

## CALIFORNIA COASTAL COMMISSION

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**Th5b**

May 1, 2000

**To:** Coastal Commissioners and Interested Parties

**From:** Peter M. Douglas, Executive Director  
Jaime C. Kooser, Deputy Director  
Alison J. Dettmer, Manager, Energy and Ocean Resources Unit  
Daniel A. Chia, Staff Analyst

**Re:** **Change in Staff Recommendation of Coastal Development Permit Application E-98-029/Consistency Certification CC-059-00.**

Coastal Commission staff erred in its analysis contained in the attached staff report. Staff incorrectly understood that both of AT&T's fiber optic cables were going directly to China. In fact, the proposed E1 cable is routed to Oregon first before going to China. This was discovered during the final review of the draft report just prior to the deadline for the mailing. Consequently, in the attached staff report, the staff mistakenly analyzed the proposed E1 cable route as "coastal-dependent" and did not evaluate a land-based alternative route to Oregon.

This oversight occurred due to the expedited review of the permit application and multiple staff changes while coastal development permit application E-98-029/consistency certification CC-059-00 was being prepared and then filed and processed.

A land-based alternatives analysis is critical to a complete evaluation under the Coastal Act of the impacts of the E1 cable route. Indeed, on April 21, 1999, a former Energy and Ocean Resources staff analyst requested of AT&T an E1 route land-based alternatives analysis to Oregon. To date, staff has not received such an analysis.

In light of the above factors, the staff is changing its recommendation. Staff now recommends that the Commission approve at the May hearing only the proposed S7 cable route, as conditioned, and continue consideration of the proposed E1 cable route to a future hearing after staff has had an opportunity to analyze an onshore alternative.

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Commission Action/Vote:

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

**CDP Application No.:** E-98-029

**Consistency  
Certification No.** CC-059-00

**Project Applicant:** AT&T Corporation

**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:** Burial of two fiber optic cables starting at a location  
approximately 0.5 mile west of the mean high tide line to the  
1,000-fathom depth contour in federal waters.

**Related Approvals:** State Lands Commission. Amendment to General Permit;  
amendment to a General Lease; and General Lease PRC 8154.1  
(Right of Way Use); approved on April 20, 2000.  
California Regional Water Quality Control Board, Central Coast  
Region. Waiver of waste quality certification issued April 27,  
2000.  
U.S. Army Corps of Engineers. File No. 99-50082-TW.

**Substantive File Documents:** Appendix B

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## SYNOPSIS

AT&T Corporation (hereinafter "the applicant") proposes 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 (SLO). The two cables have the following name identifiers: segments E1 and S7 of the China-U.S. Cable Network System. Both cables are proposed to connect the United States with China with landings in East Asia and Morro Bay.

The applicant proposes 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. Both cables are proposed to be pulled into an existing AT&T cable conduit (previously permitted by the Coastal Commission, CDP 4-91-61) located in the Sandpit parking lot at Montana de Oro State Park (located within the County of San Luis Obispo's coastal permit jurisdiction). However, contingent upon the successful and timely installation of the five cable conduits by MCI WorldCom (permitted by the Coastal Commission, CDP E-99-011) at the same location, the applicant prefers to realign the E1 cable into the MCI WorldCom's southernmost conduit ("2 in 2 Option"). The S7 cable would be pulled as proposed into the existing AT&T conduit.

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-98-029, is the burial of both cables from a location approximately 0.5 mile 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 April 25, 2000, the applicant 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 applicant has committed in its 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-98-029, as conditioned. The Commission staff also recommends that the Commission concur with consistency certification CC-059-00.

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

<b>Significant Issue Area</b>	<b>Proposed Special Conditions and Mitigation Measures</b>
<b>Marine Resources: Marine Mammals</b>	<p><b>Issue:</b> 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><b>Mitigation Measures:</b></p> <p><b>Special Condition 4</b> requires both the E1 and S7 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 applicant shall bury the cables to the maximum depth feasible.</p> <p><b>Special Condition 5</b> requires that within 30 days of cable installation, the applicant 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><b>Special Condition 6</b> requires that every 18 to 24 months for the life of project, the applicant shall survey those portions of the E1 and S7 cable route 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 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 applicant shall, within 30 days of survey completion, submit to the Executive Director for approval a plan to re-bury those cable segments.</p> <p><b>Special Condition 7</b> requires that within 90 days of taking either the cable out of service or after the expiration or sooner termination of the applicant's State Lands Commission lease(s) or permit(s), the applicant 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
<p><b>Marine Resources: Marine Mammals (cont.)</b></p>	<p><b>Special Condition 9</b> 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><b>Special Condition 10</b> requires that within 30 days of completion of cable installation activities, the applicant shall submit to the Executive Director a copy of the marine mammal monitoring report required by condition #12 of the applicant's State Lands Commission lease(s).</p> <p><b>Special Condition 11</b> requires that in the event that trawlers snag and cut their trawl gear due to entanglement with either cable, the applicant 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 applicant shall provide notice to the Executive Director within seven days of gear retrieval efforts.</p>
<p><b>Marine Resources: Hard Bottom</b></p>	<p><b>Issue:</b> 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><b>Mitigation Measures:</b></p> <p><b>Special Condition 12</b> 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 applicant 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><b>Special Condition 13</b> states that the applicant 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>

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<b>Marine Resources: Hard Bottom (cont.)</b>	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 to be established by the Commission at its hearing on this matter. 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.
<b>Commercial Fishing</b>	<b>Issue:</b> 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.  <b>Mitigation Measures:</b> The Commission is requiring <b>Special Conditions 4, 5, 6, and 7</b> , as defined above under the Marine Resources issue area.

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**TABLE OF CONTENTS**

SYNOPSIS .....	2
TABLE 1. Issue Summary: Potential Impacts and Proposed Conditions and Measures .....	3
TABLE OF CONTENTS .....	6
1.0 STAFF RECOMMENDATION .....	7
2.0 STANDARD CONDITIONS .....	8
3.0 SPECIAL CONDITIONS .....	8
4.0 FINDINGS AND DECLARATIONS .....	10
4.1 PROJECT DESCRIPTION .....	10
4.2 PRIOR FIBER OPTIC CABLE PROJECTS APPROVED BY COASTAL COMMISSION .....	16
4.3 THE COASTAL COMMISSION'S PERMIT AND FEDERAL CONSISTENCY JURISDICTION .....	16
4.4 RELATED APPROVALS .....	17
4.5 COASTAL ACT ISSUES .....	19
4.5.1 Marine Resources and Water Quality .....	18
4.5.2 Oil Spills .....	31
4.5.3 Dredging and Placement of Fill in Coastal Waters .....	32
4.5.4 Commercial and Recreational Fishing .....	35
4.5.4 Public Access and Recreation .....	40
4.5.5 Cultural Resources .....	42
4.5.6 Air Quality .....	42
4.6 CALIFORNIA ENVIRONMENTAL QUALITY ACT .....	43
<u>Appendix A.</u> Standard Conditions .....	45
<u>Appendix B.</u> Substantive File Documents .....	46

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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-98-029.

#### **Motion:**

I move that the Commission approve Coastal Development Permit Application No. E-98-029 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-98-029 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-059-00 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 AT&T Corporation 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 applicant's March 24, 1999 coastal development permit application submittal, as amended by a revised project description dated April 13, 2000 and by electronic mail and correspondence as indicated in Appendix B, 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 applicant agrees 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 applicant 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 E1 and S7 cable 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 applicant shall bury the cables to the maximum depth feasible.
5. **Cable Installation Documentation.** Within 30 days of cable installation, the applicant 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 applicant shall survey those portions of the E1 and S7 cable route 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 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 applicant 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 applicant's State Lands Commission lease(s) or permit(s), the applicant 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 applicant shall submit to the Executive Director a copy of the marine mammal monitoring report required by condition 12 of the applicant's 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 applicant 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 applicant 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 applicant 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 applicant 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 to be established by the Commission at its hearing on this matter. 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 applicant shall submit for Executive Director approval a project-specific oil spill contingency plan that includes: (a) an estimate of a reasonable worst case spill from project operations pursuant to the nontank vessel contingency plan regulations found at 14 CCR Sections 825.03 - 827.02; (b) a list of all clean-up equipment that will be maintained on the primary work vessel (at a minimum, the equipment required in 14 CCR Sections 825.03-827.02); (c) the specific designation of the onsite person who will have responsibility for implementing the plan; and (d) for all project vessels, 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.

