

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

Resolution T-17548 Approval of Funding
for the Grant Application of Inyo Networks,
Inc. (U-7159C) from the California
Advanced Services Fund (CASF) for the
Digital 299 Middle-Mile Broadband Project
Which Serves CASF "Priority Areas."

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**Comments of Inyo Networks, Inc.
On Draft Resolution T-17548**

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Inyo Networks, Inc. would like to thank the Commission and the Broadband, Video and Market Branch of the Communications Division (CD) for the consideration they have given to the Application by Inyo Networks, Inc., for the Digital 299 Broadband Project. CD rightly addresses the priority needs of the area where this project is targeted and we appreciate the effort and thoughtfulness they have put into the matter as presented in Draft Resolution T-17548¹.

In 2014, Inyo Networks was asked by the leadership of the north coast counties of Trinity and Humboldt, along with the area's legislators, to help in their concerted effort to reset economic development for the region. Key to this effort is establishing a dependable communications infrastructure to promote efficiency, assure public safety and grow a digital economy. The digital economy initiative is not a vague ambition predicated on a "build it and they will come" philosophy. Since Inyo has been engaged, we have worked with local agencies to bring more elements into play, including interagency work on a rural data center in Trinity County and a cable landing in Humboldt Bay². Both initiatives bring more investment into the region and the state. The Digital 299 middle-mile network is necessary precondition that enables these and related broadband initiatives to materialize. Without it, they are infeasible.

Inyo has learned a great deal about the broadband needs of rural California since building networks on remote tribal lands and in developing Digital 395. We've seen first-hand the implications that poor infrastructure means for California's rural areas and how these investments, along with collaborative planning and good policy, can make a difference. In the Eastern Sierra, we've seen improved public safety, improved last-mile service delivery by incumbents and new entrants, and revitalized community development.³ We've learned from these outcomes and have consciously applied them on the Digital 299 project.

¹ California Public Utilities Commission, Communications Division, Broadband, Video and Market Branch, "Resolution T17548: Approval of funding for the grant application of Inyo Networks, Inc. (U-7159C) from the California Advanced Services Fund (CASF) in the amount of \$41,780,141 for the Digital 299 middle-mile broadband project, which will serve CASF 'priority areas'." December 23, 2016.

² These projects are well underway, and heavily depend on the Digital 299 middle-mile facilities for viability. On January 26, 2017 the Board of Directors of the Humboldt Bay Development Association entered into an exclusive agreement with Inyo Networks to undertake the development of the Samoa Cable Landing. Similarly, numerous meetings have taken place with local, federal and state agencies relating to the data center.

³ Ort, Michael. 2015. "Digital 395 Project Completion Report". Submitted to the Communications Division, CPUC, September 2015.

Over the past several years, since the Digital 299 application was submitted, the region has suffered numerous calamities, including persistent communications outages,^{4 5 6} extensive forest fires⁷, and (just recently) highway closures that have isolated whole communities, disrupted commerce and shut down transportation.⁸ In this area, public safety events can be severe and as we worked with the region on our application, it became increasingly clear to us that we were participating in a major public policy undertaking, and not a narrow commercial endeavor.

We ask the Commission to view the Digital 299 Application in the context of this greater public policy undertaking when considering these Comments.

Summary

These Comments seek the following changes to Draft Resolution T-17548:

- (1) Set the CASF matching funds at 70% for the middle-mile portion of the project, while maintaining the 60% match for the last-mile component in Lewiston. This is an increase of \$6,720,821 over the \$41,780,141 initially recommended.
- (2) Implement an alternative approach to the bonding requirement as stipulated in D.12.02.015 so that Inyo can proceed while mitigating the State's risks.
- (3) With 70 miles of project right of way in federal jurisdiction, modify permitting guidelines for an encompassing joint CEQA and NEPA approach.

I. The Commission should approve a CASF funding match of 70% for the middle-mile portion of the project.

The total budget for the Digital 299 Middle-Mile Broadband Project is \$69,633,568. Of this, \$2,425,359 is for the last-mile network in Lewiston with the remaining \$67,208,209 budgeted for the middle-mile route. CD and Inyo are in accord on the 60% match assigned to the Lewiston last-mile portion of the project and agree on the \$1,455,215 amount in matching funds. Inyo does not agree, however, with the CD's recommendation that the

⁴ Espinoza, Martin, and Glenda Anderson. 2015. "Vandalism Blamed for Massive Phone Internet Outage on North Coast". The Press Democrat. September 3, 2015.

