

Before the
NATIONAL TELECOMMUNICATIONS AND INFORMATION ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE
and the
RURAL UTILITIES SERVICE
U.S. DEPARTMENT OF AGRICULTURE
Washington, D.C.

In the Matter of

American Recovery and Reinvestment Act of
2009 Broadband Initiatives

Docket No. 090309298-9299-01

**COMMENTS OF
TYCO TELECOMMUNICATIONS (US) INC.**

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EXECUTIVE SUMMARY

Tyco Telecommunications (US) Inc. (“Tyco Telecom”) urges the National Telecommunications and Information Administration (“NTIA”) and the Rural Utilities Service (“RUS”) to make funds available to private-sector entities for middle-mile, long-haul, and trunking infrastructure such as undersea cables, the absence of which otherwise acts as a ceiling on broadband speeds and availability for consumers and businesses in many parts of the United States and its territories and possessions. Particularly in the cases of Alaska, Hawaii, and U.S. territories and possessions, it is undersea cables that currently provide the most connectivity of any speed and offer the greatest possibility for high-speed broadband connectivity to other points with the United States (and its territories and possessions) and the world at large. Nevertheless, without high-capacity infrastructure to connect local networks to national and international networks, true broadband will remain unavailable to many U.S. consumers and businesses.

In considering how projects will best effectuate the purposes of the American Recovery and Reinvestment Act, NTIA and RUS should recognize the longevity, upgradeability, and cost-effectiveness of undersea cable infrastructure in serving more remote regions. The agencies should also refrain from disfavoring projects that propose to touch on multiple jurisdictions or cross state or territorial lines. Because the ARRA specifies that grants must be awarded in a technologically neutral fashion, NTIA and the RUS should neither mandate nor preclude a particular technology. Instead, in considering grant applications, the agencies should evaluate whether the technology is best suited to achieve the purposes of the ARRA given the geographic area and population the project would serve. In this way, by looking at broadband deployment creatively and expansively, ARRA funds will be distributed for their highest and best use. In many regions, undersea cables can play a critical role.

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Tyco Telecommunications (US) Inc. (“Tyco Telecom”), hereby responds to the Joint Request for Information and urges the National Telecommunications and Information Administration (“NTIA”) and the Rural Utilities Service (“RUS”) to make funds available to private-sector entities for middle-mile, long-haul, and trunking infrastructure such as undersea cables, the absence of which otherwise acts as a ceiling on broadband speeds and availability for consumers and businesses in many parts of the United States and its territories and possessions.¹ Particularly in the cases of Alaska, Hawaii, and U.S. territories and possessions, it is undersea cables that currently provide the most connectivity of any speed and offer the greatest possibility

¹ U.S. Department of Commerce/NTIA and Department of Agriculture/RUS, American Recovery and Reinvestment Act of 2009 Broadband Initiatives, Joint Request for Information and Notice of Public Meetings, Docket No. 090309298-9299-01, 74 Fed. Reg. 10,716 (Mar. 12, 2009) (“RFI”).

for high-speed broadband connectivity to other points with the United States (and its territories and possessions) and the world at large. Nevertheless, without high-capacity infrastructure to connect local networks to national and international networks, true broadband will remain unavailable to many U.S. consumers and businesses.

In considering how projects will best effectuate the purposes of the American Recovery and Reinvestment Act,² NTIA and RUS should recognize the longevity, upgradeability, and cost-effectiveness of undersea cable infrastructure in serving more remote regions. The agencies should also refrain from disfavoring projects that propose to touch on multiple jurisdictions or cross state or territorial lines. Because the ARRA specifies that grants must be awarded in a technologically neutral fashion, NTIA and the RUS should neither mandate nor preclude a particular technology. Instead, in considering grant applications, the agencies should evaluate whether the technology is best suited to achieve the purposes of the ARRA given the geographic area and population the project would serve. In this way, by looking at broadband deployment creatively and expansively, ARRA funds will be distributed for their highest and best use. In many regions, undersea cables can play a critical role.

