



East Bay Regional Communications System Authority



Participating agencies include Alameda and Contra Costa Counties and the following cities and special districts: Alameda, Albany, Antioch, Berkeley, Brentwood, Clayton, Concord, Danville, Dublin, El Cerrito, Emeryville, Fremont, Hayward, Hercules, Lafayette, Livermore, Martinez, Moraga, Newark, Oakley, Pinole, Pittsburg, Pleasant Hill, Pleasanton, Richmond, San Leandro, San Pablo, San Ramon, Union City, Walnut Creek, East Bay Regional Park District, Kensington Police Community Services District, Livermore Amador Valley Transit Authority, Moraga-Orinda Fire District, Rodeo-Hercules Fire District, San Ramon Valley Fire District, California Department of Transportation, Ohlone Community College District, Contra Costa Community College District, Dublin-San Ramon Services District and University of California, Berkeley

FINANCE COMMITTEE MEETING

NOTICE OF REGULAR MEETING

DATE: October 13, 2017

TIME: 11:00 a.m.

PLACE: Alameda County Office of Homeland Security and Emergency Services,
Room 1013
4985 Broder Blvd., Dublin, CA 94568

AGENDA

1. Call to Order/Roll Call
2. Public Comments (Meeting Open to the Public):
At this time, the public is permitted to address the Committee on items within the Committee's subject matter jurisdiction that do not appear on the agenda. Please limit comments to a maximum of three (3) minutes. If you wish to comment on an item that is on the agenda, please wait until the item is read for consideration.
3. Approval of Minutes of the June 2, 2017 Regular Finance Committee Meeting
4. Discussion of Lease with East Bay Municipal District for two EBRCSA Sites
5. Change Order #26 with Motorola Systems, Inc.
6. Discussion of transition to Phase II, from Frequency Division Multiple Access (FDMA) to Time Division Multiple Access (TDMA)
7. Increase NICE Logger Capacity
8. Walton Lane Simulcast Site Add-On
9. Receive an update concerning Expansion of Alameda County East Cell to 12 Channels
10. Receive an update concerning the Motorola Inter Sub-System Interface ISSI 8000.
11. The EBRCSA will be seeking nominations for the Board of Directors Vice Chair at the October Board of Directors Meeting to fill the vacancy as Vice Chair Tim Anderson is retiring and will no longer be a Board Member as of November 2017.

**Alameda County Office of Homeland Security and Emergency Services
4985 Broder Blvd, Dublin CA 94568 • (925) 803-7802 • www.ebrcsa.org**

12. Agenda Items for Next Meeting

13. Adjournment

This AGENDA is posted in accordance with Government Code Section 54954.2(a)

If requested, pursuant to Government Code Section 54953.2, this agenda shall be made available in appropriate alternative formats to persons with a disability, as required by Section 202 of the Americans with Disabilities Act of 1990 (42 U.S.C. Section 12132), and the federal rules and regulations adopted in implementation thereof. To make a request for disability-related modification or accommodation, please contact the EBRCSA at (925) 803-7802 at least 72 hours in advance of the meeting.

I hereby certify that the attached agenda was posted 72 hours before the noted meeting.

A handwritten signature in black ink that reads "Tom McCarthy". The signature is written in a cursive, slightly slanted style.

Tom McCarthy, Executive Director
October 9, 2017



**East Bay Regional
Communications
System Authority**



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AGENDA ITEM NO. 3

**AGENDA STATEMENT
FINANCE COMMITTEE MEETING
MEETING DATE: October 13, 2017**

TO: Finance Committee
East Bay Regional Communications System Authority (EBRCSA)

FROM: Tom McCarthy, Executive Director
East Bay Regional Communications System Authority

SUBJECT: Approval of June 2, 2017 Regular Finance Committee Meeting

RECOMMENDATIONS:

Approve the minutes of the June 2, 2017 Regular Finance Committee Meeting.

SUMMARY/DISCUSSION:

The Finance Committee will consider approval of the minutes of the June 2, 2017 Regular Finance Committee Meeting.

RECOMMENDED ACTION:

It is recommended that the Committee approve the minutes of the June 2, 2017 Regular Finance Committee Meeting.



East Bay Regional Communications System Authority



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FINANCE COMMITTEE MEETING

REGULAR MEETING

DATE: June 2, 2017

TIME: 11:00 a.m.

PLACE: Alameda County Office of Homeland Security and Emergency Services,
Room 1013
4985 Broder Blvd., Dublin, CA 94568

MINUTES

1. Call to Order/Roll Call: 11:00 a.m.

Committee Members:

T. Anderson, Police Chief, East Bay Regional Parks District (Arrived at 11:29 a.m.)
J. Calabrigo, Town Manager, Town of Danville
S. Perkins, Councilmember, City of San Ramon
C. Silva, Councilmember, City of Walnut Creek
E. Woo, Dir. Department of Information Technology, Contra Costa County

Staff:

T. McCarthy, Executive Director
A. Tyrvanen, Auditor, Alameda County
C. Boyer, Division Chief, Alameda County
C. Soto, Administrative Assistant

Public:

G. Poole, Motorola

2. **Public Comments:** None.
3. **Approval of Minutes of the March 17, 2017, Finance Committee Meeting**

On motion of Bm. Perkins, seconded by Bm. Silva and by unanimous vote, the Finance Committee approved the minutes of the March 17, 2017 Finance Committee meeting.

4. Service Agreement with Motorola Solutions Inc. for System Support

Director McCarthy presented the Staff Report and advised that this was a request for extension of an existing contract for support from Motorola. It was important to have a direct contract with Motorola, and not have to seek contract or work order approval when technical assistance is needed. It has worked extremely well for the past year, and it was recommended to continue this contract for another year. It was for an amount not to exceed \$248,256.84.

Bm. Calabrigo asked if the contract amount was incorporated in budget.

Director McCarthy stated yes, it was in the Fiscal Year 2017/18 budget.

Bm. Perkins asked if the level of support had been appropriate throughout the year.

Director McCarthy stated yes, with Oakland coming on board the System and the upgrade, the support had been excellent.

On motion of Bm. Silva, seconded by Bm. Perkins and by unanimous vote, the Finance Committee recommended for approval of the full Board, a Resolution approving a Service Agreement with Motorola Solutions Inc. for System Support in an amount not to exceed \$248,256.84.

5. Expansion of Alameda County East Cell to 12 Channels

Director McCarthy presented the staff report and advised this expansion would move the System from 10 to 12 channels, and it would be paid primarily through a State Homeland Security Grant (SHSGP) grant. This expansion was necessary as there was increased traffic on the System. The addition of Oakland to the System, meant they brought arrests to Santa Rita Jail, so it increased the volume of traffic on the System in the Tri-Valley area. This expansion would help out in the east. There is \$350,000 in grant funding from a 2016 SHSGP grant for the expansion. The remaining cost of \$5,583.00 is included in the Authority's FY2017/2018 Budget. The total cost of the project is \$355,583.00.

Bm. Calabrigo asked how long before the expansion would be operational.

Director McCarthy responded October 2017.

On an amended motion by Bm. Perkins, seconded by Bm. Silva and by unanimous vote, the Finance Committee recommended for approval of the full Board, the item, Expansion of Alameda County East Cell to 12 Channels, with capital expenditures of \$355,583.

6. Purchase of Motorola Inter Sub-System Interface ISSI 8000

Director McCarthy presented the staff report and advised that this purchase would provide redundant equipment that allows for non-BART radio systems to communicate

with each other, and their dispatch centers, while underground in BART facilities. The Motorola ISSI 8000 cost is \$349,000.00, of this, a 2016 UASI Grant will provide \$276,881.00 towards the purchase, and the remaining \$72,119.00, will be paid out of the EBRCSA Capital Expenditure Budget. The ISSI 8000 is included as a line item in the 2017/2018 budget.

Bm. Calabrigo asked E. Woo if this was not considered earlier.

Bm. Woo stated the technology was fairly new a few years ago, and they did not want to be on the cutting edge of technology that might have bugs to work out, but now the technology was tested and dependable.

On motion of Bm. Silva, seconded by Bm. Perkins, and by a unanimous vote, the Finance Committee recommended for approval by the full Board, the Purchase of Motorola Inter Sub-System Interface ISSI 8000, to approve a capital expenditure of \$349,000, for purchase and installation of the equipment.

7. Purchase of Licenses necessary for EBRCSA Subscriber Radios

Director McCarthy presented the Staff Report and advised that it was now necessary to have a license for each radio on the System. This would bring the System into compliance regarding licenses. The cost was \$10 per radio and was in the budget under Licenses for the FY17-18 budget.

Bm. Perkins asked if this was a one-time expense and did the license go with a replacement radio, if/when needed?

Director McCarthy replied it was a one-time license fee.

Chair Andersen arrived at 11:29 a.m.

On motion of Bm. Calabrigo, seconded by Bm. Perkins and by unanimous vote, the Finance Committee recommended for approval by the full Board, Purchase of Licenses necessary for EBRCSA Subscriber Radios, the expenditure of \$20,695.50 for radio licenses.

8. Budget Review FY 2017/2018

Aaron Tyrvanen, Authority Auditor presented the staff report and advised that the Fiscal Year 2017/2018 Operating Budget totaled approximately \$3.6 million. Included in the budget were \$6.8 million in total revenues, consisting of \$5 million in operating payments. The operating payments were membership dues that were charged to members, \$25 per radio, per month; currently the Authority was invoicing and had programmed on the System about 17,000 radios. The \$5 million was an increase of about \$900,000 compared to last fiscal year's budget. The reason for the increase was because of the City of Oakland coming on the System and revised radio counts throughout the

year, which increased the number of radios on the System. These Operating Revenues actually exceed the Operating Expenses by about \$1.5 million. In addition to the Operating Payments, the Authority also received Service Payments that were actually designed to pay for Debt Service Expenses, for the two bonds for Alameda and Contra Costa Counties. These payments were invoiced to the member at \$15 per radio/per month. They were only invoiced to members that had not prepaid for their debt service. Currently, the Authority invoiced about 7,400 radios at those rates; an increase of \$300,000 compared to last fiscal year, again because of the City of Oakland coming on the System. They did not prepay their debt service, they are actually paying a monthly payment for their debt service and revised rate of accounts for the same. Service payments received from members exceeds Debt Service Expense by about \$550,000. The Authority's Debt Service Expense is static at about \$650,000 per year. Currently, the Authority was invoicing about \$1.2 million for servicing revenues received from members. Lastly in Revenues, Grants secured to purchase capital expenses, for the two channel upgrade in Alameda County East Cell, and the ISSA 8000, total \$630,000.

In the Expense portion of the budget, currently the Authority was budgeting \$3.6 million in Operating Expenses. Of that, \$3 million is in Maintenance. Of that \$3 million, the Authority had contracts with Motorola for Network Maintenance, \$931,000; the Authority is in Year two of a three-year extension in that agreement. There was also a Software Maintenance contract with Motorola, in Year 5 of a 10-ten year agreement, \$832,000. System Management Contract, \$250,000; Communications Support from Alameda and Contra Costa Counties, \$820,000.

Debt Service is \$650,000 per year, currently the Authority has \$5.2 million outstanding; \$3.1 million is owed to Series A bond to Alameda County, and \$2.1 million in principal still owed to Contra Costa County for Series B bond. Final principal payments will be paid in 2027.

Capital Expenditures: ISSA 8000, \$360,000 and Alameda County East Cell Expansion, \$360,000, total \$720,000. With expected cost of \$720,000, \$630,000 in grants will go to pay for those; the additional \$90,000 is going to come from the cash in the Reserves from the Authority. Total Revenues exceed Total Expenses by about \$1.9 million, this will go into the Reserve Fund for the Authority for future capital expenditures and replacement costs. FY17/18 Ending Balance, as projected will be about \$10 million. It will consist of Operating Reserves set aside for future Operating Expenditures of \$1.8 million. A Debt Service Reserve of \$1 million and a Balance Available for Capital or Operating purposes of \$7.2 million.

Bm. Calabrigo asked why there was a difference in number of radios.

Director McCarthy explained not all radios were in service.

Bm Calabrigo stated it was evolving, and they could use \$1.25 million out to the end of the cash flow, 50% of annual depreciated cost of the system. And use until the Replacement study is completed.

On motion of Bm. Silva, seconded by Bm. Perkins and by unanimous vote, and with formatting changes as discussed, the Finance Committee recommended the Operating and Capital Budget for Fiscal Year 17/18, recommended on capital reserve and the addition of \$1.25 million for the cash flow, for adoption by the full Board.

9. Discussion of Lease with East Bay Municipal District for three EBRCSA Sites

Director McCarthy presented the staff report and advised that Bms. Andersen and Haggerty had spoken to East Bay Municipal Utility District (EBMUD) General Manager Alex Coate, and returned with questions for the Authority's attorneys. The bond attorney stated the Authority could provide EBMUD with System radios in return for lease payments if Alameda and Contra Costa Counties agreed to it. He had then spoken to Bm. Andersen and she said if they offered that to EBMUD, the same would have to go for each member of which the Authority used their sites. It was probably better to just pay EBMUD the \$35,000 per month per site. It had become complicated. This item would be discussed with the Finance Committee.

Bm. Calabrigo stated whatever they did with EBMUD was what they do with all member agencies. He would not make the recommendation.

Bm. Silva asked if they could raise the cost of the radios of non-emergency agencies.

Bm. Calabrigo stated Bm. Haggerty or Bm. Andersen needed to circle back and complete the loop. What was said was it was not cost effective to replace these sites.

Director McCarthy asked if he could speak with Mr. Coate.

The Finance Committee members said yes, Director McCarthy could meet with Mr. Coate.

Director McCarthy stated he would first speak to Bms. Andersen and Haggerty.

Bm. Perkins stated that just as the Authority had a policy for consoles, they could have one for new non-emergency agency members.

10. Receive an Update concerning the RFP regarding the Multi-Year Plan of System Equipment Replacement and Upgrade

He would just write specs, and get quotes and select

11. Agenda Items for Next Meeting: None.

12. With no further business to come before the Finance Committee, the meeting was adjourned at 12:11 p.m.



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AGENDA ITEM NO. 4

**AGENDA STATEMENT
FINANCE COMMITTEE MEETING
MEETING DATE: October 13, 2017**

TO: Finance Committee
East Bay Regional Communications System Authority (EBRCSA)

FROM: Thomas G. McCarthy, Executive Director
East Bay Regional Communications System Authority

SUBJECT: Enter Into a Lease Agreement with the East Bay Municipal Utility District

RECOMMENDATIONS:

Review and if Committee agrees make a recommendation to the Board of Directors to appoint a member of the Board of Directors and the Executive Director to negotiate a non-revocable lease agreement with East Bay Municipal Utilities District (EBMUD) for East Bay Regional Communications System Authority equipment located at the EBMUD Reservoir sites at Pearl, and Carter (Alta Mesa).

SUMMARY/DISCUSSION:

The East Bay Regional Communications System Authority built the system utilizing existing towers and shelters, where they could, on the existing sites in Alameda and Contra Costa County. The sites which had existing equipment also had lease agreements between the originating agency and East Bay Municipal Utilities District (EBMUD). Pearl Reservoir in San Pablo was one of the sites with an existing agreement between Contra Costa and EBMUD. Carter Reservoir, in Moraga, was a site where a one-year temporary agreement was granted. EBMUD has been reviewing the two sites and would like to form a non-revocable lease for the two sites so that in the future all sites are on the same terms of the lease and the lease is between EBRCSA and EBMUD.

A draft Lease agreement between EBMUD and EBRCSA has been completed and reviewed by EBRCSA's Attorney and EBMUD. A synopsis of the terms and conditions of the lease agreement are as follows, for more detail refer to the attached proposed Lease Agreement (Attachment "A").

The initial term of the Lease of the premises is for a period of five (5) years commencing thirty (30) days after the execution of the Lease. The renewal options are for two consecutive five (5) year periods after the initial term expires. The base rent for the Premises starting on the commencement date will be \$35,000 per year, per site. The amount of Base Rent shall be adjusted annually on the first anniversary of the Commencement Date shall be an increase of 3% above the base rent paid by EBRCSA during the previous twelve (12) month period.

Letters have been sent by Board Members requesting EBMUD reconsider the cost of the lease for EBRCSA equipment on EBMUD Property. In addition, Board Members C. Andersen and S. Haggerty met with Alexander Coate, EBMUD General Manager, and EBMUD Board Members Coleman and Mellon. The outcome of the meeting was to establish a compromise, not expecting to receive the sites for free. Board Members Andersen and Haggerty asked that General Manager Coate get back to them within two weeks. Supervisor Andersen has provided information from the meeting and a copy of the letter from EBMUD, and provided me permission to share this information with the EBRCSA Committees (see attached).

Board Member Joe Calabrigo and Executive Director McCarthy met with Alexander Coate, General Manager, and Matt Elawady, Real Estate Manager, representing EBMUD, on July 27, 2017, and August 17, 2017. The lease agreement was the topic of discussion and Mr. Coate has asked EBRCSA to authorize members of their choice, be authorized to negotiate the lease agreement. The appointed individuals will be responsible for negotiating the price and terms of the lease agreement that EBRCSA will present to EBMUD's representatives.

The Seneca site will not be a part of these negotiations as Mr. Coate has asked to negotiate that site at a later time.

FINANCIAL IMPACT:

The fiscal impact is unknown until the terms are negotiated.

RECOMMENDED ACTION:

It is recommended that the Committee discuss and recommend that at the October 27, 2017, Board of Directors meeting, the Board have a closed session to discuss who to appoint as Real Property Negotiators that will negotiate the Lease agreement with EBMUD. The Board will also be asked to discuss and provide recommendation as to the price and terms EBRCSA will agree to in the EBMUD Lease of the Pearl and Carter Sites.

Attachments: "A" Provided by Board Member C. Andersen

Attachment: "B" Draft Lease

McCarthy, Tom, Sheriff

From: Candace Andersen <Candace.Andersen@bos.cccounty.us>
Sent: Monday, March 13, 2017 8:27 PM
To: McCarthy, Tom, Sheriff
Cc: Haggerty, Scott, Supv BOS Dist 1; Gayle Israel
Subject: Re: Meeting with EBMUD

I am fine having you share all of the emails. I think it's important that everyone be kept in the loop.

Best regards,
Candace

Candace J. Kay Andersen
Contra Costa County Board of Supervisors District 2

San Ramon Valley Office
309 Diablo Road
Danville, CA. 94526

Lamorinda Office
3338 Mt. Diablo Blvd.
Lafayette, CA. 94549

candace.andersen@bos.cccounty.us<mailto:candace.andersen@bos.cccounty.us>
Tel. 925-957-8860<tel:925-957-8860>

On Mar 13, 2017, at 5:08 PM, McCarthy, Tom, Sheriff <tmccarthy@acgov.org<mailto:tmccarthy@acgov.org>> wrote:

Good evening,
I am preparing staff reports for the operations and finance committees and wanted to ask both of you if you had a problem with the EBMUD emails being shared at those meetings so that we can discuss the EBMUD conversations and options.
Thank you
Tom

-----Original Message-----

From: Candace Andersen [mailto:Candace.Andersen@bos.cccounty.us]
Sent: Friday, February 10, 2017 10:46 PM
To: McCarthy, Tom, Sheriff <tmccarthy@acgov.org<mailto:tmccarthy@acgov.org>>
Cc: Haggerty, Scott, Supv BOS Dist 1 <shaggert@acgov.org<mailto:shaggert@acgov.org>>; Gayle Israel <Gayle.Israel@bos.cccounty.us<mailto:Gayle.Israel@bos.cccounty.us>>
Subject: Meeting with EBMUD

Tom,

Here is my summary of our meeting today. Scott is copied on this and if he has anything to add, I'm sure he will!

Scott and I met with two Board members, Frank Mellon and John Coleman, along with their General Manager Alex Choate, Customer and Community Services Manager Sherri Hong, and Real Estate Manager Matt Elawady. My Chief of Staff Gayle Israel was also present.

The main points Scott and I made were:

1. EBMUD has provided these sites for public safety radio towers for decades free of charge.
2. As we moved forward with additional tower installation for EBRCS on EBMUD property there was no agreement for an expensive lease, otherwise we would have likely looked at other sites.
3. Other agencies are providing sites free of charge: Alameda County - 5 sites; Contra Costa County- 4 sites; Hayward - 2 sites; Alameda Waste Management - \$3135 a year
4. If we were to pay \$35K per site, other agencies and Alameda Waste Management would expect the same. It would be a bad precedent.
5. EBRCSA members provide public safety for EBMUD.
6. Each agency has had to pay for their own radios and so any proposed deal for us to pay for their radios in exchange for the use of their land would also set a bad precedent.
7. We understand their need for money given the drought and decreased use of water, but EBRCSA isn't the place they should be looking for new revenue.
8. They mentioned that EBRCSA does not have many special district members like them, which are wholly dependent upon fees instead of taxes and therefore they should receive some additional support and it wouldn't be setting a "precedent"; We countered that from a city/county perspective they're in a better position as they can raise fees to make up their deficits while we can only increase our revenue (taxes) by a 2/3 vote.
9. The repercussions of them extorting a lease rent from the cities/counties would not be good since they need encroachment permits and our cooperation as they work on projects in each of our communities. They acknowledged that they have started to receive some letters, and they want to work cooperatively.

They provided us with the attached information/handouts which set forth their position and they they have taken the stance they have. Nevertheless, they would like to be helpful, would like to find a solution, and are hoping that any agreement they enter into will help subsidize their participation in EBRCSA (to which Scott and I repeatedly expressed that no one else received this, and it would set a bad precedent).

They discussed the importance of receiving value for "income producing land." We had a lengthy discussion about the history of the Seneca Site and Mr. Elawady's belief that the .67 acre was worth \$250,000 to \$300,000. There was a suggestion that perhaps we should purchase it for that price. However, upon further questioning it was established that that valuation was based upon the original plan to subdivide the entire Seneca Site into single family home lots. With it's current use with Bishop O'Dowd and radio tower use, Mr. Elawady conceded it has \$0 value as a developable parcel, but it could be leased for \$50,000 a year to a commercial carrier.

I asked Mr. Elawady whether a commercial tower could be co-located with ours, thus providing them the income they needed. He told me it couldn't (at which time we called you and Ed Woo, who said technologically it could), and then Mr. Elawady let us know that when he had spoken with Verizon it was deemed less desirable because of a lack of exclusive access to the site.

The other two EBMUD sites we're using have no other value from a development perspective, but only as commercial tower sites. Again, there may be the possibility of co-locating a commercial carrier at one of these sites, thus giving them the revenue they desire.

We also had a discussion about the June 2015 tentative agreement where EBMUD would receive 60 radios at no cost to them and we would receive ownership of the .63 acre Seneca site and 20 year leases for all 3 sites. Scott and I weren't sure of all of the reasons our legal counsel deemed this not to be an appropriate deal, and said we would get them that information. Nevertheless, we expressed our concern about both the cost and the precedent this might set if such an agreement was entered into.

They brought up the fact that they had offered up 2 radio frequencies, but after clarification from you, we told them that these had not been used.

We left the meeting with them agreeing to look into the possibility of co-locating commercial carriers at our 3 sites which might give them the revenue they need; and Alex and his staff/board members planned to discuss other possible options.

We agreed to provide them with more information about why our counsel felt the tentative agreement for radios in exchange for the sites was not something EBRCSA could enter into.

Bottom line -- there appears to be a political will by Board Members Coleman and Mellon, and Alex Choate to come to some sort of a compromise. I don't expect us to get the sites for free, but am hopeful that we can negotiate something significantly less than their current demand.

We suggested that Alex get back to you within two weeks to discuss it further, and that all of us would make ourselves available, if needed, for a future meeting and discussion. Please let me know if you want any other details.

Best regards,
Candace

Candace J. Kay Andersen
Contra Costa County Board of Supervisors, District 2

San Ramon Valley Office
309 Diablo Road
Danville, CA 94526

Lamorinda Office
3338 Mt. Diablo Blvd.
Lafayette, CA 94549

candace.andersen@bos.cccounty.us<mailto:candace.andersen@bos.cccounty.us><mailto:candace.andersen@bos.cccounty.us>

On Feb 10, 2017, at 5:42 PM, McCarthy, Tom, Sheriff
<tmccarthy@acgov.org<mailto:tmccarthy@acgov.org><mailto:tmccarthy@acgov.org>> wrote:

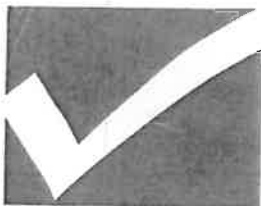
Please allow me to apologize for the delay I had to return to the office. I located and attached the original letter from EBMUD offering 800 MHZ frequencies for EBRCSA. The frequencies were being offered on a temporary basis for testing

and we never used the frequencies. I researched all of our licensed frequencies and we are only licensed to use 700 MHz frequencies.

Thank you for your effort and time which you have put into this.

Tom

<SKM_C554e17021017390.pdf>



East Bay Regional Communications System Authority Lease

February 10, 2017

Attendees: Board of Supervisor Scott Haggerty Alameda County – District 1
Board of Supervisor Candace Andersen Contra Costa County – District 2
EBMUD Board of Directors John Coleman, Andy Katz, Frank Mellon
EBMUD General Manager Alex Coate
Manager of Customer & Community Services Sherri Hong
Manager of Real Estate Services Matt Elawady

----- Agenda -----

- 1) Introductions
- 2) Background Information
- 3) Discussion
- 4) Next Steps

EBRCSA BRIEFING FEBRUARY 10, 2017

- Pre 2007** The District and Alameda and Contra Costa County had reciprocal agreements which allowed the Counties to use District's property at no cost for the purpose of erecting telecommunication towers in exchange for allowing the District to do the same on their properties and/or use the towers for District telecommunication equipment.
- 2007/2008** East Bay Regional Communications System Authority (EBRCSA) piggybacked on the reciprocal arrangements between the District and Counties to use District's properties to install telecommunications towers/equipment at no cost.
- 2012/2013** The reciprocal land use agreements between the District and the Counties expired and were not renewed. EBRCSA continued to use three of the District's properties (Pearl, Seneca, and Carter reservoirs) at no cost under a Revocable Land Use License until a longer term agreement was put in place.
- 2013/2014** EBRCSA was notified of the impending sale at Seneca Reservoir site and asked to begin the process of removing its equipment from the Reservoir site.
- April 2015** Existence of the EBRCSA equipment on the site created a valuation problem for the District and the need for equipment to be removed. The option of the District selling the Seneca Property while maintaining EBRCSA equipment on the site was under consideration.
- May 2015** Keeping EBRCSA on the site resulted in a property valuation loss to the District of \$250k - \$350k.
- June 2015** District and EBRCSA reached a tentative agreement where District would receive all material and equipment to operate sixty (60) P-25 radios, at no cost to the District, in exchange for the District maintaining ownership of 0.63 acre at the Seneca property and entering into twenty (20) years, rent free, leases for all three EBRCSA sites on District properties.
- Sept 2016** EBRCSA denied the previous agreement and agreed to pay directly for each one of the three sites and the District would use the money to buy into their system.
- Dec 2016** District received a call from EBRCSA that their Board did not approve the lease with EBRCSA stating concerns with the discounted lease amount of \$35,000/year for each site.

Other Considerations –

- The District would lose an estimated \$250,000- \$350,000 by keeping EBRCSA at the Seneca site.
- The District has provided substantial lease rate reduction and special concessions saving EBRCSA approximately \$1.15 million over the term of the lease, as well as other non-financial concessions that shifted more risks to the District.
- Rent to be paid by EBRCSA would be returned to pay EBRCSA for the services the District will use to maintain and operate the P-25 system.
- The District leases many properties and needs to caution against setting precedence for lease terms which may have significant financial impacts.
- The District has been working collaboratively with EBRCSA for over 2-1/2 years.
- The District requires resolution as soon as possible to avoid further financial and operational impacts.
- Either both entities provide reciprocal land use or both entities pay going standard rates to protect their rate payers.

EAST BAY MUNICIPAL UTILITY DISTRICT

DATE: December 8, 2016
MEMO TO: Board of Directors
THROUGH: Alexander R. Coate, General Manager *ARC*
FROM: Sherri A. Hong, Manager of Customer and Community Services *SHERRI*
SUBJECT: Lease Negotiations with the East Bay Regional Communication System Authority

SUMMARY

This memo is to inform the Board of Directors of the status of the East Bay Regional Communication System Authority (EBRCSA) lease negotiations. Staff has been working with EBRCSA for the last 16 months on three communication site leases located on District property at Seneca Reservoir (Oakland), Pearl Reservoir (Richmond), and Carter Reservoir (Moraga).

When EBRCSA was formed in 2007, the District had reciprocal telecommunications land-use site agreements with the counties of Alameda and Contra Costa. At the time, EBRCSA used these agreements to build their infrastructure on District property at no cost. All reciprocal agreements with Alameda and Contra Costa counties expired several years ago and EBRCSA was allowed to maintain their towers on District property under a revocable license until a long-term lease was established. Recently, staff negotiated a long-term lease with EBRCSA. The lease provisions included many concessions including reduced fees and favorable terms relative to those charged by the District to telecommunication carriers (see Attachment 1).

Staff's intent has been to use the revenue generated from the leases to pay for equipment needed to participate in the EBRSCA communication network. At their December 2nd meeting, the EBRCSA Board did not approve the lease terms and fee schedule expressing interest in again approaching the District and potentially Board members to use the properties at no or low cost.