#### **4.0 FINDINGS AND DECLARATIONS**

##### **4.1 Project Description**

AT&T Corporation (hereinafter "the applicant") proposes 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 AT&T's existing fiber optic cable terminal building located near the City of San Luis Obispo and then extend to existing fiber optic cable networks.

The two cables have the following name identifiers: segments E1 and S7 of the China-U.S. Cable Network System (CUS). Both cables are part of a "ring" system with landings in China, East Asia, and Morro Bay. The CUS cable system will be operated as a private carrier, pursuant to a Cable Landing License (No. DA 98-1711) issued by the Federal Communications Commission ("FCC"), with no obligation to offer its capacity or provide services to the public.

The cables are proposed to be installed in the same general cable corridor as three existing AT&T fiber optic cables (see Section 4.2 below; Exhibit 3). The applicant proposes to bury both cables to target depth of 1.0 meter (approximately 3.3 feet) from where they surface from the seafloor conduit portals to the 1,000-fathom water depth.

The proposed E1 cable will cross the TPC-5 T1 cable, an existing AT&T cable, within State waters at a depth of 26 meters. The E1 cable will be laid directly on the seafloor over the TPC-5 cable and buried by a remotely operated vehicle ("ROV"). The crossing will be made as close to a perpendicular angle to the existing cable as practicable.

Both cables are proposed to be pulled into an existing AT&T cable conduit (previously permitted by the Coastal Commission, CDP 4-91-61) located in the Sandpit parking lot at Montana de Oro State Park (located within the County of San Luis Obispo's coastal permit jurisdiction). However, contingent upon the successful and timely installation of the five cable conduits by MCI WorldCom (permitted by the Coastal Commission, CDP E-99-011) at the same location, the applicant prefers to realign the E1 cable into the MCI WorldCom's southernmost conduit ("2 in 2 Option"). The S7 cable would be pulled as proposed into the existing AT&T conduit.

The proposed project will require the use of two cable laying vessels, the *CS Seaspread* or similar vessel (within 3 miles of the mean high tide line), and the *CS Global Sentinel* or similar vessel (from 3 miles offshore to 1000 fathoms). This will require a cable splice just outside of State waters. Additional vessels and equipment that may also be required include: a vessel to support ROV and dive operations, a secondary work vessel, an ROV, and a cable burial machine.

#### **4.1.1 Fiber Optic Cable Installation Procedures**

There are five phases of the cable installation process for the proposed project: (1) route surveys; (2) pre-lay grapnel runs, in which the route is cleared of debris; (3) conduit exposure and cleaning; (4) cable laying or burying; and (5) post-lay cable burial.

### ***Route Surveys***

The applicant conducted geophysical surveys and sampling of the ocean bottom in the project area in 1998 and 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 ultimately, a burial assessment report. Based on this information, the applicant states that they selected two routes that avoid hard bottom habitat to the maximum extent feasible and that are 99% buriable.

### ***Pre-Lay Grapnel Run***

In order to clear the routes of obstacles (*e.g.*, discarded trawl gear) not detected on sidescan sonar imagery that a cable plow or ROV may encounter, a grapnel (typically a flat fish type measuring roughly 3x2 feet), fitted with blade (with an average width of about 4 inches wide), will be pulled along both cable routes. The grapnel, to be pulled by a work boat, can penetrate approximately 0.4 meters (1.3 feet) into the seabed. If debris is hooked by the grapnel arms, the towing will cease and the grapnel and associated debris will be retrieved and stowed on the vessel for proper disposal onshore. Grapnel operations will not take place in rocky substrates. This operation will last approximately one week for both routes and will take place before cable installation.

### ***Conduit Exposure and Cleaning***

In 1992, AT&T drilled four directional bore pipes or conduits from the Sandspit parking lot at Montana de Oro State Park to roughly 0.5 mile offshore (see section 4.2). One of these conduits will be used to house both cables, or under the "2 in 2 Option", only the S7 cable. If the "2 in 2 Option" is implemented, the E1 cable will be housed in a conduit to be drilled by MFS Globenet and MCI WorldCom<sup>1</sup>, as a part of a project previously approved by the County and Coastal Commission (E-99-011) in April 2000.

Only the existing AT&T conduit will need to be cleaned and prepared for cable pulling. It will be initially flushed with either air or potable water to clear any sediment or seawater. At the time the conduit was drilled, a check valve (a one-way flexible valve) was installed on the offshore end to minimize the intrusion of sediments from into the conduit. However, approximately three cubic yards of ocean sediments may need to be flushed from the conduit. Divers will also have to hand-jet a total of approximately 10-15 cubic yards of overlying sediments away from the existing conduit. A bore machine will be used onshore (and in the County's coastal permitting jurisdiction) to push brushes, swabs, and mandrels (metal rods) through the conduits in order to clean them. This work will take a total of approximately 2 days.

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<sup>1</sup> According to a letter from AT&T to the State Lands Commission dated April 3, 2000, if requested by AT&T, MCI WorldCom will assign its SLC lease to AT&T for the southernmost conduit (#5).

### ***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 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. Divers will attach the cables to a wire pull rope 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 is expected to last a total of two to three days.

Once the shore ends of both cables have been landed, a vessel will commence the cable lay out to approximately 3.1 miles offshore. The E1 cable will be laid first to this point and be buoyed off awaiting the main cable vessel. Subsequently, the S7 cable will be laid and buoyed to the same point. Activities will be synchronized as closely as possible, but the cables could be left buoyed for 2 to 4 weeks, awaiting the main cable vessel. The main cable vessel will then proceed with cable lay operations out to the 1,000 fathom depth contour. Offshore laying operations (beyond 3 miles) will take place on a 24-hour basis and last a total of approximately 10 days.

In the nearshore areas within State waters (up to the 35 meter depth), temporary anchors will be installed at several locations along the routes. Five Manta Ray anchors<sup>2</sup> per cable and articulated pipe will be installed at altercourses (sharp bends in the route) in the nearshore to ensure that the cables remain as they were laid. The presence of altercourses 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. 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.

### ***Cable Burial***

There are three methods to burying the cables to a target depth of 1.0 meter: hand-jetting, a cable burial machine or plow, and an ROV fitted with a jetting tool. After the cables exit the conduits to the 25 meter water depth (a distance less than 0.5 mile), they will be buried by divers using hand jets. From the 25 meter water depth to the 100 meter depth an ROV will bury both cables. An ROV is proposed for burial where use of a 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). A plow

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<sup>2</sup> 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.

will bury both cables from approximately the 75 meter depth to 1,200 meters. Further seaward, to water depths of about 1,800 meters (6,000 feet), the cable will be buried by a ROV. Beyond this point, the cable will be laid on the seafloor. All three burial methods will attempt to achieve the target burial depth depending on the type of bottom sediments encountered. These burial techniques are described below.

### ***Hand-Jetting***

For a small segment of the cable routes (approximately 0.5 mile), the cables will be buried by divers equipped with hand jets, consisting of pressurized water emitted from a nozzle. The jets will use sea water under pressure to displace seafloor sediments. From the end of the conduit bore holes to the 25 meter water depth, divers will jet a narrow trench beneath the cables allowing them to drop into the trench. The disturbed sediments will naturally settle and fill in the excavation to the original grade. This task will last for approximately 4 days.

### ***Hydroplow***

The applicant proposes to bury the E1 and S7 cable segments to a target burial depth of 1.0 meter by a cable burial machine or hydroplow (plow) from approximately the 75 meter water depth (seaward extent of State waters) to 1,100 meters, which is roughly 42 miles from the coastline of Montana de Oro State Park. The total distance of plow burial is estimated to be approximately 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 period estimated for cable plowing is 4-5 days.

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

A free-swimming ROV will be used to bury both cables from the 25 meter water depth to 75 meters and from the 1,200 meter water 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.

Where successful burial has not been achieved during installation operations, an ROV will bury or re-bury those segments to a target depth of 1.0 meter. A real-time video recorder installed on the plow or ROV will allow the applicant to monitor burial operations and note segments that need to be re-buried.

