

# MEMORANDUM

To: All Interested Proposers

Date: July 22, 2014

Request for Proposal #14-1905-OV

Subject: Installation of a Layer 2 Carrier Ethernet Switch IP/MPLS Router Microwave System **ADDENDUM #2**

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**Proposers are hereby notified that this Addendum shall be acknowledged on page 00300-1 of the Bid Form and made a part of the above named bidding and contract documents. Bids submitted without acknowledgement of the Addendum will be considered incomplete.**

The following items are issued to add to, modify, and clarify the bid and contract documents. These items shall have the same force and effect as the original bidding document, and cost involved shall be included in the bid prices. Bids to be submitted on the specified bid date, shall conform to the additions and revisions listed herein.

**The deadline to submit all inquiries concerning interpretation, clarification or additional information pertaining to this proposal was July 11, 2014 at 5:00 PM.** This deadline has been established to maintain fair treatment for all potential Proposers, while maintaining the expedited nature of the Economic Stimulus that the contracting of this work may achieve.

**Proposers Note:** Below are the replies to Proposers' questions received through July 11, 2014.

**Question 1.** Could you tell me who maintains the current Alcatel Microwave system today for Manatee County?

**Response 1.** The current microwave system is maintained primarily by Manatee County radio division. Manatee provides level 1 troubleshooting and support. Harris Corporation through Communications International (Cii) provides level 2 and 3 service on a time and materials basis. They also provide one annual preventive maintenance service as part of the radio communications infrastructure contract.

**Question 2.** Will the 100 Mbps FD throughput requirements be based on Layer 1 with 64 byte frames?

**Response 2.** Yes, the 100 Mbps FD throughput requirements will be based on Layer 1 with 64 byte frames.

**Question 3.** Is the 99.999% availability requirement one-way or two-way?

**Response 3.** The 99.999% availability requirements are both one-way and two-way.

**Question 4.** The RFP specifies combined native Gigabit Ethernet and native TDM on the same hardware platform. The RFP also specifies a single chassis, 1 RU nodal IP/MPLS Layer 2 & 3 Routing solution, which would require that TDM be converted to IP psuedowire for transport. Will Manatee County accept psuedowire transport of TDM over the IP/MPLS microwave router platform?

**Response 4.** See Response #14.

Financial Management  
Purchasing Division  
1112 Manatee Ave W Suite 803, Bradenton, FL 34205  
Phone number: (941)749-3014

July 22, 2014

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Installation of a Layer 2 Carrier Ethernet Switch

IP/MPLS Router Microwave System

ADDENDUM #2 / Page 2 of 3

**Question 5:** Can the existing system be taken down on a scheduled basis during installation of the new system?

**Response 5:** Yes, with proper coordination and County approval, the existing system may be taken down on a scheduled basis during the installation of the new system.

**Question 6:** Why is there a requirement for pollution liability for the installation of radio equipment that involves no toxic waste and will not require any new construction?

**Response 6:** Please delete the pollution liability insurance requirement in Attachment C.

**Question 7:** Is the availability of 99.999% annual one way or annual two way?

**Response 7:** See Response # 3.

**Question 8:** Are MPLS functions and features required in the initial deployment of this network or are the microwave radios required to only be MPLS ready for the initial deployment?

**Response 8:** Ready for initial deployment.

**Question 9:** Will any future microwave sites within the Manatee County network require MPLS routers.

**Response 9:** Yes.

**Question 10:** Would the County consider removing the requirement for Payment and Performance Bonds since no tower work will be done?

**Response 10:** The County will not consider removing the requirement for Payment and Performance Bonds. Payment and Performance Bonds are required by the County for any project exceeding \$100,000.00. Manatee County provides a Public Construction Bond as prescribed by Florida Statute 255.05. The Public Construction Bond must be submitted by the Successful Proposer in an amount equal to the negotiated amount and must be issued by a duly authorized and nationally recognized Surety company, authorized to do business in the State of Florida and satisfactory to Manatee County. The Surety must be rated as "A-" or better to be accepted.

