxonMobil PIC on the cable installation vessel (CIV) will work with project

management and operations management to coordinate execution timing with production and drilling activities. The required full field electrical power system shutdowns during phases of work in the tunnel will require drilling to reach safe stopping points in any well or work over where all of drilling power can be shutdown.

3.6 Onshore Pre-Execution

Pre-execution activities at LFC will include installation and staging of components required for the cable retrieval and installation activities and cable splicing. These items are expected to include the following: pulling winch, rigging, installation aids, miscellaneous structural members, excavation equipment, temporary offices and storage containers, temporary electrical service, tunnel dewatering equipment, conduit cleaning equipment, gauging components, video equipment, flushing equipment, safety equipment, temporary lighting, splicing equipment, excavation machinery, and other required components. In addition, the project may decide to remove the fire-proofing material from the cables to be retrieved from the tunnel to facilitate their removal. The removed material will be disposed of in accordance with LFC waste management procedures.

3.7 Offshore Pre-Execution

Pre-execution activities at Harmony and Heritage Platforms will include installation of winches, rigging, installation aids, miscellaneous structural members, scaffolding, storage containers, splicing equipment, test equipment, and other required components. The existing Harmony and Heritage Platform cranes will be used to transfer all equipment and installation components to and from the SYU supply boats that service the platform.

3.8 Onshore Execution

Onshore execution will be conducted in accordance with the applicable ExxonMobil Construction Specifications and applicable Industry Standards. Work will involve excavation and trenching to expose the out-of-service cables, placement of the winch and installation aids, retrieval and installation of cables, removal of existing splices and splicing of the installed replacement cables at LFC. Also, testing and energization of the installed replacement cables will take place. Following the completion of installation and testing of the replacement cables, a suitable fire-proofing material will be sprayed on the cables in the tunnel.

The work associated with the excavation and trenching will generally be conducted during daytime shifts (12-14 hours/day). Work associated with the retrieval and installation of the cables as well as the splicing is expected to be conducted on a 24-hour per day basis.

3.9 Offshore Execution

Offshore execution will be conducted in accordance with the applicable ExxonMobil

Construction Specifications and applicable Industry Standards. Work will involve the retrieval of cable from the ocean bottom and platform risers, removal of existing platform splices, installation of cable on the ocean bottom and in platform risers, installation of cable to cable crossing components, installation of sand bags near Harmony for cable positioning, if required, and splicing of the installed cables on the platforms. Also, testing and energization of the installed cables will take place. The work associated with the retrieval and installation of the cables as well as the splicing will be conducted on a 24-hour per day basis.

3.10 Demobilization of Marine Vessels, Equipment and Personnel

Several demobilizations of equipment and personnel from LFC as well as the Harmony and Heritage Platforms could occur throughout the OPSRB Phase 2 activities.

3.10.1 Demobilizations of SYU Spot Charter Vessels Supporting Construction Diving and Anchor Handling Activities

De-mobilizations of vessel and required equipment and components supporting construction diving and anchor handling is expected to occur to Port Hueneme throughout the OPSRB Phase 2 activities. Personnel required for the Phase 2 work will disembark either at the port or another designated location, transit to the work site, conduct work associated with the construction sequence and return to Port Hueneme or another designated location.

3.10.2 Demobilizations of Cable Installation Vessel

The cable installation vessel (CIV) and support tug, if required, will be de-mobilized to Port Hueneme containing extra replacement cables and remaining retrieved out-of-service cables. The vessel is expected to remain in port for several days to complete the following activities: de-mobilize ROVs, off-load equipment to be staged at the ExxonMobil warehouse, off-load spare cable, off-load equipment, off-load retrieved cable, and, transfer required personnel and other activities. The vessel may also bunker low sulfur diesel, if required.

3.10.3 Demobilizations of Platform Installation Aids

The cable installation aids on the platforms including winches, rigging, installation aids, miscellaneous structural members, scaffolding, storage containers, splicing equipment, test equipment, and other required components. Any damage to platform coating systems will be repaired.

3.10.4 Demobilizations of Onshore Installation Aids

The following equipment will be demobilized: cable installation aids onshore including pulling winch, rigging, installation aids, miscellaneous structural members, excavation equipment, temporary offices and storage containers, temporary electrical service, tunnel dewatering equipment, conduit cleaning, gauging, video and flushing equipment, safety

equipment, temporary lighting, splicing equipment, excavation machinery, transportation, and other required components. The trench will be backfilled and returned to original grade. Cable markers will be installed.

