Beaver Creek Cooperative Telephone Company
FIVE YEAR SERVICE QUALITY IMPROVEMENT PLAN

OVERVIEW

Beaver Creek Cooperative Telephone Company ("Beaver Creek"), as an Eligible Telecommunications Carrier (ETC), currently provides Universal Service supported services to one exchange, for which there is one (1) wire center.

Consistent with Commission requirements, this Service Quality Improvement Plan addresses only Beaver Creek's regulated eligible telecommunications carrier operations.[1] A detailed description of the Company's plans for the provision of the supported services in the five-year period starting with January 2015 is provided herein. In addition to the five-year period, Beaver Creek is also providing a brief description and cost estimate for 2014 projects that are currently underway.

As reported on the USAC website (as of June 17, 2014) for calendar year 2013 Beaver Creek received a total of $1,080,192 in USF support funds. The breakdown of the funding for 2013 is as follows:

- $175,962 High Cost Loop Support,
- $ 28,836 Local Switching Support
- $253,302 Connect America Fund-Intercarrier Compensation Support
- $622,092 Interstate Common Line Support

During calendar year 2014, Beaver Creek has received a total of $274,136 (as of June 17, 2014) in USF support funds. The breakdown of the funding for 2014 is as follows:

- $ 10,188 High Cost Loop Support
- $130,972 Connect America Fund-Intercarrier Compensation Support
- $132,976 Interstate Common Line Support

All funds are used to: 1) maintain, upgrade and improve the Company's network, and 2) to cover its operating expenses and debt commitments as necessary to permit Beaver Creek to offer a high level of service for both voice and broadband throughout its service area. The federal support payments above represent approximately 12% of the Company's 2013 revenues and operating cash flow.

IMPROVEMENT PLANS BY YEAR (2015-2019 inclusive)

Summary descriptions in accordance Part 54.202(a)(1)(ii) and Part 54.313(a)(1) by year and by wire center and present network improvements planned for the next five years are explained in the paragraphs below. Detailed expenditures on a wire center basis are contained in the attached Excel workbook. Area and population estimates impacted by the improvements are identified in the workbook. Cost estimates are broken out between voice and broadband services.

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[1]Per 47 C.F.R. § 54.314, federal USF support, "will be used only for the provision, maintenance, and upgrading of facilities and services for which the support is intended." If investments or expenses are for service areas larger than the supported service areas, then allocations of the expenditures are required.

- Network improvement expenditures identify the cost to provide those services supported by the universal service funding mechanisms. When a project involves expenditures for both regulated and non-regulated services, the non-regulated investment costs have been removed. The Company estimates non-regulated costs using the appropriate allocation rules. Details of those costs are retained by the Company and available for inspection.
- Costs are reported only for those service areas in which the Company is authorized to receive USF funding. Costs incurred outside the authorized area, if any, are excluded.

Due to the current uncertainty of the amounts of support funds the Company may receive in future years, Beaver Creek advises the Commission that the deployment of specific network improvement projects may be modified, and the meeting of projected service goals muted, to accommodate the actual amount of support that is received.

COMPANY OVERVIEW

Beaver Creek is an independent local exchange carrier providing telecommunication services in a portion of Clackamas County in Northwestern Oregon. Established in 1904, it serves a current estimated population of 10,627, over a geographic area of 64 square miles. The service territory is primarily rural with two major road arterials (Beavercreek Road and State Highway 213) passing through it from north to south. The terrain can be described as a mix of hills with the highest point being Highland Butte at 1,542 feet AMSL and the lowest point being 80 feet AMSL at Windy City Road where it crosses over Milk Creek. There are numerous creeks in the territory including Abernethy Creek, Beaver Creek, Buckner Creek, Cedar Creek, Little Clear Creek, Mosier Creek, and Root Creek.

Anchor institutions include three active grade schools, three fire stations, and one post office in the service area, each (with the exception of one unmanned fire substation) being provided with requested 100-Mbps Ethernet or 1.5-Mbps DS1 services. There are two historical business districts, Beavercreek and Clarkes, with each having a small general store. Beavercreek has several businesses including a fuel station, café/tavern, and an automotive repair and sales shop. There are several churches scattered about the territory.

