

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matters of)	
)	
Tyco Telecommunications (US) Inc.,)	
<i>Assignor,</i>)	
)	
VSNL Telecommunications (US) Inc.,)	File Nos.
<i>Assignee,</i>)	SCL-ASG-20050304-0003
)	SCL-MOD-20050304-0004
)	SCL-T/C-20050304-0005
and)	
)	
Tyco International Ltd.)	
<i>Transferor,</i>)	
)	
VSNL Telecommunications (US) Inc.,)	
<i>Transferee,</i>)	
)	
and)	
)	
Tyco Networks (Guam) LLC.,)	
<i>Licensee,</i>)	
)	
Applications for Modification, Assignment)	
and Transfer of Control of Cable Landing)	
Licenses for the Tyco Atlantic and Tyco)	
Pacific Submarine Cable Systems.)	

To the Commission:

PETITION TO DENY OF CREST COMMUNICATIONS CORPORATION

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March 31, 2005

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PETITION TO DENY

Crest Communications Corporation (“Crest”), by its attorneys, hereby submits this Petition to Deny the above-captioned applications of Tyco Telecommunications (US) Inc., Tyco International Ltd., Tyco Networks (Guam) LLC, (collectively “Tyco”) and VSNL Telecommunications (US) Inc. (a wholly owned subsidiary of Videsh Sanchar Nigam Limited) (collectively, “VSNL”) for authority to transfer and assign cable landing licenses pursuant to the Cable Landing License Act, 47 U.S.C. §§ 34-39, and Section 1.767 of the Commission’s rules, 47 C.F.R. § 1.767. For the reasons stated herein, Crest urges the Commission to remove these applications from streamlined processing and ultimately deny them as not in the public interest, convenience and necessity.¹

I. INTRODUCTION AND SUMMARY

The Commission cannot treat the above-captioned applications as run-of-the-mill transfer or assignment requests for U.S. cable landing licenses. Contrary to the applicants’ assertions, the proposed transaction implicates much more than the foreign-end landings of the Tyco-Pacific and Tyco-Atlantic cable systems. If VSNL were allowed to complete this proposed transaction,

¹ As a provider of critical telecommunications infrastructure in Alaska and between Alaska and the continental United States, Crest has a two-fold interest in Tyco’s announced sale of the TGN. First, Crest firmly believes that the TGN is a unique, strategic asset and that selling this large and valuable component of the critical global communications infrastructure to a foreign entity raises serious competition, national security, economic security, and trade policy concerns. Second, Crest owns submarine fiber optic cable branching units on the Tyco-Pacific network that are intended to connect the Eareckson Air Station on Shemya Island and other military installations on Kodiak Island to various bases within Alaska and to the U.S. mainland. Crest has been in discussions with the U.S. Department of Defense (“DoD”) to use these branching units to enhance the early warning and interception capabilities of the U.S. military’s national missile defense program. Should the TGN come under the control of a foreign entity or a foreign government, however, DoD’s desire to use these branching units for enhanced fiber connectivity likely would be diminished due to the threat of data corruption or data interception. Alternative fiber optic cable solutions would cost the DoD over ten times more than interconnecting via these branching units.

the Tyco Global Network (“TGN”) would become part of a massive, VSNL-controlled global undersea fiber optic cable network of unprecedented size, available capacity, and global reach that likely would diminish capacity in the global telecommunications market.

The TGN is a unique international telecommunications asset that is the last remaining trans-oceanic fiber optic cable system under the ownership and control of U.S. interests. In fact, it is the only such cable system under the control of a single U.S. owner. Moreover, the TGN is the newest and most technologically advanced global undersea fiber optic cable system. Standing alone among cable systems for its size and reach, the TGN spans more than 60,000 km, has multiple interconnection points in three continents, and accounts for over 85 percent of the total trans-Pacific cable capacity and 25 percent of the total trans-Atlantic submarine cable capacity.

VSNL is not an ordinary telecommunications company that plays by marketplace rules. It is India’s dominant international telecommunications provider and has substantial market power over undersea cables landing in India. Until 2002, VSNL was owned entirely by the Indian government. It is now substantially owned by the Indian government (26 percent) and the Tata Group (46 percent), one of the largest conglomerates in India with close ties to the Indian government and Indian defense establishment. Furthermore, VSNL has a long and sordid history of abusing its monopoly power to the detriment of its competitors and consumers of international bandwidth.

As set forth below, the transfer of the TGN—the last remaining global submarine cable network under U.S. ownership and control—to VSNL raises a myriad of competition, economic and national security, as well as trade policy concerns that warrant close scrutiny by the Commission and other branches of government. If allowed to proceed, the proposed acquisition

would deal a serious blow not only to the commercial interests of the United States, but also, more broadly, to global telecommunications competition. It will undermine U.S. economic security by ceding to foreign owners the control of a unique strategic asset that is vital to American commerce. It also inevitably would lead to a shift of the strategic center of the critical global undersea telecommunications grid—and, in fact, the center of international communications generally—from the United States to somewhere between India and Singapore.

Moreover, VSNL's control over critical inputs—specifically, cable landing stations—in India provide it with the ability and incentives to perpetuate and expand its anticompetitive activities through the acquisition of the TGN. Allowing VSNL to add the TGN to its vast submarine cable network holdings and investments would give VSNL compelling and sustainable strategic and competitive advantages, especially across the Pacific Ocean, where there soon will be limited alternatives for purchasing large amounts of bandwidth on an end-to-end basis. As a result, VSNL's dominance over trans-Pacific bandwidth likely would endure, unchallenged, for years.

Given the TGN's strategic value and its status as the sole remaining submarine cable network in U.S. hands, any limitation of access to, or disruption of, the undersea fiber optic cable infrastructure would have a devastating effect on the U.S. economy, as well as on law enforcement, military, intelligence, and diplomatic operations. Specifically, the proposed sale will severely compromise the DoD's net-centric warfare plans and threaten the security and integrity of military, intelligence, and other sensitive communications on the cable network. The U.S. military's dependence on massive amounts of bandwidth is great and will continue to grow. Currently, the U.S. military relies predominantly on satellite communications. However, satellites alone cannot keep pace with the increasing demand for bandwidth. Fiber optic cable

networks offer vastly more bandwidth at a far lower cost than satellites. VSNL's acquisition of TGN raises serious questions about whether the DoD will be able to depend on major portions of the worldwide undersea cable infrastructure to prepare for and support military operations in remote locations.

Finally, it is important to stress that the contemplated transaction, if it closes, is irreversible. This proceeding represents the only opportunity to object to approval of the above-referenced applications. Should the Commission grant these consolidated applications, VSNL will be able to acquire the TGN and, as a result, will gain a durable, sustainable, and potentially insurmountable competitive advantage.

II. LEGAL STANDARD

The Commission's authority to grant, withhold, or condition approval to assign or transfer cable landing licenses derives from the Cable Landing License Act² and Executive Order No. 10,530.³ The Act provides that the President may withhold authority to assign cable landing licenses if he decides that "such action will assist in securing rights for the landing or operation of cables in foreign countries, or in maintaining the rights or interests of the United States or of its citizens in foreign countries, *or will promote the security of the United States....*"⁴ The President also may "grant a cable landing license upon such terms as shall be necessary to assure

² 47 U.S.C. §§ 34-39.

³ Exec. Ord. No. 10,530, 3 C.F.R. 189 (1954-1958).

⁴ 47 U.S.C. § 35 (emphasis added).

just and reasonable rates and service in the operation and use of cables so licensed.”⁵ The President’s authority under the statute has been delegated to the Commission.⁶

In exercising its delegated authority, the Commission must first determine whether the applicants are qualified to hold the licenses at issue. Assuming they are qualified, the Commission then weighs the potential public interest harms against the potential public interest benefits to ensure that, on balance, the proposed transaction will serve the public interest, convenience, and necessity. In making this determination—weighing the potential public interest benefits against the potential public interest harms of a proposed transaction—the Commission must also consider not only competition issues,⁷ but also the national security, trade and foreign policy, and law enforcement implications of the deal.⁸

Under the Communications Act, applicants bear the burden of demonstrating that the transaction is in the public interest.⁹ The Commission considers whether a proposed assignment will comply with the Commission’s rules and its potential effects on competition.¹⁰ Where the potential harms to competition raised by a proposed transaction are substantial, the burden of

⁵ *Id.*

⁶ Exec. Ord. No. 10,530 § 5(a), 3 C.F.R. 189 (1954-1958).

⁷ See Communications Act, as amended, 47 U.S.C. §§ 214 and 310(d); Cable Landing Act, 47 U.S.C. §§ 34-39; 47 C.F.R. §§ 1.767, 1.768; Exec. Ord. No. 10,530 § 5(a), 3 C.F.R. 189 (1954-1958).

⁸ *In re Rules and Policies on Foreign Participation in the U.S. Telecommunications Market; Market Entry and Regulation of Foreign-Affiliated Entities*, Report and Order and Order on Recon., 12 FCC Rcd 23891, 23919 (1997) (“*Foreign Participation Order*”).

⁹ 47 U.S.C. § 309(e) (2000) (burdens of proceeding and proof rest with the applicant); see, e.g., *LaFlore Broadcasting Co., Inc.*, 66 FCC 2d 734, 736-37 (1975) (burden of proof rests on applicants).

¹⁰ See *Application of NYNEX Corp. and Bell Atlantic Corp. for Consent to Transfer Control of NYNEX Corp. and Its Subsidiaries*, 12 FCC Rcd. 19,985 (1997).

proof on applicants to demonstrate transaction-specific benefits correspondingly become more demanding.¹¹ In order to satisfy their duty to show that the benefits of the transaction will outweigh the harms, the applicants “must provide sufficient support for any benefit claims so that the Commission can verify the likelihood and magnitude of each claimed benefit.”¹² In addition, any public interest benefits must be transaction-specific; *i.e.*, they “must be likely to be accomplished as a result of the [transaction] but unlikely to be realized by other means that entail fewer anticompetitive effects.”¹³

III. BACKGROUND

A. The TGN Is A Valuable and Unique Strategic Asset

In 1985, no global fiber optic communications grid existed. But in the last two decades, more than 100 countries have become linked by undersea fiber optic cables.¹⁴ Most of these global cable systems were developed in the United States with substantial U.S. ownership and control. This global communications infrastructure is now a key component of a \$600 billion per year global telecommunications industry, and it serves as the central nervous system of an increasingly worldwide economy.

The global submarine cable infrastructure has become an increasingly important strategic asset over the years as the need for large bandwidth and long-haul telecommunications transport

¹¹ See *Applications of Ameritech Corp. and SBC Communications Inc. for Consent to Transfer Control*, Memorandum Opinion and Order, 14 FCC Rcd. 14712, 14825 (1999).

¹² *Application of EchoStar Communications Corp., Gen. Motors Corp., and Hughes Elecs. Corp.*, Hearing Designation Order, 17 FCC Rcd. 20559, 20630 (2002).

¹³ *Id.* at 20630 (citations omitted).

¹⁴ Center for Strategic and Budgetary Assessments (Prepared for OSD Net Assessment), *Digest of The Undersea Telecommunications Infrastructure: A Global Net Assessment*, 3 (May 2004).

has grown exponentially due to growing demands for high-speed data services and bandwidth intensive applications. By 2006, it is expected that about 90 percent of the world's international telecommunications traffic will be carried on the global fiber optic cable grid.¹⁵ In fact, excluding communications routed through Canada and Mexico, more than 90 percent of U.S. international telecommunications traffic is now carried over submarine cables worldwide.¹⁶

The TGN is the crown jewel of this international telecommunications grid. It is unique in that it is the newest, most state-of-the-art global submarine cable network and therefore is critically important to the international telecommunications market. In addition, the TGN is now the only global fiber optic cable network under the sole ownership and control of U.S. interests. It is also the largest single cable system with the greatest reach and available bandwidth, spanning over 60,000 km, two oceans, and three continents. Most significantly, the TGN has the design capacity to carry upwards of 85 percent of all trans-Pacific cable traffic and 25 percent of all trans-Atlantic submarine cable traffic on all existing and planned cable systems.¹⁷

In addition, the TGN's extensive network links key telecommunications centers throughout the United States to major hubs in Asia and Western Europe. The Tyco-Atlantic system connects two landing stations in the United Kingdom with a landing station in Wall

¹⁵ *Id.* at 32-33.

¹⁶ *Id.*

¹⁷ See Exhibits 1 and 2, attached (showing these trans-Atlantic and trans-Pacific cable capacities); PriMetrica, Inc., *International Bandwidth 2004, Volume 1: Submarine Networks* at 116 (2004) ("*Telegeography Report*"). The Tyco-Pacific cable's share increases to 97 percent if legal issues associated with the Pacific Crossing-1 (PC-1) are taken into account. PC-1 is currently in Chapter 11 bankruptcy, and no capacity is currently available for carriers. Even if the PC-1 were to come out of Chapter 11 in the near future it is unlikely that it would be able to realize the full potential of 640 Gbps due to both legal issues and reliability issues associated with its operation. See *In re PC Landing Corp.*, Joint Plan of Reorganization of PC Landing Corp., Pacific Crossing, Ltd., and Their Debtor Affiliates, No. 02-12086 (PJW) (D. Del. filed Feb. 25, 2005).

Township, N.J., and the Tyco-Pacific system connects landing stations in Guam and in Emi and Toyoashi, Japan with landing stations in Hillsboro, Oregon and Los Angeles, California.¹⁸ In turn, Tyco-Pacific connects in Japan to Tyco Pan-Asia, which operates over the c2c cable network owned by Tyco and Singapore Telecommunications Limited (“SingTel”), the government-owned carrier in Singapore. The c2c network has landing stations in Japan, China, Singapore, the Philippines, and Taiwan, and it connects to the Sea-Me-We 3 and FLAG Telecom Europe-Asia (“FEA”) networks that provide additional connectivity to India, the Middle East, and Europe.

B. VSNL Already Controls Substantial Cable Assets Connecting India to The Global Communications Grid

Due to India’s unique geographic location, virtually all of the major undersea fiber optic cable systems connecting Europe, the Middle East, Southeast Asia, and Southwestern Africa must land in India. VSNL has a dominant position in India; it controls four of the five cable landing stations there and as the former monopoly international telecommunications carrier, it still controls a substantial portion of the traffic into and out of India. In addition to being the only landing party for all consortium cables landing in India, including Sea-Me-We 2, Sea-Me-We 3, and SAFE, it is the only landing party for the FEA private cable system connecting India with points east toward Japan and west toward England. Further, VSNL’s majority shareholder, the Tata Group, has just completed the Tata Indicom cable—a 5.12 Tbps-capacity India-Singapore cable linking Singapore to VSNL’s Chennai landing station in India.¹⁹ The

¹⁸ Figure 1, attached (showing the Tyco Global Network), *available at* <http://www.tycotelecom.com/NetworkServices/NetworkMaps.asp#> (last visited Feb. 18, 2005).

¹⁹ Tata Indicom, “VSNL Completes Singapore’s First Indian-Owned Undersea Fiber-Optic Cable,” (Nov. 3, 2004), *available at* http://www.vsnl.com/news.php?htm=vsnlnews/undersea_fiberoptic_03_11_04.htm (last visited March 13, 2005). *See also Telegeography Report* at 31.

completion of this link and the purchase of the TGN would give VSNL ownership of a complete end-to-end U.S.-Japan-Singapore-India cable network of unprecedented bandwidth capacity.²⁰

VSNL also is the network administrator and will control the Network Operating Center for the new Sea-Me-We 4 cable network linking France to Singapore by way of India. As network administrator, VSNL will be able to monitor activation and deactivation of capacity anywhere between two points in the network.²¹ This new consortium cable system will span 20,000 km to become a main backbone linking Western Europe to East Asia and will support a design capacity of 1.28 Tbps. VSNL announced that the cable-laying operation for this system began in February 2005 and is expected to be in service in the fourth quarter of this year.²²

C. VSNL Is Paying A Premium for The TGN As A Strategic Asset

VSNL's proposed acquisition of the TGN is unlike any previous transaction the Commission has ever examined. Although VSNL proposes to acquire the most advanced and expansive international undersea cable network (and the sole remaining U.S.-controlled global submarine network) for \$130 million dollars—far less than \$3.4 billion it cost to build²³—

²⁰ Figure 2, attached, (showing VSNL's cable network), *available at* <http://www.vsnl.com/channel.php?htm=aboutvsnl/map.htm> (last visited Feb. 18, 2005).

²¹ Times News Network, "VSNL to Provide Services in South East Asia," *The Economic Times*, Sept. 5, 2004, *available at* <http://economictimes.indiatimes.com/corpshow/888682.cms> (last visited March 15, 2005) (citing VSNL sources as saying, "[t]his mandate opens immense business opportunities for VSNL, as the company can now offer network administrator services in the global submarine market place, which is moving towards an outsourcing model.").

²² Tata Indicom, "Laying Operation of SMW-4 Submarine Cable for VSNL Cable Station Commence" (February 28, 2005), *available at* http://www.vsnl.com/news.php?htm=vsnlnews/smw4_28_02_05.htm (last visited March 15, 2005). *See also* "About SEA-ME-WE-4," *available at* http://www.seamewe4.com/inpages/about_sea_me_we_4.asp (last visited March 15, 2005).

²³ Times News Network, "VSNL to Buy Tyco Global for \$130m," *The Economic Times (India)* (Nov. 1, 2004), *available at* <http://economictimes.indiatimes.com/articleshow/907317.cms> (last visited March 28, 2005).

VSNL's purchase price for the TGN actually reflects a market premium, taking into account the substantial operating costs to run the network. VSNL's apparent willingness to pay significantly more than any other bidder for the entire network demonstrates TGN's unique strategic value to this government-owned company.

VSNL's willingness to pay a premium price for the TGN is reflected in the fact that it could have purchased all of the capacity it might ever need across the Atlantic and Pacific Oceans for significantly less than the \$130 million purchase price—and without absorbing all of the network's operating costs. The only explanation behind such an investment is that VSNL views the TGN as a strategic asset that it can exploit.²⁴ The strategic value to VSNL is the power to control the only trans-Pacific network with substantial, available upgradeable capacity. In

²⁴ Tyco's sale of the TGN is taking place at a time when many U.S. telecommunications carriers are struggling in a very competitive U.S. market. The former Regional Bell Operating Companies ("RBOCs") have been—and still are—undergoing a period of massive reshaping and consolidation. They have focused on their core businesses as well as certain newer technology platforms such as VOIP and DSL services. In addition, these entities have had little or no international presence until only recently. As a result of these competitive pressures, the RBOCs primarily have maintained a domestic focus. Major U.S. interexchange carriers also have been under tremendous competitive pressures and now are in the process of being acquired by the RBOCs. It therefore is not surprising that these U.S. carriers did not—or could not—make a serious bid for the TGN despite its strategic significance.