4.0 PROJECT IMPLEMENTATION

The project consists of four distinct execution phases. The phases are cable dependent and are executed in required sequences until the entire scope of the project is complete. The first distinct execution phase involves the retrieval of the existing out-of-service cables (Cable A (or B) and C1) to clear the existing conduits, tunnels, J-Tubes and installation paths. The next distinct execution phase involves the installation of the replacement cables (Cables A2 (or B2), F2 and G2) in new I-Tubes or curved conductors and existing conduit, J-Tubes and installation paths. The third execution phase involves the potential implementation of cable execution contingencies (CEC) for the following situations:

- Inability to remove one of the existing out-of-service power cables from a conduit or platform riser
- Inability to install a replacement cable in a conduit or platform riser
- Alternative routes for installing Cables F2 and G2

The fourth execution phase involves the testing and startup and operation of the installed replacement cable systems.

The Phase 2 execution activities will begin after all permits and approvals have been received from the appropriate agencies. At that time, the selected installation contractor (Prysmian Group) will begin mobilizing the necessary personnel and equipment items required for the project including the cable installation vessel. The cable installation vessel (Cable Enterprise) is in the process of being modified for the project's specific execution requirements.

The anticipated sequence of execution of the Phase 2 activities is summarized in Section 1.2.2. The actual sequence could change depending on the results of further analysis during detailed planning.

A number of figures are attached to this document (reference Figures 4.0-1 through 4.0-17) to help describe each of the project phases. These figures are organized by phase to correspond to the written information.

4.1 Retrieval of Out-of-Service Cables

The cable retrieval phase of the OPSRB project includes the retrieval of the out-of-service submarine power Cables A (or B) and C1 from LFC, the tunnel under the highway and railroad, the buried conduits connecting the tunnel to offshore, and State Waters using a DP cable installation vessel (CIV) offshore and a support winch onshore. In addition, the

Cable A (or B) and C1 segments adjacent to the platforms and in the platform J-Tubes will also be retrieved to facilitate reuse of existing platform risers and routes using a DP cable installation vessel (CIV) offshore and a support winch on the platforms. There is a possibility that the Cable A (or B) segment from the State/Federal Boundary to the Harmony Platform will also be retrieved to allow adequate room for installation of the replacement cable. If Cable A (or B) is retrieved in OCS from State/Federal Boundary to Platform Harmony, it will be handled in the same manner as the retrieval of the cables in State Waters. The retrieval of the additional cable length will result in local suspension of sediment during the process. In this situation, the cable will be retrieved to the base of the platform and from the platform J-Tube during the retrieval operations. With this approach, there will be no excavation or cutting of the cable at the State/Federal Boundary or adjacent to the platform and therefore no concrete mats will be installed.

At this time it is anticipated that 12-18 miles of out-of-service cable will be retrieved from LFC, tunnel and conduits, ocean bottom and platform risers. The retrieved cables will be cut on the ocean bottom, where required, pulled onto the CIV, scrapped and washed to remove sediment and marine growth and stored on the vessel. The remaining sections of the out-of-service cables will either be already on the ocean bottom or cut on vessel deck and laid on the ocean bottom and then will have concrete mats placed on the cut ends to hold them in place. When the CIV returns to port, the out-of-service cables will be removed from the vessel, cut into manageable sections, placed in trucks and transported to a local recycle facility where the cable will be recycled to the extent feasible.

4.1.1 LFC

At LFC, the retrieval of each out-of-service submarine power cable (A (or B) and C1) will involve setting temporary aids, and excavating and trenching to uncover the cables from the north side of the tunnel to past the splice locations in the fill area at the southern end of LFC. A winch will be installed north of the excavated area to facilitate removal of the out-of-service cables and install the replacement cables. Excavation will be required for the winch hold down assembly. The assembly will be buried prior to cable handling activities and removed during demobilization. The submarine power cables within the tunnel will be de-energized during retrieval and installation activities. The cable will be cut as required to facilitate removal of several sections. Portions of the excavated cable and the splice section will be cut out and removed to allow for the splicing of the replacement offshore submarine cable to the existing land-based cable. A pull line will be attached from the winch in LFC to a pulling head on the cut end of the cable at LFC to help control the removal operations and allow it to be reversed in case it gets stuck during recovery offshore to the CIV. The winch in LFC will pay out a pull line that will be left in the tunnel and conduit during the cable removal operations to facilitate the remaining installation operations. The exact sequence of operations will be determined in detailed design.

Submarine cable segments land-side of the tunnel bulkhead will either be cut into manageable sections, placed in trucks and transported to a local recycle facility or left

intact and removed with the tunnel cable by the CIV.