**Question 11:** In order to produce more accurate path calculations, can the waveguide lengths for the existing links be provided?

**Response 11:** The path calculations dated December 14, 2006 are made a part of this Addendum No. 2. (5 total pages are attached).

**Question 12:** Can the current loadings and maximum capacities of the existing DC power supplies and backup batteries be provided.

July 22, 2014

Request for Proposal #14-1905-OV  
Installation of a Layer 2 Carrier Ethernet Switch  
IP/MPLS Router Microwave System  
ADDENDUM #2 / Page 3 of 3

**Response 12:** See table below. Battery capacity and actual measured current draws. Each radio has an "A" And "B" side which are wired up independently.

Site	Battery Type//Capacity//Count	-48V Current (Measured) A/B
Main	Datasafe 12HX300-FR 4 cells (70AH)	1.11/1.02
PSC	Absolyte IIP 50A09 24 cells (208 AH)	2.5/2.7
Lorr	Powersafe 12V92F 4 cells (92 AH)	2.7/2.6
East	Datasafe 12HX300-FR 4 cells (70AH)	3/3.1
Duette	12V125F 4 cells (125 AH)	3.7/4
Myakka	12V92F 4 cells (92 AH)	1.8/2.2

**Question 13:** Can the available rack space in each of the sites be provided for the existing microwave racks?

**Response 13:** No, the available rack space in each of the sites cannot be provided for the existing microwave racks.

**Question 14:** Will native TDM or pseduowire DS1 be required?

**Response 14:** No, native TDM or pseduowire DS1 will not be required.

If you have submitted a proposal prior to receiving this addendum, you may request in writing that your original sealed proposal be returned to your firm. All sealed proposals received will be opened on the date stated.

**Proposals** will be received at the **Manatee County Purchasing Division, 1112 Manatee Avenue West, Suite 803, Bradenton, FL 34205 on July 30, 2014 until 4:00 PM.**

Sincerely,



Melissa M. Wendel, CPPO, Purchasing Official  
Manatee County Purchasing Division  
Ov (5 total pages attached)