⁵ Houston, Will. 2015. "ATT Vows to Upgrade North Coast Network After Outages." Eureka Times-Standard. December 16, 2015.

⁶ Ferrara, John Ross. People are Reporting AT&T Internet Outages Around Humboldt County." Lost Coast Outpost. December 18, 2016.

⁷ Housaman, Lindsay. 2015. "Dozens of Wild Fires Burning Across the North Coast." KRCR News. July 30, 2015.

⁸ Arthur, Damon. 2016. "Truckers, Motorists Deal with Highway 299 Closure", Record Searchlight. December 14, 2016.

remaining middle-mile portion of the project should be granted a 60% match. This decision was based on the service levels in adjacent areas, and resulted in a recommend award of \$40,324,926. In contrast, Inyo contends that the middle-mile portion of the project qualifies for a 70% match, which is why it applied for \$47,045,746. The difference is \$6,720,820.

CD has done a very good job delineating the background of the project. In its supporting documentation CD has correctly outlined reasons why the region needs the project in general. But the discussion presupposes there is some semblance of an adequate middle-mile network available and that it is somehow responsible for the area's last-mile shortcomings. We believe CD's funding recommendation for the middle-mile should consider other relevant facts, as presented below.

A. The middle-mile is not “underserved” – it doesn't exist.

Most CASF applications focus on last-mile. In some instances, a community's isolation may require a middle-mile “umbilical” to connect to an Internet peering point. We agree that in these types of projects, where the primary – and sole purpose – for the middle-mile is to support the last-mile network, the same match would apply. “But for” the last-mile, the middle-mile would not be constructed; and “but for” the middle-mile, the last-mile would not be viable. The two are inseparable and essentially the same project.

This is not the case with the Digital 299 Broadband Project, which is dominated by the middle-mile. As CD states in the Draft Resolution, “96.5% of the total budget of this project is for middle-mile funding⁹.” The middle-mile is clearly not an “afterthought” or an appendage to the last-mile services proposed in Lewiston. It has always been the principal driver for the undertaking and has a completely different set of objectives. Here is why:

- 1) On the Highway 299 corridor, and especially in the Trinity area, existing broadband providers feed into the region from the east and west edges of the proposed service area to serve their last-mile customers. From what we can tell, these are exclusively wireless systems that use a mixture of implementations (microwave, 802.11, unlicensed spectrum) and equipment vintages that support varying levels of bandwidth. This is not to be critical of their effort, however, the level of service varies widely by WISP. Collectively, they have not created a regional network designed to support reliable, carrier-class, high-bandwidth transport through the corridor.
- 2) The WISPs have not established end-to-end interconnection agreements supported by consistent technology standards and formal interfaces. Again, this is not to be critical of their efforts. In some cases, they may share facilities or acquire backhaul

⁹ CPUC. Op Cit. p. 11, Fn. 17

from each other under informal cooperative agreements, but the creation of a regional common carrier transport network was never their principle intent in these arrangements. Their goals have been to support their last-mile customers.

- 3) Wireless transport facilities can be impacted by weather. In Trinity access to antennae sites have proven to present maintenance challenges. There has been difficulty obtaining tower sites on federal lands, and many of the existing sites are based on informal arrangements not supported by rights-of-way, long-term leases or indefeasible rights of use. Immediate last-mile service goals are partially met, but these are not the arrangements upon which to base a regional, carrier-grade communication system.

B. The proposed middle-mile has broader public policy benefits that will not be met unless the project is fully funded.

Inyo has worked extensively with regional leadership to support broader public policy objectives:

- 1) The region has some of the most challenging public school broadband locations which have persisted on the K-12 HSN BIIG bid list since the project was initiated. The Digital 299 middle-mile network will provide a comprehensive solution to some 35 schools and 5 libraries. Gigabit speeds will be available to meet standardized testing objectives and to enable Internet-based curricula. Presently, no middle-mile facilities exist to support this requirement. Inyo is collaborating with CENIC and Office of Public Instruction to remedy this.
- 2) California State University, Humboldt operates a Marine Lab in Trinidad, about 13 miles north of the campus. Connectivity to this facility is very inadequate and undependable, presenting a challenge to the school's Chief Information Officer (CIO). Presently, no middle-mile facilities exist to support this requirement. Inyo is collaborating with the University to remedy the problem and integrate the lab with the rest of the campus and university system.
- 3) CENIC wants to connect the core of its statewide network between the North Sacramento Valley and the north coast. This will ensure network redundancy to California State University, Humboldt and help CENIC stabilize a statewide core network. Fiber on the proposed middle-mile network will enable this. Presently, no middle-mile facilities exist to support this requirement. Inyo is collaborating with CENIC to bring a permanent physical connection.
- 4) Discussions with FirstNet and the USDA point to difficulties for serving this region without having a dependable, resilient middle-mile network. While most of FirstNet focuses on wireless technology, the absence of backhaul, will be a substantial barrier to statewide deployment, if adopted in California. California's