4.1.2 Tunnel

Access to the man ways at both the LFC and El Capitan State Beach ends of the tunnel will be required. Any fresh water that has collected in south end of tunnel from natural seepage will be removed using the accepted approach (pump water to ditch adjacent to LFC tunnel entrance). Equipment will be brought into the tunnel and will be installed to facilitate cable removal, conduit cleaning, conduit gauging, conduit flushing and video of operations. Safety, ventilation and other equipment will be required to support the crews doing the work. Submarine cables in the tunnel will be placed on rollers and aids to facilitate removal. The concrete bulk head could require modification for cable removal and/or installation. For Cable A, the existing splice in the tunnel (from original installation) will be first cut out and removed. The location of the splice in the tunnel could require a larger segment of Cable A to be removed to the LFC side of the tunnel. The exact sequence of operations will be determined in detailed design.

4.1.3 Conduits

At the conduit terminus, a mooring vessel will install dive vessel anchors in pre-surveyed locations prior to initial activities. Instead of removing and re-installing the anchors for each cable movement, the project anticipates being able to leave the anchors with surface buoys (navigation aids attached) in place for the nearshore activities. At the nearshore terminus of the cable conduits, divers will clear any sediment cover. The conduit opening and an area around the opening will be exposed by divers using hand held water jets and eductors to sidecast the marine sediment into an existing sand channel adjacent to the POPCO gas pipeline. In addition, if the cables are to be cut at the conduit terminus, approximately 40-50 feet of cable south of the conduits will be exposed by divers. The sediment removal activities could be conducted on both Cables C1 and A at the same time or individually. In addition, divers are anticipated to be required to support conduit cleaning activities including use of scraping pigs, gauging pigs, video cameras, fresh water flushing equipment and other inspection devices and equipment. These activities are being planned due to the age of the existing conduits. Depending on the results of detailed design procedures, the conduit terminus sediment removal activities could be conducted either several weeks before the start of cable retrieval activities or immediately prior to each cable retrieval. If the activities occur immediately prior to each cable retrieval, then there may be a requirement for two dive vessels to be in the field at the same time (conduit terminus and POPCO crossing).

In order to retrieve the ocean side of the out-of-service cable, two options are being considered in detailed design: cut cable approximately 40-50 feet south of the conduit terminus or adjacent to the POPCO crossing. For the option of cutting the cable south of the conduit terminus, divers will attach cable grips to both sides of the proposed cable cut position with a pull line to surface or subsurface buoys. Divers or an ROV will attach the cutting device on the cable at the designated location. The de-energized submarine cable will be cut either by divers or remotely from the dive vessel. After cutting the cable,

the CIV will pick up the buoy connected to the designated cable grip assembly. Based on detailed design procedures, equipment on the CIV will then either first remove the cable from LFC, the tunnel and conduit with support from the LFC winch and then return to the area to retrieve the cable from the nearshore to the State/Federal Boundary or vice versa. During cable removal from the conduit, a pull line will remain at the end of cable removal and cleaning operations to facilitate installation of the replacement cables. The recovered cable will be scrapped and washed to remove excess sediment and marine growth and stored onboard the vessel for future recycling.

After the cable is removed from the tunnel and each conduit, the cable path through the tunnel and conduit will be prepared for installation of the replacement cables. The conduits may have been gauged during cable removal by a proofing pig. Further cleaning of the conduit could require fresh water flushes and possibly pulling other types of pigs through the conduit to remove any sand or other debris that could inhibit the cable installation. Other types of pigs or cleaning devices could be pulled through the conduit to verify diameter and a video camera could be pulled through to inspect the conduit. These maintenance operations may need to be performed on the conduit to facilitate its reuse. These operations are required to verify that each conduit is ready for the new installation.

Once the path is cleared, the pull line will be secured through the tunnel, the conduit and to the conduit terminus offshore. The conduit end will be temporarily plugged to prevent any material from entering the opening. The plug will facilitate pull wire rope retrieval when installation operations commence.

4.1.4 POPCO Crossing Area

At the POPCO crossing, a mooring vessel will install dive vessel anchors in pre-surveyed locations prior to initial activities and remove them after completion of activities. Prior to removing the out-of-service cable at the POPCO crossing, divers will expose the concrete mats that were placed over the installed cables as well as approximately 10 feet of the cables to be retrieved on either side of the mats using hand held water jets and eductors to sidecast the marine sediment downslope and away from sensitive habitat. If the cables are to be cut at the POPCO crossing, an additional 40-50 feet of cable will be exposed by divers on the side to be cut. The sediment removal activities could be conducted on both Cables C1 and A at the same time or individually. Depending on the results of detailed design procedures, the POPCO crossing sediment removal activities could be conducted either several weeks before the start of cable retrieval activities or immediately prior to each cable retrieval. If the activities occur immediately prior to each cable retrieval, then there may be a requirement for two dive vessels to be in the field at the same time (conduit terminus and POPCO crossing).