SYSTEM: M/A-COM  
 ROUTE: MANATEE COUNTY  
 FILE: Y:\CUSTOMER\FINAL\MACOMPRS\MANATEE.FL\RECORD-1

ALCATEL-LUCENT		East	Duette Park	
S. HALL		NAD27 27 28 25.4 N	NAD27 27 32 28.3 N	
		82 18 19.2 W	82 07 37.1 W	
GROUND ELEVATION	Feet	53.0	118.0	
ANTENNA AZIMUTH	Degrees	67.0	247.1	
CRITICAL AZIMUTH ZONE	Degrees	91.9 to 96.6	263.4 to 268.2	
WITHIN 2 DEG OF ORBIT	Azimuth	NO	NO	
ANTENNA INCLINATION	Degrees	-.01	-.12	
MAIN ANTENNA SIZE	Feet	6.0 PAD6-65A	6.0 PAD6-65A	
MAIN ANTENNA GAIN	dBi	39.5	39.5	
MAIN RADOME LOSS	dB	.5 FIBERGLASS	.5 FIBERGLASS	
MAIN CENTERLINE	Feet	139.0	139.0	
MAIN FEEDER LENGTH	Feet	169.0	169.0	
MAIN FEED LOSS IN dB/100	Feet	1.3 E-65	1.3 E-65	
MAIN FEEDER LOSS	dB	2.2	2.2	
PROTECT CHANNEL LOSS	dB	10.0	10.0	
OTHER FEEDER LOSSES	dB	.7	.7	
OTHER TRANSMIT LOSSES	dB	0.0	0.0	
OTHER RECEIVE LOSSES	dB	1.0	1.0	
CALCULATED EIRP	dBm	65.1	65.1	
MAXIMUM EIRP (PART 101)	dBm	85.0	85.0	
RADIO TYPE and FCC ID		MDR-8506-8		
FREQUENCY BAND	MHz	6700	3M75D7W	
PATH LENGTH	Miles	11.9		
MEAN ANNUAL TEMPERATURE	Deg F	72.0		
ABSOLUTE HUMIDITY	g/m^3	20.0		
CLIMATE FACTOR		2.0		
ROUGHNESS FACTOR	Feet	20.0		
FREE SPACE LOSS	dB	134.6		
ABSORPTION LOSS	dB	.3		
DISPERSIVE FADE MARGIN	dB	70.0		
TRANSMIT POWER	dBm	29.0	HOT-STANDBY	
ATPC POWER REDUCTION	dB	0.0		
MAXIMUM RECEIVED SIGNAL	dBm	-17.0		
RECEIVER THRESHOLD	dBm	-83.0	BER= 10-6	
MAIN RECEIVED SIGNAL	dBm	-34.7	-34.7	
THERMAL FADE MARGIN	dB	48.3	48.3	
EXTERNAL INTERFERENCE FM	dB	N/A	N/A	
FLAT FADE MARGIN	dB	48.3	48.3	
SPACE DIV IMPROVE FACTOR	THERMAL	1.0	1.0	
MULTIPATH OUTAGE SECONDS	THERMAL	31.8	31.8	
SPACE DIV IMPROVE FACTOR	DIGITAL	1.0	1.0	
MULTIPATH OUTAGE SECONDS	DIGITAL	.2	.2	
TOTAL MULTIPATH 2-WAY	seconds	64.0		
UPFADE OUTAGE 2-WAY	seconds	0.0		
PATH AVAILABILITY 2-WAY	percent	99.9997970	64.0 sec	
OUTAGE OBJECTIVE YEAR	percent	99.9990000	315.4 sec	

- CALCULATIONS VALID ONLY IF PATH HAS ADEQUATE CLEARANCE

SYSTEM: M/A-COM  
 ROUTE: MANATEE COUNTY  
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ALCATEL-LUCENT		East	Lorraine
S. HALL		NAD27 27 28 25.4 N	NAD27 27 26 10.8 N
		82 18 19.2 W	82 23 29.1 W
GROUND ELEVATION	Feet	53.0	42.0
ANTENNA AZIMUTH	Degrees	244.1	64.0
CRITICAL AZIMUTH ZONE	Degrees	263.4 to 268.1	91.9 to 96.6
WITHIN 2 DEG OF ORBIT	Azimuth	NO	NO
ANTENNA INCLINATION	Degrees	-.05	-.01
MAIN ANTENNA SIZE	Feet	6.0 PAD6-65A	6.0 PAD6-65A
MAIN ANTENNA GAIN	dBi	39.5	39.5
MAIN RADOME LOSS	dB	.5 FIBERGLASS	.5 FIBERGLASS
MAIN CENTERLINE	Feet	130.0	130.0
MAIN FEEDER LENGTH	Feet	170.0	160.0
MAIN FEED LOSS IN dB/100	Feet	1.3 E-65	1.3 E-65
MAIN FEEDER LOSS	dB	2.2	2.1
PROTECT CHANNEL LOSS	dB	10.0	10.0
OTHER FEEDER LOSSES	dB	.7	.7
OTHER TRANSMIT LOSSES	dB	0.0	0.0
OTHER RECEIVE LOSSES	dB	1.0	1.0
CALCULATED EIRP	dBm	50.1	50.2
MAXIMUM EIRP (PART 101)	dBm	74.8	74.8
RADIO TYPE and FCC ID		MDR-8506-8	
FREQUENCY BAND	MHz	6700	3M75D7W
PATH LENGTH	Miles	5.9	
MEAN ANNUAL TEMPERATURE	Deg F	72.5	
ABSOLUTE HUMIDITY	g/m^3	20.0	
CLIMATE FACTOR		2.0	
ROUGHNESS FACTOR	Feet	20.0	
FREE SPACE LOSS	dB	128.5	
ABSORPTION LOSS	dB	.1	
DISPERSIVE FADE MARGIN	dB	70.0	
TRANSMIT POWER	dBm	14.0	HOT-STANDBY
ATPC POWER REDUCTION	dB	0.0	
MAXIMUM RECEIVED SIGNAL	dBm	-17.0	
RECEIVER THRESHOLD	dBm	-83.0	BER= 10-6
MAIN RECEIVED SIGNAL	dBm	-43.4	-43.4
THERMAL FADE MARGIN	dB	39.6	39.6
EXTERNAL INTERFERENCE FM	dB	N/A	N/A
FLAT FADE MARGIN	dB	39.6	39.6
SPACE DIV IMPROVE FACTOR	THERMAL	1.0	1.0
MULTIPATH OUTAGE SECONDS	THERMAL	28.2	28.2
SPACE DIV IMPROVE FACTOR	DIGITAL	1.0	1.0
MULTIPATH OUTAGE SECONDS	DIGITAL	0.0	0.0
TOTAL MULTIPATH	2-WAY	seconds	56.5
UPFADE OUTAGE	2-WAY	seconds	0.0
PATH AVAILABILITY	2-WAY	percent	99.9998209 56.5 sec
OUTAGE OBJECTIVE	YEAR	percent	99.9990000 315.4 sec