In part I of these comments, Tyco Telecom provides background information on its own capabilities, U.S. reliance on undersea cables for domestic connectivity, and the ability of undersea cable infrastructure to further the ARRA's purposes. In part II, Tyco Telecom provides specific responses to questions identified by the agencies in the RFI.

² American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5 (2009) ("ARRA").

I. BACKGROUND

A. Tyco Telecom

New Jersey-headquartered Tyco Telecom is one of the world's leading integrated suppliers of undersea telecommunications systems and services. With manufacturing facilities in New Hampshire, industry-leading research-and-development laboratories (which originated as part of Bell Labs) in New Jersey, and Baltimore-based fleet operations center overseeing a global fleet of high-tech cable ships, Tyco Telecom offers comprehensive design, manufacturing, installation, and maintenance and repair capabilities for owners of undersea telecommunications systems in the United States and abroad. Tyco Telecom has completed more than 100 projects around the globe, totaling more than 450,000 kilometers of installed cable. Within the United States, Tyco Telecom has installed systems connecting Alaska, Hawaii, Guam, Puerto Rico, the U.S. Virgin Islands, and the continental United States.

B. U.S. Reliance on Undersea Cables for Domestic Connectivity

Undersea cables play a critical role in ensuring that the United States can communicate intra- and internationally, and in supporting the commercial, governance, public safety, and national security endeavors of the United States and its citizens. Contrary to the assumptions of many, submarine cables—and not satellites—carry the vast majority of the world's telecommunications and Internet traffic between points separated by bodies of water, as well as the vast majority of the telecommunications and Internet traffic between the United States and international points.³

³ See “Telecom Networks and Cables,” Backgrounder for Telecom '99 (ITU 1999) (noting as of 1999 that “[b]ecause of their lower cost and longer lifespan, undersea fiber optic cables have now largely taken over from satellites as the principal means of delivering international traffic”).

The deployment of fiber-optic undersea cables starting in the late-1980s revolutionized undersea telecommunications, allowing for exponential increases in capacity. Fiber-optics also paved the way for significant upgradeability by virtue of modification of the electronics in the terrestrial cable stations, meaning that the addition of new capacity on a particular route no longer requires the installation of a new cable. The upgradeability also ensures that consumers and businesses are not locked into a particular broadband speed once undersea cable infrastructure is deployed. Although undersea cables represent significant engineering and economic undertakings, they can be deployed very quickly. For example, an Alaska-continental United States system can be deployed within 12-24 months, and a trans-Pacific U.S.-Japan system can be installed within two (2) years. The typical fiber-optic undersea cable system has an expected commercial life of 25 years, though most are technically capable of operating well beyond that timeframe.

Undersea cables provide reliable, high-quality, and cost-effective connectivity to and within a variety of regions in the United States and its territories and possessions:

- Within Alaska: including the Alaska Northstar, SEAFast, and Kodiak-Kenai systems;
- Within Hawaii: including the Hawaii Inter-Island Cable System and Hawaii Island Fiber Network;
- Between Alaska and the continental United States: including the AKORN, Alaska Northstar, Alaska United East, and Alaska United West systems;
- Between Hawaii and the continental United States: including the Japan-U.S., Southern Cross, and TPC-5 systems;
- Within the U.S. Virgin Islands: including the PanAm, St. Thomas-St. Croix, and C-1 systems;
- Between the U.S. Virgin Islands and the continental United States: including Americas-1, Columbus-2, Mid-Atlantic Crossing, and PanAmerican Crossing;
- Between Puerto Rico and the continental United States: including the ARCOS-1 and SAM-1 systems;
- Between Puerto Rico and the U.S. Virgin Islands: including the Americas-2 and Taino-Carib systems;

- Between Hawaii and American Samoa: the planned American Samoa-Hawaii system; and
- Between Guam and/or Hawaii and the continental United States: including TGN Pacific and TPC-5.