At the POPCO crossing, two alternative approaches are being considered for removing the concrete blocks over the out-of-service cables. In the first approach, divers would remove the concrete blocks in the mats above the cables to be retrieved (A (or B) and C1).

The blocks would be moved to a temporary storage location until the replacement cables are installed. In the second approach, divers would remove the concrete blocks above the cables to be retrieved as in the first approach, but would place the blocks in a basket or sling which would be hoisted up to the dive vessel for disposal onshore.

After removal of the out-of-service cables, divers or an ROV will inspect the area and prepare it for the installation of the replacement cables, as required.

In order to retrieve the ocean side of the out-of-service cable, two options are being considered in detailed design: cut cable approximately 40-50 feet south of the conduit terminus or adjacent to the POPCO crossing. For the option of cutting the cable adjacent to the POPCO crossing, divers will attach cable grips to both sides of the proposed cable cut position with a pull line to surface or subsurface buoys. Divers or an ROV will attach the cutting device on the cable at the designated location. The de-energized submarine cable will be cut either by divers or remotely from the dive vessel. After cutting the cable, the CIV will pick up the buoy connected to the cable grip assembly. Based on detailed design procedures, equipment on the CIV will then either first remove the cable from LFC, the tunnel, conduit and nearshore area with support from the LFC winch and then return to the area to retrieve the cable from the nearshore to the State/Federal Boundary or vice versa.

4.1.5 State Lands Area

In order to retrieve the offshore side of the out-of-service cable, the CIV will pick up the buoy connected to the cable grip assembly on the cut end of the cable. Equipment on the vessel will then retrieve the cable from the nearshore location to just beyond the State/Federal boundary. The recovered cable will be scrapped and washed to remove excess sediment and marine growth and stored onboard the vessel for future recycling. Just south of the State/Federal boundary, the cable will be cut and capped and then placed on the ocean bottom. The ROV will document the location of the cable on the ocean bottom. Before completing offshore operations, the CIV with support from the ROV will install a concrete mat over the cut end of the out-of-service cable on the ocean bottom to hold it in place.

4.1.6 Platform Risers

At the Harmony and Heritage Platforms, each of the out-of-service submarine power cables (A (or B) at HA and C1 at HE) will be removed from their J-Tube as well as some distance adjacent to the platform. On each platform a winch will be installed to help control the pull and allow for the cable to be reversed in case it gets stuck at some point. Winch, cable rollers, quadrant blocks and other cable removal equipment will be preinstalled on the platform. Installation of this equipment will require temporary welding to structural members for attachment points. The temporary removal of some decking may be required to allow equipment to be positioned.

The ROV from the CIV will locate the cable on the sea floor at a specified distance from

the platform and document the location. The ROV will utilize a water jet or other similar device to uncover the cable at the cut point to allow access for the cutting tool. The ROV will confirm the correct cable by visual and tone identification. The ROV will activate the cutting tool to cut the cable. After the ROV cuts the cable on the sea floor, it will attach a recovery assembly to the J-tube side of the cable. The recovery assembly will be connected by a pull line to equipment on the CIV. In addition, the cable on the platform side will be cut and a pulling assembly will be attached to the platform cut end. The platform pulling assembly will be attached by a pull line to the platform winch. The CIV will pull the cable out of the J-tube and onto the deck where it will be scrapped and washed to remove excess marine growth and sediment and stored on the CIV turntable. The winch on the platform will pay out a line that will be left in the J-tube and external to the J-tube to facilitate the remaining installation operations. Before completing offshore operations, the CIV with support from the ROV will install a concrete mat over the cut end of the out-of-service cable on the ocean bottom to hold it in place.

After the cable is completely removed from the J-tube or during removal, the path through the J-tube will be prepared for installation of the replacement cable. The pull line will be used to pull scraping pigs, gauging pigs, and possibly video cameras and other types of pigs through the J-tube to verify size and remove any sand or other debris that could inhibit the cable installation. Any repairs or modification will be made as required. These operations are required to verify that the J-tube is ready for the new installation. Once the path is cleared, a pull line will be installed through the J-tube and connected to the platform structure. The pull line will be positioned and secured, possibly with an underwater buoy, to facilitate retrieval when pulling operations commence.