unique terrain challenges are perhaps most evident along the Highway 299 corridor. Without the middle-mile, there can be no comprehensive FirstNet solution for this area. Inyo has discussed regional access with FirstNet.

- 5) Cellular coverage along the Highway 299 corridor is mainly absent and undependable. This presents challenges to the traveling public, when driving the highway, and also to Caltrans and public safety agencies who support to the area. There is no middle-mile in place to fill the gaps in service. Inyo is collaborating with a number of national service providers to upgrade coverage in the area.

C. Potential improvements in existing service provider offerings would be at risk if the Digital 299 Middle-Mile is not fully funded.

The backhaul speeds available on the WISP networks along the Highway 299 corridor currently limits the last-mile service to an “underserved” rating. However, when the Digital 299 middle-mile network delivers more cost-effective, high-capacity services throughout the region, then significantly improved last-mile service levels would evolve. This has been our experience on the Digital 395 project where many wireless providers were able to elevate their service offerings to “served” levels when cost-effective backhaul became available. More products became available to end-users and the cost per megabit significantly declined.

Frontier is collaborating with Inyo to improve transport between Willow Creek and Weaverville to support the CAF2-enabled improvements throughout the region. These facilities will substantially increase last-mile bandwidth for Frontier. It is important to realize these upgrades are time-sensitive in meeting the FCC’s timetables under CAF2. Delays resulting from the need to seek additional funding will put this in jeopardy.

D. Opportunities for raising additional matching funds have become limited by delays in the CASF application review process.

First efforts to create broadband solutions for the Highway 299 corridor date from over a decade ago. When the Digital 299 project kicked off in October, 2014, CASF applications were in suspension pending ILEC right-of-first-refusal reviews. The application was filed August 10, 2015. In the five-hundred-plus days between when it was filed and when the recommendations were released on December 23, a number of funding and cost-saving opportunities have come and gone. Potential cost savings from coordinating with extensive Caltrans realignments were missed, federal programs have been changed, and coordination windows with the Office of Public Instructions closed the chance for funding a regional solution.

Inyo Networks and representatives of the region visited every agency in Washington DC that had relevant broadband programs over the past decade: the Economic Development

Administration (EDA) and National Telecommunications and Information Administration (NTIA), the Federal Communications Commission (FCC), FirstNet, and several agencies in the US Department of Agriculture (USDA). But the lapsed time lent a degree of ambiguity and, for some, signaled difficulties. On July 7, 2016, when CD notified Inyo that recommendations would go forward in support, that same day is when the Farm Bill Broadband Infrastructure Loan Program closed applications. There was much support for the initiative and representatives of EDA and USDA arrived for site visits. Now, with the new administration, future broadband policies are unclear.

Several private sector opportunities could not be pursued in 2016 due to the uncertainty of the CASF grant: several international cable projects, valued at more than half-a-billion dollars, contracted for landings in Oregon and Washington. While “nothing is for sure”, we know that poor timing impacted these opportunities and they did not warrant consideration, despite the north coast’s geographical attractiveness.

Inyo has worked tirelessly to build a coalition of interested parties for Digital 299. In the process, Inyo had closed the presumed \$21 million funding gap set by a 70% match. On December 23, when Resolution T-17548 was released, we became aware of the 60% recommendation, based on the logic of the underserved coverage in adjacent last-mile areas. This means we would now be significantly short in funding the gap and seeking an additional \$6.7 million in funds will take time.