In comparison, VSNL still enjoys the fruits of its legacy as India's monopoly telecommunications provider—including its status as the owner of four of India's cable landing stations. VSNL has been able to seize upon its dominant position and lack of effective competition at home and focus its attention on acquiring foreign telecommunications assets. At the same time, Tyco was looking for a buyer in order to sell TGN in its entirety, rather than piecemeal, in order to stop the outflow of funds needed to support TGN and to correct what Tyco believed to be a bad investment decision made by its prior management. In doing so, and by accepting VSNL's bid, Tyco has ignored the serious implications that such a deal will have on the United States' economic and national security interests, as well as on global telecommunications competition generally.

effect, with the acquisition of TGN, VSNL will control about 85 percent of the available capacity for new circuits on the critical trans-Pacific portion of the India-United States route.²⁵

Over the last decade, VSNL was protected from competition in India as the designated monopoly provider of all international telecommunications services. And even after new international telecommunications entrants were authorized in 2002, VSNL has been able to maintain its dominant position by controlling four of the five cable landing stations in India and maintaining a close relationship to the Indian government. The Indian government still owns 26 percent of the company and maintains an active role in company decision-making with several board seats and important veto rights. Now that it is faced with the potential for real competition, however, VSNL has begun to spend freely to obtain critical infrastructure in other markets to perpetuate its dominant position.

VSNL's interest in acquiring the TGN infrastructure also reflects the value of this unique asset to the Indian government. The Indian government, which exerts substantial control over VSNL through its ownership percentage and Board representation²⁶ (plus the Tata Group's close ties with the Indian government in its role as a defense contractor),²⁷ has an interest in ensuring

²⁵ As of March 2004, only 460 Gbps of the Tyco-Pacific was lit—a mere fraction (6%)—of the 7.68 Tbps available capacity on that network. *See Teleopgraphy Report* at p. 116; Tyco Telecommunications, TGN Capacity Services, Network Maps, *available at* <http://www.tycotelecom.com/NetworkServices/content.asp?page=NetworkMaps.asp> (last visited March 28, 2005) (showing that Tyco trans-Pacific has eight fiber pairs and supports up to 96 waves of 10 Gb/s each per fiber pair for a total upgradeable capacity of at least 7.68 Tbps). *See also* Exhibits 1 and 2, attached (listing trans-Atlantic and trans-Pacific cable capacities).

²⁶ VSNL, Memorandum and Articles of Association, art. 65 (Filed April 2, 2004) (stating that the Indian government may appoint four of VSNL's 12 directors), *available at* <http://www.sec.gov/Archives/edgar/data/1116134/000119312504164097/dex12.htm> (last visited March 30, 2005).

²⁷ *See, e.g.,* Tata, "CMC Limited," (describing a Tata Group subsidiary's government-contracting activities with respect to military defense systems), *available at* <http://www.tata.com/cmc/index.htm> (last visited March 2, 2005); Tata Motors, "Defence,"

India's self-sufficiency and national security, both of which can be better achieved if VSNL controls such a significant portion of the critical, global submarine cable communications infrastructure.

Moreover, allowing VSNL to acquire the TGN would combine the reach of a global telecommunications network with one of India's largest outsourcers—the Tata Group's subsidiary, Tata Consultancy Services (“TCS”). This will benefit India but will have an adverse affect on the U.S. economy. U.S. companies are increasingly looking to India as a less-expensive source of labor and have been outsourcing many data-processing, call center, and other business functions to Indian companies. Undersea fiber optic cable networks like the TGN are a “lifeline for Indian outsourcers” because they are essential for sending data from U.S. companies to less expensive Indian laborers and back again.²⁸ As a Tata Group spokesman has noted, “[c]ommunications capacity in and out of India is tight, and outsourcing is just one of the reasons . . . ‘there is significant demand for connectivity to the U.S., Europe, and elsewhere’” from India.²⁹ TCS is a major participant in India's outsourcing industry.³⁰ With the acquisition

(describing a Tata Group subsidiary's military vehicle monitoring program), *available at* <http://cv.tatamotors.com/showcase/defence/defence.php?SessionID=6a3af3a6386eff3ef4c0f18bbc7187ba> (last visited March 2, 2005).

²⁸ *Lou Dobbs Tonight* (CNN television broadcast, Feb, 9, 2005), *available at* <http://transcripts.cnn.com/TRANSCRIPTS/0502/09/ldt.01.html> (last visited March 25, 2005).

²⁹ Paul Travis, “Tata Unit Targets U.S.-India Communications Traffic,” *OutsourcingPipeline* (Dec. 1, 2004) (quoting Vinod Kumar, executive director, Tata International Business Group), *available at* <http://www.outsourcingpipeline.com/shared/article/printablePipelineArticle.jhtml;jsessionid=UZK2I0EFE4X4MQSNDBGCKH0CJUMKJVN?articleId=54202063> (last visited March 12, 2005).

³⁰ Tata, media release, “Tata Honeywell Outsources Complete IT Infrastructure Management From Tata Consultancy Services” (May 30, 2003), *available at* <http://www.tata.com/tcs/releases/20030530.htm> (last visited March 13, 2005).

of the TGN by VSNL, the Tata Group will be able to obtain significant competitive advantages by bundling its outsourcing business in India with control over critical international bandwidth. As Tata Industries Managing Director Kishor Chaukar acknowledged, the TGN acquisition is vital: “VSNL has a great opportunity in telecom. If we have to give substantial high value-added service to clients, the synergistic advantages with TCS are very high.”³¹ By combining VSNL’s ownership of the TGN with TCS’ expertise, “[t]he Tata Group now has telecom and information technology (IT) capabilities. *With this deal, no one can beat us.*”³²

IV. GRANT OF THESE APPLICATIONS IS NOT IN THE PUBLIC INTEREST

The Commission must deny VSNL’s consolidated applications because of the significant competition, national security, economic security, and trade policy concerns raised by the proposed transaction. In determining whether the public interest would be served by granting the consolidated applications, the Commission must weigh the public interest harms against the potential public interest benefits to ensure that, on balance, the proposed transaction will serve the public interest, convenience, and necessity.³³

A significant part of the Commission’s public interest analysis is the likely competitive effects of the proposed transaction and whether it raises significant anticompetitive concerns.³⁴

³¹ Tata, media report, “Sealing the Deal,” (Nov. 6, 2004), *available at* http://www.tata.com/vsnl/media/20041106_tyco.htm (last visited March 15, 2005).

³² *Id.* (emphasis added).

³³ *In re The Merger of MCI Communications Corporation and British Telecommunications plc*, Memorandum Opinion and Order, 12 FCC Rcd 15351, 15353 (1997) (“*BT-MCI Order*”).

³⁴ *See* Communications Act, as amended, 47 U.S.C. §§ 214 and 310(d); Cable Landing Act, 47 U.S.C. §§ 34-39; 47 C.F.R. §§ 1.767, 1.768; Exec. Ord. No. 10,530 § 5(a), 3 C.F.R. 189 (1954-1958)..

In addition, the Commission must consider whether the proposed transaction raises national security, trade, foreign policy, or law enforcement concerns.³⁵ And, as noted above, the assignment of cable landing licenses, in particular, may be blocked as necessary to “promote the security of the United States.”³⁶

A. The Proposed Transaction Will Have Significant Anticompetitive Effects

In the *Foreign Participation Order*, the Commission stated that it would deny applications for cable landing licenses that posed a “very high risk to competition.”³⁷ Such a risk to competition undoubtedly exists here. Through its acquisition of the TGN, VSNL will have added power and incentive to engage in behavior with significant anticompetitive effects.

The applicants would have the Commission believe that the proposed transaction is relatively straightforward and raises no competition concerns, let alone a very high risk to competition. They have seriously misstated or failed to acknowledge, however, the limited amount of available alternative submarine cable capacity across the Pacific Ocean, VSNL’s dominant position and control over cable landing stations in India, and how the combination of

³⁵ *Foreign Participation Order* at 23919.

³⁶ 47 U.S.C. § 35.

³⁷ *Foreign Participation Order* at 23913, 23933-34. See also *Review of Commission Consideration of Applications Under the Cable Landing License Act*, IB Docket No. 00-106, Report and Order, 16 FCC Rcd 22167, 22178 (2001) (“[W]e cannot rule out the possibility that these measures would be ineffective at preventing anti-competitive conduct in a particular context and we would find it necessary to impose tailored conditions on the license or, in exceptional circumstances, to deny an application.”) (“*Cable Landing Order*”). In the *Foreign Participation Order*, the Commission adopted, as a factor in its public interest analysis, a rebuttable presumption that applications to land and operate submarine cables from WTO members do not pose concerns that would justify denial of an application on competition grounds. *Foreign Participation Order* at 23913. The presumption is rebuttable by a showing that granting an application would pose a “very high risk to competition.” *Id.* at 23914. Importantly, the *Foreign Participation Order* does not exempt foreign carriers from the ordinary public interest analysis. Rather, the Commission stated that foreign carriers are subject to the same public interest standard as U.S. carriers. *Id.* at 23916.

the Tata Group's submarine cable assets with the TGN will increase its dominance in the U.S./India market and possibly extend its dominance to other routes crossing the Pacific.

1. VSNL Has A History of Anticompetitive Conduct With Respect to Not Allowing Access to Its Landing Stations in India on Reasonable Terms

VSNL is not an ordinary company that plays by marketplace rules. VSNL has a long history of anticompetitive behavior, including abuse of control over bottleneck cable landing stations in India. Since its exclusive franchise over international long distance services in India was removed in 2002, VSNL has used several aggressive tactics to stifle competition. All of these activities are well documented and beyond dispute.

Because of its legacy role as the monopoly provider of international long distance services in India, VSNL became the only landing party for the privately financed FLAG Europe Asia ("FEA") in India. VSNL also owns and controls three other cable landing stations in India, which are used for consortium cable landings (*e.g.*, Sea-Me-We 2, Sea-Me-We 3, SAFE) as well as for its private cable (*i.e.*, Tata Indicom) between India and Singapore. It also soon will be one of the two landing parties in India for the new Sea-Me-We 4 cable.³⁸

As reported to the Commission last year and as reflected in recent decisions issued by the Telecom Regulatory Authority of India ("TRAI") and the Office of the United States Trade Representative ("USTR"), VSNL's control over the FEA cable landing station in India has led to repeated complaints regarding delays and refusals to activate additional capacity on the FEA cable system into and out of India. These delays and refusals have resulted in shortages of

³⁸ The other landing party for Sea-Me-We 4 is Bharti Televentures Limited, the only other entity with a cable landing station in India. That landing station connects another point-to-point private cable system (i2i network) between Singapore and India.

bandwidth and increased prices on the U.S.-India route.³⁹ It has also been reported that VSNL has refused to allow FLAG Telecom to upgrade its capacity into and out of India on the FEA cable to serve the growing demand for telecommunications capacity.⁴⁰

While on occasion VSNL has agreed to release some capacity on the FEA cable, it has done so reluctantly and only after exacting excessive charges for access and interconnection at the VSNL-controlled cable landing station.⁴¹ These charges—on the order of hundreds of thousands of dollars—are clearly many times greater than any reasonable cost for access and interconnection at a cable landing station and far in excess of such charges in other countries.⁴² In essence, FLAG Telecom and its customers are being forced by VSNL to pay a monopoly toll charge to obtain needed bandwidth into and out of India.

Some of these issues were raised during the pendency of the VSNL America's ("VAI") international Section 214 application last year.⁴³ Crest is aware that only after repeated

³⁹ United States Office of the Trade Representative, *Results of the 2005 Section 1377 Review of Telecommunications Trade Agreements*, at 6 (March 31, 2005), available at http://www.ustr.gov/assets/Trade_Sectors/Services/Telecom/Section_1377/asset_upload_file959_7529.pdf (last visited March 31, 2005) ("*2005 USTR Report*"). See also Discussion, *ante*, at Sections IV.A.3 and IV; FLAG Telecom Group Limited, Comments Concerning Compliance with Telecommunications Trade Agreements at 9-10 (Jan. 5, 2004), available at http://www.ustr.gov/assets/Trade_Sectors/Services/Telecom/Section_1377/2004_Comments_on_Review_of_Compliance_with_Telecom_Trade_Agreements/asset_upload_file956_6919.pdf (last visited March 31, 2005) ("*FLAG Comments*").

⁴⁰ *FLAG Comments* at 4-5.

⁴¹ *FLAG Comments* at 5-7.

⁴² Telecom Regulatory Authority of India, The Telecommunication Tariff (Thirty Fourth Amendment) Order, 2005, Explanatory Memorandum at 14-16, 37 (March 11, 2005) ("*TRAI Tariff Order*").

⁴³ *In re VSNL America Inc. Application for Authority under Section 214 of the Communications Act of 1934, as amended, to Operate as a Facilities-Based Carrier and as a Resale Carrier for the Provision of International Switched and Private Line Services to All*

meetings, the intervention of the Indian regulator (TRAI), and months of negotiation was VSNL willing to allow for some additional capacity on the FEA cable to be made available to FEA's customers.⁴⁴ Apparently, VSNL still has not made all of this capacity available for use by customers of the FEA cable, nor has it agreed to allow the FEA cable to be upgraded in India to meet the growing demand for international bandwidth.⁴⁵

Crest understands that VSNL also has sought to limit the usefulness of competing submarine cable systems serving India by refusing to allow their interconnection with other cable systems that it controls through its landing stations in India. For example, the i2i network between India and Singapore has no restoration capability because of VSNL's refusal to allow interconnection of cables such as Sea-Me-We 3 and SAFE at its cable landing station with Bharti Televentures Limited's i2i cable.⁴⁶ Without such restoration capability, the i2i network is not a sufficient alternative for many consumers of bandwidth. The net effect of VSNL's anticompetitive conduct is that those customers using non-VSNL cables have no alternative cable restoration path in the event of a cable break.

VSNL's anticompetitive actions of leveraging its control over critical bottleneck facilities in India is damaging U.S. consumers by creating an artificial capacity shortage and by increasing the bandwidth costs for carriers not affiliated with VSNL. This conduct has ultimately resulted

International Points, Order, Authorization and Certification, 19 FCC Rcd 16555, 16561-62 (2004) (“*VAI Order*”).

⁴⁴ *FLAG Comments* at 3. See also United States Office of the Trade Representative, *Results of the 2004 Section 1377 Review of Telecommunications Trade Agreements*, at 8 (April 7, 2004), available at http://www.ustr.gov/assets/Trade_Sectors/Services/Telecom/Section_1377/asset_upload_file802_5269.pdf (last visited March 31, 2005) (“*2004 USTR Report*”).

⁴⁵ *FLAG Comments* at 3-5.

⁴⁶ *TRAI Tariff Order* at 18.

in artificially high prices for capacity on the U.S.-India route. According to TRAI, VSNL's half-circuit pricing is several times greater than the prices of equivalent capacity from other Asian countries. VSNL's excessive charges for access and interconnection have also resulted in increased costs for its competitors.⁴⁷

VSNL's ultimate aim apparently must be to fully protect its investments in Sea-Me-We 2, Sea-Me-We 3, Sea-Me-We 4, SAFE, and Tata Indicom from its principal undersea cable competitors. Restricting the capacity available on the FEA cable, for example, diverts international traffic, including traffic between India and the United States, to Sea-Me-We 3 and (in the future, Sea-Me-We 4), in which VSNL is a major investor, as well as the Tata Indicom cable in which VSNL's parent is the only owner. Additionally, VSNL's anticompetitive behavior impacts the ability of carriers serving the U.S./India market to compete on the basis of quality of service. Crest understands that for redundancy reasons, many carriers prefer to buy capacity on both the FEA cable and Sea-Me-We 3, using one cable as back-up in case the other has a fault or cable break. Carriers' inability to purchase capacity on the FEA cable, is therefore impacting the quality of service carriers can offer their customers in the United States and around the world.

The Commission need not accept Crest's word on VSNL's abusive behavior. Just this month, TRAI issued a tariff order and explanatory memorandum that expressly acknowledged the VSNL bottleneck problem in India.⁴⁸ Prior to TRAI's most recent intervention, VSNL's

⁴⁷ TRAI, *Consultation Paper on Fixation of Ceiling Tariff for International Private Leased Circuit (Half Circuit)*, Consultation Paper No. 10/2004, at 7 (April 30, 2004) ("*TRAI Consultation Paper*").

⁴⁸ *TRAI Tariff Order* at 19 (finding that "VSNL's continued control of cable landing stations and associated facilities constitute bottlenecks, which allow the incumbent to stall or delay entry (or efficient operations) by other operators. Access problems are faced not only by the underlying cable operators but also by operators who have acquired capacity in a cable system and wish to access the capacity at the landing station."); *TRAI Consultation Paper* at 6.

prices for an India-USA high capacity (half-) circuit was up to ten times higher than from other Asian countries (e.g., China, Singapore, Hong Kong, Japan).⁴⁹ TRAI has now mandated tariff reductions for VSNL, but even after such reductions, prices for half circuits will remain far higher in India than in other Asian countries.⁵⁰ VSNL has also appealed this TRAI decision, which has resulted in delaying these price reductions for at least one month.⁵¹

Most significantly, in its March 2005 Tariff Order, TRAI found that:

Access to submarine cable landing stations is considered an essential input for many telecom services. Any unnecessary access restrictions tend to limit operator's [sic] competitive scope to provide international telecom services. Thus, the submarine cable landing stations are critical telecom structure and efforts should be made to ensure that they do not become bottlenecks to telecom service provision The Authority has received a number of complaints that competition is being restricted due to constraints on access to facilities.

VSNL's continued control of cable landing stations and associated facilities constitute bottlenecks, which allow the incumbent to stall or delay entry (or efficient operations) by other operators. Access problems are faced not only by the underlying cable operators but also by operators who have acquired capacity in a cable system and wish to access that capacity at the landing station. Discussions with industry sources suggest that establishing a cable landing station facility in India not only requires a huge amount of investment but is also a time consuming process involving various clearances including security clearance, etc. Thus, the control of access to the cable landing stations make it possible for the supplier of the access facility to impose constraints which are in the nature of non-price factors affecting the competition.⁵²

⁴⁹ *TRAI Consultation Paper* at Annexure II(a).

⁵⁰ *Id.* at 12.

⁵¹ Corporate Bureau, "TRAI Seeks More Time to Reply VSNL Petition," *The Financial Express* (March 25, 2005), available at http://www.financialexpress.com/fe_full_story.php?content_id=86131 (last visited March 31, 2005); Sify Finance, "VSNL Appeals Against TRAI Order," (March 24, 2005), available at <http://sify.com/finance/nri/fullstory.php?id=13700924> (last visited March 31, 2005).

⁵² *TRAI Tariff Order* at 18-19 (Emphasis added).

