

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

**Communications Division  
Carrier Oversight and Programs Branch**

**RESOLUTION T- 17352  
December 15, 2011**

**R E S O L U T I O N**

**Resolution T-17352 Approval of Additional Funding for the IP Networks  
(U-6362-C) Highway 36 Humboldt-Trinity Counties Project from the  
California Advanced Services Fund (CASF) Amounting to \$1,540,258.40**

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**Summary**

This Resolution adopts additional funding of \$1,540,258.40 from the California Advanced Services Fund (CASF) for IP Networks Highway 36 Humboldt-Trinity Counties Project. The amount granted represents 40% of the cost overruns deemed exogenous by the Commission.

**Background**

On December 20, 2007, the Commission approved Decision (D.) 07-12-054 which established the two-year CASF program to provide matching funds of up to 40% of the total project costs for the deployment of broadband infrastructure in unserved and underserved areas in California.<sup>1</sup> In Resolution T-17143, approved on June 12, 2008, the Commission adopted the application requirements, scoring criteria for the award of funds, and a prescribed timeline for other filings and notifications including a projected Commission meeting date for final approval of award(s).

On November 20, 2009, the Commission approved Resolution T-17227, authorizing a CASF grant of \$4,212,982 for the IP Networks Highway 36 Humboldt-Trinity Counties Project (Project), amounting to 40% of the then-estimated costs. By leveraging the PG&E network within the Redwood Coast Connect project region, this CASF-funded project will bring fiber connectivity from the Cottonwood sub-station across approximately 121 miles into downtown Eureka.

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<sup>1</sup> An unserved area is defined as an area that is not served by any form of facilities-based broadband, or where internet connectivity is available only through dial-up service or satellite. An underserved area is defined as an area in which broadband is available but no facilities-based provider offers service at speeds of at least 3 mbps download and 1 mbps upload.

When IP Networks submitted its application on July 17, 2009, the estimated total cost for this project was \$10,332,455. Subsequently, in a letter dated June 17, 2011 to the Director of Communications Division (CD), IP Networks notified the Commission that total Project costs increased to \$14,880,375 and requested \$1,739,168 in additional matching funds from the CASF program. In subsequent discussions with CD staff, IP Networks revised the total Project cost to \$14,726,480 and thus reduced its request to \$1,677,610.

## **Discussion**

This Resolution adopts CD's recommended additional CASF funding award of \$1,540,258.40 for the Project. This award represents 40% of the additional Project costs CD deems beyond IP Networks' control. In reaching this recommendation, CD staff notes that prior Commission rulings (i.e., D.07-12-054 and Resolution T-17143) are silent on discussing the process for addressing CASF awardees' cost overruns and/or requests for additional funding. In light of this lack of discussion, CD staff examined each itemized cost increase in IP Networks' request to determine if the cost overruns were beyond IP Networks' control. CD believes such exogenous factors may be a reasonable basis for granting additional CASF funding. As such, CD recommends reimbursing IP Networks for cost increases attributed to higher requirements that the United States Forest Service (USFS) and/or PG&E, the owner of necessary Project assets, placed upon the Project. However, CD does not recommend reimbursing IP Networks for cost increases attributed to project delays, underestimation of project timelines/cost elements, and other non- exogenous factors.

In employing this approach, CD staff notes that, pursuant to California Public Utilities (P.U.) Code section 314 and D.07-12-054, the Commission has the right to audit CASF-funded projects to ensure that CASF funds are spent in compliance with Commission authorizations and directives. As such, CASF grantees which submit requests for additional funding to cover cost overruns on current CASF-funded projects should anticipate increased scrutiny, including but not limited to an audit.

### Exogenous Cost Increases

1. \$1,642,841 in additional costs from revised PG&E line clearance practices

When it applied for CASF funding in July 2009, IP Networks and PG&E both anticipated that the PG&E towers and other assets near the Project would be available for electrical power outages on a daily basis. Subsequently, PG&E advised IP Networks on May 17, 2011 that it would only allow an outage on one section of line at a time, and in a particular sequence. Two significant events drove this decision. First,

PG&E discovered that it would be impossible to shut down the power line at both ends due to factors such as the need to serve power to the community of Bridgeville and that back-up generators could not handle the area load. Second, PG&E's Humboldt transmission substation bank required replacement, leading to the submission of competing electrical clearances on the line.