4.2 Installation of Replacement Cables

Phase 2 of the OPSRB project includes the installation of the replacement submarine power Cables F2, G2 and A2 (or B2) (each with three phase/three conductors and fiber core configuration) using a DP cable installation vessel (CIV). At this time, it is anticipated that approximately 29 miles of replacement cable will be installed from LFC to and between the platforms. Cable C1 will be replaced in two sections: Cable F2 will extend from Platform Harmony to LFC and Cable G2 will extend from Platform Harmony to Platform Heritage. In State Waters, Cable F2 will be located within the existing State Lands Lease. In the OCS, both Cable F2 and G2 will be located within the previously surveyed routes. Cable A (or B) will be replaced with Cable A2 (or B2) from Platform Harmony to LFC. In State Waters, Cable A2 (or B2) will be located within the existing State Lands Lease. In the OCS, the cable will be located in the same general area and within the previously surveyed routes. The decision on which of the two cables, Cable A or B, that will be replaced will be made based on a detailed analysis of the condition of each cable prior to start of Phase 2. Currently documents depict Cable A as being replaced.

Preparation for installation of the replacement cables will include adding temporary installation work areas and temporary installation equipment at Platforms Heritage and

Harmony, the tunnel, the area north and south of the tunnel, and at the onshore transition splice. Prior to the arrival of the cable installation vessel, cable pulling and rigging equipment will be placed on all the two platforms as well as the fill pad area directly north of the tunnel. The platforms will be prepared to allow pulling of the cable from the vessel and up to the platform. A winch, cable rollers, quadrant blocks and other cable installation equipment will be preinstalled. Installation of this equipment will require temporary welding to structural members for attachment points. The temporary removal of some decking may be required to allow equipment to be positioned.

All of the cables will be installed with a dynamic positioning (DP) cable installation vessel. This vessel will not use anchors during normal installation activities. Anchoring may be required during emergency or safety situations with the anchors placed at locations away from pipelines, power cables and sensitive habitat. An ROV from the vessel will be used during selected phases of the subsea installation to monitor the operations. On board determination of the touchdown point and the as-laid position using survey fixes will be periodically monitored by the ROV during installation.

4.2.1 Cable F2, G2 and A2 Risers at Platform Harmony

At the Harmony Platform, five risers (2 new I-Tubes, 2 new curved conductors, and one existing J-Tube) will be available for installation of submarine Cables F2, G2 and A2 (or B2). The four new risers are being prepared as part of the Phase 1 work scope and are planned to be ready for Phase 2. During final construction planning the decision will be made as to which riser to use for each submarine cable. During installation, the selected riser may be changed to one of the spare risers if difficulties arise with the use of the selected riser. At the Heritage Platform, the existing Cable C1 J-Tube will be reused for installation of submarine Cable G2.

4.2.2 Cable F2 and A2

For Cables A2 (or B2) and F2 at Platform Harmony, a gauging pig and/or other cleaning devices will be pulled through each riser to verify that there are no restrictions prior to pulling the replacement cable up the platform riser. On the platform, the selected device will be installed ahead of the platform winch wire. The platform winch wire and device will be pulled through the platform riser to the CIV by the vessel winch and inspected. During these operations, the CIV will be positioned adjacent to the platform. After these operations have been completed, the replacement cable (F2 and A2 in separate operations) will have a pulling head attached. The CIV ROV will transfer the platform winch line in the platform riser to the CIV where it will be attached to the cable pull head. The platform winch will then pull the cable up the riser as it is being released by the CIV. The cable will be secured on the platform to a cable-hanging assembly. The submarine cable will then be spliced to the topsides power cables and fiber optic cables on the platform.

The CIV will then lay the replacement submarine cable on the ocean bottom from the platform to the nearshore area in the identified route. The F2 cable, when installed in the

Long I-Tube, will include an unsupported catenary from the end of the tube to the touchdown point. Additional cable protection system components such as bend stiffeners or VIV reducers, if required, could be installed at the bottom of the riser. Maintenance of the catenary shape could require the installation of bags containing sand or other types of material at the Cable F2 catenary touchdown. Cables installed in the curved conductor or existing J-tube will be laid directly to the sea floor after exiting the bell mouths. A special protective duct technology product (URADUCT) will be applied to the replacement cable in the areas where out-of-service cables are crossed to ensure the maintenance of an appropriate separation between the cable as well as provide impact and abrasion protection. The route will include the crossing of the POPCO Gas Pipeline in approximately 75 feet of water depth. At the pipeline crossing, concrete mats were installed below the power cables to separate the pipeline from the cables and above the installed cables to hold the cables in place. Prior to installation of the replacement cables, divers will have cleared the area and removed the concrete blocks from above the out-of-service cable. The replacement cables will be laid in the same general area as the retrieved out-of-service cable utilizing the existing separation to the pipeline. As the replacement cables are being installed, divers or an ROV will verify that the cables are in the correct location.

