

CHANGE ORDER [#008]

Change Order No.	08-A
Date:	09/17/19
Project Name:	MERA Next Generation Radio System
Customer Name:	Marin County
Customer Project Mgr:	Ernest Klock

#### The purpose of this Change Order is to:

Capture	e the following changes:
1.	Addition of MPLS hardware, system design, implementation services, and training - including the provisioning of non-LMR traffic
2.	Deletion of one microwave network refresh

Contract #	31701399	Contract Date:	03/07/17	

In accordance with the terms and conditions of the contract identified above between Marin County and Motorola Solutions, Inc., the following changes are approved:

### **Contract Price Adjustments**

Original Contract Value:	\$ 34,337,451.06
Previous Change Order amounts for Change Order numbers 0-7 through 9-10	\$ 7,653,457.77
This Change Order:	\$ 124,356.08
Existing Contract Credit:	\$ 0.00
Net Contract Impact of this Change Order:	\$ 124,356.08
New Contract Value:	\$ 42,115,264.91



### **Completion Date Adjustments**

Original Completion Date:	3/27/2019
Current Completion Date prior to this Change Order:	12/27/2022
New Completion Date:	12/27/2022

Changes in Equipment: (additions, deletions or modifications) Include attachments if needed

Please refer to the attached equipment list for new MPLS equipment. All Layer 2 related equipment will be removed

Changes in Services: (additions, deletions or modifications) Include attachments if needed

Please refer to the attached Scope of Work (SOW) document for MPLS design and implementation SOW. One microwave network refresh, which involves a complete replacement of all 9500 MPR microwave radios (dishes, lines, dehydrators are excluded), is removed from the contract's scope of work and applied as credit towards the purchase of this Change Order

Schedule Changes: (describe change or N/A)

The project schedule will be finalized upon CDR approvals and is contingent upon CEQA and site construction timelines

**Pricing Changes:** (describe change or N/A)

Please refer to the attached pricing summary sheet Please note that taxes are estimated at 9% but the final number will be determined based on where the equipment will be shipped

**Customer Responsibilities:** (describe change or N/A)

Please refer to the attached Scope of Work (SOW) document



**CHANGE ORDER** 

[#008]

I	Payment Schedule for this Change Order:
	(describe new payment terms applicable to <u>this</u> change order)
	The payment milestone plan for this Change Order is the following:
	1. 20% of the Change Order price upon signing this Change Order
ŀ	<ol> <li>45% of the Change Order price upon shipment of equipment</li> <li>25% of the Change Order price upon completion of installation (site by site)</li> </ol>
ŀ	3. 25% of the Change Order price upon completion of installation (site by site)
	4. 10% of the Change Order price upon final system acceptance
	If Subscribers are purchased, 100% of the Subscriber Contract Price will be invoiced upon shipment (as shipped).
	Motorola may make partial shipments of Equipment and will request payment upon shipment of such Equipment. In addition, Motorola will invoice for installations completed on a site-by-site basis or when professional services are completed, when applicable. The value of the Equipment shipped/services performed will be determined by the value of the shipped/services performed as a percentage of the total milestone value. Unless otherwise specified, contract discounts are based upon all items proposed and overall System package. For invoicing purposes only, discounts will be applied proportionately to the FNE and Subscriber Equipment values to total Contract
I	Price. Overdue invoices will bear simple interest at the maximum allowable rate.

Unless amended above, all other terms and conditions of the Contract shall remain in full force. If there are any inconsistencies between the provisions of this Change Order and the provisions of the Contract, the provisions of this Change Order will prevail.

IN WITNESS WHEREOF the parties have executed this Change Order as of the last date signed below.

Motorola So Inc.	lutions,	Cus	tomer	
By:		By:		
Printed Name:	KENT MARTIN	Printed Name:		
Title:	Regional Services Manager	Title:		
Date:	September 17, 2019	Date:		
Reviewed by:	Kourosh Mostashari		Date:	September 17, 2019

Motorola Solutions Project Manager

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MARIN COUNTY NEXT GENERATION RADIO PROJECT

# CHANGE ORDER #8 ATTACHMENT

**SEPTEMBER 17, 2019** 

### **CHANGE ORDER #8 ATTACHMENT**

The following changes have been captured in Change Order #8:

- 1. Addition of MPLS hardware, system design, implementation services, and training including the provisioning of non-LMR traffic
- 2. Deletion of one microwave network refresh, which involves a complete replacement of all 9500 MPR microwave radios (dishes, lines, dehydrators are excluded)