DISCUSSION

EBRCSA was officially created on September 11, 2007, with the formation of a Joint Powers Authority (JPA) to build, own and operate a state-of-the-art Project 25 (P-25) compliant communications system for the public agencies within Alameda and Contra Costa counties. Currently there are 43 member agencies serving a population of over 2.5 million people. These agencies span both counties, and include 30 cities, six special districts, three colleges, Dublin-San Ramon Services District and the California Department of Transportation. EBRCSA's Board of Directors is comprised of 23 representatives consisting of elected officials, police chiefs, fire chiefs, and city managers. The EBRSCA Board is responsible for the overall development, operations and funding of the system.

EBRCSA was established to build and operate a state-of-the-art P-25 compliant communication system for public agencies within Alameda and Contra Costa counties. P-25 is a suite of

standards for digital radio communications used by federal, state, and local public safety agencies in North America to communicate with other agencies and mutual aid response teams in emergencies. The goal of P-25 is to enable all public safety responders to communicate in order to support enhanced coordination, timely response, and efficient and effective use of communications equipment. The P-25 compliant system also ensures reliable communications during the most severe emergencies regardless of the status of telephone systems or cellular networks.

The District currently relies on cell phones, landlines, and some non-P-25 radios and satellite phones for normal and emergency communications. The District has had an interest in joining the EBRCSA P-25 compliant system for some time; however, the upfront investment and the monthly subscription fees made it difficult given the District's current budget constraints. The benefits to the District for joining the EBRCSA system include a robust communication system that is more likely to be available in an emergency than the cellular network or landlines and will aid the District's ability to communicate with police, fire, ambulance and other emergency services agencies.

Staff has been negotiating the new lease terms with EBRCSA since August 2015. During the initial negotiation stages, staff and EBRCSA tentatively agreed to a reciprocal agreement. Under this tentative agreement, EBRCSA would provide the District with the startup P-25 equipment, and free District participation in their system for 60 radios for 20 years in exchange for occupying District property at no cost.

After several months of discussion, EBRCSA determined that for internal reasons, it could not agree to the reciprocal agreement. As a result, the discussion moved from the exchange of services approach to a lease transaction in which the District would use the money generated from the EBRCSA leases to buy the P-25 equipment and access to their proprietary system. The lease negotiations spanned several months and recently reached final conclusion wherein the cost for each site was reduced to \$35,000 per year with reduced escalators and many other concessions noted in Attachment 1.

Throughout the negotiation process, staff was cognizant of the fact that EBRCSA is a public entity that provides important services to the community. Despite offering EBRCSA over \$1.1 million in financial concessions, and a significant number of favorable lease terms, EBRCSA's Board did not approve the lease as they seek to lease these sites for free or for a nominal fee, yet to be determined. The District has the authority to lease property at fair market rates and believes that the lease terms offered are fair.

NEXT STEPS

Staff will continue working with EBRCSA to establish a long-term lease agreement. Staff will keep the Board updated.

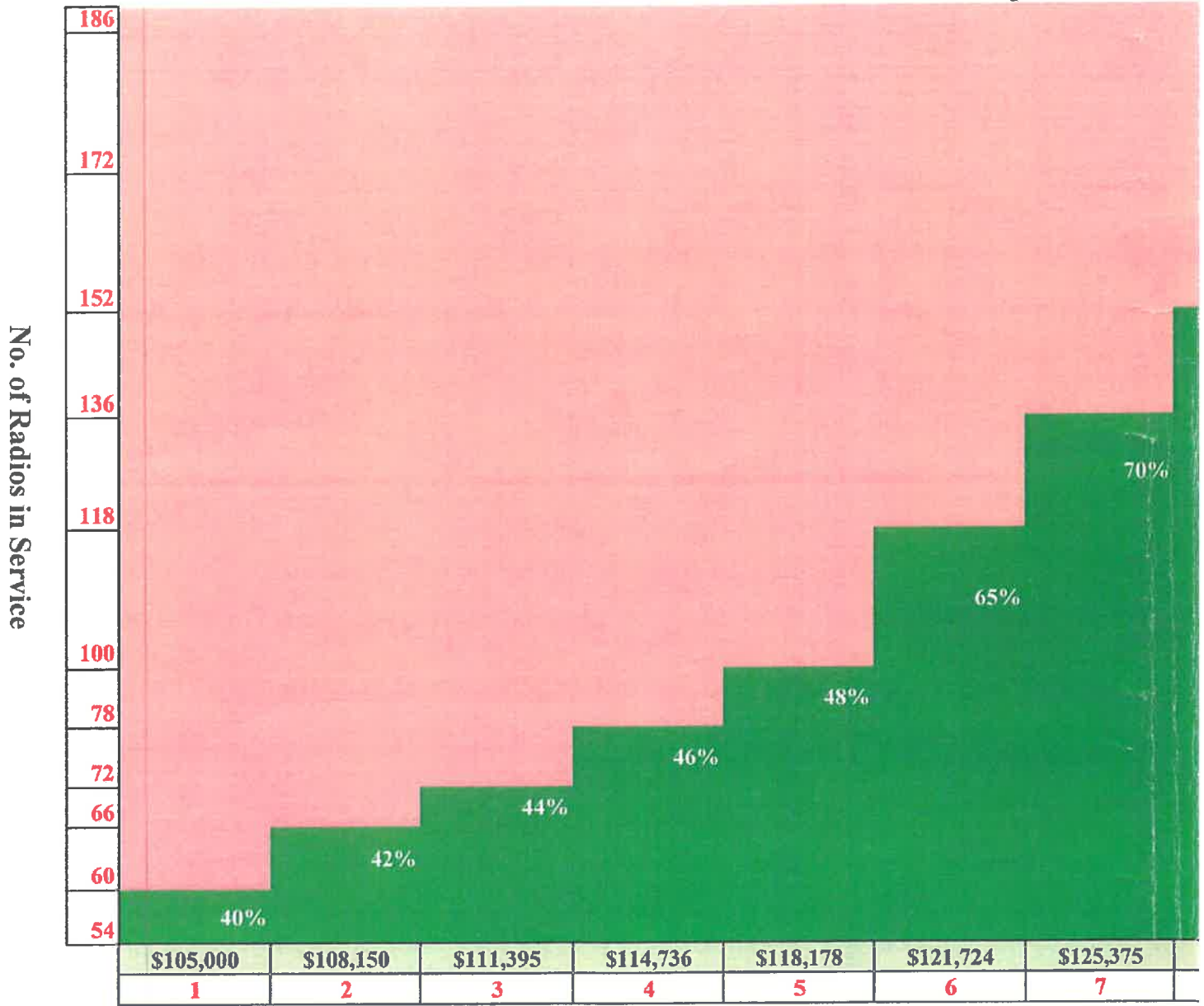
ARC:SAH:me:dlb

Attachment

Attachment 1

1. The District currently charges telecommunication carriers \$50,000 annually for each site with restrictions. The District agreed to lease each site to EBRCSA for a reduced amount of \$35,000 per year, thus giving EBRCSA a discount totaling \$675,000 over the term of a 15-year lease for the three sites.
2. All new telecommunication leases with carriers include a standard five percent annual increase instead of the Consumer Price Index (CPI) to simplify the lease administration. With EBRCSA, the District agreed to lower its standard annual increase from five percent to three percent. This concession is valued at \$367,564 in savings to EBRCSA for the three sites over the lease term.
3. District leases with telecom carriers include a 15 percent automatic increase at the renewal of each five-year extension period. The District agreed to reduce the renewal increases from its standard of 15 percent to three percent. This concession is valued at \$105,000 in savings to EBRCSA for the three sites over the lease term.
4. The District compromised on lease cancellation rights.
5. District telecommunication leases require District approval of any equipment additions or deletions from the site that differ in any way from the equipment listed in the original lease. The District allowed the approval of any additions and/or deletions to EBRCSA equipment on site.
6. District telecommunication leases expressly provide for an increase in rent if the carriers expand their services at any site. The District waived its right for compensation if EBRCSA expanded services on the towers.
7. The District modified EBRCSA's lease default provisions and allowed for longer cure periods.
8. The District agreed to compensate EBRCSA if they were forced to relocate to a different part of the site for District operational needs.
9. The District agreed to a very generous holdover provision. Generally, if there are payment holdovers, a 200 percent payment which includes last month rent is required which is the standard charge in a carrier lease. This was reduced to 15 percent for EBRCSA.
10. One of the key provisions in all of the District's telecommunication leases is the right to own the tower and vault buildings installed on site at end of the lease term. This is a common provision in private sector telecommunication leases which the District adopted, a provision the District typically never waives on. However, in the case of EBRCSA, the District waived those rights.

EBMUD P-25 Participation Costs Ba



Pro

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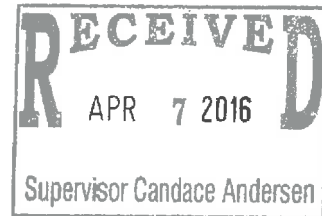


\$129,137	\$133,011	\$137,001	\$141,111	\$145,345	\$149,705	\$154,196	\$158,822
8	9	10	11	12	13	14	15

ected Rent

March 30, 2017

The Honorable Candace Andersen
The Honorable Scott Haggerty
East Bay Regional Communications System Authority
4985 Broder Blvd.
Dublin, CA 94568



Dear Supervisors Andersen and Haggerty:

We appreciate you taking the time to meet with East Bay Municipal Utility District (EBMUD) to discuss the proposed telecommunication leases for the East Bay Regional Communications System Authority (EBRCSA). Our agencies provide vital public services to the community and I believe we can find a solution that satisfies both our interests.

At the conclusion of our meeting on February 10, 2017, we discussed several follow-up action items. Staff has worked closely with EBRCSA to explore the available options and would like to provide you with an update on these efforts. The following is a recap of the action items and status:

1. **EBMUD and EBRCSA, with the assistance of Ed Woo, will investigate the possibility of having telecom carriers co-locate on the same sites with EBRCSA.**

Investigation of this option revealed that the three telecom sites located in Oakland, Richmond, and Moraga, did not have either sufficient room available on the towers for additional equipment or enough ground space to add new towers.

2. **The original proposed no-cost exchange of services agreement called for EBRCSA to provide equipment and waive subscription fees for 60 radios in lieu of lease fees for use of EBMUD property.**

In our meeting, we discussed reviving this proposal with a reduced number of radios. EBMUD suggested 40 P-25 radios instead of 60 radios. EBRCSA is attempting to clarify this option with its legal staff.

3. **A third option, proposed by EBMUD after our meeting, was for EBMUD to purchase our own equipment, including the radios, and EBRCSA would waive the P-25 initiation and monthly subscription fees for EBMUD's use of EBRCSA's system.**

This option was presented to address EBRCSA's concerns with purchasing equipment for EBMUD, primarily the capital outlay, and the precedent that it would set with other EBRCSA members. We believe this option offers a fair and easy exchange of use of each agencies asset in lieu of lease fees. We understand that EBRCSA is consulting with its legal staff on this option as well.

Honorable Candace Andersen
Honorable Scott Haggerty
March 30, 2017
Page 2

It appears that EBRCSA and EBMUD use the same law firm and possibly the same attorney. The required conflict of interest statements were completed and returned via email on Friday, March 24, 2017 and evaluation of options should be able to proceed expeditiously.

Again thank you for your time and efforts on this matter. We look forward to hearing your thoughts on the above items. If you need additional information or I can be of further assistance, please contact me at (510) 287-0101.

Sincerely,

A handwritten signature in blue ink that reads "Alexander R. Coate". The signature is fluid and cursive, with the first name being the most prominent.

Alexander R. Coate
General Manager

ARC:SAH:me:dlb

cc: EBMUD Board of Directors

TELECOMMUNICATION SITES LEASE

THIS TELECOMMUNICATION LEASE (“Lease”), is made this ____ day of _____, 20__ (“Effective Date”), by and between East Bay Municipal Utility District, a public corporation of the State of California (“Lessor”), and the East Bay Regional Communications System Authority, a joint exercise of powers agency of the State of California (“Lessee”).

WHEREAS, Lessee is a joint exercise of powers agency with primary responsibility to own, build and operate a state-of-the-art P-25 compliant communications system for public agencies within Alameda and Contra Costa counties. EBRCSA is authorized to enter into this Agreement pursuant to a Joint Exercise of Powers Agreement between its member public agencies dated September 11, 2007.

WHEREAS, Lessor owns that certain real properties legally described in Exhibit “A”, “B”, “C” attached hereto and incorporated herein (“Properties”).

WHEREAS, Lessee currently uses different portions of the Properties described in Exhibit “D”, “E”, and “F” attached hereto and incorporated herein (“Premises”) for the purposes of installing, operating and maintaining communications facilities.

WHEREAS, Lessee desires to continue to use the Premises for its communications facilities and to enter into a long-term agreement with Lessor for such use;

WHEREAS, Lessor desires to lease the Premises to Lessee pursuant to the terms, conditions and covenants set forth herein.

NOW THEREFORE, Lessor and Lessee agree to the following terms, covenants, and conditions contained herein;

W I T N E S S E T H :

1. PREMISES

Lessor leases to Lessee the three separate Premises as delineated in Exhibits “D”, “E”, and “F” at three different Lessor owned properties identified in Exhibits “A”, “B”, and “C” for the purpose of placing Lessee’s telecommunication equipment with all appurtenances and utilities, along with the use of access routes as illustrated in each of the Premises’ attached Exhibit.

2. USE OF PREMISES

Lessee shall use the Premises only for the purpose of accessing, installing, maintaining, operating, replacing, upgrading and removing a wireless communications facilities, including a communications tower, repeater equipment, security camera, support facilities and equipment, power generation equipment and related improvements, structures and equipment (collectively, “Facilities”) and uses incidental thereto.

A. Lessee’s existing Facilities consists of the facilities described in Exhibits “G”, “H”, and “I” attached hereto and incorporated herein.

3. TERM

A. Initial Term: Lessee shall have the rights to the Premises for a period of five (5) years (“Initial Term”), commencing thirty (30) days after execution of this Lease (“Commencement Date”) and ending five (5) years from the Commencement Date (“Expiration Date”), subject to renewal or cancellation rights as hereinafter set forth.

B. Extended Term (Renewal Options): Lessee shall have the option to extend the Term of this Lease for two (2) consecutive five (5) year periods after the Initial Term expires (each an “Extended Term”) upon the same terms and conditions set forth herein except for the Base Rent, which shall increase as set forth in Section 4.C, below. The Lease shall renew automatically for each Extended Term unless Lessee gives Lessor written notice of its intention not to renew no later than thirty (30) days prior to the expiration of the Initial Term or First Extended Term, whichever is applicable.

4. RENT

A. Base Rent: Lessee agrees to pay Lessor, as base rent for the Premises starting on the Commencement Date, the annual sum of thirty five thousand dollars (\$35,000) for each of the described Premises for a total of \$105,000 (“Base Rents”) payable in advance on or before the Commencement Date of the Initial Term and annually thereafter during the Initial Term to the Lessor at P.O. Box 24055, Oakland, CA 94623.

B. Base Rent Adjustment. The amount of Base Rents payable hereunder shall be adjusted annually, commencing on the first anniversary of the Commencement Date of the Initial Term and thereafter on each anniversary date of the Commencement Date during the Initial Term or any extensions thereof (the “Adjustment Date”). Adjustments shall increase and be calculated by three percent (3%) of the previous year’s rental. Adjustments shall become effective on the Adjustment Date.

C. Extended Term (Renewal) Base Rents. If Lessee elects to exercise its option for an Extended Term, the Base Rent shall increase by three percent (3%) above the Base Rent paid by Lessee during the previous twelve (12) month period at the commencement of the Extended Term, which increase shall replace and be in lieu of any annual Base Rent adjustment scheduled to occur on the same date pursuant to Section 4.B herein. Thereafter the annual Base Rent adjustment will be pursuant to Section 4B herein.

D. Late Rent. Should the annual Base Rent payment not be paid in full within thirty days (30) days of the Due Date, a ten percent (10%) late fee shall be added to the Base Rent due. Lessor’s right to collect a late fee shall not be deemed an extension of the Due Date nor prevent the Lessor from exercising any other rights and remedies available under this Lease and by law.

5. UTILITIES

Lessee agrees to furnish and maintain at Lessee’s sole cost and expense, all water, gas, heat, light, power and all other utilities and operating infrastructure required at the Premises.

6. LESSOR'S RIGHTS

A. Lessor reserves the right to use the Property, including the Premises, at any and all times, for Lessor's operations and shall, in the event of an emergency, have the right to enter upon the Premises for emergency purposes necessary in the conduct of the Lessor's operations. In the event Lessor enters the Premises pursuant to this Section, Lessor shall provide Lessee notice of such access as soon as is practical.

B. It is understood that construction, reconstruction, maintenance, and use of the reservoir, pumping plants, pipelines and other facilities or improvements of Lessor, present or future, upon the Property shall at all times be paramount to any rights under this Agreement, provided that Lessor will not unreasonably interfere with Lessee's use of the Premises. The construction, reconstruction, maintenance, and use of the facilities of Lessee, and all work upon or in connection therewith, shall at no time and in no way whatever interfere with the present or future operations of Lessor; the location of the facilities, the construction, reconstruction, and maintenance thereof, and all work in connection therewith, shall be done and made under the supervision and to the reasonable satisfaction of Lessor.

7. ACCESS

Where Lessor holds rights of access to the Property in fee title, Lessor grants Lessee access to the Property via use of the access road as described in Exhibits "A-F", and a right of access to the source of electrical and telephone facilities, twenty-four (24) hours a day, seven (7) days a week as depicted in Exhibits "A-F". Where Lessor does not own access rights in fee title, Lessee shall be solely responsible for obtaining any and all rights required from third parties to access the Premises. Lessor will, however, provide Lessee with copies of any applicable easement agreements granting Lessor access to the Property. If Lessee uses Lessor's existing access road, Lessor and Lessee will share in road maintenance costs as provided herein. Lessee shall be solely responsible for the cost of road maintenance for any portion of access roads that are used exclusively by Lessee. Lessee shall be solely responsible for the costs of repairs any damage to access road caused by Lessee, its contactors, subcontractors, agents or sublessees. Lessor agrees to permit Lessee free ingress and egress to the Premises to conduct such surveys, structural strength analyses, subsurface boring tests and other activities of a similar nature as Lessee may deem necessary at the sole cost of Lessee.

8. PRIOR APPROVAL

Lessee agrees that prior to construction of any new Facilities on the Premises, Lessee shall submit to Lessor for final approval the approved building permit from the appropriate permitting agency, the final construction plans and a detailed description and photo depiction of the improvements to be built, which approval shall not be unreasonably withheld or delayed. In the event Lessor fails to respond to a request for approval within forty-five (45) days after receiving such request, such request shall be deemed approved.

9. CONDITION OF PREMISES

Lessee further agrees that upon completion of the installation of any new Facilities, Lessee shall promptly return as near as possible the surface of the ground to the condition in which it was prior to the commencement of said work and Lessee shall not commit or suffer to be committed any waste upon the Premises or any nuisance thereon and agrees to keep the Premises in a neat, clean, sanitary and orderly condition at all times during occupancy, and not to permit any amount of rubbish, garbage or refuse to accumulate and remain thereon at any time. If Lessee fails so to keep the Premises as stated herein, then after thirty (30) days written notice to Lessee, Lessor may perform the necessary work at the reasonable expense of Lessee, which expense Lessee agrees to pay to Lessor upon demand.

10. LIENS

Lessee shall keep the Premises free and clear from any liens arising out of any work performed, material furnished, or obligations incurred by Lessee.

11. TREES

Lessee agrees that no trees will be damaged and/or removed during installation of Lessee's facilities without mitigation approved in advance by Lessor. During the term of this Lease, trimming of trees must be minimized and shall be subject to prior approval by Lessor.

12. INTERFERENCE

Lessee shall provide for complete frequency compatibility with all other radio transmitting equipment currently existing on the Premises prior to the Effective Date and any future equipment owned and properly installed by Lessor. In the event an interference problem arises and cannot be eliminated by Lessee within thirty (30) days after notification to do so by Lessor, the equipment causing such interference shall be taken out of service until the problem is corrected to the complete satisfaction of the Lessor. During the term of this Lease, Lessor will not grant a similar Lease to a third party if such third party's facilities would interfere with the operation of Lessee's facilities on the Premises. Nothing in this Lease shall prohibit the co-locating of telecommunication equipment on or in Lessee's facilities as long as said co-location is approved in writing by both Lessee and Lessor.

13. GOVERNMENTAL APPROVALS

Lessee shall, at its sole cost and expense, comply with all applicable requirements, rules, regulations and environmental documentation pertaining to facilities, equipment and operations to be conducted on the Premises, including all requirements imposed by the respective City, County, the State of California and the United States of America. Lessor agrees to cooperate with Lessee with respect to obtaining any required zoning or other governmental approvals or permits for the Premises and Lessee's facilities, including providing signatures where necessary on Lessee's governmental permit applications. Lessee acknowledges, however, that Lessor is not a permitting entity and shall not be responsible for obtaining or maintaining any necessary governmental approvals on behalf of Lessee.

14. MODIFICATIONS AND IMPROVEMENTS

A. Lessee will not make any alterations to the Premises without obtaining the prior written approval of Lessor, which approval shall not be unreasonably withheld or delayed. Lessee must request consent to the modifications in writing, and submit a copy of the proposed plans that will be submitted to the appropriate permitting agency, a copy of the permit application being submitted to the permitting agency, and a letter of authorization. In the event Lessor fails to respond to a request for approval within forty-five (45) days after receiving such request, such request shall be deemed approved. If Lessee will require Lessor, as property owner to sign a permit application or other similar document to be submitted to the permitting agency, Lessor will require a letter from the Lessee that certifies all documentation submitted to the permitting agency is true and correct and that Lessee indemnifies the Lessor against any claims resulting from erroneous representations or misrepresentations. Alterations to the Premises that significantly change the footprint of the Facilities will require an amendment to this Lease to reflect the new footprint.

B. Upon Lessee receiving approval from the appropriate permitting agency, Lessee must submit to Lessor a copy of the approved permit and a copy of the final construction plans.

C. Lessee shall provide Lessor, without charge or expense, space as necessary for Lessor's communications equipment either inside or on top of Lessee's improvements, to be utilized solely in connection with Lessor's operations as a municipal utility district. Lessor acknowledges and agrees that Lessor's communications equipment may not interfere with any of Lessee's Facilities, and Lessor shall submit plans and specifications to Lessee for review to determine any impact on Lessee's Facilities. Within 45 days, Lessee shall either approve Lessor's plans and specifications or deny approval if Lessee reasonably determines that either a technical or structural interference is likely to occur. Failure by Lessee to approve or deny approval of Lessor's plans and specifications within 45 days shall be deemed approval.

D. Lessor shall be solely responsible for all costs associated with the installation and maintenance of Lessor's equipment or improvements on the Premises.

15. INDEMNIFICATION AND DAMAGES

A. Lessee expressly agrees to indemnify, defend and hold harmless Lessor, its directors, officers, and employees from and against any and all loss, liability, expense, claims, costs, suits, and damages, including attorney's fees, arising out of Lessee's operation or performance under this Agreement, including all costs, claims, and damages (including property and personal injury) arising out of any Hazardous Materials as defined in Section 16.C within the Property to the extent caused and/or released by Lessee's construction, reconstruction, maintenance, operation, use or removal of its Facilities. Such indemnification shall not obtain to acts of gross negligence or willful misconduct of Lessor, its directors, officers or employees.

B. Damages: Lessee shall be responsible for and shall reimburse Lessor for any damage or loss to Lessor's present or future facilities on the Property to the extent directly or indirectly contributed to or caused by Lessee's operation or performance under this Lease, including, but not limited to, any damage or loss due to Lessee's deposit of Hazardous Materials as defined in Section 16.C on the Property. Lessee's obligations pursuant to this paragraph shall not apply to the extent such damage or loss is caused by the gross negligence or willful misconduct of Lessor, its directors, officers or employees.

C. Assumption of Risk: Except to the extent caused by the gross negligence or willful misconduct of Lessor, its directors, officers or employees, Lessee agrees to assume all risk of damage to any property of Lessee or any other property under the control or custody of Lessee while upon the Property or rights-of-way of Lessor or in proximity thereto, caused by or contributed to in any way by Lessor's construction, reconstruction, operation, maintenance, repair, or use of pipelines, reservoirs or other facilities or improvements or roadways of Lessor, present or future.

16. HAZARDOUS MATERIALS

A. Representation: Lessor represents that it has conducted no site investigation(s) for hazardous materials and has no knowledge of any hazardous materials (as defined below) existing on or about the Property, including the Premises, in violation of any applicable law.

B. Lessee represents and warrants to Lessor that Lessee will not generate, store or dispose of any hazardous materials on, under or about the Premises in violation of any hazardous substance laws (as defined below).

C. Definition of Hazardous Materials: In this Lease, "hazardous materials" includes, but is not limited to, substances defined as "hazardous substances," "hazardous materials," or "toxic substances" in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended, 42 U.S.C. Section 9601, et seq.; the Hazardous Materials Transportation Act, 49 U.S.C. Section 1801, et seq.; the Resource Conservation and Recovery Act, 42 U.S.C. Section 6901, et. seq.; and those substances defined as hazardous, toxic, hazardous wastes, toxic wastes, or as hazardous or toxic substances by any law or statute now or after this date in effect in the state in which the Premises are located; and in the regulations adopted and publications promulgated pursuant to those laws (all collectively "hazardous substance laws").

17. INSURANCE REQUIREMENTS

Lessee shall take out and maintain during the life of the Lease all the insurance required in this Section, and shall submit unaltered and completed certificates for each Property (attached as Exhibit "D") for review and approval by Lessor. The Lease shall not be issued, and Lessee shall not commence operations on the Premises, until the certificates have been approved by Lessor. The certificates shall be the forms supplied by the Lessor (except as noted below for the Workers Compensation Insurance).

Acceptance of the certificates shall not relieve Lessee of any of the insurance requirements, nor decrease the liability of Lessee. Lessor reserves the right to require Lessee to provide insurance policies for review.

Lessee shall take out and maintain during the life of the Lease statutory Workers' Compensation insurance for all of its employees on the Properties. In lieu of evidence of Workers Compensation insurance, Lessor will accept a Self-Insured Certificate issued from the State of California. Lessee shall require any agent and/or consultant to provide it with evidence of Workers' Compensation Insurance coverage.

Lessee shall take out and maintain during the life of the Lease Automobile and Commercial General Liability Insurance policies that provide protection from claims which may arise from operations or performance under this Lease. If Lessee elects to self-insure (self-fund) any liability exposure during the Lease period above \$50,000, Lessee is required to notify the Lessor immediately. Any request to self-insure must first be approved by the Lessor before the changed terms are accepted. Lessee shall require any agent and/or consultant to provide evidence of Automobile, Commercial General Liability Insurance Coverage, and Pollution Liability Insurance coverages for any work involving construction, excavation and/or the use or storage of any hazardous materials.

The amounts of insurance shall be not less than the following per Property:

\$2,000,000/Occurrence, Bodily Injury, Property Damage – General Liability.

\$2,000,000/Occurrence, Bodily Injury, Property Damage – Automobile Liability.

\$2,000,000/Occurrence/Claims Made, Bodily Injury, Property Damage – Pollution Liability

The following coverages or endorsements must be included in the policy(ies):

- A. Lessor and its directors, officers, and employees are additional insureds in the policy(ies) as to the work being performed under this Lease;
- B. The coverage is primary and non-contributory to any other insurance carried by Lessor;
- C. The policy(ies) cover(s) contractual liability;
- D. The policy(ies) is (are) written on an occurrence basis,
- E. The policy(ies) cover(s) Lessor's real property in the Lessee's care, custody and control;
- F. The policy(ies) cover(s) personal injury (libel, slander, unlawful entry and eviction) liability;
- G. The policy covers explosion, collapse and underground hazards;
- H. The policy(ies) cover(s) products and completed operations;
- I. A policy to cover use of owned, non-owned, and hired automobiles and equipment;

J. The policy(ies) shall not be canceled nor reduced unless 30 days' written notice is given to Lessor.

18. ASSIGNABILITY

Lessee shall not voluntarily or by operation of law assign, transfer, sublet, or otherwise transfer or encumber all or any part of Lessee's interest in the Lease or in the Premises, without Lessor's prior written consent which consent shall not be unreasonably withheld or delayed.

19. DEFAULT

A. DEFAULT BY LESSEE

It is understood and agreed that if Lessee fails to pay any installment of rent as it becomes due, or if Lessee defaults on any of the other covenants, agreements or terms of this Lease, and if upon receipt of ten (10) days' written notice in the case of a monetary default, thirty (30) days' written notice in the case of a non-monetary default or seven (7) days' written notice in the case of a frequency incompatibility default, Lessee shall fail or refuse to correct the default, Lessor at its option may re-enter the Premises and remove all improvements therefrom, and may terminate this Lease or take possession of the Premises as the agent and for the account of Lessee, and may lease or rent the whole, or any part of the Premises for the balance or any part of the term of this Lease and retain all rents received and apply them in payment on any rents owed by Lessee. The performance of any or all of these acts by Lessor shall not release Lessee from the full and strict compliance with all of the terms, conditions and covenants of this Lease, If the nature of Lessee's default is such that more than thirty (30) days are reasonably required to cure the default, then Lessee shall not be in default if Lessee commences the cure within this thirty (30) day period and thereafter diligently prosecutes such cure to completion.