There are approximately 3,936 households with an estimated total population of 10,627 in the Beaver Creek service territory. The median household income level is approximately $68,989. At year-end 2013 Beaver Creek had 40 Lifeline subscribers; Lifeline subscriber counts vary from month to month.

Beaver Creek serves its subscribers using a Lucent 5ESS Class-5 switch that was turned up in December 1998. In 2000, DSL service was offered to 100% of its service area with a minimum speed of 256-Kbps downstream by 256-Kbps upstream. As of year-end 2013, Beaver Creek had 2,660 voice subscribers with a subscriber density of 41.56 per square mile. As of year-end 2013 the Company served 2,642 DSL subscribers. There are 403 route miles of facilities.

Beaver Creek lost 246 voice subscribers and 16 broadband subscribers in 2013. The Company attributes this to competition, changing subscriber communication methods, and subscriber budget constraints.
No terrestrial competitor offers voice and data services throughout the Company's service area.

SUMMARY DISCUSSION OF BEAVER CREEK COOPERATIVE TELEPHONE COMPANY PLANS FOR YEARS 2014-2019

Beaver Creek is providing the following information on budgeted projects for the calendar year 2014; although this is not required as part of the Five Year Service Quality Improvement Plan, the Company feels this information provides a baseline for its commitment to network improvements and concentration on the delivery and continuation of a robust network, providing its customers with quality voice and broadband connectivity to meet, at a minimum, the federal regulatory requirements.

YEAR 2014

PROJECT-2014.01 Spangler Central Office Building Seismic Upgrades $10,000.00

Upgrades will address non-structural key findings that were identified in the commissioned seismic vulnerability assessment completed in August 2012. The Spangler Central Office hosts 14 Digital Loop Concentrator (DLC)/Digital Subscriber Line Access Multiplexer (DSLAM) sites serving approximately 2,642 ADSL broadband users (year-end 2013 DSL subscriber count).

PROJECT-2014.02 Hoffman Business Office Generator Connection $25,000.00

Presently only the Keller Building is on standby generator. Beaver Creek has conduit in place up to the exterior wall of the Hoffman Building, placed in 2009. This project will complete the electrical work necessary to connect the Hoffman Building to the site generator via a transfer switch. The Hoffman Building houses the Hoffman DLC/DSLAM which services approximately 230 ADSL broadband users with current broadband speeds up to 15-Mbps downstream by 1-Mbps upstream.

PROJECT-2014.04 Monthly New Installs/Plant Additions $122,000.00

Monthly work order activity in the Beavercreek exchange includes incidental minor construction and/or replacement work of main line facilities, service drop installations, and electronic line support equipment such as replacement power supplies for Digital Loop Concentrator/Digital Subscriber Line Access Multiplexers.

PROJECT-2014.05 DLC Battery Replacements $15,300.00

Four DLC/DSLAM sites (Clarkes, Fairway Downs, Highland, and Hogback) require battery replacements. Existing strings will be 10 to 11 years old this year and are well past due for replacement. Sites service a total of approximately 565 ADSL broadband users with current speeds up to 15-Mbps downstream by 1-Mbps upstream.

PROJECT-2014.06 Broadband Upgrades & Additions $11,725.00

Broadband upgrade work will consist of the replacement of up to eight ADSL service cards due to failure and age, and the addition of Gigabit Ethernet uplink hardware to one or two of the DSLAM's having traffic loads that are reaching the 150-Mbps limit of current uplink facilities. A maximum of 400 broadband customers would be affected by the additions or replacements.

PROJECT-2014.07 Beavercreek DLC/DSLAM $10,000.00

The existing 90-line Beavercreek DLC/DSLAM was a temporary solution deployed in the first quarter of 2008 with the intent that it be replaced with a long-term solution the following year. The DSLAM has been running at capacity since 2009. A 200 to 360 line system using a refurbished cabinet from the

surplus market was installed in 2013. This project amount represents the remaining work to do that was not completed in 2013. The site currently serves 90 ADSL broadband users with current speeds up to 15-Mbps downstream by 1-Mbps upstream. When completed, the site will support up to 300 circuits consisting of DS1, DS0, POTS, ADSL, and VDSL services.