While TRAI acknowledged the VSNL bottleneck and its negative effect on competition, it declined to remedy the situation.⁵³

2. *VSNL's Entry Into The U.S. Market*

In 2003, VAI applied to the Commission for authority to enter the U.S. international telecommunications market as a carrier.⁵⁴ In this proceeding, it was alleged that VSNL was restricting the amount of capacity available into India and causing international circuits terminating in India to be priced at artificially high levels by leveraging its control over critical bottleneck facilities—cable landing stations—located in India. In conditioning its approval of VAI's Section 214 application, the Bureau indicated that it viewed VSNL's conduct as troublesome, stating, “[w]e would be concerned if VSNL leveraged its market power over these facilities in India into the U.S. market to the detriment of competition and consumers.”⁵⁵

The Bureau nevertheless determined that the grant of international Section 214 authority to VAI would not result in a very high risk to competition in the U.S. market. In particular, the Bureau found that it had not been shown “that the Commission’s general safeguards and dominant carrier safeguards, which will apply to VAI in its provision of service on the U.S.-India route, will be ineffective in detecting and deterring unreasonable discrimination by VSNL in favor of VAI.”⁵⁶

As a result, VAI was only classified as a dominant carrier in its provision of service to India and required to comply with the FCC’s general dominant carrier safeguards on this route,

⁵³ *Id.* at 19 (noting that “there is a need to enhance competition in cable landing facilities and that regulatory intervention would be required” but declining to take any action).

⁵⁴ *See generally VAI Order.*

⁵⁵ *VAI Order* at 16561.

⁵⁶ *Id.* at 16560.

including the “No Special Concessions” rule,⁵⁷ structural separation requirements,⁵⁸ quarterly circuit status information on a facility-specific basis,⁵⁹ quarterly reports summarizing the provisioning and maintenance of all basic network facilities and services procured from VSNL,⁶⁰ and quarterly traffic and revenue reports.⁶¹

Notwithstanding the conditional grant of the application, the Bureau warned VAI that it would act should VSNL continue to harm competition. The Bureau stated:

We emphasize that the Commission reserves the right to review VAI’s authorization and, if warranted, impose additional requirements in circumstances where it appears that harm to competition is occurring on one or more U.S. international routes. Moreover, if the Commission were to find that VAI, or any other U.S. carrier, had received discriminatory access to VSNL’s cable landing facilities or other exclusive arrangement necessary to provide basic telecommunications services on the U.S.-India route, in violation of the Commission’s No Special Concessions rule, we would not hesitate to take appropriate corrective action.⁶²

The Bureau further stated that “[a]n intentional violation of the No Special Concessions rule might result not only in direct sanctions, but might further raise questions about a carrier’s qualifications with respect to future applications for Commission authority.”⁶³

⁵⁷ The No Special Concessions rule generally prohibits any U.S. international carrier from agreeing to accept, from any carrier with market power on the foreign end of the route, an exclusive arrangement involving services, facilities or functions not offered to similarly-situated U.S. carriers. *See* 47 C.F.R. § 63.14.

⁵⁸ *Id.* at § 63.10(c)(1)

⁵⁹ *Id.* at § 63.10(c)(4).

⁶⁰ *Id.* at § 63.10(c)(3).

⁶¹ *Id.* at § 63.10(c)(2)

⁶² *VAI Order* at 16565.

⁶³ *Id.* at 16565 & n.63.

3. *VSNL's Continuing Anticompetitive Behavior After its Affiliate Received International Section 214 Authority*

The Bureau's warning to VAI was prescient, but it unfortunately fell on deaf ears. It should now be apparent that the competitive safeguards that the Bureau placed on VAI have been ineffective in curtailing VSNL's anticompetitive conduct with respect to its cable landing stations in India, and the Bureau's assumption that these issues would be resolved by India's regulator was optimistic at best.

Moreover, the Commission's No Special Concession rule and reporting requirements on VAI have failed to keep VSNL from acting in a discriminatory manner and from leveraging its market power over its bottleneck facilities in India into the U.S. market to the detriment of competition and consumers.⁶⁴ In comments on the USTR's 2005 review of countries' compliance with telecom trade agreements,⁶⁵ a number of parties have expressed concerns that VSNL is exercising its monopoly control of the FEA cable to the disadvantage of competitors. For example, CompTel/ASCENT reported that "VSNL still refuses to permit interconnection and

⁶⁴ *2005 USTR Report* at 6 ("Last year, USTR noted marginal progress by India in resolving a complaint related to access to and use of submarine cable capacity. Unfortunately, problems persist based on the continued control by India's dominant international operator, VSNL, over access to all but one submarine cable landing station in India.").

⁶⁵ "The purpose of the review is to determine whether any act, policy, or practice of a foreign country that has entered into a telecommunications-related agreement with the United States (1) is not in compliance with the terms of the agreement or (2) otherwise denies, within the context of the agreement, mutually advantageous market opportunities to telecommunications products and services of U.S. firms in that country." Office of the United States Trade Representative, "USTR Focus on Telecommunications," *available at* http://www.ustr.gov/Trade_Sectors/Services/Telecom/Section_Index.html (last visited March 30, 2005).

access to the unused capacity” on the FEA cable which lands at Mumbai.⁶⁶ Specifically,

CompTel/ASCENT stated that:

VSNL’s refusal: 1) creates an artificial shortage of undersea cable capacity into and out of India; 2) results in exorbitant prices for the cable capacity that is made available; and 3) prevents ‘upgrades’ to the existing cable system that would alleviate the capacity shortage. This refusal is a blatant use of VSNL’s monopolistic control of submarine cable capacity to force competitors to use submarine cable capacity on a new, wholly-owned VSNL submarine cable.⁶⁷

Similarly, the United States Council for International Business (“USCIB”) stated:

VSNL has severely limited access to spare submarine cable capacity by refusing to allow access at reasonable rates. These actions have created an artificial shortage of submarine cable capacity, preventing competitive operators from meeting the full bandwidth demands of their customers and driving bandwidth prices for the capacity that is available to much higher levels than the prices for similar capacity on routes where the market is more competitive.⁶⁸

The Telecommunications Industry Association (“TIA”) echoed the concerns of CompTel/ASCENT and USCIB and also reported to the USTR its understanding that “VSNL has not complied completely with its agreement from earlier [in 2004] to provide additional capacity, and the company continues to charge exorbitant prices to the detriment of U.S.

⁶⁶ CompTel/ASCENT, Comments on Compliance with U.S. Telecommunications Trade Agreements (Dec. 17, 2004), *available at* http://www.ustr.gov/Trade_Sectors/Services/Telecom/Section_1377/2005_Comments_on_Review_of_Compliance_with_Telecom_Trade_Agreements/Section_Index.html (last visited March 30, 2005).

⁶⁷ *Id.*

⁶⁸ United States Council for International Business, Comments on Compliance with U.S. Telecommunications Trade Agreements (Dec. 22, 2004), *available at* http://www.ustr.gov/Trade_Sectors/Services/Telecom/Section_1377/2005_Comments_on_Review_of_Compliance_with_Telecom_Trade_Agreements/Section_Index.html (last visited March 30, 2005).

customers and U.S. companies in India that need capacity.”⁶⁹ TIA urged the U.S. government to closely monitor VSNL’s behavior, noting the “serious adverse effects” VSNL’s conduct has “for U.S. telecommunications and information technology (IT) companies that desire access to the Indian market,” including denial of market access, inflated prices for bandwidth, and increased charges for calls to and from India.⁷⁰

In addition, VSNL’s conduct raises serious questions as to whether VAI has violated the No Special Concessions rule by entering into favorable agreements with VSNL for landing traffic in India. The No Special Concession rule prohibits preferential or exclusive operating agreements or marketing arrangements for the provision of basic telecom services, and any distribution or interconnection arrangements, including pricing, technical specifications, functional capabilities, or other quality and operational characteristics at rates or on terms and conditions that are not available on a nondiscriminatory basis to all competing US carriers.⁷¹ While Crest does not know the nature of VAI’s arrangements with VSNL for originating and terminating traffic in India, it is likely that those arrangements will not include any restriction on the availability of capacity over the cable networks that VSNL controls in India. Nor is there any reason to believe that VAI will be charged excessive rates by VSNL for accessing these cables in India or for interconnecting with carriers in India.

⁶⁹ Telecommunications Industry Association, Comments on Compliance with U.S. Telecommunications Trade Agreements (Dec. 17, 2004), *available at* http://www.ustr.gov/Trade_Sectors/Services/Telecom/Section_1377/2005_Comments_on_Review_of_Compliance_with_Telecom_Trade_Agreements/Section_Index.html (last visited March 30, 2005).

⁷⁰ *Id.*

⁷¹ 47 C.F.R. § 63.14.

In addition, the Bureau's expectation that TRAI would curtail VSNL's anticompetitive behavior has not been validated. While TRAI has acknowledged VSNL's bottleneck over cable landing stations in India and its effect on market prices for international bandwidth, it has not specified any timetable for eliminating, yet alone addressing, VSNL's market power in India.

As troubling as VSNL's continuing misconduct is, it pales in comparison to the increase in incentives and ability to act in an anticompetitive manner that VSNL will enjoy if the proposed transaction goes forward. As discussed more fully below, and in Dr. Pelcovits's Declaration, *see ante* at Section IV.A.4.a, VSNL will have a unique incentive to exploit the Tyco Global Network in a way that will retard entry and constrain future competition in the delivery of telecommunications services on the U.S./India route. Furthermore, as explained in the Pelcovits Declaration, VSNL's acquisition of the TGN would make it harder for the Commission and other regulators to detect such behavior, *see ante* at Section IV.A.4.b.

4. This Proposed Transaction Poses a Very High Risk to Competition

In the *Foreign Participation Order*, the Commission stated that it would deny applications for cable landing licenses that posed a "very high risk to competition."⁷² Such a risk to competition undoubtedly exists here. Through its acquisition of the TGN, VSNL will have added power and incentive to engage in behavior with significant anticompetitive effects.

The applicants would have the Commission believe that the proposed transaction is relatively straightforward and raises no competition concerns, let alone a very high risk to competition. In doing so, however, they have seriously misstated or failed to acknowledge the

⁷² *Foreign Participation Order* at 23914, 23933-34. *See also Cable Landing Order* at 22178 ("[W]e cannot rule out the possibility that these measures would be ineffective at preventing anti-competitive conduct in a particular context and we would find it necessary to impose tailored conditions on the license or, in exceptional circumstances, to deny an application.").

lack of available alternative submarine cable capacity across the Pacific Ocean, VSNL's dominant position and control over cable landing stations in India, and how the combination of the Tata Group's submarine cable assets with the TGN will give VSNL a more dominant position in the U.S./India market and possibly other routes crossing the Pacific.

As explained more fully in the attached declaration of Michael Pelcovits, Ph.D., the VSNL-Tyco transaction presents serious competitive concerns. The Commission has previously found that VSNL has market power in the U.S./India telecommunications market as a result of its dominant position as India's incumbent international carrier and its control of four of the five cable landing stations in India.

In his declaration, Dr. Pelcovits explains that "[t]he proposed acquisition of Tyco Telecommunications' global assets by VSNL is likely to solidify and expand the market power of VSNL in the market for bandwidth capacity between the United States and India. This would harm U.S. consumers and businesses by perpetuating the high prices for bandwidth on this route and may also provide VSNL (through its own actions and that of its U.S. affiliate) with an unfair advantage over other U.S. carriers competing for business in the U.S. to India market."⁷³ The transaction will also increase barriers to competition in the U.S./India market, and enable VSNL to evade regulation of prices for access to landing stations, and also evade regulation of the conditions established by the Commission on VAI.

a. Horizontal Anticompetitive Effects

The Commission scrutinizes transactions for both horizontal and vertical anticompetitive effects. As for horizontal effects, the Commission described its concerns, in language fully

⁷³ Pelcovits Declaration at 2.

applicable here, in *In re The Merger of MCI Communications Corporation and British Telecommunications plc*:

[I]f a relevant market is concentrated and dominated by one of the merging companies, then the merger could result in the merged firm's gaining increased unilateral market power or slowing the decline of unilateral market power. As a result, the merged company may have an increased ability, compared with competitive conditions in the absence of the merger, to raise price above competitive levels, reduce the quality of the relevant product or service, reduce innovation or restrict output.⁷⁴

In industries characterized by significant network effects, a horizontal anticompetitive effect, such as entry foreclosure, can occur, as the result of a merger, if the non-dominant firm is a potential entrant into the dominant firm's market. In the *BT-MCI Order*,⁷⁵ BT was the sole owner and operator of the cable landing station over which most U.S.-U.K. traffic was transmitted. The Commission was concerned that the merger of MCI and BT would have a "horizontal anti-competitive effect" in the market for cable landing station access, if it "result[ed] in the loss of a likely significant competitor in this market."⁷⁶ The Commission found that the merger would not have an anticompetitive effect for two reasons. First, MCI was neither a significant participant in the market for cable landing station access, nor did it appear likely that MCI would become a significant market participant in the foreseeable future. Second, a new cable was under construction across the Atlantic. According to the Commission, new entrants into the cable landing station access market were likely to arise as new cables were constructed.⁷⁷

⁷⁴ *BT-MCI Order* at 15398.

⁷⁵ *Id.* at 15406.

⁷⁶ *Id.*

⁷⁷ *Id.*

In this proceeding, the same analysis points inescapably to the conclusion that the proposed transaction will have significant horizontal anticompetitive effects. Due to the overhang of excess capacity on the Tyco-Pacific cable, it is extremely unlikely that any new cables will be constructed, and the proposed transaction will eliminate the most likely entrant—or discourage any entry—into the input markets.

Trans-pacific cable capacity and landing station access in India are complementary inputs. VSNL currently has market power in one of these inputs—cable landing station access. As even TRAI has recognized, VSNL has used its control over this input to create an artificial scarcity of cable landing station access. This artificial scarcity, in turn, has “the direct effect of limiting supply of bandwidth that competitors may in turn make available to their customers between India and other destinations.”⁷⁸ The net result of the artificial scarcity of cable landing station access is to raise “the costs to competitors relative to VSNL of interconnecting foreign traffic, giving it an anticompetitive advantage over its rivals.”⁷⁹

The primary threat to VSNL’s market dominance is loss of control of bottleneck facilities. To VSNL, this is primarily a horizontal concern. That is, VSNL seeks to eliminate

⁷⁸ Pelcovits Declaration at 20.

⁷⁹ Pelcovits Declaration at 21. As discussed here and in the following section, Dr. Pelcovits’ analysis is also consistent with the Commission’s analysis of vertical anticompetitive effects in the *BT-MCI Order*, where the Commission stated:

In evaluating mergers, we must also consider the possibility that a merger may have vertical effects on competition in other markets. A proposed merger may harm competition if it increases or slows the decline of a firm’s ability to engage in behavior that ultimately will restrain output or increase prices in final product markets. As Professors Krattenmaker, Lande, and Salop have explained, where a vertically-integrated firm possesses unilateral market power in an upstream input market, it may have the ability profitably to raise and sustain prices significantly above competitive levels in another downstream, end-user market by raising its’ rivals costs in that second market, thus causing them to restrain their output. *BT-MCI Order* at 15371.

competitive threats in the market that it currently dominates. The proposed transaction will eliminate the single largest threat to that dominance, and render it cost-ineffective for any potential competitor to construct a new cable landing station that competes with those owned by VSNL. If the Tyco Pacific cable remained independent, Tyco would have a strong incentive to break VSNL's bottleneck, which would result in opening the Indian market and an increase in demand for the Pacific cable's excess capacity.⁸⁰ VSNL control of the Pacific cable will eliminate this threat, making it infeasible to break VSNL's bottleneck, and consequently retarding the response of competitors to the growth in demand for telecommunications services between the U.S. and India. As Dr. Pelcovits concludes, "VSNL's dominant position and its landing facilities-based market power in India are clearly threatened by competitive access to the Tyco Transpacific cable. It would be in its interests to blunt that threat by acquiring the only asset with adequate upgradeable capacity on the transpacific route."⁸¹

b. Vertical Anticompetitive Effects

The Commission has also recognized that vertical anticompetitive effects can occur as a result of one of the merging parties' control over bottleneck facilities. For example, in the *BT-MCI Order*, the Commission stated:

We must also consider whether the merger is likely to increase the incentive or ability of either BT or MCI to use market power in one market to discriminate in favor of its affiliate in another market, thereby possibly harming competition and U.S. consumers. We focus on whether BT's market power arising from its control of facilities in the United Kingdom could be used to disadvantage unaffiliated carriers serving residential and business customers on the U.S.-U.K. outbound international services market....⁸²

⁸⁰ Pelcovits Declaration at 22.

⁸¹ Pelcovits Declaration at 23.

⁸² The Commission also stated similar concerns in the *Cable Landing Act Order*:

The Bureau has already expressed concern that VSNL could exploit its dominant position in India to the disadvantage of unaffiliated U.S. carriers.⁸³ As Dr. Pelcovits explains, the proposed transaction will incentivize VSNL to increase its discriminatory practices:

The danger that VAI would receive favorable treatment from its parent VSNL, however, will increase substantially if the Tyco transaction is consummated. The reason is that VAI will be able to obtain an end-to-end circuit between the U.S. and India entirely on VSNL-owned facilities, upon which VSNL will exercise varying degrees of market power over competing U.S. carriers. With a VSNL-owned Tyco Transpacific cable controlling an increasing amount of the capacity on the U.S. – Japan route, other U.S. carriers will require non-discriminatory access to this capacity in order to compete effectively against VAI for the growing business on the U.S. – India route. When coupled with VSNL’s control over the key landing station bottleneck in India, the opportunity for VSNL to discriminate against U.S. carriers will be much greater than previously contemplated by the Commission at the time that it granted VAI’s 214 application.⁸⁴

The Commission’s regulatory framework for the provision of U.S. international telecommunications services has addressed the ability of a company to exercise market power either by: (1) raising consumer prices by restricting its own output; or (2) raising consumer prices by increasing its rivals’ costs or restricting its rivals’ output through the control of an input that is necessary for the provision of service. The Commission has found that dealings with foreign carriers generally present concerns for the U.S. international market that fall into the second category.

Cable Landing Order at 22179-80. The Commission has raised similar concerns more recently in the *Foreign Participation Order* when it stated that “a carrier may be able to raise prices by increasing its rivals’ costs or restricting its rivals’ output through the control of an input that is necessary for the provision of service.” *Foreign Participation Order* at 23951 & n. 268.

⁸³ *VAI Order* at 16561-16563.

⁸⁴ Pelcovits Declaration at 27.

Not only will the proposed transaction create enormous incentives for VSNL to act anticompetitively, it will also make discrimination exceedingly difficult to detect.⁸⁵ Dr.

Pelcovits provides the following examples:

VSNL could delay turning up circuits for U.S. carriers on the U.S.-India route, and lay blame on provisioning problems on the Tyco Transpacific cable. Since the FCC does not regulate the Tyco Transpacific cable, it would find it difficult to criticize or even determine the veracity of VSNL's claims. And with VSNL's continued monopoly power over landing stations in India, the U.S. carriers may be unable to circumvent the Tyco Transpacific cable, even if capacity were available on another trans-Pacific cable.⁸⁶

This is precisely what concerned the Bureau when it conditionally granted VAI's international Section 214 application, stating that its rules were "designed to prevent the leveraging of [foreign market power] into the U.S. market through discrimination against one U.S. carrier over another."⁸⁷ The Commission should now recognize that these concerns, in the context of a merger that will dramatically reduce the Commission's ability to police anticompetitive conduct, require stronger Commission action.