B. DEFAULT BY LESSOR

Lessor shall be deemed to be in default of this Lease if Lessor fails to observe or perform any of the covenants, conditions or provisions of this Lease to be observed or performed by Lessor, where such failure continues for thirty (30) days after written notice by Lessee to Lessor detailing such default; provided however, if the nature of Lessor's default is such that more than thirty (30) days are reasonably required to cure the default, then Lessor shall not be in default if Lessor commences the cure within this thirty (30) day period and thereafter diligently prosecutes such cure to completion. In the event of an incurable default or a default which is not cured by Lessor within the grace period specified, Lessee may pursue any remedies available to it against Lessor at law or in equity, including but not limited to, the right to terminate this Lease.

20. WAIVER

The waiver by either party of any breach of any term, covenant or condition of this Lease shall not be deemed to be a waiver of the term, covenant or condition or any subsequent breach of the

same or any other term, covenant or condition. Lessor's subsequent acceptance of rent shall not be deemed to be a waiver of any preceding breach by Lessee of any term, covenant or condition of this Lease, other than failure of Lessee to pay the particular rent so accepted, regardless of Lessor's knowledge of such preceding breach at the time of acceptance of the rent.

21. REMEDIES

It is understood that the remedies provided for the parties in case of a violation of the terms of this Lease by the other party are not exclusive, but are in addition to any remedies provided by law, any of which the parties shall have the right to use at their option.

22. RELOCATION

Lessor shall have the right to require the relocation of the Premises, or any part thereof, to an alternate ground location provided that (i) the relocation shall be performed exclusively by Lessee or its agents at Lessee's sole cost and expense during the Relocation Period, as defined below, (ii) the relocation shall not result in any interruption of the communications services provided by Lessee to its customers, including, but not limited to, Lessee's continuous access, maintenance and operation of Lessee's facilities, until such time that all tenants, subtenants and sublicensees that have been permitted by this Lease are successfully relocated, and (iii) the relocation shall not impair, or in any manner alter, the quality of communications services provided by Lessee to its customers on and from the Relocation Site as defined below.

A. Relocation Process. To exercise the relocation rights, Lessor shall provide written notice to Lessee not less than twelve (12) months prior to the relocation date and shall propose an alternate site in the same Property to which Lessee may relocate the Lessee Facilities ("Alternate Site Location"). Lessee shall have sixty (60) days from the date of the notice to evaluate the Alternate Site Location, including, but not limited to, conducting tests to determine the technological feasibility of the Alternate Site Location and obtaining written approval of all wireless telecommunications providers on the Premises that have been permitted by this Lease. If Lessee fails to approve the Alternate Site Location in writing within said sixty (60) day period, Lessee will be deemed to have not approved such Alternate Site Location. If Lessee does not approve such Alternate Site Location, Lessor may then propose another Alternate Site Location by providing notice to Lessee in the manner set forth above. Upon Lessee's approval of any proposed Alternate Site Location, both parties will enter into a written agreement concerning the relocation of Lessee's Facilities ("Relocation Agreement") to the Alternate Site Location ("Relocation Site"). Lessor shall undertake reasonable efforts to provide an Alternate Site Location acceptable to Lessee. If no Alternate Site Location is available or if Lessee does not approve an Alternate Site Location, Lessor or Lessee may, upon one (1) years' written notice, terminate the Lease.

B. No Additional Terms. Upon relocation of Lessee's facilities, all references to the Premises in this Lease shall be deemed to refer to the Relocation Site (including any access and utility easements). The Relocation Site shall be surveyed by a licensed surveyor at the sole cost of Lessor, in which event such survey shall replace and supersede the description of the Premises under this Lease. Unless otherwise provided in the Relocation Agreement

or any other written agreement of the Parties, the relocation of Lessee's Facilities shall not affect, alter, modify or otherwise change any of the terms and conditions of this Lease.

C. Relocation Period. The "Relocation Period" shall mean that period of time commencing on the date Lessee has received all required permits and approvals for the Relocation Site and ending one hundred twenty (120) days thereafter. The relocation of Lessee's facilities to the Relocation Site shall be substantially completed within the Relocation Period, to the extent reasonably feasible.

23. CONDEMNATION

If any part of the Premises is condemned for a public use and a part of the Premises remains that is capable of occupation and use as authorized under this Lease, this Lease shall, as to the part so taken, terminate as of the date title shall vest in the condemnor. If all of the Premises is condemned or if such part is condemned so that there does not remain a portion capable of occupation and use as herein authorized, this Lease shall thereupon terminate. If a part or all of the Premises is condemned, all compensation awarded upon such condemnation, except such compensation as shall be specifically awarded to Lessee for loss of or damages to fixtures owned by Lessee, or business interruption or moving expenses, shall go to Lessor and Lessee shall have no claim thereto and Lessee irrevocably assigns and transfers to Lessor any and all rights to all other compensation or damages to which Lessee may become entitled during the term of this Lease by reason of the condemnation.

25. TERMINATION (NONDEFAULT)

Lessor's Right to Terminate. After expiration of the Initial Term of this Lease, provided the conditions of this Section are met, Lessor may terminate this Lease during any Extended Term upon at least one (1) year notice to Lessee.

After expiration of Initial Term and Extended Terms, if lease is in holdover, Lessor may terminate occupancy upon at least sixty (60) days' notice to Lessee.

Lessee's Right to Terminate. Lessee shall have the right to terminate this Lease upon at least one (1) year written notice to Lessor.

Upon termination, neither party will owe any further obligation under the terms of this Lease except for Lessee's responsibility to remove all of Lessee's facilities from the Premises and restore the Premises to its original condition, as near as practicable in accordance with Section 28, below. Upon any early termination of this Lease, any prepaid rent shall be prorated from the date of termination and returned to Lessee.

26. SURVIVAL

The provisions of Sections 15, 16 and 20 of this Lease will survive the expiration or termination of this Lease.

27. HOLD-OVER

Any holding over after the expiration of the Initial Term or an Extended Term (“Hold-Over”), with the consent of Lessor, shall be construed to be a tenancy from month to month. All terms and conditions of this Lease, excluding Base Rent shall be in full force and effect during Hold-Over. During Hold-Over, the Base Rent shall increase by fifteen percent (15%) above the previous year’s rent paid by Lessee (“Hold-Over Rate”). The Hold-Over Rate shall be due and payable on the anniversary of the Commencement Date of this Lease.

28. REMOVAL OF LESSEE’S FACILITIES UPON TERMINATION

Lessor agrees that the Facilities and all other improvements of every kind and nature constructed, erected, or placed by Lessee on the Premises shall be and remain the property of Lessee. Lessee shall remove its Facilities within thirty (30) days following termination or expiration of this Lease. Lessee agrees to fill in all excavations with solidly compacted earth and to leave said Premises in a neat and clean condition following any such removal save and except normal wear and tear and acts beyond Lessee’s control. Should Lessee fail to complete the removal of Lessee’s Facilities within thirty (30) days following termination of this Lease, then Lessor may perform the removal and Lessee agrees to pay Lessor the reasonable cost for such removal promptly upon demand. The Base Rent shall accrue at the Hold-Over Rate until all equipment has been satisfactorily removed and the Premises have been left in satisfactory condition. Within thirty (30) days following termination of this Lease, Lessee shall at Lessee’s expense eliminate and pay in full any encumbrances, liens and debts incurred by Lessee with respect to any improvements to remain on the property.

29. NOTICE

Any notice required or desired to be given or served under this Lease shall be deemed properly given or served if sent by registered mail, postage prepaid, addressed to Lessor at 375-11th Street, Oakland, California 94607 Attn: Manager of Real Estate Services MS# 903, or Lessee at East Bay Regional Communications System Authority, Attn: Executive Director, 4985 Broder Blvd., Dublin, CA 94568 or at such other address as shall be last furnished in writing by one party to the other.

30. EXISTING CONDITION

This Lease is made subject to all existing liens, encumbrances, conditions and restrictions of record affecting the Premises and is also subject to all existing rights, rights-of-way, licenses, leases, reservations, and easements by whomsoever held, in and to the Premises which predate this Lease.

31. BINDING PROVISIONS

It is understood and agreed that, subject to the provisions of Section 18, this Lease shall be binding upon and inure to the benefit of the executors, administrators and permitted assigns of the respective parties hereto.

32. TITLE AND QUIET POSSESSION

Lessor represents and agrees (a) that it is the owner of the Property; (b) that it has the right to enter into this Lease; (c) that the person signing this Lease has the authority to sign; (d) that Lessee is entitled to access to the Premises at all times and to the quiet possession of the Premises throughout the term so long as Lessee is not in default beyond the expiration of any cure period; and (e) that, except in case of emergency, Lessor shall not handle or otherwise disturb Lessee's Facilities.

33. ENTIRE AGREEMENT; MODIFICATION

This Lease (including the Exhibits) constitutes the entire agreement between the parties and supersedes all prior written and verbal representations or understandings between the parties. This Lease may only be amended by mutual agreement of the parties in writing and signed by both parties.

34. SEVERABILITY

If any provision of this Lease is held to be invalid or unenforceable with respect to any party, the remainder will not be affected and each provision of this Lease will be valid and enforceable to the fullest extent permitted by law.

35. ATTORNEYS FEES

The prevailing party in any action or proceeding in court or mutually agreed upon arbitration proceeding to enforce the terms of this Lease is entitled to receive its reasonable attorneys' fees, limited to the rate of local independent counsel in Alameda County.

36. GOVERNING LAW

This Lease shall be governed, construed, and enforced in accordance with the laws of the State of California without regard to principles of conflicts of laws.

37. JURISDICTION

Lessor and Lessee agree that all disputes, disagreements, or claims arising in connection with this Lease shall be submitted to the exclusive jurisdiction of the state and federal courts of the State of California, with venue in Alameda County. This choice of venue is intended by the parties to be mandatory and not permissive in nature, thereby precluding the possibility of litigation between the parties with respect to this Lease in any jurisdiction other than that specified in this Section.

38. COUNTERPARTS

This Lease may be executed in counterparts, each of which shall be an original, but all counterparts shall constitute one agreement.

IN WITNESS WHEREOF, the parties hereto have executed this Lease in duplicate, the day and year first above written.

LESSEE:

EAST BAY REGIONAL COMMUNICATIONS SYSTEM AUTHORITY,
a joint exercise of powers agency

By: _____
Board Chair

Approved as to form:

Robin Donoghue, EBRCSA Counsel

LESSOR
EAST BAY MUNICIPAL UTILITY DISTRICT

By; _____
MATT ELAWADY
Manager of Real Estate Services



**East Bay Regional
Communications
System Authority**



Participating agencies include Alameda and Contra Costa Counties and the following cities and special districts: Alameda, Albany, Antioch, Berkeley, Brentwood, Clayton, Concord, Danville, Dublin, El Cerrito, Emeryville, Fremont, Hayward, Hercules, Lafayette, Livermore, Martinez, Moraga, Newark, Oakley, Pinole, Pittsburg, Pleasant Hill, Pleasanton, Richmond, San Leandro, San Pablo, San Ramon, Union City, Walnut Creek, East Bay Regional Park District, Kensington Police Community Services District, Livermore Amador Valley Transit Authority, Moraga-Orinda Fire District, Rodeo-Hercules Fire District, San Ramon Valley Fire District, California Department of Transportation, Ohlone Community College District, Contra Costa Community College District, Dublin-San Ramon Services District and University of California, Berkeley

AGENDA ITEM NO. 5

**AGENDA STATEMENT
FINANCE COMMITTEE
MEETING DATE: October 13, 2017**

TO: Finance Committee
East Bay Regional Communications System Authority (EBRCSA)

FROM: Tom McCarthy, Executive Director
East Bay Regional Communications System Authority

SUBJECT: Request Direction regarding an Amendment to the System Upgrade Agreement (SUA II) with Motorola Solutions Inc.

RECOMMENDATIONS:

Request Committee discuss and make a recommendation to the Board of Directors to amend the System Upgrade Agreement (SUA II), between the East Bay Regional Communications System Authority (EBRCSA) and Motorola Solutions Inc. via Change Order #26. Change Order #26 will add equipment which was purchased in the past years to the existing SUA II and ensure that Motorola Solutions will provide system technology refresh, including hardware and software for the EBRCSA system and authorize the Chair to sign the agreement and the Executive Director to implement the agreement.

SUMMARY/DISCUSSION:

Representatives from Alameda and Contra Costa Counties and EBRCSA staff have been working with Motorola solutions to identify the equipment which has been purchased over the past two years to determine both a maintenance/service plan, as well as a software lifecycle technology refresh for the EBRCSA system. The equipment is no longer under warranty.

The SUA II agreement is different in that it addresses technology refresh which impacts the version of the system software the EBRCSA system is operating and the associated hardware that is impacted by the software upgrade. The Motorola ASTRO 25 technology is an IP based infrastructure which leverages the use of third party software and hardware and relies less on Motorola proprietary software and hardware, in comparison to systems of the past. The SUA II provides a software upgrade in either year 1(one) or year 2 (two) of the coverage period, and the replacement of hardware that must be upgraded for the software release to work.

The SUA II system software releases cover base stations, site controllers, comparators, routers, LAN switches, servers, dispatch consoles, NICE logging equipment, network management terminals, Network Fault Management (NFM) products, network security devices such as firewalls, and intrusion detection sensors, and associated peripheral infrastructure software. The SUA II also provides for hardware replacement for system components that must be replaced as a result of the software upgrade; this includes servers, PC workstations, routers and LAN switches. Board level replacement of repeater site equipment, and dispatch consoles are included for replacement, as well.

Change Order #26 will add the following to the existing SUA II:

- Oakland Fire 14 positions
- Oakland P.D. 14 positions
- Piedmont 2 positions
- Oakland Housing Authority 3 positions
- Brentwood 4 positions
- Antioch 6 positions
- San Ramon Fire Add 2 positions
- Contra Costa County Fire Dispatch 3 positions
- City of Livermore Police Department Dispatch 1 position
- East Bay Regional Parks District Police Dispatch 1 position
- ALCO East 2-channel expansion 4 sites
- ALCO NW 2-channel expansion 4 sites
- Co-Co-Co East 3-channel expansion 3 sites
- Crane Ridge ASR 2-channel expansion
- ISSI 8000

Motorola provides options for pricing based on the length of the commitment to the SUA II program. Three options were proposed: a year-to-year pricing, a 6-year option, and a 10-year option. The pricing is developed by identifying all the system components that require upgrading to develop the base price, and then a discount is applied based on the term of the agreement (see Exhibit #1 SUA II Pricing).

Motorola has committed the SUA II through 2022 and this will add the additional equipment to the existing agreement. The value of this agreement will be increased by \$582,904 through 2022, with an annual cost of \$101,962 which will be added to the existing annual costs (see table attached to Change Order #26).

FISCAL IMPACT:

The finding of this Change Order will require a Budget Change and will be an Operating Expense added to the maintenance portion of the budget. We have adequate funds to pay for the increase to the SUA II line item of the budget, and this will not require an increase to the Operating Payment made by subscribers.

RECOMMENDED ACTION:

It is recommended that the Committee recommend that the Board of Directors increase the value of the Motorola Solutions Inc. contract from \$37,958,781.00 to \$38,541,685.00. The funding for this is available in the Maintenance Budget.

Attachments:

“A” – Current SUA II

“B” – Change Order #26

Change Order No. 26

Date: 10/06/17

Project Name: EBRCS P25 Project

Customer Name: East Bay Regional Communications System Authority
(EBRCSA)

Customer Project Mgr: Tom McCarthy, Executive Director

The purpose of this Change Order is to: (highlight the key reasons for this Change Order)

Add:

SUAll services to cover the system expansion scope implemented since the original SUAll was signed in 2013.

Scope includes:

50 MCC7500 ops across 6 new dispatch centers and 4 existing dispatch center

Oakland Fire (13 ops+1 spare = 14 ops)

Oakland P.D. (14 ops)

Piedmont (2 ops)

Oakland Housing Authority (3 ops)

Brentwood (4 ops)

Antioch (6 ops)

San Ramon Fire Add (2 ops)

Contra Costa County Fire Dispatch (3 ops)

City of Livermore Police Department Dispatch (1 op)

East Bay Regional Parks District Police Dispatch (1 op)

ALCO East 2-channel expansion (4 sites)

ALCO NW 2-channel expansion (4 sites)

CoCo Co East 3-channel expansion (3 sites)

Crane Ridge ASR 2-channel expansion

ISSI 8000 (to be implemented in 2018)

Total: \$582,904.00 (Updated SUAll Pricing Table attached in Appendix C)

Contract # 09-12030/BKP
Contract Date: 7/7/09

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

Contract Price Adjustments

Original Contract Value:	\$ 414,344.78
Previous Change Order amounts for Change Order numbers <input style="width: 40px; text-align: center;" type="text" value="1"/> through <input style="width: 40px; text-align: center;" type="text" value="25"/>	\$ 37,958,781.09
This Change Order:	\$ 582,904.00
New Contract Value:	\$ 38,541,685.09

Completion Date Adjustments

Original Completion Date:	3/30/10
Current Completion Date prior to this Change Order:	12/30/18
New Completion Date:	06/30/22

Changes in Equipment: <i>(additions, deletions or modifications)</i>
None.

Changes in Services: <i>(additions, deletions or modifications)</i>
The same SUAll services now apply to the system expansion listed in the description. A new System Upgrade II Statement of Work Appendix B is attached and supersedes the previous Appendix B.

Schedule Changes: <i>(describe change or N/A)</i>
The SUAll will still go through June of 2022.

Pricing Changes: <i>(describe change or N/A)</i>
The existing SUAll pricing schedule is replaced in its entirety by the new pricing summary table attached as Appendix C to this change order.

Customer Responsibilities: <i>(describe change or N/A)</i>
Approve Change Order and Issue PO

Payment Schedule for this Change Order:
(describe new payment terms applicable to this change order)

The existing SUAll pricing schedule is replaced in its entirety by the new pricing summary table attached as Appendix C to this change order.

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 Solutions, Inc.

By: _____

Printed Name: _____

Title: _____

Date: _____

EBRCSA

By: _____

Printed Name: Gregory J. AhernTitle: EBRCSA Board Chair

Date: _____

Reviewed by: _____ Date: _____

Motorola Solutions Project Manager

Appendix B - System Pricing Configuration

This configuration is to be reviewed annually from the contract effective date. Any change in system configuration may require an ASTRO 25 SUA II price adjustment.

Core	2018 - 2022
Master Site Configuration	M3
Zones in Operation (Including DSR and Dark Master Sites)	1
Number of Network Management Clients	4
Number of Firewalls	2
ISSI	1
RF System	
Voice RF Sites & RF Simulcast Sites (including Prime Sites)	39
GTR 8000 Repeaters/Stations	401
HPD RF Sites	0
HPD Stations	0
Dispatch Console System	
Dispatch Sites	30
Gold Elite Operator Positions	0
MCC 7500 Operator Positions (GPIOM)	0
MCC 7500 Operator Positions (VPM)	208
Conventional Channel Gateways (CCGW)	98
Logging System	
Number of AIS Servers	2
Number of Voice Logging Recorder	2
Number of Logging Replay Clients	2
Network Management and MOSCAD NFM	
MOSCAD NFM Systems	0
MOSCAD NFM RTUs	0
MOSCAD NFM Clients	0
Fire Station Alerting (FSA)	
FSA Systems	0
FSA RTUs	0
FSA Clients	0
Subscriber Radios	
Voice Subscribers	16,000
HPD Subscribers	0

Appendix C – Pricing Schedule

Original SUAll Pricing	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total
Upgrade	To 7.13		X.XX		X.XX		X.XX		X.XX		
Price per Year	\$898,290	\$903,420	\$912,845	\$918,194	\$923,720	\$929,426	\$935,309	\$941,371	\$947,611	\$954,030	\$9,264,216
10 year Commitment Applied Discount	-\$89,829	-\$90,342	-\$91,285	-\$91,819	-\$92,372	-\$92,943	-\$93,531	-\$94,137	-\$94,761	-\$95,403	-\$926,422
10 year Commitment Price	\$808,461	\$813,078	\$821,561	\$826,375	\$831,348	\$836,483	\$841,778	\$847,234	\$852,850	\$858,627	\$8,337,794
System Expansion SUAll Pricing											
Price per Year						\$113,292	\$133,166	\$133,446	\$133,735	\$134,032	\$647,671
10 year Commitment Applied Discount						-\$11,329	-\$13,317	-\$13,345	-\$13,374	-\$13,403	-\$64,767
System Expansion SUAll Price						\$101,962	\$119,849	\$120,102	\$120,362	\$120,629	\$582,904
New Grand Total	\$808,461	\$813,078	\$821,561	\$826,375	\$831,348	\$938,446	\$961,627	\$967,335	\$973,212	\$979,256	\$8,920,699



**East Bay Regional
Communications
System Authority**



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AGENDA ITEM NO. 6

**AGENDA STATEMENT
FINANE COMMITTEE
MEETING DATE: October 13, 2017**

TO: Finance Committee
East Bay Regional Communications System Authority (EBRCSA)

FROM: Tom McCarthy, Executive Director
East Bay Regional Communications System Authority

SUBJECT: Request Direction concerning Transition to Phase II Transition from Frequency Division Multiple Access (FDMA) to Time Division Multiple Access (TDMA)

RECOMMENDATIONS:

Request Committee discuss and make a recommendation to the Board of Directors concerning transition to Phase II which will transition East Bay Regional Communications System Authority (EBRCSA) from Frequency Division Multiple Access (FDMA) to Time Division Multiple Access (TDMA). In addition, the Phase II transition would incorporate upgrade of the current Microwave system to Ethernet and replacement of the current DC power supplies.

SUMMARY/DISCUSSION:

The design of the EBRCSA network/system was verified through an independent engineering contractor, AECOM, that in December 2009, submitted an extensive review of the system design based on what was known at the time. Several variables were unknown, as they did not have sufficient data from some agencies that were unable, or unwilling, to commit to joining EBRCSA initially when the design was being drafted. The report used the Association of Public Safety Communications Officials (APCO) standard known as Project 25 or commonly referred to as P25. The EBRCSA system serves approximately 18,500 users in Alameda and Contra Costa Counties and, if necessary, 2,500 mutual aid responders from adjoining counties.

The Federal government's guidelines attempt to anticipate the changes in technology and works to maintain adequate FCC licenses for the channels utilized by all agencies with P25 radios. The changes in technology, available equipment, and growth in Public Safety creates a constantly changing environment in Public Safety Radio. The AECOM report published in 2009, anticipated EBRCSA implementing a system which would have a Phase I and Phase II. The initial Phase I consisted of a communications system which would be Frequency Division Multiple Access (FDMA). FDMA allows one radio to operate on a single 12.5 MHz. FDMA has served EBRCSA well, however, the system is monitored 24/7/365 and we are now having what we refer to as "busies" on the system. This is where a Public Safety Person must be put into queue to transmit on the system. The user does not even sense they are in queue because this is often a millisecond wait. The network monitoring is now indicating loads that AECOM had assumed would have been achieved once EBRCSA had migrated to TDMA.

We are seeing an increase in these reported busies. We recently had a fire in the City of Oakland at Edwards Ave. and HWY 580 and although the fire was in Oakland, the system had busies at the Doolan Site in Livermore. The reason for this is that although the incident was in Oakland, a Public Safety Person, possibly at Santa Rita with their radio tuned to the Oakland Channel, brought the Doolan site into the incident. In about an hour we had 100 busies on the Doolan site. The users did not notice any degradation to their communications, however, this is an example of why we need to migrate to Phase II Time Division Multiple Access (TDMA). TDMA allows 2 (two) Public Safety Personnel to operate on the 12.5 MHz at the same time, thus doubling our bandwidth.

In 2009, AECOM assumed that by the time subscribers reached their current number, the network would have already migrated to Phase II TDMA and would have sufficient spectrum available from the doubled network capacity offered by TDMA over FDMA. The credit for enabling the FDMA network to outperform the initial plan can be attributed to the Radio Department for each County and the Technical Advisory Committee (TAC) for the effective job of establishing subscriber radio programming templates that optimize frequency and channel usage. In addition, the credit must also include EBRCSA's Board of Directors and Operations and Finance Committees that have carefully directed the investment of available funds to the areas that have been extended and optimized the FDMA network.

Since turning on the EBRCSA system in 2013, EBRCSA's governing body, management and technology partners have successfully stayed ahead of obstacles that could have challenged end-user satisfaction, perceptions, and safety. The constant maintenance, upgrades, expansions of the infrastructure and the timing of end users programming parameters have successfully kept the network performance and user satisfaction high. However, at this time, there is evidence that AECOM's recommended TDMA upgrade should be planned for, immediately.

Motorola has prepared a system upgrade proposal which includes the TDMA upgrade, Microwave Network upgrade, and DC Power Upgrade. The proposal has the items which are significant to EBRCSA operation and maintenance of the infrastructure. The Microwave will need to be upgraded to Ethernet and radios will be reaching the end-of-life in the next couple of years. The timing of the upgrade is important as the total project will take approximately 3 (three) years to complete. The current Microwave is Aviat and Motorola has worked with Aviat

to include the Microwave upgrade with the TDMA upgrade. The project will replace all the EBRCSA existing Truepoint SONET systems with the new Eclipse TDM/IP Hybrid network and maintain the T-1 loop protections. The upgrade will also increase the capacity 10 GHz to 11 GHz. The Radio Technicians and I have attended a meeting with Aviat recently and discussed the need to begin replacement of the Microwave equipment, as much of this equipment was purchased in 2004 and stored until the project was started in 2006.

EBRCSA Finance Committee has been discussing the need to know what components of the EBRCSA infrastructure will need to be upgraded, and replacement of the DC Power equipment is the top item identified by the Radio Technicians. The Technicians have recommended that including this in the project will ensure that we do not have any interruption to the system in the event of power failure. The batteries were installed at different times during the build, and at some of the sites, the batteries were there before the beginning of the EBRCSA build. The technicians have done their best to maintain the batteries, however, they have various life expectancies and it is prudent to change them before they exceed the expectancy.

Motorola has provided the System Upgrade Pricing Summary:

TDMA Upgrade	\$7,900,000
MW Upgrade	\$8,600,000
<u>DC Power Upgrade</u>	<u>\$2,500,000</u>
Grand Project Total	\$19,000,000

Estimated sales tax \$454,669

Motorola has noted that the TDMA pricing is valid through 2017, and will increase to \$9.5M if purchased in 2018, by July 31st.

Motorola also noted that the Microwave and DC Power Supply is Valid through March 2018.

FISCAL IMPACT:

Motorola has offered two lease options to assist with the financing of the upgrades.

The first is a 5-year lease at 1.71%, with a lease rate of 0.210370 with the lease payment of \$3,997,134.25. The first payment will be due one year after the contract is executed.

The second is a 7-year lease at 1.79%, with a lease rate of 0.153267 with a lease payment of \$2,912,075.64. The first payment will be due one year after the contract is executed.

The Fiscal Impact will require extensive work with the Auditors Office to provide detailed information concerning any increase to users which might be necessary to ensure adequate reserves to make necessary lease payments.

RECOMMENDED ACTION:

It is recommended that the Committee provide its recommendation to the Board of Directors as to how and when we will transition to Phase II. In addition, the recommendation should include whether the project should be done as separate projects, or different combinations of the projects.

Attachments:

“A” – EBRC SA System Upgrades

PROPOSAL
EAST BAY REGIONAL COMMUNICATIONS SYSTEM AUTHORITY

EBRCSA SYSTEM UPGRADES



MOTOROLA SOLUTIONS

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September 25, 2017

Tom McCarthy
East Bay Regional Communications System Authority,
4985 Broder Blvd.
Dublin, California 94568

RE: EBRCSA System Upgrades

Dear Mr. McCarthy,

Motorola Solutions, Inc. ("Motorola") appreciates the opportunity to provide the East Bay Regional Communications System Authority quality communications equipment and services. Motorola's project team has taken great care to propose a solution to address your needs and provide exceptional value.

In response to EBRCSA's request to upgrade the most crucial components of its network, Motorola has prepared this proposal to include a Phase 2 TDMA Upgrade, a Microwave network upgrade with addition of MPLS functionality, and an upgrade of the DC Power systems at all sites. Motorola has also prepared a lease proposal for EBRCSA to finance this project over a 7 year period at exceptionally low interest rates.

This proposal is subject to the terms and conditions of the existing Communications System Agreement (CSA) between EBRCSA and Motorola, dated July 07, 2009, extended on July 6, 2012, and extended again on July 6, 2017 through July 6, 2020. Under Section 3.4 of the existing contract, EBRCSA may purchase additional goods and services from the CSA. Motorola's proposal is based on the assumption that EBRCSA will use this right under Section 3.4 of the CSA for the proposed transaction. Therefore, as in the past, EBRCSA may accept the proposal by executing a Change Order to the current CSA.

Any questions EBRCSA has regarding this proposal can be directed to Gordon Poole, Senior Account Manager at (408) 306-5622, (gordon.poole@motorolasolutions.com).

Our goal is to provide EBRCSA with the best products and services available in the communications industry. We thank you for the opportunity to present our proposed solution, and we hope to strengthen our relationship by implementing this project.

Sincerely,
Travis Boettcher
Vice President - West Government Sales

MOTOROLA SOLUTIONS, INC.





SECTION 1

SOLUTION OVERVIEW

Motorola is pleased to provide a proposal to East Bay Regional Communications System Authority to upgrade the following crucial components of their system:

- **Phase 2 TDMA and Dynamic Dual Mode Upgrade** - All the existing EBRCSA FDMA voice channels will be upgraded to support both FDMA and Project 25 Phase 2 TDMA calls. This upgrade will allow all existing EBRCSA voice channels to support either FDMA or TDMA users.
- **Microwave Backhaul Upgrade** – The existing Aviat TRUpoint microwave radios will be upgraded to the latest ECLIPSE microwave radio and several microwave paths will be upgraded from 10 GHz to 11 GHz. Along with the ECLIPSE microwave radios and path upgrades, an integrated MPLS router is offered well-positioning EBRCSA for Layer 3 services and network scalability.
- **DC Power System Upgrade** – The existing Inverters and Batteries located at each EBRCSA RF site location and the Master Site will be replaced with new Inverters and Batteries.