After installation of the cables, one of two alternative approaches will be used to cover the installed cables with concrete blocks. In the first approach, divers would replace any out of position blocks and then move the blocks from the temporary storage location to above the installed cables. If any additional blocks are required to cover the openings, they would be of similar size and shape and obtained from the dive support vessel. In the second approach, the cable installation vessel (CIV) would return to the area and utilize an ROV, potentially with diver support, to replace any out of position blocks or remove them in a sling to a vessel. The CIV supported by an ROV or divers would then place an articulated concrete mat on top of the replacement cable openings. An ROV or divers will monitor the placement and verify the position of the mat.

As the vessel approaches the conduit terminus area, the length of replacement cable to traverse the distance to the LFC splice point will be measured. The cable will be cut, the end prepared and floats attached to the cable as it is reeled overboard. Divers will be utilized to remove the conduit plug, excavate any material that may have refilled the area around the conduit terminus using the same procedures as before. The divers will also help guide the cable into the conduit opening and monitor the pulling activity. The cable length will be floated on the ocean surface. Divers will attach the previously installed winch wire from the winch in LFC to the pull head at the cut end of the floating submarine cable. The winch will pull the replacement submarine cable from the CIV through the conduit and tunnel to the splice location where the splice between the land-based onshore and submarine cables will be performed. The cable is only expected to touch the sea bottom in the area immediately in front of the conduit (approximately 25-50 feet). Divers will remove the floats on the cable close to the conduit terminus and on the final straight section. Small motor craft will aid in the installation by maintaining the floating

cable in the proper orientation and collecting the removed floats. After installation, divers or an ROV will determine the installed position of the cable in the nearshore area.

At LFC, the installation of the two replacement submarine cables will involve utilizing the temporary installation aids and winches installed for the cable retrieval. Previously installed rollers and aids placed in the tunnel will facilitate installation of the cables. The LFC winch will pull the cable into the conduit and through the conduit and tunnel to just beyond the splice location in LFC. The installed cable may be washed with fresh water either in the tunnel or on the LFC pad to remove contaminants. The replacement submarine cable will then be spliced to the existing land-based cable.

A small amount of trenching in fill and native soil will be required to install a new conduit for the fiber optic cable from the replacement cable splice location to an existing pull box in the area for routing to the upper LFC facilities. Existing LFC archaeological procedures will be followed for the activities in native soil.

4.2.3 Cable G2

Submarine Cable G2 will be installed from Platform HA to Platform HE. For Cable G2 at Platform Harmony, a gauging pig and/or other cleaning devices will be pulled through each riser to verify that there are no restrictions prior to pulling the replacement cable up the platform riser. On the platform, the selected device will be installed ahead of the platform winch wire. The platform winch wire and device will be pulled through the platform riser to the CIV by the vessel winch and inspected. During these operations, the CIV will be positioned adjacent to the platform. After these operations have been completed, the replacement Cable G2 will have a pulling head attached. For the submarine cable installation, the submarine cable from the CIV will be pulled through one of the prepared risers onto the platform utilizing platform based temporary equipment. On the platform, the submarine cables will be secured and spliced to the platform-topsides power cables. The CIV will lay the replacement submarine cable on the ocean bottom from Platform Harmony to Platform Heritage in the selected route.

The G2 cable when installed in the Long I-Tube at Platform Harmony will include an unsupported catenary from the end of the tube to the touchdown. Additional cable protection system components such as bend stiffeners or VIV reducers, if required, could be installed at the bottom of the riser. Maintenance of the catenary shape could require the installation of bags containing sand or other types of material at the G2 catenary touchdown point. Cables installed in the curved conductor or existing J-tube will be laid directly to the sea floor after exiting the bell mouths.

At a crossing of an out-of-service cable, a special protective duct technology product (URADUCT) will be applied to the replacement cable in the area of the cable crossings to ensure the maintenance of an appropriate separation between the cable as well as provide impact and abrasion protection.

For Cable G2 at Platform Heritage, a gauging pig and/or other cleaning devices will be pulled through each riser to verify that there are no restrictions prior to pulling the replacement cable up the platform riser. On the platform, the selected device will be installed ahead of the platform winch wire. The platform winch wire and device will be pulled through the platform riser to the CIV by the vessel winch and inspected. During these operations, the CIV will be positioned adjacent to the platform. After these operations have been completed, the replacement Cable G2 will have a pulling head attached.