⁸⁵ For example, the "No Special Concessions" rule prohibits preferential or exclusive operating agreements or marketing arrangements for the provision of basic telecom services, and any distribution or interconnection arrangements, including pricing, technical specifications, functional capabilities, or other quality and operational characteristics at rates or on terms and conditions that are not available on a nondiscriminatory basis to all competing US carriers. 47 C.F.R. § 63.14. As noted herein, VSNL/VAI appears to have already violated this rule by denying reasonable and nondiscriminatory access to rivals at its landing stations and favoring its own affiliate in landing traffic in India. As explained above and in detail in the Pelcovits Declaration, the acquisition of the TGN will only increase the incentive for VSNL to violate this rule. Just as important, however, the acquisition of TGN will make it much harder if not impossible for the Commission to detect violations of the rule.

⁸⁶ Pelcovits Declaration at 28.

⁸⁷ *Foreign Participation Order* at 23899.

The simple truth is that the regulatory safeguards that the Commission has previously relied on to protect the U.S. market from VSNL's conduct have not worked.⁸⁸ In order for regulatory safeguards to work, they must operate in an environment that permits detection of regulatory violations. In the *Foreign Participation Order*, the Commission recognized the importance of "sufficient transparency to determine whether the foreign carrier has discriminated in favor of its affiliates."⁸⁹ This transparency will be lost as a result of the proposed transaction.

Lastly, in addition to evasion of Commission regulation, the proposed transaction will also allow VSNL to evade effective regulation in India over cable landing access and half-circuit pricing, at the expense of U.S. customers. A classic strategy for evading price regulation of a bottleneck is to enter adjacent markets for which access to the bottleneck is essential. The Tyco trans-Pacific cable is an ideal asset to control as part of such a strategy.⁹⁰ The Tyco trans-Pacific cable is the only significant source of available capacity, and is unregulated. Thus, even if VSNL were required to lower its prices for cable landing station access, VSNL would simply be able to tie use of its cable landing stations with overpriced utilization of the Tyco trans-Pacific cable.⁹¹ Similarly, VSNL could avoid regulation of its leased half-circuits by selling or leasing whole circuits over a combined VSNL-Tyco network.

⁸⁸ The Commission has previously recognized that the ordinary safeguards may not be sufficient in all cases. The Commission stated in the *Cable Landing Order* that a particular application—including an application to assign or transfer a license—"may appear to pose competitive risks requiring the imposition of safeguards in addition to the standard competitive safeguards" adopted in the Order or, "in exceptional circumstances, to deny an application." *Cable Landing Order* at 22175, 22178.

⁸⁹ *Foreign Participation Order* at 24007.

⁹⁰ Pelcovits Declaration at 26.

⁹¹ *Id.*

c. None Of The Constraints The Commission Has Previously Relied On Are Sufficient to Protect Against VSNL's Anticompetitive Conduct

While the proposed transaction presents the same anticompetitive concerns that the Commission has previously recognized, none of the proposed solutions that the Commission has adopted in the past, short of denying the transaction, will suffice to address VSNL's increased ability and incentive to harm competition. For the reasons stated above, the regulatory safeguards that were imposed on VAI as a condition for receiving international Section 214 authority will not be sufficient.

Unlike in past similar cases, VSNL will not be constrained by foreign regulation or long-term competition. For example, in the *MCI-BT Order*, the Commission held that the merged entity's ability to discriminate and otherwise abuse its cable landing station dominance would be adequately constrained:

In the near term, regulatory safeguards will constrain BT's ability to discriminate. In the longer term, BT's ability to discriminate will be significantly constrained by competition. These factors will be unaffected by the merger. The United Kingdom has been in the forefront in adopting regulatory policies that seek to introduce competition into all telecommunications markets. We are concerned, however, that the United Kingdom's policies limiting equal access and the availability of unbundled local network elements will disadvantage competitors of the merged entity. We anticipate that our concerns will be addressed through European Union (E.U.) and U.K. regulatory processes, and commitments we have received from MCI.⁹²

No such constraints can be hoped for in the present case. In both the short or longer term, the Commission cannot rely on TRAI to fully introduce competition into the Indian market. First, as the Pelcovits Declaration explains, the acquisition of the TGN will largely obviate the need for VSNL to rely on the protective cover of the Indian regulator to maintain its control of and ability

⁹² *BT-MCI Order* at 15359.

to exploit its control of bottleneck facilities. Second, TRAI has, at this point, effectively abdicated its responsibility to create a pro-competitive environment, at least as far as VSNL's bottleneck is concerned.

B. Approval of the Proposed Transaction Would Also Violate U.S. Trade Policy

The Commission should also find that granting the application is not in the public interest because of significant trade policy concerns. The USTR has repeatedly raised significant concerns regarding the competitive landscape for telecommunications in India, particularly with respect to the issues that are at the heart of this case.⁹³ In its 2004 Section 1377 Report on compliance with telecommunications trade agreements, the USTR noted as follows:

This year USTR received formal complaints regarding a longstanding practice in India, India tolerance of actions by its dominant international carrier, VSNL, limiting its access to and use of submarine cable capacity it controls through its cable landing station. This raised concerns about India's compliance with its WTO obligation to ensure reasonable and non-discriminatory access to and use of its public telecommunications network. Given the rapidly growing demand for international bandwidth in India to serve foreign and domestic telecommunications and other businesses, tolerating such restrictive practices hurts a broad range of domestic and international consumer and business interests.

Recently, under threat of regulatory intervention, VSNL has reportedly agreed to activate some of the circuits under dispute, freeing up capacity to meet some of the demand. However, in the absence of clear rules (e.g. on pricing and provisioning), ensuring reasonable and nondiscriminatory access to submarine cable capacity on a long-term basis remains problematic: VSNL has no incentive to allow competitors (whose cable terminates at VSNL's landing station) to freely activate and market that capacity in India when it could keep prices (and market share) for its own services higher by limiting competitors' access to additional capacity.

USTR will continue to closely monitor this situation and encourage India's regulator to introduce long-term rules to prevent similar disputes from arising in the future.⁹⁴

⁹³ 2005 USTR Report at 6.

⁹⁴ 2004 USTR Report at 8.

While TRAI may have sponsored several meetings with the parties to resolve these issues, it has not adopted any rules or policies to address VSNL's anticompetitive behavior. In truth, there is no effective regulation over cable landing stations in India. And despite the requirement in VSNL's Indian license to provide access to its bottleneck cable landing stations on fair and reasonable terms, TRAI has not instituted any enforcement actions against VSNL, even in the face of evidence that VSNL is not providing access to its cable landing stations on reasonable terms. In addition, VSNL has never submitted a Reference Interconnect Offer to TRAI for its cable landing stations—despite the requirement to do so in India's telecom laws. Further, as referenced in Section III.A.3, *supra*, the most recent comments to USTR from TIA, CompTel/ASCENT, and USCIB clearly illustrate that VSNL continues to act in an anticompetitive manner and in violation of WTO agreements. For example, USCIB stated that the “Indian Government is violating its GATS Telecommunications Annex commitment by not ensuring reasonable and non-discriminatory access to and use of the submarine cable station controlled by VSNL.”⁹⁵

Just today, the USTR issued its 2005 Section 1377 Report wherein it confirmed that these bottleneck problems in India still exist:

⁹⁵ United States Council for International Business, Comments on Compliance with U.S. Telecommunications Trade Agreements (Dec. 22, 2004) *available at* http://www.ustr.gov/Trade_Sectors/Services/Telecom/Section_1377/2005_Comments_on_Review_of_Compliance_with_Telecom_Trade_Agreements/Section_Index.html (last visited March 30, 2005). *See also* Telecommunications Industry Association, Comments on Compliance with U.S. Telecommunications Trade Agreements (Dec. 17, 2004) (noting that VSNL has continued a pattern of activity indicating that there have been no material changes in the submarine cable and cable landing station market in India since the USTR stated in its 2004 1377 Report that the “Government of India has not fulfilled its obligations under World Trade Organization Rules to control VSNL's anticompetitive conduct.”), *available at* http://www.ustr.gov/Trade_Sectors/Services/Telecom/Section_1377/2005_Comments_on_Review_of_Compliance_with_Telecom_Trade_Agreements/Section_Index.html (last visited March 30, 2005).

Last year, USTR noted marginal progress by India in resolving a complaint related to access to and use of submarine cable capacity. Unfortunately, problems persist based on the continued control by India's dominant international operator, VSNL, over access to all but one submarine cable landing station in India. Commenters argue that VSNL's persistent refusal to permit interconnection at its cable landing stations, and its failure to activate additional capacity on these cables, result in artificial shortages of bandwidth into and out of India and inflate prices, hampering the provision of robust global telecommunications services.

USTR expects more vigorous oversight by the Indian regulatory body, TRAI, and the Government of India to ensure access to and use of submarine cable capacity through facilities now dominated by VSNL. In conjunction with encouraging immediate measures to improve access to the Indian telecommunications market, USTR will continue to urge the Government of India to make more meaningful commitments in the new round of WTO negotiations to reflect the openness that VSNL benefits from in markets around the world.⁹⁶

C. The Proposed Transaction Would Harm Both U.S. National and Economic Security and Law Enforcement Interests

As noted above, the United States—until recently—has been at the center of the now-global fiber optic cable infrastructure. In the wake of the sale of Global Crossing to Singapore Technologies Telemedia (“STT”)⁹⁷ and the sale of FLAG Telecom to the Reliance Group, TGN is the only major global fiber optic cable remaining under U.S. control. If the sale of TGN to VSNL were approved, then the United States will be left with virtually no U.S. global submarine

⁹⁶ 2005 USTR Report at 6.

⁹⁷ The Global Crossing network was sold to STT after the U.S. government disapproved a proposed sale of that network to Hutchison-Whampoa when that company's ties to the Chinese government threatened the chances of receiving approval from the Committee on Foreign Investment in the United States (“CFIUS”). In that case, Hutchison-Whampoa's ties to the Chinese government were more obscure than VSNL's direct link to the Indian government. In this case, the Indian government plainly owns a quarter of the company and appears to exercise even greater authority than its ownership share might otherwise reveal.

network ownership, save the small amount of capacity owned by U.S. carriers on consortia cables.

In light of these factors, as well as the anticipated scarcity of trans-Pacific capacity on non-TGN cables, VSNL's acquisition of TGN has potential national and economic security as well as law enforcement implications. The U.S. government cannot rule out the possibility that VSNL will use its growing influence—especially when combined with its strong geopolitical posture in India—in a way that will impede the ability of the U.S. government to send secure communications over undersea cables to any region of the world. Further, the national security concerns raised by the proposed transaction cannot be allayed with the type of Network Security Agreement (“NSA”) reached as part of VAI's August 2004 Section 214 authorization.

1. National Security Concerns

VSNL's acquisition of TGN raises serious questions about whether the U.S. Department of Defense (“DoD”) will be able to depend on major portions of the worldwide undersea cable infrastructure to prepare for and support military operations in remote locations. The military's dependence on massive amounts of bandwidth is great and will continue to grow due to the amount of secure bandwidth available over fiber optic cables at superior economics compared to other forms of communication infrastructure. Currently, the U.S. military relies predominantly on satellite communications; however, satellites alone cannot keep pace with the increasing demand for bandwidth.⁹⁸ One estimate predicts that by 2012, the throughput capability of

⁹⁸ Clay Wilson, *Network Centric Warfare: Background and Oversight Issues for Congress*, Congressional Research Service Report for Congress (June 2, 2004) at 4, available at <http://www.fas.org/man/crs/RL32411.pdf> (last visited Feb. 7, 2005) (noting that “DoD has become the single largest customer for commercial satellite services”) (“*CRS Report*”). The U.S. military also relies heavily on radio bandwidth, but the supply of radio bandwidth likely will not be able to keep pace with the demands of the military in the future. *Id.* “By the year 2010, the Congressional Budget Office estimates that the supply of effective bandwidth in the Army is expected to fall short of peak demand by a ratio of approximately 1 to 10.” *Id.* at 10.

satellite communications for U.S. military uses will be approximately 12.75 Gbps, whereas estimated fiber optic throughput could be as high as 8,600 Tbps.⁹⁹ Fiber optic cable networks also offer vastly more bandwidth at a far lower cost per Mbps than satellites. While it would cost \$600 million to connect 2,400 Mbps of satellite bandwidth (at a cost of \$250,000 per Mbps), it would only cost \$1.26 billion to connect 8,600 Tbps of fiber bandwidth (at a cost of \$0.15 per Mbps).¹⁰⁰

Recognizing the advantages of fiber optic cable communications, the Defense Information Systems Agency (“DISA”) has pursued an \$800 million Global Information Grid-Bandwidth Expansion (“GIG-BE”) program as part of its worldwide network-centric warfare effort.¹⁰¹ The GIG-BE effort aims to create “virtually unlimited bandwidth pipes for military facilities”¹⁰² and is being designed to create a ubiquitous “bandwidth-available” environment to improve national security intelligence, surveillance and reconnaissance, and command and control information sharing. The program ultimately will provide increased bandwidth and diverse physical access to approximately 100 critical sites in the continental United States and in the Pacific and European theaters. These locations are to be interconnected via an expanded GIG core. Specifically, GIG-BE will connect key intelligence, command, and operational locations

⁹⁹ David G. Ehrhard, *Standing in the Strategic Bandwidth Gap, A View of Military Communications in 2012*, Air & Space Power Chronicles (March 9, 2004), available at <http://www.airpower.maxwell.af.mil/airchronicles/cc/ehrhards.html> (last visited Jan. 28, 2005).

¹⁰⁰ *Id.*

¹⁰¹ Frank Tiboni and Bob Brewin, “DoD’s GIG-BE Readies for Prime Time,” Federal Computer Week (Sept. 27, 2004), available at <http://www.fcw.com/fcw/articles/2004/0927/news-gigbe-09-27-04.asp> (last visited Feb. 7, 2005).

¹⁰² *Id.*

with high bandwidth capability over physically diverse routes, and the vast majority of these locations will be connected by a state-of-the-art optical mesh network design.

As DISA notes:

GIG-BE fully supports DoD's continuing investments in surveillance assets, reach-back, sensor-to-shooter integration, collaboration, and enterprise computing. Removing current bandwidth limitations provides the catalyst for self-synchronization, shared situational awareness, sustainability, and speed of command and action, allowing those closest to the reality of combat full access to a rich and enabling set of information assets.¹⁰³

In 2002, DISA completed its report to the Deputy Secretary of Defense "detailing validated requirements, technical design, analysis of alternatives, economic analysis, and implementation strategy for the GIG-BE." In addition, DISA "completed development of the GIG-BE Functional Requirements Specification, which [is to] be used for acquisition of required transport media and equipment. DISA continues to work with DoD components to develop specific implementation details, including site surveys and operational responsibility assignments."¹⁰⁴

Also, DISA notes that it is "working with the intelligence community to identify opportunities for community asset-sharing in GIG-BE implementation, and DISA has participated in joint business case analyses to determine where partnership would result in efficiencies for both communities."¹⁰⁵ The GIG-BE reached Initial Operational Capability ("IOC") at six sites on Sept. 30, 2004 and is scheduled to reach Final Operational Capability ("FOC") at 92 sites by Sept. 30, 2005. "Upon successful establishment of IOC, parallel

¹⁰³ DISA, *GIG Bandwidth Expansion*, available at http://www.disa.mil/main/prodsol/gig_be.html (last visited Feb. 15, 2005).

¹⁰⁴ *Id.*

¹⁰⁵ *Id.*

implementation is to occur in CONUS and overseas.”¹⁰⁶ Further, DISA is planning for the transformation and optimization of Defense Information Systems Network (“DISN”) “subsystems (voice, data, and video) via the GIG-BE, both in terms of physical topology and technology evolution, with the goal of providing multimedia service delivery (converged services) by the end of the decade.”¹⁰⁷

Modern warfare strategies are significantly enabled by net-centricity, which is the idea of achieving a globally interconnected network environment capable of sharing data among users, applications, and platforms on a seamless basis. Net-centric warfare will allow the military to communicate critical information directly into the right hands at the right time—in real time—while protecting the information from the enemy. In order for such a global grid to be effective, the information it carries must always be available, confidential, and uncompromised. If the world’s most advanced global fiber optic network is under the control of any foreign government, or any foreign commercial entity that has close ties to any foreign government, then DoD’s net-centric warfare plans are at risk of being severely compromised. Under such a scenario, the security and integrity of communications could not be guaranteed or relied upon, nor would the U.S. military have ultimate control over the ability to protect such information from interception or corruption by hostile parties.

Data integrity and reliability is even more critical as it pertains to the acquisition, tracking, and interception of a possible nuclear device launched against the United States, because a key objective of the U.S. military’s national missile defense (“NMD”) program is the ability to provide early detection and warning of a nuclear strike. Part of that effort includes

¹⁰⁶ *Id.* “CONUS” is the Commission’s term for describing full or partial coverage of the Continental United States.

¹⁰⁷ *Id.*

enhancing the early warning and interception capabilities of the NMD program by upgrading the radar system at Eareckson Air Station on Shemya Island, located in the far west of Alaska's Aleutian Archipelago. One element of a radar upgrade involves linking the island with undersea fiber so the radar data generated on the island can be quickly, reliably, and securely transmitted back to key NMD sites in Alaska and CONUS. Branching units for such a network owned by Crest are currently inserted in the trans-Pacific segment of the TGN system and are actively being considered by DISA in support of NMD.¹⁰⁸ Again, should the TGN be under the control of any foreign government or a foreign entity with close ties to a foreign government, then there is a very real risk that DISA's desire to utilize these branching units for enhanced fiber connectivity would be severely diminished due to the threat of data corruption and/or interception.

2. *A Network Security Agreement Will Not be Sufficient to Eliminate National Security Concerns Raised by the VSNL-Tyco Transaction*

VSNL asserts in its consolidated applications that it has reached agreements “in principle” with executive branch agencies to ensure the security and integrity of communications and to protect against the unauthorized interception and disclosure of the contents of wire and electronic communications.¹⁰⁹ Crest cannot find one executive branch agency official who will confirm the existence of such an agreement. Nevertheless, it is true that the executive branch law enforcement agencies—namely, the Department of Justice (“DOJ”), Department of Homeland Security (“DHS”), and the Federal Bureau of Investigation (“FBI”)—reached a so-called Network Security Agreement (“NSA”) with VSNL and VAI as a condition of the

¹⁰⁸ See Figure 3, attached (showing a schematic map of how branching units off of the trans-Pacific cable system could be used to support this project), *available at* <http://www.steptoec.com/publications/Trans-PacificCableSystems.pdf> (last visited Feb. 22, 2005).

¹⁰⁹ Consolidated Applications at 12.

Bureau's August 2004 grant of VAI's Section 214 application for authorization to operate as a facilities-based carrier and reseller for international telecommunications service. Similarly, when STT acquired Global Crossing, it reached a comparable NSA with DOJ, FBI, and DHS. But such an NSA will not be sufficient to protect the U.S. national security interests associated with the proposed transaction.