In order to facilitate EBRCSA to budget for these upgrade projects, Motorola has designed a special lease-purchase program for a period of 7 Years. This would be the most cost effective, economical way for EBRCSA to finance, because the interest payments from the government entity are exempt from Motorola’s federal income tax liability. Motorola shares this benefit by offering exceptionally low interest rates to EBRCSA.

Considering the importance of EBRCSA's network operations continuity, Motorola has developed a multi-year deployment plan to upgrade the communication network. The goal is to help EBRCSA to avoid the performance challenges of large scale network changes by taking smaller, controlled steps.



SECTION 2

TDMA UPGRADE

EBRCSA has expressed an interest in adding TDMA functionality to their system, and hence Motorola has prepared a proposal to execute this upgrade and has highlighted the main benefits for EBRCSA.

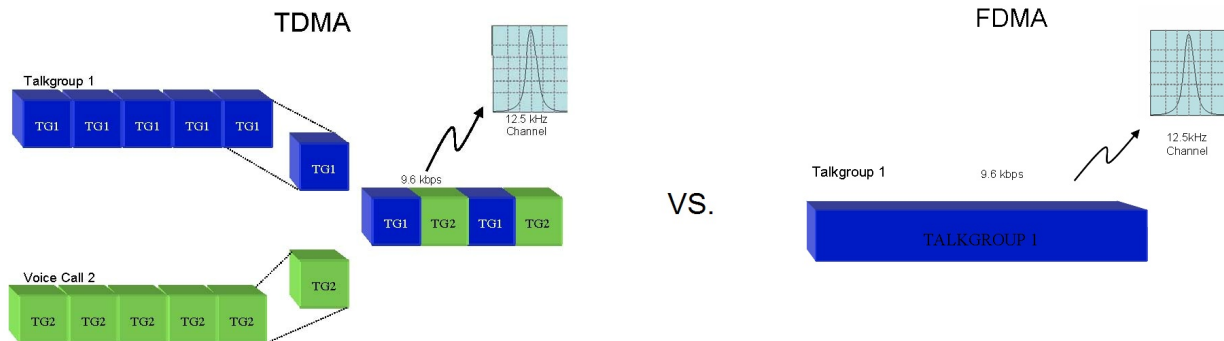
2.1 TDMA BENEFITS

By deploying TDMA in the network, EBRCSA will gain the following benefits:

- **CAPACITY** – Double the capacity of the existing channels without adding hardware or frequencies
- **VOICE AND DATA** – Extended capacity to support voice and mission critical data access, additional data applications like GPS location, collaboration and sharing
- **FLEXIBILITY** – Implement when suitable and operate seamlessly with a mixed fleet of FDMA and TDMA devices
- **READINESS** – Prepare for the unexpected and be ready for communication upticks during high traffic volume situations
- **INTEROPERABILITY** – Prepare for increased inter-agency and regional interoperability coordination with more efficient use of channels and spectrum

2.1.1 TDMA Channel Efficiency

This proposed solution provides both FDMA and TDMA infrastructure capability allowing EBRCSA to increase the current Radio Frequency channels in each of the simulcast cells without the need for additional radio hardware and frequencies. The addition of P25 TDMA operation provides 2:1 TDMA channel efficiency to double the voice path capacity in the same RF bandwidth allocation, as compared to a P25 FDMA channel. This enhanced capacity allows the system to support additional features and functionality like Data and location services while improving the EBRCSA system Grade of Service (GoS), leading to fewer busied calls and faster callbacks during busy situations.



2.1.2 Dynamic Dual Mode

This proposal also includes software enhancements beyond Project 25–defined capability, specifically with the Dynamic Dual Mode (DDM) feature. DDM greatly improves ease of use and system operation for systems with mixed P25 FDMA and P25 TDMA resources. The benefit of DDM to EBRCSA is when subscribers migrate to TDMA, the system will automatically manage both FDMA and TDMA users maximizing the system’s capacity.

////////////////////////////////////

To see the greatest capacity improvement EBRCSA will want to migrate users on an agency by agency approach to get primary voice operations on TDMA. For example if one radio monitoring the dispatch channel is only FDMA capable, the voice calls will use FDMA. With the DDM feature, talkgroups can be configured for TDMA, FDMA or Both. Once configured, the System administrators do not need to pre-assign base stations as P25 TDMA or P25 FDMA; the system automatically assigns the appropriate station mode based on the needs of the user. EBRCSA has been configured so each existing voice channel will support both FDMA and TDMA subscribers. Dispatch operators can automatically coordinate between P25 TDMA radio users and P25 FDMA radio users, with no need to track or patch users together.

2.1.2.1 Dynamic Channel Assignment

Dynamic Channel Assignment provides efficient system operation by dynamically switching between P25 FDMA mode and P25 TDMA mode for a given station based on the needs for the call assigned to the station. Any station can potentially be configured as FDMA only, TDMA only or Dynamic (FDMA/TDMA). Dynamic Channel Assignment can be configured on as many channels as needed on the ASTRO 25 system for EBRCSA.

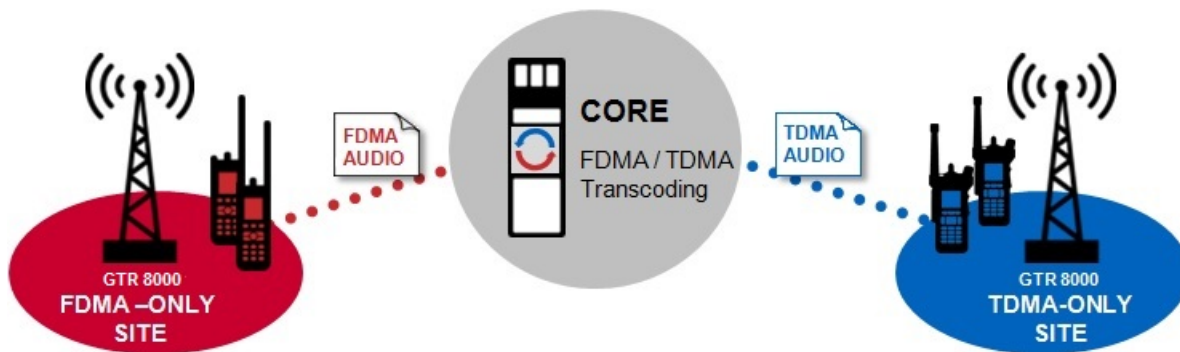
2.1.2.2 Dynamic Talkgroup Assignment

Dynamic Talkgroup Assignment provides seamless communication for systems with mixed FDMA and TDMA fleets of radio users by automatically assigning talkgroups as FDMA or TDMA modes depending on the capabilities of the affiliated subscribers. When a Dynamic Talkgroup has both FDMA users and TDMA users affiliated with the system, and FDMA channel resources are available, the talkgroup call proceeds in FDMA mode without requiring any user intervention. Should only TDMA users be affiliated on the system, the call takes place in TDMA mode. Dynamic Talkgroup Assignment can be enabled for any or all administrator-configured talkgroups.

2.1.3 Dynamic Transcoding

Dynamic transcoder is an application at the Zone Core which converts call audio between TDMA and FDMA to enable communication between TDMA radios and FDMA radios. The main benefits from this functionality are:

- More efficient support of a mixed fleet of FDMA and TDMA radios
- Preferring TDMA, each site will choose its call type based on its site resources and radio population.
- Automatically deliver the call on FDMA when TDMA resources are not available.



2.2 TDMA UPGRADE COMPONENTS

In order to enable TDMA functionality in the East Bay Regional Communication System (EBRCS), the following components in the network must be upgraded:

Master Site

- Enable/Configure Phase 2 TDMA functionality
- Enable/Configure Dynamic Transcoding Functionality
- Extend the Archiving Interface Server capacity to 120 Channels
- Extend the Inform licenses on the existing NICE Logger to 120 Channels

RF Sites

Motorola has identified all channels that will be upgraded to TDMA and below is a table summarizing the list per county:

Cell	Number of Sites	Number of Channels/Cell	Total Channels to be upgraded to TDMA
CCCO West	5	10	45
CCCO Central	8	12	88
CCCO East	3	10	27
Marsh ASR	1	5	4
CCCO Total	17		164
ALCO NW	4	18	68
ALCO SW	7	12	77
ALCO East	4	12	44
Crane ASR	1	6	5
ALCO Total	16		194
System Total	33		358

Note: The Control Channel is not included in the TDMA upgrade channel count

Dynamic Dual Mode feature will also be enabled on each of the upgraded channels.

Some of the sites require the addition of a multicoupler to enable the Receive diversity feature. Motorola has included additional multicouplers at the following sites:

- CCCO Kregor
- CCCO Highland
- ALCO Warm Springs
- ALCO Skyline

SECTION 3

MICROWAVE BACKHAUL UPGRADE

Motorola has partnered with Aviat to design, supply and implement the Microwave Backhaul Upgrade project. The scope of this project is to replace all of the EBRCS existing Truepoint SONET systems with new Eclipse TDM/IP Hybrid network while maintaining the T1 loop protection and providing a layer 3 MPLS Ethernet network. Also, several microwave paths will be upgraded from 10 GHz to 11 GHz with the capacity increased from 24Mbps to 50Mbps.

3.1 CURRENT BACKHAUL OVERVIEW

The existing system consists of three OC-3 rings:

- 1 OC3 ring for Alameda County (ALCO) that contains 33 hops with three parallel links between ALCO and CCCO ring
- 1 OC3 ring for Contra Costa County (CCCO) that contains 12 hops with three parallel links between ALCO and CCCO ring
- 1 OC-3 Richmond mini-loop that contains 7 hops

There are 3 parallel paths between the ALCO ring and CCCO ring:

- BALD MTN (BALD PEAK) – ROCKY RIDGE
- ROCKY RIDGE – ALAMEDA EOC
- ALAMEDA EOC – SANTA RITA JAIL PASSIVE REPEATER

There are a total 58 existing links to be replaced including spur hops.

3.2 MICROWAVE BACKHAUL UPGRADE COMPONENTS

Motorola has included several different components in the scope of the Microwave Backhaul Upgrade project.

3.2.1 MW Radios

- The existing TruePoint radios will be replaced with Eclipse IRU600v3 (indoor RFU) radios and ODU600 (outdoor RFU) with 189Mbps capacity Non protected configuration on the loop and 50Mbps Monitor Hot Standby configuration for all spur hops.
- The proposed Eclipse radios on the loop will be using a higher modulation 256QAM in order to achieve a higher capacity (189Mbps compared to the existing 155Mbps) while using the same existing 30 MHz channel frequencies and existing antenna system. Some of links will need to use High Power (HP) or Extra High Power (EHP) radios in order to achieve 99.9995% reliability.
- HP Links
 - GLEN DYER JAIL - MSC
- EHP Links
 - ALAMEDA EOC – HIGHLAND PEAK via Santa Rita Jail Repeater
- Very Short Link that need RF Tx Attenuator pad
 - OAKLAND APL (20dB) – GLEN DYER JAIL (12dB)
 - LAKESIDE (10dB) – OAKLAND PD (10dB)
- On the loops
 - IRU600v3 SP 11GHz 30M 256Q 189Mb/122T1 Max TP NP
 - IRU600v3 SP U6GHz 30M 1256Q 189Mb/122T1 Max TP NP
 - IRU600v3 SP L6GHz 30M 256Q 189Mb/122T1 Max TP NP

-
- IRU600v3 SP L6GHz 30M 256Q 189Mb/122T1 Max TP HS/SD
 - ODU600 SP 11GHz 30M 256Q 189Mb/122T1 Max TP NP
 - On the spurs
 - IRU600v3 SP 11GHz 10M 64Q 45Mb/29T1 Max TP MHSB
 - IRU600v3 SP U6GHz 10M 64Q 45Mb/29T1 Max TP MHSB
 - ODU600 SP 11GHz 10M 64Q 45Mb/29T1 Max TP MHSB
 - There are thirteen (13) links with two radio types where one end is ODU600 outdoor RFU and the other end is IRU600v3 indoor RFU.
 - OAKLAND APL – BERKELEY PD (SPUR)
 - OAKLAND APL – EMERYVILLE PD (SPUR)
 - OAKLAND APL – MSC
 - OAKLAND APL – LAWRENCE BERKELEY LAB
 - OAKLAND APL – GLEN DYER JAIL
 - LAKESIDE - LAWRENCE BERKELEY LAB
 - LAKESIDE – BALD PEAK
 - LAKESIDE – PIEDMONT PD
 - LAKESIDE – OAKLAND PD
 - ANTIOCH PD – KREGOR PEAK (SPUR)
 - CONCORD PD – KREGOR PEAK (SPUR)
 - WALNUT CREEK PD - WALNUT CREEK BART (SPUR)
 - MARTINEZ - PINE STREET (SPUR)
 - The following nine (9) spur paths are currently on the 10GHz band using 10GHz antennas (Radio Waves) which support the range from 10.15 – 10.7 GHz. These links will be replaced with 11 GHz radios which will increase the capacity from 24Mbps to 50Mbps. The existing antenna system will also need to be replaced with an 11 GHz antenna system.
 - BALD MTN (BALD PEAK) – SKYLINE (SPUR)
 - LAKESIDE – OAKLAND PD (SPUR)
 - LAKESIDE – PIEDMONT PD (SPUR)
 - OAKLAND APL – BERKELEY PD (SPUR)
 - SUNOL RIDGE – WARM SPRING (SPUR)
 - DOOLAN WT – PATTERSON PS (SPUR)
 - WALNUT CREEK BART – WALNUT CREEK PD (SPUR)
 - KREGOR PEAK – CONCORD PD (SPUR)
 - PINE STREET - MARTINEZ (SPUR)
 - All ODU600 (outdoor RFU) will be outdoor remote-mounted to antenna and new 3ft Flextwist and new coaxial cables are proposed to replace existing coaxial cables.
 - It is assumed that there is an existing conduit and passage for the Coax cable.
 - It is assumed that the existing antennas, centerlines and waveguide lines can be reused for all existing 6/11 GHz RFU indoor hops.
 - It is assumed that the existing feedthroughs can be reused.

3.2.2 Tributary Interface

- DS1 and Ethernet interfaces are equipped with radios at each site.
- DS1s in the loops will be loop-protected and terminated at DSX-1 jackfield.
- Ethernet in the loops will be loop-protected and will be routed by MPLS routers.

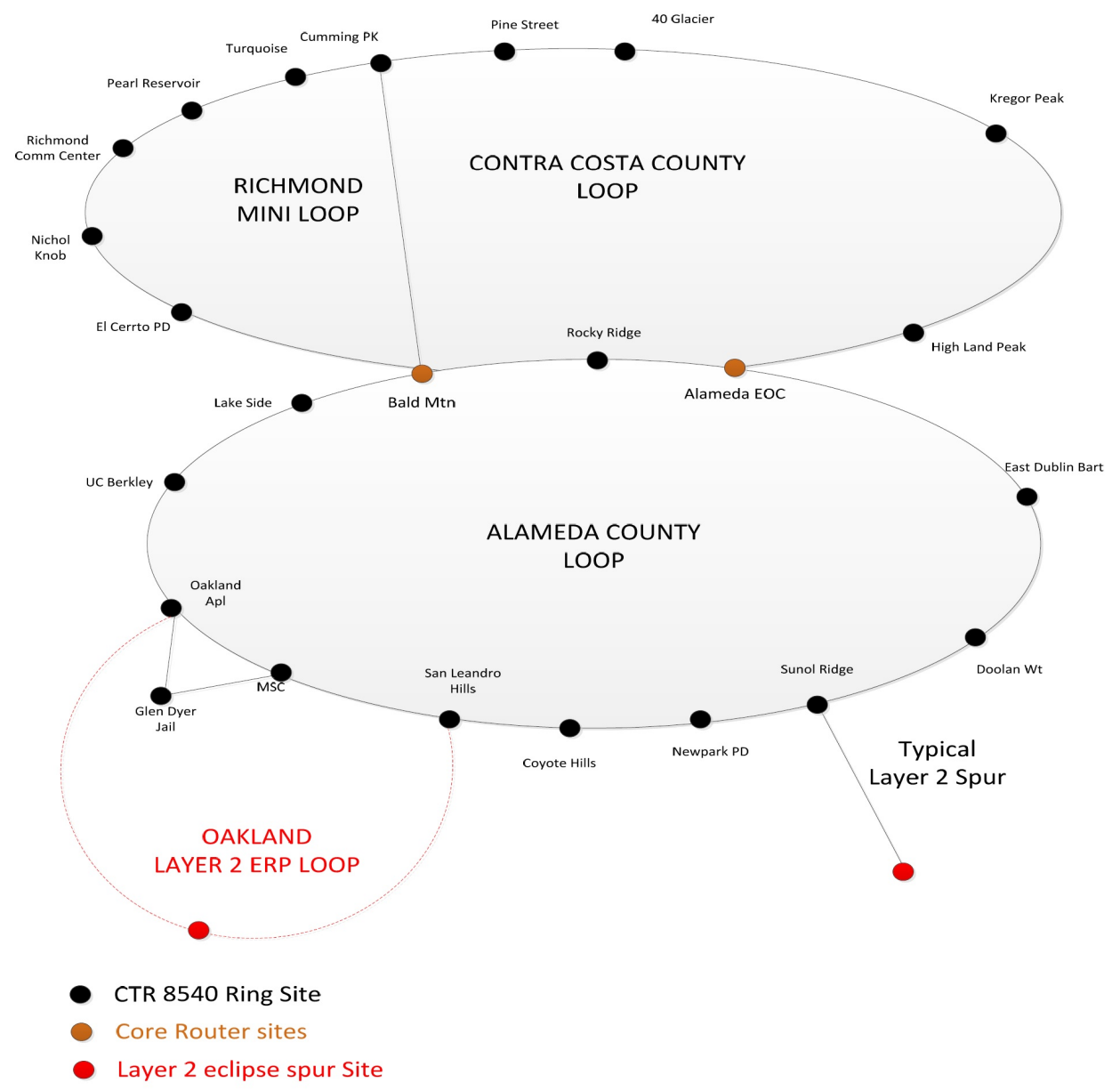
3.2.3 T1 loop protection

- All existing T1s on the SONET network will be migrated to new TDM/IP Hybrid network with Network Capabilities Module (NCM) modules equipped with INUe shelves.
- Protected NCM with associated software license that supports up to 63 T1 and T1 cables at each site in the ring to take care of T1 loop switching protection in place of existing SONET muxes.
- The NCM provides E1/DS1 loop switch (ring protection) capability on an Eclipse Node. Each ring node that drops traffic must use an NCM to access two redundant traffic streams. TDM traffic is injected in both directions of the ring.
- The NCM card has full access to the TDM backplane for working, protection, and drop connections as well as 8 drop interfaces on front of the card. If more than 8 T1 drops are needed, DAC16x to be used to take additional T1 drops. NCM will receive traffic from the backplane from both directions of the ring and select the best path.
- Two NCMs are proposed in each INUe shelf to provide equipment protection.

3.2.4 MPLS Solution

- The proposed MPLS solution is based on the CTR8540 platform, a router that supports Carrier Ethernet and IP/MPLS functionalities all in the same device.
- The solution is based on a dual shelf design to provide MPLS-IP for the indoor/outdoor microwave equipment. Each ring node, including existing Eclipse radio sites, is designed to have two CTR 8540 routers for east and west path redundancy. Each router has 8-electrical ports and 4 SFP ports.
- The proposed architecture won't extend MPLS on spur hops since there is no real advantage as the Spur hops have only one protection path.
- The solution also includes CISCO ASR 903 routers at Bald Mtn, Alameda EOC, Oakland APL, and San Leandro Hill. These ASR 903 are fully protected and will be configured as CORE MPLS routers at Bald Mtn and Alameda EOC to interconnect the three loops as shown below.
- The EBRCS MPLS network is divided into 3 OSPF loops, which facilitates the implementation and maintenance of the MPLS network. These three loop are:
 - Contra Costa County Loop
 - Richmond Mini Loop
 - Alameda County Loop.
- Each loop is connected to the core router to pass the traffic from one loop to the other.
- The Oakland layer 2 Eclipse network will be treated as spur network which can be interconnected to EBRCS MPLS network at Oakland APL or San Leandro Hill.
- This proposal doesn't include any MPLS hardware required on the Oakland network.





3.2.5 Network Management

- The new ProVision management system is proposed.
- All the new Eclipse radios as well as existing Eclipse radios and all SNMP devices will be monitored by the ProVision.
- ProVision can be implemented in parallel with existing NMS NetBoss allowing the EBRCSA to familiarize itself with the new product.



SECTION 4

DC POWER UPGRADES

In anticipation of end of life support for key components of the DC Power Systems currently in place, Motorola is proposing the replacement of inverters and battery strings for each of the RF radio sites and the Master Site. The current schedule considers upgrading the entire network in the year 2020 as a single continuous project. However, depending on the urgency of upgrades at some of the sites, this schedule could be readjusted.

The sections below describe the inverter and battery replacement details. Note that these inverter and battery replacements do not account for the DC power systems supporting the microwave equipment.

4.1 RF SITE INVERTER REPLACEMENT

The LaMARCHE IX series 1.5 kVA inverter is being proposed to replace the existing Onyx inverters in the RF sites. This solution is configured in a redundant configuration. Each site will get two new IX series inverters to replace the existing inverters.

This IX Inverter Series offered by La Marche Manufacturing is designed to operate from a 48VDC (40.5–58V range) input and produce either 120VAC or 230VAC nominal output at up to 6kVA total capacity. The low distortion 50 or 60 Hz sine wave is produced using an advanced DSP controlled architecture which achieves better than 89% efficiency and 10.5VA per cubic inch power density. The IX Series pre-configured inverter systems include a Controller, Static Transfer Switch, Power distribution and Maintenance by-pass facilities. Remote communications to a PC is provided via USB, RS232 or RS485 serial connections. SNMP alarm traps delivered over an Ethernet TCP/IP connection are also included in the proposed solution.



Fully Equipped 3KVA System with Optional SNMP Module
UNIPOWER Product



4.2 MASTER SITE INVERTER REPLACEMENT

The EXELTECH MX series inverter is being proposed to replace the existing 17.5KVA Onyx inverters located at the EBRCS master site. This solution includes redundant 17.5KVA inverters housed in Zone 4 23" racks.

The MX Series Inverters are a modular design and allow each system to be tailored for specific needs. Systems can range in output power, input voltage, redundancy, and a variety of other options. Exeltech strives to manufacture products of the highest possible quality and is dedicated to 100% customer satisfaction. Proudly built in the USA, Exeltech is committed to TL 9000 standards and beyond, adding people and procedures continually to further improve quality and customer service.



MX series inverters provide the cleanest, best regulated sine wave output over the widest DC input of any inverter on the market today. They are extremely low in Total Distortion; specified to 2%, and typically better than 1.5%. Total Harmonic Distortion is typically 0.8 to 0.9%. Remaining distortion is a result of residual switching noise, which amounts to a very clean 25 kHz sine wave superimposed on the fundamental output. No significant harmonics of 25

kHz exist. This spectral purity will exist over the inverter's entire operating envelope, including non-linear and reactive loads. As long as peak output current remains less than 300% of rated current, total harmonic distortion will remain within the 2% spec. Peak current capability of the inverter is key to understanding its operational envelope.

4.3 48VDC BATTERY PLANT UPGRADES

This proposal includes the replacement of the existing GNB battery strings located at all of the RF sites and the Master Site locations. This effort is a direct replacement of the existing batteries installed at each of the sites. Many of the EBRCS sites have batteries that are between 10–12 years old. The manufacturer specifications indicate the GNB Absolyte batteries have a twenty year life with proper maintenance. This is best case if batteries are cycled and load tested regularly. It is important to plan on replacing the batteries before a large scale event reveals they have little to no charge left. These batteries are sized to maintain approximately two hours of battery backup under a full load:

- WLBG896MST (100G19) = 16 channels
- WLBG800MST (100A17) = 10 & 12 channels
- WLBG256RRN (90G07) = 6 channels
- WLGB2688ST (100A57) = Master Site

SECTION 5

EQUIPMENT LIST

Below are Equipment Lists for the various components included in the EBRCSA System Upgrade project.

5.1 TDMA

Location	Equipment	Qty	Part Number	Description
Master	Master	1	SQM01SUM0273	MASTER SITE CONFIGURATION
Master	Master	1	CA02629AC	ADD: EXPAND 7.17 M CORE
Master	Master	1	CA02920AB	ADD: DYNAMIC TRANSCODER M3
Master	Master	12	UA00222AA	ADD: TRANSCODED SIMULTANEOUS CALLS (QTY 5)
Master	Master	1	UA00158AA	ADD: PHASE 2 TDMA TRKG OP ZONE LIC
Master	Master	33	UA00159AA	ADD: P25 PHASE 2 TDMA TRKNG OP SITE LIC
Master	Master	33	UA00160AA	ADD: PHASE 2 DYNAMIC TG ASGNMT SITE LIC
COCO W	COCO W	45	UA00161AA	ADD: P25 PHASE 2 TDMA SW BASE RADIO LIC
COCO W	COCO W	45	UA00162AA	ADD: PHASE 2 DYNAMIC CH BASE RADIO LIC
COCO C	COCO C	88	UA00161AA	ADD: PHASE 2 DYNAMIC CH BASE RADIO LIC
COCO C	COCO C	88	UA00162AA	ADD: PHASE 2 DYNAMIC CH BASE RADIO LIC
COCO E	COCO E	27	UA00161AA	ADD: P25 PHASE 2 TDMA SW BASE RADIO LIC
COCO E	COCO E	27	UA00162AA	ADD: PHASE 2 DYNAMIC CH BASE RADIO LIC
ALCO E	ALCO E	44	UA00161AA	ADD: P25 PHASE 2 TDMA SW BASE RADIO LIC
ALCO E	ALCO E	44	UA00162AA	ADD: PHASE 2 DYNAMIC CH BASE RADIO LIC
ALCOSW	ALCOSW	77	UA00161AA	ADD: P25 PHASE 2 TDMA SW BASE RADIO LIC
ALCOSW	ALCOSW	77	UA00162AA	ADD: PHASE 2 DYNAMIC CH BASE RADIO LIC
ALCONW	ALCONW	68	UA00161AA	ADD: P25 PHASE 2 TDMA SW BASE RADIO LIC
ALCONW	ALCONW	68	UA00162AA	ADD: PHASE 2 DYNAMIC CH BASE RADIO LIC
MCDF	MCDF	4	UA00161AA	ADD: P25 PHASE 2 TDMA SW BASE RADIO LIC
MCDF	MCDF	4	UA00162AA	ADD: PHASE 2 DYNAMIC CH BASE RADIO LIC
Crane	Crane	5	UA00161AA	ADD: P25 PHASE 2 TDMA SW BASE RADIO LIC
Crane	Crane	5	UA00162AA	ADD: PHASE 2 DYNAMIC CH BASE RADIO LIC
COCO W	GTR8000	1	T7140	G-SERIES SOFTWARE UPGRADE
COCO W	GTR8000	50	CA01903AA	ADD:P25 FDMA TO P25 TDMA SW UPGRADE
COCO W	GTR8000	50	CA01966AA	ADD:DYNAMIC CHANNEL ASSIGNMENT SOFTWARE
COCO W	GTR8000	1	T7140	G-SERIES SOFTWARE UPGRADE
COCO W	GTR8000	10	CA01910AA	ADD: CM P25 FDMA TO P25 TDMA SW UP
COCO C	GTR8000	1	T7140	G-SERIES SOFTWARE UPGRADE
COCO C	GTR8000	96	CA01903AA	ADD:P25 FDMA TO P25 TDMA SW UPGRADE
COCO C	GTR8000	96	CA01966AA	ADD:DYNAMIC CHANNEL ASSIGNMENT SOFTWARE
COCO C	GCM8000	1	T7140	G-SERIES SOFTWARE UPGRADE
COCO C	GCM8000	12	CA01910AA	ADD: CM P25 FDMA TO P25 TDMA SW UP