As the vessel approaches within about 1,500 ft. of Platform Heritage during the G2 replacement cable lay, the vessel will be required to unwind approximately 1,500 ft. of cable to allow access to the end of the cable. Two options are being considered in the detailed design procedures for this operation. In the first option, the unwound cable would be held by a sector in the water column and a sector on the vessel to maintain the cable above the ocean bottom. Once the cable end is identified, cut and capped with a pulling head, the pulling head would be attached to the J-Tube winch wire to prepare for pulling the cable into and up the platform J-Tube riser. In the second option, the CIV would lay approximately 1,500 of cable on the ocean bottom, offline to the south and west of the proposed route within the surveyed area. Once the cable end is identified, cut and capped with a pulling head, the pulling head would be attached to the J-Tube winch wire and the vessel will pick up the cable from the ocean bottom as it is placed in a sector to prepare for pulling the cable into and up the platform J-Tube riser. In either option, as the cable is being pulled up the riser with platform based temporary equipment, the sector will be lowered to the ocean bottom. The CIV ROV will help to remove the sector and allow the cable to lie down on the ocean bottom. The cable that is removed from the sector is anticipated to form a small omega shape on the sea floor due to the cable bight. On the platform, the submarine cables will be secured and spliced to the platform power cables.

The CIV support tug may be required to transport the CIV between ending points and starting points of each segment of the sequences within SYU, depending on current ABS regulations. When not required, the tug may standby at the boat buoy near Platform Harmony or leave the area.

4.3 Execution Contingencies

Several Cable Execution Contingencies (CEC) and installation contingency scenarios summarized below have been included in the OPSRB Project to account for situations that could arise during the work activities.

- CEC #1: Inability to remove C1 from the nearshore conduit or install F2 in the existing nearshore conduit; [Reference DWG-R-4001]
- CEC #2: Inability to remove C1 from the Heritage Platform J-tube or install G2 into the Heritage Platform J-Tube; [Reference DWG-R-4002]
- CEC #3: Inability to remove A from the nearshore conduit or install A2 in the existing nearshore conduit; [Reference DWG-R-4003]

- CEC #4: Inability to remove A from the Harmony Platform J-Tube or install A2 into the Harmony Platform J-Tube; [Reference DWG-R-4004]
- Alternative routes for installing Cables F2 and G2 in Federal Water of the OCS;

For CEC #1 and #3 scenarios, Drawing DWG-CE-4001 and 4003 (Rev 0 submittal) show an "Exist. Rock" located in approximately 105 ft. water depth either inside or east of the cable turn area. Fugro Consultants, Inc. determined that this rock feature was inadvertently left over from an earlier survey. The 2011 survey shows no rocks at this location. Several anomalies were identified (T-109 and T-110) in this area which were investigated and found to be sedimentary seafloor depressions.

4.3.1 Inability to Remove or Install Cable

The Project team has identified several scenarios where one of the existing out-of-service power cables cannot be removed from, or a replacement cable cannot be installed in, a conduit or platform riser. These are described below as CEC #1, CEC #2, CEC #3 and CEC #4. The proposed contingency measure involves laying the cable that cannot be installed in the conduit or riser on the ocean floor parallel to the installed cable that is approaching the conduit or J-tube. The cables will remain on the ocean bottom until an appropriate installation approach can be developed, reviewed and approved by the agencies and implemented. From an installation approach, utilizing one of these contingencies would not be expected to have a significant impact on the environmental analysis associated with the project. [The probability of one of these contingencies occurring is considered to be very low.]

In the nearshore area under CEC #1 and CEC #3, if one or both of the out-of-service cables (C1 or A (or B)) cannot be removed from a conduit or a replacement cable cannot be installed in the conduit, the contingency measure would be implemented. For the situation where the out-of-service cable cannot be removed from the conduit, the out-of-service cable would be cut outside the conduit terminus and retrieved as planned in State Waters to a point just south of the State/Federal boundary in OCS Waters. The contingency approach will involve installing the replacement cable from the platform to a location south of the POPCO crossing and then laying the cable in the required radius to execute a 180 degree turn. The cable would then be laid adjacent and parallel to the replacement cable along the installed route until the length required to reach the planned LFC splice location is on the ocean bottom. For the situation where one or both of the replacement cables cannot be installed in the conduit, the CIV would retrieve the cable back onto the vessel to a point south of the POPCO crossing and execute a similar procedure to lay the cable adjacent and parallel to the replacement cable along the installed route until the required length is on the ocean bottom. Reference Drawing DWG-R-4001 and 4003.

In the OCS (near Platforms Heritage and Harmony) under CEC #2 and CEC #4, a similar approach would be taken if one or more of the out-of-service cables (C1 or A) cannot be removed from a platform riser or a replacement cable cannot be installed in the riser, the

contingency measure would be implemented. For the situation where the out-of-service cable cannot be removed from the platform riser, the out-of-service cable would be cut outside the riser terminus at some distance from the platform and retrieved as planned. If no other risers are available on the platform, the contingency approach will involve installing the replacement cable up to a point a suitable distance away from the platform and then laying the cable in the required radius to execute a 180 degree turn away from the platform essentially adjacent and parallel to the replacement cable segment. The CIV would then proceed to lay the cable length required to reach the intended destination along the designated route. For the situation where one or both of the replacement cables cannot be installed in any of the platform risers, a similar approach would be followed. Reference Drawing DWG-R-4002 and 4004.