Nevertheless, some of these systems were installed years ago, meaning that many of these systems use older technologies, require significant investment for capacity upgrades, and are nearing the end of their commercial lives. Moreover, many regions in the United States and its territories and possessions lack any access to undersea cable networks that would enable last-mile broadband connectivity using local networks.⁴

C. Undersea Cables and the NTIA and RUS Grant Programs

Undersea cable projects can serve the purposes of the NTIA and RUS grant programs by ensuring reliable, high-quality and cost-effective broadband connectivity between and among the United States and its territories and possessions, connecting the United States to the global economy. With the ARRA, Congress recognized the urgent need to improve U.S. competitiveness worldwide for sustainable domestic economic recovery and growth, and to do this by investing in infrastructure.⁵ Infrastructure capacity is as much a global economic indicator as is the number of computers per capita. This means the agencies must look not only on the granular level of adoption of broadband technology in the U.S. population, but the infrastructure that connects that population to the world's economic and information resources.

⁴ See, e.g., State of Alaska, Response to NTIA, USDA RUS Joint Request for Information, at 3 (filed April 9, 2009) (“Alaska Response”) (stating that “[b]y any definition of ‘unserved’ and ‘underserved’, Alaska’s rural areas are the least advanced in broadband service in the entire United States”).

⁵ ARRA § 3 (“The purposes of this Act include . . . to provide investments needed to increase economic efficiency by spurring technological advances in science and health [and] to invest in . . . infrastructure that will provide long-term economic benefits.”).

As noted above, without high-capacity middle-mile, long-haul, and trunking infrastructure, a local network or service provider cannot provide broadband connectivity to end users. Within many parts of the United States, the existence of high-capacity local networks does ensure broadband connectivity. In other places, however, it does not.

Undersea cable infrastructure is particularly well-suited for ensuring regional broadband connectivity in some of the more remote parts of the United States, with all the attendant demand- and supply-side benefits. On the demand side, these undersea cables support significant economic activity to global economy and information and enough bandwidth to use more complex applications available today without locking in a particular speed for the end user. Companies are more likely to locate where reliable and ample broadband infrastructure is in place. On the supply side, manufacturing and installation of undersea cable infrastructure can create and preserve U.S. jobs.

II. COMMENTS ON SPECIFIC QUESTIONS RAISED IN THE RFI

A. NTIA Question 1b: Purposes of the Grant Program

In NTIA Question 1b, the RFI seeks comment on whether applicants should be encouraged to address more than one purpose of the grant program.⁶ Tyco Telecom believes that, yes, they should be encouraged to do so. The BTOP program is intended to stimulate the demand for broadband, economic growth, and job creation while providing access to broadband service to unserved areas as well as to provide *improved* access to broadband in underserved areas.⁷ NTIA can best use finite grant funds by spurring projects that will have wide-reaching, long-term, sustainable effects. While the funds must be disbursed quickly, NTIA should take a

⁶ RFI, 74 Fed. Reg. at 10,717.

⁷ ARRA § 6001(b).

broad and long-term view of projects will best meet the goals of the ARRA. Investment in middle-mile, long-haul, and trunking infrastructure will serve consumers and business over a long period of time across a multiplicity of uses and transactions, while being sufficiently adaptable to respond to demand changes over time.

B. NTIA Question 2a: Role of the States

In NTIA Question 2a, the RFI seeks comment on how the grant program should consider State priorities in awarding grants.⁸ Tyco Telecom believes that States have a critical role to play in identifying broadband needs and priorities, but that NTIA itself also has an important role to play in many cases by ensuring that regional, and not just discrete state-by-state needs, are met—particularly with respect to middle-mile, long-haul, and trunking infrastructure. The ARRA encourages NTIA to consult with states (which Section 6001(c) defines to include the District of Columbia, territories and possessions) in awarding grants, and is required, to the extent practical, to award at least one grant to every state. The BTOP program, therefore, is designed to have a broad geographic reach, leaving no corner untouched by the benefits of the grant program.