Location	Equipment	Qty	Part Number	Description
COCO C	KREGOR	1	T7614	G-SERIES HARDWARE UPGRADES
COCO C	KREGOR	1	CA01916AA	ADD: 7/800 MHZ DUAL RX KIT 7-24 BRS
COCO C	KREGOR	1	T7614	G-SERIES HARDWARE UPGRADES
COCO C	KREGOR	1	CA01923AA	ADD: 7/800 MHZ DUAL RX KIT EXP RMC
COCO C	HIGHLAND	1	T7614	G-SERIES HARDWARE UPGRADES
COCO C	HIGHLAND	1	CA01916AA	ADD: 7/800 MHZ DUAL RX KIT 7-24 BRS
COCO C	HIGHLAND	1	T7614	G-SERIES HARDWARE UPGRADES
COCO C	HIGHLAND	1	CA01923AA	ADD: 7/800 MHZ DUAL RX KIT EXP RMC
COCO E	GTR8000	1	T7140	G-SERIES SOFTWARE UPGRADE
COCO E	GTR8000	30	CA01903AA	ADD:P25 FDMA TO P25 TDMA SW UPGRADE
COCO E	GTR8000	30	CA01966AA	G-SERIES SOFTWARE UPGRADE
COCO E	GCM8000	1	T7140	ADD:P25 FDMA TO P25 TDMA SW UPGRADE
COCO E	GCM8000	10	CA01910AA	ADD:DYNAMIC CHANNEL ASSIGNMENT SOFTWARE
COCO E	KREGOR	1	T7614	G-SERIES SOFTWARE UPGRADE
COCO E	KREGOR	1	CA01916AA	ADD: CM P25 FDMA TO P25 TDMA SW UP
COCO E	KREGOR	1	T7614	G-SERIES HARDWARE UPGRADES
COCO E	KREGOR	1	CA01923AA	ADD: 7/800 MHZ DUAL RX KIT EXP RMC
ALCO E	GTR8000	1	T7140	G-SERIES SOFTWARE UPGRADE
ALCO E	GTR8000	48	CA01903AA	ADD:P25 FDMA TO P25 TDMA SW UPGRADE
ALCO E	GTR8000	48	CA01966AA	ADD:DYNAMIC CHANNEL ASSIGNMENT SOFTWARE
ALCO E	GCM8000	1	T7140	G-SERIES SOFTWARE UPGRADE
ALCO E	GCM8000	12	CA01910AA	ADD: CM P25 FDMA TO P25 TDMA SW UP
ALCOSW	GTR8000	1	T7140	G-SERIES SOFTWARE UPGRADE
ALCOSW	GTR8000	84	CA01903AA	ADD:P25 FDMA TO P25 TDMA SW UPGRADE
ALCOSW	GTR8000	84	CA01966AA	ADD:DYNAMIC CHANNEL ASSIGNMENT SOFTWARE
ALCOSW	GCM8000	1	T7140	G-SERIES SOFTWARE UPGRADE
ALCOSW	GCM8000	12	CA01910AA	ADD: CM P25 FDMA TO P25 TDMA SW UP
ALCOSW	WRM SPRNGS	1	T7614	G-SERIES HARDWARE UPGRADES
ALCOSW	WRM SPRNGS	1	CA01916AA	ADD: 7/800 MHZ DUAL RX KIT 7-24 BRS
ALCOSW	WRM SPRNGS	1	T7614	G-SERIES HARDWARE UPGRADES
ALCOSW	WRM SPRNGS	1	CA01923AA	ADD: 7/800 MHZ DUAL RX KIT EXP RMC
ALCONW	GTR8000	1	T7140	G-SERIES SOFTWARE UPGRADE
ALCONW	GTR8000	72	CA01903AA	ADD:P25 FDMA TO P25 TDMA SW UPGRADE
ALCONW	GTR8000	72	CA01966AA	ADD:DYNAMIC CHANNEL ASSIGNMENT SOFTWARE
ALCONW	GCM8000	1	T7140	G-SERIES SOFTWARE UPGRADE
ALCONW	GCM8000	18	CA01910AA	ADD: CM P25 FDMA TO P25 TDMA SW UP
ALCONW	SKYLINE	1	T7614	G-SERIES HARDWARE UPGRADES
ALCONW	SKYLINE	1	CA01916AA	ADD: 7/800 MHZ DUAL RX KIT 7-24 BRS





Location	Equipment	Qty	Part Number	Description
ALCONW	SKYLINE	1	T7614	G-SERIES HARDWARE UPGRADES
ALCONW	SKYLINE	1	CA01923AA	ADD: 7/800 MHZ DUAL RX KIT EXP RMC
ALCONW	SKYLINE	1	T7614	G-SERIES HARDWARE UPGRADES
ALCONW	SKYLINE	1	CA01923AA	ADD: 7/800 MHZ DUAL RX KIT EXP RMC
CRANE	GTR8000	1	T7140	G-SERIES SOFTWARE UPGRADE
CRANE	GTR8000	6	CA01903AA	ADD:P25 FDMA TO P25 TDMA SW UPGRADE
CRANE	GTR8000	6	CA01966AA	ADD:DYNAMIC CHANNEL ASSIGNMENT SOFTWARE
MCDF	GTR8000	1	T7140	G-SERIES SOFTWARE UPGRADE
MCDF	GTR8000	5	CA01903AA	ADD:P25 FDMA TO P25 TDMA SW UPGRADE
MCDF	GTR8000	5	CA01966AA	ADD:DYNAMIC CHANNEL ASSIGNMENT SOFTWARE
Master	AIS	1	TT2833	COMPUTER, Z440 WORKSTATION WINDOWS 7 (NON RETURNABLE)
Master	AIS	1	T7449	WINDOWS SUPPLEMENTAL TRANS CONFIG
Master	AIS	1	T7885	MCAFFEE WINDOWS AV CLIENT
Master	AIS	1	B1933	MOTOROLA VOICE PROCESSOR MODULE
Master	AIS	1	CA00288AB	ADD: MCC 7500 ARCHIVING INTERFACE SERVER SOFTWARE LICENSE
Master	AIS	1	CA00147AF	ADD: MCC 7500 SECURE OPERATION
Master	AIS	1	CA00182AB	ADD: AES ALGORITHM
Master	AIS	1	CA00245AA	ADD: ADP ALGORITHM
Master	AIS	1	CA00140AA	ADD: AC LINE CORD, NORTH AMERICAN
Master	AIS	2	DS2POST4UKIT	4U 2 POST CONVERSION KIT
Master	AIS	1	DS12086719	CHATSWORTH 19W INCH ADJUSTABLE TIE-DOWN TOWER BRACKET-BLACK
Master	AIS	1	DDN9748	19 INCH BLACK SHELF
Master	AIS	1	DDN7532	SNMP MANAGEMENT APPLICATION
Master	LOG_REC	1	TT2669	120 SIMUL CALL MCC 7500 IP RECORDER
Master	LOG_REC	1	DDN2147	SPARES TO SUPPORT MCC 7500 IP LOGGER DL360 G9 SERVER
Master	LOG_REC	1	DDN2093	17IN LCD DRAWER WITH KEYBOARD AND MOUSE, KVM 8 PORTS, CABLES
Master	LOG_REC	6	DSRMP615A	SPD, TYPE 3, 120V RACK MOUNT, 15A PLUG-IN W/ (6) 15A NEMA 5-15 OUTLETS

5.2 MICROWAVE / MPLS

ITEM	Part Number	QTY	DESCRIPTION
IRU600v3			
	EV102-M5-00-300	6	IRU600 V3 RFSEC ASSY NP, 2RU, U5 GHZ * in loop: SP, 30MHz Max TP, 256Q, 189Mbps/122xDS1 * in spur: SP, 10MHz Max TP, 64Q, 45Mbps/29xDS1
	EV102-EL-00-300	2	IRU600 V3 RFSEC ASSY NP, 2RU, EHP, L6 GHZ * in loop: SP, 30MHz Max TP, 256Q, 189Mbps/122xDS1 * in spur: SP, 10MHz Max TP, 64Q, 45Mbps/29xDS1
	EV107-M5-M5-300	10	IRU600 V3 RFSEC ASSY MHSB/SD TX SWITCH, 2RU, U5 GHZ





ITEM	Part Number	QTY	DESCRIPTION
			* in loop: SP, 30MHz Max TP, 256Q, 189Mbps/122xDS1 * in spur: SP, 10MHz Max TP, 64Q, 45Mbps/29xDS1
	EV102-MU-00-300	2	IRU600 V3 RFSEC ASSY NP, 2RU, U6 GHZ * in loop: SP or HP, 30MHz Max TP, 256Q, 189Mbps/122xDS1 * in spur: SP, 10MHz Max TP, 64Q, 45Mbps/29xDS1
	EV106-MU-MU-300	2	IRU600 V3 RFSEC ASSY MHSB RX UNEQUAL SPLIT, 2RU, U6 GHZ * in loop: SP, 30MHz Max TP 256Q, 189Mbps/122xDS1 * in spur: SP, 10MHz Max TP, 64Q, 45Mbps/29xDS1
	EV102-MB-00-300	42	IRU600 V3 RFSEC ASSY NP, 2RU, 11 GHZ * in loop: SP, 30MHz Max TP, 256Q, 189Mbps/122xDS1 * in spur: SP, 10MHz Max TP, 64Q, 45Mbps/29xDS1
	EV106-MB-MB-300	34	IRU600 V3 RFSEC ASSY MHSB RX UNEQUAL SPLIT, 2RU, 11 GHZ * in loop: SP, 30MHz Max TP, 256Q, 189Mbps/122xDS1 * in spur: SP, 10MHz Max TP, 64Q, 45Mbps/29xDS1
	LOC-PE7005-10	1	PAS-FIXED SMA ATTEN,10dB,2W, UP TO MAXIMUM 18GHz, DC (PE7005-10)
	LS(PE7005-12)	1	PAS-FIXED SMA ATTEN,10dB,2W, UP TO MAXIMUM 18GHz, DC (PE7005-12)
IRU600v3 WAVEGUIDE EXT KIT			
			6GHz
	179-530135-AA101	3	WG EXT KIT IRU600 V3 6GHZ SH1-PO1, 1+0/MHSB 1ANT, RPTR(MAIN)
	179-530135-AA103	2	WG EXT KIT IRU600 V3 6GHZ SH1-PO1, 1+0/MHSB 2 ANT, MHSB/SD
	179-530135-BB201	6	WG EXT KIT IRU600 V3 6GHZ SH2-PO2, 1+0/MHSB 1ANT, RPTR(MAIN)
	179-530135-CC301	2	WG EXT KIT IRU600 V3 6GHZ SH3-PO3, 1+0/MHSB 1ANT, RPTR(MAIN)
	179-530135-DD403	2	WG EXT KIT IRU600 V3 6GHZ SH4-PO4, 1+0/MHSB 2 ANT, MHSB/SD
			11GHz
	179-530135-AA121	43	WG EXT KIT IRU600 V3 11GHZ SH1-PO1, 1+0/MHSB 1ANT, RPTR(MAIN)
	179-530135-BB221	23	WG EXT KIT IRU600 V3 11GHZ SH2-PO2, 1+0/MHSB 1ANT, RPTR(MAIN)
	179-530135-CC321	9	WG EXT KIT IRU600 V3 11GHZ SH3-PO3, 1+0/MHSB 1ANT, RPTR(MAIN)
	179-530135-DD321	2	WG EXT KIT IRU600 V3 11GHZ SH4-PO3, 1+0/MHSB 1ANT, RPTR(MAIN)
			WAVEGUIDE EXT BRACKET KIT
	179-530089-001	18	EXT BRKT KIT IRU600 2 SHELF (179-530089-001_REV002)
	179-530089-002	9	EXT BRKT KIT IRU600 3 SHELF (179-530089-002_REV002)
	179-530089-003	6	EXT BRKT KIT IRU600 4 SHELF (179-530089-003_REV002)
	WGKIT-3000	47	CUSTOM WAVEGUIDE KIT COMPLEXITY 3
ODU600			
	M-EEH-11	20	PLANNING MODEL ECLIPSE ODU 600, 11 GHz, NP, REMOTE-MOUNT * in loop: SP, 30MHz Max TP, 256Q, 189Mbps/122xDS1 * in spur: SP, 10MHz Max TP, 64Q, 45Mbps/29xDS1
	M-EEH-10		PLANNING MODEL ECLIPSE ODU 600, 10 GHz, NP, REMOTE-MOUNT * in spur: SP, 5MHz Max TP, 1284Q, 24Mbps/16xDS1
	086-523341-611	8	Coupler Assy Eclipse, 11 GHz Unequal 6 dB, V and H Polarization (840ET11H1B)
	086-523341-615		Coupler Assy Eclipse, 10 GHz Unequal 6 dB, V and H Polarisation (840ET10H1B)





ITEM	Part Number	QTY	DESCRIPTION
	086-000000-101	8	ECLIPSE POLE MOUNT FOR USE WITH SINGLE ODU OR PROTECTION COUPLER (RM99/DE)
	LOC-PE7005-10	1	PAS-FIXED SMA ATTEN,10dB,2W, UP TO MAXIMUM 18GHz, DC (PE7005-10)
	LOC-PE7005-20	1	PAS-FIXED SMA ATTEN,20dB,2W, UP TO MAXIMUM 18GHz, DC (PE7005-20)
INUe			
	EXX-000-204	111	ECLIPSE, INTELLIGENT NODE UNIT 2RU, INC IDCE, FAN, NCCV2, HIGH OUTPUT
	179-530064-001	111	KIT BRACKET 2RU (179-530064-001_R001)
	EXS-002	111	NODE PROTECTION CARD, HIGH OUTPUT
	EXR-660-002	153	RAC 60E, QPSK-256 QAM, High Gain, No XPIC, ACM and SYNC-E
	EXD-156-001	163	DAC 1550M, 1XSTM1/OC3 MUXED TO 63E1/84DS1, SM OPTICAL, S-1.1, SR, 15KM OR LESS
	LOC-203-3500-003/3MIL	72	CABLE, OPTICAL JMPR, LC-LC, SM-DUP, 9/125UM, 3M/9.8FT (203-3500-003/3MIL)
	LOC-203-3500-005/3MI	19	CABLE, OPTICAL JMPR, LC-LC, SM-DUP, 9/125UM, 5M/16.4FT (203-3500-005/3MIL)
	LOC-203-3500-010/3MI	6	CABLE, OPTICAL JMPR, LC-LC, SM-DUP, 9/125UM, 10M/32.8FT (203-3500-010/3MIL)
	EXD-400-002	60	NETWORK CONVERGENCE MODULE (NCM)
	EZF-14	33	NCM LOOP SWITCH License to support up to 50E1/63T1 TDM circuits
	EXD-161-001	146	ECLIPSE, DAC 16XE1/DS1 V2, PROTECTABLE
	037-579408-003	148	2x HDR-E50 TO Y JOIN TO 24AWG FREE END 3.5M (HDR-E50MSG1-Y-03M_REV B)
	037-579408-015	2	2x HDR-E50 TO Y JOIN TO 24AWG FREE END 15.5M (HDR-E50MSG1-Y-15M_REV D)
	EXD-181-002	164	DAC GE3 GIGABIT ETHERNET SWITCH CARD
	037-579461-500	78	CABLE PROT / BRIDGEING GE3, DIRECT FIT, 500mm (747420016)
	083-845434-001	160	XCVR ELECTRICAL SFP, GE3 ONLY, W/LOS 3V3 COM (ABCU-5730RZ)
	037-579124-002	105	ETHERNET CABLE, RJ45 CAT 5/CAT 5e, 2m (6.5') (037-579124-002V)
	037-579125-002	26	ETHERNET CABLE,CAT5/CAT5E,RJ-45,5 M LONG (037-579125-002V_REVA)
	037-579126-002	4	ETHERNET CABLE,CAT5/CAT5E,RJ-45,15 M LONG (037-579126-002V_REVA)
	079-422656-001	158	GIG ETH SFP, OPT SMF 1310nm LC 1000BASE-LX, <10 KM (LS38-C3S-TC-N)
	LOC-203-3500-010/3MI	158	CABLE, OPTICAL JMPR, LC-LC, SM-DUP, 9/125UM, 10M/32.8FT (203-3500-010/3MIL)
	EXA-001	56	AUX, ALARM I/O CARD
	037-579470-015	56	CABLE, ALARM I/O HD15 TO WIREWRAP, 15M (037-579470-015V_REVX1)
	EZE-08006	5	NODE SW LICENSE, 400 Mbps TOTAL RADIO PAYLOAD CAPACITY
	EZE-08004	45	NODE SW LICENSE, 200 Mbps TOTAL RADIO PAYLOAD CAPACITY
	EZE-08002	2	NODE SW LICENSE, 100 Mbps TOTAL RADIO PAYLOAD CAPACITY
	EZE-08001	59	50 Mbps Node radio capacity License
	EZF-61	2	IRU600 600 High power option 1 x RFU
	EZF-01	80	LAYER 1 LINK AGGREGATION NODAL ON DAC GE / DAC GE3
	PWR-000052-TRM	224	CIRCUIT BREAKER 15 AMP SNAPAK (030017750H)
	RIKIT-2500	49	RACK INTERCONNECT KIT COMPLEXITY 5

JACKFIELDS





ITEM	Part Number	QTY	DESCRIPTION
	TEL-010-0156-0601	40	JACKFIELD, FIXED, DSX-1, 56 CIRCUITS, 4 RU, 19 INCHES OR 23 INCHES WIDTH, FRONT WIREWRAP X-CONN, REAR WIREWRAP, BLACK, -48VDC INPUT (010-0156-0601)
	TEL-010-0132-0101	24	JACKFIELD, FIXED, DSX-1, 32 CIRCUITS, 2 RU, 19 INCHES OR 23 INCHES WIDTH, FRONT WIREWRAP X-CONN, REAR WIREWRAP, BLACK, -48VDC INPUT
	PWR-000046-TRM	64	CIRCUIT BREAKER 1 AMP SNAPAK (030017750B)
RACK & ACCESSORIES			
	179-530307-0113	52	RACK ASSY CRATED, 7' CHATSWORTH ALUMINUM, 1 BREAKER PNL W/10 BLANK COVERS AND NO BREAKERS
	179-530307-0115	2	RACK ASSY CRATED, 8' CHATSWORTH ALUMINUM, 1 BREAKER PNL W/10 BLANK COVERS AND NO BREAKERS
	179-530119-001	54	Installation Kit, Aluminum Rack, Concrete Floor (AV179-530119-001WA)
	PWR-000070-TRM	8	6A/6B POS., +/-48-24VDC, W/O BRKRS, 19" (9072101001)
	179-530118-001	8	STANDARD DC AND GND KIT (AV179-530118-001WA)
	PWR-000048-TRM	4	CIRCUIT BREAKER 3 AMP SNAPAK (030017750D)
	037-579124-002	2	ETHERNET CABLE, RJ45 CAT 5/CAT 5e, 2m (6.5') (037-579124-002V)
	037-579125-002	2	ETHERNET CABLE, CAT5/CAT5E, RJ-45, 5 M LONG (037-579125-002V_REVA)
	037-579126-002	2	ETHERNET CABLE, CAT5/CAT5E, RJ-45, 15 M LONG (037-579126-002V_REVA)
SPARES			
IRU600v3			
	ERM-U53-303	2	RFU, MP, IRU600v3, 5.8/L6 GHz, 5725-6450 MHz, Gen 2
	ERM-U63-303	2	RFU, MP, IRU600v3, U6 GHz, 6400-7125 MHz, Gen 2
	ERM-113-301	2	RFU, MP, IRU600v3, 11 GHz, 10700-11700 MHz
	ERE-L63-303	2	RFU, EHP, IRU600V3, L6 GHZ, 5925-6450 MHZ
	179-530149-001	2	FAN TRAY KIT, IRU 600 V3
ODU600			
	M-EEH-11	4	PLANNING MODEL ECLIPSE ODU 600, 11 GHz
	179-530062-002	4	KIT, LIGHTNING ARRESTOR, UNIVERSAL, 50 OHM, MALE TO FEMALE (62009)
INUe			
	EXN-004	2	ECLIPSE, NODE CONTROLLER CARD, SERIAL MGMT V2
	EXS-002	2	NODE PROTECTION CARD, HIGH OUTPUT
	EXR-660-002	2	RAC 60E, QPSK-256 QAM, High Gain, No XPIC, ACM and SYNC-E
	EXD-156-001	2	DAC 1550M, 1XSTM1/OC3 MUXED TO 63E1/84DS1, SM OPTICAL, S-1.1, SR, 15KM OR LESS
	EXD-400-002	2	NETWORK CONVERGENCE MODULE (NCM)
	EXD-181-002	2	DAC GE3 GIGABIT ETHERNET SWITCH CARD
	EXD-161-001	2	ECLIPSE, DAC 16XE1/DS1 V2, PROTECTABLE
	EXA-001	2	AUX, ALARM I/O CARD
	EXF-101	2	INUE, 2RU FAN CARD
	131-501768-001	2	Air Filter Assembly INUe

ODU600 Remote Mount reusing existing antenna





ITEM	Part Number	QTY	DESCRIPTION
			FLEXTWIST, WAVEGUIDE, ACCESSORIES
	AND-WR900DU-KIT	6	WR900DU-KIT (ONE KIT REMOTE MOUNT) (WR900DU-KIT)
	WEB-LMR-400	2200	LMR-400 STANDARD BLK UV RATED (LMR-400)
	179-530057-001	16	CONNECTOR KIT N TYPE M&F 400 TYPE CABLE (N0121A1-002-NT3G-50)
	179-530062-002	8	KIT, LIGHTNING ARRESTOR, UNIVERSAL, 50 OHM, MALE TO FEMALE (62009)
	086-523257-001	24	UNIVERSAL COAXIAL GROUNDING KIT (242948)
	023-380000-001	24	GROUND CONDUCTOR TOWER TERMINATION (203039)
	011-390001-001	8	WEATHERPROOFING KIT (WK-CNT)
	AND-C2SGRIP	8	HOISTGRIP, FOR 3/8IN CNT-400 CBL (C2SGRIP)
	AND-31771-4	19	THREAD ROD SUPPORT 12IN (305MM) LONG, KIT OF 5 (31771-4)
	AND-294572	73	ADAPTER, ANGLE, SS, FOR MINI CLICK-ON HANGAERS (10/PK) (294572)
	AND-252027-10KT-P	73	HARDWARE, SNGL STACK, SS, FOR MINI CLICK -ON HANGERS (10/PK) (252027-10KT-P)
	AND-BHD38	73	MINIATURE CLICK-ON HANGER FOR 9-12 MM (BHD38)
	VLT-SRLR42-K	140	WG CUSHION ASSY LMR-400 3/8" FLEX, 2 HOLES (Bag of 5 Kits) (SRLR42-K)
ODU600 Remote Mount - replace 10GHz to 11 GHz			
	AND-WR900DU-KIT	6	WR900DU-KIT (ONE KIT REMOTE MOUNT) (WR900DU-KIT)
	WEB-LMR-400	2200	LMR-400 STANDARD BLK UV RATED (LMR-400)
	179-530057-001	24	CONNECTOR KIT N TYPE M&F 400 TYPE CABLE (N0121A1-002-NT3G-50)
	179-530062-002	12	KIT, LIGHTNING ARRESTOR, UNIVERSAL, 50 OHM, MALE TO FEMALE (62009)
	086-523257-001	36	UNIVERSAL COAXIAL GROUNDING KIT (242948)
	023-380000-001	36	GROUND CONDUCTOR TOWER TERMINATION (203039)
	011-390001-001	12	WEATHERPROOFING KIT (WK-CNT)
	AND-C2SGRIP	12	HOISTGRIP, FOR 3/8IN CNT-400 CBL (C2SGRIP)
	AND-31771-4	45	THREAD ROD SUPPORT 12IN (305MM) LONG, KIT OF 5 (31771-4)
	AND-294572	73	ADAPTER, ANGLE, SS, FOR MINI CLICK-ON HANGAERS (10/PK) (294572)
	AND-252027-10KT-P	73	HARDWARE, SNGL STACK, SS, FOR MINI CLICK -ON HANGERS (10/PK) (252027-10KT-P)
	AND-BHD38	73	MINIATURE CLICK-ON HANGER FOR 9-12 MM (BHD38)
	VLT-SRLR42-K	143	WG CUSHION ASSY LMR-400 3/8" FLEX, 2 HOLES (Bag of 5 Kits) (SRLR42-K)
Changing 10GHz to 11GHz Materials			
Antennas			
	AND-VHLP3-11W-6WH	18	ANTENNA, 11 GHZ, 1.0 M (3FT), VALULINE, HPLP, REMOTE MOUNT, PARABOLIC (STD: WHITE), 10.1-11.7 GHZ, RADOME (STD: WHITE), CPR90G, SINGLE POLARIZED, CLASS III/ FCC101A/B, SINGLE PIECE REFLECTOR, 250 KMPH, 200 KMPH (VHLP3-11W-6WH/A) 1.0 m 3 ft ValuLine® High Performance Low Profile Antenna, single-polarized, 10.125–11.700 GHz, CPR90G flange, white antenna, composite broadband grey radome without flash, standard pack—one-piece reflector
	AND-VHLP3-11W-SE1		ANTENNA, 10/11 GHZ, 1.0 M (3FT), VALULINE, HPLP, DIRECT MOUNT, PARABOLIC (STD: WHITE), 10.0-11.7 GHZ, RADOME (STD: WHITE), SINGLE POLARIZED, CLASS III/ FCC101A/B, SINGLE PIECE REFLECTOR, 250 KMPH, 200 KMPH (VHLP3-11W-SE1)





ITEM	Part Number	QTY	DESCRIPTION
	179-530147-001	17	LEG MOUNT,UP TO 6 FEET ANTENNA DIAMETER,UP TO 8 INCHES DEPTHIAMETER LEG,WITH WAVEGUIDE EQUIPMENT PROTECTION SHIELD KIT (MTC3513LMS)
			Antenna & Waveguide Transmission
			IRU600v3
	AND-UHP8-59W-P3A	2	ANTENNA, 5.925-7.125GHZ, 2.4M/8FT, UHP, SNGL POL, CPR137G, WHT TEF RAD (UHP8-59W-P3A)
	AND-EW90-F	1550	ELLIPTICAL WAVEGUIDE STANDARD, 10.2-11.7 GHZ, BLACK PE JACKET, PER FOOT (EW90-F)
	AND-EW90INSTALL-KIT	12	EW90INSTALL-KIT (ONE KIT PER WAVEGUIDE RUN) (EW90INSTALL-KIT)
	AND-HARDWARE-KIT	16	HARDWARE-KIT (ONE KIT PER 100FT) (HARDWARE-KIT)
	VLT-SREW90-K	105	WG CUSHION EW-90 1 HOLE (Bag of 5 Kits) (SREW90-K)
	AND-WGB4-90	12	WAVEGUIDE BOOT FOR EWP90, 4 IN (WGB4-90)
			ROUTER MPLS CTR ROUTER
	CTE-002-001	50	CTR 8540 with Fan Assembly, Blank cover plates, install kit, DC
	PWR-000053-TRM	50	CIRCUIT BREAKER 20 AMP SNAPAK (030017750I) for CTR 1 each
	CZL-60350	50	CTR 8500 Series R3 MPLS ADVANCED Software License
	CZF-60070	50	CTR 8500 ENABLE FOUR ELECTRICAL 10/100/1000 PORTS
	CZF-60090	50	CTR 8500 ENABLE 4 SFP 10/100/1000 PORTS
	CZF-60060	50	CTR 8500 SECURE MANAGEMENT NODAL LICENSE (ONE LICENSE PER CHASSIS)
	CZF-60050	50	CTR 8500 SECURE AUTHENTICATION CLIENT, CENTRALIZED USR ACCT MGMT (ONE LICENSE PER CHASSIS)
	083-845433-001	200	GIG ETH SFP, ELEC RJ45 1000BASE-T, GE2 ONLY (W/O RX_LOS) (ABCU-5740RZ)
			CORE ROUTER ASR 903
	C-ASR-903	7	ASR 903 Series Router Chassis
	C-A903-RCKMNT-19IN	7	ASR 903 EIA /JIS 19in Rack Mount Kit
	C-A900-IMA-BLANK	28	ASR 900 Interface Module Type-A Blank Cover
	C-A900-CONS-KIT-U	7	ASR 900 USB Console Cabling Kit
	C-A900-IMA8S		ASR 900 8 port SFP Gigabit Ethernet Interface Module
	C-A900-IMA8T	20	ASR 900 8 port 10/100/1000 Ethernet Interface Module
	C-A900-RSP2A-128	14	ASR 900 Route Switch Processor 2 - 128G, Base Scale
	C-A900-CONS-KIT-S	8	ASR 900 USB Console Cabling Kit
	LOC-SLASR903-A	7	ASR 903 Metro Aggregation Services
	C-SASR903R1NPEK9317S	7	Cisco ASR 903 RSP1 IOS XE UNIVERSAL - NO PAYLOAD ENCRYPTION
	C-A903-FAN-E	7	ASR 903 FAN Tray With Filter Slot
	C-A900-PWR550-D-E	14	ASR 900 550W Enhanced DC Power Supply
	C-FLSASR903-1588	7	ASR 903 IEEE 1588-2008 BC/MC License
	RIKIT-500	42	RACK INTERCONNECT KIT COMPLEXITY 5
			PROVISION NMS MANAGEMENT





ITEM	Part Number	QTY	DESCRIPTION
	PV-INM-SERVER-001	1	Provision INM Complete Single Server - Hardware and Software Configured INCLUDES: * PV-INM-GPS7118 PROVISION INM REMOTE INSTALLATION SERVICE * PV-INM-278-0182 PROVISION INM SERVER HARDWARE * PV-INM-SYBASE PROVISION INM SYBASE SOFTWARE * PV-INM-ADAPTERS PROVISION INM ADAPTERS
	LOC-B020-008-17	2	KVM SWITCH, 8-PORT NETDIRECTOR 1U RACKMOUNT CONSOLE KVM SWITCH W/17" LCD (B020-008-17)
	LOC-B019-000	1	2-POST RACKMOUNT BRACKET FOR B020,B021, B040, AND B070 CONSOLES AND KVM CONSOLES (B019-000)

5.3 DC POWER

Location	Equipment	Qty	Part Number	Description
RF Site	IX Inverter	33	DSIX4US23KIT	IX inverter system w/SNMP, including (2) inverter 1500W modules
ALCO NW	Battery	4	DSWLBG896ST	BATTERY, 896AH 48VDC STRING CONSISTING OF (24) 2V CELLS ST RATE VLRA
CCCO WEST	Battery	5	DSWLBG800ST	BATTERY, 800AH 48VDC STRING CONSISTING OF (24) 2V CELLS ST RATE VLRA
ALCO EAST	Battery	4	DSWLBG800ST	BATTERY, 800AH 48VDC STRING CONSISTING OF (24) 2V CELLS ST RATE VLRA
ALCO SW	Battery	7	DSWLBG800ST	BATTERY, 800AH 48VDC STRING CONSISTING OF (24) 2V CELLS ST RATE VLRA
CCCO Central	Battery	8	DSWLBG800ST	BATTERY, 800AH 48VDC STRING CONSISTING OF (24) 2V CELLS ST RATE VLRA
CCCO EAST	Battery	3	DSWLBG800ST	BATTERY, 800AH 48VDC STRING CONSISTING OF (24) 2V CELLS ST RATE VLRA
Marsh Creek	Battery	1	DSWLBG256RR	BATTERIES, 23 IN, 48V, 265AH 23 INCH BASE PLATE
Crane	Battery	1	DSWLBG256RR	BATTERIES, 23 IN, 48V, 265AH 23 INCH BASE PLATE
Master Site	Battery	1	DSWLBG2688ST	BATTERY, 2688AH 48VDC STRING CONSISTING OF (24) 2V CELLS ST RATE VLRA
Master Site	MX Inverter	2	DQWLEX175DIS	Exeltech, 17.5kVA inverter system housed in a Zone 4



SECTION 6

IMPLEMENTATION PLAN

6.1 STATEMENT OF WORK

Motorola will install and configure the proposed equipment. The following table describes the tasks involved with installation and configuration.