Further, PG&E required scheduling outages a minimum of five weeks in advance. On August 24, 2011, PG&E subsequently informed IP Networks that it would not receive clearance for Segment 2 of the Project. This resulted in additional mobilization and demobilization costs, and tighter schedules in certain areas requiring the use of more work crews for longer hours, as well as the additional use of helicopters. As a result, the Project incurred the following cost increases:

- \$759,390 because IP Networks planned for one clearance for Segment 3 of the Project, but instead must build in six separate clearances for much shorter periods, requiring higher mobilization and demobilization costs.
  - \$683,451 because IP Networks will not receive any clearance for Segment 2. Thus the line will be "hot," forcing IP Networks to use bucket trucks and all-terrain vehicles (ATVs) instead of helicopters, slowing production. Originally scoped at 1.5 crews for 4 weeks at 50 hours per week, IP Networks estimates it now will take 1 crew for 8 weeks at 60 hours per week plus another 0.5 crews for 3 weeks at 60 hours per week to complete the work.
  - \$200,000 in PG&E line clearance and evaluation support. This amount includes costs of additional labor hours due to internal PG&E discussion regarding clearance negotiation, additional labor hours due to extra days added to project and additional PG&E hours required for longer days worked.
2. \$1,707,805 in additional costs due to PG&E requirements beyond Commission General Order (GO) 95 standards

When it applied for CASF funding in July 2009, both IP Networks and PG&E expected to build the project according to GO 95 standards, using all dielectric self-supporting (ADSS) cables under-build design for the entire line. In October 2010, PG&E, the system owner, notified IP Networks that it would be required to build above GO 95 standards. This change required IP Networks to move from an ADSS under-build design – which PG&E deemed acceptable in 2008 -- to an optical ground wire (OPGW) over-build design for the following reasons that only came to light during the detailed engineering process:

- Fiber galloping issues due to Extra Heavy High-wind requirements could not be overcome with an ADSS design;<sup>2</sup>
- Ground clearance issues, identified after Sargent & Lundy, IP Networks' contractor, conducted Light Detection and Ranging (LiDAR) imaging, revealed steep side slopes on some segments of the line that could not be properly cleared with an ADSS design; and
- PG&E standard changes requiring rural ground clearances greater than GO 95 standards.

Together, these factors necessitated a move to OPGW in segment 3 of the line and resulted in considerable cost increases for the Project. IP Networks would need to construct an OPGW cable over-build for the central section of the Project, nearly half the line. This also requires the installation of more peaks on top of structures.<sup>3</sup> As a result, the Project incurred the following construction and materials cost increases:

- \$795,841 additional construction costs to add peaks to 131 structures to accommodate OPGW overhead construction uses. Each peak requires the labor of 6 people for 4 hours to prepare and install.
  - \$393,000 in additional material costs for adding peaks to the above mentioned 131 structures. Each peak costs approximately \$3,000 each to build and ship.
  - \$303,756 in additional mobilization costs.
  - \$139,308 in additional materials costs for 60 miles of OPGW fiber instead of ADSS.
  - \$75,900 in additional engineering costs, comprising roughly 550 hours.
3. \$500,000 in additional costs to bring forest roads (17 in total) and staging areas to conditions "above original state"

IP Networks' original plan was to deliver materials via helicopter. However, this plan was not feasible, as the dimensions of the right of way were not sufficient to allow the use of the size helicopter that would be required to bring in the large fiber reels and

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<sup>2</sup> Fiber galloping can occur on any cable strung between two towers. The phenomenon is principally caused by high winds. The force of the wind can cause the cable to bounce up and down due to the sag of the cable between the towers. This "galloping" of the cable can be a concern on long spans of underbuild fiber where there is considerable sag. Severe galloping may cause the cable to impact the high voltage electric wires on the towers. By moving the cable to the top position, greater clearance from the electrical wires is achieved and a lower sag coefficient is used, further mitigating galloping concerns.

<sup>3</sup> Peaks are used to install OPGW fiber optic cable to steel lattice towers. A steel assembly is fabricated and installed on top of the tower to create a "Peak" above the electrical wires and provide the necessary clearance for fiber installation.

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other materials. As a consequence, IP Networks decided to truck in the large reels utilizing 17 USFS roads. However, to implement this plan, the USFS required IP Networks to repair any roads within the national forests to beyond original condition.

Non-Exogenous Cost Increases

IP Networks also submitted \$343,380 in cost increases broken down as follows:

- \$34,600 to re-engineer structures due to gaps in construction documentation;
- \$121,000 for additional PG&E support (not related to the work beyond GO 95 standards);
- \$161,000 to move an additional seven distribution lines;
- \$15,000 in additional land right acquisition costs; and
- \$11,780 to engineer new routing for approximately 19 distribution lines.

