Westlaw

н

FCC 91-417

***1** IN THE MATTER OF

AMERICAN TELEPHONE AND TELEGRAPH COMPANY CICI, INC. D/B/A IDB INTERNATIONAL GTE HAWAIIAN TELEPHONE COMPANY, INC. MCI INTERNATIONAL, INC. TRT/FTC COMMUNICATIONS, INC. US SPRINT COMMUNICATIONS COMPANY LIMITED PARTNERSHIP, AND WORLD COMMUNICATIONS, INC. JOINT APPLICATION FOR AUTHORIZATION UNDER SECTION 214 OF THE COMMUNICATIONS ACT OF 1934, AS AMENDED, TO CONSTRUCT, ACQUIRE CAPACITY IN AND OPERATE A HIGH CAPACITY DIGITAL SUBMARINE CABLE SYSTEM BETWEEN THE UNITED STATES AND GERMANY

AND THE NETHERLANDS.

File No. **I-T-C-91-135**

Adopted: December 19, 1991; Released: January 13, 1992

MEMORANDUM OPINION, ORDER AND AUTHORIZATION

****445** By the Commission:

1. The Commission has under consideration the above-captioned Joint Application [FN1] filed on May 28, 1991 by American Telephone and Telegraph Company ("AT & T"), CICI, Inc. d/b/a IDB International ("IDB International"), GTE Hawaiian Telephone Company, Inc. ("HTC"), MCI International, Inc. ("MCII"), TRT/FTC Communications, Inc. ("TRT/FTC"), US Sprint Communications Company Limited Partnership ("US Sprint"), and World Communications, Inc. ("Worldcom") (hereinafter collectively called the Joint Applicants). The Joint Applicants seek authority, pursuant to Section 214 of the Communications Act of 1934, as amended, 47 U.S.C. § 214 (1982), to construct and operate a high capacity digital submarine cable system, known as the TAT-10 Cable System (TAT-10), extending between Rhode Island, U.S. on the west and Norden, Germany and Alkmaar, Netherlands on the east. TAT-10 will be jointly owned by the Joint Applicants and 28 foreign telecommunications administrations and carriers. The Joint Applicants propose that TAT-10 will be operational in August 1992.

2. The Joint Applicants also seek authority to: (a) acquire capacity in TAT-10; (b) acquire, by lease or on an Indefeasible Right of User (IRU) basis, such extension facilities as may be required to extend capacity in TAT-10; (c) convey to its correspondents, or to non-owners, half-interests in Minimum Investment Units (MIUs) [FN2] on an IRU basis; and (d) activate and operate capacity in TAT-10 and in the aforementioned facilities for the provision of their respectively authorized telecommunications services.

3. The Joint Application was placed on public notice on June 5, 1991. A peti-

tion to deny (Petition) the accompanying TAT-10 Cable Landing License application, File No. SCL-91-001, was filed by Submarine Lightwave Cable Company (SLC). [FN3] On July 22, 1991 the Joint Applicants [FN4] filed a Reply, [FN5] in response to which SLC filed a Reply and Clarification of its Petition.

I. THE APPLICATION

4. The Joint Applicants will use TAT-10 to supplement their existing facilities in providing the services which each is presently furnishing or which each may subsequently furnish. [FN6] TAT-10 capacity will be extended by suitable facilities to the borders of other TAT-10 participating countries or to the terminals of other international communications systems, including other cable terminals and satellite earth stations, resulting in services between the United States, Germany, and the Netherlands as well as to points beyond in both the east and the west.

*2 5. The TAT-10 Construction and Maintenance Agreement (C & MA) [FN7], initialed on April 26, 1991, defines the proposed cable system in terms of segments for own-TAT-10 will consist of six segments. Segments A, C, and F are, ership purposes. respectively, the cable stations at Green Hill, Rhode Island (U.S.), Norden, Germany, and Alkmaar, Netherlands. Segment E is the intermediate repeater cable station at the Island of Terschelling, Netherlands, located between Segments C and Segment B consists of the whole of the submarine cable system, provided F. between and including the System Interfaces at Segments A and C. Segment D consists of the whole of the submarine cable system, provided between and including the System Interfaces at Segments C and F. The System Interface is defined as the nominal 140 Megabits per second (Mbit/s) digital input/output ports on the digital distribution frame (excluding the digital distribution frame itself) where the 139,264,000 bits per second digital line section connects with other transmission facilities or equipment.