Tasks	Motorola Solutions	EBRCSA
Contract Finalization and Team Creation		
Execute contract and distribute contract documents.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Assign a Project Manager as a single point of contact.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Assign resources.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Schedule project kickoff meeting.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Deliverable: Signed contract, defined project team, and scheduled project kickoff meeting.		
Project Administration		
Ensure that project team members attend all meetings relevant to their role on the project.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Record and distribute project status meeting minutes.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Maintain responsibility for third-party services contracted by Motorola Solutions.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Complete assigned project tasks according to the project schedule.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Submit project milestone completion documents.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Upon completion of tasks, approve project milestone completion documents.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Conduct all project work Monday thru Friday, 8:00 a.m. to 5:00 p.m.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Deliverable: Completed and approved project milestones throughout the project.		
Project Kickoff		
Introduce team, review roles, and decision authority.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Present project scope and objectives.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Review SOW responsibilities and project schedule.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Schedule Design Review.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Deliverable: Completed project kickoff and scheduled Design Review.		
Design Review		
Present the system design and operational requirements for the solution.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Validate that customer sites can accommodate proposed equipment.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Present installation plan.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Present configuration and details of sites required by system design.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Provide approvals required to add equipment to proposed existing sites.	<input type="checkbox"/>	<input checked="" type="checkbox"/>



Tasks	Motorola Solutions	EBRCSA
Review safety, security, and site access procedures.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Present equipment layout plans and system design drawings.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Provide backhaul performance specifications and demarcation points.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Provide heat load and power requirements for new equipment.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Provide information on existing system interfaces.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Provide frequency and radio information for each site.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Ensure the MW frequency availability and licensing meet project requirements.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Review and update design documents, including System Description, Statement of Work, Project Schedule, and Acceptance Test Plan, based on Design Review agreements.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Present preliminary cutover plan and methods to document final cutover process.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Execute Change Order in accordance with all material changes to the Contract resulting from the Design Review.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Deliverable: Finalized design documentation based upon "frozen" design, along with any relevant Change Order documentation.		
Site Access		
Provide site owners/managers with written notice to provide entry to sites identified in the project design documentation.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Maintain access roads in order to provide clear and stable entry to sites for heavy-duty construction vehicles, cement trucks and cranes. Ensure that sufficient space is available at the site for these vehicles to maneuver under their own power, without assistance from other equipment.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Obtain site licensing and permitting, including site lease/ownership, zoning, permits, regulatory approvals, easements, power, and telco connections.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Deliverable: Access, permitting, and licensing necessary to install system equipment at each site.		
Site Planning		
Provide necessary buildings, equipment shelters, and towers for installation of system equipment.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Provide the R56 requirements for space, power, grounding, HVAC, and connectivity requirements at each site.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Provide adequate electrical power in proper phase and voltage at sites.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Provide as-built structural and foundation drawings of the structures and site locations, along with geotechnical reports, in order to facilitate a structural analysis.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Perform structural analysis of towers, rooftops, or other structures to confirm that they are capable of supporting proposed and future antenna loads.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Confirm that there is adequate utility service to support the new equipment and ancillary equipment.	<input type="checkbox"/>	<input checked="" type="checkbox"/>





Tasks	Motorola Solutions	EBRCSA
Modify towers or other structures, or relocate sites in the system, to ensure that they are capable of supporting proposed and future antenna loads.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Conduct site walks to collect pertinent information (e.g. location of telco, power, structures, etc.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Ensure that each site meets the R56 standards for space, grounding, power, HVAC, and connectivity requirements.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Deliverable: Information and permitting requirements completed at each site.		
General Facility Improvements		
Provide adequate HVAC, grounding, lighting, cable routing, and surge protection based upon Motorola's Standards and Guidelines for Communication Sites (R56)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Ensure the resolution of environmental and hazardous material issues at each site including, but not limited to, asbestos, structural integrity (tower, rooftop, water tank, etc.), and other building risks.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Ensure that electrical service will accommodate installation of system equipment, including isolation transformers, circuit breakers, surge protectors, and cabling.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Provide obstruction-free area for the cable run between the demarcation point and system equipment.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Provide structure penetrations (wall or roof) for transmission equipment (e.g. antennas, microwave radios etc.).	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Supply interior building cable trays, raceways, conduits, and wire supports.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Deliverable: Sites meet physical requirements for equipment installation.		
Equipment Order and Manufacturing		
Create equipment order and reconcile to contract.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Manufacture Motorola Solutions-provided equipment necessary for system based on equipment order.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Deliverable: Equipment procured and ready for shipment.		
System Staging (Microwave Equipment)		
Ship all equipment needed for staging to the designated staging location.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Provide information on existing system interfaces, room layouts, or other information necessary for the assembly to meet field conditions.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Set up the equipment on a site-by-site basis, as it will be configured in the field at each of the sites.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Assemble required subsystems to assure system functionality.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Power up, load application parameters, program, and test all staged equipment.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Confirm system configuration and software compatibility with the existing system.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Inventory the equipment with serial numbers and installation references.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Review and approve proposed Factory Acceptance Test Plan.	<input type="checkbox"/>	<input checked="" type="checkbox"/>





Tasks	Motorola Solutions	EBRCSA
Pay for travel, lodging, meals, and all incidental expenses for Customer personnel and representatives to witness the Factory Acceptance Testing.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Perform factory functional acceptance tests of system features	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Conduct site and system level testing.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Deliverable: System staged and ready for shipment.		
Equipment Shipment and Storage		
Provide secure location for solution equipment .	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Pack and ship solution equipment to the identified, or site locations.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Receive solution equipment.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Inventory solution equipment.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Deliverable: Solution equipment received and ready for installation		
General Installation		
Deliver solution equipment to installation location.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Coordinate receipt of and inventory solution equipment with designated contact.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Install all proposed fixed equipment as outlined in the System Description based upon the agreed-upon floor plans, connecting audio, control, and radio transmission cables to connect equipment to the power panels or receptacles, and audio/control line connection points. Installation performed in accordance with R56 standards and state/local codes.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Provide system interconnections that are not specifically outlined in the system design, including dedicated phone circuits, microwave links, or other types of connectivity.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Install and terminate all network cables between site routers and network demarcation points, including microwave, leased lines, and Ethernet.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Connect installed equipment to the provided ground system.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Label equipment, racks, and cables.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Perform preliminary audit of installed equipment to ensure compliance with requirements and R56 standards.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Note any required changes to the installation for inclusion in the "as-built" system documentation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Remove, transport, and dispose of old DC Power equipment.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Deliverable: Equipment installed.		
Solution Optimization		
Verify that all equipment is operating properly and that all electrical and signal levels are set accurately.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Verify communication interfaces between devices for proper operation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Ensure that functionality meets manufacturers' specifications and complies with the final configuration established during design review or system staging.	<input checked="" type="checkbox"/>	<input type="checkbox"/>





Tasks	Motorola Solutions	EBRCSA
Deliverable: Completion of System Optimization.		
Functional Acceptance Testing		
Verify the operational functionality and features of the solution supplied by Motorola Solutions, as contracted.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Witness the functional testing.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Document all issues that arise during the acceptance tests.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
If any major task for the system as contractually described fails during the Customer acceptance testing or beneficial use, repeat that particular task after Motorola determines that corrective action has been taken.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Resolve any minor task failures before Final System Acceptance.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Document the results of the acceptance tests and present for review.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Review and approve final acceptance test results.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Document all issues that arise during the acceptance tests.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Document the results of the acceptance tests and present to the Customer for review.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Deliverable: Completion of functional testing and approval by Customer.		
Coverage Testing (TDMA Upgrade project, informational only)		
Determine the required number of test vehicles for simultaneous testing of multiple service areas.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Perform informational coverage testing according to the Coverage Acceptance Test Plan (CATP), Submit test reports within the agreed period.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Document all issues that arise during the coverage testing.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Submit final test reports, according to the agreed period.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Provide the required number of test vehicles, drivers, and resources to witness the coverage testing.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Review the informational test results.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Deliverable: Completion of coverage testing and approval by Customer.		
Training (New MW Equipment)		
Finalize schedule for training coursework.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Provide training facility.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Conduct the training classes outlined in the Training Plan agreed during the Design Review.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Attend proposed training classes.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Deliverable: Training coursework completed.		
Cutover		
Finalize Cutover Plan.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>





Tasks	Motorola Solutions	EBRCSA
Conduct cutover meeting with relevant personnel to address both how to mitigate technical and communication problem impacts to the users during cutover and during the general operation of the system.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Notify the personnel affected by the cutover of the date and time planned for cutover.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Provide ongoing communication with users regarding the project and schedule.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Cut over users and ensure that user radios are operating on system.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Resolve punchlist items, documented during the Acceptance Testing phase, in order to meet all the criteria for final system acceptance.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Assist Motorola with resolution of identified punchlist items by providing support, such as access to the sites, equipment and system, and approval of the resolved punchlist items.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Deliverable: Migration to new system completed, and punchlist items resolved.		
Transition to Warranty		
Review the items necessary for transitioning the project to warranty support and service.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Motorola to provide services during warranty year(s) to align with the proposed services.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Provide a Customer Support Plan detailing the warranty support associated with the contract equipment.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Deliverable: Service information delivered and approved by Customer.		
Finalize Documentation and System Acceptance		
Provide manufacturer's installation material, part list and other related material to Customer upon project completion.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Provide an electronic as-built system manual on CD or other Customer preferred electronic media. The documentation will include the following:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
• Site Block Diagrams.		
• Site Floor Plans (where applicable).		
• Site Equipment Rack Configurations (where applicable).		
• ATP Test Checklists.		
• Functional Acceptance Test Plan Test Sheets and Results.		
• Equipment Inventory List.		
• Maintenance Manuals (where applicable).		
• Technical Service Manuals (where applicable).		
Drawings will be delivered in Adobe PDF format.		
Receive and approve documentation.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Execute Final Project Acceptance.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Deliverable: All required documents are provided and approved. Final Project Acceptance.		



6.2 ASSUMPTIONS

Motorola has made several assumptions in preparing this proposal for EBRCSA System Upgrade related to the design of the solution as well as to the project implementation:

General

- All existing sites or equipment locations will have sufficient space available for the system described. Relocation or removal and/or reinstallation of any equipment to accommodate the installations are not covered and will be quoted separately.
- All existing sites or equipment locations will have adequate electrical power and site grounding suitable to support the requirements of the system described.
- Any site/location upgrades or modifications are the responsibility of EBRCSA.
- Any tower stress analysis or tower upgrade requirements are the responsibility of EBRCSA.
- Approved local, State, or Federal permits as may be required for the installation and operation of the proposed equipment, are the responsibility of EBRCSA.
- Work is performed during normal business hours on non-holidays, Monday–Friday, 8am–5pm.

TDMA Upgrade

- TDMA feature will be enabled for all channels except the control channel per RF site (2 CH are the minimum required).
- It has been assumed that EBRCSA already has the sufficient number of antenna installed to enable the Rx diversity functionality.
- Motorola will reuse the existing transmit antenna subsystem assuming there are no issues with the existing antenna subsystem.
- Relocation or removal and/or reinstallation of any equipment to accommodate the installations are not covered and will be quoted separately.
- This proposal does not include any work effort for the fleet of existing subscriber radios on the system.
- This proposal does not include any subscribers. EBRCSA member agencies will need TDMA enabled subscribers in order to utilize the TDMA feature.
- The existing network transport capacity will have sufficient bandwidth for the features and solutions described in this document.
- Coverage Prediction and CATP are for informational purposes only.

MW Upgrade

- All ODU600 (outdoor RFU) will be remote-mounted to antenna and new 3ft Flextwist and new coaxial cables are proposed to replace existing coaxial cables. Assuming there is an existing conduit and passage for the Coax cable.
- Existing antennas, centerlines and waveguide lines can be reused for all existing 6/11 GHz RFU indoor hops. Reuse existing feedthroughs.
- DC distribution panel is not more than 30 ft far from the MW equipment rack.
- EBRCSA will reuse their existing Dehydrator and manifold system and it would be able to support new equipment.
- EBRCSA will reuse their existing DC Power Plant system and it would be able to support new equipment.
- Demarcation point will be as follows:
 - For T1, it will be on new DS-1 circuits terminated on DSX-1 jackfield panel
 - For Ethernet, it will be on Ethernet port on the DACGE3
 - DS-1 traffic will not go through CTR8540 Routers. Routers will be a new overlay

-
- The upgraded MW Backhaul will support simultaneously all current T1 traffic and new Ethernet traffic. The actual transition from T1 to Ethernet will likely occur until after the microwave radio upgrade. It is assumed that the T1 traffic plan has not changed and thus will be supported with the upgraded system.
 - The cutover plan will be at DS-1 and Ethernet Level starting at middle of ring and work way out with hop by hop replacement. Crews are needed at both ends of hop during the cutover to minimize the downtime.
 - Cutover will be executed in different phases approach to allow EBRCSA to implement the network over periods of two years.
 - It is recommended to complete one ring at the time with the following sequence: CCCO ring, ALCO and Richmond Mini loop. The loop protection will not be available when working on the each loop until each individual loop is completed with new radio replacement. The spur hops can be done after loops are completed.
 - Any inaccuracies in FCC data may drive additional services costs during field implementation. In addition, any other troubleshooting tasks related to frequency interference issues that are not directly attributable to Motorola/Aviat are subject to additional service fees.
 - All equipment interconnections or termination points, unless specified otherwise, are estimated to be fifty (50) feet. This project does not include any cabling between buildings, rooms, or floors, unless specifically identified in this SOW.
 - Customer provided construction drawings will have sufficient details to order antenna mounting or any other related material required.
 - Motorola/Aviat shall not be responsible for the condition of existing equipment or the deficiencies of non-Motorola/Aviat provided labor.

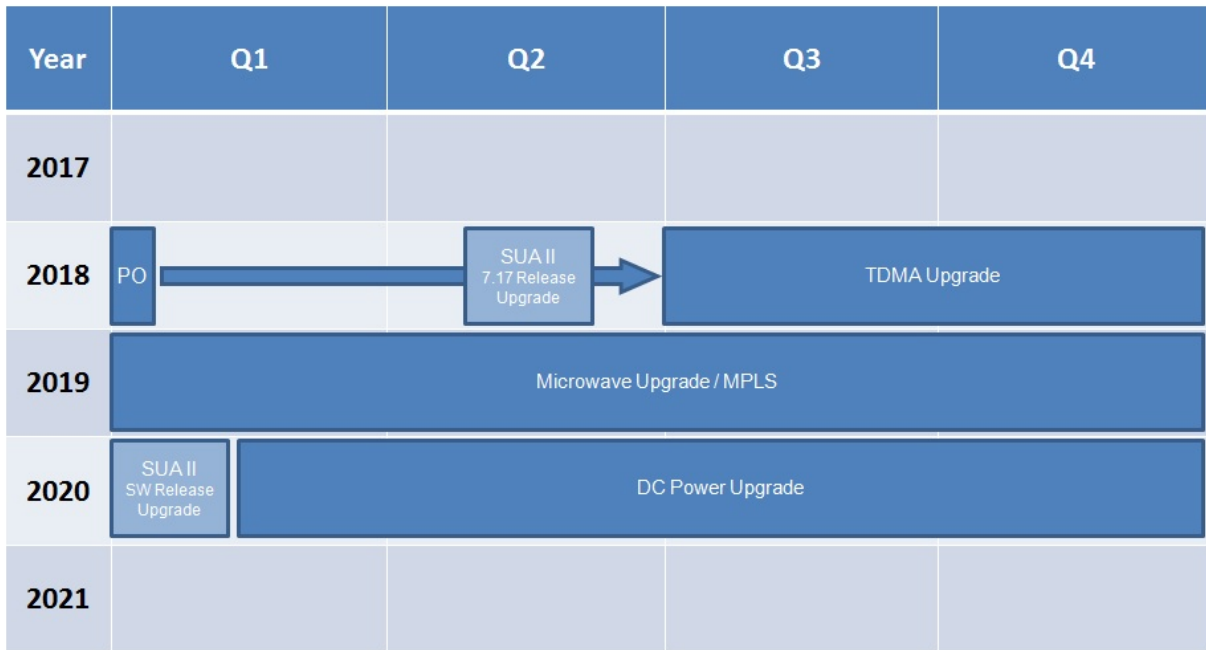
DC Upgrade

- Inverters and battery replacements are for DC power systems supporting RF radio equipment; not for DC power systems supporting the microwave equipment.
- Motorola will remove the existing/old inverters and battery plants from the sites and transport them to a location specified by EBRCSA.

6.3 PROJECT SCHEDULE

The EBRCS network upgrade project would require a carefully developed deployment plan, keeping in mind the importance of continuous operations of the current network. Motorola has prepared a preliminary multi-year deployment plan designed to avoid network operations challenges by taking smaller and controlled upgrade steps.

The estimated time for completion of the entire upgrade project is approximately 36 months from the date of Contract signature (a high level project timeline is shown on the diagram below). A more detailed project schedule version will be prepared by the Motorola's assigned Project Manager during the Detailed Design Review, and then reviewed and approved by EBRCSA.



6.4 ACCEPTANCE TEST PLAN

System Acceptance of the proposed solution will occur upon successful completion of a Functional Acceptance Test Plan (FATP), which will test the features, functions, and failure modes for the installed equipment and/or software in order to verify that the solution operates according to its design. This plan will validate that EBRCSA's solution will operate according to its design, and increase the efficiency and accuracy of the final installation activities. A detailed FATP will be developed and finalized during the Design Review.

6.4.1 Coverage Validation

As part of the TDMA migration proposal, Motorola is including services to perform baseline coverage measurements of the EBRCSA's system before the migration to TDMA. The purpose of the baseline coverage is to validate to EBRCSA and its end users that the coverage footprint has not changed as a result of implementing TDMA. These baseline measurements are planned to be along the major highways and roadways in both counties. The results of the before and after baseline measurements will provide information only, and does not provide a coverage guarantee.

The same process will be used both before and after the TDMA implementation, providing current Portable on Street coverage by sampling the outbound BER (Bit Error rate) information. Motorola will use VoyagerSM to record the outbound signals in one (1) vehicle, which will take sample data every ¼ mile. The process will require that one channel be reserved for the outbound test in each simulcast cell.

This plan assumes EBRCSA will supply one (1) vehicle and one (1) driver. The test will occur along an agreed upon route in the two Counties to take both the before and after coverage measurements.

During the coverage validation, Voyager generates computer files that include the Reference Tile Levels for each sampled tile. A copy of this raw data will be provided to EBRCSA as part of the baseline measurements coverage validation report. Motorola will submit to EBRCSA a brief report of the coverage validation results (before and after coverage measurements and how they compare).

SECTION 7

WARRANTY AND MAINTENANCE SERVICES

As part of this upgrade project, Motorola will include its standard warranty as set forth in the existing contract. In addition to the standard warranty services, Motorola is offering the additional warranty and maintenance services described below.

7.1 TDMA

Concerning the TDMA upgrade, in addition to the standard warranty, Motorola will provide the same Technical Support, Dispatch Service and Standard On-Site Support it provides today for the existing FDMA system. At the end of the Warranty Period, the new TDMA equipment and software will be added to the existing service agreement at no additional charge.

7.2 MICROWAVE

In addition to the Motorola warranty, Motorola will pass through to EBRCSA the Aviat standard hardware repair warranty for a period of 3 Years from the shipment date.

If desired, Motorola will provide a quote for additional maintenance services for the microwave equipment including 24x7 TAC Support, Advanced Replacement, Emergency Onsite Support, Ground Preventive Maintenance, and Remote Network Monitoring

7.3 DC POWER

In addition to the Motorola warranty, Motorola will pass through to EBRCSA the manufacturer's standard warranty for the upgraded DC Power equipment as generally described below with further details available on request:

- Inverters are supplied with a 2 years Standard Warranty (HW Repair) from the shipment date.
- Batteries are supplied with a prorated 7 year Warranty, but it is vital that the correct installation/start-up procedures are followed and documented, as well as the yearly maintenance results.



SECTION 8

PRICING

Please see the pricing table(s) included below.

8.1 EQUIPMENT AND SERVICES PRICING

Description	Price (USD)
TDMA Upgrade:	
- Equipment	\$13,316,404
- Software	
- Licenses	
TDMA Discount	-\$2,663,281
TDMA System Integration Services	\$1,185,191
TDMA Upgrade Total	\$11,838,314
MW Upgrade:	
- Radio Equipment	\$6,257,954
- MPLS Routers	
- ProVision Network Management	
MW Discount	-\$1,251,591
MW System Integration Services	\$4,284,458
MW Upgrade Total	\$9,290,821
DC Power Upgrade:	
- Inverters	\$1,231,449
- Batteries	
DC Power Discount	-\$246,290
DC Power System Integration Services	\$1,569,333
DC Power Upgrade Total	\$2,554,493
Project Total	\$23,683,628
Special Discounts:	
DDM Promo for TDMA purchase by 12/15/17	-\$3,938,314
MW Volume Incentive for purchase with DC Power & TDMA	-\$690,821
DC Power purchase with MW and TDMA	-\$54,493
Grand Project Total (after Special Discounts)	\$19,000,000
Estimated 9.25% Tax on Equipment (HW Only)	\$454,669



8.2 SYSTEM UPGRADES PRICING SUMMARY

Description	Price (USD)
TDMA Upgrade	\$7,900,000
MW Upgrade	\$8,600,000
DC Power Upgrade	\$2,500,000
Grand Project Total	\$19,000,000
Estimated 9.25% Tax on Equipment (HW Only)	\$454,669

Note 1: TDMA Pricing valid through 2017, increases to \$9.5M if purchased in 2018, by July 31st.

Note 2: MW and DC Power Pricing Valid through March 2018

8.3 LEASE-PURCHASE TERMS

Motorola has prepared a special lease-purchase program for EBRC SA for a period of 7 Years at exceptionally low interest rates. The terms of this lease-purchase proposal are described on the following pages.

Note: The calculations of the lease-purchase options are based on values before sales tax.



Date: September 25, 2017

Financing proposal for: East Bay Regional Communications System Authority ("EBRCSA")

Motorola Customer Financing recognizes that each opportunity presents unique issues and characteristics. Therefore, our approach involves understanding our customer's operational goals and financial objectives. Should you feel another financing structure is required, Motorola Customer Financing would welcome the opportunity to work with you.

Transaction Type: Municipal Lease-Purchase Agreement / Tax Exempt Financing
Lessor: Motorola Solutions, Inc. (or its Assignee)
Lessee: East Bay Regional Communications System Authority ("EBRCSA")
Equipment: As per the Motorola Solutions equipment proposal.
Title, Insurance, & Maintenance: Title to the equipment will vest with the Lessee, and the Lessee will be responsible to insure & maintain the equipment as outlined in the lease contract.
Taxes: Personal property, sales, leasing, use, stamp, or other taxes are for the account of the Lessee.

	<u>Option One</u>	<u>Option Two</u>	<u>Option Three</u>	<u>Option Four</u>
Estimated Order Date:	2017	2017	2018	2018
Balance to Finance:	\$7,900,000.00	\$7,900,000.00	\$9,500,000.00	\$9,500,000.00
Lease Term:	Five Years	Seven Years	Five Years	Seven Years
Payment Frequency:	Annual	Annual	Annual	Annual
Lease Rate: ***	1.77%	1.85%	1.77%	1.85%
*** Please note this special financing offer is being subsidized by Motorola Corporate to the bank and such subsidy is limited, subject to change, including elimination, and is only available for financed transactions.				
Lease Factor:	0.210744	0.153622	0.210744	0.153622
Lease Payment:	\$1,664,879.21	\$1,213,616.18	\$2,002,069.93	\$1,459,411.87
Payment Structure:	Arrears	Arrears	Arrears	Arrears
Payment Commencement:	First payment due one year after contract execution.	First payment due one year after contract execution.	First payment due one year after contract execution.	First payment due one year after contract execution.

Please be advised the rates above are indicative of current market conditions and should be used for INFORMATIONAL PURPOSES ONLY. The actual lease rates will be locked on a mutually agreed upon date closer to the actual order date and will reflect then-current market conditions.

Program Highlights: Low, tax exempt financing interest rates...the cheapest & easiest way for State & Locals to raise cash.

Eliminate miscellaneous financing costs associated with bonding... NO special counsel fees, underwriter's fees, origination costs, or reserve fund requirements. Every dollar you borrow gets allocated towards your project.

No pre-payment penalties provided payment is made on a regularly scheduled lease payment date.

Lease Payments are subject to annual appropriation, so the Lessee DOES NOT pledge its full faith and credit.

Future equipment upgrades can easily be accommodated via add-on lease schedules, restructuring already existing deals, etc.

Qualifications: Receipt of a properly executed documentation package.

The interest portion of the Lease Payments shall be excludable from the Lessor's gross income pursuant to Section 103 of the Internal Revenue Code.

Receipt of a copy of the last 2 year's audited financial statements and current year's budget from the Lessee.

This proposal should not be construed as a commitment to finance. It is subject to final credit approval.

For questions concerning this quote, please contact: Paul Mecaskey
 Motorola Solutions Credit Company LLC

Use or disclosure of this proposal is subject to the restrictions on the disclosure page.

Date: September 25, 2017

Financing proposal for: **East Bay Regional Communications System Authority ("EBRCSA")**

Motorola Customer Financing recognizes that each opportunity presents unique issues and characteristics. Therefore, our approach involves understanding our customer's operational goals and financial objectives. **Should you feel another financing structure is required, Motorola Customer Financing would welcome the opportunity to work with you.**

Transaction Type: Municipal Lease-Purchase Agreement / Tax Exempt Financing

Lessor: Motorola Solutions, Inc. (or its Assignee)

Lessee: **East Bay Regional Communications System Authority ("EBRCSA")**

Equipment: As per the Motorola Solutions equipment proposal.

Title, Insurance, & Maintenance Title to the equipment will vest with the Lessee, and the Lessee will be responsible to insure & maintain the equipment as outlined in the lease contract.

Taxes: Personal property, sales, leasing, use, stamp, or other taxes are for the account of the Lessee.

	<u>Option One</u>	<u>Option Two</u>
Balance to Finance:	\$19,000,000.00	\$19,000,000.00
Lease Term:	Five Years	Seven Years
Payment Frequency:	Annual	Annual
Lease Rate: ***	1.71%	1.79%
*** Please note this special financing offer is being subsidized by Motorola Corporate to the bank and such subsidy is limited, subject to change, including elimination, and is only available for financed transactions.		
Lease Factor:	0.210376	0.153267
Lease Payment:	\$3,997,143.25	\$2,912,075.64
Payment Structure:	Arrears	Arrears
Payment Commencement:	First payment due one year after contract execution.	First payment due one year after contract execution.

Please be advised the rates above are indicative of current market conditions and should be used for INFORMATIONAL PURPOSES ONLY. The actual lease rates will be locked on a mutually agreed upon date closer to the actual order date and will reflect then-current market conditions.

Program Highlights: Low, tax exempt financing interest rates...the **cheapest & easiest** way for State & Locals to raise cash.

Eliminate miscellaneous financing costs associated with bonding...**NO** special counsel fees, underwriter's fees, origination costs, or reserve fund requirements.
Every dollar you borrow gets allocated towards your project.

No pre-payment penalties provided payment is made on a regularly scheduled lease payment date.

Lease Payments are subject to annual appropriation, so the Lessee **DOES NOT** pledge its full faith and credit.

Future equipment upgrades can easily be accommodated via add-on lease schedules, restructuring already existing deals, etc.

Qualifications: Receipt of a properly executed documentation package.
The interest portion of the Lease Payments shall be excludable from the Lessor's gross income pursuant to Section 103 of the Internal Revenue Code.
Receipt of a copy of the last 2 year's audited financial statements and current year's budget from the Lessee.
This proposal should not be construed as a commitment to finance. It is subject to final credit approval.

For questions concerning this quote, please contact: Paul Mecaskey
Motorola Solutions Credit Company LLC
847-538-3707
pjm@motorolasolutions.com

Use or disclosure of this proposal is subject to the restrictions on the disclosure page.



SECTION 9

CONTRACTUAL DOCUMENTATION

This proposal is based upon providing the project under a Change Order to the Communications System Agreement (CSA) between EBRCSA and Motorola, dated July 7, 2009, extended on July 6, 2012, and extended again on July 6, 2017 through July 6, 2020.





