

CALIFORNIA COASTAL COMMISSION

45 FREMONT, SUITE 2000
 SAN FRANCISCO, CA 94105-2219
 VOICE AND TDD (415) 904-5200
 FAX (415) 904-5400

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 Commission Action/Vote:

**STAFF REPORT: COMBINED CONSISTENCY CERTIFICATION AND
 COASTAL DEVELOPMENT PERMIT APPLICATION**

CDP Application No.: E-99-011

**Consistency
 Certification No.** CC-028-00

Project Applicant: MFS Globenet Corporation/MCI WorldCom
 Network Services Inc.

Location: State and federal waters offshore of Montana de Oro State Park,
 west-southwest of the City of Los Osos, San Luis Obispo County
 (Exhibit 1).

Project Description: Bury two fiber optic cables starting at a location approximately
 2,400 feet west of the mean high tide line to the 1,000-fathom
 depth contour in federal waters.

Related Approvals: State Lands Commission. Right of Way Permit and four General
 Leases approved February 8, 2000.

California Regional Water Quality Control Board, Central Coast
 Region. Waiver of waste quality certification issued March 17,
 2000.

U.S. Army Corps of Engineers. Regional Permit No. (98-50470-
 TW).

San Luis Obispo County. Coastal Development Permit No.
 D970257 approved January 27, 2000.

Substantive File Documents: Appendix B

SYNOPSIS

MFS Globenet Corporation and MCI Worldcom Network Services Inc. (hereinafter "the applicants") propose to construct and operate two transoceanic telecommunications fiber optic cables to land at Montana de Oro State Park, west-southwest of the City of Los Osos in the County of San Luis Obispo. The two cables have the following name identifiers: Southern Cross Segment D (SC-D) and Japan-U.S. Segment 1 (JUS-1). The SC-D cable system will connect the United States with New Zealand and Australia with additional landing sites in Hawaii, Oregon, and Fiji. The JUS-1 cable system will connect the United States with Japan.

The applicants propose to bury each cable to a target depth of 1.0 meter (3.3 feet) within State waters and out to the 1,000-fathom water depth in federal waters (a distance of about 50 miles). Seaward of the 1,000 fathom depth contour, the cables will be laid on the ocean floor.

The portion of the project that lies within the Coastal Commission's retained coastal permit jurisdiction, and is the subject of coastal development permit application E-99-011, is the burial of both cables from a location approximately 2,400 feet offshore of the Sandspit parking lot in Montana de Oro State Park to the territorial extent of California State waters.

The project also requires a federal permit from the United States Army Corps of Engineers ("ACOE") and therefore requires a consistency certification pursuant to Section 307(c)(3)(A) of the Coastal Zone Management Act. For the portion of the project that lies in State waters, the consistency certification is redundant; the coastal development permit serves as a consistency certification. On March 21, 2000 (as amended on March 30, 2000), the applicants submitted a consistency certification to the Coastal Commission certifying that the proposed activity complies with California's approved coastal management program ("CCMP") and will be conducted in a manner consistent with the CCMP.

This staff report is a combined coastal development permit and consistency certification.

Major Coastal Act issues associated with this project include potential impacts to marine resources and commercial fishing. Please see Table 1 for a summary of potential impacts and proposed mitigation measures. The applicants have committed in their consistency certification to implement the proposed mitigation measures (conditions of permit approval) for the portion of the cable project constructed in federal waters.

The Commission staff recommends approval of coastal development permit application E-99-011, as conditioned. The Commission staff also recommends that the Commission concur with consistency certification CC-028-00.

Table 1. Issue Summary: Potential Impacts and Proposed Conditions and Measures

Significant Issue Area	Proposed Special Conditions and Mitigation Measures
Marine Resources: Marine Mammals	<p>Issue: Whales may become entangled with project cables during feeding activities if cables are insufficiently buried or exposed on the seafloor. Abandoned trawl nets may entangle and drown marine mammals or other marine wildlife.</p> <p>Mitigation Measures:</p> <p>Special Condition 4 requires both the JUS-1 and SC-D cables to be buried to a depth of 1.0 meter except where precluded by seafloor substrates. Where a 1.0 meter burial depth cannot be achieved, the applicants shall bury the cables to the maximum depth feasible.</p> <p>Special Condition 5 requires that within 30 days of cable installation, the applicants shall submit to the Executive Director the as-built plans, including the depth of burial, of both cables. Cable locations shall be obtained by an acoustic navigation system linked to a surface differential global positioning system. The transponder for the acoustical navigational system shall be mounted on the equipment used for cable burial.</p> <p>Special Condition 6 requires that every 18 to 24 months for the life of project, the applicants shall survey those portions of the SD-C and JUS-1 cable routes from the mean high tide line to the seaward limit of the territorial waters of the State of California to verify that the cables have remained buried consistent with the as-built cable burial plan required by Special Condition 5. The survey shall be conducted with a remotely-operated vehicle ("ROV") equipped with video and still cameras and by a third party approved by the Executive Director. Within 30 days of survey completion, the applicants shall submit to the Executive Director a report describing the results of the survey. If the survey shows that a segment(s) of a cable is no longer buried consistent with the as-built cable burial plan required by Special Condition 5, the applicants shall, within 30 days of survey completion, submit to the Executive Director for approval a plan to re-bury those cable segments.</p> <p>Special Condition 7 requires that within 90 days of taking either the cable out of service or after the expiration or sooner termination of the applicants' State Lands Commission lease(s) or permit(s), the applicants shall apply for an amendment to this permit to remove the cables from the seafloor. Cable removal shall occur from the mean high tide line to the seaward limit of the territorial waters of the State of California.</p>

Significant Issue Area	Proposed Special Conditions and Mitigation Measures
Marine Resources: Marine Mammals	<p>Special Condition 9 requires that a trained marine mammal observer, to be approved by the Executive Director in consultation with the National Marine Fisheries Service, shall be on the cable lay or support vessel to monitor marine mammals that approach the project work area. In the event that, in the opinion of the observer, project operations have the potential to threaten the health or safety of marine mammals or have the potential to take, as defined by the Endangered Species Act, a marine mammal, the observer shall have the authority to terminate all project activities until the observer determines there is no longer a threat.</p> <p>Special Condition 10 requires that within 30 days of completion of cable installation activities, the applicants shall submit to the Executive Director a copy of the marine mammal monitoring report required by condition #17 of the applicants' State Lands Commission lease(s).</p> <p>Special Condition 11 requires that in the event that trawlers snag and cut their trawl gear due to entanglement with either cable, the applicants shall use all feasible measures to retrieve the trawl gear as soon possible but no later than six weeks after receiving notice of the incident. The applicants shall provide notice to the Executive Director within seven days of gear retrieval efforts.</p>
Marine Resources: Hard Bottom	<p>Issue: Because sensitive, rare, and slow-growing epifaunal species reside on rocky substrates in the project area, disturbance to these species from cable laying and repair activities can permanently destroy them.</p> <p>Mitigation Measures:</p> <p>Special Condition 12 requires that within 30 days of project completion, a video survey (displaying real-time position and water depth of the ROV) of the seafloor along the construction corridor shall be completed by a consultant approved by the Executive Director. Still-photographs of representative habitat shall be taken in any areas of high-relief rocky substrate traversed by the cables. The survey shall quantify the extent of exposed rocky substrate, including type and relief, if any, impacted by offshore operations out to the seaward limit of the territorial waters of the State of California. Within 45 days of completing the survey, the applicants shall submit to the Executive Director a written report describing the results of the survey to derive net project impacts to rocky substrate. The survey report shall identify the location and quantify the extent of any disturbance to hard bottom caused by project operations.</p> <p>Special Condition 13 states that the applicants shall compensate for all project-related impacts to hard bottom habitat through payment of a compensatory hard bottom mitigation fee to be used to construct a new artificial reef or augment an existing artificial reef in State waters within the Southern California Bight. The construction of a new artificial reef, or augmentation of an existing reef, shall be carried out pursuant to a Memorandum of Agreement by and between the California Coastal Commission, the California Department of Fish and Game and the United Anglers of Southern California (Exhibit 4).</p>

Significant Issue Area	Proposed Special Conditions and Mitigation Measures
Marine Resources: Hard Bottom	The amount of the hard bottom mitigation fee shall be calculated by multiplying the total square footage of impacted hard bottom (as determined in the survey conducted under Special Condition 12) by a compensation rate of \$7.44 per square foot. The fee shall be paid to the United Anglers of Southern California within 30 calendar days of the results of the hard bottom survey required by Special Condition 12.
Commercial Fishing	Issue: Trawlers may snag their gear on project cables that are insufficiently buried or exposed and thus experience significant economic losses from abandoned gear and lost fishing time. Mitigation Measures: The Commission is requiring Special Conditions 4, 5, 6, and 7 , as defined above under the Marine Resources issue area.

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1.0 STAFF RECOMMENDATION

1.1 Approval with Conditions

The staff recommends conditional approval of Coastal Development Permit Application No. E-99-011.

Motion:

I move that the Commission approve Coastal Development Permit Application No. E-99-011 subject to the conditions set forth in the staff recommendation.

Staff recommends a **YES** vote on the foregoing motion. Passage of this motion will result in conditional approval of the permit and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

Resolution:

The Commission hereby approves coastal development permit E-99-011 and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with the policies of Chapter 3 of the Coastal Act and will not prejudice the ability of the local government having jurisdiction over the area to prepare a Local Coastal Program conforming to the provisions of Chapter 3. Approval of the permit complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment, or 2) there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.

1.2 Concurrence

The staff recommends the Coastal Commission adopt the following resolution:

Motion:

I move that the Commission concur with consistency certification CC-028-00 that the project described therein is consistent with the enforceable policies of the California Coastal Management Program (CCMP).

Staff recommends a **YES** vote on the motion. Passage of this motion will result in a concurrence in the certification and adoption of the following resolution and findings. An affirmative vote of a majority of the Commissioners present is required to pass the motion.

Resolution:

The Commission hereby concurs in the consistency certification by MFS Globenet Corporation and MCI WorldCom Network Services Inc. on the grounds that the project described therein is consistent with the enforceable policies of the CCMP.

2.0 STANDARD CONDITIONS Appendix A.**3.0 SPECIAL CONDITIONS**

This permit is granted subject to the following special conditions:

General Conditions

1. **Scope of Project Approval.** This permit authorizes those project activities specifically described in the applicants' October 28, 1999 coastal development permit application submittals, as amended by a revised project description dated March 22, 2000, except as otherwise modified by the conditions of this permit. Any modifications of or additions to the project, as described in the referenced documentation, shall require an amendment to this permit.
2. **Indemnification.** In addition to any immunities provided for by law, in exercising this permit, the applicants agree to hold harmless and indemnify the Coastal Commission, its officers, employees, agents, successors and assigns from any claims, demands, costs, expenses and liabilities for any damage to public or private properties or personal injury that may result directly or indirectly from the project.
3. **Liability for Costs and Attorneys Fees.** The applicants shall reimburse the Coastal Commission in full for all costs and attorneys fees --- including (1) those charged by the Office of the Attorney General, and (2) any court costs and attorneys fees that the Coastal Commission may be required by a court to pay --- that the Coastal Commission incurs in connection with the defense of any action brought against the Coastal Commission, its officers, employees, agents, successors and assigns challenging the approval or issuance of this permit, the interpretation and/or enforcement of permit conditions, or any other matter related to this permit.

Mitigation Measures

4. **Cable Burial Depth.** Both the JUS-1 and SC-D cables shall be buried to a depth of 1.0 meter except where precluded by seafloor substrates. Where a 1.0 meter burial depth cannot be achieved, the applicants shall bury the cables to the maximum depth feasible.
5. **Cable Installation Documentation.** Within 30 days of cable installation, the applicants shall submit to the Executive Director of the Coastal Commission (hereinafter "Executive Director") the as-built plans, including the depth of burial, of both cables. Cable locations shall be obtained by an acoustic navigation system linked to a surface differential global

positioning system. The transponder for the acoustical navigational system shall be mounted on the equipment used for cable burial.

6. **Cable Surveying.** Every 18 to 24 months for the life of project, the applicants shall survey those portions of the SD-C and JUS-1 cable routes from the mean high tide line to the seaward limit of the territorial waters of the State of California to verify that the cables have remained buried consistent with the as-built cable burial plan required by Special Condition 5. The survey shall be conducted with a remotely-operated vehicle ("ROV") equipped with video and still cameras and by a third party approved by the Executive Director. Within 30 days of survey completion, the applicants shall submit to the Executive Director a report describing the results of the survey. If the survey shows that a segment(s) of a cable is no longer buried consistent with the as-built cable burial plan required by Special Condition 5, the applicants shall, within 30 days of survey completion, submit to the Executive Director for approval a plan to re-bury those cable segments.
7. **Cable Removal.** Within 90 days of taking either the cable out of service or after the expiration or sooner termination of the applicants' State Lands Commission lease(s) or permit(s), the applicants shall apply for an amendment to this permit to remove the cables from the seafloor. Cable removal shall occur from the mean high tide line to the seaward limit of the territorial waters of the State of California.
8. **Marine Discharge.** There shall be no marine discharge of sewage or bilge/ballast water from vessels either installing or repairing the cables.
9. **Marine Mammals.** A trained marine mammal observer, to be approved by the Executive Director in consultation with the National Marine Fisheries Service, shall be on the cable lay or support vessel to monitor marine mammals that approach the project work area. In the event that, in the opinion of the observer, project operations have the potential to threaten the health or safety of marine mammals or have the potential to take, as defined by the Endangered Species Act, a marine mammal, the observer shall have the authority to terminate all project activities until the observer determines there is no longer a threat.
10. **Marine Mammal Report.** Within 30 days of completion of cable installation activities, the applicants shall submit to the Executive Director a copy of the marine mammal monitoring report required by condition #17 of the applicants' State Lands Commission lease(s).
11. **Ghost Nets.** In the event that trawlers snag and cut their trawl gear due to entanglement with either cable, the applicants shall use all feasible measures to retrieve the trawl gear as soon possible but no later than six weeks after receiving notice of the incident. The applicants shall provide notice to the Executive Director within seven days of gear retrieval efforts.
12. **Hard Bottom Seafloor Survey.** Within 30 days of project completion, a video survey (displaying real-time position and water depth of the ROV) of the seafloor along the construction corridor shall be completed by a consultant approved by the Executive

Director. Still-photographs of representative habitat shall be taken in any areas of high-relief rocky substrate traversed by the cables. The survey shall quantify the extent of exposed rocky substrate, including type and relief, if any, impacted by offshore operations out to the seaward limit of the territorial waters of the State of California. Within 45 days of completing the survey, the applicants shall submit to the Executive Director a written report describing the results of the survey to derive net project impacts to rocky substrate. The survey report shall identify the location and quantify the extent of any disturbance to hard bottom caused by project operations.