The actual burial depth by ROV can be determined geometrically by measuring the angle of the arm relative to the vehicle. According to the applicant, this method is accurate to within two to three inches. The estimated rate at which the ROV will accomplish burial is 0.56 kilometer per hour for approximately 21 miles on each route, requiring approximately 4-5 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 applicant does not anticipate that any cable maintenance and repair will be required over the life of the cables (25 years) since they 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, a similar fiber optic cable project off of Morro Bay concludes that cables crossing the shelf at Morro Bay would be subject to 0.22 faults in the 25 years of project life (Morro Group, 2000). 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 buried cable has become unburied due to a fault, it can normally be hooked using a grapnel, ROV, or divers, depending on water depth. Typically, in soft substrates 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, an ROV with a jetting tool can be used to unbury the cable. Near hard bottom areas, either an ROV or a grapnel dragged in adjacent soft bottom areas is utilized. Once found, the damaged cable section would be cut on the seafloor and then raised to the surface. 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 applicant estimates the operational life of each cable to be about 25 years. Upon the expiration of the applicant's State Lands Commission lease or when the cables are taken out of service, whichever is sooner, the applicant will submit a plan for cable removal so as not to interfere with commercial fishing activities in areas where such cables were previously installed.

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 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)<sup>3</sup>, HAW-5, in January 1992, and the remaining two cables, TPC5-T1 and TPC5-G (#4-91-006-A1), in September 1994. In April 2000, the Coastal Commission approved the installation of two fiber optic cables within State waters by MFS Globenet and MCI WorldCom (E-99-011) off of Montana de Oro State Park.

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, MCI WorldCom, 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-98-029.

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

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<sup>3</sup> 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.

certification. For the portion of the project that lies outside the coastal zone in federal waters, the applicant has submitted a consistency certification to the Coastal Commission (received April 25, 2000).

The applicant has 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.

#### **4.4 Related Approvals**

##### **4.4.1 County of San Luis Obispo**

On November 14, 1991, the County of San Luis Obispo certified a Negative Declaration, pursuant to the California Environmental Quality Act ("CEQA"), for the drilling of four fiber optic cable directional bores from the Sandspit road parking lot in Montana de Oro State Park to the mean high tide line, the pulling of one cable, and for the onshore portion of the project. At the same time, the County of San Luis Obispo approved a coastal development permit ("CDP") (#D900132D) for that portion of the project, including the directional boring of four conduits from the Sandspit Road Parking Lot and the onshore cable routes, that lies within the County's coastal permit jurisdiction. Currently, one bore or conduit remains empty.

On October 1, 1998, the County found that the pulling of two new cables through the existing conduit is an activity consistent with the previously approved CDP.

##### **4.4.2 California State Lands Commission ("SLC")**

On January 8, 1992, the California State Lands Commission ("SLC") approved a **General Permit-Right of Way Use**, Permit No. PRC 7603 to AT&T for the construction of four offshore conduits and the installation of one fiber optic cable within State waters and submerged lands. Subsequently, on August 3, 1994, the SLC approved an amendment to this permit that authorized AT&T to lay two additional cables.

Because the proposed project cables will be operated as private carriers with no obligation to provide services to the public, the SLC required a new lease for those portions of the project within State waters and submerged lands. On April 20, 2000, the SLC approved a new lease (PRC 8154.1) and certified an Environmental Impact Report (EIR), pursuant to CEQA, for the proposed project in State waters and submerged lands. Additionally, because AT&T prefers to land the E1 cable in a new conduit to be drilled by MFS Globenet and MCI WorldCom, under a previously approved lease (PRC 8144), the SLC also approved on April 20, 2000 an amendment to PRC 8144 in order to provide AT&T with the option to install the E1 cable within the new conduit.

#### **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 4(f) of the Outer Continental Shelf Lands Act (OCSLA), as amended. Section 10 of the Rivers and Harbors Act regulates the diking, filling and placement of structures in navigable waterways. Section 4(f) of the OCSLA requires a permit for the construction or artificial islands, installations, and other devices on the seabed to the seaward limit of the outer continental shelf. According to the ACOE, the laying of a cable on the seafloor beyond the three mile limit is considered an "installation" and "other device" on the seabed.

The ACOE has preliminarily indicated that it will process the proposed project in its jurisdiction under nationwide permit #12 for discharges of dredged or fill material associated with excavation, backfill or bedding for utility lines.

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 applicant submitted a consistency certification on April 25, 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 applicant has applied for a water quality certification/waiver pursuant to Section 401 of the Clean Water Act. On April 26, 2000, the RWQCB issued a waiver of water quality certification based on mitigation measures adopted in the EIR.

#### **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, the applicant has agreed to offset residual nitrogen oxide emissions, which exceed the district's NO<sub>x</sub> emission threshold by 2.9 tons, by contributing \$6,000 to a Marine Diesel Engine Replacement Fund established by the APCD to be managed by the California Joint Cable Fisheries Liaison Committee. The monies will be used exclusively to replace or retrofit two-stroke marine diesel engines.

## 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 identified the following potential marine biological resource and water quality impacts that could be caused by cable installation activities: (1) disturbance of soft bottom habitats and destruction of benthic invertebrates, (2) disturbance of hard-bottom habitat and destruction of epibenthic organisms, and (3) increased turbidity or particulate loads that may be deleterious to marine organisms.

Additionally, the Commission finds that cable segments that are insufficiently buried or become exposed may result in entanglement impacts to whales migrating in the project area.

#### 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 worldwide<sup>4</sup>. Of the whale species that are

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<sup>4</sup> 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.

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. (Morro Group, 2000) 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 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 or rocky substrates; 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. It has been reported that the majority of southbound (November to January) gray whales migrate within 2 nautical miles (nm) from shore (Morro Group, 2000). 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. One study observed that off of British Columbia, during feeding activities, gray whales created excavations through bottom sediments ranging from 15 to 25 cm in depth (Morro Group, 2000). Benthic suction feeding behavior by gray whales has been widely documented (ibid.).

However, gray whales are not known to be intense feeders during migration (Imamura, 2000a) and are not known to feed on hard bottom substrates. 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 (SAIC, 2000). However, there are anecdotal observations of gray whales feeding opportunistically on krill at the surface during migration.

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. The EIR also reports that possible interactions with unburied or suspended cables placed in areas of high relief rocky substrate "appears to be extremely low, based on the ability of marine mammals to detect and navigate around natural and man-made structures in the marine environment" (SAIC, 2000).

Since the release of the EIR, the applicant has committed to avoiding the laying of cable on high relief rocky substrate in its proposed project. This will minimize the potential for cable suspensions between sections of high relief and the potential for whale entanglement in these areas. According to the applicant, both cable routes have been designed to avoid areas of high relief, resulting in very small areas along the routes where high relief may be encountered. In these areas, the applicant will ensure that the cables are routed around any high relief in a manner that will maximize cable burial. Where the routes may traverse high relief substrate, the cable vessel will be followed by a separate ROV that will provide real-time video of the cable laying operations. The operator of the ROV will be in communication with the master of the cable-laying vessel who will direct the ship to make minor routing adjustments in order to avoid high relief substrates and cable suspensions. If necessary, the ROV operator will have the authority to direct the vessel to stop and reverse course, pick up the cable, and perform re-routes around any high relief substrates.

Nonetheless, because marine mammals are protected under the Endangered Species Act or the Marine Mammal Protection Act, the MCI WorldCom EIR found that entanglement or injury impacts due to insufficiently buried cables are adverse and significant (Morro Group, 2000). 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 applicant 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 applicant 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 applicant 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 applicant has indicated that a 1.0 meter burial depth can be achieved over 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 applicant has conducted. In addition, in areas where a 1.0 meter burial depth is not achieved, the applicant has committed to re-bury those sections to 1.0 meter with an ROV.

In order to ensure that cable installation consistent with Special Condition 4 is carried out, **Special Condition 5** requires the applicant 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 applicant shall survey the E1 and S7 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 applicant 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 applicant' State Lands Commission lease(s) or permit(s), the applicant 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 applicant has committed in its 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 applicant 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 applicant 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 applicant shall provide notice to the Executive Director within seven days of gear retrieval efforts.

The applicant proposes in its 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. According to the EIR, human-related disturbance to high relief communities is of concern because they contain: (1) a relatively low areal coverage of high-relief habitats (<5%) compared to low-relief (<10%) and soft bottom habitats; (2) a patchy distribution of high-relief habitat in many regions, thereby representing a potential limitation in colonization/recolonization by species that are only capable of short-distance dispersal of larvae or adults and; (3) a generally higher occurrence of species that may be more susceptible to impacts from mechanical disturbance. Moreover, deepwater reefs are relatively rare along the central and southern California coast, they support a diverse assemblage of epifaunal invertebrates, and they attract fish as a nursery ground, food source, and as shelter (Morro Group, 2000).

The EIR identified the California hydrocoral, *Allopora californica*, and erect sponges as species of special concern and found that project impacts to high-relief (>1 meter) rocky substrates are significant.