SECTION 10

APPENDIX

The following appendix provides additional detailed information regarding our lease-purchase proposal.

10.1 SAMPLE LEASE-PURCHASE AGREEMENT



LESSEE FACT SHEET

Please help Motorola Solutions Inc. provide excellent billing service by providing the following information:

1. Complete **Billing** Address ABCDE

Attention: _____
Phone: _____
2. Lessee County Location: _____
3. Federal Tax I.D. Number _____
4. Purchase Order Number to be referenced on invoice (if necessary) or other “descriptions” that may assist in determining the applicable cost center or department: _____
5. Equipment description that you would like to appear on your invoicing: _____

Appropriate Contact for Documentation / System Acceptance Follow-up:

6. Appropriate Contact & Mailing Address

Phone: _____
Fax: _____
7. Payment remit to address: **Motorola Solutions Credit Company LLC
P.O. Box 71132
Chicago IL 60694-1132**

Thank you

FOR SAMPLE PURPOSES ONLY

EQUIPMENT LEASE-PURCHASE AGREEMENT

Lease Number: 12345

LESSEE:

ABCDE
Your address
Your town

LESSOR:

Motorola Solutions, Inc.
500 W. Monroe
Chicago, IL 60661

Lessor agrees to lease to Lessee and Lessee agrees to lease from Lessor, the equipment and/or software described in Schedule A attached hereto ("Equipment") in accordance with the following terms and conditions of this Equipment Lease-Purchase Agreement ("Lease").

1. TERM. This Lease will become effective upon the execution hereof by Lessor. The Term of this Lease will commence on date specified in Schedule A attached hereto and unless terminated according to terms hereof or the purchase option, provided in Section 18, is exercised this Lease will continue until the Expiration Date set forth in Schedule B attached hereto ("Lease Term").

2. RENT. Lessee agrees to pay to Lessor or its assignee the Lease Payments (herein so called), including the interest portion, in the amounts specified in Schedule B. The Lease Payments will be payable without notice or demand at the office of the Lessor (or such other place as Lessor or its assignee may from time to time designate in writing), and will commence on the first Lease Payment Date as set forth in Schedule B and thereafter on each of the Lease Payment Dates set forth in Schedule B. Any payments received later than ten (10) days from the due date will bear interest at the highest lawful rate from the due date. Except as specifically provided in Section 5 hereof, the Lease Payments will be absolute and unconditional in all events and will not be subject to any set-off, defense, counterclaim, or recoupment for any reason whatsoever. Lessee reasonably believes that funds can be obtained sufficient to make all Lease Payments during the Lease Term and hereby covenants that a request for appropriation for funds from which the Lease Payments may be made will be requested each fiscal period, including making provisions for such payment to the extent necessary in each budget submitted for the purpose of obtaining funding. It is Lessee's intent to make Lease Payment for the full Lease Term if funds are legally available therefor and in that regard Lessee represents that the Equipment will be used for one or more authorized governmental or proprietary functions essential to its proper, efficient and economic operation.

3. DELIVERY AND ACCEPTANCE. Lessor will cause the Equipment to be delivered to Lessee at the location specified in Schedule A ("Equipment Location"). Lessee will accept the Equipment as soon as it has been delivered and is operational. Lessee will evidence its acceptance of the Equipment by executing and delivering to Lessor a Delivery and Acceptance Certificate in the form provided by Lessor.

Even if Lessee has not executed and delivered to Lessor a Delivery and Acceptance Certificate, if Lessor believes the Equipment has been delivered and is operational, Lessor may require Lessee to notify Lessor in writing (within five (5) days of Lessee's receipt of Lessor's request) whether or not Lessee deems the Equipment (i) to have been delivered and (ii) to be operational, and hence be accepted by Lessee. If Lessee fails to so respond in such five (5) day period, Lessee will be deemed to have accepted the Equipment and be

deemed to have acknowledged that the Equipment was delivered and is operational as if Lessee had in fact executed and delivered to Lessor a Delivery and Acceptance Certificate.

4. REPRESENTATIONS AND WARRANTIES. Lessor acknowledges that the Equipment leased hereunder is being manufactured and installed by Lessor pursuant to contract (the "Contract") covering the Equipment. Lessee acknowledges that on or prior to the date of acceptance of the Equipment, Lessor intends to sell and assign Lessor's right, title and interest in and to this Agreement and the Equipment to an assignee ("Assignee"). LESSEE FURTHER ACKNOWLEDGES THAT EXCEPT AS EXPRESSLY SET FORTH IN THE CONTRACT, LESSOR MAKES NO EXPRESS OR IMPLIED WARRANTIES OF ANY NATURE OR KIND WHATSOEVER, AND AS BETWEEN LESSEE AND THE ASSIGNEE, THE PROPERTY SHALL BE ACCEPTED BY LESSEE "AS IS" AND "WITH ALL FAULTS". LESSEE AGREES TO SETTLE ALL CLAIMS DIRECTLY WITH LESSOR AND WILL NOT ASSERT OR SEEK TO ENFORCE ANY SUCH CLAIMS AGAINST THE ASSIGNEE. NEITHER LESSOR NOR THE ASSIGNEE SHALL BE LIABLE FOR ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OF ANY CHARACTER AS A RESULT OF THE LEASE OF THE EQUIPMENT, INCLUDING WITHOUT LIMITATION, LOSS OF PROFITS, PROPERTY DAMAGE OR LOST PRODUCTION WHETHER SUFFERED BY LESSEE OR ANY THIRD PARTY.

Lessor is not responsible for, and shall not be liable to Lessee for damages relating to loss of value of the Equipment for any cause or situation (including, without limitation, governmental actions or regulations or actions of other third parties).

5. NON-APPROPRIATION OF FUNDS. Notwithstanding anything contained in this Lease to the contrary, Lessee has the right to not appropriate funds to make Lease Payments required hereunder in any fiscal period and in the event no funds are appropriated or in the event funds appropriated by Lessee's governing body or otherwise available by any lawful means whatsoever in any fiscal period of Lessee for Lease Payments or other amounts due under this Lease are insufficient therefor, this Lease shall terminate on the last day of the fiscal period for which appropriations were received without penalty or expense to Lessee of any kind whatsoever, except as to the portions of Lease Payments or other amounts herein agreed upon for which funds shall have been appropriated and budgeted or are otherwise available. The Lessee will immediately notify the Lessor or its Assignee of such occurrence. In the event of such termination, Lessee agrees to peaceably surrender possession of the Equipment to Lessor or its Assignee on the date of such termination, packed for shipment in accordance with manufacturer specifications and freight prepaid and insured to any location in the continental United States designated by Lessor. Lessor will have all legal and equitable rights and remedies to take possession of the Equipment. Non-appropriation of funds shall not constitute a default hereunder for purposes of Section 16.

6. LESSEE CERTIFICATION. Lessee represents, covenants and warrants that: (i) Lessee is a state or a duly constituted political subdivision or agency of the state of the Equipment Location; (ii) the interest portion of the Lease Payments shall be excludable from Lessor's gross income pursuant to Section 103 of the Internal Revenue Code of 1986, as it may be amended from time to time (the "Code"); (iii) the execution, delivery and performance by the Lessee of this Lease have been duly authorized by all necessary action on the part of the Lessee; (iv) this Lease constitutes a legal, valid and binding obligation of the Lessee enforceable in accordance with its terms; (v) Lessee will comply with the information reporting requirements of Section 149(e) of the Internal Revenue Code of 1986 (the "Code"), and such compliance shall include but not be limited to the execution of information statements requested by Lessor; (vi) Lessee will not do or cause to be done any act which will cause, or by omission of any act allow, the Lease to be an arbitrage bond within the meaning of Section 148(a) of the Code; (vii) Lessee will not do or cause to be done any act which will cause, or by omission of any act allow, this Lease to be a private activity bond within the meaning of Section 141(a) of the Code; (viii) Lessee will not do or cause to be done any act which will cause, or by omission of any act allow, the interest portion of the Lease Payment to be or become includable in gross income for Federal income

taxation purposes under the Code; and (ix) Lessee will be the only entity to own, use and operate the Equipment during the Lease Term.

Lessee represents, covenants and warrants that: (i) it will do or cause to be done all things necessary to preserve and keep the Lease in full force and effect, (ii) it has complied with all laws relative to public bidding where necessary, and (iii) it has sufficient appropriations or other funds available to pay all amounts due hereunder for the current fiscal period.

If Lessee breaches the covenant contained in this Section, the interest component of Lease Payments may become includible in gross income of the owner or owners thereof for federal income tax purposes. In such event, notwithstanding anything to the contrary contained in Section 11 of this Agreement, Lessee agrees to pay promptly after any such determination of taxability and on each Lease Payment date thereafter to Lessor an additional amount determined by Lessor to compensate such owner or owners for the loss of such excludibility (including, without limitation, compensation relating to interest expense, penalties or additions to tax), which determination shall be conclusive (absent manifest error). Notwithstanding anything herein to the contrary, any additional amount payable by Lessee pursuant to this Section 6 shall be payable solely from Legally Available Funds.

It is Lessor's and Lessee's intention that this Agreement not constitute a "true" lease for federal income tax purposes and, therefore, it is Lessor's and Lessee's intention that Lessee be considered the owner of the Equipment for federal income tax purposes.

7. TITLE TO EQUIPMENT; SECURITY INTEREST. Upon shipment of the Equipment to Lessee hereunder, title to the Equipment will vest in Lessee subject to any applicable license; provided, however, that (i) in the event of termination of this Lease by Lessee pursuant to Section 5 hereof; or (ii) upon the occurrence of an Event of Default hereunder, and as long as such Event of Default is continuing, title will immediately vest in Lessor or its Assignee, and Lessee shall immediately discontinue use of the Equipment, remove the Equipment from Lessee's computers and other electronic devices and deliver the Equipment to Lessor or its Assignee. In order to secure all of its obligations hereunder, Lessee hereby (i) grants to Lessor a first and prior security interest in any and all right, title and interest of Lessee in the Equipment and in all additions, attachments, accessions, and substitutions thereto, and on any proceeds therefrom; (ii) agrees that this Lease may be filed as a financing statement evidencing such security interest; and (iii) agrees to execute and deliver all financing statements, certificates of title and other instruments necessary or appropriate to evidence such security interest.

8. USE; REPAIRS. Lessee will use the Equipment in a careful manner for the use contemplated by the manufacturer of the Equipment and shall comply with all laws, ordinances, insurance policies, the Contract, any licensing or other agreement, and regulations relating to, and will pay all costs, claims, damages, fees and charges arising out of the possession, use or maintenance of the Equipment. Lessee, at its expense will keep the Equipment in good repair and furnish and/or install all parts, mechanisms, updates, upgrades and devices required therefor.

9. ALTERATIONS. Lessee will not make any alterations, additions or improvements to the Equipment without Lessor's prior written consent unless such alterations, additions or improvements may be readily removed without damage to the Equipment.

10. LOCATION; INSPECTION. The Equipment will not be removed from, [or if the Equipment consists of rolling stock, its permanent base will not be changed from] the Equipment Location without Lessor's prior written consent which will not be unreasonably withheld. Lessor will be entitled to enter upon the Equipment Location or elsewhere during reasonable business hours to inspect the Equipment or observe its use and operation.

11. LIENS AND TAXES. Lessee shall keep the Equipment free and clear of all levies, liens and encumbrances except those created under this Lease. Lessee shall pay, when due, all charges and taxes (local, state and federal) which may now or hereafter be imposed upon the ownership, licensing, leasing, rental, sale, purchase, possession or use of the Equipment, excluding however, all taxes on or measured by Lessor's income. If Lessee fails to pay said charges and taxes when due, Lessor shall have the right, but shall not be obligated, to pay said charges and taxes. If Lessor pays any charges or taxes, Lessee shall reimburse Lessor therefor within ten days of written demand.

12. RISK OF LOSS: DAMAGE; DESTRUCTION. Lessee assumes all risk of loss or damage to the Equipment from any cause whatsoever, and no such loss of or damage to the Equipment nor defect therein nor unfitness or obsolescence thereof shall relieve Lessee of the obligation to make Lease Payments or to perform any other obligation under this Lease. In the event of damage to any item of Equipment, Lessee will immediately place the same in good repair with the proceeds of any insurance recovery applied to the cost of such repair. If Lessor determines that any item of Equipment is lost, stolen, destroyed or damaged beyond repair (an "Event of Loss"), Lessee at the option of Lessor will: either (a) replace the same with like equipment in good repair; or (b) on the next Lease Payment date, pay Lessor the sum of : (i) all amounts then owed by Lessee to Lessor under this Lease, including the Lease payment due on such date; and (ii) an amount equal to all remaining Lease Payments to be paid during the Lease Term as set forth in Schedule B.

In the event that Lessee is obligated to make such payment with respect to less than all of the Equipment, Lessor will provide Lessee with the pro rata amount of the Lease Payment and the Balance Payment (as set forth in Schedule B) to be made by Lessee with respect to that part of the Equipment which has suffered the Event of Loss.

13. INSURANCE. Lessee will, at its expense, maintain at all times during the Lease Term, fire and extended coverage, public liability and property damage insurance with respect to the Equipment in such amounts, covering such risks, and with such insurers as shall be satisfactory to Lessor, or, with Lessor's prior written consent, Lessee may self-insure against any or all such risks. All insurance covering loss of or damage to the Equipment shall be carried in an amount no less than the amount of the then applicable Balance Payment with respect to such Equipment. The initial amount of insurance required is set forth in Schedule B. Each insurance policy will name Lessee as an insured and Lessor or it's Assigns as an additional insured, and will contain a clause requiring the insurer to give Lessor at least thirty (30) days prior written notice of any alteration in the terms of such policy or the cancellation thereof. The proceeds of any such policies will be payable to Lessee and Lessor or it's Assigns as their interests may appear. Upon acceptance of the Equipment and upon each insurance renewal date, Lessee will deliver to Lessor a certificate evidencing such insurance. In the event that Lessee has been permitted to self-insure, Lessee will furnish Lessor with a letter or certificate to such effect. In the event of any loss, damage, injury or accident involving the Equipment, Lessee will promptly provide Lessor with written notice thereof and make available to Lessor all information and documentation relating thereto.

14. INDEMNIFICATION. Lessee shall, to the extent permitted by law, indemnify Lessor against, and hold Lessor harmless from, any and all claims, actions, proceedings, expenses, damages or liabilities, including attorneys' fees and court costs, arising in connection with the Equipment, including, but not limited to, its selection, purchase, delivery, licensing, possession, use, operation, rejection, or return and the recovery of claims under insurance policies thereon.

15. ASSIGNMENT. Without Lessor's prior written consent, Lessee will not either (i) assign, transfer, pledge, hypothecate, grant any security interest in or otherwise dispose of this Lease or the Equipment or any

interest in this Lease or the Equipment or; (ii) sublet or lend the Equipment or permit it to be used by anyone other than Lessee or Lessee's employees. Lessor may assign its rights, title and interest in and to this Lease, the Equipment and any documents executed with respect to this Lease and/or grant or assign a security interest in this Lease and the Equipment, in whole or in part. Any such assignees shall have all of the rights of Lessor under this Lease. Subject to the foregoing, this Lease inures to the benefit of and is binding upon the heirs, executors, administrators, successors and assigns of the parties hereto.

Lessee covenants and agrees not to assert against the Assignee any claims or defenses by way of abatement, setoff, counterclaim, recoupment or the like which Lessee may have against Lessor. No assignment or reassignment of any Lessor's right, title or interest in this Lease or the Equipment shall be effective unless and until Lessee shall have received a notice of assignment, disclosing the name and address of each such assignee; provided, however, that if such assignment is made to a bank or trust company as paying or escrow agent for holders of certificates of participation in the Lease, it shall thereafter be sufficient that a copy of the agency agreement shall have been deposited with Lessee until Lessee shall have been advised that such agency agreement is no longer in effect. During the Lease Term Lessee shall keep a complete and accurate record of all such assignments in form necessary to comply with Section 149(a) of the Code, and the regulations, proposed or existing, from time to time promulgated thereunder. No further action will be required by Lessor or by Lessee to evidence the assignment, but Lessee will acknowledge such assignments in writing if so requested.

After notice of such assignment, Lessee shall name the Assignee as additional insured and loss payee in any insurance policies obtained or in force. Any Assignee of Lessor may reassign this Lease and its interest in the Equipment and the Lease Payments to any other person who, thereupon, shall be deemed to be Lessor's Assignee hereunder.

16. EVENT OF DEFAULT. The term "Event of Default", as used herein, means the occurrence of any one or more of the following events: (i) Lessee fails to make any Lease Payment (or any other payment) as it becomes due in accordance with the terms of the Lease when funds have been appropriated sufficient for such purpose, and any such failure continues for ten (10) days after the due date thereof; (ii) Lessee fails to perform or observe any other covenant, condition, or agreement to be performed or observed by it hereunder and such failure is not cured within twenty (20) days after written notice thereof by Lessor; (iii) the discovery by Lessor that any statement, representation, or warranty made by Lessee in this Lease or in writing delivered by Lessee pursuant hereto or in connection herewith is false, misleading or erroneous in any material respect; (iv) proceedings under any bankruptcy, insolvency, reorganization or similar legislation shall be instituted against or by Lessee, or a receiver or similar officer shall be appointed for Lessee or any of its property, and such proceedings or appointments shall not be vacated, or fully stayed, within twenty (20) days after the institution or occurrence thereof; or (v) an attachment, levy or execution is threatened or levied upon or against the Equipment.

17. REMEDIES. Upon the occurrence of an Event of Default, and as long as such Event of Default is continuing, Lessor may, at its option, exercise any one or more of the following remedies: (i) by written notice to Lessee, declare all amounts then due under the Lease, and all remaining Lease Payments due during the fiscal period in effect when the default occurs to be immediately due and payable, whereupon the same shall become immediately due and payable; (ii) by written notice to Lessee, request Lessee to (and Lessee agrees that it will), at Lessee's expense, promptly discontinue use of the Equipment, remove the Equipment from all of Lessee's computers and electronic devices, return the Equipment to Lessor in the manner set forth in Section 5 hereof, or Lessor, at its option, may enter upon the premises where the Equipment is located and take immediate possession of and remove the same; (iii) sell or lease the Equipment or sublease it for the account of Lessee, holding Lessee liable for all Lease Payments and other amounts due prior to the effective date of such selling, leasing or subleasing and for the difference between the purchase price, rental and other amounts paid by the purchaser, Lessee or sublessee pursuant to such sale, lease or sublease and the amounts payable by Lessee hereunder; (iv) promptly return the Equipment to Lessor in the manner set forth in Section 5 hereof; and (v) exercise any other right, remedy or privilege which may be available to it under applicable laws of the state of the Equipment Location or any other applicable law or proceed by appropriate court action to enforce the terms of the Lease or to recover damages for the breach of this Lease or to rescind this Lease as to any or all of the

Equipment. In addition, Lessee will remain liable for all covenants and indemnities under this Lease and for all legal fees and other costs and expenses, including court costs, incurred by Lessor with respect to the enforcement of any of the remedies listed above or any other remedy available to Lessor.

18. PURCHASE OPTION. Upon thirty (30) days prior written notice from Lessee to Lessor, and provided that no Event of Default has occurred and is continuing, or no event, which with notice or lapse of time, or both could become an Event of Default, then exists, Lessee will have the right to purchase the Equipment on the Lease Payment dates set forth in Schedule B by paying to Lessor, on such date, the Lease Payment then due together with the Balance Payment amount set forth opposite such date. Upon satisfaction by Lessee of such purchase conditions, Lessor will transfer any and all of its right, title and interest in the Equipment to Lessee as is, without warranty, express or implied, except that the Equipment is free and clear of any liens created by Lessor.

18.1 PARTIAL PAYMENT/PURCHASE OPTION – GRANT FUNDING. Upon thirty (30) days prior written notice from Lessee to Lessor, and provided no Event of Default has occurred and is continuing, or no event, which with notice or lapse of time, or both could become an Event of Default, then exists, Lessee will have the right to make a partial payment against the Lease one time per calendar year at an amount no less than \$175,000.00 SO LONG AS SUCH PAYMENT IS BEING MADE FROM A FEDERAL GRANT FUNDING AWARD and upon Lessor's request, Lessee will provide Lessor certification of such. Application of said payment shall first be applied to accrued interest with the remainder going against the principal. Should Lessee make such payment, all remaining Lease Payments will be adjusted accordingly over the remainder of the Lease Term and Lessor shall provide to Lessee a revised Schedule B. Any reduction in outstanding principal can be viewed as the Lessee obtaining a greater equity position in the Lease.

19. NOTICES. All notices to be given under this Lease shall be made in writing and mailed by certified mail, return receipt requested, to the other party at its address set forth herein or at such address as the party may provide in writing from time to time. Any such notice shall be deemed to have been received five days subsequent to such mailing.

20. SECTION HEADINGS. All section headings contained herein are for the convenience of reference only and are not intended to define or limit the scope of any provision of this Lease.

21. GOVERNING LAW. This Lease shall be construed in accordance with, and governed by the laws of, the state of the Equipment Location.

22. DELIVERY OF RELATED DOCUMENTS. Lessee will execute or provide, as requested by Lessor, such other documents and information as are reasonably necessary with respect to the transaction contemplated by this Lease.

23. ENTIRE AGREEMENT; WAIVER. This Lease, together with Schedule A Equipment Lease-Purchase Agreement, Schedule B, Evidence of Insurance, Statement of Essential Use/Source of Funds, Certificate of Incumbency, Certified Lessee Resolution (if any), Bank Qualified Statement, Information Return for Tax-Exempt Governmental Obligations and the Delivery and Acceptance Certificate and other attachments hereto, and other documents or instruments executed by Lessee and Lessor in connection herewith, constitutes the entire agreement between the parties with respect to the Lease of the Equipment, and this Lease shall not be modified, amended, altered, or changed except with the written consent of Lessee and Lessor. Any provision of the Lease found to be prohibited by law shall be ineffective to the extent of such prohibition without invalidating the remainder of the Lease.

The waiver by Lessor of any breach by Lessee of any term, covenant or condition hereof shall not operate as a waiver of any subsequent breach thereof.

24. EXECUTION IN COUNTERPARTS. This Lease may be executed in several counterparts, each of which shall be deemed an original and all of which shall constitute but one and the same instrument.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the _____ day of _____, 2016.

LESSEE:
ABCDE

LESSOR:
MOTOROLA SOLUTIONS, INC.

FOR SAMPLE PURPOSES ONLY – DO NOT EXECUTE

By: _____

By: _____

Title: _____

Title: _____

CERTIFICATE OF INCUMBENCY

I, _____ do hereby certify that I am the duly elected or
(Printed Name of Secretary/Clerk)

appointed and acting Secretary or Clerk of the ABCDE, an entity duly organized and existing under the laws of the **State of** _____ that I have custody of the records of such entity, and that, as of the date hereof, the individual(s) executing this agreement is/are the duly elected or appointed officer(s) of such entity holding the office(s) below his/her/their respective name(s). I further certify that (i) the signature(s) set forth above his/her/their respective name(s) and title(s) is/are his/her/their true and authentic signature(s) and (ii) such officer(s) have the authority on behalf of such entity to enter into that certain Equipment Lease Purchase Agreement number **12345**, between ABCDE and Motorola Solutions, Inc. If the initial insurance requirement on Schedule B exceeds \$1,000,000, attached as part of the Equipment Lease Purchase Agreement is a Certified Lessee Resolution adopted by the governing body of the entity.

IN WITNESS WHEREOF, I have executed this certificate and affixed the seal of ABCDE, hereto this

_____ day of _____, 2016.

By: _____

(Signature of Secretary/Clerk)

SEAL

OPINION OF COUNSEL

With respect to that certain Equipment Lease-Purchase Agreement 12345 by and between Motorola Solutions, Inc. and the Lessee, I am of the opinion that: (i) the Lessee is, within the meaning of Section 103 of the Internal Revenue Code of 1986, a state or a fully constituted political subdivision or agency of the State of the Equipment Location described in Schedule A hereto; (ii) the execution, delivery and performance by the Lessee of the Lease have been duly authorized by all necessary action on the part of the Lessee, (III) the Lease constitutes a legal, valid and binding obligation of the Lessee enforceable in accordance with its terms; and (iv) Lessee has sufficient monies available to make all payments required to be paid under the Lease during the current fiscal year of the Lease, and such monies have been properly budgeted and appropriated for this purpose in accordance with State law. This opinion may be relied upon by the Lessor and any assignee of the Lessor's rights under the Lease.

FOR SAMPLE PURPOSES ONLY – DO NOT EXECUTE

Attorney for ABCDE

**SCHEDULE A
EQUIPMENT LEASE-PURCHASE AGREEMENT**

Schedule A 12345
Lease Number:

This Equipment Schedule is hereby attached to and made a part of that certain Equipment Lease-Purchase Agreement Number **12345** ("Lease"), between MOTOROLA SOLUTIONS INC. ("Lessor") and ABCDE ("Lessee").

Lessor hereby leases to Lessee under and pursuant to the Lease, and Lessee hereby accepts and leases from Lessor under and pursuant to the Lease, subject to and upon the terms and conditions set forth in the Lease and upon the terms set forth below, the following items of Equipment

QUANTITY	DESCRIPTION (Manufacturer, Model, and Serial Nos.)
	Refer to attached Equipment List.
Equipment Location: IL	

Initial Term: XX Months

Commencement Date: 7/1/2016

First Payment Due Date: 7/1/2016

XX consecutive annual payments as outlined in the attached Schedule B, plus Sales/Use Tax of \$0.00, payable on the Lease Payment Dates set forth in Schedule B.

Schedule B

Amortization Schedule will be included below:

INITIAL INSURANCE REQUIREMENT: \$1,000,000.00

Except as specifically provided in Section five of the Lease hereof, Lessee agrees to pay to Lessor or its assignee the Lease Payments, including the interest portion, in the amounts and dates specified in the above payment schedule.

EVIDENCE OF INSURANCE

Fire, extended coverage, public liability and property damage insurance for all of the Equipment listed on Schedule A number **12345** to that Equipment Lease Purchase Agreement number **12345** will be maintained by **ABCDE** as stated in the Equipment Lease Purchase Agreement.

This insurance is provided by:

Name of insurance provider

Address of insurance provider

City, State and Zip Code

Phone number of local insurance provider

E-mail address

In accordance with the Equipment Lease Purchase Agreement Number **12345**, **ABCDE**, hereby certifies that following coverage are or will be in full force and effect:

Type	Amount	Effective Date	Expiration Date	Policy Number
Fire and Extended Coverage	_____	_____	_____	_____
Property Damage	_____	_____	_____	_____
Public Liability	_____	_____	_____	_____

Certificate shall include the following:

Description: All Equipment listed on Schedule A number 12345 to that Equipment Lease Purchase Agreement number 12345. Please include equipment cost equal to the Initial Insurance Requirement on Schedule B to Equipment Lease Purchase Agreement number 12345 and list any deductibles.

Certificate Holder:

MOTOROLA SOLUTIONS, INC. and or its assignee as additional insured and loss payee
500 W Monroe
Chicago, IL 60661

If self insured, contact Motorola representative for template of self insurance letter.

STATEMENT OF ESSENTIAL USE/SOURCE OF FUNDS (# 12345)

To further understand the essential governmental use intended for the equipment together with an understanding of the sources from which payments will be made, **please address the following questions** by completing this form or by sending a separate letter:

- 1.** What is the specific use of the equipment?

- 2.** Why is the equipment essential to the operation of **ABCDE**?

- 3.** Does the equipment replace existing equipment?

If so, why is the replacement being made?

- 4.** Is there a specific cost justification for the new equipment?

If yes, please attach outline of justification.

- 5.** What is the expected source of funds for the payments due under the Lease for the current fiscal year and future fiscal years?

General Fund
- Have dollars already been appropriated for the Lease Payment? Yes -or- No
- If yes, for what fiscal year(s) have appropriations been made? _____

Combination of Federal Grant funding supplemented by General Revenues
- What fiscal year(s) is expected to be funded via federal grants: _____
- What fiscal year(s) is expected to be funded via general revenues: _____
- Have these general revenues already been appropriated for the Lease Payment(s)? Yes -or- No

Other (please describe): _____

Bank Qualified Statement

LESSEE CERTIFIES THAT IT (circle one) HAS or HAS NOT

DESIGNATED THIS LEASE AS A QUALIFIED TAX-EXEMPT OBLIGATION IN ACCORDANCE WITH SECTION 265(b)(3) OF THE CODE AND IF THE LESSEE HAS DESIGNATED THIS LEASE AS A QUALIFIED TAX-EXEMPT OBLIGATION, IT HAS NOT DESIGNATED MORE THAN \$10,000,000 OF ITS OBLIGATIONS AS QUALIFIED TAX-EXEMPT OBLIGATIONS IN ACCORDANCE WITH SUCH SECTION FOR THE CURRENT CALENDAR YEAR AND THAT IT REASONABLY ANTICIPATES THAT THE TOTAL AMOUNT OF TAX-EXEMPT OBLIGATIONS TO BE ISSUED BY LESSEE DURING THE CURRENT CALENDAR YEAR WILL NOT EXCEED \$10,000,000.

CERTIFIED LESSEE RESOLUTION

At a duly called meeting of the Governing Body of the Lessee (as defined in the Lease) held on or before the execution date of the Lease, the following resolution was introduced and adopted.

BE IT RESOLVED by the Governing Board of Lessee as follows:

1. **Determination of Need.** The Governing Body of Lessee has determined that a true and very real need exists for the acquisition of the Equipment or other personal property described in the Lease between ABCDE (Lessee) and Motorola Solutions, Inc. (Lessor).