6. The transatlantic configuration of TAT-10 will be based upon a three fiber pair system, [FN8] with each fiber pair operating at a bit rate of 560 Mbit/s per fiber pair. The capacity on each of the fiber pairs is provided in four 140 Mbit/s streams, with each 140 Mbit/s stream containing 63 MIUs. The transatlantic capacity of TAT-10 will be 252 MIUs per fiber pair. For voice services, digital circuit multiplication systems can be deployed to derive approximately 150 virtual voice paths per MIU.

7. The estimated total cost of TAT-10 is \$300 million. The Joint Applicants' share of costs is \$104.04 million which will be allocated proportionally to each U.S. owner, by segment, based on their percentage ownership interests in Segments B and D contained in Schedule B of the C & MA. The estimated costs include neither the U.S. carriers' cost for interest during construction, currently projected at \$10.4 million for the system, nor the cost of circuit multiplication equipment, which is not considered part of the cable system. Fixed costs (84.7%)

Page 2

include sub-system and cable activities, repeaters, acceptance tests and terminal equipment. Suppliers' cost-incurred items ****446** (10.3%) include the costs associated with plowing, post-lay burial and pipeline crossings. Owners costs (5%) include the route survey, project administration and inspection. The estimated original capital cost per half MIU over the life of the cable without multiplexing is \$269,717 from the United States to Germany and \$291,968 from the United States to the Netherlands.

8. As indicated in Appendix 1 (Schedule B of the C & MA), the Joint Applicants' collective voting interest in TAT-10 is 34.6%. Appendixes 2A and 2B (Schedules C-1 and C-2 of the C & MA), respectively, show ownership interests and allocation of capital, operating and maintenance costs of Segments B and D, and allocation of capital, operating, and maintenance costs of Segment A, Subsegments C-1 and C-2, Segment E and Segment F of TAT-10. Appendix 3A, 3B and 3C (Schedules D-1, D-2 and D-3 of the C & MA) show the capacity in TAT-10 that is assigned to each of the owners, upon which the costs are based. [FN9] The capacity assignments contemplate each Joint Applicant's proposed utilization of circuit multiplication equipment. Both prior and subsequent to the System Ready for Customer Service (RFCS) date (August 15, 1992), carriers, including non-owners of TAT-10, may acquire TAT-10 capacity by IRU, lease or other mutually agreed upon arrangements.

*3 9. The Joint Applicants state that the placing into service of the TAT-9 Cable System is expected to be followed by a rapid growth of demand for reliable, secure and economically priced telecommunications services based upon digital lightwave technology, which has resulted in the total forecasted utilization of the TAT-9 Cable System. In addition, they expect unprecedented demand for service to Northern Europe due to the recent political events in Eastern Europe and Ger-The Joint Applicants note that the reliability of telecommunications sermany. vices and their usefulness to customers is in part a function of the availability of comparable facilities for diverse routing and service restoration. The Joint applicants also note that TAT-10 will provide increased capacity which will be available for contribution toward digital transatlantic cable restoration. Τn further support of their application, the Joint Applicants point out that the Commission, in the TPC-4 Order [FN10], indicated that competitive conditions, the elimination of circuit loading guidelines, and the implementation of price cap regulation of AT & T have made it appropriate to give U.S. international carriers wider latitude in determining what facilities to construct and when to place such facilities in service. According to the Joint Applicants, all of the above factors serve to guarantee that TAT-10 will be in the public interest.

II. DISCUSSION

10. The Joint Applicants seek authority to construct and operate the digital TAT-10 Cable System to begin service in late 1992 to meet their telecommunications capacity needs and those of their correspondents in the Atlantic Ocean Region (AOR) during the 1992-1995 time frame. We have reviewed the Joint Application under the public convenience and necessity standard of Section 214 of the Communications Act of 1934, as amended, and conclude that implementation of TAT-10 in 1992 will serve the public interest. Accordingly, we grant the Joint Application subject to certain conditions. [FN11]