First, this transaction is unlike either the previous VAI application or the STT-Global Crossing transaction. In the prior application, VAI was merely seeking authorization to act as one of a number of international long-distance telecommunications providers without any reference to undersea cable ownership. And in the STT-Global Crossing transaction, STT was not acquiring the sole remaining undersea global cable network under the control of U.S. interests.

In the proposed transaction, VSNL is seeking to acquire exclusive control over cable landing stations in the United States, the U.K., Japan and elsewhere— in other words, the key connection points as data and voice traffic leaves the domestic United States to transit internationally over the global fiber optic cable grid. This transaction will give VSNL substantial, and often exclusive, power over the routing of significant amounts of U.S. international voice and data traffic. For example, future U.S. communications traffic moving west to Asia will have little choice but to use a VSNL-controlled network due to the dearth of trans-Pacific fiber optic cable alternatives. If this transaction were to proceed, therefore, U.S. government authorities and the U.S. military would be forced to rely on cables owned by foreign entities when sending sensitive and classified communications to military bases in Guam and Asia.

An NSA like the ones reached in the VAI Section 214 proceeding and the STT-Global Crossing transaction address primarily the security and integrity of domestic communications and of domestic communications infrastructure.¹¹⁰ NSAs do not ensure the security of communications once they leave the domestic United States. Thus, an NSA would not provide security from illegal interceptions and wiretaps as U.S. communications travel over fiber optic cables outside the United States. Similarly, an NSA will not guarantee the reliability, integrity, or quality of the communications service outside the domestic United States. There is no guarantee that wire or electronic communications traveling internationally will be transmitted intact and without interruption or distortion. And while an NSA will facilitate the ability of U.S. law enforcement and intelligence authorities to conduct wiretaps within the United States, no such cooperation is provided for outside the domestic United States. Thus, while an NSA may cover all scenarios in which communications must be kept reliable, private, secure, and available for lawful intercept access within the United States, it would be quite unusual to attempt to expand such NSA terms to communications outside the United States. In fact, not only is VSNL likely to resist such an expanded NSA—but even if VSNL did not resist, it is highly likely that such an expansion of U.S. law enforcement authority would be vigorously resisted and protested by a host of other international communications providers and governments.

¹¹⁰ Both agreements define “Domestic Communications” as wire or electronic communications “(whether stored or not) from one U.S. location to another U.S. location” and the U.S. portion of a wire or electronic communication “(whether stored or not) that originates or terminates in the United States.” *VAI Order at Att. A; In re Global Crossing Ltd. (Debtor-in-Possession), Transferor, and GC Acquisition Limited, Transferee, Applications for Consent to Transfer Control of Submarine Cable Landing Licenses, International and Domestic Section 214 Authorizations, and Common Carrier and Non-Common Carrier Radio Licenses, and Petition for Declaratory Ruling Pursuant to Section 310(b)(4) of the Communications Act, Order and Authorization*, 18 FCC Rcd 20301, App. D (2003).

3. *Economic Security Concerns*

VSNL's proposed acquisition of the TGN would cause this unique asset—the last remaining global cable system under the ownership and control of U.S. interests—to fall under the control of foreign parties, which would deal a serious blow to U.S. economic security and commercial interests.¹¹¹ The combination of the existing and planned cable networks under VSNL's control in India and the loss of U.S. ownership and control over the TGN will strengthen VSNL's already formidable control over key cable interconnection points and inevitably will result in India overtaking the United States as the strategic center of the worldwide fiber optic telecommunications grid. Partially as a result of these developments, companies are utilizing network hubs outside the United States.¹¹² Any limitation of access to, or disruption of, this critical global undersea communications infrastructure would have a

¹¹¹ Not only is the United States losing its undersea cable networks to Asian companies, but these companies have been able to acquire them at fire-sale prices. “Billions of dollars of U.S.-funded infrastructure have been sold for an average of five to six cents on the dollar to companies that could conceivably use their cheap capacity to launch more bandwidth price wars and further undermine the economics of the international telecom order.” Grahame Lynch, “The New Bandwidth Barons,” *America's Network*, 30, 32 (February 2005), available at http://electronic.americasnetwork.com/020105/Page_28.asp (last visited March 25, 2005). In fact, “[s]ome \$30 billion in international telecom infrastructure owned by U.S. companies was sold to foreign-owned entities between 2000 and 2004 for a total of about \$4 billion.” Jennifer L. Schenker, “Asians Rush to Buy Assets of Ailing Giants: U.S. Telecom Pain is World's Gain,” *Int'l Herald Trib.*, Aug. 25, 2004, available at http://www.ihrt.com/articles/2004/08/25/btassets_ed3_.html (last visited March 21, 2005) (quoting Sam Paltridge, economist with the Organization for Economic Cooperation and Development).

¹¹² Jennifer L. Schenker, “Asians Rush to Buy Assets of Ailing Giants: U.S. Telecom Pain is World's Gain,” *Int'l Herald Trib.*, Aug. 25, 2004, available at http://www.ihrt.com/articles/2004/08/25/btassets_ed3_.html (last visited March 21, 2005) (noting that “Deutsche Telekom, for example, used to route half of its Internet traffic through the United States; now it routes less than one-third The company is routing more traffic through its home country and striking up partnerships with carriers in other major hubs like China.”).

devastating effect not only on this country's military, intelligence, and diplomatic operations, but also its economic security.

As noted above, VSNL's acquisition of TGN would perpetuate its ability to engage in anticompetitive behavior, and would give it compelling and sustainable strategic and competitive advantages, especially across the Pacific Ocean where there soon will be limited alternatives for purchasing large amounts of bandwidth.¹¹³ Unlike Tyco—a pure wholesaler of capacity that now makes bandwidth on the TGN available on a neutral basis to any and all users—VSNL is likely to withhold such capacity on cables it owns or controls from competitors and commercial users to enhance its own strategic position. By acquiring the TGN, therefore, VSNL's dominance over trans-Pacific bandwidth likely would endure, unchallenged, for years—much to the detriment of U.S. economic and commercial interests.

V. VSNL LACKS THE REQUISITE QUALIFICATIONS TO OWN THE TGN

An independent grounds for denying the above-captioned applications is VSNL's lack of qualifications to hold a U.S. cable landing license. In particular, VSNL's anticompetitive actions against its competitors in India, which have resulted in excessive prices for bandwidth between the U.S. and India, as well as VAI's apparent violation of the No Special Concessions rule, cannot be reconciled with the statutory requirements for holding a cable landing license.

¹¹³ Today, there are few, if any, realistic alternatives to the Tyco Pacific cable system. The PC-1 cable system has been in bankruptcy for a number of years, and there are serious questions as to its reliability and commercial viability. The U.S.-China cable network is fully subscribed, and while the U.S.-Japan network could be upgraded, it is reasonable to expect that its signatories will maintain their current ownership interests and not make additional capacity available to third parties. *See* Exhibit 2, attached (listing trans-Pacific cable capacity availability).

Under the FCC's *Character Policy Statement*,¹¹⁴ the Commission considers whether the assignee has committed any anticompetitive acts in the telecommunications markets, has violated any Commission rule, or otherwise lied to the United States Government.¹¹⁵ As the Commission stated in its *Foreign Participation Order*: "We are also concerned with the impact of granting an authorization to an applicant that is unlikely to abide by the Commission's rules and policies."¹¹⁶ The past behavior of an applicant is also indicative as to whether it will "comply with the Commission's competitive safeguards and other rules and whose behavior, as a result, could damage competition in the U.S. market and otherwise negatively impact the public interest."¹¹⁷

First, as discussed above, at least since its statutory monopoly in India was eliminated and new competitors entered to market, VSNL has engaged in a continuous course of anticompetitive conduct associated with its control over bottleneck cable landing stations in India. VSNL's conduct also appears to be in violation of the "No Special Concessions" rule. The No Special Concessions rule prohibits a U.S. carrier from accepting, among other things, any exclusive arrangement involving distribution or interconnection, including pricing or quality and operational characteristics. Most assuredly, VAI will be able to utilize VSNL's Sea-Me-We 3 and Sea-Me-We 4 cables without being excessively charged for access or interconnection.¹¹⁸

¹¹⁴ Policy Regarding Character Qualifications in Broadcast Licensing, *Policy Statement and Order*, 5 FCC Rcd. 3252, 3252 (1990).

¹¹⁵ *Id.*

¹¹⁶ *Foreign Participation Order* at 23915.

¹¹⁷ *Foreign Participation Order*, at 23915.

¹¹⁸ *VAI Order* at 16565 & n.63 (noting that an intentional violation of the No Special Concessions rule might result not only in direct sanctions, but might further raise questions about a carrier's qualifications with respect to future applications for Commission authority).

Even TRAI has found that VSNL's abuse of its dominant position in India has harmed competition on the U.S./India market.

Second, there is a serious question as to whether the applicants have misled the Commission regarding the extent of their agreement with all appropriate stakeholders as to the national security concerns raised by the proposed transaction. In fact, it appears that contrary to the applicants' assertion, there is no "agreement in principle" between the appropriate executive branch agencies and the applications regarding an NSA that would include VSNL's ownership of the TGN. Nor can the applicants rely upon VSNL's previously negotiated NSA since that agreement clearly does not contemplate ownership of the TGN.

The applicants also appear to have misled the Commission with respect to the extent of competition across the Pacific Ocean for undersea fiber optic cables. As indicated above, contrary to the applicants' assertions, there does not appear to be any meaningful available trans-Pacific capacity beyond 2007. VSNL's listing of available, competitive cable facilities (note 16 of its consolidated applications), misrepresents the amount of available submarine cable bandwidth capacity and the existence of certain other cables as viable alternatives to the TGN. Many of the alternative cables listed by the applicants simply are not available as viable competitive systems to any potential third party and therefore are not realistic market alternatives to the Tyco-Pacific cable network.

VI. CONCLUSION

For all of the foregoing reasons, Crest urges the Commission to take the above-captioned applications off of streamlined processing and ultimately deny them as not in the public interest.

Respectfully submitted,

/s/ Philip L. Malet

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Counsel to Crest Communications Corp.

March 31, 2005

Declaration of Brian Roussell

I, Brian Roussell, Executive Vice President of Crest Communications Corp. hereby declare under the penalty of perjury that I have read Crest Communications Corporation's Petition to Deny the applications of Tyco Telecommunications (US) Inc., Tyco International Ltd., Tyco Networks (Guam) LLC, and VSNL Telecommunications (US) Inc. (a wholly owned subsidiary of Videsh Sanchar Nigam Limited) for authority to transfer and assign cable landing licenses pursuant to the Cable Landing License Act, 47 U.S.C. §§ 34-39, and Section 1.767 of the Commission's rules, 47 C.F.R. § 1.767.

The representations, information, and facts set forth herein are true and correct to the best of my knowledge and belief.



Brian Roussell
Executive Vice President
Crest Communications Corp.

March 31, 2005

**Crest Communications Corp.
Petition to Deny VSNL-Tyco Applications**

Exhibit 1: Trans-Atlantic Submarine Cables¹

Cable Name	Operating Entity	Majority Owner(s)	Max. Capacity	Available to Competitive Market?
Apollo	Apollo Submarine Cable System Ltd.	Cable & Wireless (55%) (U.K.) and Alcatel Submarine Networks Limited (45.1.) (France) ²	3200 Gbps	Yes.
Atlantic Crossing -1	Global Crossing	Singapore Technologies Telemedia (Singapore)	160 Gbps	No. All capacity allocated to users
FLAG Atlantic-1	FLAG Telecom	Reliance Group (India)	2400 Gbps	Yes.
Hibernia Atlantic	Columbia Ventures	Columbia Ventures (U.S.)	1920 Gbps	Yes, but the network is Canadian-capacity oriented compared to other networks configured for the United States.
Yellow/Atlantic Crossing-2	Global Crossing and Level 3	Singapore Technologies Telemedia (Singapore) (50%)and Level 3 (50%) (U.S.)	1280 Gbps	No. The network is fully subscribed.
TAT-12/13	Consortium	Largest owners are MCI (23.5%) (U.S.); BT (21.2%) (U.K.); AT&T (17.4%) (U.S.); Deutsche Telekom (7.7%) (Germany); and Sprint ((4.5%) (U.S.)	30 Gbps	No. The network is fully subscribed with owners in active discussions to retire the cable in whole or in part.
TAT-14	Consortium	Largest owners are BT (13.7%) (U.K.); MCI (13.2%) (U.S.); Cable & Wireless (8.7%) (U.K.); Deutsche Telekom (8.6.1.) (Germany); and France (8.5%) Telecom (France)	640 Gbps	No. The network is fully subscribed with owners in preliminary discussions to retire the cable in whole or in part.
Tyco Transatlantic	Tyco	Tyco (U.S.)	2560 Gbps	Yes.

Total Design Capacity:	12190 Gbps (100%)
Available Capacity:	10080 Gbps (83%)
U.S.-controlled before VSNL acquisition of Tyco:	4480 Gbps (37%)

U.S.-controlled if VSNL were allowed to acquire Tyco: 1920 Gbps (16%)

¹ The cable systems listed in both charts are those referenced in *In re Tyco Telecommunications (US) Inc., Assignor, and VSNL Telecommunications (US) Inc., Assignee, Application for Assignment of a Cable Landing License for the Tyco Atlantic Submarine Cable System and of a Jointly-Held Cable Landing License for the Tyco Pacific Submarine Cable System*, Dkt. Nos. Streamlined SCL-T/C-20050304-00003, 00004, 00005 at 11 & n. 16 (Filed March 4, 2005). Unless otherwise noted, all data reflects cable ownership and capacities as listed in PriMetrica, Inc., *International Bandwidth 2004, Volume 1: Submarine Networks* (2004).

² FCC, Public Notice, "Section 214 Applications (47 C.F.R. § 63.18); Cable Landing License Applications (47 C.F.R. § 1.767); Requests to Authorize Switched Services over Private Lines (47 C.F.R. § 63.16); Section 310(b)(4) Requests, International Authorizations Granted," DA No. 04-1998 at 3 (July 1, 2004), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-04-1998A1.pdf (last visited March 29, 2005).

**Crest Communications Corp.
Petition to Deny VSNL-Tyco Applications**

Exhibit 2: Trans-Pacific Submarine Cables³

Cable Name	Operating Entity	Majority Owner(s)	Max. Capacity	Available to Competitive Market?
Pacific Crossing-1 ⁴	PC Landing Corp. <i>et al.</i>	Debtors and Debtors in Possession (U.S.)	640 Gbps	Yes, but financial instability due to extended operation in bankruptcy and uncertain financial future fundamentally limits network as a capacity alternative for carriers.
TPC 5	Consortium	Largest owners are AT&T (28.1%) (U.S.); KDD (16.5%) (Japan); MCI (7.8%)(U.S.); Japan Telecom (5.6%) (Japan); and Sprint (4.3%) (U.S.) (7.8%)	20 Gbps	No. Fully subscribed, and owners are in preliminary discussions to retire the cable in whole or in part.
China-U.S.	Consortium	Largest owners are MCI (12.4%) (U.S.); AT&T (6.6%) (U.S.); KDD (5.4%) (Japan); Teleglobe (5.4%)(Canada); and China Telecom (4.7%) (China)	80 Gbps	No. Fully subscribed, and any upgradeable capacity will be used by consortium members.
Japan-U.S.	Consortium	Largest owners are MCI (15.8%) (U.S.); Reach (12.1%) (Hong Kong and Australia); AT&T (11.3%)(U.S.); and BT (11.3%) (U.K.)	640 Gbps	No. Fully subscribed, and any upgradeable capacity will be used by consortium members.
North Pacific Cable	Consortium	PT Cable, Inc. (U.S.); Cable & Wireless PLC (U.K.); and Japan Telecom IDC Inc. (Japan)	1 Gbps	No. PT Cable Inc. entered Chapter 7 bankruptcy proceedings in January 2005.
Tyco Transpacific ⁵	Tyco	Tyco (U.S.)	7680 Gbps	Yes.

Total Design Capacity:	9061 Gbps (100%)
Available Capacity:	8320 Gbps (92%)
U.S.-controlled before VSNL acquisition of Tyco:	8320 Gbps (92%)

U.S.-controlled if VSNL were allowed to acquire Tyco: 640 Gbps (7%)

U.S.-controlled if VSNL were allowed to acquire Tyco and Pacific Crossing-1 is liquidated: 0 Gbps (0%)

³ The cable systems listed in both charts are those referenced in *In re Tyco Telecommunications (US) Inc., Assignor, and VSNL Telecommunications (US) Inc., Assignee, Application for Assignment of a Cable Landing License for the Tyco Atlantic Submarine Cable System and of a Jointly-Held Cable Landing License for the Tyco Pacific Submarine Cable System*, Dkt. Nos. Streamlined SCL-T/C-20050304-00003, 00004, 00005 at 11 & n. 16 (Filed March 4, 2005). With the exception of the Tyco network capacity figures, all data reflects cable ownership and capacities as listed in PriMetrica, Inc., *International Bandwidth 2004, Volume 1: Submarine Networks* (2004).

⁴ See *In re PC Landing Corp.*, Joint Plan of Reorganization of PC Landing Corp., Pacific Crossing, Ltd., and Their Debtor Affiliates, No. 02-12086 (PJW) (D. Del. filed Feb. 25, 2005).

⁵ See Tyco Telecommunications, TGN Capacity Services, Network Maps, available at <http://www.tycotelecom.com/NetworkServices/content.asp?page=NetworkMaps.asp> (last visited March 28, 2005) (showing that Tyco trans-Pacific has eight fiber pairs and supports up to 96 10 Gb/s waves per fiber pair for a total upgradeable capacity of at least 7.68 Tbps).