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ALCATEL-LUCENT		EOC	Lorraine
S. HALL		NAD27 27 27 27.6 N	NAD27 27 26 10.8 N
		82 32 14.6 W	82 23 29.1 W
GROUND ELEVATION	Feet	38.0	42.0
ANTENNA AZIMUTH	Degrees	99.3	279.3
CRITICAL AZIMUTH ZONE	Degrees	91.9 to 96.6	263.4 to 268.2
WITHIN 2 DEG OF ORBIT	Azimuth	NO	NO
ANTENNA INCLINATION	Degrees	-.04	-.05
MAIN ANTENNA SIZE	Feet	6.0 PAD6-65A	6.0 PAD6-65A
MAIN ANTENNA GAIN	dBi	39.5	39.5
MAIN RADOME LOSS	dB	.5 FIBERGLASS	.5 FIBERGLASS
MAIN CENTERLINE	Feet	134.0	134.0
MAIN FEEDER LENGTH	Feet	174.0	164.0
MAIN FEED LOSS IN dB/100	Feet	1.3 E-65	1.3 E-65
MAIN FEEDER LOSS	dB	2.3	2.1
PROTECT CHANNEL LOSS	dB	10.0	10.0
OTHER FEEDER LOSSES	dB	.7	.7
OTHER TRANSMIT LOSSES	dB	0.0	0.0
OTHER RECEIVE LOSSES	dB	1.0	1.0
CALCULATED EIRP	dBm	59.0	59.2
MAXIMUM EIRP (PART 101)	dBm	82.4	82.4
RADIO TYPE and FCC ID		MDR-8506-8	
FREQUENCY BAND	MHz	6700	3M75D7W
PATH LENGTH	Miles	9.1	
MEAN ANNUAL TEMPERATURE	Deg F	73.0	
ABSOLUTE HUMIDITY	g/m^3	20.0	
CLIMATE FACTOR		2.0	
ROUGHNESS FACTOR	Feet	20.0	
FREE SPACE LOSS	dB	132.3	
ABSORPTION LOSS	dB	.2	
DISPERSIVE FADE MARGIN	dB	70.0	
TRANSMIT POWER	dBm	23.0	HOT-STANDBY
ATPC POWER REDUCTION	dB	0.0	
MAXIMUM RECEIVED SIGNAL	dBm	-17.0	
RECEIVER THRESHOLD	dBm	-83.0	BER= 10-6
MAIN RECEIVED SIGNAL	dBm	-38.3	-38.3
THERMAL FADE MARGIN	dB	44.7	44.7
EXTERNAL INTERFERENCE FM	dB	N/A	N/A
FLAT FADE MARGIN	dB	44.7	44.7
SPACE DIV IMPROVE FACTOR	THERMAL	1.0	1.0
MULTIPATH OUTAGE SECONDS	THERMAL	32.9	32.9
SPACE DIV IMPROVE FACTOR	DIGITAL	1.0	1.0
MULTIPATH OUTAGE SECONDS	DIGITAL	.1	.1
TOTAL MULTIPATH 2-WAY	seconds	65.9	
UPFADE OUTAGE 2-WAY	seconds	0.0	
PATH AVAILABILITY 2-WAY	percent	99.9997910	65.9 sec
OUTAGE OBJECTIVE YEAR	percent	99.9990000	315.4 sec