The EIR included the results of two biological surveys (including video and still photographs at 0.25 m<sup>2</sup> by ROV) of epifaunal organisms on rocky substrates in the project area conducted in



June and August 1999. One survey covered distances along or adjacent to the E1 and S7 routes of approximately 8 and 6 miles, respectively, from the 24 to 145 meter water depths. According to the applicant, a biological survey of the originally proposed route (see section 4.5.3) "provide substantial data to support the characterization of habitats and communities along and adjacent to the cable route" for the proposed project (SAIC, 2000). It should be noted that, according to the EIR, the ROV survey data are offset from the cable routes along much of their length. However, the EIR states that "...the offset distances are primarily small (50 to 200 or 300 m) and these general habitat regions are well characterized by the results from the three surveys addressed in this report" (SAIC, 2000).

The following taxa were more frequently identified along the shallow and deep portions of the E1 route: seastar (*Pisaster brevispinus*), sea pens (multiple species), anemone (*Metridium*), feather star (*Florometra*), and combined rockfish species. Along the S7 route, the following common species were observed: seastar (*Asterina*), anemones (*Urticina* and *Metridium*), octopus, sea pens, and rockfishes (*Sebastes*). No species of special concern were noted in the study areas of both cables.

Laying of the cables on rocky substrates would disrupt associated bottom communities, likely crushing and/or dislodging small, sessile or relatively sedentary macroinvertebrates along a narrow strip (e.g., 0.3 m wide). Sessile species may experience repeated, localized disturbances throughout the life of the cables if they move due to current action. According to the EIR, the E1 route may cross high relief, no more than one meter tall, and low relief substrates a linear distance of 29 meters and 405 meters, respectively (under the "2 in 2 Option", an additional 48 meters of low relief is crossed). The EIR assumes a 0.3 meter lateral width of disturbance during installation (and repair, if necessary), translating to an impacted area of 8.7 m<sup>2</sup> and 122 m<sup>2</sup>, respectively. For the S7 route, no high relief substrates will be crossed. However, 523 linear meters of low-relief rocky substrates will be traversed, impacting an area of 157 m<sup>2</sup>.

As indicated in section 4.5.1.1, the applicant has committed to minimize or avoid the laying of cable on high relief rocky substrates. According to the applicant, both cable routes have been designed to avoid areas of high relief, resulting in very small areas along the routes where high relief may be encountered. In these areas, the applicant will ensure that the cables are routed around any high relief in a manner that will maximize cable burial.

Project vessels that will require anchoring may also impact rocky substrates and their biological communities. The dive support vessel, to be used during cable installation in the nearshore, will be the only vessel that will require anchoring. The vessel, from 100 to 200 feet in length, will serve as a dive platform and may need to anchor from the end of the cable conduits to water depths of 25 to 30 meters. The vessel will use a four-point mooring with an anchor spread of approximately 330 feet. As a mitigation measure, the EIR recommends the designation of high relief rocky substrates on final approved plans and maps for cable installation as "no-anchor zones". These zones will be shown on as-built and project maps that could be used in future repair or abandonment activities. The applicant has incorporated the above mitigation measure in the proposed project as well as a commitment to avoid the placement of anchors in all rocky substrate areas, despite the relief. A smaller work boat will set the anchors on soft bottom substrates and retrieve them vertically so as to avoid dragging them across the seafloor.

The EIR states that "Most impacted [hard bottom] species would be expected to rapidly re-occupy any disturbed area via immigration, asexual propagation, or larval recruitment within a few months to a year" (SAIC, 2000). The predominant species in these habitats are mostly very low-profile (e.g., 2-4 cm or less) and sturdy species such as cup corals and encrusting or turf forms, or are relatively highly mobile, such as seastars, sea cucumbers, and fishes. The EIR maintains that "[c]able laying on these species would have a temporary and very localized scale of disturbance (maximally 0.3 m or less) and would be inconsequential given the frequent occurrence and relatively high abundance of these species throughout this habitat" (ibid.). Moreover, the area impacted would constitute a very small proportion relative to the overall habitat and associated communities throughout the project region. The proposed cable routes may impact about 0.0016 percent of the total potential area of available rocky substrates, including 0.00005 percent of high-relief areas and 0.002 percent of low-relief areas. Finally, since no species of special concern were observed in the route survey, no impacts are expected occur to these species. Notwithstanding, as stated above, the EIR concludes that project impacts to high-relief areas are significant.

In **Special Condition 12**, the Commission is requiring the applicant to survey the cable routes for impacts to rocky substrate and their biological communities caused by project operations. Within 30 days of project completion, the survey of the seafloor along the construction corridor is to be completed 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 applicant 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 rocky substrate caused by project operations.

Additionally, **Special Condition 13** requires the applicant 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 will 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. This rate will be calculated by summing individual costs associated with the construction of a one meter high

artificial reef. The costs include: purchasing artificial reef materials, transportation, engineering and placement of materials, insurance, a 10% project administration fee, and a 30% project contingency fee for unanticipated project-related changes in cost. The resultant 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. As of the date of this staff report, the Commission's staff ecologist and CDFG staff are working to finalize the specifics of this rate. The rate will be incorporated in an addendum to this staff report before the hearing date.

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, coarse-grained and mixed sediments, sand, and mud) that provide habitat to epifauna (surface-living) and infaunal (below-surface living) organisms.

As part of the EIR, an ROV video survey of epifaunal invertebrates and algae species was conducted in June 1999 and August 1999. Areas along or adjacent to the proposed routes, including soft-bottom habitats, were surveyed from the 24 meter to 145 meter water depths covering a distance of approximately 6 to 8 miles. Overall, epifaunal organisms inhabiting soft-bottom areas of the proposed project area generally consist of sea pens, tube-dwelling polychaetes, seastars, cerianthid anemones, and flatfishes. No soft bottom species of special concern were identified in the survey.

While infaunal organisms were not surveyed as part of the proposed project, the WorldCom EIR included a survey of benthic sediments out to the 3-mile state waters limit conducted 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).

The WorldCom infauna survey data allowed the quantification of potential impacts to infaunal species 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 their biological communities will occur during cable installation (including pre-lay grapneling), repair and re-burial operations, and from the use of vessel anchors. Cable installation and vessel anchoring in soft-bottom areas will cause localized, temporary disturbance of the habitat and mortality to resident infaunal and slow-moving epifaunal species.

In order to bury the cables within the seafloor, a hand-jetter, cable plow and a ROV equipped with sediment jets will be used to create a trench for cable burial. From the 100 meter depth contour to 1200 meters, a plow will be used to bury each cable for a total distance of 60 km (38 miles). The applicant has estimated that the plow will disturb bottom sediments within a corridor up to 2.4 meters (8 feet) wide (based on the combined effects of the furrow made by the plow shank plus the tracks of skis and wheels) and 1 meter deep. Burial by ROV and hand jets will disturb a similar area of soft bottom (over roughly 20 miles and 0.3 miles, respectively). 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 applicant will re-bury those segments, pursuant to an approved re-burial plan, with an ROV jetter.

Soft-bottom impacts will also occur during the anchoring of the dive support vessel. The vessel, from 100 to 200 feet in length, will serve as a dive platform and may need to anchor from the end of the cable conduits to water depths of 25 to 30 meters. The vessel will use a four-point mooring with an anchor spread of approximately 330 feet. As a part of the applicant's commitment to avoid the placement of anchors on all rocky substrates, a smaller work boat will set the anchors on soft bottom substrates and retrieve them vertically so as to avoid dragging them across the seafloor.

Based on the above estimates of disturbance to soft-bottom areas due to the proposed project (excluding areas to be impacted by anchoring), the applicant calculated a total potential area of impact of 8.72 hectares or approximately 21.5 acres.

The WorldCom 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 to a year after the completion of cable installation and repair activities.

In reaching these conclusions, the WorldCom 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 WorldCom 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 due to the suspension of surficial sediments during installation of the cables and hand-jetting operations to expose the cable conduits as they surface the seafloor.

The type of cables proposed for use includes single-armored, double-armored, and lightweight designs, all containing 3-12 optical fibers. They measure 1.51 inches, 1.92 inches, and 0.83 inch in diameter, respectively. The outer layers of the armored cables consist of galvanized steel wires and a polyethylene sheath, which contain no additives harmful to marine life. The outermost layer is coated with bitumen (asphalt) that adheres to the outer polypropylene covering.