Figure 1 Tyco Global Network



Figure 2
VSNL Submarine Cable Network
(Showing cable landing stations in India at Mumbai, Cochin, and Chennai)

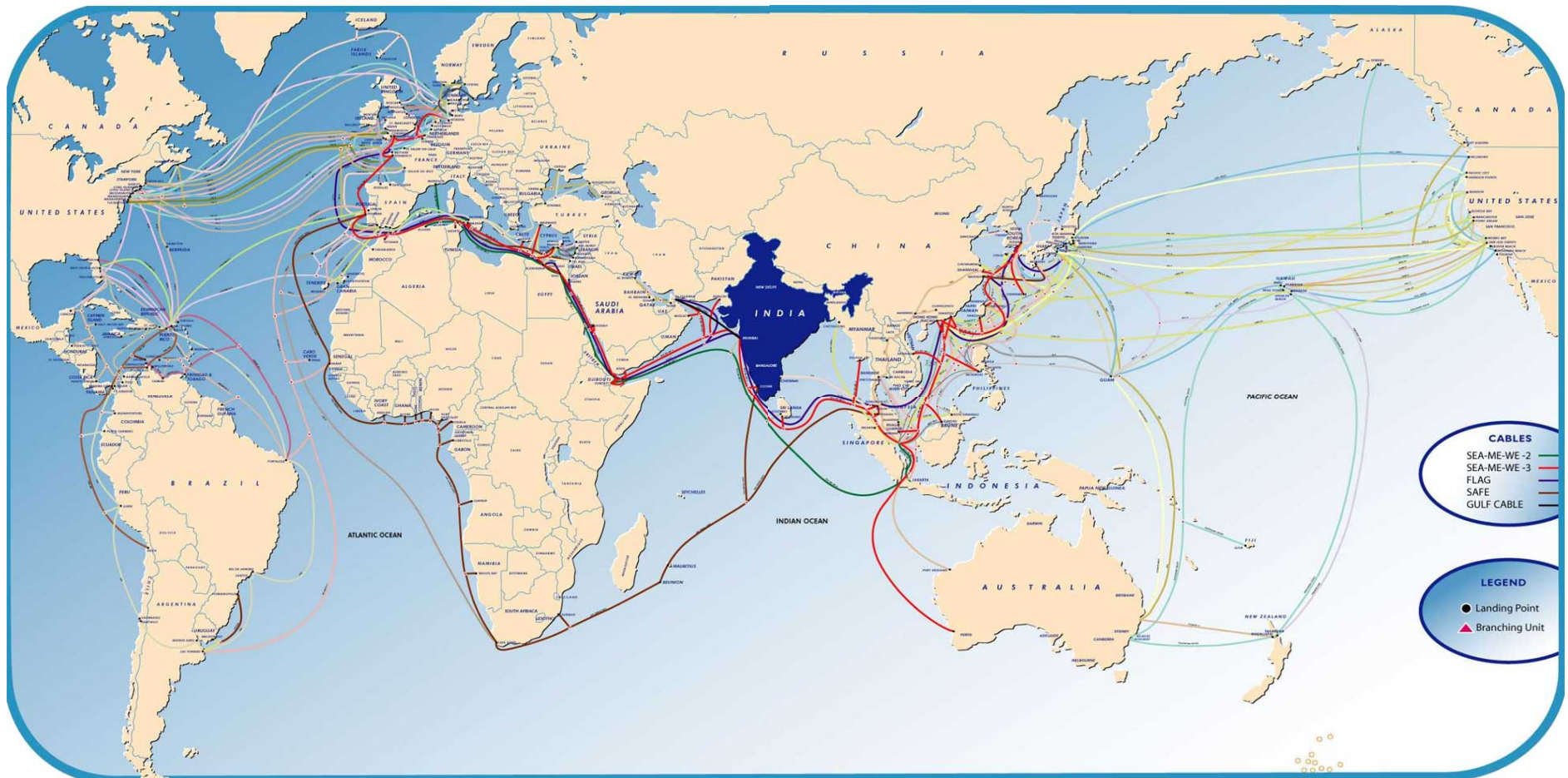


Figure 3

Trans-Pacific Cable System Branching Units



I. Qualifications

My name is Michael D. Pelcovits. I am a Principal of the consulting firm Microeconomic Consulting & Research Associates, Inc. (“MiCRA”), which specializes in the analysis of antitrust and regulatory economics. My business address is 1155 Connecticut Avenue, N.W., Washington, D.C. 20036. My Curriculum Vitae is attached to this Declaration as Attachment A.

I joined MiCRA in October 2002. Prior to this, I was Vice President and Chief Economist at WorldCom, Inc. (WorldCom). In this position, and in a similar position at MCI Communications Corporation (MCI) prior to its merger with WorldCom, I was responsible for directing economic analysis of regulatory and antitrust matters, before federal, state, foreign, and international government agencies, legislative bodies, and courts. Prior to my employment at MCI, I was a founding principal of the consulting firm, Cornell, Pelcovits & Brenner. From 1979 to 1981, I was Senior Staff Economist in the Office of Plans and Policy, Federal Communications Commission.

I have testified or appeared before the Federal Communications Commission, many state regulatory commissions, the Office of Telecommunications (OfTel) of the UK government, the European Commission, the Ministry of Telecommunications of Japan, and the Civil Aeronautics Board. I have also served as an expert adviser to the Info-Communications Development Authority of the Government of Singapore on telecommunications issues, including matters relating to competitive access to submarine cable landing stations. I have lectured widely at universities and published several articles on telecommunications regulation and international economics.

I hold a B.A. from the University of Rochester (*summa cum laude*) and a Ph.D. in Economics from the Massachusetts Institute of Technology, where I was a National Science Foundation fellow.

II. Introduction and Summary

The proposed acquisition of Tyco Telecommunications' (Tyco) global assets by Videsh Sanchar Nigam Limited (VSNL) is likely to solidify and expand the market power of VSNL in the market for bandwidth capacity between the United States and India. This would harm U.S. consumers and businesses by perpetuating the high prices for bandwidth on this route and also provide VSNL (through its own actions and that of its U.S. affiliates) with an unfair advantage over other U.S. carriers competing for business in the U.S. to India market.

Under certain conditions vertical mergers or acquisitions will operate to foreclose or retard competitive entry and or capacity expansion by competitors, thereby constraining competition and harming consumers. The confluence of factors that may lead to these anticompetitive effects are presented by the proposed transaction. VSNL's market power, which is derived primarily from its incumbent status as the former government-owned PTT and near-monopoly control over cable landing stations in India, gives it a unique incentive to exploit Tyco's submarine cable assets in ways that will retard competitive entry and constrain future competition in the delivery of telecommunications services on the U.S. to India route. The main reason for such anticompetitive effects of the proposed acquisition is that VSNL's control over Tyco's strategic trans-Pacific assets will deter other carriers from building new undersea cables in the Pacific and landing stations in India, which might otherwise undermine the foundation of VSNL's monopoly.

III. Description of Relevant VSNL and Tyco Assets

Between them, VSNL and Tyco own substantial and unique assets connecting the United States and India. If combined, these facilities would provide VSNL with several means for maintaining market power in the India/U.S. market for telecommunications services.

A. VSNL Assets

VSNL owns several telecommunications facilities in India and Southeast Asia. It owns four of the five submarine cable-landing stations (SCLS) in India; two at Mumbai, one at Chennai, and one at Cochin. One of the SCLS's at Mumbai is the landing site for the FLAG Europe-Asia cable (FEA). A second SCLS at Mumbai, along with another at Cochin, are the two SCLS's for the Southeast Asia – Middle East – Western Europe 3 (SeaMeWe-3) cable in India. The Cochin SCLS is also the landing site of the South Africa – Far East (SAFE) cable. The SCLS at Chennai is the landing site for the Tata Indicom cable. The first site at Mumbai is the SCLS for the SeaMeWe-2 cable and will also be used for the SeaMeWe-4 cable, which is planned to come online later this year, and in which VSNL will have a significant interest as common and undivided owner in the cable system and as the network administrator. The lone operational SCLS in Chennai not owned by VSNL is operated by the Bharti Televentures Limited and is used for a point-to-point cable (i2icn) between India and Singapore. That station will also be used as the other east-coast landing station for the SeaMeWe-4 cable in India.

In addition to its control of these SCLS's, VSNL also owns all or part of three of the four major cable links between India and Singapore.¹ The Tata Indicom cable is 100 percent owned by VSNL, with a lit capacity of 320 gigabits per second (Gbps) and an ultimate capacity of 5,210 Gbps. VSNL also has a common and undivided ownership stake in the SeaMeWe-2 cable and in the SeaMeWe-3 cable, with a lit capacity of 55 Gbps.² VSNL also is one of the largest owners of the soon to be completed SeaMeWe-4 cable, which will have initial lit capacity of 160 Gbps and an ultimate capacity of 1,280 Gbps.

¹ The fourth cable, the i2i cable network (i2icn), is owned in equal shares by the Bharti Group and Singapore Telephone (SingTel). The i2icn has a lit capacity of 160 Gbps and an ultimate capacity of 8,400 Gbps. Lit capacity refers to the throughput available on fibers in a cable that currently have the associated electronics up and running, while ultimate capacity refers to the capacity of a cable if all of its fibers were lit, using current technology.

² See <http://www.smw3.com/index.cfm?GPID=1>

B. Tyco Telecommunications Assets

The Tyco assets that VSNL seeks to purchase include five submarine cable systems connecting three continents. Three of these five do not connect with points in the United States. These three cable systems are: (1) Tyco Northern Europe, which connects the Netherlands with the United Kingdom, with a lit capacity of 160 Gbps and ultimate capacity of 3,840 Gbps; (2) Tyco Western Europe, which connects Spain and Portugal with the United Kingdom, with a lit capacity of 120 Gbps and ultimate capacity of 3,840 Gbps, and; (3) Tyco Pan-Asia, which connects Singapore, China, Taiwan, Korea, the Philippines, and Japan, via a fiber pair Tyco owns on the c2c cable network. The c2c cable network has a lit capacity of 160 Gbps and an ultimate capacity of 7,680 Gbps. The Tyco Western Europe cable lands in Portugal near Lisbon, which is also the landing site for the SeaMeWe-3 cable, in which VSNL already has an ownership interest.

The remaining two Tyco cable systems connect Asia with the Pacific coast of the United States and Europe with the Atlantic coast of the United States. Tyco Transatlantic connects the United States and the United Kingdom, with landing points in Wall Township, New Jersey and Highbridge and Pottington in the United Kingdom. This cable has a lit capacity of 460 Gbps and ultimate capacity of 2,560 Gbps. The Tyco Transpacific cable system is a self-healing ring connecting Japan and the United States, with landing points in Emi and Toyohashi, Japan, and Hillsboro, Oregon and Los Angeles, California. Tyco Transpacific also includes a spur connection from Toyohashi to a landing point in Guam at Piti. This cable has lit capacity of 460 Gbps and a design capacity of 5,120 Gbps (as per the Telegeography report).³ Tyco reports on its web site, however, that this cable has an ultimate capacity of 7,680 Gbps.³

³ See Tyco Telecommunications, TGN Capacity Services, Network Maps, available at <http://www.tycotelecom.com/NetworkServices/content.asp?page=NetworkMaps.asp> (last visited March 28, 2005) (showing that Tyco trans-Pacific has eight fiber pairs and supports up to 96 waves of 10 Gbps each per fiber pair for a total upgradeable capacity of at least 7,680 Gbps).

C. Capacity Constraints in the Pacific

With its purchase of the assets of Tyco, VSNL will be able to provide high-capacity bandwidth between India and the United States solely over its own facilities. Importantly, it will also control several bottlenecks that it will be able to use to disadvantage its rivals. As described above, VSNL controls four of the five landing sites in India. I understand that it has already used control of these sites to restrict the access of a major competitor, FLAG Telecom, by limiting the number of circuits available on the FEA cable system and by charging substantially above-cost rates for access and interconnection of the circuits it did provide.⁴ In addition, VSNL, which already has substantial capacity between India and Singapore in the Tata Indicom cable, would add capacity from Singapore to Japan through its purchase of Tyco Pan-Asia. The Tyco Transpacific and Pan-Asia cables would provide VSNL with the final leg needed to provision high capacity circuits end-to-end between India and the United States across the Pacific Ocean.. The capacity it would control via its purchase of these Tyco assets would enable VSNL to engage in exclusionary conduct on the India to United States route, to the detriment of U.S. carriers and consumers.

1. Capacity available on the Pacific route, India to United States

The Tyco Transpacific cable system has 44 percent (460 Gbps of 1,040 Gbps total) of the lit capacity on all transpacific cables. More importantly, Tyco Transpacific has at least 85 percent (7,680 Gbps of 9,060 Gbps total) of the ultimate capacity available in the Pacific.⁵ As shown in Table 1 below, there is currently a minimum of 8,020 Gbps of unlit capacity on all

⁴ The Telecom Regulatory Authority of India (TRAI) recently directed VSNL to reduce its half circuit lease prices. See Telecom Regulatory Authority of India, Notification, New Delhi, March 11, 2005, No. 310-3(1)/2003-Eco, available online at <http://www.trai.gov.in/order11mar05.htm> (TRAI Notification).

⁵ Tyco reports on its website that its trans-Pacific cable has a capacity of 7,680 Gbps. See <http://www.tycotelecom.com/NetworkServices/content.asp?page=NetworkMaps.asp>.

transpacific cable systems, of which Tyco Transpacific contains 7,220 Gbps, fully 90 percent of the potential for expanded capacity. There are no announced plans to lay additional fiber across the Pacific, and given the high cost of laying a new fiber, the lead time needed to plan and install a cable, and the large overhang of unused capacity, it is extremely unlikely that anyone will lay a new fiber in the foreseeable future.

Table 1

Capacity on Trans-Pacific Cables			
Cable	Lit Capacity	Ultimate Capacity	Available Capacity
China-US	80	80	0
Japan-US	400	640	240
PC-1	80	640	560
TPC-5	20	20	0
Tyco TransPacific	460	7,680	7,220
Total	1,040	9,060	8,020

The cost of fiber cable is roughly \$7,000 to \$10,000 per kilometer.⁶ Given that transpacific cables run from about 20,000 to 30,000 kilometers in length, depending on the exact route, the cost of the fiber alone would be \$140 million to \$300 million. In addition, repeaters, at a cost of \$500,000 to \$1 million per repeater, are needed every 40 to 90 kilometers. The longer the cable, the more closely spaced repeaters must be to function effectively. Thus, the cost of repeaters for a transpacific cable could be as much as \$749 million, well in excess of the cost of the cable alone.⁷

In addition to these “wet” components of a cable system, there are also “dry” components, which includes the landing stations, where cable comes onshore, and the line terminal, wavelength termination, and network protection equipment that is needed in the

⁶ This and other cost information are taken from International Bandwidth 2004 Volume 1: Submarine Networks, published by Primetrica, Inc.

⁷ This assumes a repeater must be placed every 40 kilometers on a 30,000 km route, at a cost of \$1M per repeater. Even in the best case, if repeaters must be placed only 90 kilometers on a 20K km route at a cost of \$500K per repeater, the total cost of repeaters would equal \$111M.

landing station to render a circuit operational. Depending upon the location, the costs of building a landing station ranges between \$5 million and \$15 million, with costs in India expected to be at the lower end of this range, and the other “dry” equipment can account for around 14 percent of a cable’s initial cost. Because these pieces of equipment are needed only on functioning circuits, they can be augmented as the cable is more fully used, representing fully 50 percent of the total investment in a cable system when it is operating at its full capacity.

2. Demand for Capacity

Demand projections are conservatively estimated to grow across the Pacific at a rate of nearly 18 percent per year between 2004 and 2006, to a total lit capacity of 1,457 Gbps.⁸ If that rate of growth continues, the demand for lit capacity in 2007 will be over 1,700 Gbps, an increase above the 2004 level of about 650 Gbps. Since the transpacific cables other than Tyco have at most 800 Gbps of capacity available to be lit (if PC1 is included) or 240 Gbps (if PC1 is excluded), it is clear that the Tyco Transpacific cable that VSNL would purchase will soon have the only available spare capacity on this route.⁹

The cost of upgrading existing cable systems relative to the cost of laying a new cable system makes it very unlikely that new cables will be laid across the Pacific anytime soon, as mentioned above. For example, Telegeography estimates that the cost of upgrading all the existing Pacific cables would be roughly \$2.7 billion for the entire 5,460 Gbps of upgradeable capacity. This cost is primarily the costs of the “dry” equipment described above, and is proportional to the amount of capacity added.¹⁰ Thus, to add 460 Gbps capacity to the Tyco

⁸ See International Bandwidth 2004 Volume 1: Submarine Networks, published by Primetrica, Inc., at 104.

⁹ The entities that own PC-1 are currently subject to Chapter 11 bankruptcy proceedings, leaving its continued availability and reliability in question.

¹⁰ Id.

Transpacific cable could be expected to require at most \$227 million of investment, and is likely to cost substantially less than this.¹¹ However, the costs for cable and repeaters alone to duplicate the 22,000 kilometer Tyco Transpacific cable would be at least \$275 million, and could be as much as \$769 million.¹² Clearly, augmenting the existing cable would impose much lower incremental costs than installation of a new cable.

Given the relatively lower incremental cost to VSNL/Tyco of adding capacity compared to the cost of building a new cable, VSNL will have a major strategic lever over the India-U.S. market if it were allowed to acquire the Tyco assets. It is clear that no additional cables will be laid on the transpacific route in the foreseeable future. Instead, additional circuits will be provisioned by augmenting the electronics on the existing routes to light additional fibers and by fully utilizing the fibers that are already lit. Thus, VSNL will control roughly 90 percent of the available capacity for new circuits on the critical transpacific portion of the route between India and the United States.

It is also physically possible to connect India and the United States by going through Europe and across the Atlantic Ocean. However, there is relatively limited capacity available to carry traffic from India in that direction. There is the FEA cable, which has lit capacity end-to-end of 10 Gbps and an ultimate capacity of 80 Gbps. This cable has been upgraded between the UK and the UAE, however, I understand that VSNL has refused to allow for such an upgrade to India. The SeaMeWe-3 cable, of which VSNL is a part owner, connects India and Europe as well, with a lit capacity of 70 Gbps and will be upgraded to 100 Gbps in near future. Thus, there

¹¹ That is, 460 Gbps / 5,460 Gbps times \$2.7 billion. In fact, since Tyco Transpacific is a newer cable, the cost of augmenting it is probably lower.

¹² The lower estimate assumes a cable cost of \$7,000 per km with repeaters costing \$500K placed at 90 km intervals. The higher estimate assumes a cable cost of \$10,000 per km with repeaters costing \$1M placed at 40 km intervals. Since the Tyco Transpacific cable is a relatively high bandwidth, long cable run, the costs of replicating it would likely be toward the higher end of this range.

is relatively little excess capacity available to carry traffic from India to the United States in this direction. In addition, as previously indicated VSNL controls the SCLS that is used by the FEA cable in India and to date has limited the amount of available capacity on that cable system (as well as an upgrade). When SeaMeWe-4 is completed there will be substantial new capacity available, but again VSNL's ownership interest in this cable could be leveraged to prevent the erosion of its market power on circuits between the U.S. and India.

IV. Analysis of Relevant Product and Geographic Markets

The relevant product market affected by this acquisition is fiber optic bandwidth between the United States and India, at levels ranging from the E-1 level up to STM-64.¹³ Although capacity may also be obtained on satellite systems, the total capacity of these systems is very limited, very expensive, and latency problems limit their utility. The shift of traffic from satellite to submarine capacity confirms this fact. Historically, satellite capacity has been used for areas not served by submarine capacity, thin traffic routes and as emergency restoration and for introducing new services that eventually shifted to submarine capacity. As the Commission itself acknowledged, satellite systems “do not appear to be an adequate substitute for submarine capacity.”¹⁴ Although, for some purposes bandwidth at different capacity levels may be in different relevant product markets, I have treated bandwidth at all capacity levels above E-1 levels as part of the same market for purposes of this analysis. Moreover, I will discuss the product market as supplied over a trans-Pacific route, and then discuss the geographic distinction between this route and a potential alternative routing across the Atlantic.

¹³ The E-1 level is capable of carrying 30 voice channels is roughly equivalent to the T-1 used in the United States, which is capable of carrying 24 voice channels. The STM-64 is equivalent to an OC-192, which is 192 DS-3s, or the equivalent of over 129,000 voice channels.

¹⁴ In the matter of MCI Communications Corporation and British Telecommunications Plc, *Memorandum Opinion and Order*, FCC 97-302, September 24, 1997, ¶97.