A. The Need for the TAT-10 Cable System

11. Section 214 of the Communications Act requires that the Commission make a finding that the public convenience and necessity will be served by authorization of the facilities requested in the Joint Application. The standard we employ is "whether the specific facility chosen and the use to be made of that facility are required by the public convenience and necessity." [FN12] In making this determination, we traditionally have considered such factors as demand, cost, media and route diversity, restoration, intramodal and intermodal competition, technological innovations and international comity. [FN13]

1. Demand and Capacity

12. Under the traditional form of demand analysis that we have applied in authorizing the construction and operation of submarine cable systems, we conclude that projected circuit demand, along with other factors, supports the operation of TAT-10 in 1992 to meet the telecommunications needs of the Joint Applicants and their correspondents in the AOR during the 1992-1995 time frame. The Commission has recognized that user demand is determined not only by the need for raw transmission capacity, but also by such user requirements as digital technology, route and media diversity, digital cable restoration capability, security and costeffectiveness.

*4 13. We have reviewed the forecasted circuit demand for TAT-10 provided by the Joint Applicants and conclude that TAT-10 is justified on the basis of demand. Based on this information, it does not appear that there will be adequate capacity available on existing and planned common carrier facilities to accommodate forecasted demand for digital cable facilities beyond 1992, the proposed in-service date for TAT-10. Currently, there is only one digital cable facility, TAT-8, in A second digital cable facility, TAT-9, is scheduled to operation in the AOR. become operational in mid-February 1992. By mid-August 1992, the proposed inservice date for TAT-10, TAT-8 capacity will be exhausted. In 1992 the Joint Applicants project a need for 7,090 MAUOs [FN14] on TAT-9 and 2,203 MAUOs on TAT-10, a total 9,293 MAUOs. The Joint Applicants collectively own 10,334 MAUOs in TAT-Although, without TAT-10, there would be sufficient capacity on TAT-9 to ac-9. commodate the needs of the Joint Applicants for digital cable circuits in 1992, 90% of TAT-9's capacity owned by the Joint Applicants would be utilized. The Commission has traditionally recognized that an 80% fill rate on a given facility is sufficient to justify the construction of additional facilities. Furthermore, without introduction of TAT-10 in 1992, the Joint Applicants' projected need for 12,649 digital cable circuits in 1993 (8,324 on TAT-9 and 4,325 on TAT-10) could

not be accommodated on TAT-9 alone. By 1996, the Joint Applicants project their use of TAT-10 will increase to 8,119 MAUOs, approximately 77% of their owned capacity in TAT-10. Moreover, as set forth in more detail herein, introduction of TAT-10 in 1992 would allow for digital cable restoration of TAT-9 circuits.

2. Quality of Service

14. Media and Route Diversity. We previously have found that increasing media and route diversity to strengthen service reliability is of decisional significance in our public interest determination to authorize the construction of transoceanic facilities. [FN15] Media diversity enhances **447 service reliability through the use of more than one transmission medium, satellite or cable, to carry a correspondent's traffic. As a result, an increase in media diversity protects against the systemic failure of one medium. Route, or path, diversity enhances service reliability by increasing the number of independent routes that carry traffic to a given location. It is closely related to the ability to restore circuits in case of a facility failure. As a rule, the more independent routes serving a given location, the greater the ability to restore one that Thus, an increase in route or path diversity is the natural consequence fails. of the introduction of another facility into a region.

15. We conclude that the introduction of TAT-10 as proposed will enhance route diversity, by adding another independent cable route. Service reliability would be improved since the number of circuits affected by a service interruption on a particular route or routes would be minimized and the ability to restore service via another digital cable facility would be enhanced.

*5 16. With respect to media diversity, as of December 31, 1990 the Joint Applicants were providing a total of 31,701 circuits, consisting of 21,508 submarine cable and 10,193 satellite circuits to the countries and territories initially proposed to be served by TAT-10. While the Commission has never specified what a preferable cable/satellite ratio would be, the traditional approach to the concept of media diversity is that too much traffic over a particular medium could result in a significant disruption of traffic should that medium suffer an outage. Since a significant percentage of traffic in the AOR is routed via independent cable facilities in addition to satellite facilities, the failure of any one cable system would not likely result in a significant disruption in service since restoration could be effected through use of other cable facilities in addition to the satellite facilities.