After review, CD staff determined that these cost increases resulted from planning and estimation changes that were not caused by additional requirements from another entity. As such, CD staff recommends that the Commission not use CASF funds to reimburse IP Networks for cost overruns.

Community Support

As part of its application for additional funds, the following officials and organizations submitted letters in support of IP Networks request:

- The Greater Eureka Chamber of Commerce
- Sen. Noreen Evans
- Congressman Mike Thompson
- Humboldt County Board of Supervisors
- Redwood Region Economic Development Commission
- Trinity County Board of Supervisors
- California Center for Rural Policy at Humboldt State University
- Assemblyman Wesley Chesbro
- Rollin Richmond, President of Humboldt State University

Compliance Requirements

IP Networks should continue to comply with all guidelines, requirements, and conditions associated with the granting of CASF funds as specified in Resolutions T-17143 and T-17227 such as compliance with the California Environmental Quality Act (CEQA) and the submission of FCC Form 477, among others.

## **Payments to CASF Recipients**

Submission of invoices from and payments to IP Networks shall be made in accordance with Section IX of Appendix A of Resolution T-17143 and according to the guidelines and supporting documentation required in Resolution T-17143 and under Public Utilities Code §270.

## **Conclusion**

The Commission finds it reasonable to approve CASF grantee applications for additional CASF funding to cover cost increases in CASF-funded projects, so long as those cost increases result from factors beyond the recipient's control. As such, the Commission finds the CD's recommendation to fund the IP Networks' request at \$1,540,258.40 reasonable and consistent with Commission orders and, therefore, adopts such recommendation.

## **Comments on Draft Resolution**

In compliance with PU Code § 311(g), a notice letter was emailed on November 15, 2011, informing all parties on the service list of R.06-06-028 of the availability of the draft of this Resolution for public comments at the Commission's website <http://www.cpuc.ca.gov/static/documents/index.htm>. This letter also informed parties that the final conformed Resolution adopted by the Commission will be posted and will be available at this same website.

The Commission received no public comments on this Resolution.

## **Findings**

1. The Commission established the California Advanced Services Fund (CASF) in Decision (D.) 07-12-054 as a two-year program that will provide matching funds of up to 40% of the total project costs for the deployment of broadband infrastructure in unserved and underserved areas in California.
2. The Commission approved Resolution T-17227 on November 20, 2009, providing \$4,212,982 in matching CASF funds to IP Networks for the Highway 36 Humboldt-Trinity Counties Project (Project), amounting to 40% of the estimated costs.
3. IP Networks notified the Commission in a letter dated June 17, 2011 that total Project costs increased to \$14,880,375. Thus, IP Networks requested \$1,739,168 in additional CASF matching funds. In subsequent discussions with

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Communications Division (CD) staff, IP Networks revised the total Project cost to \$14,726,480 and thus reduced its request to \$1,677,610.

4. After reviewing the request, CD determined that \$343,380 in cost increases were not attributable to factors beyond IP Networks' control.
5. CD determined that \$1,540,258.40 in cost increases were attributable to factors beyond the control of IP Networks.
6. Based on CD's evaluation, the Commission should approve IP Networks request for additional CASF funding in the amount of \$1,540,258 to cover cost overruns deemed beyond IP Networks' control.
7. IP Networks should continue to comply with all guidelines, requirements, and conditions associated with the granting of CASF funds as specified in Resolutions T-17143 and T-17227, such as compliance with the California Environmental Quality Act (CEQA) and the submission of FCC Form 477, among others.
8. The Commission notes the level of community support the Highway 36 Humboldt-Trinity Counties Project received from elected officials, community organizations and anchor instructions, reflecting its importance to the region.
9. The Commission finds it reasonable to approve CASF grantee applications for additional CASF funding to cover cost increases in CASF-funded projects, so long as those cost increases result from factors beyond the recipient's control.
10. The Commission finds the CD's recommendation to fund the IP Networks' request at \$1,540,258.40 reasonable and consistent with Commission orders and, therefore, adopts such recommendation.
11. The Commission received no public comments on this Resolution.

**THEREFORE, IT IS ORDERED that:**

1. The Commission shall award additional funding of \$1,540,258.40 from the California Advanced Services Fund to IP Networks for cost overruns related to the Highway 36 Humboldt-Trinity Counties Project as described in the Discussion section and summarized in Appendix A of this Resolution.
2. The program fund payment of \$1,540,258.40 for this project shall be paid out of the CASF fund in accordance with the guidelines adopted in Resolution T-17143.