A. Inputs required to provide India-U.S. bandwidth

To provide bandwidth, a carrier must obtain “inputs” from a number of sources. First, the carrier must obtain backhaul from the customer’s premise to the SCLS in the United States.¹⁵ Then the traffic must be handed off through the SCLS to the transpacific cable, which will carry the traffic from the west coast of the United States to Japan. Then the traffic will most likely pass through to Singapore and from there to a SCLS in India.¹⁶ Finally, from there the traffic will be carried on backhaul facilities to the ultimate end-user premise in India.

As described above, the combined networks of VSNL and Tyco have several points in this circuit in which they will have substantial market power. While the backhaul market in the United States is competitive, VSNL will have control of most of the available capacity in the transpacific cable route. In addition, through its purchase of Tyco Pan-Asia, VSNL will control a large portion of the available unlit capacity of the Japan to Singapore cable route. It also controls a significant portion of the capacity between Singapore and India, either through ownership of the cable, or because it owns the SCLS that other companies’ cables must use to access India, with the exception of the i2i cable. However, i2i is not a good enough substitute for the VSNL-controlled cables for many customers, because it cannot offer restorable services due to the lack of interconnection at VSNL landing stations to other cables, such as SeaMeWe-3 and SAFE.

B. Geographic market defined

Although bandwidth between the United States and India can be pieced together using an Atlantic routing, it does not appear to be in the same market as bandwidth provided over a

¹⁵ The circuit is described here as if the end user customer is in the United States. Of course, an exactly analogous circuit would be needed to connect a customer in India to its end location in the United States.

¹⁶ The FEA cable goes through Malaysia and Thailand, rather than landing in Singapore.

Pacific routing. Therefore, a firm with monopoly power along the Pacific route will be able to charge supranormal prices, even if sufficient capacity were to become available on the trans-Atlantic route. There are technical reasons for this, including the increased likelihood of cable faults on the Atlantic routing and the potential for greater latency on the Atlantic route. More importantly, there is evidence to suggest that prices are different for traffic carried via the two routings. This confirms the two routings constitute separate markets.

1. Cable faults

Faults in any cable-based telecommunications transmission system may arise from failures in the various types of electronic and optical equipment employed within the system for multiplexing, routing, interfacing, and regenerating signals as well as from physical failure of the transmission medium itself. Experience with transoceanic submarine cable systems shows that the predominant cause of system faults is failure of the cable and the preponderance of such failures is attributable to human activity in relatively shallow water. The principal threats to the integrity of submarine cables are damage from fishing and dredging as well as from ships' anchors, and recent experience suggests that the great preponderance of man-induced cable failures occur in water depths less than 200 m and primarily in depths less than 100 m. Two major operators of undersea cable systems, Global Marine Systems Ltd. and Tycom Ltd., report that about 80% of system failures from 1997 through 2000 are caused by fishing and anchor incidents.¹⁷

Although transmission equipment may fail, these failures represent a small and decreasing fraction of submarine cable faults. Transmission equipment for optical communications systems increasingly employs optical signal processing techniques, which avoid

¹⁷ See, e.g., "Recent Trends in Submarine Cable Faults," Submarine Cable Improvement Group, SubOptic 2001, 23 May, 2001, available at <http://www.scig.net>.

the need for conversion from optical signals to electrical, processing at the electrical level, and then reversion from the electrical form to an optical signal. The reduction in the number of signal conversions results in simpler and thus more reliable equipment designs. Partly as a result of this improvement, equipment failures may be responsible for less than 10% of system faults in recent submarine cable systems.¹⁸

The evidence clearly suggests that, other things being equal, cable systems with a greater exposure to shallow water will be prone to greater failure rates than those that are largely placed in deep water. In considering a transoceanic cable route from Mumbai to the United States, the overall distance traversed by an eastbound route around Southeast Asia and then across the Pacific Ocean to the U.S. West Coast will likely be roughly similar to the overall distance of a westbound route across the Arabian Sea and ultimately terminating on the U.S. East Coast.

One would expect the eastbound route, even though it may be somewhat longer, to encounter shallow water much less often than the westbound route. There might, for example, be landings to allow a land traverse of the Malay Peninsula as well as possible landings in the Philippines and Japan, as well as the final landing on the U.S. coast. The westbound route will almost certainly involve many more landings, and hence much more shallow water exposure, than the eastbound route. Such a route would most likely comprise a number of segments serving the Middle East, North Africa, and the many European countries bordering the Mediterranean Sea. Although the degree of shallow water exposure clearly depends on the specific segments selected to form the westbound Mumbai-U.S. route, it seems clear that this routing could easily lead to a higher likelihood of cable failure than the eastbound route.

¹⁸ *Id.*

2. Latency

Any telecommunications transmission system involves inherent delays (sometimes termed “latency”) in signal transmission. In a physically long system such as a transoceanic cable, the overall delay is dominated by that induced by the signal propagation delay through the physical transmission medium. The speed of light in an optical fiber is about two-thirds that of the free-space value of 300 million meters per second; thus, a 1000 km optical fiber transmission path will exhibit a propagation delay of about five milliseconds. Therefore, depending on the end points of the signal in the U.S. and India, the propagation delay will be noticeably different between trans-Atlantic and trans-Pacific routes.

3. Pricing Differences

The differentiation between these two routings is confirmed by evidence on pricing. According to price data included in the April 30, 2004 TRAI Consultation Paper (see Table 2 below),¹⁹ VSNL charged the same rates for DS-3 and STM-1 circuits between India and the United States until recently, regardless of whether those circuits were routed through Europe and across the Atlantic or across the Pacific. VSNL also charged E-1 rates that were slightly higher for circuits routed across the Pacific than for those routed across the Atlantic. VSNL subsequently adjusted its rates for these circuits, such that it is charging the same rate for E-1 circuits between the United States and India, regardless of their routing, while trans-Atlantic routes to the United States are now lower cost than trans-Pacific routes for DS-3 and STM-1 circuits. Despite these substantial relative price changes, I am unaware of any significant shifts in demand between these two routes. This suggests that trans-Pacific and trans-Atlantic routes

¹⁹ See TRAI, “Consultation Paper on Fixation of Ceiling Tariff for International Private Leased Circuit (Half Circuit),” (New Delhi: TRAI, 2004) at 15-16.

between India and the United States are indeed perceived by customers as belonging in two different markets.

Table 2
International Private Line Tariffs of VSNL

Prices in U.S. Dollars

Capacity	Existing Tariff	Recently filed Tariff	Percent Change
E-1			
US via Europe	\$61,111	\$44,955	-26%
US Pacific	\$68,444	\$44,955	-34%
DS-3			
US via Europe	\$1,047,333	\$720,000	-31%
US Pacific	\$1,047,333	\$802,000	-23%
STM-1			
US via Europe	\$3,033,333	\$1,808,000	-40%
US Pacific	\$3,033,333	\$2,224,000	-27%

V. VSNL’s Market Power in India

There is no doubt that VSNL retains market power in the Indian international telecommunications market. The Commission has already acknowledged this fact, when it granted VSNL’s wholly owned subsidiary a Section 214 authorization to provide international switched and private line service in the United States.²⁰ The Commission found that VSNL “has sufficient market power [in India] to affect competition adversely in the U.S. international services market.”²¹ Accordingly, the Commission placed certain reporting and dominant carrier “safeguards” on VSNL’s U.S. subsidiary.

VSNL has taken advantage of its market power to the detriment of consumers and competitors in the international long distance market. The Telecom Regulatory Authority of India (TRAI) recently concluded an assessment of the pricing of VSNL’s international circuits,

²⁰ See VSNL America Inc, ITC-214-20030728-00376, DA 04-2668, adopted August 25, 2004, Order, Authorization and Certificate.

²¹ *Id.* at para. 21.

concluding that they were well above costs.²² The TRAI noted that competition in India for the provision of international circuits was very limited, with only three carriers, versus 33 in the United Kingdom (London), 32 each in the United States (New York City) and Germany, 24 in France and 14 in South Korea.²³ Further, the TRAI took note of the significance of the landing station bottleneck, stating:

VSNL's continued control of cable landing stations and associated facilities constitute bottlenecks, which allow the incumbent to stall or delay entry (or efficient operations) by other operators. Access problems are faced not only by the underlying cable operators but also by operators who have acquired capacity in a cable system and wish to access the capacity at the landing station. Discussions with industry sources suggest that establishing a cable landing station facility in India not only requires a huge amount of investment but is also a time consuming process involving various clearances including security clearance, etc. Thus, the control of access to the cable landing stations make it possible for the supplier of the access facility to impose constraints which are in the nature of non-price factors affecting the competition.²⁴

This low level of competition was evident in the prices of international circuits from India to the United States compared to the rates in other countries, as shown in Table 3 below. For example, the price for a DS-3 circuit from India was \$656K per month, versus \$174K per month for the same circuit from Singapore. The price differential for STM-1 circuits was even greater, being \$346K per month from Singapore and \$1,931K from India.²⁵

Table 3
Monthly Price of International Private Line Circuit (in \$000s)

Route	E-1	DS-3	STM-1
Japan-USA	23	99	191

²² See Telecom Regulatory Authority of India, Notification, New Delhi, March 11, 2005, No. 310-3(1)/2003-Eco, available online at <http://www.trai.gov.in/order11mar05.htm>.

²³ *Id.* at 18.

²⁴ *Id.* At 19.

²⁵ *Id.* at 49-50.

South Korea-USA	23	102	229
Hong Kong-USA	24	124	269
Singapore-USA	33	174	346
India-USA	39	656	1,931

The lack of competition was also evidenced by the recent history of changes in the prices of international STM-1 circuits from India compared to other countries in Asia and the world. The TRAI found that the median price of an STM-1 in the trans-Atlantic region had fallen 70% in 2000, 65% in 2001, 26% in both 2002 and 2003, and 25% in 2004. Similarly in the transpacific region, STM-1 rates fell by 56% in 2003 and 40% in 2002. For Europe to Asia STM-1 circuits, rates fell by 42% in 2003 and 2002. In Asia as a whole, STM-1 circuit prices fell by 50-60% in 2003. However, from 2002 to 2005, STM-1 rates in India fell by an average of only 10% per year.²⁶

Based on this evidence, the TRAI established a ceiling price for VSNL's leased international half-circuits. Maximum tariff prices were set separately for E1, DS-3, and STM-1 circuits. These rates were cut 35%, 71%, and 70%, respectively, off of rates prevailing in the market at the time of the investigation. The pricing disparity in existence, prior to the establishment of the ceiling price is powerful evidence of VSNL's exercise of market power in India. VSNL controls all of the cable landing stations currently available on the west coast of India, including the station used for the FEA cable. I understand that VSNL has limited over time the number of STM-1 circuits that the FEA cable can land in India and that even when VSNL has allowed such access and interconnection, it has charged excessive prices.

²⁶ Id. at 14-15.

VI. Economic Analysis of the Proposed VSNL Acquisition of Tyco

The proposed acquisition is principally a vertical transaction. That is, it constitutes an integration of assets that are not performing the same function in the same horizontal level in a market, but rather the assets complementary to each other – in this case as complementary inputs into the same final product market, i.e. the provision of bandwidth between the U.S. and India.

Economic analysis has long recognized that under certain conditions vertical integration by firms engaged in the process of delivering a final product may achieve efficiencies that would ultimately be pro-competitive.²⁷ But such vertical integration may not always achieve sufficient pro-competitive effects to compensate for its anticompetitive consequences. The Department of Justice's Vertical Merger Guidelines recognize that "In certain circumstances, the vertical integration from vertical mergers could create competitively objectionable barriers to entry."²⁸ Where an input monopolist purchases an upstream or downstream distribution input that might otherwise provide market access to a competitor or actual potential competitor, competitive market entry may be foreclosed to that competitor, if alternative distribution is unavailable or inaccessible.²⁹ Under such circumstances, competitive entry by a rival may require simultaneous entry into two or more vertically related input markets, thus raising the costs of competing to the potential entrant or actual competitor.

²⁷ Clarkson, K.W., and R.L. Miller, Industrial Organization, McGraw Hill, 1982, pp 346-348.

²⁸ U.S. Department of Justice Merger Guidelines, June 14, 1984, Section 4.2, <http://www.usdoj.gov/atr/public/guidelines/2614.htm> The Department lists 3 necessary conditions: (a) the merger would result in potential entrants having to enter two markets levels simultaneously; (b) the requirement of entry at the secondary level must make entry at the primary level significantly more difficult and less likely to occur; and (c) the structure of the primary market is so conducive to noncompetitive behavior that the increased difficulty of entry is likely to be harmful to achieving the benefits of competition. In the present analysis the primary market would be landing site services in India and the secondary market would be transpacific submarine capacity.

²⁹ Courts have been willing to entertain vertical foreclosure and the raising of entry barriers arising from vertical mergers where concentration in one market is "very high," as is the case with Indian landing facilities. See, Perry, M.K., "Vertical Integration: Determinants and Effects" in Handbook of Industrial Organization, Eds. Schmalensee, R., and R. Willig, North Holland, 1992, pp. 241-247.

There are two broad categories of anticompetitive effects that stem from this proposed acquisition. The first effect, which is reflected in the DOJ Merger Guidelines cited above, is that the acquisition would increase the barriers to competition in the U.S. – India market. The second effect, which is unique to a regulated industry, is that such vertical integration can make it easier for the regulated firm to evade regulation and exploit its market power. In the case of the proposed transaction, VSNL will be able to evade regulation of access to its landing stations in India, and also evade regulation of the pro-competitive conditions established by the Commission on VSNL’s U.S. subsidiary.

A. Vertical integration to raise barriers to entry

High-capacity bandwidth is provided between the United States and India by combining a number of inputs, owned by different entities. As mentioned above, these inputs, which are complementary to the production of end-to-end bandwidth, are: 1) backhaul between the customer in the U.S. and the U.S. landing stations; 2) U.S. landing stations; 3) transpacific undersea cable capacity (primarily US-Japan); 4) Southeast Asian undersea cable capacity (primarily Japan-Singapore-India); 5) landing stations in India; and 6) backhaul in India between the landing stations and the customer premise.

These inputs are economic complements, that is, an increase in the price of one input (holding everything else constant) will reduce demand for all other inputs. Assuming all else constant, a non-trivial price increase for one input raises the cost of the entire end-to-end service. By the law of demand,³⁰ an increase in the end-to-end price will reduce demand for end-to-end service, and by the law of derived demand,³¹ this will reduce demand for all the inputs. This chain of logic implies that owners of complementary inputs are likely potential entrants to break

³⁰ Alchian, A., and B. Allen, University Economics, Wadsworth Publishing Company, Inc. 1964, Chapter 6.

³¹ Id., Chapter 26.

bottleneck monopolies over other inputs. They have a stronger economic incentive than other investors to break the bottleneck – the value of their complementary assets increases as market power is dissipated elsewhere in the network.³²

As presented above, VSNL's market power derives from the fact that it controls all but one landing station in India, including critical sites needed by one of its most significant competitors. These are the strategic links through which all non-satellite based foreign telecommunications traffic to and from a country must pass. As described above, this market power is reflected in the fact that VSNL's half-circuit pricing is several times greater than the prices of equivalent capacity from other Asian countries (China, Singapore, Japan) to the U.S., even after recently mandated reductions by the TRAI.

VSNL's market power is also reflected in the fact that it exploits its bottleneck advantage at its landing facilities by limiting the availability of bandwidth capacity to competitors contracting for capacity (or seeking to do so) while charging supra-competitive prices for access and interconnection.³³ VSNL has conditioned access to its landing stations on acceptance of contractual terms that are blatantly anticompetitive and provides direct evidence of VSNL's ability to limit or control entry. This artificial scarcity at the VSNL landing stations has the direct effect of limiting the supply of bandwidth that competitors may in turn make available to their customers between India and other destinations, though potential interconnected capacity on competitor submarine cables to foreign destinations is adequate.³⁴ Thus, artificial scarcity of

³² Consider a simple analogy to the situation that would occur if a monopoly controlled cheese production in the United States, and set prices at supranormal levels. In that case, a large pizza chain would have a powerful incentive to enter the cheese production business. Alternatively, the pizza chain might encourage an independent company to enter the cheese business by granting it a long term contract for large volumes of cheese.

³³ See TRAI report.

³⁴ See TRAI report.

capacity raises the costs to competitors relative to VSNL of interconnecting foreign traffic, giving it an anticompetitive advantage over its rivals.³⁵

Deflating the monopoly power of VSNL might come about through either regulatory means (effective rate regulation and minimum access rules imposed by the Indian regulatory authority) or the market-induced competitive entry of landing facilities that would be accessible to competing submarine cables, or both. As discussed above, the Tyco transpacific cable will control the vast majority of available transpacific undersea cable capacity, and within a couple of years, that cable will have the only excess capacity in the Pacific. Thus, the owners of the Tyco transpacific cable will be in a unique position among owners of the complementary inputs needed for US-India telecommunications. If that cable remained independent of VSNL, it would have strong incentives to invest in complementary facilities, such as new landing stations in India, in order to break VSNL's bottleneck.³⁶ The reason is that opening the Indian market would lead to increased demand for its excess capacity.³⁷

However, neither potential solution is easily attained without dealing with certain problems that VSNL's proposed acquisition of Tyco will likely make intractable. Indeed, by retarding the response of competitors to the growth in demand for telecommunication services between the U.S. and India, the proposed transaction will harm U.S. customers and the public interest.

³⁵ This is a form of "raising rivals costs" and presented in Krattenmaker, T.G., and S. C. Salop, "Anticompetitive Exclusion: Raising Rivals Costs to Achieve Power over Price," *Yale Law Journal* 96 (2) pp.209-93; and Martin, S., *Advanced Industrial Economics*, Blackwell, 1993, p.69; the FCC has also recognized that a carrier may raise rivals costs or restricts its rivals output through control over an input that is necessary for the provision of a service. See Foreign Participation Order, FCC 97-398 (1997) at paragraph 144.

³⁶ These investments could fall into two basic categories, the first are investments in landing stations themselves and the second are investments in legal and policy resources to convince Indian regulators and courts to adopt procompetitive policies, rather than acquiesce in VSNL's anticompetitive behavior.

³⁷ Since other undersea cable systems in the Pacific are at or near capacity, their owners do not have the same incentives as Tyco to invest to break the bottleneck in India – they will not realize significant increased capacity utilization as half-circuit prices fall in India.

The Tyco transpacific cable is positioned to provide an important competitive input for other carriers and cable operators who would challenge VSNL's dominance over U.S.-India traffic. As noted above, the Tyco transpacific is the only cable that will be able to provide the capacity to accommodate the growth in U.S.-India traffic volumes. It is also the only transpacific cable that would justify effective competitive entry of landing station inputs in India, and thus free up VSNL's bottleneck on interconnection of international circuits. Indeed, I understand that FLAG Telecom is no longer going to construct a new undersea cable between India and Hong Kong, and is only going to build a cable linking India with Egypt and the Middle East.³⁸ I further understand that even as to this new undersea cable, VSNL has asserted that FLAG Telecom should not be permitted to interconnect the FEA cable with this new cable in order to divert traffic away from VSNL's cable landing stations in India. Should VSNL prevail with this argument, then there would be no means by which the FEA cable could avoid VSNL's bottleneck in India, further entrenching VSNL's dominant position. Similarly, VSNL's apparent ability to constrain capacity on the FEA cable by denying an upgrade in India will further act to solidify VSNL's market power.