### ***Turbidity Increases Due To Cable Burial and Conduit Cleaning/Jetting***

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, roughly two feet wide, and its subsurface penetration depth of approximately 0.4 meters (1.3 feet). In contrast, the cable plow, ROV, and hand-jetter will all disturb an area 2.4 meters wide and 1.0 meters deep. Repair operations by ROV will re-suspend sediments over a similar area. As previously identified, the applicant calculated a total potential area of project-related impacts, including installation, to soft-bottom habitat of 8.72 hectares or approximately 21.5 acres.

To prepare for the landing of the cables, the existing AT&T conduit will be cleaned and flushed using air pressure and potable water. This activity will disturb bottom sediments, resulting in their suspension and deposition around the opening of the conduit. No lubricants or chemicals will be used during this activity. The only materials expected in the conduit are seafloor sediments that may have entered the conduit during installation and a small amount of rust (insoluble iron oxide) from the inner surface of the pipe. Because these materials are non-toxic, no adverse effects on marine organisms or water quality are expected beyond the immediate area of sediment suspension.

In order to expose the conduit opening where it surfaces from the seafloor, divers will hand-jet the overlying sediments. The applicant estimates that 10-15 cubic yards of sediment will need to be dispersed from a shallow pit surrounding the opening. Sediments in this area are comprised of sand and are expected to resuspend within a few feet and settle out within a minute.

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 (approximately 30-40 days), limited to area immediately above the seafloor and near the cable corridor, and, according to the WorldCom EIR, "of minor amplitude compared to the natural background variability in the suspended sediment loads in this coastal region" (Morro Group, 2000).

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 WorldCom EIR found that wide fluctuations in turbidity exist near the portal area. Thus, it 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" (Morro Group, 2000).

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

#### ***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 WorldCom 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 applicant has committed in its consistency certification to 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 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 and that the likelihood an accident is very low. 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 applicant proposes to publish a Notice to Mariners of the project operations (including size and type of relevant vessels, name and radio call signs, 24-hour telephone numbers of on-site project representatives), location and duration so as to minimize the chance of a vessel collision. At least 15 days prior to commencement of offshore construction activities, the applicant 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. The applicant will also provide the above notice directly to the harbormasters in Morro Bay and Port San Luis and the Morro Bay and Port San Luis Commercial Fishermen's Associations, and other local fishermen who request it.

Notwithstanding all efforts to avoid a collision, there is always the possibility of an accident that could result in a spill. Recognizing this fact, 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 applicant 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 applicant 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 pursuant to the nontank vessel contingency plan regulations found at 14 CCR Sections 825.03 - 827.02; (b) a list of all clean-up equipment that will be maintained on the primary work vessel (at a minimum, the equipment required in 14 CCR Sections 825.03 - 827.02); (c) the specific designation of the onsite person who will have responsibility for implementing the spill plan; and (d) for all project vessels, 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 applicant has agreed in its 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 2.4 meter trench from a location about one-half mile 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), of which the proposed project is defined as, is a coastal-dependent industrial facility. The proposed transoceanic cables, whose purpose is to connect the United States with China and other Pacific-Rim countries, 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 project routing evaluated in this staff report was proposed in response to concerns about potential significant, unavoidable impacts to hard bottom habitat by the original cable alignments. According to the applicant, these new routes will allow over 99% burial of both cables in soft sediments up to the 1,000-fathom water depth. 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 greatest potential for entanglement conflicts with commercial and recreational fishing.

The proposed landing site (within the County's permit jurisdiction) represents the least environmentally damaging alternative due to the presence an existing cable conduit, drilled in 1992. Potential significant impacts due to the drilling a new cable conduit would be avoided by relying on the proposed landing site. The EIR rejected other landing and cable alignment alternatives because of greater potential impacts to hard bottom habitat, on-shore environmentally sensitive habitat areas, water quality, and commercial fishing operations. These alternatives included, but are not limited to, the following:

- Landing Site Alternative-Islay Creek: This alternative landing site is located in an embayment roughly 1.5 miles south of the proposed landing. The embayment has a deep sandy beach about 660 feet long and 130 feet wide. Heavy recreational use occurs at the beach served by accessible, paved roads and parking areas. Existing buried telephone cables along Pecho Valley Road could be used as a conduit for the proposed cables. However, there is evidence that the seabed approaching the beach is rocky and kelp beds have been observed in the area, indicating a presence of rocky substrates. Since new construction and conduit drilling would have to occur on State park land, potentially impacting sensitive marine resources, State Parks and Recreation staff have indicated their preference of using the existing landing site at Montana de Oro State Park. The EIR concluded that this site offers no advantages over the proposed landing.
- Landing Site Alternative-HAW-3/HAW-2: The EIR also considered a landing site associated with two abandoned coaxial AT&T cables, HAW-3 and HAW-2, installed in the 1960s and 70s. This site is situated approximately 0.5 miles north of the proposed landing. This landing crosses a 40 meter wide beach and the cables were laid in a trench that traversed a steep, nearly 300 feet high vegetated bluff, then crossed through sand dunes approaching a roadway. Similar to the Islay Creek landing, this site offers no advantages that would justify new environmental impacts of directional drilling and thus is not preferred by State Parks staff.
- Originally Proposed Cable Alignment: The applicant originally proposed cable routes that crossed 8377 meters of high and low relief rocky substrate, as compared with 957 meters crossed in the proposed project in this staff report. Installation impacts associated with the original routes would amount to an area measuring 0.25 hectares (assuming a 0.3 meter wide disturbance along the routes) or 0.6 acres. Comparatively, the proposed project may impact a total of 0.03 hectares or 0.07 acres of rocky substrate. The original routes, therefore, would have had a greater potential to impact sensitive, slow-growing species more commonly found on rocky substrates.

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 operating out of these two harbors comprises approximately 250 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 76% 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, making roughly 1,000 to 1,200 trips per year, operate out of Morro Bay Harbor and Port San Luis. 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 recreational gear loss is possible especially if the cables are suspended or exposed in hard bottom areas. However, according to the applicant, over 99% of both cables out to 1,000 fathoms will be buried, avoiding rocky substrates and suspension in these areas to the maximum extent feasible.

The EIR also analyzed the adverse effects cable installation would impart on fishery resources or habitat. During cable installation, the EIR estimated that, at a worst case, loss of benthic organisms relied upon as food for commercial fish species would last for one year and harvest of those species could decrease in proportion to the area affected. Based on a percentage of relevant fishing blocks to be affected by the proposed project, the average trawl catch in those blocks from 1993-1996, and an ex-vessel price of \$0.50 per.pound, the EIR calculated the

economic loss to trawlers of approximately \$33.25 for that year. The EIR stated that "[t]his loss would have negligible effects on the economic viability of the local commercial fisheries," and the short-term impact on benthic organisms would be less than significant.

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 vessel laying or repairing a cable and one-quarter mile from the buoy of a vessel intended to mark the position of a cable when being laid or out of order<sup>5</sup>. However, the EIR found that the preclusion zones created by all cable installation activities (including the buoying of cables for 2 to 4 weeks) out to 1,000 fathoms will be temporary (approximately 59 days) or 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. Fishing could occur at locations within the route, but away from the vessel, throughout the installation period. Therefore, a temporary fishing preclusion zone is not a significant impact to commercial and recreational fishers.

To further minimize any potential conflicts with commercial and recreational fishing activities, at least 15 days prior to commencement of offshore construction activities, the applicant will file an advisory of pending offshore construction operations, including all vessel activities, work locations, and schedules, with the local U.S. Coast Guard District Office for publication in the Local Notice to Mariners. The applicant will also provide the same notice directly to the harbor masters in Morro Bay and Port San Luis and the Morro Bay and Port San Luis Commercial Fishermen's Associations, and other local fishermen who request it 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). 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 WorldCom 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

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<sup>5</sup> 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).

in project areas. While only 13 responses were received, it is the only available local information on the County commercial fishing sector.

With this information and data on the value of trawl catch by statistical block from the California Department of Fish and Game, a fisheries direct economic impact model was developed to assess the project's potential economic impacts on trawlers. The model assumed the 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 applicant proposes to mitigate the potential economic impacts of gear entanglement through a number of measures. Most importantly, the applicant proposes 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 applicant believes a burial depth of 1.0 meter can be achieved along 99% of the cable routes. Buried cable will minimize potential gear entanglement and resultant loss experienced by fishers. Burial of cables will also allow fishers to continue to fish over project areas. The applicant believes that cable burial has been effective in protecting cables from damage by bottom trawling and in avoiding gear entanglement and loss. According to the applicant, since 1967, it has never experienced a buried cable becoming unburied or fishing gear loss over buried cables.