NTIA should interpret “one per state”⁹ to include the District of Columbia and U.S. territories and possessions of the United States to ensure that broadband deployment touches on all geographic areas and populations in the United States. At the same time, the requirement of awarding “at least one” BTOP grant per state should not mean that infrastructure deployment that touches on several states should be disfavored. NTIA should refrain from disfavoring

⁸ *Id.*

⁹ Section 6001(h)(1). Unlike other sections of the ARRA, this provision only lists “State,” and does not go on to list territories, political subdivisions, and the like as in other provisions where such entities are expressly listed.

projects that cross jurisdictional boundaries, but instead should look at the value of such projects in terms of reach and expansion of high speed broadband access to the greatest population.

C. NTIA Question 3: Private Sector Eligibility

In NTIA Question 3, the RFI seeks comment on “[w]hat standard should NTIA apply to determine whether it is in the public interest that entities other than those described in Section 6001(e)(1)(A) and (B) should be eligible for grant awards.”¹⁰ Tyco Telecom believes that commercial, private-sector entities should be eligible for grants, and that such eligibility would serve the public interest. Private-sector participation is a necessary component for effective broadband build-out and will contribute to significant economic activity both on the demand side (with job creation and economic activity encouraged by the greater availability and affordability of broadband connectivity) and on the supply side (with job creation and economic activity associated with the applicant and its contractors and suppliers).

Congress intended the stimulus funds to be open to “as many entities as possible” including “any provider offering to construct last-mile, middle-mile, or long haul facilities,” so long as the entity is best able to meet the broadband needs of the area it proposes to serve and the objectives of the program.¹¹ To serve congressional objectives, NTIA should therefore interpret and implement Section 6001(e) of the ARRA to include private-sector eligibility for grants.¹²

¹⁰ RFI, 74 Fed. Reg. at 10,717-18.

¹¹ H. Conf. Rep. No. 111-16, at 774-776 (2009).

¹² Section 6001(e) of the ARRA states that “eligible applicants shall . . . be a State or political subdivision thereof, the District of Columbia, a territory of possession of the United States, an Indian tribe . . . or native Hawaiian organization,” a nonprofit or “any other entity, including a broadband service or infrastructure provider, that the Assistant Secretary finds by rule to be in the public interest. In establishing such rule, the Assistant Secretary shall to the extent practicable promote the purposes of this section in a technologically neutral manner.”

The success of the BTOP program will be measured by the immediate impact of broadband deployment projects on the economy as well as the long-term sustainability and growth that can result from improved access to broadband. So long as a proposed project would serve one or more of the express purposes of the BTOP program, any entity, including private commercial broadband infrastructure or service providers, either on their own or in partnership with other specifically listed entities, should be eligible to apply for a grant.

Tyco Telecom believes that private-sector eligibility for grants is consistent with the broad approach of the ARRA's broadband mapping initiative, which directs NTIA to establish an inventory map that includes broadband availability from both commercial and non-commercial providers.

Tyco Telecom believes that broad eligibility would encourage the greatest number of worthy projects that would serve the ARRA's objectives. Project- and applicant-specific concerns are better addressed through NTIA selection criteria (as discussed below) rather than through an absolute bar for eligibility, which would preclude NTIA even from considering worthy projects based on the identity of the proposing entity. Tyco Telecom also believes that by opening eligibility to commercial, private-sector entities, NTIA would increase the likelihood that projects will be able to leverage other sources of funding.

Tyco Telecom disagrees with those parties who have suggested publicly (at various roundtables and in comments to the news media) that prior receipt of relevant governmental authorizations or licenses—or indeed a license to provide broadband service in a particular areas—should serve as a condition precedent for submission of a grant application. Such proposals make inappropriate assumptions about licensing requirements for broadband-related projects. Moreover, even for projects that do require government authorizations or licenses, they

make inappropriate assumptions about project management and timing for licensing and authorization processes. By their very nature, unserved areas may not have providers already authorized to provide high speed broadband access in that area. NTIA should decline to make such over-broad assumptions. Finally, NTIA should consider whether or not the preexistence of governmental licenses or authorizations could suggest in some cases that the project for which grant funds are sought could have been accomplished even without the BTOP grant—a statutory bar to grant eligibility.