13. **Hard Bottom Mitigation Fund.** The applicants shall compensate for all project-related impacts to hard bottom habitat through payment of a compensatory hard bottom mitigation fee to be used to construct a new artificial reef or augment an existing artificial reef in State waters within the Southern California Bight. The construction of a new artificial reef, or augmentation of an existing reef, shall be carried out pursuant to a Memorandum of Agreement by and between the California Coastal Commission, the California Department of Fish and Game and the United Anglers of Southern California (Exhibit 4).

The amount of the hard bottom mitigation fee shall be calculated by multiplying the total square footage of impacted hard bottom (as determined in the survey conducted under Special Condition 12) by a compensation rate of \$7.44 per square foot. The fee shall be paid to the United Anglers of Southern California within 30 calendar days of the results of the hard bottom survey required by Special Condition 12.

14. **Oil Spill.** Prior to issuance of this permit, the applicants shall submit for Executive Director approval a project-specific oil spill contingency plan that includes (a) an estimate of a worst case spill from project operations; (b) a list of all equipment that will be maintained on the primary work vessel that is sufficient to provide response to a worst case spill; (c) the specific designation of the onsite person who will have responsibility for implementing the plan; and (d) evidence of a contract with an oil spill response organization for on-water and shoreline protection capable of responding to a worst-case spill in the event that a spill exceeds the cleanup capability of the onsite work force. This plan shall be approved by the Executive Director prior to commencing offshore operations.

4.0 FINDINGS AND DECLARATIONS

4.1 Project Description

MFS Globenet Corporation and MCI Worldcom Network Services Inc. (hereinafter "the applicants") propose to construct and operate two transoceanic telecommunications fiber optic cables that will land at Montana de Oro State Park, west-southwest of the City of Los Osos in the County of San Luis Obispo (Exhibit 2). The cables will connect to MCI Worldcom's existing fiber optic cable terminal building located in Los Osos and then connect to existing fiber optic cable networks near the City of San Luis Obispo.

The two cables have the following name identifiers: Southern Cross Segment D (SC-D) and Japan-U.S. Segment 1 (JUS-1). The SC-D cable system will connect the United States with New

Zealand and Australia with additional landing sites in Hawaii, Oregon, and Fiji. The Southern Cross cable will be operated as a common carrier system, pursuant to a Cable Landing License (No. DA 98-272) issued by the Federal Communications Commission ("FCC"). In addition, the California Public Utilities Commission has issued a decision (No. 98-08-070) allowing the applicants to provide telecommunication services to the public within the state.

The JUS-1 cable system will connect the United States with Japan. The JUS-1 cable will be operated pursuant to a Cable Landing License (No. DA 99-167) issued by the FCC that authorizes the JUS-1 cable to be operated as a private carrier with no obligation to offer its capacity to the public.

The cables are proposed to be installed in the same general cable corridor as three existing AT&T cables (see Section 4.2 below; Exhibit 3). The applicants propose to bury both cables to a target depth of 1.0 meter (3.28 feet) from where they surface from the seafloor conduit portals to the 1,000-fathom water depth.

Five individual, 5-inch diameter, steel pipe conduits will be bored under the beach from the parking lot and terminate at seafloor portals approximately 2,400 feet west of the mean high tide line. (Drilling of the bore pipes is located within the County of San Luis Obispo's coastal permit jurisdiction.) As the cables approach the shore, they will be placed within two of the five proposed steel conduits and then continue onshore. The remaining three conduits will ultimately be sold to AT&T for other fiber optic cable systems.

The proposed project will require the use of two cable laying vessels, the *CS Seaspread* (within 12 miles of the mean high tide line), and the *CS Nexus* (from 12 miles offshore of California to Hawaii). Additional vessels and equipment that may also be required include: a tugboat, dive support vessel, a vessel to pull the cable from the boreholes to the *Seaspread*, two small support vessels, a Remotely Operated Vehicle, and a cable burial machine.

4.1.1 Fiber Optic Cable Installation Procedures

There are four phases of the cable-laying process: (1) route surveys; (2) pre-lay grapnel runs, in which the route is cleared of debris; (3) cable laying or burying; and (4) post-lay cable burial.

Route Surveys

The applicants conducted geophysical surveys and sampling of the ocean bottom in the project area in August 1999. These surveys consisted of bathymetry, side scan sonar imagery, sub-bottom acoustic profiling, core samples from the seabed, and Cone Penetration Tests, and a burial assessment survey. Based on this information, the applicants state that they selected two routes that avoid hard bottom habitat to the maximum extent feasible and that are 99% buriable.

Pre-Lay Grapnel Run

Before plow burial operations, a grapnel, fitted with one-inch wide blade that penetrates 6-12" in depth, will be used along those portions of the cable route to be buried by plow. A large tug will

be used to pull a grapnel with the ability to penetrate 0.5 meters (1.6 feet) into the seabed in order to clear the route of obstacles (*e.g.*, discarded trawl gear) not detected on sidescan imagery that the cable plow may encounter as it is being laid. This operation will require three days of work per cable for a total of six days and will take place immediately before cable installation.

Cable Laying

Cable installation will commence by the threading of the cables through the conduit portals to the onshore beach manhole. The cable ship will be positioned 100 to 300 meters seaward of the conduit portal and about one mile from shore as the landward end of the cable is floated towards the conduit portal. The ship will be equipped with an onboard dynamic positioning system, allowing it to remain stationary without the use of anchors. Before installation, divers will hand-jet a total of approximately 20-40 cubic yards of overlying sediments away from the two conduit portals¹. Next, the divers will attach the cables to a nylon pull rope or hauling wire previously installed in the conduit. An onshore winch will then pull the cables through the conduit and into the beach manhole onshore, where they will be spliced to onshore cables. This operation will take six to eight hours per cable. The total time necessary for the shore-end landing, including cable testing, will be approximately 36 hours.

Once the shore end has been landed, the vessel will commence the main cable lay. The cables will be laid on the surface of the seafloor along the prescribed routes with roughly 1% slack. Offshore operations will take place on a 24-hour basis.

Inshore at water depths of about 660 feet (200 meters), the cable will be initially laid on the seafloor. Four temporary anchors², two for each route, will be installed at an altercourse (sharp bend in the route) in the nearshore to ensure that the cables remain as they were laid. The presence of altercourses (total of 3) makes the task of installing the cables in the required degree of precision more difficult and introduces the possibility that the cables can move across the seafloor before they are buried by ROV jetting. The process will generally entail the insertion of an anchor, measuring about 17 inches by 12 inches, into soft sediments roughly 1.5 to 2 meters deep and the attachment of 115 foot straps to the anchors. After the vessel lays the cable at the altercourses, divers will attach the cable to the anchors with the straps. Articulated pipe will be installed on the cables at the altercourses to protect and stabilize the cables and to minimize movement across the seafloor.

There are two methods for burying the project cables to 1.0 meter—by plow and ROV fitted with a jetting tool. An ROV will be used where burial by plow is infeasible (*e.g.*, where sharp bends occur, in the nearshore adjacent to rocky areas, and in water depths greater than 1,200 meters).

¹ Based on benthic surveys of the project, sediment transportation will naturally cover the depression made by jetting operations near the conduit portals.

² A sediment transport study is currently being conducted in the portion of the project area where the temporary anchors will be installed. The study is scheduled for completion in October 2000. At the conclusion of the study, the applicant will remove the temporary anchors and articulated pipe if (as preliminary observations indicate) the cables are unlikely to become exposed due to movement of sediments. If the study indicates that sediment transport could unbury the cables, the applicant will pursue a permit amendment to leave the anchors in place, to remove them and replace them with concrete mattresses, or to leave them in place and add mattresses.

The cable will be buried in the nearshore to water depths of about 200 meters (660 feet) using an ROV with a jetting device. Seaward of the 200 meter water depth to a water depth of about 1,200 meters (4,000 feet), the cables will be buried using a plow. Further seaward, to water depths of about 1,800 meters (6,000 feet), the cable will be buried by a ROV equipped with a jetter. Both burial methods will attempt to achieve the target burial depth depending on the type of bottom sediments encountered. These burial techniques are described below.

Cable Burial Method-Hydroplow

The applicants propose to bury the SC-D and JUS-1 cables to a target burial depth of 1.0 meter by a cable burial machine or hydroplow (plow) from the 200 meter water depth to 1,200 meters, which is roughly 47 miles from the coastline of Montana de Oro State Park. The total distance of plow burial is estimated to be 60 kilometers (37 miles).

The plow is designed with a six-inch thin coulter wheel to cut the seafloor soil and a thin-blade plow with a small horizontal wedge at the lower end of a blade. The wedge lifts the soil while the cable is inserted under it. The soil then falls back into the trench, covering the cable. The plow rides on skis in the front and wheels on the back, preventing it from sinking into the substrate. The plow is able to confirm the depth at which the cable has been buried by acoustically or electronically measuring the length of the blade in the sediment. This method has a 1.0 to 1.5 inch measure of uncertainty.

Before being launched by the cable ship, the plow is first loaded with cable while on board and then lowered to the seafloor. Upon entry into the water, the plow tow wire is subsequently paid out as the cable ship proceeds on the cable route. As it follows the route, the ship feeds the cable to the machine as it is being buried. The plow is towed at speeds of up to one kilometer per hour, depending on the strength of the sediment. The total time estimated for cable plowing is 60 hours per cable.

Cable Burial Method-Post Lay Burial/Sediment Jetting by ROV

A free-swimming ROV will be used to bury both cables from the point where the cables exit the conduits to a water depth of 200 meters (660 feet) and from the 1,200 meter depth to 1,800 meters.

To bury cable, the ROV (with 300-400 horsepower) will utilize two water-jetting tools, which discharges seawater at a high volume and low pressure, and a depressor. The ROV straddles the cable and with the jetting tool liquefies the seabed below the cable to a depth of 1.0 meter, generally with two passes, depending on the sediment type, causing the cable to sink into the resultant trench. The depressor takes the form of an arm at the rear of the ROV that presses down the cable into the sediment that has been liquefied. Multiple passes over the cable can achieve deeper burial depths. The sediments in the trench re-consolidate or re-densify over time, depending on the nature of the material. In sandy sediments, this process occurs in a matter of several days; muddy sediments may take up to several weeks. In most cases, burial by ROV does not leave an open trench.

If necessary, ROV burial would also occur during the inspection of the entire route (to 1,000 fathoms) shortly after installation operations are concluded. The purpose of the inspection is to confirm that the cable has been properly buried by the plow. The ROV would bury the cable to the target depth of 1.0 meter as indicated above and where it is not sufficiently buried by the plow. The actual burial depth by ROV can be determined geometrically by measuring the angle of the arm relative to the vehicle. According to the applicants, this method is accurate to within two to three inches. The estimated rate at which the ROV will accomplish burial is 0.1 kilometers per hour for approximately 20 miles on each route, which would take 24 days to install both cables.

4.1.2 Cable Maintenance and Repair

The proposed project also includes repair and maintenance of damaged cable, if necessary. The applicants do not anticipate that any cable maintenance and repair will be required over the life of the project (25 years) since the cables are designed to operate maintenance-free. Nonetheless, if the cables are damaged, that portion of the cable length would be lifted from the seafloor to the surface for repair.

Based on estimates of historical submarine cable fault data on the west coast, the EIR concludes that the project cables crossing the shelf at Morro Bay would be subject to 0.22 faults in the 25 years of project life. Historically, faults most likely result from fishing or anchoring activities, normally causing the cable to be kinked or crushed, instead of completely breaking. The three existing AT&T fiber optic cables landing at Montana de Oro State Park (*i.e.*, TPC5 T1, TPC5 G, and HAW5) have been buried to a target depth of 0.6 to 1.0 meter and have not experienced any faults since they were installed between 1989 to 1993.

If a cable has become unburied due to a fault, it can normally be hooked using a grapnel. A grapnel is deployed about two water depths to one side of the cable and then pulled perpendicular toward the cable. After the cable is secured, the damaged section is cut either on the seabed with a special grapnel or raised to the surface. If the cable has remained buried or if adjacent cables are too close or near hard bottom habitat, an ROV with a jetting tool is used to unbury the cable. Once found, the damaged cable section would be cut on the seafloor and then raised to the surface by a mechanical arm on an ROV. After a series of tests and inspections, new cable is spliced to both ends and the final splice is lowered so that it lies flat on the seabed. ROV jetting will then re-bury the new cable section and any cable on the seafloor that was disturbed by repair operations to the target depth of 1.0 meter. The resultant repaired section will follow a curved path on the seafloor.

4.1.3 Cable Abandonment

The applicants estimate the operational life of each cable to be about 25 years. Upon the expiration of the applicants' State Lands Commission leases and the right of way permit or when the cables are put out of service, whichever is sooner, the applicants plan to remove both fiber optic cables and their associated conduits from the mean high tide line to a water depth of 1,000 fathoms.

Removing the cable would involve similar techniques as repair operations. Sections of the cable would be unburied, cut, lifted from the seafloor and gathered on the cable ship. Removal operations are not proposed to be approved in this application.

4.2 Prior Fiber Optic Cable Projects Approved by Coastal Commission

Three existing undersea AT&T fiber optic cables extend from a landing site at the Montana de Oro State Park Sandspit Road parking lot to Hawaii. The Coastal Commission approved the installation, operation, and maintenance of one cable and four conduits (#4-91-61)³, HAW-5, in January 1992, and the remaining two cables, TPC5-T1 and TPC5-G (#4-91-006-A1), in September 1994.

Through its federal consistency authority, the Coastal Commission has also concurred with consistency certifications, consistency determinations, and negative determinations for a number of submarine fiber optic cable-related projects by, for example, the Navy, Coast Guard, Federal Aviation Administration, and AT&T.