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 applicant shall bury the cables to the maximum depth feasible. **Special Condition 5** requires the applicant 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 applicant 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 applicant is required 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 applicant 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 applicant's SLC lease and permits, whichever is earlier, the Commission is also requiring the applicant in **Special Condition 7** to apply for an amendment to this permit to remove the cables from the seafloor.

The applicant proposes 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 applicant is 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." The IA covers the applicant's 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).

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 applicant agrees 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;

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

- Fishermen complying with the Operating Procedures as referenced in the IA will be held harmless for damage to buried cables in the project area. The cable operator shall establish a procedure through a Joint Cable-Fishermen Liaison Committee (JCFLC) or similar organization for making contact with "itinerant" fishermen to advise them of the Operating Procedures and offer the opportunity to sign the "Interim Agreement." This procedure shall include information on who to contact regarding the JCFLC to obtain details on the "Interim Agreement" and its provisions. This information shall be made available through Harbor Masters and in locations as deemed necessary by the JCFLC or required by staff of the California State Lands Commission.

By implementing the provisions in the IA and mitigation measures identified in the EIR, the EIR found that potential entanglement and temporary preclusion impacts to the commercial and recreational fishing industry are less than significant.

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 project that lies within the Coastal Commission's permit jurisdiction starts seaward of the mean high tide line and continues to three nautical miles offshore. 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. Six to ten charter recreational fishing vessels, making roughly 1,000 to 1,200 trips per year, operate out of Morro Bay Harbor and Port San Luis. 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 perches, flatfish, halibut, salmon, and tuna. Recreational fishing is by hook-and-line and takes place primarily within 3 nautical miles of shore. Salmon trolling occurs parallel to the shore out to depths of just over 50 fathoms from near Point Sal to Cayucos.

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 laying or 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 short-term restrictions will apply (for roughly 9 days in State waters) to recreational fishing vessels and boaters in the project area during nearshore cable installation activities. According to the applicant, the area near the cable conduit boreholes is of shallow-water and sandy-bottom and it is not, in itself, an important location for recreational fishing. Where the cables are buoyed near the seaward extent of State waters, the restriction will be in affect for 2-4 weeks until the main cable-laying vessel arrives. However, the applicant states that an avoidance zone of 0.25 miles around the buoys would have minimal effect, if any, on recreational fishing. In federal waters out to 1000 fathoms, cable installation activities would amount to about 20 days.

The EIR found that the preclusion zones created by cable installation activities will be temporary or 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. Fishing could occur at locations within the route, but away from the vessel, throughout the installation period. Because of the temporary and short-term nature of the cable preclusion zones, the EIR found that the disruption of recreational fishing and boating is considered less than significant.

Notwithstanding the above finding, to further minimize any potential conflicts with recreational boating, fishing or diving activities, at least 15 days prior to commencement of offshore construction activities, the applicant will file an advisory of pending offshore construction operations, including all vessel activities, work locations, and schedules, with the local U.S. Coast Guard District Office for publication in the Local Notice to Mariners. The applicant will also provide the same notice directly to the harbor masters in Morro Bay and Port San Luis and the Morro Bay and Port San Luis Commercial Fishermen's Associations, and other local fishermen who request it 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.

#### **4.5.6 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.

Sidescan sonar, sub-bottom profiling, and magnetometer data sets conducted as part of the EIR in August 1999 discovered 19 bottom features of potential cultural resource significance within the 1.0 km survey swathe. These features have been located in soft-bottom substrates, where route adjustments can feasibly be made. Thus, the applicant has committed to avoiding all of the identified features.

The SLC, as part of its lease approval, has required the applicant, prior to the pre-lay grapnel run and cable installation, to provide a detailed analysis of side scan sonar and magnetometer data for both routes between the shoreline and the seaward extend of State waters. The task is to identify and analyze all magnetic and side scan sonar anomalies that occur in the cable corridor. 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 applicant will 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-mentioned analysis, the applicant 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 ("NO<sub>2</sub>"), sulfur dioxide ("SO<sub>2</sub>"), particulate matter with a diameter of up to 10 microns ("PM<sub>10</sub>"), 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<sub>x</sub>, SO<sub>2</sub>, CO, and PM<sub>10</sub> 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<sub>x</sub> emissions due to construction activities. Nitric oxide is a colorless gas formed during combustion processes which rapidly oxidizes to form NO<sub>2</sub>, a brownish gas. The APCD estimates that the project (both onshore and offshore segments within State waters) will produce NO<sub>x</sub> emissions that exceed APCD's quarterly emission threshold by about 2.9 tons<sup>6</sup>.

The applicant will offset the 2.9 tons of residual NO<sub>x</sub> emissions by contributing \$6,000 to a Marine Diesel Engine Replacement Fund<sup>7</sup> established by the APCD and MCI WorldCom. The monies will be used exclusively to replace or retrofit two-stroke marine diesel engines.

<sup>6</sup>This is the only air pollutant that will be produced in amounts in excess of the APCD's quarterly thresholds.

<sup>7</sup>The 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.

The APCD informed the applicant in a letter dated February 8, 2000 that emission reductions achieved through the mitigation measures (including the retardation of the injection timing on diesel-powered vessels, use of low-sulfur fuel, and the proper maintenance of diesel-powered construction equipment) identified in the EIR will reduce the project's potential air quality impacts to less than significant levels (Exhibit 5).

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).

#### **4.6 California Environmental Quality Act**

As "lead agency" under the California Environmental Quality Act ("CEQA"), the State Lands Commission on April 20, 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.

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## 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.

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**APPENDIX B: SUBSTANTIVE FILE DOCUMENTS*****Coastal Development Permit Application Materials***

Application for Coastal Development Permit E-98-0129 dated March 24, 1999, as amended by a April 13, 2000 Response to CCC Request for Additional Information.

***California Coastal Zone Management Program***

Federal Consistency Certification submitted by AT&T Corporation on April 24, 2000, as amended by emails from Jim Burroughs to Dan Chia dated April 26, 2000 and April 27, 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 April 26, 2000.

Coastal Development Permit/Development Plan D9900132D, issued by San Luis Obispo County, December 16, 1991.

U.S. Army Corps of Engineers, (Draft) Regional Permit No. (99-50082-TW)

***Environmental Documents/Reports***

SAIC. March 2000. Finalizing Addendum to the Draft Environmental Impact Report: AT&T China-U.S. Cable Network. Prepared for the California State Lands Commission.

SAIC. January 10, 2000. Draft Environmental Impact Report: AT&T China-U.S. Cable Network. Prepared for the California State Lands Commission.

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 Lease PRC 8154.1 (AT&T Corp.)

***Letters and Electronic Mail***

Letter from Chris Brungardt to Dan Chia, CCC re: AT&T China US Cable Network landing in San Luis Obispo County Additional Information. April 24, 2000.

Letter from John Evans, SAIC, to Dan Chia, CCC enclosing Morro Bay Geomorphology map. April 24, 2000.

Letter from James Burroughs, Beveridge and Diamond, to Dan Chia, CCC re: AT&T's China-US Cable Network Project. April 21, 2000.

Letter from Chris Brungardt to Dan Chia attaching CUS Segment S7 alignment. April 18, 2000.  
Letter from Dan Chia to Jim Burroughs re: Coastal Development Permit Application #E-98-29. April 10, 2000.

Letter from Eiji Imamura, MRS, to Dan Chia, California Coastal Commission, re: whales. March 22, 2000.

Letter from Michael Bowen to Mike Dungan, Science Applications International Corporation. March 2000.

Letter from Chris Kern, CCC, to Kevin Lorenzini, AT&T, re: Coastal Development Permit Application Filing Determination. April 21, 1999.

Letter from Chris Kern, CCC, to Kevin Lorenzini, AT&T, re: Coastal Development Permit Application Filing Determination. December 22, 1998.

Emails from James Burroughs to Dan Chia: April 24, 2000 re: China-US air impact mitigation fund; April 24, 2000 attaching Federal Consistency Certification; April 24, 2000 re: China-US Items for CCC; April 24, 2000 re: China-US Temporary Cable Anchors; April 26, 2000 re: CHUS questions and answers; April 26, 2000 re: China-US air impact mitigation fund; April 27, 2000 re: China-US Cable Installation

Emails from James Murray, AT&T to Dan Chia: April 26, 2000, re: Response to CCC question on PLGR; April 25, 2000 re: Response to CCC Questions; April 24, 2000 re: Follow up to Friday's Call.