PROJECT-2014.08 Redback SE400 Spare Module $10,000.00

Spare system cross-connect module to complement new redundant modules procured in the fourth quarter of 2011. The Redback SE400 is a broadband edge router located in the Spangler Central Office and provides Internet access to approximately 2,642 broadband users in the Beavercreek exchange.

PROJECT-2014.09 Replacement Border Router $30,000.00

The existing border router was purchased in 1999. It is rated for 1-Gbps throughput. At the present time peak traffic is pushing 750-Mbps through the router. Additionally the existing router has 32-bit counters and the traffic flow is causing the counters to roll over to zero very quickly which results in false traffic flow data. The replacement router is rated for 10-Gbps throughput and has 64-bit counters. The project will benefit approximately 2,642 broadband users in the Beavercreek exchange.

TOTAL COST ESTIMATE OF ALL YEAR 2014 PROJECTS: $234,025.00

YEAR 2015

PROJECT-2015.01 Monthly New Installs/Plant Additions $110,000.00

Monthly work order activity in the Beavercreek exchange includes incidental minor construction and/ or replacement work of main line facilities, service drop installations, and electronic line support equipment such as replacement power supplies for Digital Loop Concentrator/Digital Subscriber Line Access Multiplexers.

PROJECT-2015.02 DLC Battery Replacements $38,400.00

Seven DLC/DSLAM sites (Timber Grove, Windy City, Steiner, Eldorado, Carus, Hoffman, and Henrici) require battery replacements. Existing strings will be six to seven years old this year and are either due or past due for replacement according to our five year replacement schedule. Sites service a total of approximately 990 ADSL broadband users with current speeds up to 15-Mbps downstream by 1-Mbps upstream.

PROJECT-2015.03 Broadband Upgrades & Additions $15,600.00

Broadband upgrade and addition work would consist of adding 96 ADSL2+ ports to the Occam BLC6012 chassis to offset the retirement of 96 ADSL ports in the AFC Telliant (vintage 2001) in the Central Office and the addition of up to 48 ADSL2+/VDSL2+ capable ports to the various Tellabs DLC/DSLAM systems as needed. A maximum of 144 broadband customers would be affected by the upgrades and additions.

PROJECT-2015.05 Norry Court (Norry) DLC/DSLAM $30,000.00

This project will place a 120 circuit DLC/DSLAM system on Norry Court adjacent to an existing fiber backbone route on Beavercreek Road. The new CSA (Carrier Serving Area) created by the installation will encompass 85 existing single family dwellings, some of which are currently restricted to a maximum of 1.5-Mbps ADSL2+ service. The installation will provide for POTS service and ADSL2+/VDSL2+ speeds up to 15-Mbps downstream by 1-Mbps or greater upstream.

PROJECT-2015.06 Eldorado Road Fiber Addition $118,000.00

The project will place approximately 5,900 feet of buried fiber cable contained inside a 1.25-inch conduit along with a spare 1.25-inch conduit from the existing Eldorado DLC/DSLAM system north on Eldorado Road to State Highway 213 and stop immediately south of the Highway's intersection with Spangler Road. The project is the first of three phases that when completed will put the Eldorado and Carus DLC/DSLAM sites on a fiber ring with the Central Office and support fiber branch extension west on Spangler to the proposed future "Davis Farm" DLC/DSLAM site.

TOTAL COST ESTIMATE OF ALL YEAR 2015 PROJECTS: $312,000.00

YEAR 2016

PROJECT-2016.01 Monthly New Installs/Plant Additions $120,000.00

Monthly work order activity in the Beavercreek exchange includes incidental minor construction and/or replacement work of main line facilities, service drop installations, and electronic line support equipment such as replacement power supplies for Digital Loop Concentrator/Digital Subscriber Line Access Multiplexers.

PROJECT-2016.02 Broadband Upgrades & Additions $15,600.00

Broadband upgrade and addition work would consist of adding 96 ADSL2+ ports to the Occam BLC6012 chassis to offset the retirement of 96 ADSL ports in the AFC Telliant (vintage 2001) in the Central Office and the addition of up to 48 ADSL2+/VDSL2+ capable ports to the various Tellabs DLC/DSLAM systems as needed. A maximum of 144 broadband customers would be affected by the upgrades and additions.