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ALCATEL-LUCENT		Main	EOC
S. HALL		NAD27 27 29 45.8 N 82 34 21.3 W	NAD27 27 27 27.6 N 82 32 14.6 W
GROUND ELEVATION	Feet	16.0	38.0
ANTENNA AZIMUTH	Degrees	140.7	320.7
CRITICAL AZIMUTH ZONE	Degrees	91.9 to 96.7	263.4 to 268.2
WITHIN 2 DEG OF ORBIT	Azimuth	NO	NO
ANTENNA INCLINATION	Degrees	.05	-.09
MAIN ANTENNA SIZE	Feet	6.0 PAD6-65A	6.0 PAD6-65A
MAIN ANTENNA GAIN	dBi	39.5	39.5
MAIN RADOME LOSS	dB	.5 FIBERGLASS	.5 FIBERGLASS
MAIN CENTERLINE	Feet	115.0	115.0
MAIN FEEDER LENGTH	Feet	155.0	155.0
MAIN FEED LOSS IN dB/100	Feet	1.3 E-65	1.3 E-65
MAIN FEEDER LOSS	dB	2.0	2.0
PROTECT CHANNEL LOSS	dB	10.0	10.0
OTHER FEEDER LOSSES	dB	.7	.7
OTHER TRANSMIT LOSSES	dB	0.0	0.0
OTHER RECEIVE LOSSES	dB	1.0	1.0
CALCULATED EIRP	dBm	50.3	50.3
MAXIMUM EIRP (PART 101)	dBm	65.4	65.4
RADIO TYPE and FCC ID		MDR-8506-8	
FREQUENCY BAND	MHz	6700	3M75D7W
PATH LENGTH	Miles	3.4	
MEAN ANNUAL TEMPERATURE	Deg F	73.0	
ABSOLUTE HUMIDITY	g/m^3	20.0	
CLIMATE FACTOR		2.0	
ROUGHNESS FACTOR	Feet	20.0	
FREE SPACE LOSS	dB	123.8	
ABSORPTION LOSS	dB	.1	
DISPERSIVE FADE MARGIN	dB	70.0	
TRANSMIT POWER	dBm	14.0	HOT-STANDBY
ATPC POWER REDUCTION	dB	0.0	
MAXIMUM RECEIVED SIGNAL	dBm	-17.0	
RECEIVER THRESHOLD	dBm	-83.0	BER= 10-6
MAIN RECEIVED SIGNAL	dBm	-38.3	-38.3
THERMAL FADE MARGIN	dB	44.7	44.7
EXTERNAL INTERFERENCE FM	dB	N/A	N/A
FLAT FADE MARGIN	dB	44.7	44.7
SPACE DIV IMPROVE FACTOR	THERMAL	1.0	1.0
MULTIPATH OUTAGE SECONDS	THERMAL	1.7	1.7
SPACE DIV IMPROVE FACTOR	DIGITAL	1.0	1.0
MULTIPATH OUTAGE SECONDS	DIGITAL	0.0	0.0
TOTAL MULTIPATH	2-WAY	seconds	3.5
UPFADE OUTAGE	2-WAY	seconds	0.0
PATH AVAILABILITY	2-WAY	percent	99.9999889 3.5 sec
OUTAGE OBJECTIVE	YEAR	percent	99.9990000 315.4 sec