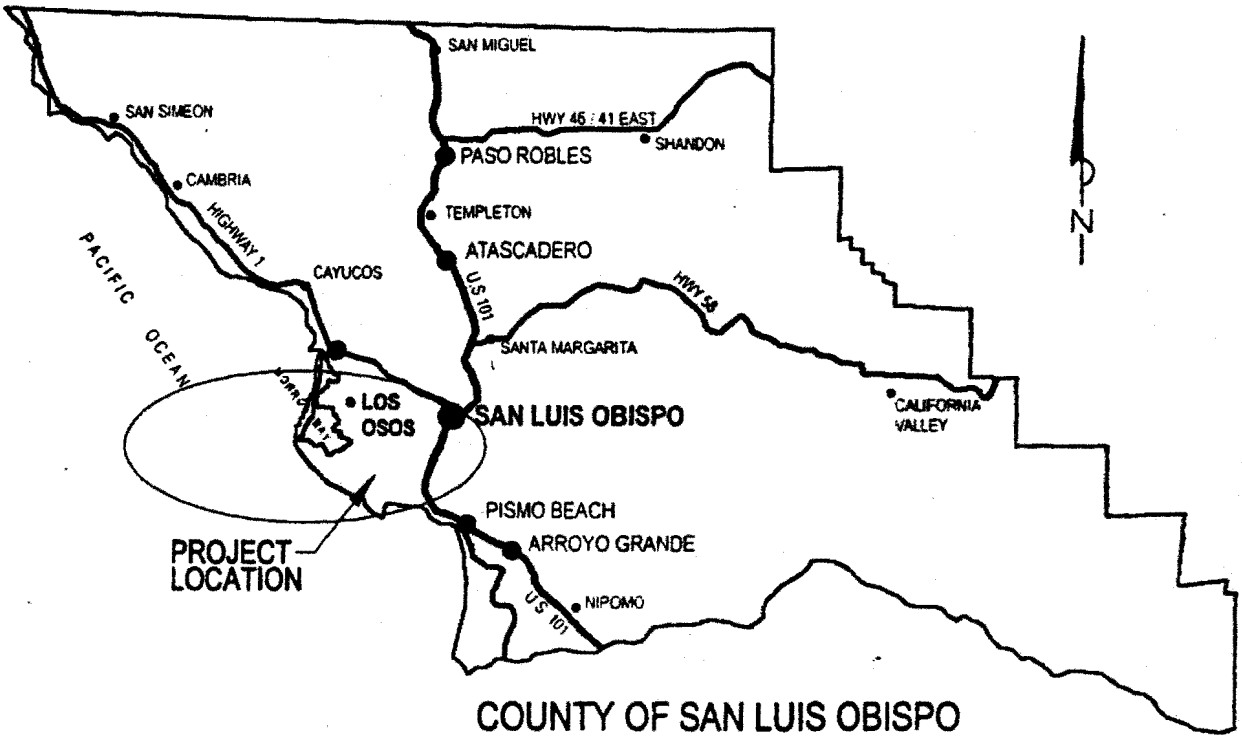
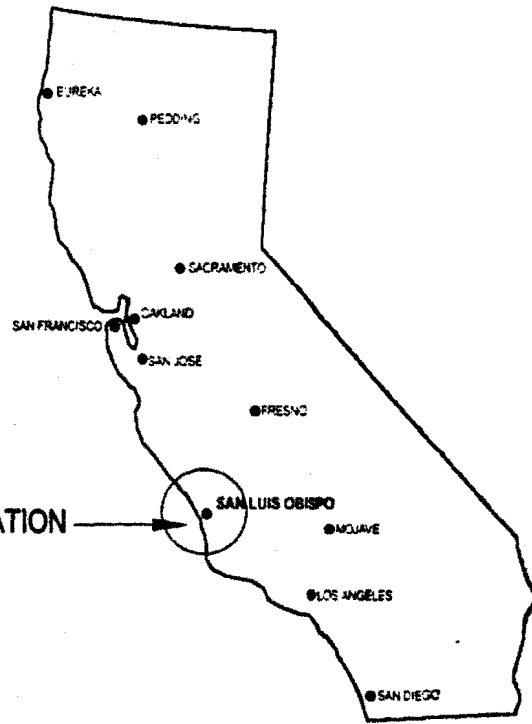
Emails from Chris Brungardt, AT&T to Dan Chia: April 25, 2000 (2) re: Sediment in pipe

Email from Dan Chia to Jim Burroughs re: outstanding CDP items. April 18, 2000.

Email from Michael Dungan to Dan Chia, April 24, 2000.