Finally, as the funding gap widens, the ability to fill it is more challenging and time consuming. The subject \$6.7 million is a good deal of money; and \$47 million is unquestionably a lot of money. These subsidies are in place to achieve public policy goals. A “private investor” would not be inclined to fund rural broadband infrastructure without an adequate subsidy or returns. The region is not likely to offer significant returns. Based on our studies of similar networks here in California and elsewhere, the commercial value of these networks is well below the money it takes to build them. Ten to fifteen percent of the book value seems to be the norm for rural middle-mile networks. The commercial value of Digital 299 is likely to be less than \$8 million, which is considerably less than what Inyo will be required to raise for the match. Inyo has closed the \$21 million funding gap, but it is highly unlikely to find private sources of funds in a reasonable time to close the additional \$6.7 million now required if the match is set at 60%.

To achieve funding viability, we respectfully ask the Commission to properly increase the middle-mile match by \$6.7 million, to 70%, in recognition of the middle-mile issues in the proposed funded project area and to achieve public policy goals.

II. The Commission should provide relief on an untenable bonding requirement

In Draft Resolution T-17548 Section V, Section D, CD rightly notes that Inyo has sought matching funds from private, state and federal partners to complete the funding portfolio for the project. However, in its statement in the Draft Resolution, CD suggests that Inyo does not meet the qualifying “budget-based” criteria for for a bond waiver. This is vague, since capital budgets, even in the largest carriers, are ultimately funded by a mixture of recurring revenues and investments from capital markets. As a former member of the budgeting staff at Pacific Telephone and Pacific Bell in the 1980s, budget fluctuations were commonly based on changing forecasts in revenue. We are not clear why this element was introduced to the CASF program, since it clearly seems to relate mainly to the well-capitalized ILECs. With Inyo, much of the funding for the Digital 299 project will come from aid-to-construction commitments from dark fiber leases and a federal loan. We believe these commitments are, effectively, no different from the aforementioned “budget-based” funds and are reasonable assurances for the project’s success.

The scale of the Digital 299 Broadband Project makes it exceedingly difficult for Inyo – or any other smaller provider – to secure a performance bond in the amount specified. For that matter our surety informs us that the amount required to be bonded is the full amount of the project’s construction budget. They cannot partition it otherwise. While our demonstrated job performance history of successfully completed contracts meets the underwriter’s requirements, other factors do not. This has been made clear previously to staff.

Inyo respectfully requests that the Commission waive the bonding requirement and allowing the mechanics of reimbursement for completed work assure project completion. With Digital 395, a proven Inyo project, routine project reports were filed, and final payment was withheld until all conditions were met. That is a tested model where Inyo performed and the same will be done in this instance.

We respectfully request the Commission to recognize the viable sources of the project matching funds and waive the bonding requirement on the project.

III. The Commission should encourage CD to approach CEQA in conjunction with NEPA in a common document.

As stated in the resolution, “All CASF grants are subject to California Environmental Quality Act (CEQA) requirements unless the project is statutorily or categorically exempt pursuant to CEQA guidelines”. It is not expected this project will meet guidelines for exemption, thus a CEQA document and subsequent review will be required analyzing potential direct and indirect impacts to environmental resources from construction and operations of the proposed Digital 299 Project.

Ordering Paragraph 5 in Draft Resolution T-17548 requires that Inyo networks develop a Proponent's Environmental Assessment (PEA), which will then be reviewed by the Environmental Division of the CPUC. Typically, when a PEA is submitted, a third party (usually an outside consultant) representing the CPUC will review the PEA, then write a corresponding CEQA document and findings (in this case we anticipate a Mitigated Negative Declaration). The PEA only covers CEQA review and approval requirements and typically does not cover National Environmental Policy Act (NEPA) requirements.

The Ordering Paragraph is consistent with other CASF projects to which Inyo has been party. In most cases, the scale of CASF project work is limited to state jurisdiction and a handful of impacted agencies. The proposed Digital 299 middle-mile route is different. It will cross slightly more than 70 miles of federal lands (about 40% of the middle-mile project) and involve more than two-dozen federal, state and local agencies. The federal agencies involved include two National Forests (two separate USFS offices), the Bureau of Land Management (BLM), the US Fish and Wildlife Service, the Army Corps of Engineers, and the Whiskeytown National Recreation Area, which falls under the jurisdiction of the National Park Service. Each federal agency has their sole discretion to determine alternatives and select alignments in granting rights-of-way or special use permits. Crossing federal lands under the proposed project will trigger NEPA documentation, permitting and approval requirements. Rather than work with each agency independently, the process is most efficient when the project is vetted as a whole and all agencies cooperate in a common undertaking. This process contemplates state processes as well, especially CEQA, and provides regulations to perform them together.