4.3 The Coastal Commission's Permit and Federal Consistency Jurisdiction

The Coastal Commission retains coastal permit jurisdiction over project areas on public trust lands, tidelands, and submerged lands from the mean high tide line to three nautical miles offshore. Therefore, that portion of the project that involves the burial of cable within State waters (*i.e.*, seaward of the mean high tide line to three nautical miles offshore) requires issuance of a permit from the Coastal Commission and is the subject of coastal development permit application E-99-011.

The project also requires a federal permit from the United States Army Corps of Engineers ("ACOE") and therefore requires a consistency certification pursuant to Section 307(c)(3)(A) of the Coastal Zone Management Act. For the portion of the project that lies in State waters, the consistency certification is redundant; the coastal development permit serves as a consistency certification. For the portion of the project that lies outside the coastal zone in federal waters, the applicants have submitted a consistency certification to the Coastal Commission (received March 21, 2000, and amended on March 30, 2000).

The applicants have certified that the proposed activity complies with California's approved coastal management program ("CCMP") and will be conducted in a manner consistent with the CCMP.

This staff report is a combined coastal development permit and consistency certification.

³ In exchange for the granting of cable easements through Montana de Oro State Park, AT&T agreed to construct the Sandspit Road parking lot and day use amenities. These facilities are owned and maintained by the California Department of Parks and Recreation.

4.4 Related Approvals

4.4.1 County of San Luis Obispo

On January 27, 2000, the County of San Luis Obispo certified an environmental impact report ("EIR") pursuant to the California Environmental Quality Act ("CEQA") for the proposed project. At the same time, the County of San Luis Obispo approved a coastal development permit ("CDP") (CDP D970257) for that portion of the project, including the directional boring of five conduits from the Sandspit Road Parking Lot and the onshore cable routes, that lies within the County's coastal permit jurisdiction.

4.4.2 California State Lands Commission ("SLC")

On February 8, 2000, the California State Lands Commission ("SLC") approved a permit for a Telephone Right of Way and four leases for the portion of the proposed cable project within State waters and submerged lands.

4.4.3 U.S. Army Corps of Engineers ("ACOE")

The U.S. Army Corps of Engineers ("ACOE") has regulatory authority over the proposed project under Section 10 of the Rivers and Harbors Act of 1899 (*33 U.S.C. 1344*) and Section 404 of the Clean Water Act ("CWA") (*33 U.S.C. 1344*). Section 10 of the Rivers and Harbors Act regulates the diking, filling and placement of structures in navigable waterways. Section 404 of the CWA regulates disposal of dredge and fill materials into waters of the United States. The dredging or sediment for a utility line is regulated under the Rivers and Harbors Act, and the burying of cable is regulated under the Clean Water Act.

The applicants have applied for a Nationwide Permit 12 for Utility Line Discharges.

Pursuant to Section 307(c)(3)(A) of the Coastal Zone Management Act, any applicant for a required federal permit to conduct an activity affecting any land or water use or natural resource in the coastal zone must obtain the Coastal Commission's concurrence in a certification to the permitting agency that the project will be conducted consistent with California's approved coastal management program. As discussed above in section 4.3 of this report, the applicants submitted a consistency certification on March 20, 2000 (as amended on March 30, 2000).

4.4.4 California Regional Water Quality Control Board – Central Coast Region ("RWQCB")

The California Regional Water Quality Control Board – Central Coast Region ("RWQCB") regulates waste discharges into receiving waters in the project area. The applicants applied for a water quality certification/waiver pursuant to Section 401 of the Clean Water Act on February 11, 2000. On March 17, 2000, the RWQCB issued a waiver of water quality certification based on mitigation measures in the EIR and those incorporated as part of the proposed project.

4.4.5 San Luis Obispo Air Pollution Control District ("APCD")

The San Luis Obispo Air Pollution Control District ("APCD") is the local air district responsible for implementing federal and State air quality standards in the project area. No air districts permits are required for the proposed project. However, to mitigate for exceeding the district's nitrogen oxide emission threshold, the applicants and the APCD have executed an "Emission Offset Agreement" whereby the applicants agree to offset 32.9 tons of NO_x emissions through the establishment of a Marine Diesel Engine Replacement Fund. The agreement requires the applicants to contribute \$3,500 per ton of NO_x to the fund. The monies will be used exclusively to replace or retrofit two-stroke marine diesel engines. The agreement requires the applicants to pay \$115,255 to the fund on or before July 1, 2000.

4.5 Coastal Act Issues

4.5.1 Marine Resources and Water Quality

Coastal Act Section 30230 states:

Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

Coastal Act Section 30231 states:

The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

The EIR identifies the following potential marine biological resource and water quality impacts that could be caused by project operations: (1) marine mammal entanglement, (2) disturbance of soft bottom habitats and destruction of benthic invertebrates due to cable burial activities, (3) disturbance of hard-bottom habitat and destruction of epibenthic organisms due to cable burial activities, (4) increased particulate loads may be deleterious to marine organisms, and (5) drill muds containing petroleum-based additives may be fatal to marine organisms.

4.5.1.1 Potential Whale Entanglement with Project Cables

There is the potential for some whales that migrate through coastal waters in the project area to become entangled in the project cables, especially cables that are unburied or insufficiently buried or become exposed over the life of the project. Although, to date, whale entanglement with fiber optic cables has not been reported offshore California, Heezen (1957) documents fourteen examples of sperm whale entanglements worldwide⁴. Of the whale species that are known to migrate past the project area, two species--the California gray whale (*Eschrichtius robustus*) and sperm whale (*Physeter macrocephalus*--have the potential to become entangled due to their feeding behavior of excavating bottom sediments (from 0.15-0.25 meters below the seafloor). Of these two species, the gray whale is most at risk of entanglement because it is far more common off the California coastline and more numerous (Imamura, 2000a). The majority of sperm whale sightings by Dohl et al. (1983) occurred at water depths exceeding 2000 meters. Because of their rarity within project waters, impacts to sperm whales are considered unlikely to occur (Imamura, 2000a).

Whales are protected by the Marine Mammal Protection Act of 1972. In addition, the sperm whale is federally listed as endangered species and therefore protected by the federal Endangered Species Act. Gray whales have been delisted from the federal endangered species list due to increased population numbers. Cable entanglement with other marine mammals such as pinnipeds (e.g., sea lions, harbor seals) and fissipeds (e.g., sea otters) is not expected to occur because these animals do not exhibit similar feeding behaviors in bottom sediments.

In the only study on whale entanglement, Heezen (1957) details fourteen examples of sperm whale entanglement in areas around the world. Most of the entanglements evaluated by Heezen involved cases of deep-diving, bottom-feeding sperm whales that, he postulated, became entangled "...while swimming along in search of food, with their lower jaw skimming through the upper layer of sediment. It may also be that the whales attacked the cable mistaking it for prey." The research method of the Heezen study was a search of all available cable failure records of four cable companies; the record is considered complete for those companies for the years 1930-1955. The report documented fourteen instances of whales entangled in submarine cables that led to death. All whales positively identified were sperm whales, with possible entanglements of baleen (e.g., gray) whales in shallower water, and one humpback whale reported entangled in Alaskan waters.

The scope of the Heezen study was somewhat limited by the fact that, prior to 1930, cable failure reports generally lacked detail or were incomplete. Our current knowledge of whale entanglements is further limited by the lack of any contemporary and comparable analysis of this topic since Heezen. Moreover, since many cables have been abandoned since first laid, and since the only basis for discovering entanglement --- interruptions to service -- is not possible for

⁴ At the time of the study, there were nearly a half-million miles of cable laid on the sea floor in various parts of the world (Heezen 1957). By 1928, 21 separate cables crossed the Atlantic to Canada and the United States. At present, 658,375 km of fiber optic cable is expected to be installed and operational by the year 2003 (Rampal 1998). That figure equates roughly to an additional 514,050 miles of cable in the marine environment, making a total of more than 1 million miles of cable in the marine environment, not including that which was installed between 1957 and the advent of fiber optic cable installation, and any which may have been removed since then.

abandoned cables, the present rate of whale entanglement is unknown. Based upon the limited information available, it appears that the entanglement risk posed by submarine cables is affected by these factors: oceanic depth of the cables; burial depth of the cables; presence of suspended cables over submarine trenches; and the relative tautness of unburied cables. More specifically, shallow, unburied, looped or suspended cables pose more of a hazard than deeply buried cables.

There are approximately 20,000 gray whales migrating through California waters each year. Due to their abundance off the Pacific coast, their tendency to hug the shoreline during migration, and their bottom feeding patterns, gray whales face the highest risk of entanglement with project cables that are insufficiently buried or are exposed.

While resident populations of gray whales have been reported off the northern California coast, the majority of the population off of the central California coast occurs during late fall and spring as they migrate between Alaskan waters and Baja California. The EIR reports that the majority of southbound (November to January) gray whales migrate within 2 nautical miles (nm) from shore. During the northbound migration (January to May/June), only 2 percent of whales were observed beyond 5 nm from shore. The northbound migration occurs much closer to shore with mother and calves reported within kelp beds and sometimes only yards from the shoreline.

Primarily a bottom feeder, the gray will dive from 150 to 200 meters, but prefers shallower water. The EIR states that off of British Columbia, during feeding activities, gray whales created excavations through bottom sediments ranging from 15 to 25 cm in depth. Benthic suction feeding behavior by gray whales has been widely documented (Morro Group, 2000).

However, gray whales are not known to be intense feeders during migration (Imamura, 2000a) and are not known to feed on hard bottom substrates (Morro Group, 2000). Experienced biologists who have conducted gray whale monitoring studies off central California locations report that they have never seen, nor heard of, gray whales bottom feeding during migration through this area (Dungan, 2000). While migrating, they are primarily opportunistic feeders, feeding at or near the surface on small fish or shrimp-like mysids.

While gray whales in the project area may face the highest risk of cable entanglement, they are not expected to feed in project areas during migration and thus the likelihood of entanglement is low. Nonetheless, because marine mammals are protected under the Endangered Species Act or the Marine Mammal Protection Act, the EIR found that entanglement or injury impacts due to insufficiently buried cables are adverse and significant. As such, several conditions have been incorporated as a part of this permit to minimize any potential for whale interaction with the project cables.

During cable laying, **Special Condition 9** requires a trained marine mammal observer, approved by the Executive Director in consultation with the National Marine Fisheries Service, be on the cable lay or support vessel to monitor the presence of marine mammals that approach the project area during cable installation. In the event that, in the opinion of the observer, project operations have the potential to threaten the health or safety of marine mammals or have the potential to take, as defined by the Endangered Species Act, a marine mammal, the observer shall have the authority to cease all project activities until the observer determines there is no longer a threat.

Special Condition 10 requires the applicants to submit within 30 days of completion of the installation activities a copy of a marine mammal monitoring report that the SLC is requiring as part of its lease approval.

Special Condition 4 requires the applicants to bury both cables to a depth of 1.0 meter except where precluded by seafloor substrates. Where a 1.0 meter burial depth cannot be achieved, the applicants shall bury the cables to the maximum depth feasible. This depth represent a protection factor of roughly 300% when compared with the depth (15-25 cm) at which gray whales trench into bottom sediments. The applicants believe they can achieve a 1.0 meter burial depth along 99% of the route (through State waters to the 1,000 fathom water depth). The factors at which the 1.0 meter burial depth may not be achieved include localized higher sediment resistance, abrupt changes in bottom slope, and variations in cable ship speed. According to the EIR, most of these burial anomalies can be avoided through pre-lay surveys and a detailed burial plan, which the applicants have conducted. In addition, post-lay ROV burial will be used to increase the burial depth at sections where the plow did not achieve the 1.0 meter burial depth.

In order to ensure that cable installation consistent with Special Condition 4 is carried out, **Special Condition 5** requires the applicants to submit to the Executive Director the as-built plans, including burial depth, of both cables.

As a preventive measure against potential entanglement impacts, **Special Condition 6** requires that every 18 to 24 months for the life of project, the applicants shall survey the SD-C and JUS-1 cable routes in state waters to verify that the cables have remained buried consistent with the as-built cable burial plan. The survey shall be conducted by an ROV equipped with video and still cameras and by a third party approved by the Executive Director. Within 30 days of survey completion the applicant shall submit to the Executive Director a report describing the results of the survey. If the survey shows that a segment(s) of a cable is no longer buried consistent with the as-built cable burial plan required by Special Condition 5 the applicants shall, within 30 days of survey completion, submit to the Executive Director for approval a plan to re-bury those cable segments.

Special Condition 7 requires that within 90 days of taking either the cable out of service or after the expiration or sooner termination of the applicants' State Lands Commission lease(s) or permit(s), the applicants shall apply for an amendment to this permit to remove the cables from the seafloor. At a minimum, cable removal shall occur from the shoreline to the 1,000-fathom depth contour. This condition will ensure that any potential whale impacts are eliminated after the useful life of the cables.

The applicants have committed in their consistency certification to implement the requirements of Special Conditions 4, 5, 6, 7, 9, and 10 for the portion of the cable project that lies within federal waters.

Ghost Nets

There is a potential scenario where a fisher snags his or her trawling gear on one of the project's cables causing a hazard to marine mammals. Pursuant to an Interim [Fishing] Agreement signed by the applicants and trawlers (see section 4.4.5 of this report for more information on the Interim Agreement), when it appears that a fisher has snagged a cable, he or she is expected to cut the gear instead of risking damage to the cable. If the fisher was operating consistent with established trawling procedures, the cable companies will reimburse the fisher for the gear lost.

This abandoned gear and particularly the nets, however, then becomes a hazard to marine life, potentially entangling marine mammals and fish, preventing them from feeding and causing them to drown, over the long term (Morro Group, 2000).

Special Condition 11, therefore, requires that in the event that trawlers snag and cut their trawl gear due to entanglement with either cable, the applicants shall use all feasible measures to retrieve the trawl gear as soon possible but no later than six weeks after receiving notice of the incident. The applicants shall provide notice to the Executive Director within seven days of gear retrieval efforts.

The applicants propose in their consistency certification to carry out the requirements of Special Condition 11 in federal waters.

4.5.1.2 Hard-Bottom Impacts

Hard substrate (or hard bottom) areas are exposed rocky substrates that provide habitat for a diverse group of plants and animals. Hard substrate is of concern because: (1) deepwater reefs are relatively rare along the central and southern California coast; (2) it supports a diverse assemblage of epifaunal invertebrates; (3) it attracts fish as a nursery ground, food source, and as shelter; and (4) epibiota are sensitive to mechanical disturbance and increased sediment loads. Because sensitive, rare, and slow-growing coral species reside on hard-bottom structures in the project area, disturbance to these species from cable laying and repair activities can permanently destroy them. Thus, the EIR found that this impact is adverse and significant (Morro Group, 2000).