17. Restoration. Restoration pertains to the ability to maintain service in the event of a facility outage. TAT-10 will provide restoration capability for AOR facilities in general, and particularly the digital TAT-8 and TAT-9 cable systems. Restoration of TAT-8 currently is accommodated through the use of INTELSAT capacity. The Commission has previously recognized that, although satellite capacity provides a satisfactory restoration alternative for cable, absolute reli-

ance on satellite facilities to meet restoration needs and increased demand may not be in the best interests of users that may have specific communications requirements that may best be accommodated by fiber optic cable facilities. [FN16]

18. We find that the introduction of TAT-10 in 1992 as proposed would provide a needed restoration alternative for both TAT-8 and TAT-9. Should there be an outage on TAT-8 prior to introduction of TAT-9 in mid-February 1992, there would be no digital cable facilities available for restoration. Even with the advent of TAT-9, the projected demand for digital cable facilities would quickly fill TAT-9's restoration capacity for TAT-8. According to the projections of the Joint Applicants, by 1992, the first year of operation of TAT-9, 7,090 circuits (approximately 69% of the 10,334 circuits owned by the Joint Applicants in TAT-9) will be utilized. The additional capacity available with the introduction of TAT-10 in August 1992 would alleviate the impact of a service outage of either TAT-8 or TAT-9.

3. Cost Analysis

19. The Joint Application estimates the total cost of TAT-10 to be \$300 million, and the capital cost per half-MIU to be \$269,717 from the United States to Germany and \$291,968 from the United States to the Netherlands. The estimated original capital cost of a 64 Kbit/s half-circuit (half-MAUO) is approximately \$8,991 for the US-Germany segment and \$9,732 for the US-Netherlands segment. The Joint Application notes that the unit cost of a virtual voice path in TAT-10 will be further reduced through the addition and use of digital circuit multiplication tech-A comparison of the costs for previously authorized digital cable facilnology. ities in the AOR demonstrates that TAT-10 will continue the trend of providing in-For example, the cost of a TAT-8 creased capacity while reducing circuit costs. half-MAUO between the U.S. and U.K. is \$22,200. The cost for a similar unit of capacity on TAT-9 differed depending on the landing point, with a \$10,000 per half-MAUO cost between the U.S. and the U.K., \$13,000 between the U.S. and France and \$14,000 between the U.S. and Spain.

*6 4. Technological Innovations

20. In determining the need for additional facilities in a region, the Commission typically considers to what extent the proposed facilities will introduce new technology. In some instances, the effect of introducing new technology in the region is compelling, such as introducing digital fiber optic technology for the first time. In other cases, the technological innovations may not be as significant, such as improvements in laser technology in an area where digital fiber optic technology is already available. In this case, the need for TAT-10 is based on projected demand for digital cable circuits and not solely on technological innovation. Digital fiber optic cable technology is already available in the AOR on the TAT-8 cable system. We note, however, that there have been improvements in the digital technology since TAT-8. For example, TAT-8 employed

1.3 micron laser and 280 Mbit/s technology. TAT-9 improved on this technology by using 1.55 micron laser and 560 Mbit/s technology. The cumulative effect of these improvements is twice the capacity and cheaper per circuit costs. At the time of its introduction in August 1992, TAT-10 will utilize the same technology that TAT-9 will have introduced to the AOR in mid-February 1992.

5. Competition Considerations

21. We previously have recognized that the enhancement of both intermodal and intramodal competition can be expected to spur providers of both international satellite and cable services to keep their services innovative and their prices low. [FN17] We find that introduction of TAT-10 will enhance intramodal competition in the AOR and encourage both private and common carrier cable operators to innovate and price their offerings in a manner that is calculated to attract and We also find that introduction of TAT-10 will increase interretain customers. modal competition with INTELSAT and potential separate satellite system providers and thereby spur existing providers of both cable and satellite capacity to respond competitively. Such competition will give service providers and other users greater choice in selecting facilities and thus will enable them to maintain, or improve and enhance, the economy and efficiency of their operations. The opportunity to choose among a range of facilities further **448 allows service providers to be more responsive to customer needs in terms of price, service quality, and service availability.

6. International Comity

22. Our decisions authorizing the construction and operation of transoceanic submarine cable systems historically have recognized that correspondent acceptance is an important public interest factor. [FN18] Thirty-five telecommunications entities and carriers, including those from twenty-four foreign locations have agreed that the TAT-10 system design and 1992 service date will meet the projected service needs of their customers. Thus, we conclude that TAT-10 will promote international comity.