***Other***

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



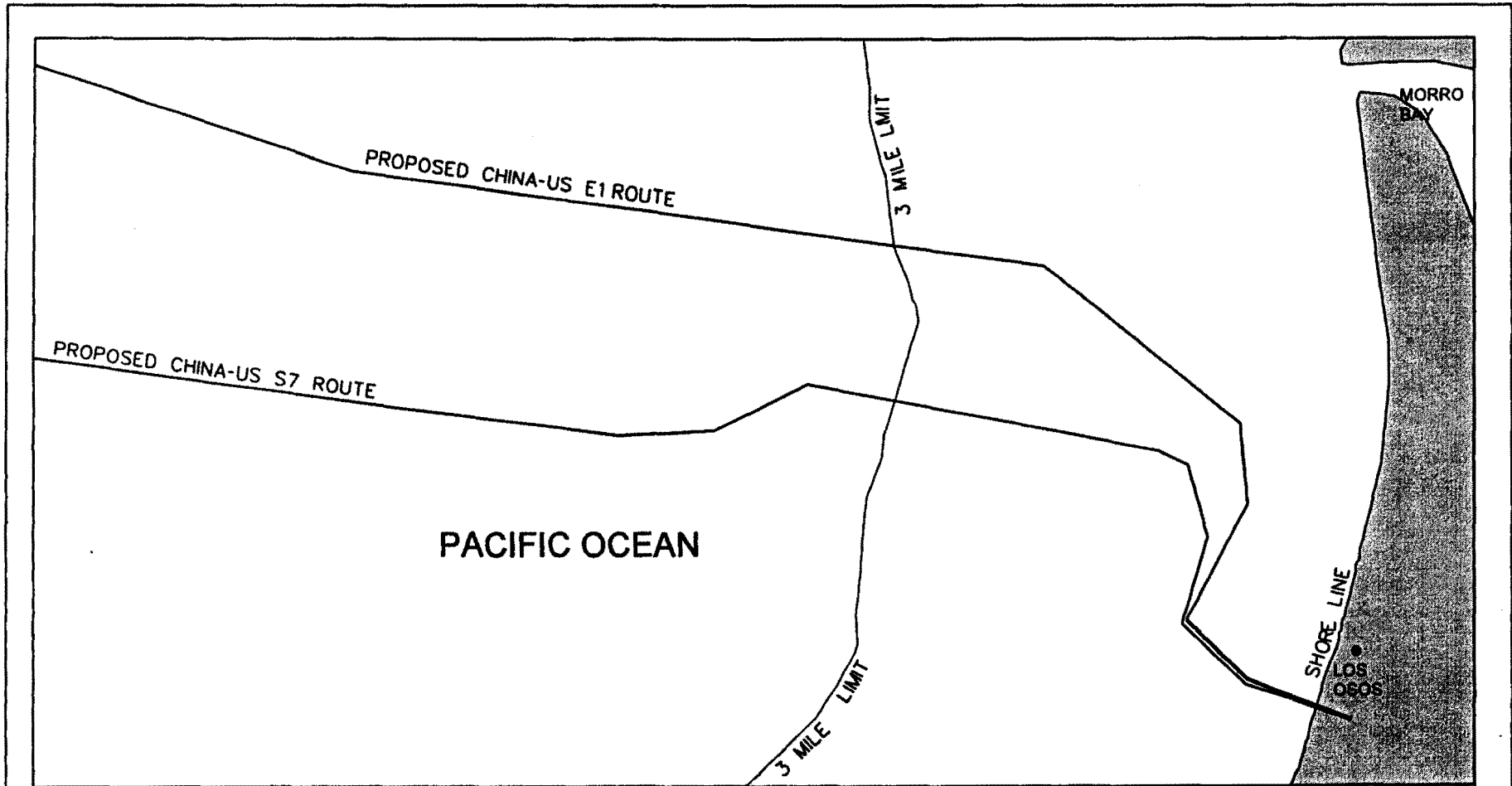
COUNTY OF SAN LUIS OBISPO

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

REGIONAL LOCATION MAP

Exhibit 1  
 E-98-029

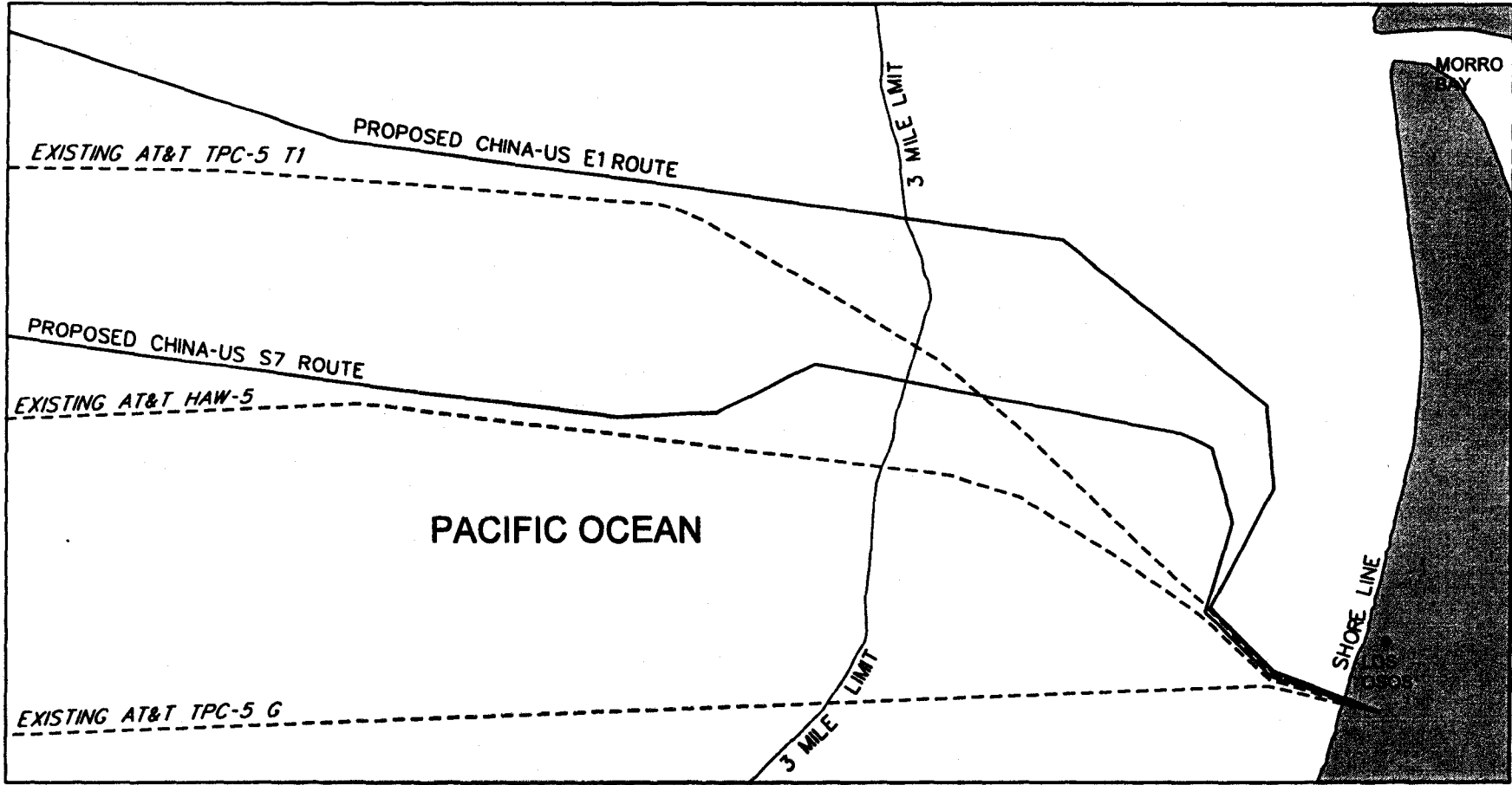




# AT&T CHINA-US CABLE NETWORK PROPOSED ROUTES

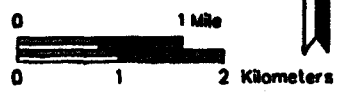
Exhibit 2  
E-98-029





# AT&T CHINA-US CABLE NETWORK PROPOSED ROUTES AND EXISTING AT&T CABLES

Exhibit 3  
E-98-029



**CALIFORNIA COASTAL COMMISSION**

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

Exhibit 4  
E-98-029



**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., MCI WorldCom Network Services Inc. and AT&T Corporation (hereinafter referred to collectively as "the Applicants") have applied to the Coastal Commission to obtain coastal development permits to install 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 and E-98-029 to install fiber optic cables offshore Montana de Oro State Park in San Luis Obispo County.

WHEREAS, as a condition (Special Condition 13) of their approvals, 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 \$\_\_ 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 fee 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



February 8, 2000

Mike Dungan, PhD  
SAIC  
816 State Street, Suite 500  
Santa Barbara, CA 93101

**SUBJECT: AT&T Use of Different Vessel for Cable Installations Off Morro Bay**

Dear Mr. Dungan,

I am writing in response to your letter dated February 4, 2000 in which you indicate that a larger ship, the *Seaspread* may be used during installation of the AT&T China-US cables instead of the smaller *American Patriot*. As per your request, I have reviewed the revised emission estimates submitted with your letter to assess the potential significance of using the larger *Seaspread*. The results of my review are provided in the following comments.

1. The methodology and assumptions employed in the revised emission estimates are consistent with adopted methodology and meet District staff expectations for overall quality.
2. (Section 4.2.6 Mitigation Measures) District staff request the addition a mitigation measure based on, or similar to, the following wording:

*With the exception of marine vessel injection timing retard (AQ-1), all diesel powered construction equipment used in association with the project will be properly tuned, well maintained, and operated within manufacturers specifications.*

3. (AQ-1, Section 4.2.6) In August 1998, the California Air Resources Board (CARB) identified diesel exhaust as a toxic air contaminant (TAC). Since then, a carcinogenic unit risk factor and a chronic reference exposure limit have been adopted by the state, both of which utilize particulate matter emissions as a surrogate for total diesel exposure. Unfortunately, the universal application of fuel injection timing retard presented in AQ-1 to reduce NOx has the potential to increase hydrocarbon and particulate matter emissions. While the particulate matter and hydrocarbon emission increases are substantially smaller on a mass basis than the beneficial NOx reductions, we do not recommend implementing injection timing retard on shore based equipment where equipment has the potential to operate in the vicinity of the public. Rather, we recommend requiring the operation of shore based diesel powered equipment that is well tuned and maintained and operated within manufacturers specifications in conjunction with the use of California diesel fuel (Title 13, California Code of Regulations, Sections 2281 and 2282; last amended June 4, 1997). Potential particulate matter and hydrocarbon emission increases associated with fuel injection timing retard on marine engines associated with the project are outweighed by the very large NOx reductions that are achievable with this control strategy given the distance from shore that these engines will operate. We therefore recommend the following wording changes:

*The injection timing on diesel-powered vessels ~~and construction equipment~~ will be retarded 4 degrees prior to and throughout cable installation with the exception of the main cable ships which will be operated at 3 degree retardation. These measures will produce a 20-25% reduction in emissions of nitrogen oxides (NOx).*

4. (Tables 9 and 10) Tables 9 and 10 present peak daily and total project emissions within state waters respectively. Projected NOx emissions are anticipated to exceed the District's daily mitigation threshold of 185 lb/day and lower quarterly mitigation threshold of 2.5 ton/quarter. With incorporation of the suggested mitigation measure in Comment 2 above, District staff consider the proposed level of mitigation to be consistent with District expectations as outlined on page 25 of the District's CEQA Air Quality Handbook. We therefore consider, from a CEQA perspective, the project's potential air quality impact to be *Class II, potentially significant adverse impacts that can be feasibly mitigated to less than significant levels*. This view is supported by the fact that the largest source of project related NOx emissions will be from the large marine vessels which are anticipated to operate within state waters for approximately seven days, a very short time period in staffs view. It should be noted that District staff are currently involved in revising the CEQA Air Quality Handbook and that the proposed mitigations measures for the China-US cable project as amended by this letter are consistent with staffs current expectations and recommendations.

Please feel free to contact me with any additional questions at (805) 781-5912.

Sincerely,



Barry Lajoie  
Air Quality Specialist

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