The EIR includes the results of a biological survey (including video and still photographs at 0.5 m² by ROV) of hard-bottom habitat in the project area out to 13 kilometer offshore (120 meter water depth) of the cable landing site conducted between March and April 1999. The survey quantifies epifaunal organisms on hard bottom structures along existing and proposed (as originally proposed in the DEIR)⁵ cable routes. Additionally, based on the above survey, the County provided qualitative descriptions of benthic taxa observed in video and 35-mm images in order to assess potential impacts to rocky reef communities caused by project-related activities. The following major taxa were more commonly found in the nearshore region (<45 m water depth) of the project area: bat star (*Asterina miniata*), California hydrocoral (*Allopora*

⁵ The applicants are proposing the mitigated burial project alternative, identified in the FEIR, as a part of the proposed project analyzed in this staff report. The hard bottom biological survey is applicable to this alternative.

californica), purple encrusting hydrocoral (*Stylantheca porphyra*), red algae, cobalt sponge (*Hymenamphiastra cyanocrypta*), and orange and yellow encrusting sponge.

The applicants assert that both cables will be buried to a depth of 1.0 meter, depending on substrate conditions, over 99% of their lengths out to the 1,800 meter water depth contour. Most of the route is composed of mud and sand. Some of the sandy bottom is in the form of a thin veneer over rock. These areas consist of mostly flat and low-relief rocky substrates <1 meter above the bedrock platform and covered with a thin layer of sediment ranging from 0.5 to over 1.0 meter in depth (Meggett, 2000a). The presence of this layer of sediment indicates, according to the applicants, that both cables will be buriable in these low-relief areas. In some areas of exposed low relief rocky substrate, burial cannot be achieved. The applicants have not, however, provided the locations where the cables are not expected to be buried. Finally, the applicants indicate that the proposed cable routes will avoid all high-relief (greater than 1 meter) rocky substrate.

The County's EIR marine biology consultant, Marine Research Specialists, contends that not all substrates are as characterized by the applicants. Some substrates that are "flat (smooth) to low relief locally covered with a thin layer of sediment" actually have exposed rocky substrates. (Imamura, 2000b). This contention is based on the hard bottom biological surveys of the project area mentioned above.

The Commission has not been able to verify independently the type and relief of rocky substrate areas in dispute. The Commission is thus uncertain of the impacts of the proposed project to hard bottom, if any. Therefore, the Commission is requiring the applicants to survey the cable routes for hard substrate as each cable is being laid or soon thereafter. **Special Condition 12** specifically requires that a survey of the seafloor along the construction corridor be completed, within 30 days of project completion, by a consultant approved by the Executive Director. The survey is to quantify the extent of exposed rocky substrate, including type and relief, impacted by offshore operations out to the 170 meter water depth contour. Beyond this depth the seafloor is predominately mud. Within 45 days of completing the survey, the applicants are to submit to the Executive Director a written report describing the results of the survey to derive net project impacts to rocky substrate. The survey report shall identify the location and quantify the extent of any disturbance to rocky substrate caused by project operations.

Additionally, **Special Condition 13** requires the applicants to compensate for all project-related impacts to hard bottom habitat, if any, through payment of a compensatory hard bottom mitigation fee to be used to construct a new artificial reef or augment an existing artificial reef in State waters within the Southern California Bight. A hard bottom mitigation fund is currently in place to accept hard bottom mitigation fees from oil companies that received coastal development permits (E-95-09, E-95-10, E-95-11, E-95-12, E-95-13, E-95-14 and E-95-17) in 1996 to abandon 23 subsea oil and gas completion wells in the Santa Barbara Channel ("the Santa Barbara Channel Subsea Well Abandonment Program"). The well abandonment program caused some unavoidable damage to hard bottom and resulted in the permittees paying about \$13,000 to the hard bottom mitigation fund.

The construction of a new artificial reef, or augmentation of an existing reef, will be carried out pursuant to a Memorandum of Agreement ("MOA") by and between the California Coastal Commission, the California Department of Fish and Game (CDFG) and the United Anglers of Southern California (UASC) (Exhibit 4). The amount of the hard bottom mitigation fee shall be calculated by multiplying the total square footage of impacted hard bottom (as determined in the survey conducted under Special Condition 12) by a compensation rate of \$7.44 per square foot, as calculated by CDFG (see Table 2 below). The fee shall be paid to the United Anglers of Southern California within 30 calendar days of the results of the hard bottom survey required by Special Condition 12.

Table 2. Compensatory Hard Bottom Mitigation Fee

TASK	MITIGATION FEE ESTIMATE	COMMENT
Construction of Hard Bottom Habitat (year 2000 dollars) <ul style="list-style-type: none"> • Cost of Materials (i.e. quarry rock) • Transport • Deposition • Insurance 	\$5.20	Assumptions: a) Estimate based on actual construction costs for one meter high artificial reef b) Cost = \$45/ton
Project Administration for UASC	\$0.52	Overhead to UASC not to exceed 10% of total funds collected.
SUB-TOTAL	\$5.72	
Project Contingency	\$1.72	Contingency of 30% for unanticipated project-related changes in cost of design/planning/permitting, materials, labor, or transportation
TOTAL	\$7.44	

The CDFG administers the California Artificial Reef Program in part for the purposes of (1) placing artificial reefs in State waters, and (2) determining the requirements for reef siting and placement. The CDFG has agreed to assume the lead responsibility for the planning, siting, design and permit requirements for the construction of any new artificial reef or augmentation of an existing artificial reef using the monies in the hard bottom mitigation fund. The UASC, a volunteer group of recreational anglers interested in preserving, protecting and enhancing marine resources and fishing opportunities, agreed in the 1996 MOA to accept any hard bottom mitigation fees. The funds are in an interest-bearing account. These funds including all earned interest are to be expended solely for reef materials, construction costs, and the UASC's administration of the fund (not to exceed 10% of the total collected fees). The CDFG will absorb

any costs associated with the planning, siting, design, and permit requirements to construct a new artificial reef or augment an existing reef.

4.5.1.3 Soft-Bottom Impacts

Soft bottom areas are unconsolidated sediments (e.g., gravel, sand, and mud) that provide habitat to infaunal organisms. As part of the EIR, benthic sediments out to the 3-mile state waters limit were sampled in March 1999 to determine representative infauna organisms and their density, and grain size. Intensive sampling was conducted in the nearshore (10 to 30 meter depth) around the conduit portals where they surface on the seafloor. The other subregions sampled included the mid-depth (50 to 60 meter) and offshore (65 to 70 meter depth).

This data allowed the County to quantify potential impacts to the marine environment due to project-related activities. Infauna along the cable corridors are of concern because: (1) the proposed burial of cables will disturb their seafloor habitat; (2) many infaunal organisms have limited mobility and cannot easily escape habitat disturbance or rapidly repopulate regions of disturbance; and (3) they are a source of food for more-mobile epifaunal and pelagic marine organisms such as crabs, fin fish, and marine mammals. Grain size distribution was quantified because infauna reside within sediment interstices and their spatial distribution is directly related to sediment properties. Secondly, grain size determines the erosion potential and whether a buried section of cable will be re-exposed on the seafloor.

Some examples of the most abundant taxa in the offshore (silts and clays) included: annelid worms (*Paraprionospio pinnata*) and red brittlestar (*Amphiodia urtica*). Bivalves, anemones, sea stars, urchins, sea cucumbers, and ribbon worms are other examples. In the mid-depth subregion (coarse sediments), six taxa had high abundance compared to other samples. These included: gammarid amphipod (*Desdimelita desdichada*), sipunculoid peanut worms (*Nephasoma diaphanes* and *Thysanocardia nigra*), burrowing worm-like sea cucumber (*Leptosynapta*), and the annelids (*Chaetozone* and *Pholoe glabra*). A different set of species was found in the nearshore, where fine sand predominated in a harsh, wave-dominated environment. Common species included: annelid worms (*Scoloplos armiger*, *Nephtys caecoides*), crustacean species (*Eohaustorius sencillus*, *Majoxiphalus major*, *Mandibulophoxus gilesi*), and the sand dollar (*Dendraster excentricus*).

Impacts to soft bottom sediments and infauna will be limited to cable installation, repair, and cable re-burial operations. In order to bury the cables within the seafloor, a cable plow and a ROV equipped with sediment jets will be used to create a trench for cable burial. From the 200 meter depth contour to 1200 meters, a plow will be used to bury each cable for a total distance of 60 km (37 miles). The applicants have estimated that the plow will disturb bottom sediments a total of 0.75 meter (2.6 ft.), equal to the width of two plow tracks (1 foot each) and the width of the plow blade (6 inches). Burial by ROV jets will disturb a 2.4 meter (7.2 ft.) width of soft bottom (Meggett, 2000b). Repair operations in the nearshore and adjacent to hard bottom areas, will require an ROV to jet the damaged section from the seafloor, assuming it is buried. In deeper waters, a detrenching grapnel will be used to snag the cable and raise it to the surface. Both repair activities are also expected to disturb a 2.4 meter width of soft bottom. During periodic surveying of the cable routes, if any cable segments have become exposed, the

applicants will re-bury those segments, pursuant to an approved re-burial plan, with an ROV jetter.

The EIR concludes that damage to the marine invertebrate community from cable trenching and burial activities in soft-bottom habitats will be adverse but not significant for three reasons. First, despite the fact that benthic invertebrates will be killed during these operations, "because areas adjacent to the work area will not be disturbed, recolonization and recruitment of benthic invertebrates into disturbed areas is expected to be rapid" (Morro Group, 2000). Second, the amount and biomass of infaunal organisms killed will be comparatively minimal and represent only a few species that are not considered rare or endangered. The area impacted will be limited to a 2.4 meter width during burial activities and less during repair of damaged cable. Lastly, the impacted communities will recover within a few months after the completion of cable installation and repair activities.

In reaching these conclusions, the EIR cites studies that highlight several factors that have been found to be critical in determining the rate of recolonization at a disturbed site. Two studies found that a "mobile adult stage of nearby species and small areas of disturbance allow for faster recolonization" (Morro Group, 2000). When compared to sand and gravel mining and dredging operations, the width disturbed by burial and repair activities will be very small and thus will be conducive to rapid recolonization. It has also been reported that the "recolonization process is highly influenced by the similarity of the new altered substrate to nearby unaltered sediments" (ibid.). In the project area, the soft bottom sediments to be impacted are very similar (if not identical) in nature to adjacent areas. Other studies of sand and gravel mining and dredging operations have found rapid infaunal recovery within 18 months to 3 years (ibid.). In this case, because cable burial and repair operations will impact a significantly smaller area than sand or gravel mining, the EIR estimated that recovery could occur on a time scale of months rather than years.

4.5.1.4 Marine Water Quality Impacts

The proposed project lies, in part, within Estero Bay. Coastal water quality within Estero Bay is affected by human-induced factors such as waste discharge and coastal runoff. The EIR states that "petroleum development, commercial vessel traffic, natural hydrocarbon seeps, river runoff, municipal wastewater outfalls, and minor industrial discharge all contribute to slightly increased levels of nutrients, trace metals, and synthetic organic contaminants in marine waters. However, compared to more industrialized coastal regions to the north in Monterey Bay and to the south within the Southern California Bight, contaminant input into the waters of Estero Bay is small and, thus, the waters of Estero Bay are relatively pristine and unpolluted." Agricultural and urban runoff contributes significant levels of pollutants only during isolated events of high rainfall. The principal impact on marine water quality due to the proposed project is increased turbidity during installation of the cables and drilling of the cable conduits. The two sources of turbidity analyzed in the EIR include surficial sediments resuspended during cable installation and drill muds discharged during the surfacing of the five cable conduits.

The type of cable proposed for use is a single-armored cable that contains eight optical fibers. It measures about 2.8 cm (1.1 inches) in diameter. The outer layer consists of galvanized steel

wires with a polyethylene sheath, both of which contain no additives harmful to marine life. The cable is coated with bitumen (asphalt) that adheres to the outer polypropylene covering.

As a part of the EIR, the County conducted a water quality survey in April 1999, quantifying the ambient water properties along a transect that followed the originally proposed corridor for the SC-D cable. Even though the SC-D route has been revised, the survey is still applicable to the new routes. The transect extended 9 kilometers offshore to a water depth of 90 meters. Other sources, among others, of existing sediment, water quality, and oceanographic data relied on in the EIR were from the following: City of Morro Bay National Pollutant Discharge Elimination System (NPDES) monitoring, State Mussel Watch Program monitoring near Avila Beach and Point Arguello, California Monitoring Program offshore Point Sal and San Luis Obispo Bay. Without the benefit of a detailed dispersion model, the EIR interprets these existing data, including the EIR's water quality survey, on drill mud discharges in the marine environment and settling rates of suspended sand particles to assess potential impacts to marine water quality.

Turbidity Increases Due To Cable Burial

Project activities that will cause sediments to be suspended within the water column immediately above the seafloor include: 1) pre-lay grapnel run to clear the plow path of debris; 2) cable burial by plow and ROV; and 3) cable repair and re-burial. The pre-lay grapnel run will disturb sediments along the planned cable routes to be plowed to the extent of the size of the grapnel, 1.5-2.0 meters (4-6 ft.) wide, and its subsurface penetration depth of approximately 0.5 meters. In contrast, the cable plow will cause a disturbance consisting of an area 0.75 meters wide and 1.0 meters deep⁶. ROV cable burial is estimated to impact a 2.4 meter width and 1.0 meter depth, in soft/muddy sediments. Repair operations by ROV will re-suspend sediments over a similar area.

The EIR concluded that because the impacts from sediment re-suspension will be brief and localized, they are adverse but insignificant. Specifically, the above activities will be temporary (roughly 30 days), limited to area immediately above the seafloor and near the cable corridor, and, according to the EIR, "of minor amplitude compared to the natural background variability in the suspended sediment loads in this coastal region".

The California Ocean Plan, the only water quality standard applicable to ocean turbidity impacts, defines unacceptable reductions in natural light in terms of changes to mean conditions that exceed 95% confidence limits. However, based on measurements of ambient suspended-solids in comparison with this standard, the EIR found that wide fluctuations in turbidity exist near the portal area. Thus, the EIR concluded that "Project-related increases in suspended particulate loads near the portal area are likely to meet with Ocean Plan standards because they will probably fall within the large natural variation in nearshore turbidity".