Summary of services included for this item is the following:

- Establish the system architecture and logically identify which networks/sites need to communicate within the system
- Define and build the bandwidth requirements document (TNDT report) for each site
- Define the QoS values for ASTRO and other applications
- Determine demarcation points at each site for non-ASTRO traffic
- Review and validate all the requirements identified in Appendix A
- Define and build the WAN Transport IP Plan for ASTRO application based on the logical design
- Gather, validate and input TNCT parameter for config generation, validation and configuration file generation
- Build and deploy MPLS Configuration files. This includes the Network Management Subsystem
- Ensure all MPLS equipment is installed and connected as specified in the rack drawings
- Ensure physical connectivity has been tested and validated before validating service/logical connectivity
- Each service logical path will be tested using the Y.1564 testing method to validate the design specifications
- Provide As-Built Documentation for provided equipment; this will include a network drawing and final IP plan
- Provide all router configuration files and audit of each device

All MPLS equipment come with a one-year standard repair warranty. No additional support or life cycle services are included as a part of this Change Order for MPLS.

In collaboration with MERA, Motorola has identified the non-LMR traffic (such as IP cameras) that will be provisioned on the MPLS network as per Appendix A.

The detailed MPLS equipment list has been provided in Appendix B.

# APPENDIX A – NON-LMR TRAFFIC

Services								MPLS N	IETWOF	RK/Non	LMR C	ONNECTION	NS						
	PORT #	EOF	CIVIC CENTER 2ND DECK	BIG ROCK	DOLLAR	MILL VALLEY	MT TAM	OTA	SAN PEDRO	TIBURON	WOLFBACK	BARNABE	COYOTE	MUIR WT	REYES	STEWART	TOMALES	SONOMA	SKYVIEW
GATEWAY 1		VLAN BHS 1	VLAN BHS 1	VLAN BHS 1	VLAN BHS 1	VLAN BHS 1	VLAN BHS 1	VLAN BHS 1	VLAN BHS 1	VLAN BHS 1	VLAN BHS 1	VLAN BHS 1	VLAN BHS 1	VLAN BHS 1	VLAN BHS 1	VLAN BHS 1	VLAN BHS 1	VLAN BHS 1	VLAN BHS 1
CCGW 1			VLAN BHS 1	VLAN BHS 1	VLAN BHS 1	VLAN BHS 1	VLAN BHS 1	VLAN BHS 1	VLAN BHS 1	VLAN BHS 1	VLAN BHS 1	VLAN BHS 1	VLAN BHS 1	VLAN BHS 1	VLAN BHS 1	VLAN BHS 1	VLAN BHS 1	VLAN BHS 1	VLAN BHS :