Another example of VSNL's opportunistic behavior is its refusal to allow access to, or interconnection at, its landing stations with the i2i cable, which would provide restoration capacity to i2i customers. This reduces the quality and attractiveness of the i2i cable to customers. Alternatively, FLAG Telecom delivered U.S./India traffic volumes between the U.S. and Japan on the Tyco transpacific cable and then on to India via its FEA cable (assuming it were upgraded with additional capacity) would likely lower the costs (relative to VSNL) of providing U.S.-India traffic and offer a competitive constraint on the exercise of market power by VSNL, to the benefit of U.S.-India telecommunications customers.

³⁸ This effort is described at: <http://www.flagtelecom.com/network/falcon.html>

These competitive benefits to U.S.-India telecommunications customers are likely to go unrealized if VSNL were allowed to purchase the Tyco assets and in particular the Tyco transpacific cable. By owning this undersea cable asset, VSNL would remove a unique source of potential entry in India with powerful incentives to compete over quality and price. While VSNL may argue that its acquisition of Tyco's assets will bring the efficiencies normally attendant to pro-competitive vertical acquisitions and thus benefit U.S. customers, the results of careful economic analysis are more pessimistic.

VSNL's dominant position and its landing facilities-based market power in India are clearly threatened by competitive access to the Tyco transpacific cable. It would be in VSNL's interest to blunt that threat by acquiring the only asset with adequate upgradeable capacity on the transpacific route. Whatever efficiencies may be claimed for the vertical integration of Tyco's and VSNL's assets, they would be outweighed by the anticompetitive harm likely to arise from the market foreclosure associated with the proposed acquisition.³⁹

B. Network effects in telecommunications markets

The Commission should be particularly attuned to the type of vertical relationships affected by VSNL's acquisition of the Tyco assets because of the network effects associated with the proposed acquisition. Competition in telecommunications markets can be much slower to develop than in other markets. Also, nascent competition in this market may be very fragile and susceptible to anticompetitive acts by a dominant carrier with control over bottleneck assets. There are several reasons for this. First, in most developing countries, including India, competition is being introduced into a market that had been controlled by a government-owned monopolist. Second, new entrants into telecommunications markets must invest substantial amounts in sunk cost facilities. It is now well established in the economics literature that entry is

³⁹ For a formal treatment of vertical foreclosure see Martin, S. Advanced Industrial Economics, pp. 242-246.

less likely to occur and less likely to succeed in disciplining a dominant firm, if entry requires the expenditure of substantial sunk costs.⁴⁰ Third, the telecommunications industry exhibits significant network effects, which lead to interdependencies in the provision of services in the different market segments. This, too, makes it more difficult for entrants to succeed without broad rights to interconnect. It may also discourage entrants from investing in the market, for example, by building a new cable landing station or undersea cable.

The forces that underlie the strength of the market power held by the owner of bottleneck submarine cable landing stations are termed network effects. Network effects can arise where there are complementarities in production or consumption. As described by a leading scholar of network economics:

Networks are composed of complementary nodes and links. The crucial defining feature of networks is the complementarity between the various nodes and links. A service delivered over a network requires the use of two or more network components. Thus, network components are complementary to each other.⁴¹

Network effects can play a very important role in the ability of competition to develop or survive in a market, such as the India-U.S. market for high-capacity bandwidth. Under certain circumstances, network effects can create conditions where one firm can establish and perpetuate a monopoly, especially when there are other barriers to entry, such as high sunk costs.⁴² For example, Microsoft has been able to monopolize the market for computer operating systems even though other firms have developed competing systems, because it limited compatibility between

⁴⁰ John Sutton, *Sunk Costs and Market Structure*, The MIT Press, 1991.

⁴¹ Nicholas Economides, "Competition Policy in Network Industries: An Introduction," in *The New Economy: Just How New is It*, University of Chicago Press (2003), Dennis Jansen (ed.). Available at <http://www.stern.nyu.edu/networks/site.html>, at 4.

⁴² In some industries with strong network effects, even the elimination of barriers to entry may not significantly affect market structure, *Id.* at 15.

its system and its competitors' systems. This constitutes a denial of interconnection between two "networks" in an industry characterized by strong network effects.

Similarly, airline markets in some cities have been subject to monopoly behavior and pricing by large airline carriers operating a hub at the city's main airport. One major study of airline markets found that in the city of Minneapolis, Minnesota, 77% of all passenger enplanements were provided by Northwest Airlines. The market power of Northwest in Minneapolis and of other dominating airlines in other markets is manifest in higher airfares on travel to the dominated airports relative to other routes.⁴³ Moreover, smaller airlines face numerous obstacles competing against the dominant airline, including practices that make it costly for a passenger to connect between a competitors' flight and the dominant airline's flights out of the hub city. This reduces the number of potential customers willing to fly on a competitive airline, and makes it harder for the competitor to achieve economies of scale in the dominated market.

In the case of the market for international bandwidth, network effects are a very important influence on the ability of competitors to succeed in the marketplace. One carrier's cost of providing service along a particular route will be affected by whether it can connect with other carriers serving this same route or other routes. Also, when a single carrier owns significant undersea capacity, as well as controls important landing stations, it will be much harder for competitors to compete.

⁴³ Severin Borenstein, "Hubs and high fares: dominance and market power in the U.S. airline industry," *Rand Journal of Economics*, Vol. 20, No. 3, Autumn 1989.

C. The Tyco acquisition will likely permit VSNL to evade regulation by the Indian and U.S. regulatory authorities at the expense of U.S. Customers

1. VSNL will seek to evade TRAI's efforts to control its market power at Mumbai and Cochin landing facilities

The evasion of regulatory restraints by merger with an unregulated firm is a classic strategy experienced by regulatory agencies and recognized by students of regulation. Indeed, the DOJ's Merger Guidelines speak to this very possibility. "Non horizontal mergers may be used by monopoly public utilities subject to rate regulation as a tool for circumventing that regulation."⁴⁴ As described above, the Indian regulatory authority (TRAI) has recently ordered the reduction of VSNL's half-circuit prices for bandwidth. If TRAI is successful, VSNL's ability to exercise directly its market power could be reduced to some extent. With its half-circuit prices held below profit-maximizing levels by regulation, VSNL will naturally seek other, less direct, ways to exploit its market power. For example, VSNL could bundle prices on the Transpacific cable with the purchase of half-circuits on other VSNL cables landing in India. This could evade both TRAI and FCC regulation.

The classic way to evade price regulation is to enter adjacent markets for which access to the bottleneck is essential.⁴⁵ Then the monopolist can tie purchase of its regulated input to its overpriced product or service in the adjacent market, and take its monopoly margin in the unregulated, adjacent market. The Tyco transpacific cable is an ideal asset to control for the purpose of evading Indian price regulation. It is the only significant source of available undersea cable capacity in the Pacific for the foreseeable future, and it is not a common carrier pipeline for purposes of U.S. regulation. Its prices, therefore, are not regulated and VSNL will be able to

⁴⁴ DOJ Vertical Merger Guidelines 1984, Section 4.23.

⁴⁵ Kahn, A.E., *The Economics of Regulation*, MIT Press 1988, Vol. II, p.290 at note 106.

condition access to that cable any way it chooses. And because the Tyco transpacific cable is the only significant source of available capacity, customers will have nowhere else to go. As may be observed from how it operates in India, VSNL is not shy about imposing blatantly anticompetitive terms and conditions on access to its bottleneck facilities. Thus, if TRAI is successful in reducing significantly VSNL's half-circuit prices, it is natural to expect that VSNL will attempt to tie use of its Indian landing stations with overpriced utilization of the Tyco transpacific cable. This would be a simple and obvious profit-maximizing strategy.

The FCC should not presume that Indian regulators would control VSNL's anticompetitive incentives. First, the Indian government owns 26 percent of VSNL, so its incentives are opaque. Second, Indian regulation and competition law does not now prevent bottleneck monopolies from extracting blatantly anticompetitive concessions from their customers and competitors. Thus, there is no reason to expect that Indian regulation will prevent VSNL from acting on its anticompetitive incentives acquired from its control of the Tyco transpacific cable and motivated by its interest in protecting its dominant market position.

2. The acquisition will enable VSNL's U.S. subsidiary to evade FCC regulation

In August 2004, the Commission granted a Section 214 authorization to VSNL America Inc. ("VAI").⁴⁶ In granting this application, the Commission classified VAI as a dominant carrier in the provision of service to India and required VAI to comply with the standard dominant carrier safeguards on this route. According to the Commission's ruling, the "dominant carrier safeguards are designed to make a carrier's interaction with its affiliated foreign carrier

⁴⁶ In the Matter of VSNL America, Inc. Application for Authority under Section 214 of the Communications Act of 1934. *Order, Authorization, and Certificate*, ITC-214-20030728-00376, August 26, 2004.

transparent and thereby guard against discriminatory conduct.”⁴⁷ Among these safeguards are structural separation requirements and quarterly reporting of traffic, revenue, and circuit status, designed to prevent VSNL from favoring its own affiliate over other carriers. At the time that the Commission approved VAI’s application, it determined that with these safeguards in place, VAI would not pose “a very high risk to competition in the U.S. market.”⁴⁸

The danger that VAI would receive favorable treatment from its parent VSNL, however, will increase substantially if the Tyco transaction is consummated. The reason is that VAI will be able to obtain an end-to-end circuit between the U.S. and India entirely on VSNL-owned facilities, upon which VSNL will exercise varying degrees of market power over competing U.S. carriers. With a VSNL-owned Tyco transpacific cable controlling an increasing share of the capacity on the U.S. – Japan route, other carriers will require non-discriminatory access to this capacity in order to compete effectively against VAI for the growing business on the U.S. – India route. When coupled with VSNL’s control over all but one key landing station bottleneck in India, the opportunity for VSNL to discriminate against U.S. carriers will be much greater than previously contemplated by the Commission at the time that it granted VAI’s Section 214 application.

Discrimination against U.S. carriers could take many forms. For example, VSNL could delay turning up circuits for U.S. carriers on the U.S. - India route, and lay the blame on provisioning problems on the Tyco transpacific cable. Since the FCC does not regulate the Tyco transpacific cable, it would find it difficult to criticize VSNL or even determine the veracity of VSNL’s claims. And with VSNL’s continued monopoly power over landing stations in India,

⁴⁷ Id., par. 6.

⁴⁸ Id., par. 17.

the U.S. carriers may be unable to circumvent the Tyco transpacific cable, even if capacity were available on another trans-Pacific cable.

In sum, the Commission cannot rely on its normal safeguards to prevent “exclusive arrangements” between VAI and VSNL. The *Foreign Participation Order* requires “sufficient transparency to determine whether the foreign carrier has discriminated in favor of its affiliate.” If the instant application is granted, however, the Commission will lose the ability to observe the nature of VSNL’s intra-company relationships, and it will be unable to determine whether U.S. carriers are being disadvantaged. In my opinion, VAI’s operations in the U.S. would then pose a very high risk to competition, which further warrants the denial of the instant transaction.

VII. How would Tyco’s incentives differ from VSNL if it retained the Tyco transpacific assets?

As analyzed above, an independently-owned Tyco would have a powerful incentive to make capacity on its trans-Pacific cable available to other carriers or complementary undersea cable operators. FLAG Telecom, for example, is not a direct competitor to Tyco, but rather the provider of a complementary input, i.e. bandwidth between Japan and India. Unlike VSNL, Tyco has every reason to cooperate with complementary resource owners such as FLAG Telecom that would provide competition on the U.S. – India trans-Pacific route, especially if FLAG Telecom would build a new landing station in India, thereby loosening VSNL’s bottleneck, which keeps prices higher and demand lower than in a competitive market.

Indeed, keeping the trans-Pacific cable under the control of Tyco is pro competitive, despite the fact that it is likely to be the only supplier with sufficient upgradeable capacity to service the anticipated growth in trans-Pacific bandwidth demand, for the foreseeable future. Tyco would then remain a carriers’ carrier and have strong incentive to maximize use of its own facilities by all other carriers. To the extent that rising demand causes greater utilization of

bandwidth capacity in the Pacific, these scarce resources will be used more efficiently. Given the anticipated entry of competitive landing facilities in India, open access to those facilities through independent trans-Pacific Tyco assets will make U.S. customers better off than if VSNL were able to extend the power of its bottleneck-based market power backward into the Pacific.

I, Michael D. Pelcovits, hereby declare under the penalty of perjury that the representations, information, and facts set forth in my declaration are true and correct to the best of my knowledge and belief.

/s/ Michael D. Pelcovits

Michael D. Pelcovits
Principal
Microeconomic Consulting & Research Associates, Inc.

March 31, 2005

ATTACHMENT A

CURRICULUM VITAE OF MICHAEL D. PELCOVITS

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PROFESSIONAL EXPERIENCE

October 2002 – Present: Principal, MiCRA (Microeconomic Consulting & Research Associates, Inc.)

Recent Assignments:

- Consulted with the Government of Singapore on competition policy regarding submarine cable landing stations
- Developed a model demonstrating the cost faced by a competitive local exchange carrier entering local exchange markets. The model was submitted to the Federal Communications Commission in its Triennial Review of the 1996 Telecommunications Act
- Testified on intrastate access charges and telecommunications competition policy issues before the Connecticut Department of Public Utilities and the Pennsylvania Public Utility Commission
- Analyzed the market for termination of calling on mobile phones in the UK and Netherlands markets

1988 – September 2002: WorldCom Inc. (MCI Communications, prior to merger)

1998 - 2002: *Vice President and Chief Economist*

Major Responsibilities:

- Supervised professional staff of economists, engineers, and policy analysts, with full responsibility for departmental budget, personnel, and quality of output.
- Directed economic analysis of policy and regulatory matters before federal, state, foreign, and international government agencies, legislative bodies, and courts.
- Advocated corporate policy positions before domestic and foreign governmental bodies, spoke at industry forums, and participated in briefings and interviews with the press.
- Recruited and directed independent, outside consultants (academic and private sector) to testify in regulatory and antitrust proceedings.
- Advised senior corporate management on public policy issues.

1996 – 1998: Executive Director

- Directed the Company's strategy, advocacy, and representation on costing and pricing issues in formal proceedings implementing the Telecommunications Act of 1996.
- Responsible for development, management, and allocation of \$10 million budget for outside consultants.

1992 – 1996: Director

- Supervised professional staff responsible for regulatory filings at the Federal Communications Commission on pricing, costing, and tariff issues.
- Represented MCI and long distance industry association at Congressional forums, committee staff meetings, and industry negotiations prior to passage of the Telecommunications Act of 1996.

1988 – 1992: Senior Policy Adviser

- Provided economic analysis of local and long distance telecommunications industries for regulatory and legal filings.
- Prepared economic analysis in support of advocacy on Capitol Hill. Prepared senior corporate management for testimony before Congressional Committees.

1982 – 1988: Vice President and Treasurer, Cornell, Pelcovits & Brenner Economists Inc.

- One of three managing principals who founded and directed an economic consulting firm, specializing in telecommunications, broadcasting, and antitrust economics. Client engagements included testifying over twenty times before state public utility commissions on pricing, costing, and competitive entry issues; analysis of cost and demand studies and their application to tariff design; and analysis of antitrust issues in transportation markets, among other projects.
- Served as Treasurer of the corporation managing the finances and supervising the accounting, tax, and benefits plans.

1981 – 1982: Senior Economist, Owen, Cornell, Greenhalgh & Myslinski Economists Inc.

- Provided economic consulting on telecommunications and environmental issues. Major client engagements included copyright issues for the Sony Corporation and water pollution issues for the American Iron and Steel Institute.

1979 – 1981: Senior Economist, Federal Communications Commission, Office of Plans and Policy

- Provided policy analysis of domestic and international common carrier and cable television issues.
- Presented recommendations to Office and Bureau Chiefs, Commissioner offices, and to Commissioners in open Commission meetings.

1978 – 1979: Industry Economist, Bureau of International Aviation, Civil Aeronautics Board

- Provided economic analysis of industry structure, international routes and fares for Board rulemakings and adjudication.
- Testified before administrative law judge in two cases recommending the opening of international airline markets to competition.

1976 – 1978: Assistant Professor, Department of Economics, University of Maryland, College Park

- Taught undergraduate and graduate courses in International Economics and Microeconomics.
- Conducted and supervised research in International Economics

1975 – 1976: Teaching Assistant, Department of Economics, M.I.T.

- Taught separate section in Principles of Economics and assisted in teaching Econometrics

1974 Instructor, Tufts University, Department of Economics

- Taught undergraduate course in Comparative Economic Systems

EDUCATION

Ph.D. (Economics), Massachusetts Institute of Technology, 1976

Dissertation title: “The Non-Equivalence of Tariffs and Quotas Under Uncertainty”

B.A. (Economics), *summa cum laude*, University of Rochester, 1972

AWARDS

National Science Foundation Graduate Fellowship, 1972 – 1975

Phi Beta Kappa, 1972

Isaac Sherman Graduate Fellowship, 1972 (University of Rochester)

John Dows Mairs Prize in Economics, 1971 (University of Rochester)

PUBLICATIONS

“The WorldCom-Sprint Merger” in John Kwoka, Jr. and Lawrence J. White, editors. The Antitrust Revolution, The Role of Economics, 4th Edition (Oxford University Press), 2003.

“Economics of the Internet,” (with Vinton Cerf), in Gary Madden and Scott Savage, editors, The International Handbook On Emerging Telecommunications Networks (Edward Elgar), 2003.

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“Revised Estimates U.S. Tax Revenue (with Jagdish Bhagwati), in Bhagwati and Partington editors, Taxing the Brain Drain, (North Holland, 1976).

“Quotas Versus Tariffs,” Journal of International Economics, November, 1976.

OTHER PROFESSIONAL ACTIVITIES

Speaker and Panelist (selected examples):

National Association of State Utility Consumer Advocates, “Telco Structural Separations, Costs & Benefits,” June 19, 2001

LeBoeuf, Lamb, Greene & MacRae, “Telecom Restructuring: The Road to Profitability -- Is there a Map?” June 11, 2001

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Kansas University, “Stakeholders Symposium on Telecommunications,” November 2, 1995

California Foundation of the Environment and the Economy, “Roundtable on Telecommunications Policy, October 27, 1994

Guest lecturer in graduate and undergraduate courses at:

New York University, Stern School of Business
Georgetown University, McDonough School of Business
George Washington University
Johns Hopkins University
University of Maryland
American University

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CERTIFICATE OF SERVICE

I, Emily Hancock, an attorney with the law firm of Steptoe & Johnson LLP, hereby certify that on March 31, 2005, I caused a true copy of the foregoing to be served by email (except as noted) to the following:

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