*7 B. The Effect of Price Cap Regulation

23. Having determined that there is a need for the introduction of the TAT-10 cable system in late 1992, we also note that current competitive conditions and regulatory approaches provide the Joint Applicants with the incentive to make rational economic decisions and not engage in unnecessary construction of facilities. [FN19] In our TPC-4 Decision, we stated that the price caps system of regulation is a disincentive for carriers to engage in the construction of unnecessary facilities since the burden of such investment would fall on stockholders and not ratepayers. [FN20] Thus, the Joint Applicants' decision on what facilities to construct and when to place such facilities in service should be based on these factors. [FN21]

III. CONCLUSION AND ORDERING CLAUSES

24. In view of the foregoing, we find that the present and future public convenience and necessity require the construction of TAT-10 become operational in August 1992.

25. Based on the information provided by the Joint Applicants, we conclude that the grant of the requested authorization will not have a significant effect on the environment as defined in Section 1.1307 of the Commission's Rules and Regulations implementing the National Environmental Policy Act of 1969, 42 U.S.C. §§ 4321-4335 (1976). [FN22] Consequently, no environmental assessment is required to be submitted with this Joint Application under Section 1.1311 of the Commission's Rules.

26. Accordingly, IT IS ORDERED that, pursuant to Section 214, 47 U.S.C. § 214 (1982), application, File No. I-T-C-91-135, of the Joint Applicants (AT & T, HTC, IDB International, MCII, TRT/FTC, US Sprint and Worldcom) IS GRANTED, subject to the following terms, conditions, and limitations and the Applicants are authorized to:

(a) construct and operate the TAT-10 Cable System as proposed herein;

(b) acquire and activate capacity in the TAT-10 Cable System, on an ownership basis, in accordance with the interests indicated in Appendix 3;

(c) acquire capacity, by lease, in such connecting facilities as may be required to extend capacity in the TAT-10 Cable System;

(d) utilize digital circuit multiplication systems (DCMS) equipment to derive additional voice paths from the circuits (MIUs) authorized herein in accordance with the appropriate Commission authorizations; and

(e) activate and operate capacity in the TAT-10 Cable System and aforementioned extension facilities for the provision of the Applicants' authorized telecommunications services.

27. IT IS FURTHER ORDERED that Applicants other than AT & T are authorized to acquire, by lease, appropriate connecting facilities between the Green Hill cable station and their respective operating offices in the United States.

28. IT IS FURTHER ORDERED that when a given Applicant seeks to acquire or transfer an ownership or IRU interest in the TAT-10 capacity, the reimbursement it receives shall be on the basis of depreciated original cost (or the pro-rated accumulated cost of such circuit if the systems are not then operational) or in conformance with such policy as the Commission shall develop in the future regarding the price at which IRUs will be made available.

*8 29. IT IS FURTHER ORDERED that the Joint Applicants shall make available halfinterests in the TAT-10 capacity to such present and future U.S. carriers as may be authorized by the Commission to acquire such capacity.

30. IT IS FURTHER ORDERED that the Commission retains jurisdiction to reallocate U.S. carriers' interests in capacity herein authorized, as the public interest may require to accomodate additional carriers or otherwise, with, where required, the concurrence of the foreign administration or carriers concerned, and further, jurisdiction is retained by the Commission over all matters relating to the Joint Applicants' ownership, management, maintenance, and operation of the cable system as authorized herein, to ensure the most efficient use not only of this cable system, but of all means of communications between the U.S. and the Atlantic Ocean Region.

31. IT IS FURTHER ORDERED that the Commission retains jurisdiction to review the DCMS multiplexing and interworking arrangements and attribution of the costs thereof and to require such changes in the provision of these services and equipment as may be necessary.

32. IT IS FURTHER ORDERED that no Applicant herein that is deemed a dominant carrier pursuant to the Commission's decision in CC Docket No. 85-107, [FN23] shall dispose of any ownership interest in TAT-10 capacity it is authorized to acquire in any way without prior authorization by the Commission.

33. IT IS FURTHER ORDERED that the Joint Applicants shall include TAT-10 facility use in the monthly Status Reports filed pursuant to the Commission's Orders. These reports shall be filed no later than the 20th day of each month providing the information for the preceeding month.