At Platform Harmony, since there are spare risers, if Cable A (or B) cannot be removed from the HA J-Tube, the replacement cable installation will continue using one of the spare risers. In a similar manner, if one of intended risers is not available, the replacement cable installation will continue using one of the other spare risers.

4.3.2 Alternative Routes

The Project Team has identified several alternative routes for the installation of Cables F2 and G2 in the OCS. The determination of which route is selected will depend on final evaluation of survey data and operational considerations. The selected route could be adjusted during detailed installation evaluations. All of the routes will be within the previously surveyed and cleared areas.

1. Installation of approximately 11.2 miles (18.0 kilometers) of replacement power Cable F2 between Platform Harmony and the southern end of the onshore Las Flores Canyon (LFC): The route through the State Lands Right of Way will remain the same. The primary route in Federal Waters is the southern route where the cable would be laid outside and south of Cable C1. The alternative northern route would involve laying the cable between Cables C1 and C in Federal Waters.
2. Installation of approximately 7.3 miles (11.7 kilometers) of replacement power Cable G2 between Platform Harmony and Platform Heritage: The primary route in the Federal Waters is the southern route where the cable would be laid outside and south of Cable C1. The alternative northern route would involve laying the cable between Cables C1 and C in Federal Waters.

4.3.3 Bags Containing Sand or Other Materials

An installation measure being considered includes the placement of bags on top of installed Cables F2 and G2 adjacent to Platform Harmony at the catenary touchdown points and at the location where the cable makes a sharp turn (F2 towards shore and G2 towards HE). The other location is on installed Cable A2 adjacent to Platform Harmony at the catenary touchdown point. The bags could be required to maintain the touchdown point. The bags are estimated to be approximately 1-ton in weight and would be lowered by either the cable installation vessel or a support vessel on top of the installed cable to

help hold the cable in place and minimize any unintended movement as the cable is being laid. The bags will be located in close proximity to the platform jacket base (expected to be less than 1000 feet).

4.4 Testing and Energization

A series of electrical test will be performed on the replacement submarine cables after installation, after splicing and prior to continuous operation. These different types of special tests are required to verify that the power cables and fiber optics members have not been damaged during installation, are acceptable for splicing, have been spliced properly, and will perform properly. Upon completion of the testing of the cables and all of the interconnecting equipment, energization preparations will begin circuit by circuit – F2, G2 and A2. Acceptance and performance in the power system of the F2 circuit is critical to the operations and will be achieved prior to removal of Cable A (or B) and installation of Cable A2 (or B2).

Existing cables will be de-energized, isolated and re-energized as part of the execution process. Existing cable will typically not be tested between de-energization and energization.

De-energization, isolation and energization plans will be reviewed and platform power distribution systems will be properly configured for load balance as required during the power system conversion. With close coordination with production operations, circuit energization and power flow monitoring will begin as the platform load increases as production is returned.

5.0 REPORTING AND PERMITS

Final reporting activities include collecting all required information and preparing and submitting the final reports required by the agencies.

ExxonMobil will work with the various contractors to identify and collect the information required for the preparation of the agency final reports. Each final report will be prepared in the format requested by the specific agency. The reports will be submitted on the schedule provided in the agency permits and approvals.

6.0 SCHEDULE

All aspects associated with the retrieval of the out-of-service cables and the installation of the replacement cables will be completed in several overlapping phases during a several month period. Preliminary engineering design has been completed and is the basis for this project execution plan. Detailed engineering is progressing. A detailed schedule of project activities will be provided to the agencies prior to the start of any work onsite.

ExxonMobil estimates that the proposed project would require approximately 15-21 months for Phase 1 and 8-12 months for Phase 2. The Phase 1 installation activities commenced in June 2013 after the Bureau of Safety and Environmental Enforcement (BSEE) approved the Phase 1 activities as minor platform modifications in May 2013. The Phase 1 activities are expected to be completed by about the 1st Quarter 2015. The Phase 2 cable retrieval and installation activities are expected to commence on or about the 4th Quarter of 2014 and be completed by about early 4rd Quarter 2015. Phase 1 and Phase 2 work will have some overlap. The offshore cable retrieval and installation portion of Phase 2 is expected to require 1-2 months and be conducted during mid to late 2015.