PROJECT-2016.03 Buckner Creek Road (Buckner Creek) DLC/DSLAM $30,000.00

This project will place a 120 circuit DLC/DSLAM system on Buckner Creek Road near the intersection with New Kirchner Road and adjacent to an existing fiber backbone route on Buckner Creek Road. The new CSA (Carrier Serving Area) created by the installation will encompass 71 existing single family dwellings, some of which are currently restricted to a maximum of 1.5-Mbps ADSL2+ service. The installation will provide for POTS service and ADSL2+/VDSL2+ speeds up to 15-Mbps downstream by 1-Mbps or greater upstream.

PROJECT-2016.04 State Highway 213 Fiber Addition $124,800.00

The project will place approximately 5,200 feet of buried fiber cable contained inside a 1.25-inch conduit along with a spare 1.25-inch conduit from the existing Carus DLC/DSLAM system south on State Highway 213 and stop immediately south of the Highway's intersection with Spangler Road, connecting with Project-2015.06. The project is the second of three phases that when completed will put the Eldorado and Carus DLC/DSLAM sites on a fiber ring with the Central Office and support fiber branch extension west on Spangler to the proposed future "Davis Farm" DLC/DSLAM site.

TOTAL COST ESTIMATE OF ALL YEAR 2016 PROJECTS: $290,400.00

YEAR 2017

PROJECT-2017.01 Monthly New Installs/Plant Additions $120,000.00

Monthly work order activity in the Beavercreek exchange includes incidental minor construction and/or replacement work of main line facilities, service drop installations, and electronic line support equipment such as replacement power supplies for Digital Loop Concentrator/Digital Subscriber Line Access Multiplexers.

PROJECT-2017.02 Broadband Upgrades & Additions $15,600.00

Broadband upgrade and addition work would consist of adding 96 ADSL2+ ports to the Occam BLC6012 chassis to offset the retirement of the last 96 ADSL ports in the AFC Telliant (vintage 2001) which shall be retired and removed from the Central Office and the addition of up to 48 ADSL2+/VDSL2+ capable ports to the various Tellabs DLC/DSLAM systems as needed. A maximum of 144 broadband customers would be affected by the upgrades and additions.

PROJECT-2017.03 Spangler Road Fiber Addition $104,000.00

The project will place approximately 5,200 feet of buried fiber cable contained inside a 1.25-inch conduit along with a spare 1.25-inch conduit west on Spangler Road from its intersection with State Highway 213 and the junction of Projects 2016.04 and 2015.06 to the proposed future "Davis Farm" DLC/DSLAM site.

PROJECT-2017.04 Spangler Road (Davis Farm) DLC/DSLAM $30,000.00

This project will place a 120 circuit DLC/DSLAM system on Spangler Road near the address of 13678 South Spangler Road at the west end of Project-2016.03. The new CSA (Carrier Serving Area) created by the installation will encompass 42 existing single family dwellings, some of which are currently restricted to a maximum of 1.5-Mbps ADSL2+ service. The installation will provide for POTS service and ADSL2+/VDSL2+ speeds up to 15-Mbps downstream by 1-Mbps or greater upstream.

TOTAL COST ESTIMATE OF ALL YEAR 2017 PROJECTS: $269,600.00

YEAR 2018

PROJECT-2018.01 Monthly New Installs/Plant Additions $130,000.00

Monthly work order activity in the Beavercreek exchange includes incidental minor construction and/or replacement work of main line facilities, service drop installations, and electronic line support equipment such as replacement power supplies for Digital Loop Concentrator/Digital Subscriber Line Access Multiplexers.

PROJECT-2018.02 Broadband Upgrades & Additions $21,600.00

Broadband upgrade and addition work would consist of replacing obsolete ADSL 6+6H line cards with ADSL2+ or VDSL2+ capable line cards as needed. A maximum of 144 broadband customers would be affected by the upgrades and additions.

PROJECT-2018.03 Conversion of Central Office POTS to GR.303 $80,000.00

Convert approximately 770 POTS circuits in the Central Office that are served from the Lucent 5ESS switch analog interfaces to GR-303 with up to four DS1 trunk circuits to the 5ESS switch. This would be a necessary step for the future upgrade to a softswitch in 2019.

PROJECT-2018.04 Central Office Battery Distribution System Upgrade $90,000.00

Replace the existing battery distribution bay that is vintage 1985 with a new system. Re-cable all distribution circuits to individual equipment bay fuse panels. Install new rectifier system to replace current system installed in 1998.