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SYSTEM: M/A-COM  
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 FILE: Y:\CUSTOMER\FINAL\MACOMPRS\MANATEE.FL\RECORD-1

ALCATEL-LUCENT		Myakka City	Duette Park
S. HALL		NAD27 27 21 09.7 N 82 10 03.8 W	NAD27 27 32 28.3 N 82 07 37.1 W
GROUND ELEVATION	Feet	41.0	118.0
ANTENNA AZIMUTH	Degrees	10.9	190.9
CRITICAL AZIMUTH ZONE	Degrees	91.9 to 96.6	263.5 to 268.2
WITHIN 2 DEG OF ORBIT	Azimuth	NO	NO
ANTENNA INCLINATION	Degrees	.04	-.19
MAIN ANTENNA SIZE	Feet	6.0 PAD6-65A	6.0 PAD6-65A
MAIN ANTENNA GAIN	dBi	39.5	39.5
MAIN RADOME LOSS	dB	.5 FIBERGLASS	.5 FIBERGLASS
MAIN CENTERLINE	Feet	125.0	186.0
MAIN FEEDER LENGTH	Feet	155.0	216.0
MAIN FEED LOSS IN dB/100	Feet	1.3 E-65	1.3 E-65
MAIN FEEDER LOSS	dB	2.0	2.8
PROTECT CHANNEL LOSS	dB	10.0	10.0
OTHER FEEDER LOSSES	dB	.7	.7
OTHER TRANSMIT LOSSES	dB	0.0	0.0
OTHER RECEIVE LOSSES	dB	1.0	1.0
CALCULATED EIRP	dBm	65.3	64.5
MAXIMUM EIRP (PART 101)	dBm	85.0	85.0
RADIO TYPE and FCC ID		MDR-8506-8	
FREQUENCY BAND	MHz	6700	3M75D7W
PATH LENGTH	Miles	13.2	
MEAN ANNUAL TEMPERATURE	Deg F	72.0	
ABSOLUTE HUMIDITY	g/m^3	20.0	
CLIMATE FACTOR		2.0	
ROUGHNESS FACTOR	Feet	26.0	
FREE SPACE LOSS	dB	135.5	
ABSORPTION LOSS	dB	.3	
DISPERSIVE FADE MARGIN	dB	70.0	
TRANSMIT POWER	dBm	29.0	HOT-STANDBY
ATPC POWER REDUCTION	dB	0.0	
MAXIMUM RECEIVED SIGNAL	dBm	-17.0	
RECEIVER THRESHOLD	dBm	-83.0	BER= 10-6
MAIN RECEIVED SIGNAL	dBm	-36.1	-36.1
THERMAL FADE MARGIN	dB	46.9	46.9
EXTERNAL INTERFERENCE FM	dB	N/A	N/A
FLAT FADE MARGIN	dB	46.9	46.9
SPACE DIV IMPROVE FACTOR	THERMAL	1.0	1.0
MULTIPATH OUTAGE SECONDS	THERMAL	42.6	42.6
SPACE DIV IMPROVE FACTOR	DIGITAL	1.0	1.0
MULTIPATH OUTAGE SECONDS	DIGITAL	.2	.2
TOTAL MULTIPATH	2-WAY	seconds	85.6
UPFADE OUTAGE	2-WAY	seconds	0.0
PATH AVAILABILITY	2-WAY	percent	99.9997286 85.6 sec
OUTAGE OBJECTIVE	YEAR	percent	99.9990000 315.4 sec

- CALCULATIONS VALID ONLY IF PATH HAS ADEQUATE CLEARANCE