Moreover, project-related turbidity increases will likely last for a short time period. The EIR estimated that, under still flow conditions, the fine sands found nearshore would settle 15 meters

⁶ According to the EIR, the wedge of soil created by the plow is essentially undisturbed during burial and has maintained most of its structure and density as it covers the cable.

in 15 minutes and very fine sands farther offshore would settle 15 meters in 45 minutes under similar ambient conditions. With naturally occurring turbulence and increased particle concentrations, actual settling times would be greater. Nonetheless, the EIR estimated that the maximum height sediments are expected to re-suspend would be a few meters from the seafloor for a short period of time due to the rapid settling velocity of sand-sized particles.

Finally, the EIR stated that the lateral extent of turbidity increases would not be extensive despite the fact that locations 44 meters from the cable corridor could experience slightly increased turbidity levels within the seafloor boundary layer. With coarser sediments in the nearshore, smaller areas of impact are anticipated. In general, the width of the expected impact area would be less than the water depth. Thus, the EIR finds that "...the turbidity plume is not likely to violate Ocean Plan prohibitions on aesthetically undesirable discoloration of the ocean surface or significant reductions in the penetration of ambient light."

Discharge of Drill Muds

The overall project includes the drilling of five 4,300-foot directional bores or conduits that may contribute to increased turbidity and a decrease in marine water quality in the area where the conduits surface from the seafloor. During the drilling process, *which will be initiated onshore and in the County's coastal permitting jurisdiction*, water-based drill muds (fluid) will be circulated through the borehole to remove drill cuttings, made up of rock fragments cut from the subsurface rock by the drill bit. In each borehole, approximately 2125 gallons of bentonite, an absorbent aluminum-silicate clay formed from volcanic ash, are proposed to lubricate the drill bit and remove the muds. The drill muds are eventually recirculated through the borehole after the cuttings are removed onshore. Ultimately, the drill bit daylights in offshore waters (50 foot water depth, 2,400 feet seaward from the mean high tide line), discharging some muds into the ocean.

No discharge of drilling muds into the marine environment is expected to take place. Within 200 feet of surfacing on the seafloor, the drilling will stop and the muds will be back-flushed and disposed of onshore. The borehole will then be filled with 2,000 gallons of water and drilling will resume. As the drill bit daylights, the water will empty into the sea. During the drilling process, the applicants will monitor the drill pipe mud pressure on a continuing basis. If the pressure drops, the drilling will stop until an underwater investigation is made to determine if the pressure drop is due to an inadvertent discharge or fracture on the seafloor. In the event that a geologic fracture occurs that leads to a discharge, the drilling muds will be vacuumed using an air-lift device and dredge scow of sufficient capacity to handle the pumped fluids. Moreover, in response to SLC concerns about fracturing, the applicants have increased the depth of the directional bore to 15 meters below the beach and intertidal zone, providing an extra measure of security against potential fracturing.

Based on mitigation measures developed in the EIR, the applicants' SLC lease(s) included the following requirements: (1) no toxic compounds shall be added to the drill mud at any time; (2) The applicant shall implement reasonable engineering methods to ensure no drilling muds are discharged to the ocean environment; (3) None of the excess drill mud or drill cuttings collected onshore shall be discharged or dumped into the marine or intertidal environments; and (4)

Emergency spill cleanup equipment, including but not limited to sorbent booms, shall be staged onshore during borehole drilling.

After implementing the above measures, the EIR found that any remaining impacts will be "temporary (no more than a few days following discharge), of limited areal extent (detectable only immediately surrounding the borehole exit) and of minor amplitude in relation to the natural background variability in the suspended sediment loads in the surfzone" (Morro Group, 2000). While particles from the drill mud plume may bury sessile infauna organisms within about 15 m of the discharge point, this temporary burial will likely only adversely impact a limited number of organisms due to their relatively low density around the seaward portals. Moreover, recruitment of organisms will likely be rapid from adjacent areas; and the possibility of impingement of nearby rocky reef communities will be low given sediment dispersion affects and the large distance (1.5 kilometers) to these areas.

Pursuant to the mitigation measures mentioned above and measures the applicants are proposing to eliminate the release of drill muds, the RWQCB, waived water quality certification in March 2000 under Section 401 of the Clean Water Act, concluding that the proposed project will not violate State water quality standards.

The EIR also investigated the possibility, although very minimal, that the presence of an active, main strand of the Los Osos fault along the alignment of one or more of the directional borings may lead to the loss of drilling muds if the borings cross the fault zone. Based on the applicants' side-scan sonar and seismic reflection surveys, the EIR stated that the cable alignments in the directional bores do not cross the fault zone and thus, surface rupture along the fault would not likely affect the cables in the directional borings westerly from the Sandspit parking lot. Moreover, the EIR estimated that the likelihood of a surface rupture along the fault is approximately 1 in 2000 in any year.

Nonetheless, the SLC conditioned the applicants' lease to require the submittal of a geologic fault investigation report prior to approval of the directional bore drilling. If the borings cross the fault zone, the applicants shall identify feasible measures to minimize the surfacing of drilling mud.

Marine Vessel Discharge

Discharge of sewage or bilge/ballast water could result from marine vessels operating in state waters as part of the proposed project. The EIR found that intentional discharges would have varying, though generally limited, effects on ambient coastal water quality offshore Montana de Oro State Park. Federal and state regulations prohibit the discharge of sewage waste and other sanitary wastes that disperse rapidly in the water column. Resultant water quality impacts would primarily consist of an increase in organic suspended solids and the associated biological oxygen demand. Discharge of bilge/ballast water could result in the introduction of non-native species into the local marine ecosystem.

In response to the above concerns, **Special Condition 8** requires there to be no marine discharge of sewage or bilge/ballast water from vessels either installing or repairing project cables.

Federal Consistency Certification

The applicants have committed in their consistency certification to the carry out the same requirements of Special Conditions 4, 5, 6, 7, 8, 9, 10, and 11 where project operations extend into federal waters out to the 1,000-fathom depth contour.

4.5.1.5 Conclusion - Marine Resource and Water Quality

The Commission finds that the requirements of Special Conditions 4, 5, 6, 7, 9, 10, and 11 will substantially minimize the potential for marine mammals to become entangled with or adversely impacted by project cables or ghost nets. Special Conditions 12 and 13 provide for the mitigation of impacts, if any, from cables that are laid on hard bottom habitat. Based on the reasons discussed above, the Commission finds that, as conditioned, the proposed project will be carried out in a manner that maintains marine resources and sustains the biological productivity and quality of coastal waters and therefore is consistent with Coastal Act sections 30230 and 30231.

4.5.2 Oil Spills

Coastal Act Section 30232 states:

Protection against the spillage of crude oil, gas, petroleum products, or hazardous substances shall be provided in relation to any development or transportation of such materials. Effective containment and cleanup facilities and procedures shall be provided for accidental spills that do occur.

The proposed project could potentially increase the chance of a vessel collision and a release of oil into marine waters. However, the chance of an oil spill due to project-related activities is very low.

The EIR concludes that the cable-laying and the support vessels will not present a navigational hazard to fishing, recreational, or other vessels in the project area. The vessels that operate in the area are highly maneuverable, are generally equipped with navigational equipment, and will be informed of vessel locations and schedules. Under the federal Submarine Cable Act (47 USC 21), fishing vessels and other ships must keep their equipment or vessels at the distance of one nautical mile from a vessel engaged in laying or repairing cable or at least one-quarter of a nautical mile from buoys intended to mark the position of a cable when being laid.

One requirement of Coastal Act section 30232 is for an applicant to undertake measures to prevent an oil spill from occurring. The applicants propose to provide notice to mariners of the project operations, location and schedule so as to minimize the chance of a vessel collision. At least two weeks prior to commencement of offshore construction activities, the applicants will file an advisory of pending offshore construction operations with the local U.S. Coast Guard District Office for publication in the Local Notice to Mariners.

Notwithstanding all efforts to avoid a collision, there is always the possibility of an accident that could result in a spill. The SLC is requiring as part of its lease approval that the primary work vessel carry on board a minimum of 400 feet of sorbent boom, five bales of sorbent pads at least 18" x 18" square and a small powered boat for rapid deployment to contain and clean up any small spill or sheen on the water surface.

The SLC is also requiring the applicants to prepare a project-specific oil spill contingency plan. The Commission agrees that such a plan is important in the event of an accidental spill. **Special Condition 14** requires the applicants to submit for Executive Director approval prior to permit issuance a project-specific spill contingency plan that includes (a) an estimate of a worst case spill from project operations; (b) a list of all equipment that will be maintained on the primary work vessel that is sufficient to provide response to a worst case spill; (c) the specific designation of the onsite person who will have responsibility for implementing the spill plan; and (d) evidence of a contract with an oil spill response organization for on-water and shoreline protection capable of responding to a worst-case spill in the event of an incident that exceeds the rapid cleanup capability of the onsite work force.

The applicants have agreed in their consistency certification that the oil spill contingency plan prepared pursuant to Special Condition 14 will also cover all project-related activities in federal waters.

With these measures in place, and the imposition of Special Condition 14, the Commission finds the project consistent with the requirements of Coastal Act Section 30232.

4.5.3 Dredging and Placement of Fill in Coastal Waters

Coastal Act Section 30108.2 defines "fill" as "earth or any other substance or material, including pilings placed for purposes of erecting structures thereon, placed in a submerged area." The fiber optic cables that will be placed on the seafloor constitute fill as defined in Coastal Act Section 30108.2. Burying the cables will require dredging a 2.6 ft. to 8 ft. wide (depending on burial method) trench from a location about 2,400 feet west of the mean high tide line to the 1,000-fathom depth contour in federal waters (approximately 50 miles in length).

Coastal Act Section 30233(a) states in part:

The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:

- (1) *New or expanded port, energy, and coastal-dependent industrial facilities, including commercial fishing facilities.*
- (2) *Maintaining existing, or restoring previously dredged depths on existing navigational channels, turning basins, vessel berthing and mooring areas, and boat launching ramps.*

- (3) *In wetland areas only, entrance channels for new or expanded boating facilities; and in a degraded wetland, identified by the Department of Fish and Game pursuant to subdivision (b) of Section 30411, for boating facilities if, in conjunction with such boating facilities, a substantial portion of the degraded wetland is restored and maintained as a biologically productive wetland. The size of the wetland area used for boating facilities, including berthing space, turning basins, necessary navigation channels, and any necessary support service facilities, shall not exceed 25 percent of the degraded wetland.*
- (4) *In open coastal waters, other than wetlands, including streams, estuaries, and lakes, new or expanded boating facilities and the placement of structural pilings for public recreational piers that provide public access and recreational opportunities.*
- (5) *Incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.*
- (6) *Mineral extraction, including sand for restoring beaches, except in environmentally sensitive areas.*
- (7) *Restoration purposes.*
- (8) *Nature study, aquaculture, or similar resource dependent activities.*

Coastal Act Section 30233(a) restricts the Coastal Commission from authorizing a project that includes dredging and open coastal water fill unless it meets the "allowable use" test. To meet this test, the activities must fit into one of eight categories of uses enumerated in Coastal Act Section 30233(a)(1)-(8). One of the eight allowable uses of fill under 30233(a)(1) is a coastal-dependent industrial facility. The proposed transoceanic cables, whose purpose is to connect the United States with Japan and New Zealand, are "coastal-dependent" since they require "a site on, or adjacent to, the sea to be able to function at all" as defined in Coastal Act Section 30101. The Commission thus finds that the proposed project meets the allowable use test of Coastal Act Section 30233(a).

The Commission must further find that there is no feasible less environmentally damaging alternative to the proposed project. The proposed project evaluated in this staff report was selected in the EIR as the Environmentally Superior Alternative because these cable routes will result in nearly 100% burial of both cables up to the 1,000-fathom depth contour line. The applicants have stated that some rocky, low-relief areas in the nearshore would be crossed by both cable routes but they will likely be buried in these areas. Moreover, both routes would be 100% buriable beyond the three-mile State waters limit to the 1,000 fathom water depth where there is the potential for conflict with commercial and recreational fishing. The EIR rejected other alternatives because of greater air quality emissions from installation operations, and greater potential impacts to hard bottom habitat, marine mammals, water quality, and commercial fishing operations. These alternatives included, but are not limited to, the following:

- New Utility Corridor Alternative-Lucia Canyon: Under this alternative, the cable routes traverse northward from Montana de Oro State Park past Cambria and Cape San Martin and head west through Lucia Canyon, establishing a new cable corridor. The cables would be buried out to 500 fathoms but burial beyond this point would not be possible due to the slope and operating constraints within the submarine canyon. Fewer commercial fishing conflicts would be expected to occur due to reduced fishing activity. However, more impacts to hard bottom habitat would be anticipated due to the presence of large areas of high relief hard bottom that would be crossed north of the Chevron Estero Marine Terminal. The EIR rejects this alternative because it does not avoid any significant impacts associated with the original proposed project and the magnitude of potentially significant impacts (e.g., hard bottom, air quality) would increase.
- Cable Conduit Alternative: This alternative would involve the placement of many cables (e.g., 100s) into a large conduit, 12-24 inches in diameter, that would lie on the seafloor and extend to the 1,000 fathom depth. However, this conduit could not be fully buried out to 1,000 fathoms, given technical limitations, and would not be able to avoid all areas of hard bottom or conduit suspension in high relief areas. The EIR rejects this alternative due to the above concerns, and reasons such as increased water quality impacts resulting from conduit burial in the intertidal zone. The applicants have also expressed doubt regarding the feasibility of pulling more than one cable through a conduit.
- Landing Site Alternative-Chevron Estero Marine Terminal: The project cables would land at the Chevron Estero Marine Terminal, roughly eight miles north of the proposed landing site, but utilize the existing cable corridor, in this alternative. The facility is currently being decommissioned and contains two or three crude oil and other pipelines that would be converted into fiber optic cable conduit, pursuant to an application before San Luis Obispo County. The EIR rejects this alternative in favor of the mitigated alternative, due to technical constraints in housing the cable within the pipelines and more extensive onshore routing resulting in greater impacts. The offshore route from the shore to the limit of state waters would also double in length, thus contributing to additional impacts to marine resources.