TOTAL COST ESTIMATE OF ALL YEAR 2018 PROJECTS:	$321,600.00

YEAR 2019

PROJECT-2019.01 Monthly New Installs/Plant Additions $140,000.00

Monthly work order activity in the Beavercreek exchange includes incidental minor construction and/or replacement work of main line facilities, service drop installations, and electronic line support equipment such as replacement power supplies for Digital Loop Concentrator/Digital Subscriber Line Access Multiplexers.

PROJECT-2019.02 Broadband Upgrades & Additions $21,600.00

Broadband upgrade and addition work would consist of replacing failed line cards with ADSL2+ or VDSL2+ capable line cards as needed. A maximum of 144 broadband customers would be affected by the upgrades and additions.

PROJECT-2019.03 Replacement Broadband Remote Access Server (B-RAS) $72,000.00

Replace existing Ericsson SmartEdge 400/600 B-RAS with an Ericsson Smart Services Router (SSR). The SSR will provide greater processing capacity and support the latest IP/MPLS routing protocols. Approximately 3,000 broadband customers would affected by the replacement.

PROJECT-2019.04 Integrated Class-5 Softswitch $450,000.00

Install Integrated Class-5 softswitch to replace Lucent 5ESS Class-5 switch that was turned up in December 1998. Approximately 2,500 customers would be affected by the replacement.

TOTAL COST ESTIMATE OF ALL YEAR 2019 PROJECTS:	$683,600.00

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NETWORK IMPROVEMENT PROJECTS

AS OF 2014 ANNUAL REPORT SUBMISSION - JULY 1, 2014

MAP REF.	WIRE CENTER NAME & CLLI	DESCRIPTION of IMPROVEMENT	COST ESTIMATE	ACTUAL COST	REGULATED % ALLOCATION	AMOUNT IN USF SUPPORT AREA	% VOICE	% BROADBAND	AREA IMPACTED	SUBSCRIBERS IMPACTED	TARGET COMPLETION DATE	ACTUAL COMPLETION DATE	Notes
	A	B	C	D	E	F=CxE	***	***	***	***	***	***	
	2015												
	Beavercreek BVCKORXADS1												
		Monthly New Installs/Plant Additions/Maintenance	$110,000		100%	$110,000	50%	50%	64 sq miles	2,660	12/31/2015		
		DLC/DSLAM Battery Replacements	$38,400		100%	$38,400	50%	50%	24 sq miles	990	12/31/2015		
		Broadband Upgrades & Additions	$15,600		100%	$15,600	0%	100%	3 sq miles	144	12/31/2015		
		Norry Court (Norry) DLC/DSLAM	$30,000		100%	$30,000	50%	50%	2 sq miles	85	12/31/2015		
		Eldorado Road Fiber Addition (Phase 1 of 3)	$118,000		100%	$118,000	50%	50%	2 sq miles	300 (when Phase 3 is completed)	12/31/2015		

2015 TOTAL PROJECTS $312,000

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NETWORK IMPROVEMENT PROJECTS

AS OF 2014 ANNUAL REPORT SUBMISSION - JULY 1, 2014

MAP REF.	WIRE CENTER NAME & CLLI	DESCRIPTION of IMPROVEMENT	COST ESTIMATE	ACTUAL COST	REGULATED % ALLOCATION	AMOUNT IN USF SUPPORT AREA	% VOICE	% BROADBAND	AREA IMPACTED	SUBSCRIBERS IMPACTED	TARGET COMPLETION DATE	ACTUAL COMPLETION DATE	Notes
	A	B	C	D	E	F=CxE	***	***	***	***	***	***	
	2016												
	Beavercreek BVCKORXADS1												
		Monthly New Installs/Plant Additions/Maintenance	$120,000		100%	$120,000	50%	50%	64 sq miles	2,660	12/31/2016		
		Broadband Upgrades & Additions	$15,600		100%	$15,600	0%	100%	3 sq miles	144	12/31/2016		
		Buckner Creek Road (Buckner Creek) DLC/DSLAM	$30,000		100%	$30,000	50%	50%	2 sq miles	71	12/31/2016		
		State Highway 213 Fiber Addition (Phase 2 of 3)	$124,800		100%	$124,800	50%	50%	1 sq mile	300 (when Phase 3 is completed)	12/31/2016		
		2016 TOTAL PROJECTS	$290,400										