GATEWAY 2		VLAN BHS 2	VLAN BHS 2	VLAN BHS 2	VLAN BHS 2	VLAN BHS 2	VLAN BHS 2	VLAN BHS 2	VLAN BHS 2	VLAN BHS 2	VLAN BHS 2	VLAN BHS 2	VLAN BHS 2	VLAN BHS 2	VLAN BHS 2	VLAN BHS 2	VLAN BHS 2		
CCGW 2			VLAN BHS 2																
RECTIFIERS(Mngmt)		CEN 1	CEN 1	CEN 1	CEN 1	CEN 1	CEN 1	CEN 1	CEN 1	CEN 1	CEN 1	CEN 1	CEN 1	CEN 1	CEN 1	CEN 1	CEN 1	CEN 1	CEN 1
INVERTERS(Mngmt)				CEN 1	CEN 1		CEN 1		CEN 1	CEN 1		CEN 1			CEN 1	CEN 1		CEN 1	
COUNTY USE(FD Camera)		VLAN MC 1	VLAN MC 1	VLAN MC 1	VLAN MC 1	VLAN MC 1	VLAN MC 1	VLAN MC 1	VLAN MC 1	VLAN MC 1	VLAN MC 1	VLAN MC 1(WoodAcre	VLAN MC 1	VLAN MC					
COUNTY USE(Security Camera)		VLAN MC 2	VLAN MC 2	VLAN MC 2	VLAN MC 2	VLAN MC 2	VLAN MC 2	VLAN MC 2	VLAN MC 2	VLAN MC 2	VLAN MC 2	VLAN MC 2	VLAN MC 2	VLAN MC 2	VLAN MC 2	VLAN MC 2	VLAN MC 2		
CEN- Uwave -UEM-Mngmt		VLAN MC 3	VLAN MC 3	VLAN MC 3	VLAN MC 3	VLAN MC 3	VLAN MC 3	VLAN MC 3	VLAN MC 3	VLAN MC 3	VLAN MC 3	VLAN MC 3	VLAN MC 3	VLAN MC 3	VLAN MC 3	VLAN MC 3	VLAN MC 3	VLAN MC 3	VLAN MC 3
Web-Wifi-		VLAN MC 4	VLAN MC 4	VLAN MC 4	VLAN MC 4	VLAN MC 4	VLAN MC 4	VLAN MC 4	VLAN MC 4	VLAN MC 4	VLAN MC 4	VLAN MC 4	VLAN MC 4	VLAN MC 4	VLAN MC 4	VLAN MC 4	VLAN MC 4	VLAN MC 4	VLAN MC 4
VOIP-IP Phone		VLAN MC 5	VLAN MC 5	VLAN MC 5	VLAN MC 5	VLAN MC 5	VLAN MC 5	VLAN MC 5	VLAN MC 5	VLAN MC 5	VLAN MC 5	VLAN MC 5	VLAN MC 5	VLAN MC 5	VLAN MC 5	VLAN MC 5	VLAN MC 5	VLAN MC 5	VLAN MC 5
Future		VLAN MC 6	VLAN MC 6	VLAN MC 6	VLAN MC 6	VLAN MC 6	VLAN MC 6	VLAN MC 6	VLAN MC 6	VLAN MC 6	VLAN MC 6	VLAN MC 6	VLAN MC 6	VLAN MC 6	VLAN MC 6	VLAN MC 6	VLAN MC 6	VLAN MC 6	VLAN MC 6
SMARTX		T1-1	T1-1																
SMARTX		T1-2	T1-2																
SMARTX		T1-3	T1-3																
SMARTX		T1-4	T1-4																
SMARTX		T1-5	T1-5																
Woodacre telephone/CAD		T1-6	74.6.2						1			T1-6(to Woodacre)		1	1		1		
FBI ckt(v.24)		11-6	T1-6?	RS232(12 port)								11-6(to woodacre)							
			KS232(12 port)	RS232(12 port)			1) 1/(C					0000							
CHP Ckt		RNI NETWORK I	IP BACKHAUL		Primary Use		4W(6 port)	Notes:				4W(6 port)							1
		CNI IP BACKHAU	JL		Secondary Use		1	1. Custom Tone	es: Review Gold I	lite Admin									
		COUNTY USE IP	BACKHAUL		Secondary Use		1	2. Test Radio o	n Mt. TAM will b	e Connected to (	CGW								
		SMARTX T1 BAG	CKHAUL		Primary Use		1	3. Intercom Sys	stem Connected	to CCGW									
		NON IP BACKHA	AUL		Primary Use		1	4. Refer Conve	ntional Interface	Drawing									