****449** FEDERAL COMMUNICATIONS COMMISSION Donna R. Searcy

Secretary

FN1 The Joint Applicants supplemented their Section 214 Application by filing individual circuit activation figures under separate cover and under a request for confidentiality pursuant to Sections 0.457 and 0.459 of the Commission's Rules. On July 26, October 2 and October 22, 1991, the Joint Applicants filed supplemental information, including revised Schedules to the C & MA reflecting revised ownership and cost-sharing arrangements and revised maps indicating changes in the cable system configuration.

FN2 A MIU, which is used for purposes of ownership allocation, is a 2,048 Mbit/s digital stream jointly assigned between two parties or wholly assigned to a party.

FN3 SLC's Petition to Deny was filed against the Joint Application for the TAT-10 Cable Landing License (File No. SCL-91-001). However, SLC contends that its petition extends to all TAT-10 and TAT-11 (File Nos. I-T-C-91-136 and SCL-91-002) applications. Without deciding the appropriate scope of SLC's petition, we note that SLC's arguments are addressed and the petition is denied in a companion order

authorizing the Joint Applicants' cable landing license application for TAT-10.

FN4 U.S. Sprint and Worldcom did not join in this Reply.

FN5 In its letter dated July 18, 1991 to AT & T, the Commission noted that the Reply of Joint Applicants of July 22, 1991 would be considered an "Opposition" to which SLC would have the right to reply.

FN6 Initially, all applicants may not be certified to serve directly all countries or territories which the facilities covered by the Application are capable of serving. Each individual applicant proposing an extension into such countries/ territories by means of the TAT-10 facilities will be required to seek the appropriate authority as may be required at the time.

FN7 See Attachment B to the Joint Application (filed May 28, 1991).

FN8 Segment D will be a six fiber pair system. One fiber pair will be used to extend traffic between the Netherlands and the United States, one for transatlantic restoration purposes and the remaining four pairs for intra-european traffic.

FN9 The total number of half-MIUs available to be assigned, which is 1008, represents the Notional Capacity. The remaining capacity between the Notional Capacity and the total Design Capacity is referred to as the Restoration Capacity and will be available to contribute toward transatlantic cable restoration.

FN10 American Telephone and Telegraph Co., et al., 4 FCCRcd 8042 (1989).

FN11 In a separate companion order, we also grant the Joint Applicants' request for a cable landing license (File No. S-C-L-91-001) pursuant to the Cable Landing License Act.

FN12 AT & T et al., (TAT-7 Order), 73 F.C.C.2d 248, 256 (1979).

FN13 See, e.g., AT & T et al. (TAT-9 Order), 4 FCCRcd 1129, 1131 (Com.Car.Bur.1988). See also Policies to be Followed in the Authorization of Common Carrier Facilities to Meet Pacific Telecommunications Needs during the Period 1981-1985 (POR Planning), 102 F.C.C.2d 353, 355 (1985).

FN14 A MAUO is an equivalent voice channel (circuit) operating at 64,000 bits per second with an additional 9,684,656 bits per second required for multiplexing for a total of 73,684,656 bits per second in each direction at the System Interface locations. 30 MAUOs are the equivalent of 1 MIU.

FN15 See North Atlantic Facilities Planning, 3 FCCRcd 3979, 3986 (1988); All America Cable and Radio Inc., et. al., 67 F.C.C.2d 451, 469 (1978).

FN16 North Atlantic Facilities Planning, 3 FCCRcd at 3987.

FN17 Id. at 3989.

FN18 See id. at 3989.

FN19 See Policy and Rules Concerning Rates for Dominant Carriers, CC Docket No. 87-313, 4 FCCRcd 2873 (1989) (Price Caps Order).

FN20 See American Telephone & Telegraph, et. al., 4 FCCRcd 8042, 8045 (1989)
(TPC-4 Decision).

FN21 Id. at 8046.

FN22 See Section 214 Application, File No. I-T-C-91-135, at p. 12.

FN23 See International Competitive Carrier, 102 F.C.C.2d 812, 822 (1985).

FCC

1992 WL 691473 (F.C.C.), 70 Rad. Reg. 2d (P & F) 622, 7 F.C.C.R. 445, 7 FCC Rcd. 445

END OF DOCUMENT