Consistent with Congress’s inclusive approach, Tyco Telecom urges NTIA to find that broadly-defined eligibility—including commercial, private-sector entities—would best serve the public interest. NTIA should therefore adopt a rule defining any commercial, private-sector entity as eligible for grant awards so long it proposes a project that would serve the purposes of the BTOP program. NTIA should adopt such a rule as soon as practicable in order to allow private-sector entities to develop proposals and prepare grant applications.

D. NTIA Question 4: Selection Criteria

In NTIA Question 4, the RFI seeks comment on which factors it should consider in establishing selection criteria for grant awards.¹³ Tyco Telecom recommends that NTIA look not only at the grant applicants themselves but at the ancillary economic activity they will generate. Specifically, NTIA should factor into its grant decisions the impact of such ancillary economic activity on job creation and economic growth.

At the application review stage, NTIA should give priority to grant applicants that can demonstrate their own expertise and experience as well as that of their contractors, service providers, and project partners. By closely examining both the applicants and these other

¹³ RFI, 74 Fed. Reg. at 10,718.

entities, NTIA would better serve the ARRA's goals of sustainability and timely and successful project completion after grant award.

With respect to Question 4g (Technologically Neutral Implementation) in particular,¹⁴ Tyco Telecom believes that NTIA should consider the quality and adaptability of any proposed technology, and be aware of how any technologies have fared over time. Undersea cables, for their part, are long-lived and upgradeable, meaning that even after initial deployment, they can be modified to provide substantial additional capacity.

E. NTIA Question 8b: Broadband Mapping

In NTIA Question 8b, the RFI seeks comment on “what specific information should the broadband map contain.”¹⁵ In NTIA Question 8c, the RFI seeks comment on “what level of geographic or other granularity should the broadband map provide information on broadband service.”¹⁶ Tyco Telecom believes that the broadband map should contain information about middle-mile, long-haul, and trunking infrastructure in order to assist NTIA in identifying infrastructure needs that could otherwise constrain broadband availability in the last mile. Tyco Telecom also believes that the broadband map should include U.S. territories and possessions as part of any comprehensive, nationwide map.

F. NTIA Question 11b: Reporting and Deobligation

In NTIA Question 11b, the RFI seeks comment on how NTIA should determine that performance is at an “insufficient level.” Tyco Telecom believes that in determining the

¹⁴ Question 4g asks whether “the fact that different technologies can provide different service characteristics, such as speed and use of dedicated or shared links, be considered given the statute’s direction that, to the extent practicable, the purposes of the statute should be promoted in a technologically neutral fashion.”

¹⁵ RFI, 74 Fed. Reg. at 10,718.

¹⁶ *Id.*

sufficiency and timeliness of performance, NTIA should consider regional and seasonal circumstances and risks of delay inherent in infrastructure installation projects. In particular, NTIA should consider “weather windows”—seasons during which infrastructure installation activities are most easily and safely conducted. For example, in Alaska, winter weather can greatly hinder installation activities with sea ice and storms.¹⁷ In the Caribbean and eastern Pacific Ocean, the respective hurricane seasons can hinder installation activities. Some of the geographic areas that lack broadband service today are unserved because of the cost and difficulty of building out in difficult terrain and harsh climates. The agencies must acknowledge this challenge and not disfavor applications that propose to serve populations in challenging geographic regions of the United States.

¹⁷ See Alaska Response at 3 (stating that “[t]he limited broadband structure in Alaska is the result of the compounded challenges imposed by great distances, demanding topography, and the general lack of basic infrastructure which is taken for granted elsewhere in the United States”).

CONCLUSION

To achieve the overarching purposes of the BTOP grant program—stimulation of demand for broadband, economic growth, and job creation by expanding and improving broadband access in the farthest reaches of the United States—NTIA should establish broad eligibility criteria to encourage a multiplicity of projects that could meet the ARRA’s goals. Most critically, it should determine that commercial, private-sector entities are eligible for grant funds, and it should encourage projects for middle-mile, long-haul, and trunking infrastructure—including undersea cables—the absence of which serves as a ceiling on broadband availability to U.S. consumers and businesses in more remote regions.

Respectfully submitted,



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