# APPENDIX B – EQUIPMENT LIST

NOKL	Part Number	Description	BIG ROCK	CIVIC CENTER	соуоте реак	DOLLAR HILL	EOF	ΜΙΓΙ VALLEY WT	MT BARNABE	MT TAMALPAIS	MT TIBURON	MUIR BEACH	OTA BROADCASTING	PT REYES	SAN PEDRO	SKYVIEW WT	SONOMA MT	STEWART PT	TOMALES WOLFBACK RIDGE
10.00 10.01	3HE06791AA	7705-SAR-8 SAR-8 SHELF V2	1	1	1	1	2	1	1	2	1	1	1	1	1	1	1	1	1 1
10.01	3HE06792AA	Fan Module (SAR-8 Shelf V2) Ext Temp -48VDC	1	1	1	1	2 2	1	1	2	1	1	1	1	1	1	1	1	1 1 1 1
10.02	3HE02774AB	CONTROL SWITCH MODULE V2 (CSMV2)	2	2	2	2	4	2	2	4	2	2	2	2	2	2	2	2	2 2
10.03	3HE02784KA	SAR RELEASE 8.0 BASIC OS LICENSE	1	1	1	1	2	1	1	2	1	2	1	1	1	1	2	1	1 1
10.04	3HE02782AA	Packet Microwave Card (-48/+24 VDC)	2	2	2	_	2	2	2	6	2	2	2	2	2	2	2	2	2 2
10.05	3HE02776AB	8 PORT GE/FE ETHERNET CARD V2	2	1	2	2	2	2	2	0	2	2	2	2	2	2	2	2	2 2
10.07	3HE02775AB	16 PORT T1/E1 ASAP CARD V2 (-48/+24 VDC)		1			1		1										
10.08	3HE03391AB	12P SERIAL DATA CARD V2 -48/+24VDC	1	1			-		-										
10.09	3HE03126AA	6 port E&M Interface Card	-	-					1	1									
10.10	3HE03394AA	32 PORT T1/E1 RJ45 PANEL		1			1		1	_									
10.11	3HE03397AA	T1/E1 CABLE FOR DISTRIBUTION PANEL 1M		1			1		1										
10.12	3HE04507AB	RS232 Cable - 2M	2	2					-										
10.13	3HE04511AA	6 PORT RS232 DISTRIBUTION PANEL	2	2															
10.14	3HE03401AA	SYNCHRONIZATION Y- CABLE	1	1	1	1	2	1	1	2	1	1	1	1	1	1	1	1	1 1
10.15	3HE00062CB	SFP - GIGE BASE-T RJ45 R6/6 DDM -40/85C	8	10	8	8	8	8	8	24	8	8	8	8	8	8	8	8	8 8
10.16	3HE00027CA	SFP - GIGE SX - LC ROHS 6/6 DDM -40/85C	4	4	4	4	4	4	4	12	4	4	4	4	4	4	4	4	4 4
11.00		7705 Spares																	
11.01	3HE06791AA	SAR-8 SHELF V2	1																
11.02	3HE06792AA	Fan Module (SAR-8 Shelf V2) Ext Temp -48VDC	1	1															
11.03	3HE02774AB	CONTROL SWITCH MODULE V2 (CSMV2)	2																
11.04	3HE02782AA	Packet Microwave Card (-48/+24 VDC)	2																
11.05	3HE02776AB	8 PORT GE/FE ETHERNET CARD V2	2																
11.06	3HE02775AB	16 PORT T1/E1 ASAP CARD V2 (-48/+24 VDC)	2																
11.07	3HE03391AB	12P SERIAL DATA CARD V2 -48/+24VDC	2																
11.08	3HE03126AA	6 port E&M Interface Card	2																
11.09	3HE00062CB	SFP - GIGE BASE-T RJ45 R6/6 DDM -40/85C	9																
11.10	3HE00027CA	SFP - GIGE SX - LC ROHS 6/6 DDM -40/85C	4	]															
8.00		<u>NFM-P</u>																	
	3HE11799DA	NSP 18: NFM-P STANDARD BASE	1		1	1	, , ,		1						1	1			
8.01									100										
8.02	3HE11801DA	NSP 18: NFM-P STANDARD LP		33				18					18						18 18
		NSP 18: NFM-P STANDARD LP NSP 18: NFM-P HIGH AVAILABILITY LP					31 31	18 18					18 18						18 18 18 18
8.02 8.03	3HE11801DA	NSP 18: NFM-P HIGH AVAILABILITY LP																	
8.02	3HE11801DA			33		18	31				18			18		18	18	18	

# APPENDIX C – PRICING SUMMARY

Equipment	Price	
L2 Equipment Credit	\$	(210,774.64)
MPLS Equipment Cost	\$	606,337.50
Total	\$	395,562.86
Implementation Services	Price	
MPLS Implementation Costs	\$	230,000.00
Total	\$	230,000.00
Training	Price	
MPLS Training Costs	\$	15,000.00
Total	\$	15,000.00
Total MPLS Equipment, Implementation Services, and Training	\$	640,562.86
Life Cycles Services	Price	
Software Subscription Plan - 16 MSS shelves, Years 4-10 and TS Support for TSM8000 Years 4-10	\$	(138,553.78)
One Microwave Network Refresh Credit	\$	(413,253.00)
Total Life Cycles Services	\$	(551,806.78)

Price Summary									
	Price								
MPLS Equipment, Implementation Services, and Training after discount	\$	640,562.86							
Life Cycle Services Credit	\$	(551,806.78)							
Total	\$	88,756.08							
Estimated Equipment Taxes at 9%	\$	35,600.00							
Final Price	\$	124,356.08							

Milestone Plan for MPLS Equipment, Implementation Services, and Training Total (including taxes)	\$	676,162.86
Payment Milestone	Pay	ment Amount
20% of the Change Order price upon signing of the Change Order	\$	135,232.57
45% of the Change Order price upon shipment of equipment	\$	304,273.29
25% of the Change Order price upon completion of installation (site by site)	\$	169,040.72
10% of the Change Order price upon final system acceptance	\$	67,616.29
Total	\$	676,162.86