According to the applicants, the condition and configuration of the pipes led them to question their suitability as cable conduit. For example, the pipes have several bends, including at least one 180-degree bend in one of the pipes that precludes its use as a cable conduit. Pulling more than one cable through the bends introduces a friction effect between the cable and the pipe walls that, cumulatively, may exceed the breaking strength of the cable.

The final requirement of Coastal Act Section 30233(a) is that dredging and filling of coastal waters may be permitted if feasible mitigation measures have been provided to minimize any adverse environmental effects. In other sections of this report, the Commission has identified feasible mitigation measures that will minimize the project's adverse environmental effects. With the imposition of the conditions of this permit, the Commission thus finds that the third test of Coastal Act Section 30233(a) has been met. The Commission therefore finds the proposed project consistent with Coastal Act Section 30233(a).

4.5.4 Commercial and Recreational Fishing

Coastal Act Section 30234.5 states:

The economic, commercial, and recreational importance of fishing activities shall be recognized and protected.

Commercial fishing, an important component of the regional economy in San Luis Obispo County, is conducted out of two ports: Morro Bay, and Port San Luis. The bulk of the catch at both ports is derived from trawling, but the fishing fleet is composed largely of non-trawling vessels. The commercial fleet in the San Luis Obispo region ranges from 100 to 200 vessels, approximately 23 of which are trawlers. The remaining vessels consist of trollers, long-liners, pot and trap fishermen and various combinations of these.

Rockfish and dover sole accounted for more than half of the total catch in the area for the last four years. Other commercially important species include prawns, shrimp, rock crab, sablefish, salmon, albacore tuna, halibut, swordfish and cabezon. During the last four years, on average, fish landing of 3,740 tons reported for Morro Bay and Port San Luis/Avila had a value of \$6.8 million. Catch from trawls for both Morro Bay and Port San Luis/Avila made up approximately 77% and 78% of landings by weight and 57% and 60% of dollar value, respectively. Secondary economic effects are substantial, and include seafood processing and the aesthetic and visitor-drawing qualities of working fishing ports.

The average commercial fisher (non-trawler) fishes 188 days/year, has fished commercially for twenty-one years and has a net operating annual income of \$31,200. The average trawler fishes 115 days/year, has fished commercially for thirty-four years and has a net operating annual income of \$59,541. The Morro Bay Commercial Fishermen's Association and the Port San Luis Commercial Fishermen's Association represent the interest of fishers in the project area.

Recreational fishing in the project area mostly occurs on charter or privately owned vessels. Six to ten charter vessels operate out of Morro Bay and Port San Luis, and recreational boat launches range from 200-300 per day during peak fishing seasons. Recreational fishing is seasonal in nature, with peak seasons falling in April-July (salmon), all year (rockfish) and July -December (albacore tuna). The contribution of this economic sector is unknown, though sportfishing typically equals or exceeds the economic contribution of commercial fishing on a statewide basis. The majority of recreational fishing is accomplished by "jigging" baited hooks or lures that either rest on the seafloor or are trolled, depending on the species targeted.

According to the EIR, commercial trawlers face an adverse, significant impact due to the fact that their bottom trawls may snag cable segments that are insufficiently buried or exposed on the seafloor (this impact is discussed in more detail below).

Recreational fishers, on the other hand, are not likely to experience the same impact because their gear pose little threat to bottom cables (Morro Group, 2000). Entanglement resulting in gear loss is possible, especially if the cables are suspended or exposed in hard bottom areas, but damage to the cable is not expected. According to the applicants, both cable routes are not

expected to be suspended and will avoid exposed rocky substrates to the maximum extent feasible.

Temporary economic impacts to trawlers and recreational fishers may result during installation of the cables. Pursuant to the federal Submarine Cable Act (47 U.S.C. 21 §24), all vessels are required to maintain a distance of at least one nautical mile from a cable vessel conducting repairs and one-quarter mile from the buoy of a vessel intended to mark the position of a cable when being laid or out of order⁷. However, this preclusion zone will be temporary (approximately 37 days during installation) and constantly in motion so there will be sufficient access to other fishing areas with negligible or no additional operation costs to the fisher. Moreover, once the cables are buried, the exclusion zone becomes ineffective, allowing unrestricted access to these areas. Therefore, a temporary fishing preclusion zone is not expected to be a significant impact.

To further minimize any potential conflicts with commercial fishing activities, the applicants will provide notice of all vessel activities, work locations, and schedules with the U.S. Coast Guard. The same schedule will also be posted with the Harbor Patrol offices in Morro Bay and Port San Luis so that mariners and recreational fishing vessels will be informed of offshore project activities and vessels at all times.

Bottom Trawl-Cable Entanglement

As indicated above, commercial trawlers face potential adverse, significant impacts due to the fact that their bottom trawls may snag cable segments that are insufficiently buried or exposed on the seafloor. Bottom trawls are designed to maintain contact with the seafloor. As they are towed over the seafloor, a rope or chain that precedes the net opening startle prey off the ocean bottom and into the net. However, the size of the trawl boards used to spread the trawl net on the largest vessels is such that they would normally skim the surface of the seafloor with a maximum estimated penetration of 0.15 to .3 meters (6 to 12 inches) in the softest sediments (e.g., mud); in firmer sediments, the maximum penetration is approximately .06 meters (3.5 inches) (Meggitt, 1999; Giannini, 2000). Thus, the project's target cable burial depth of 1.0 meter provides a protection factor of over 300%.

Nonetheless, if trawl gear is snagged and lost, fishers would incur financial losses from abandoned gear and lost fishing time. The EIR analyzed and quantified these losses based on surveys of fishers containing 28 quantitative and qualitative questions (e.g., on fishing expenses, revenues, fishing history) sent to approximately 120 fishers known to operate routinely in project areas. While only 13 responses were received, it is the only available local information on the County commercial fishing sector, and thus proved very useful.

With this information and data on the value of trawl catch by statistical block (California Department of Fish and Game, 1999), a fisheries direct economic impact model was developed to assess the project's potential economic impacts on trawlers. The model assumed the

⁷ Fishermen who willfully or negligently snag and damage cables can be imprisoned or be subject a maximum fine of \$5,000 under the federal Submarine Cables Act (47 U.S.C. 21).

following: (1) fishers choose their trawling grounds based on the value of catch taken from each block in the past four years and the distance from port to each block; (2) cables remove area available for trawling and thus the model calculated a square area of fishing prohibition; (3) all existing cables were buried to the extent of the proposed project; and (4) effect of adding a cable is to reduce available area and reallocate fishing efforts to other more costly blocks, which reduces catch and revenue due to increased competition. The model calculated that the proposed project would decrease revenues by an average of 0.7 percent, or \$15 per day per trawler, and increase expenses by an average of 1.8 percent, or \$25 per day per trawler. Net income would consequently fall by \$40 per day per vessel, or roughly 7.7 percent of baseline net income.

Measures to Reduce Fishery Conflicts

The applicants propose to mitigate the above potential economic impacts of gear entanglements through a number of measures. Most importantly, the applicants propose to bury the cables to a target depth of one meter in state waters and out to the 1,000-fathom water depth in federal waters. The applicants believe they can achieve a burial depth of 1.0 meter along 99% of the cable routes. Buried cable will minimize potential gear entanglement and resultant loss experienced by fishers. As indicated above, a 1.0 meter burial depth constitutes a cable protection factor of over 300 percent. **Special Condition 4** of this permit requires each cable to be buried to a depth of 1.0 meter except where precluded by seafloor substrates. Where a 1.0 meter burial depth cannot be achieved, the applicants shall bury the cables to the maximum depth feasible. **Special Condition 5** requires the applicants within 30 days of cable installation to submit to the Executive Director an as-built cable burial plan for both cables.

The Commission is also requiring in **Special Condition 6** that every 18 to 24 months for the life of the project, the applicants shall survey the cable routes from the mean high tide line to the seaward limit of state waters to verify that the cables have remained buried consistent with the as-built cable burial plan required by Special Condition 5. The survey shall be conducted with a remotely-operated vehicle ("ROV") equipped with video and still cameras and by a third party approved by the Executive Director. Within 30 days of survey completion, the applicants are to submit a report describing the results of the survey. If the survey shows that a segment(s) of a cable is no longer buried consistent with the as-built cable burial plan, the applicants shall, within 30 days of survey completion, submit to the Executive Director for approval a plan to re-bury those cable segments.

Within 90 days of either taking a cable out of service or after the expiration or termination of the applicants' SLC lease and permits, whichever is earlier, the Commission is also requiring the applicants in **Special Condition 7** to apply for an amendment to this permit to remove the cables from the seafloor.

The applicants propose in their consistency certification to implement the requirements of Special Conditions 4, 5, 6, and 7 in federal waters to the 1,000-fathom water depth.

The applicants are also a signatory to an "Interim Agreement" (IA) with individual trawlers operating out of Morro Bay and Port San Luis, and two mutual benefit associations: The Morro Bay Commercial Fishermen's Organization, and the Port San Luis Commercial Fishermen's

Association. As stated in the IA, "It is the intent of the parties to achieve [project] objectives with minimal impacts upon the viability of the commercial fishing industry and [to] minimally affect the extent and traditional areas in which the commercial fishing industry is able to operate, and the practices and procedures used by the commercial fishing industry." According to Jody Giannini, chair of the Joint Cable/Fisheries Liaison Committee, that will oversee the implementation of the IA, all trawlers operating out of either Morro Bay or Port San Luis, have signed the IA. The IA, dated July 22, 1999, provides a host of preventive and mitigation measures, some of which are similar to the Special Conditions above, designed to avoid conflicts between the two industries. For example, the applicants agree to:

- Distribute documentation of cable location and burial depth after installation to assure that accurate positions and depths are known to fishermen and other interested parties;
- Establish a Joint Cable/Fisheries Liaison Committee (JCFLC), comprised of four fishermen and four cable company representatives to "...facilitate inter-industry communication, coordination and cooperation between the commercial fishing industry of Central California and undersea fiber optic telecommunications companies operating in California;"
- Fund a Committee/Liaison Office Fund to the amount of \$50,000 annually per cable company, with funds in excess of \$150,000 being transferred to the Commercial Fishing Industry Improvement Fund. This fund will be used to reimburse Committee members for participation, to compensate any segments of the commercial fishing industry damaged as a result of the act of installing, repairing, replacing or maintaining the cable project;
- Establish a 24-hour hotline to take calls from fishermen who believe they have snagged their gear on the telecommunications cables owned or operated by the particular cable company;
- Pay 100% of the costs of gear sacrificed by fishermen as a result of snagging cable and 50% of the gear's value to settle claims for loss of business incurred by the fishermen provided 1) the fisherman has informed the 24-hour toll-free telephone hotlines of its situation; and 2) the fisherman conduct was consistent with the Fishing Vessel Operating Procedures established pursuant to the IA;
- Release any claims they might otherwise have against individual fishermen and refrain from taking any administrative, legal, or other action to sanction and/or recover damages against fishermen who comply with terms and conditions of the IA;
- Assume all liability, responsibility, and risk for any damage which may occur to their cables resulting from their inability to construct, maintain, place, and continue those cables in a manner which does not interfere with traditional fishing operations;
- Abandon and remove out-of-service cables, as a condition of any government approvals, so as not to interfere with commercial fishing activities in the areas where such cables were previously installed;

- Annually deposit \$100,000 per project in a special fund for the enhancement of commercial fisheries and the commercial fishing industry and support facilities. The payment of such ordered mitigation shall be offset by funds paid pursuant to this paragraph;
- Pay \$500 to each licensed fisherman who signs the Independent Agreement for use in upgrading communication and navigation equipment;

In addition, the SLC in its lease approval has required the following measures:

- The cable operator shall establish a system to notify "itinerant" fishermen of the operating procedures, and offer them the opportunity to sign the Interim Agreement." This procedure shall include information on whom to contact regarding the JCFLC to obtain details on the "Interim Agreement" and its provisions. This information shall be made available through the Morro Bay and Port San Luis Harbor Masters and in locations as deemed necessary by the JCFLC or required by staff of the California State Lands Commission.

The Interim Agreement covers the applicants' activities in State waters and federal waters out to the 1,000-fathom water depth (the seaward limit of trawling along this section of the coast).

Accordingly, the Commission finds that with the Interim Agreement in place, in combination with Special Conditions 4, 5, 6 and 7, the project is consistent with Coastal Act §30234.5 since the "economic" and "commercial" importance of fishing activities will be protected.

4.5.5 Public Access and Recreation

Coastal Act Section 30211 states that:

Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.

Coastal Act Section 30220 states:

Coastal areas suited for water-oriented recreational activities that cannot readily be provided at inland water areas shall be protected for such uses.

The portion of the proposed cable project that lies within the Coastal Commission's permit jurisdiction starts approximately 2,400 feet seaward of the beach and continues into federal waters. Since the proposed project will take place offshore, well beyond most beach-based recreational activities, no beach access or beach recreation impacts are anticipated.

Recreational activities common to State waters in this area are recreational boating, fishing, and diving activities. In the Morro Bay/San Luis Obispo area there are four to six full-time charter recreational fishing vessels, making roughly 1,000 to 1,200 trips per year. Several hundred private recreational fishing vessels operate out of the area with most activity occurring during the

summer and fall. Charter and private vessels target rockfish, lingcod, surf perch, flatfish, halibut, salmon, and tuna.

Pursuant to the federal Submarine Cable Act (47 U.S.C. 21), the master of any vessel must keep a distance of at least one nautical mile from a vessel engaged in repairing a cable. In addition, the master of any vessel must also remain at least one-quarter nautical mile from a buoy intended to mark the position of a cable when being laid or when out of service. These limitations will apply to recreational fishing vessels and boaters in the project area. However, the exclusion zone will be in constant motion as the cables are being laid and/or buried so there will be sufficient access to other fishing and boating areas in the project area. Moreover, once the cables are buried, the exclusion zone becomes ineffective, allowing unrestricted access to these areas.

The EIR found, therefore, that temporary disruptions of recreational activities, including recreational fishing and boaters, are considered less than significant.

Notwithstanding the above finding, to further minimize any potential conflicts with recreational boating, fishing or diving activities, the applicants will provide notice of all vessel activities, work locations, and schedules with the U.S. Coast Guard. The same schedule will also be posted with the Harbor Patrol offices in Morro Bay and Port San Luis so that mariners and recreational fishing vessels will be informed of offshore project activities and vessels at all times.