Inyo highly recommends streamlining the permitting procedures by issuing a joint CEQA/NEPA document in the format of an "Initial Study/Environmental Assessment." It is expected the project will qualify for a "Mitigated Negative Declaration" (MND) under CEQA and a "Finding of No Significant Impact" (FONSI) under NEPA. Benefits of combining the two documents include (1) a uniform document for all permitting agencies, (2) a significantly reduced approval timeframe, (3) a single, simultaneous comment cycle for both CEQA and NEPA, (4) effective use of permitting resources on the project and in the agencies, and (5) consistency and transparency in project mitigation requirements.

The joint document would cover all CEQA and NEPA requirements and eliminate the need for duplicate work. Rather than reviewing the PEA, the Energy Division (or their designated consultant) would review and approve the draft Joint Document. In this process, we are asking the Commission staff to work with the lead federal agency (most like the USFS) in a cooperative approach.

We respectfully ask the Commission to direct the Energy Division to execute CEQA/NEPA joint document approach and collaborate with Inyo Networks, as project proponent, on the specific processes that will best meet the Commission's environmental goals.

IV. A Note on Cell Towers in the Project Scope of Work

On several occasions we have been asked as to the purpose and location of the cellular sites proposed for the project. Inyo would like to take the opportunity to provide clarity on this.

Cellular coverage along the Highway 299 route is intermittent, and where it does exist, it is generally of low quality. Inyo's intention to construct cell sites along this corridor is to address a long-standing concern by the area's leadership, residents, first responders, as well as state and federal agencies.

While undertaking project due diligence, we met with all permitting agencies to obtain a better understanding of the region's needs and what issues may be involved for permits. Cal Fire indicated that they have been constrained by poor mobile communications for command and control during the fire season, and further indicated they typically lose several days just reaching out to isolated residents to provide evacuation orders. The lost time allowed fires to grow, but lives were likely saved from the effort. Elsewhere this is done more efficiently via cell systems. Similar safety-related comments were made by the Caltrans Directors and Humboldt County sheriff. The Redwood Coast Connect Consortium, California State University and County Supervisors, all of whom shared concerns and related accounts of incidents resulting from the poor coverage. Finally, the National Communications Site Manager for the USFS asked that we include "all" the anchor and equipment sites be identified in the one NEPA document and special use permit. In short, this is a public safety consideration that needs to be addressed in a timely manner.

Inyo's discussions with several prominent cellular providers indicate their eagerness to cover the area, but also expressed concern over the availability of backhaul and high deployment costs coupled with a small market. The ability to lease antenna space on the towers would eliminate a significant barrier-to-entry and hasten the coverage. The existence of the Digital 299 fiber cable along the roadway would fill in significant coverage gaps that exist today due to the intermittent access to backhaul, usually from line-of-site microwave. Revenues associated with the towers would contribute to long-term network sustainability and make up for the 725 households lost to CAF2 deployment plans.

Inyo does not intend to provide wireless service in the area. Support for cellular providers, available on a non-discriminatory basis, will be collocation, power and backhaul connectivity. No CASF funds will be used for transmission equipment to residential or commercial end users from these towers. The goal is solely aimed at establishing cellular coverage throughout the area by third party, nationwide cellular providers.

The specific location of the towers has not been determined, although the general areas targeted will be at nodes and along coverage gaps on Highway 299. We are aware of significant service problems west of Whiskeytown, between Weaverville and Willow Creek, and west of Willow Creek to the intersection of Highway 101. We estimate 12 to 15 conventional sites or, if the situation allows a series of microcells, depending on the rugged

terrain. Final locations will be determined by our engineering staff in collaboration with feedback from the local communities and interested cellular providers.

V. Conclusion

Digital 299 is an important public policy initiative that incumbent service providers and previous projects have failed to resolve. Inyo Networks has collaborated with local and state leadership to create a lasting, comprehensive solution. While the costs for this project is high, it will address a wide set of regional problems with payoffs for many decades to come.

For the reasons set forth above, Resolution T-17548 should approve \$48,500,961 in CASF funds to reflect a 70% a match on the middle-mile portion of the project. The Commission should allow a viable alternative to the surety bond requirement and adopt an integrated approach to environmental permitting process. All these factors will together allow the project to proceed in the most expeditious way.

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Respectfully submitted,

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