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NETWORK IMPROVEMENT PROJECTS

AS OF 2014 ANNUAL REPORT SUBMISSION - JULY 1, 2014

MAP REF.	WIRE CENTER NAME & CLLI	DESCRIPTION of IMPROVEMENT	COST ESTIMATE	ACTUAL COST	REGULATED % ALLOCATION	AMOUNT IN USF SUPPORT AREA	% VOICE	% BROADBAND	AREA IMPACTED	SUBSCRIBERS IMPACTED	TARGET COMPLETION DATE	ACTUAL COMPLETION DATE	Notes
	A	B	C	D	E	F=CxE	***	***	***	***	***	***	
	2017												
	Beavercreek BVCKORXADS1												
		Monthly New Installs/Plant Additions/Maintenance	$120,000		100%	$120,000	50%	50%	64 sq miles	2,660	12/31/2017		
		Broadband Upgrades & Additions	$15,600		100%	$15,600	0%	100%	3 sq miles	144	12/31/2017		
		Spangler Road Fiber Addition (Phase 3 of 3)	$104,000		100%	$104,000	50%	50%	1 sq mile	300 (Phase 3 is completed)	12/31/2017		
		Spangler Road (Davis Farm) DLC/DSLAM	$30,000		100%	$30,000	50%	50%	1 sq mile	42	12/31/2017		
		2017 TOTAL PROJECTS	$269,600										

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NETWORK IMPROVEMENT PROJECTS

AS OF 2014 ANNUAL REPORT SUBMISSION - JULY 1, 2014

MAP REF.	WIRE CENTER NAME & CLLI	DESCRIPTION of IMPROVEMENT	COST ESTIMATE	ACTUAL COST	REGULATED % ALLOCATION	AMOUNT IN USF SUPPORT AREA	% VOICE	% BROADBAND	AREA IMPACTED	SUBSCRIBERS IMPACTED	TARGET COMPLETION DATE	ACTUAL COMPLETION DATE	Notes
	A	B	C	D	E	F=CxE	***	***	***	***	***	***	
	2018												
	Beavercreek BVCKORXADS1												
		Monthly New Installs/Plant Additions/Maintenance	$130,000		100%	$130,000	50%	50%	64 sq miles	2,660	12/31/2018		
		Broadband Upgrades & Additions	$21,600		100%	$21,600	0%	100%	3 sq miles	144	12/31/2018		
		Conversion of Central Office POTS to GR-303	$80,000		100%	$80,000	100%	0%	19 sq miles	770	12/31/2018		
		Central Office Battery Distribution System Upgrade	$90,000		100%	$90,000	50%	50%	64 sq miles	2,660	12/31/2018		
		2018 TOTAL PROJECTS	$321,600										

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NETWORK IMPROVEMENT PROJECTS

AS OF 2014 ANNUAL REPORT SUBMISSION - JULY 1, 2014

MAP REF.	WIRE CENTER NAME & CLLI	DESCRIPTION of IMPROVEMENT	COST ESTIMATE	ACTUAL COST	REGULATED % ALLOCATION	AMOUNT IN USF SUPPORT AREA	% VOICE	% BROADBAND	AREA IMPACTED	SUBSCRIBERS IMPACTED	TARGET COMPLETION DATE	ACTUAL COMPLETION DATE	Notes
	A	B	C	D	E	F=CxE	***	***	***	***	***	***	
	2019												
	Beavercreek BVCKORXADS1												
		Monthly New Installs/Plant Additions/Maintenance	$140,000		100%	$140,000	50%	50%	64 sq miles	2,660	12/31/2019		
		Broadband Upgrades & Additions	$21,600		100%	$21,600	0%	100%	3 sq miles	144	12/31/2019		
		Replacement Broadband Remote Access Server (B-RAS)	$72,000		100%	$72,000	0%	100%	64 sq miles	3,000	12/31/2019		
		Integrated Class-5 Softswitch	$450,000		100%	$450,000	100%	0%	64 sq miles	2,500	12/31/2019		
		2019 TOTAL PROJECTS	$683,600										

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