For the above reasons, the Commission finds that the project will not interfere with the public's ability to access and recreate at the coast and is therefore consistent with Coastal Act Sections 30211 and 30220.

Cultural Resources

Coastal Act Section 30244 states:

Where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required.

Historical and cultural resources are defined as those areas of the marine environment that possess historical, cultural, archaeological or paleontological significance, including sites, structures, or objects significantly associated with, or representative of earlier people, cultures and human activities and events. Of concern here is the potential for cable-laying activities to disturb or damage shipwrecks of potential cultural resource value.

A review of side scan sonar and magnetometer data sets conducted as part of the EIR concluded that no shipwreck size bottom feature of potential cultural resource value was observed in the proposed cable corridors. However, the EIR notes that since the cable routes are likely to be modified in response to other concerns such as the presence of hard bottom or other significant seafloor features, there remains the possibility of damage to a previously unknown shipwreck of potential cultural value.

The SLC, as part of its lease approval, has required the applicants, prior to the pre-lay grapnel run and cable installation, to submit a detailed analysis of side scan sonar and magnetometer data for each proposed cable route between the shoreline and the 1,000 fathom depth contour. The task is to identify and analyze all magnetic and side scan sonar anomalies that occur in the cable corridor, which is defined by a lateral distance of 1 kilometer (500 meters on each side of the proposed cable route). The analysis must also evaluate the potential cultural significance of each anomaly identified within the cable corridor.

If a previously unknown shipwreck of potential cultural resource value is discovered within a proposed cable route, the applicants are to modify the route to avoid the potentially significant cultural resource.

Prior to the pre-lay grapnel run and the laying of cable, and after receipt of the above-described analysis, the applicants must obtain final approval from the SLC for activities occurring within the three nautical miles of the shoreline. The ACOE will need to grant final approval of that area between the three mile limit and the edge of the continental shelf.

The Commission thus finds that the project will be consistent with Coastal Act Section 30244, which requires that mitigation measures be in place in the event that a development would adversely impact a cultural resource.

4.5.7 Air Quality

Coastal Act Section 30253(3) states:

New development shall:

(3) Be consistent with the requirements imposed by an air pollution control district or the State Air Resources Control Board as to each particular development.

The San Luis Obispo Air Pollution Control District ("APCD") is the local air pollution control district responsible for implementing federal and State air quality standards in the project area. For regulatory purposes, air pollutants are generally recognized as "criteria pollutants" or as toxic air pollutants. Criteria pollutants include carbon monoxide ("CO"), nitrogen oxide ("NO₂"), sulfur dioxide ("SO₂"), particulate matter with a diameter of up to 10 microns ("PM₁₀"), lead, sulfates and hydrogen sulfide. Toxic air pollutants are those known or suspected to cause cancer, genetic mutations, birth defects, and other serious illness to people. Reactive organic gases ("ROG") are also of concern because of their role in forming ozone, a secondary pollutant.

Emissions of ROG, NO_x, SO₂, CO, and PM₁₀ will be generated from the following offshore construction activities: pre-lay surveys; grapnel runs; cable-laying; post-lay burials with ROV and jetting; and post-lay surveys.

Of particular concern is the release of NO_x emissions due to construction activities. Nitric oxide is a colorless gas formed during combustion processes which rapidly oxidizes to form NO₂, a brownish gas. The APCD estimates that the project (both onshore and offshore segments) will produce NO_x emissions that exceed APCD's quarterly emission threshold by about 32.9 tons⁸.

The applicants and APCD have executed an "Emission Offset Agreement" whereby the applicants agree to offset the 32.9 tons of NO_x emissions through establishment of a Marine Diesel Engine Replacement Fund⁹ (See Exhibit 5). The agreement requires the applicants to contribute \$3,500 per ton of NO_x to the fund. The monies will be used exclusively to replace or retrofit two-stroke marine diesel engines. The agreement requires the applicants to pay \$115,255 to the fund on or before July 1, 2000.

The APCD informed the Coastal Commission in a letter dated March 28, 2000 that emission reductions achieved through this funding program will be sufficient to offset fully all anticipated air emissions associated with the proposed project (See Exhibit 6).

The Commission thus finds that the proposed project will be carried out consistent with the rules and requirements of the local air district and therefore is consistent with Coastal Act Section 30253(3).

⁸This is the only air pollutant that will be produced in amounts in excess of the APCD's thresholds.

⁹The fund will be managed by the Central California Joint Cable/Fisheries Liaison Committee under APCD-approved guidelines and procedures that govern distribution of the monies.

4.6 California Environmental Quality Act

As "lead agency" under the California Environmental Quality Act ("CEQA"), the County of San Luis Obispo on January 27, 2000 certified an environmental impact report ("EIR") for the proposed project.

The Commission's permit process has also been designated by the State Resources Agency as the functional equivalent of the CEQA environmental impact review process. The Commission's permit review process identified numerous impacts that were not resolved in the mitigated negative declaration. Pursuant to section 21080.5(d)(2)(A) of the CEQA and section 15252(b)(1) of Title 14, California Code of Regulations (CCR), the Commission may not approve a development project "if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse impact which the activity may have on the environment." The Commission finds that only as conditioned are there no feasible less environmentally damaging alternatives or additional feasible mitigation measures that would substantially lessen any significant adverse impact which the activity may have upon the environment, other than those identified herein. Therefore, the Commission finds that the project as fully conditioned is consistent with the provisions of the CEQA.

APPENDIX A: STANDARD CONDITIONS

1. Notice of Receipt and Acknowledgment. The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.
2. Expiration. If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.
3. Compliance. All development must occur in strict compliance with the proposal as set forth in the application for permit, subject to any special conditions set forth below. Any deviation from the approved plans must be reviewed and approved by the staff and may require Commission approval.
4. Interpretation. Any questions of intent of interpretation of any condition will be resolved by the Executive Director or the Commission.
5. Inspections. The Commission staff shall be allowed to inspect the site and the development during construction, subject to 24-hour advance notice.
6. Assignment. The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.
7. Terms and Conditions Run with the Land. These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.

APPENDIX B: SUBSTANTIVE FILE DOCUMENTS

Coastal Development Permit Application Materials

Application for Coastal Development Permit E-99-011, including Revised Project Description dated March 22, 2000.

California Coastal Zone Management Program

Federal Consistency Certification submitted by MFS Globenet Corp./MCI WorldCom Network Services Inc. on March 21, 2000, as amended on March 30, 2000.

Agency Permits and Orders

Section 401 Waiver of Water Quality Certification: MFS Globenet/WorldCom Fiber Optic Project, San Luis Obispo County, issued by Roger W. Briggs, Executive Officer, California Regional Water Quality Control Board, Central Coast Region, dated March 17, 2000.

Coastal Development Permit/Development Plan D970257D, issued by San Luis Obispo County, January 27, 2000.

U.S. Army Corps of Engineers, (Draft) Regional Permit No. (98-50470-TW)

Environmental Documents/Reports

Morro Group. January 2000. Final Environmental Impact, "MFS Globenet Corp./WorldCom Network Services Fiber Optic Cable Project, Vols. I & II. County of San Luis Obispo.

Lease Documents

State Lands Commission Fiber Optic Cable/Conduit Leases PRC 8141.1 (MFS Globenet, Inc.), Lease PRC 8142.1 (MFS Globenet, Inc.), PRC 8143.1 (MFS Globenet, Inc.), PRC 8144.1 (MFS Globenet, Inc.); Permit For Telephone Line Right of Way, No. PRC 8140.9 (MFS Globenet, Inc.).

Letters and Electronic Mail

Chia, D. 1999. Letter to Wirt Lanning, North State Resources, Inc. re: CDP application incompleteness.

Imamura, E. 2000a. Letter to Dan Chia, California Coastal Commission, re: whales.

Imamura, E. 2000b. Letter to Dan Chia, California Coastal Commission, re: hard bottom habitat.

Meggitt, D. 2000a. Email to Dan Chia, California Coastal Commission re: Thickness of sediment.

Meggitt, D. 2000b. Memo to Dan Chia, California Coastal Commission re: Clarification of "Impacted Area".

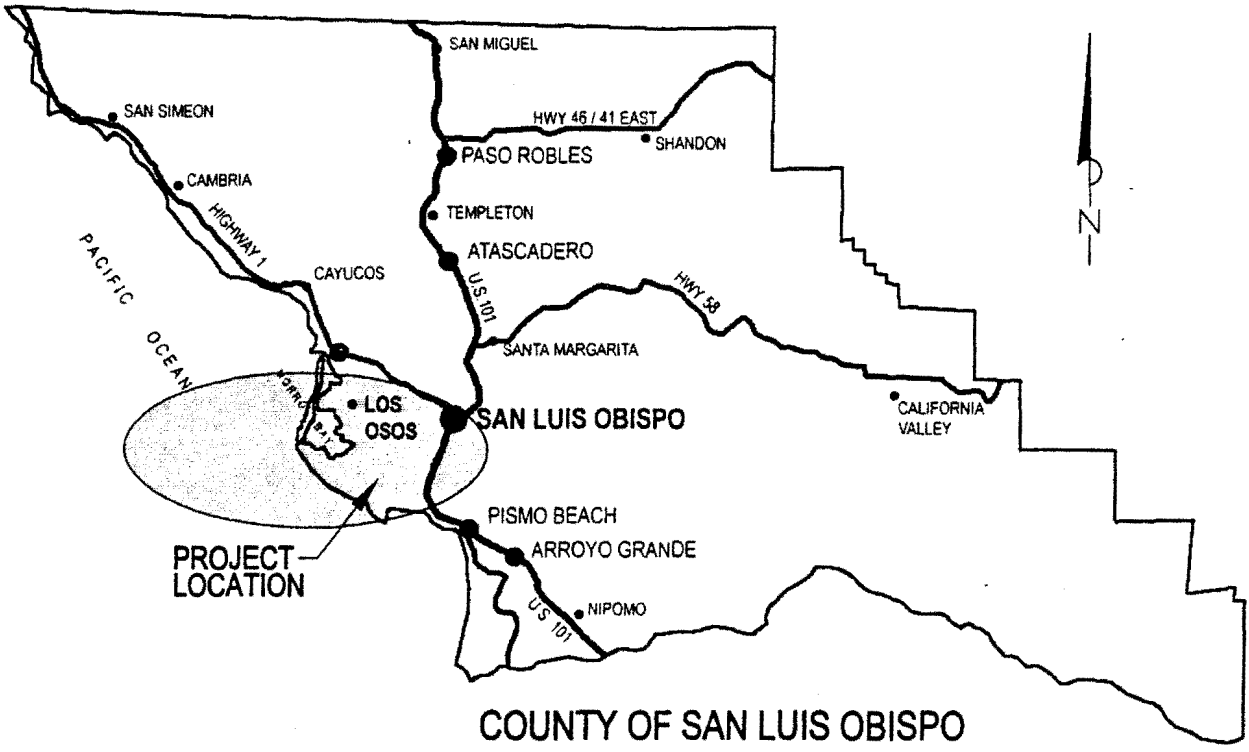
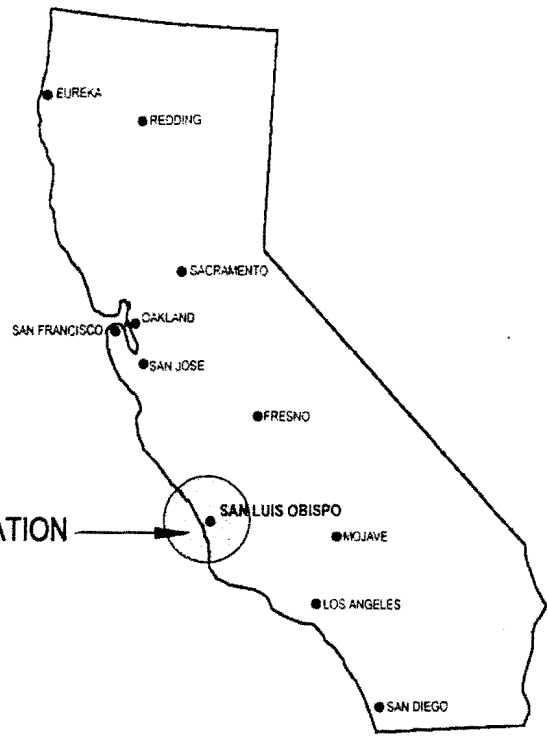
Emails from applicants: Meggitt, D. 3/32/00 re: impacted area; Towers S. 3/24/00 re: Bentonite Recapture Plan; Lucas, B. 3/22/00 re: drill mud discharge; Meggitt, D. 3/20/00 re: ROV inspection; Lucas, B. 2/22/00 re: Response to questions; Lucas, B. 2/26/00 re: additional CDP items.

Emails from County EIR consultant: Imamura, E. 3/20/00 re: hard bottom calculation; Imamura; Imamura, E. 3/20/00 re: WCom.

Other

Dungan, M. 2000. Letter to Michael Bowen, California Coastal Commission. Science Applications International Corporation.

Heezen, B.C. 1957. *Whales entangled in deep sea cables*. Deep-Sea Research 4:105-115.



ACAD\WORLD.COM\REGIONMAP.DWG 7-9-99

Exhibit 1
E-99-011
CC-028-00

MFS Globenet / WorldCom EIR
MONTANA DE ORO STATE PARK TO CITY OF SAN LUIS OBISPO

HORIZONTAL SCALE: N.T.S.
VERTICAL SCALE: N.A.

REGIONAL LOCATION MAP

FIGURE III-1



Exhibit 2
E-99-011
CC-028-00

3 915 000 N

3 910 000 N

MORRO BAY

120° 52' W

120° 54' W

120° 56' W

120° 58' W

121° 00' W

690 000 E

685 000 E

35° 22' N

Southern Cross (Seg D)

35° 20' N

Japan-US (Seg 1)

35° 18' N

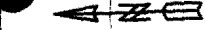
PROPOSED CABLE ROUTES

SOUTHERN CROSS (Seg-D)
JAPAN US (Seg-1)

PACIFIC OCEAN

Kilometres

SCALE 1:50,000



3-MILE LIMIT

3-MILE LIMIT





PROPOSED CABLE ROUTES (INCLUDING EXISTING AT&T CABLES)

SOUTHERN CROSS (Seg-D)
JAPAN US (Seg-1)

TPC5 (SegT1)

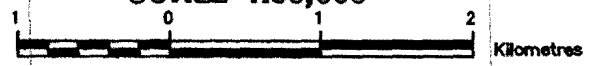
Southern Cross (SegD)

HAW5

Japan-US (Seg1)

TPC5 (SegG)

SCALE 1:50,000



121°00'W

120°58'W

120°56'W

120°54'W

120°52'W

35°22'N

35°20'N

35°18'N

685 000 E

690 000 E

3915 000 N

3910 000 N

3-MILE LIMIT

3-MILE LIMIT

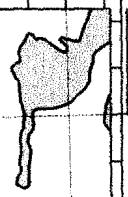


Exhibit 3
E-99-011
CC-028-00

PACIFIC OCEAN

MORRO BAY



CALIFORNIA COASTAL COMMISSION

45 FREMONT, SUITE 2000
SAN FRANCISCO, CA 94105-2219
VOICE AND TDD (415) 904-5200
FAX (415) 904-5400



DRAFT
Memorandum of Agreement
Between the
California Coastal Commission,
California Department of Fish and Game
and
United Anglers of Southern California

This Memorandum of Agreement (Agreement or MOA) is by and between the California Coastal Commission (the Commission), the California Department of Fish and Game (DFG), and the United Anglers of Southern California (UASC), sometimes referred to as the Parties. The Parties agree as follows:

WHEREAS, MFS Globenet Corp. and MCI WorldCom Network Services Inc. (hereinafter referred to collectively as "the Applicants") have applied to the Coastal Commission to obtain a coastal development permit to install two fiber optic cables offshore Montana de Oro State Park in San Luis Obispo County.

WHEREAS, on _____, the Commission granted to the Applicants coastal development permit E-99-011 to install two fiber optic cables offshore Montana de Oro State Park in San Luis Obispo County.

WHEREAS, as a condition (Special Condition 13) of its approval, the Commission has required the Applicants to compensate for all project-related adverse impacts to hard bottom habitat through payment of a compensatory mitigation fee (hereinafter "the fee") which will be used to fund the construction of a new artificial reef or augmentation of an existing artificial reef in state waters within the Southern California Bight. The condition provides that the amount of the fee shall be calculated by multiplying by a compensation rate of \$7.44 per square foot the total area of disturbed or lost hard bottom.

WHEREAS, the condition further requires that, should impacts occur, the Applicants shall pay their fee to the UASC within 30 calendar days of review and written determination by the Commission's Executive Director of the results of the Hard Bottom Seafloor Survey.

WHEREAS, the DFG is the principal State agency responsible for the establishment and control of fishery management programs. The DFG is the State trustee agency with jurisdiction over the conservation, protection and management of fish, and habitat necessary for biologically sustainable populations of fish species (Fish and Game, section 1802, 711.7).

WHEREAS, the DFG administers the California Artificial Reef Program for the purposes of (1) placing artificial reefs in state waters; (2) studying existing artificial reefs and all new reefs to

determine the design criteria needed to construct artificial reefs capable of increasing fish and invertebrate production in waters of the state; and (3) determining the requirements for reef siting and placement (Fish and Game Code, sections 6420-6425).

WHEREAS, the DFG desires to assume the lead responsibility for the planning, siting, design and permit requirements for the construction of any new artificial reef or augmentation of an existing artificial reef in state waters using the fee(s) obtained from the Applicants.

WHEREAS, the UASC are a volunteer group of recreational anglers interested in preserving, protection and enhancing marine resources and fishing opportunities.

WHEREAS, the UASC desires to secure and enter into construction contract with a contractor to construct any new artificial reef or augment an existing artificial reef using the fee(s) obtained from the Applicants.

NOW, THEREFORE, in consideration of the benefits to marine resources of the State of California, the Commission, the DFG and the UASC agree as follows:

1. The UASC agrees to receive any feed paid by the Applicants. Within 30 calendar days of receipt of any fee, the UASC shall deposit the funds in an interest-bearing account ("the compensatory hard bottom mitigation fund" or "fund"). These funds including all earned interest shall be expended by the UASC solely for reef materials, construction costs, and the UASC's administration of the fund (not to exceed 10% of the total collected fees).
2. Within 180 days of the date on which all fees have been paid to the UASC, the DFG shall develop and submit for review and approval by the Commission's executive director, a plan to spend the monies within the fund on either the construction of a new artificial reef or augmentation of an existing artificial reef within the Southern California Bight.
3. Within one year of approval by the Commission's executive director of a plan to spend the compensatory hard bottom mitigation fund, the DFG shall secure all necessary governmental approvals, including a coastal development permit, to construct a new artificial reef or augment an existing artificial reef within the Southern California Bight.
4. Within 90 days of either: (1) the granting of all necessary governmental approvals to construct a new artificial reef or augment an existing reef, or (2) approval by the Commission's Executive Director of a plan to spend the monies in the fund, whichever occurs later, the UASC shall secure and enter into a construction contract (the "Contract") with a contractor to construct either a new artificial reef or augment an existing artificial reef within the Southern California Bight. The Commission's executive director may for good cause grant an extension of the time deadline imposed by this section.
5. The Contract shall: (1) provide that the contractor will assume all liability for the reef material (e.g., quarry rock) until its placement in the designated location(s), and (2) specify that when the reef material touches the ocean floor at such location(s), the reef material

shall become the property of the DFG.

6. Within two years of approval by the Commission's executive director of a plan to spend the monies in the fund, the UASC shall spend these monies to complete the construction of either a new artificial reef or augmentation of an existing artificial reef within the Southern California Bight.
7. The UASC and the contractor(s) must maintain Generally-Accepted Accounting Principles (GAAP), financial management, and accounting system and procedures which provide for (1) accurate, current and complete disclosure of all financial activity for the reef project, (2) effective control over, and accountability for all funds, property and other assets, related to the project, (3) comparison of actual outlays with budgeted amounts, and (4) accounting records supported by source determination. Annual financial reports showing current and cumulative financial activity must be provided to the Commission. All project records must be made available at any time for examination by the Commission.

The UASC shall retain all pertinent books, documents and papers, including financial transactions and supporting documents, and policies and procedures for the general accounting system, internal controls, and management practices for a period of three years following the date(s) of all final payment(s) under the Contract.

8. A failure on the part of any of the Parties to carry out the terms of this Agreement shall result in the following process. The party that believes another party is failing to carry out the terms of the Agreement shall bring the issue to the Executive Director of the Commission. If the Executive Director of the Commission cannot resolve the issue, the matter shall be referred to the Commission for resolution. The Commission may choose to seek (1) judicial enforcement of the terms of this MOA; (2) a full refund of any unexpended funds; or (3) other appropriate remedies.
9. This Agreement may be amended only in writing executed by all Parties.

IN WITNESS WHEREOF, the Parties have executed this MOA to this effect as of the date last signed below.

CALIFORNIA COASTAL COMMISSION

By: _____
PETER M. DOUGLAS
Executive Director

Date

CALIFORNIA DEPARTMENT OF FISH AND GAME

By: _____
ROBERT HIGHT
Executive Director

Date

UNITED ANGLERS OF SOUTHERN CALIFORNIA

By: _____

Date

EMISSION OFFSET AGREEMENT

WHEREAS, MFS Globenet Corp. ("MFS"), a subsidiary of MCI/WorldCom has applied to construct certain telecommunication facilities and install fiber optic cables within the coastal zone and elsewhere in San Luis Obispo County as proposed in its application submitted to the County Planning Department as project ED 97-777 (D970257D); and

WHEREAS, the San Luis Obispo County Planning Department approved the issuance of a Coastal Development Permit for the project on January 27, 2000; and

WHEREAS, MFS Globenet has a pending application for certain offshore permits and certification pending before the California Coastal Commission; and

WHEREAS, the San Luis Obispo County Air Pollution Control District ("APCD") has concluded that construction activities associated with the proposed project will cause the emission of certain air pollutants at levels that exceed established thresholds and is desirous of offsetting those emissions through the marine diesel engine retrofit program described below; and

WHEREAS, MFS is willing to provide the funds needed to achieve the emission offsets on the terms and conditions described below.

NOW, THEREFORE, THE PARTIES AGREE AS FOLLOWS:

1.) APCD has established uniform procedures and assumptions for determining air emission levels for construction and cable installation activities associated with the MFS Project and other pending and future fiber optic cable projects in San Luis Obispo County.

2.) APCD has estimated that the MFS Project will produce oxides of nitrogen (NO_x) emissions that exceed the APCD quarterly CEQA threshold by no more than 32.9 tons. This is the only air pollutant that will be produced in amounts in excess of the APCD's thresholds.

3.) APCD agrees that it will use the same procedures and methodologies to estimate the emissions from the pending applications submitted by other offshore cable projects and will require equivalent programs to offset the emissions from those projects.

4.) APCD believes that equivalent or greater reductions in NO_x emissions can be achieved by retrofitting older, two-stroke diesel engines currently in use in the fishing vessels that operate on state waters off San Luis Obispo County.

5.) APCD believes that on the basis of current engine and installation costs, and vessel usage figures, NO_x emissions can be reduced at a rate of \$3,500 per ton if the monies are used exclusively to replace or retrofit two-stroke marine diesel engines.

6.) MFS will establish a Marine Diesel Engine Replacement Fund ("MDERF") to be managed by the Central California Joint Cable/Fisheries Liaison Committee ("Liaison Committee") and to assist the Liaison Committee in preparing guidelines and procedures that will govern the use of monies contributed to the fund in order to assure, to the maximum extent possible, that the objectives of this agreement are achieved. The guidelines and procedures shall be approved by the APCD prior to the disbursement of money from the MDERF.

7.) The guidelines and procedures for MDERF shall include requirements that

a.) money contributed to the MDERF shall be used solely for reimbursing engine owners for the actual cost of purchasing and installing diesel engines that meet current International Maritime Organization or U.S. Environmental Protection Agency standards, hiring consultants, and for other costs of administering the fund. No more than ten percent (10%) of the money contributed to the MDERF may be used for administrative costs or consultant fees without prior approval of the APCD.

b.) there be a 10% or greater matching fund requirement for applicants who wish access to the MDERF.

c.) the APCD be provided reports on the disbursement of money from the MDERF on a quarterly basis.

d.) the Liaison Committee shall maintain documents (and make copies available to the APCD on request) adequate to demonstrate that the anticipated level of emissions offsets has been achieved based upon guidelines and standards to be supplied by the APCD.

8.) On or before July 1, 2000, MFS shall pay \$115,255 to the Liaison Committee to be used solely in connection with the MDERF.

9.) Within 3 days of the execution of this Agreement the APCD shall provide written notice to the Coastal Commission informing the Commission of this Agreement and certifying that all anticipated air emissions associated with the MFS Project will be fully offset.

10.) This Agreement shall be effective when signed by both parties.

Dated: March __, 2000

San Luis Obispo County
Air Pollution Control District

By: _____
Robert W. Carr, Air Pollution
Control Officer

Dated: March __, 2000

MFS Globenet

By: _____
(Title)





March 28, 2000

Alison Dettmer
California Coastal Commission
45 Fremont, Suite 2000
San Francisco, CA 94105-2219

SUBJECT: Emission Offset Agreement Between MFS Globenet/Worldcom and the San Luis Obispo County Air Pollution Control District

Dear Ms. Dettmer:

This letter is to inform you that the San Luis Obispo County Air Pollution Control District (District) has approved the final draft version of the MFS Globenet/Worldcom (MFS) *Emission Offset Agreement*. The *Emission Offset Agreement* establishes the Marine Diesel Engine Replacement Fund (MDERF), which will be managed by the Central California Joint Cable/Fisheries Liaison Committee (Liaison Committee). The intent of the MDERF is to retrofit local marine vessels currently using older, 2-stroke diesel engines with newer, cleaner burning engines. Similar programs performed in Santa Barbara County and elsewhere have demonstrated that this is a sound and cost effective emission reduction strategy. Some of the major points of the agreement are listed below:

- All estimated emissions above the District's 6 ton/quarter mitigation threshold will be offset to 5 ton/quarter or lower.
- Quarterly NOx emissions above 5 tons/quarter will be "offset" through contribution to the MDERF at a rate of \$3,500 per ton.
- The District will be responsible for establishing a uniform emission estimation methodology, based on the methods used in this project, for application to similar cable projects.
- Money contributed to the MDERF shall be used solely for reimbursing engine owners for the actual cost of purchasing and installing diesel engines that meet International Maritime Organization (IMO) or U.S. EPA standards; no more than 10% of the fund may be used for administrative costs or consultant fees without prior approval of the APCD.
- The MDERF will target boats powered by older technology, 2-stroke diesel engines.
- Applicants who wish to access the MDERF must provide at least a 10% match for any funds granted.
- Guidelines and procedures for the ultimate distribution of money from the MDERF will be developed by MFS and approved by the District prior to implementation of the program.
- Quarterly reports shall be provided to the APCD detailing the projects funded and disbursement of money from the MDERF.

- The Liaison Committee shall maintain documents (and make copies available to the APCD) adequate to demonstrate that the anticipated level of emissions offsets has been achieved based on guidelines and standards established by the APCD.
- Funding the MDERF is a mitigation option available to other companies requesting approval of permits with your office.


Following is a breakdown of unmitigated emissions, offset thresholds, and resulting offset liability for the MFS Globenet/Worldcom fiber optic cable project. The emissions have been calculated by Arthur D. Little Corp. for the project description currently before your agency (5 bore holes, 2 cables, and cable installation between San Luis Obispo and Los Osos); these are revised from the emissions estimated in the Final EIR, which differed in the assumption that 5 cables would be installed at this time.

	<u>Qtr 1</u>	<u>Qtr 2</u>	<u>Total</u>
Total NOx Emissions (tons/qr)	21.47	21.47	42.93
Offset Target (tons/qr)	5.0	5.0	
Offsets Needed (tons/qr)	16.47	16.47	32.93

This mitigation is consistent with the guidance provided in the District's CEQA Air Quality Handbook. Based on the offsets needed and a rate of \$3,500 per ton, MFS Globenet/Worldcom will contribute \$115,255 to the MDERF. District staff are confident that the emission reductions achieved through this funding program will be sufficient to reduce the air quality impacts of this project to a level of insignificance.

Please contact me at (805) 781-5912 if you have any questions or need additional information on this matter.

Sincerely,



Barry Lajoie
Air Quality Specialist

LRA/bpl

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