2. **Approval and Authorization.** The Governing body of Lessee has determined that the Lease, substantially in the form presented to this meeting, is in the best interests of the Lessee for the acquisition of such Equipment or other personal property, and the Governing Board hereby approves the entering into of the Lease by the Lessee and hereby designates and authorizes the following person(s) referenced in the Lease to execute and deliver the Lease on Lessee's behalf with such changes thereto as such person deems appropriate, and any related documents, including any escrow agreement, necessary to the consummation of the transactions contemplated by the Lease.

3. **Adoption of Resolution.** The signatures in the Lease from the designated individuals for the Governing Body of the Lessee evidence the adoption by the Governing Body of this Resolution.

EQUIPMENT LEASE PURCHASE AGREEMENT DELIVERY AND ACCEPTANCE CERTIFICATE

The undersigned Lessee hereby acknowledges receipt of the Equipment described below (“Equipment”) and Lessee hereby accepts the Equipment after full inspection thereof as satisfactory for all purposes of lease Schedule A to the Equipment Lease Purchase Agreement executed by Lessee and Lessor.

Equipment Lease Purchase Agreement No.: 12345

Lease Schedule A No. : 12345

EQUIPMENT INFORMATION

QUANTITY	MODEL NUMBER	EQUIPMENT DESCRIPTION
		Equipment referenced in lease Schedule A# 12345. See Schedule A for a detailed Equipment List.

LESSEE:

ABCDE

By: _____

Date: _____

Information Return for Tax-Exempt Governmental Obligations

Under Internal Revenue Code Section 149 (e)
See separate instructions

OMB No. 1545-0720

Department of the Treasury
Internal Revenue Service

Caution: Use Form 8038-GC if the issue price is under \$100,000

Part I Reporting Authority

If Amended Return, Check here

1 Issuer's name ABCDE		2 Issuer's employer identification	
3 Number and street (or P. O. box if mail is not delivered to Street address)		Room/suite	4 Report number 2016 - 12345
5 City, town, or post office, state, and ZIP code		6 Date of Issue	
7 Name of issue Equipment Lease Purchase Agreement # 12345		8 CUSIP number N/A	
9 Name and title of officer or legal representative whom the IRS may		10 Telephone number of officer or legal representative	

Part II Type of Issue (check applicable box(es) and enter the issue price) See Instructions and attach schedule

11 <input type="checkbox"/> Education	11
12 <input type="checkbox"/> Health and hospital	12
13 <input type="checkbox"/> Transportation	13
14 <input type="checkbox"/> Public safety	14
15 <input type="checkbox"/> Environment (including sewage bonds)	15
16 <input type="checkbox"/> Housing	16
17 <input type="checkbox"/> Utilities	17
18 <input type="checkbox"/> Other. Describe (see instructions)	18
19 If obligations are TANs or RANs, check box <input type="checkbox"/>	If obligations are BANs, check box <input type="checkbox"/>
20 If obligations are in the form of a lease or installment sale, check box <input type="checkbox"/>	<input type="checkbox"/>

Part III Description of Obligations (Complete for the entire issue for which this form is being filed)

	(a) Final Maturity date	(b) Issue Price	(c) Stated redemption price at maturity	(d) Weighted average maturity	(e) Yield
21			N/A	years	%

Part IV Uses of Proceeds of Bonds Issue (including underwriters' discount)

N/A

22 Proceeds used for accrued interest	22	0.00
23 Issue Price of entire issue (Enter amount from line 21, column (b))	23	
24 Proceeds used for bond issuance costs (including underwriters' discount)	24	
25 Proceeds used for credit enhancement	25	
26 Proceeds allocated to reasonably require reserve or replacement fund	26	
27 Proceeds used to currently refund prior issues	27	
28 Proceeds used to advance refund prior issues	28	
29 Total (add lines 24 through 28)	29	
30 Nonrefunding proceeds of the issue (subtract line 29 from line 23 and enter amount here)	30	

Part V Description of Refunded Bonds (Complete this part only for refunding bonds.)

N/A

31 Enter the remaining weighted average maturity of the bonds to be currently refunded	years
32 Enter the remaining weighted average maturity of the bonds to be advanced refunded	years
33 Enter the last date on which the refunded bonds will be called	
34 Enter the date(s) the refunded bonds were issued	

Part VI Miscellaneous

N/A

35 Enter the amount of the state volume cap allocated to the issue under section 141 (b)(5)	35
36a Enter the amount of gross proceeds invested or to be invested in a guaranteed investment contract (see instructions)	36a
b Enter the final maturity date of the guaranteed investment contract	
37 Pooled financings: a Proceeds of this issue that are to be used to make loans to other governmental units	37a
b If this issue is a loan made from the proceeds of another tax-exempt issue, check box <input type="checkbox"/> and enter the name of the issuer _____ and the date of the issue _____	
38 If the issuer has designated the issue under section 265 (b)(3)(B)(i)(III) (smaller issuer exception), check box <input type="checkbox"/>	
39 If the issuer has elected to pay a penalty in lieu of arbitrage rebate, check box <input type="checkbox"/>	
40 If the issuer has identified a hedge, check box <input type="checkbox"/>	

Please Sign Under penalties of perjury, I declare that I have examined this return and accompanying schedules and statements, and to the best of my knowledge and belief, they are true, correct and complete.

09/25/2017



**East Bay Regional
Communications
System Authority**



Participating agencies include Alameda and Contra Costa Counties and the following cities and special districts: Alameda, Albany, Antioch, Berkeley, Brentwood, Clayton, Concord, Danville, Dublin, El Cerrito, Emeryville, Fremont, Hayward, Hercules, Lafayette, Livermore, Martinez, Moraga, Newark, Oakley, Pinole, Pittsburg, Pleasant Hill, Pleasanton, Richmond, San Leandro, San Pablo, San Ramon, Union City, Walnut Creek, East Bay Regional Park District, Kensington Police Community Services District, Livermore Amador Valley Transit Authority, Moraga-Orinda Fire District, Rodeo-Hercules Fire District, San Ramon Valley Fire District, California Department of Transportation, Ohlone Community College District, Contra Costa Community College District, Dublin-San Ramon Services District and University of California, Berkeley

AGENDA ITEM NO. 7

**AGENDA STATEMENT
FINANCE COMMITTEE
MEETING DATE: October 13, 2017**

TO: Finance Committee
East Bay Regional Communications System Authority (EBRCSA)

FROM: Tom McCarthy, Executive Director
East Bay Regional Communications System Authority

SUBJECT: Request Direction regarding Adding an Additional NICE Storage Center to the Master Site

RECOMMENDATIONS:

Request Committee discuss and make a recommendation to the Board of Directors whether East Bay Regional Communications System Authority (EBRCSA) should add an additional Logging Storage Center to the EBRCSA Master Site, and include training for up to 6 (six) Technicians.

SUMMARY/DISCUSSION:

EBRCSA has a NICE Logging system which was installed when the system was built. The Logger is redundant, however, we have been having problems with the Logger due to the number of channels which we record, and the period of time for which the recordings must be kept. We have been working to keep the logger up and running as best as possible. The sheer volume of recordings has created numerous problems which can only be addressed by adding an additional NICE Storage Center with 12TB of memory. In addition, we only have one technician who can work on the logger, and when he is unavailable, we cannot address any problems without hiring a technician from NICE.

Motorola has put together a two-day training class which can be held here at the Master Site for 6 (six) technicians. We have new technicians who have been hired by Alameda County and others who have never received any training on the NICE logging system. The two-day class will give them basic skills to work on the system and allow them to work with the senior technician to learn more about the system.

FISCAL IMPACT:

The funding of this Change Order will require a Budget Change and will be an Operating Expense. If recommended to move this to the Board of Directors, a Change Order will be drafted along with a Budget Change identifying funding source. If we do not have adequate funds to pay for the Additional NICE Storage Center and Training in the budget, the Board will be advised and the project will not go forward. The purchase will only be done if it does not require an increase to the Operating Payment made by subscribers.

RECOMMENDED ACTION:

It is recommended that the Committee recommend that the Board of Directors review and approve the purchase of the Additional NICE Storage Center and the associated Training.

Attachments:

“A” – Additional NICE Storage Center

ADDITIONAL NICE STORAGE CENTER

FIRM OFFER



The design, technical, pricing, and other information ("Information") furnished with this submission is proprietary information of Motorola Solutions, Inc. ("Motorola") and is submitted with the restriction that it is to be used for evaluation purposes only. To the fullest extent allowed by applicable law, the Information is not to be disclosed publicly or in any manner to anyone other than those required to evaluate the Information without the express written permission of Motorola.

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September 1, 2017

Mr. Tom McCarthy
East Bay Regional Communications System Authority
4985 Broder Blvd.
Dublin, CA 94568

Re: Expansion of NICE Inform Logging System

Dear Mr. McCarthy

We are pleased to provide you with this firm-fixed Proposal to improve the drive performance of the NICE Inform Logging System by implementing a 2nd Storage Center to the existing logging system at the EBRCSA master site. The proposal includes adding 12TB storage server, Storage Center Software application and optional NICE training.

Once again, the Motorola project team has taken great care to propose a solution that will meet your needs and provide unsurpassed value. To best meet EBRCSA's functional and operational specifications, Motorola's solution includes a combination of hardware, software, and services specified in the Proposal.

As you know, under Section 3.4 of the Communications System Agreement (CSA), dated July, 7, 2009, and extended July 6, 2017, between EBRCSA and Motorola (the "CSA"), EBRCSA may purchase additional goods and services from the CSA. Motorola's proposal is based on the assumption that EBRCSA will use this right under Section 3.4 of the CSA for the proposed transaction. Therefore, as in the past, EBRCSA may accept the proposal by executing a Change Order to the current CSA that we have prepared for you.

Motorola will be pleased to address any questions you may have regarding this proposal. Please direct any questions to your Motorola Senior Account Manager, Gordon Poole at (408) 306-5622. This proposal shall remain valid until October 26, 2017. Motorola appreciates your continued confidence in our company, products, and services.

We look forward to continuing our relationship and implementing this project with EBRCSA

Sincerely,

Motorola Solutions, Inc.



Michael De Benedetti
Area Sales Manager, Northern California

DESCRIPTION

1.1 LOGGING SOLUTION OVERVIEW

In response to the East Bay Regional Communications System Authority's (EBRCSA) request to improve drive performance of their existing NICE logging solution, Motorola has prepared this proposal. This proposal includes the necessary hardware, software, and services to implement a 2nd Storage Center to the existing EBRCS logging system.

In addition, this proposal includes optional NICE Inform Training. This training would be good refresher of the user interface and functionality.

1.2 ADDITIONAL STORAGE CENTER COMPONENTS

Our proposed 2nd Storage Center for EBRCS includes the following summary of equipment:

Dublin Master Site Location

- One (1) Storage Center Server with 12TB of RAID 1 disk space
- One (1) Storage Center Software Application



STATEMENT OF WORK

2.1 MOTOROLA RESPONSIBILITIES

Motorola's responsibilities to add a 2nd NICE Storage Center to the existing East Bay Regional Communications System Authority (EBRCSA) Logging System are the following:

- Conduct a project kick-off meeting with EBRCSA to review project description and finalize the project implementation plan.
- Finalize the Site Drawing, Acceptance Test Plan, and Project Schedule.
- Place the order for new Motorola-provided equipment.
- Ship equipment to the EBRCSA Dublin location.
- Inventory Motorola-provided equipment.
- Coordinate the activities of all Motorola subcontractors under this contract.
- Administer safe work procedures for installation.
- Deploy the additional Storage Center Server
 - Install additional Storage Center server into existing rack-space.
 - Load Storage Center software application onto the new server.
 - Configure the new Storage Center.
 - Adjust the archive scripts on the existing Storage Center to attempt to balance the load.
- Perform functional Acceptance Test Plan.
 - If any test fails, repeat that particular test after Motorola determines that corrective action has been taken.
 - Document all issues that arise during the acceptance testing.
 - Document the results of the acceptance tests and present to EBRCSA for review.
- OPTIONAL: Perform NICE Inform Training, if purchased.
- Resolve any punch list items before Final System Acceptance.
- Provide site documentation (only those documents impacted), including drawings (Tower Elevation drawing and/or RF Antenna Interconnect drawing).
- Provide the Final Acceptance certificate to EBRCSA.

2.2 EAST BAY REGIONAL COMMUNICATIONS SYSTEM AUTHORITY RESPONSIBILITIES

East Bay Regional Communications System Authority (EBRCSA) general responsibilities include the following:

- Provide an EBRCSA single point of contact with signature authority (for signing of project milestones) for the duration of the project.



- Participate in the project kick-off meeting to finalize the project implementation plan.
- Obtain all licensing, site access, and permitting required for project implementation.
- Provide a dedicated delivery point, such as a warehouse, for receipt, inventory and storage of equipment prior to delivery to the site.
- Coordinate the activities of all KCM's vendors or other contractors.
- Provide sufficient rack space for the new equipment.
- Provide adequate electrical power and site grounding points suitable to support the requirements of the new equipment.
- Provide any site/location upgrades or modifications, if required.
- Provide any required system interconnections not specifically outlined here.
- Witness the functional Acceptance Testing.
- OPTIONAL: Attend the NICE Inform Training course, if purchased.
- Receive the updated site documentation.
- Sign off on Final Acceptance

2.3 ASSUMPTIONS

Motorola has made several assumptions in preparing this proposal for EBRC SA, which are noted below. Motorola will need to verify all assumptions or seek alternate solutions in the case of invalid assumptions. Alternate solutions required may impact the work effort and/or schedule constituting a change order.

- Prevailing Wage is not required.
- There is no performance bond included.
- No spares are required.
- Motorola work will be performed during non-holiday Monday – Friday during normal business hours, 8:00 am – 5:00 pm.
- Motorola is not responsible for interference caused or received by the Motorola provided equipment except for interference that is directly caused by the Motorola provided transmitter(s) to the Motorola provided receiver(s). Should the Customer's system experience interference, Motorola can be contracted to investigate the source and recommend solutions to mitigate the issue.

2.4 CHANGE ORDER PROCESS

Either Party may request changes within the general scope of this Agreement. If a requested change causes an increase or decrease in the cost or time required to perform this Agreement, the Parties will agree to an equitable adjustment of the Contract Price, Performance Schedule, or both, and will reflect the adjustment in a change order. Neither Party is obligated to perform requested changes unless both Parties execute a written change order.



TRAINING

3.1 NICE INFORM

Motorola has included pricing for the following NICE training course:

- Inform – 2 days, instructor-led, held in the field, up to 6 participants

This course can be purchased as part of this proposal.

3.2 COURSE DESCRIPTION

The course description is included on the following pages.



SERVICES

4.1 WARRANTY

NICE Logging Recorder Gold Lite Warranty

On Motorola's behalf, NICE Systems, Inc. will provide customized support services during the warranty period on the proposed NICE Logging hardware. Warranty support services will be enhanced to NICE's Gold Lite Level of support, providing 24x7 Phone/Remote Support and 8x5 On-Site Support services. These Gold Lite Level support services are available for purchase post-warranty. The Gold Lite level of NICE support services is outlined in Table 3-1.

Table 3-1: Gold Lite Level

NICE Gold Lite Level	
Support Coverage	Phone/Remote Support: Twenty-four (24) hours, seven (7) days per week (24x7) On-Site Support: Eight (8) hours, five (5) days per week (8x5)
Call Back Response Time	Sixty (60) minutes after receipt of call from Motorola
On-Site Response Time for Priority 1 Service Issues	Six (6) hours

4.2 LIFECYCLE SERVICES

The existing NICE Logging system is a part of the EBRCSA SUAII Lifecycle Plan. Motorola can include pricing to add this additional hardware to the SUAII for the anticipated number of years remaining. However, we have not included this pricing in this proposal at this time.

PRICING

5.1 PRICING SUMMARY

Pricing for the EBRCSA 2nd NICE Storage Center Server includes the hardware and software components in Section 1.2, and the services listed in the Statement of Work, Section 2.

Description	Estimated Price
2 nd Storage Center Equipment	\$37,584
Equipment Discount	(\$3,758)
Equipment Subtotal	\$33,826
Estimated Sales Tax (9.25% on Equipment)	\$3,129
<i>Equipment Subtotal with Estimated Sales Tax</i>	\$36,955
Systems Integration	\$42,521
Systems Integration Discount	(\$5,402)
<i>Systems Integration Subtotal</i>	\$37,119
Grand Total (without Optional Training)	\$74,074
Optional NICE Inform Training	\$8,571
Grand Total with Optional Training	\$82,645

5.2 PAYMENT MILESTONES

Except for a payment that is due on the Effective Date, Customer will make payments to Motorola within thirty (30) days after the date of each invoice. Customer will make payments when due in the form of a check, cashier's check, or wire transfer drawn on a U.S. financial institution and in accordance with the following milestones.

- 100% of the Equipment Price for upon shipment of equipment
- 100% of the Services Price upon completion of services (Final Acceptance)

Overdue invoices will bear simple interest at the rate of ten percent (10%) per annum, unless such rate exceeds the maximum allowed by law, in which case it will be reduced to the maximum allowable rate. Motorola reserves the right to make partial shipments of equipment and to request payment upon shipment of such equipment. In addition, Motorola reserves the right to invoice for installations or civil work completed on a site-by-site basis, when applicable.



**East Bay Regional
Communications
System Authority**



Participating agencies include Alameda and Contra Costa Counties and the following cities and special districts: Alameda, Albany, Antioch, Berkeley, Brentwood, Clayton, Concord, Danville, Dublin, El Cerrito, Emeryville, Fremont, Hayward, Hercules, Lafayette, Livermore, Martinez, Moraga, Newark, Oakley, Pinole, Pittsburg, Pleasant Hill, Pleasanton, Richmond, San Leandro, San Pablo, San Ramon, Union City, Walnut Creek, East Bay Regional Park District, Kensington Police Community Services District, Livermore Amador Valley Transit Authority, Moraga-Orinda Fire District, Rodeo-Hercules Fire District, San Ramon Valley Fire District, California Department of Transportation, Ohlone Community College District, Contra Costa Community College District, Dublin-San Ramon Services District and University of California, Berkeley

AGENDA ITEM NO. 8

**AGENDA STATEMENT
FINANCE COMMITTEE
MEETING DATE: October 13, 2017**

TO: Finance Committee
East Bay Regional Communications System Authority (EBRCSA)

FROM: Thomas McCarthy, Executive Director
East Bay Regional Communications System Authority

SUBJECT: Walton Lane Simulcast Site Add-On

RECOMMENDATIONS:

Provide direction regarding adding a Simulcast Site to Walton Lane in Antioch.

SUMMARY/DISCUSSION:

The Antioch Police Department has contacted the Executive Director and expressed difficulty transmitting and receiving radio transmission on the East Bay Regional Communications System Authority (EBRCSA) radios. Antioch Police and Contra Costa Fire have identified the area as James Donlon Blvd. in Antioch. The old radio system used by Antioch Police still works in the area, however, the Officers and Fire Fighters have to change channels when they are in the area and can no longer monitor radios still on the EBRCSA system and the same applies for the Officers and Firefighters on the EBRCSA channel cannot hear the Officer or Firefighter who changed channels. We have performed some preliminary investigation into the reason for this and the antenna at Kregor and Shadybrook are on hill sides which create a shadow over the development in this area. When someone attempts to transmit while in this area, the signal of (?)the radio cannot reach the EBRCSA towers in the area. The old system, which has an antenna at Walton Lane, points directly into the area and that is why the old system works in this area.

Motorola has provided a statement of work which will provide communication to this area and improve communications also in the City of Pittsburg. The statement of work has been reviewed by the Executive Director of EBRCSA and members of the Contra Costa County Department of Information Technology, DoIT. The project will require EBRCSA to identify where the equipment will be placed and provide the Shelter and tower space for the installation. In addition, EBRCSA must apply for FCC licenses and permits. A team consisting of the EBRCSA Executive Director, Motorola Project Manager, and Technician from Contra Costa County DoIT performed a site visit on September 19th and the site has a shelter which belongs to the City of Antioch. However, there is insufficient room to add the necessary equipment.

Motorola has provided the cost of the equipment for the Walton Lane Simulcast Site Add On which is \$697,762. In addition, the cost of a shelter at Walton Lane would be \$60,276.00. We are asking the Committees to provide direction on this project as we do not have all the costs identified at this time. In addition, we will need to have meetings with the City of Antioch, the City of Antioch Water Department, and other tenants who have shelters at Walton Lane.

The Executive Director is seeking approval to proceed with further investigation into the actual costs and necessary actions to ensure the scope of the project is known, and if there are any options that are unknown at this time, before seeking approval from the Board of Directors and a final plan of action concerning this project.

RECOMMENDED ACTION:

It is requested that the Committee review the information provided, and provide a recommendation to the Board of Directors concerning further investigation and discussion into the solution for improving radio communication in Antioch, specifically the area of James Donlon Blvd. Further review is necessary before the Executive Director can determine the necessary amount of funding which will be required for this project.

Attachments:

“A” – Motorola Walton Lane Simulcast Site Add-On

“B” –Fibrebond Shelter Quote

October 14, 2016

Mr. Tom McCarthy
East Bay Regional Communications System Authority
4985 Broder Blvd.
Dublin, CA 94568

Re: Walton Lane Site Addition

Dear Mr. McCarthy

We are pleased to provide you with the attached Budgetary Proposal to add a new 10 channel simulcast site to the Contra Costa East Cell at Walton Lane.

Once again, the Motorola project team has taken great care to propose a solution that will meet your needs and provide unsurpassed value. To best meet EBRCSA's functional and operational specifications, Motorola's solution includes a combination of hardware, software, and services specified in Section 1-1 of the Proposal.

This information is provided to assist you in your budget planning and evaluation processes. We will be pleased to submit a comprehensive proposal with firm pricing, based upon a more detailed analysis of your requirements.

We will be pleased to address any questions you may have regarding this proposal. Motorola appreciates your continued confidence in our company, products, and services.

We look forward to continuing our relationship and implementing this project with EBRCSA

Sincerely,

Motorola Solutions, Inc.



Gordon Poole
Senior Account Manager

WALTON LANE SIMULCAST REMOTE SITE ADD-ON



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SYSTEM OVERVIEW

1.1 SIMULCAST REMOTE SITE ADD-ON

In response to the East Bay Regional Communications System (EBRCS) request for improving coverage in the James Donlon corridor of Antioch in the CCCO East cell, Motorola has prepared this budgetary proposal. This proposal includes the necessary hardware, software, and services to implement a ten (10) channel 700MHz FDMA simulcast remote site in the existing EBRCS 700MHz trunked system. This site will operate as an additional simulcast remote site in the CCCO East cell with existing three (3) sites including Kregor (prime site), Shadybrook, and Los Vaqueros.

Motorola has refined its RF site design through its latest ASTRO releases and is pleased to offer our Expandable Site Sub-System (ESS) as our preferred Simulcast system platform. The ESS offers many features not found in other site solutions including:

- Integrated networking components:
 - Ethernet router(s).
- Shared power supplies among radio components:
 - Capable of either 120V AC or -48V DC power.

The ESS (pictured on right) can support a total of six base radios which can support up to six (6) P25 Phase 1 (FDMA) channels, twelve (12) P25 Phase 2 (TDMA) talk-paths, or any combination in-between. Conventional channels can be supported within the ESS as well. This proposal includes support for the following channels:

- Ten P25 Phase 1 Channel.

The Simulcast remote site has been designed to operate in the 700MHz band, and therefore Motorola has included a TX combiner and an integrated multicoupler. In addition, Motorola has included the necessary networking equipment and software licenses for integrating this site into the ASTRO 25 network.



SYSTEM COMPONENTS

2.1 SIMULCAST REMOTE SITE ADD-ON

Our proposed simulcast remote site solution for EBRCS includes the following summary of equipment:

- Two (2) Motorola ESS:
 - Supporting the following channels/talk-paths:
 - ◆ Ten P25 Phase 1 Channels.
- One (1) Transmit Antenna.
- Two (2) Receive Antenna (supporting future diversity receive for TDMA).
- 200 feet of Coaxial cable (per antenna).
- RF Connectors.
- Required Lightning Arrestors.
- One (1) Motorola GGM8000 Site Gateway.
- Two (2) HP Ethernet switches.
- Three (3) 7 ft equipment rack.
- Site Spares for the simulcast remote site.
- Site controller Licensing and Network Configuration Services.

The Walton Lane remote site is configured for ten 700MHz channels in the ESS configuration for use on the current 7.15 system.



EQUIPMENT LIST

3.1 EBRCS COCO EAST WALTON LANE SITE ADD-ON

QTY	NOMENCLATURE	DESCRIPTION
Walton Lane Remote RF Site		
1	SQM01SUM0205	GGM 8000 GATEWAY
1	CA01619AA	ADD: DC POWER
2	CLN1856	2620-24 ETHERNET SWITCH
1	DSTRAK91009EDC	REMOTE SITE REDUNDANT MODULAR FREQUENCY TIMING SYSTEM DC
1	DSTRAK91071	FOUR PORT IRIG B TIME CODE FDM
3	DSTRAK91061	FOUR PORT DDM
50	L1700	FSJ1-50A CABLE: 1/4" SUPERFLEX POLY JKT PER FOOT
4	DDN9769	F1TNM-HC 1/4" TYPE N MALE CONNECTOR FOR FSJ1-50A CABLE
1	SQM01SUM7054	GTR 8000 EXPANDABLE SITE SUBSYSTEM
1	CA00855AA	ADD: 700/800 MHZ
1	X305AC	ADD: QTY (5) GTR 8000 BASE RADIOS
5	CA01193AA	IP BASED MULTISITE BASE RADIO SOFTWARE
5	CA01943AA	ADD:2ND BRANCH DIVERSITY
1	CA00862AA	ADD: SITE & CABINET RMC W/CAPABILITY OF 7-24 BRS
1	CA00879AA	ADD: PRIMARY 6 PORT CAVITY COMBINER
1	CA00882AA	ADD: 700 MHZ TX FILTER W/PMU
2	CA00884AA	ADD: QTY (1) XHUB
1	CA01953AA	ADD: POWER EFFICIENCY PACKAGE
1	CA01402AA	ADD: 7.0 FT OPEN RACK
1	CA02686AA	ADD: AC DC POWER DISTRIBUTION
1	SQM01SUM7054	GTR 8000 EXPANDABLE SITE SUBSYSTEM
1	CA00855AA	ADD: 700/800 MHZ
1	X305AC	ADD: QTY (5) GTR 8000 BASE RADIOS
5	CA01193AA	IP BASED MULTISITE BASE RADIO SOFTWARE
5	CA01943AA	ADD:2ND BRANCH DIVERSITY
1	CA00877AA	ADD: CABINET RMC FOR EXPANSION RACK
1	CA00880AA	ADD: EXPANSION 6 PORT CAVITY COMBINER
1	CA01058AA	ADD: 700/800 PHASING HARNESS
2	CA00884AA	ADD: QTY (1) XHUB
1	CA01953AA	ADD: POWER EFFICIENCY PACKAGE
1	CA01402AA	ADD: 7.0 FT OPEN RACK
1	CA02686AA	ADD: AC DC POWER DISTRIBUTION



1	NPI_001238	PLACEHOLDER CONTROL MONITORING UNIT 700-800
1	NPI_001236	PLACEHOLDER TTA, 700-800 custom
1	DLN6455	CONFIGURATION/SERVICE SOFTWARE
1	DSTRAK91061	FOUR PORT DDM
1	SQM01SUM0205	GGM 8000 GATEWAY
1	CA01619AA	ADD: DC POWER
1	CLN1856	2620-24 ETHERNET SWITCH
1	DLN6885	FRU: XCVR 7/800 MHZ V2
1	DLN6895	FRU: PA 7/800 MHZ
1	DLN6966	FRU: GCP 8000/GCM 8000/GPB 8000
1	DLN6781	FRU: POWER SUPPLY
1	DLN6677	FRU: G-SERIES XHUB
1	DLN6793B	FRU: PWR EFF POWER SUPPLY AC/48VDC
1	DLN6898	FRU: FAN MODULE
1	DLN6821	FRU: GTR ANALOG 4W E&M SIMULCST KIT
1	DLN6709	GTR/GPW OPTION CARD
1	DLN6794	FRU: PWR EFF OPTION CARD
1	NPI_000224	DEFAULT ANTENNA
15	L1705	LDF4-50A CABLE: 1/2" LDF HELIAX POLY JKT PER FOOT
1	DDN1088	L4TNM-PSA TYPE N MALE PS FOR 1/2 IN CABLE
1	DDN1090	L4TDM-PSA 7-16 DIN MALE PS FOR 1/2 IN CABLE
5	TDN9289	221213 CABLE WRAP WEATHERPROOFING
5	L1705	LDF4-50A CABLE: 1/2" LDF HELIAX POLY JKT PER FOOT
2	DDN1088	L4TNM-PSA TYPE N MALE PS FOR 1/2 IN CABLE
250	L3405	AVA7-50 CABLE: 1 5/8" AVA HELIAX POLY JKT PER FOOT
2	DDN9503	AL7NF-PSA 1-5/8" TYPE N FEMALE POSITIVE STOP CONNECTOR
6	DSSG15806B2A	SG158-06B2A 1-5/8" SUREGROUND GROUNDING
2	DSL7SGRIP	L7SGRIP 1-5/8" SUPPORT HOIST GRIP
250	L1705	LDF4-50A CABLE: 1/2" LDF HELIAX POLY JKT PER FOOT
1	DDN1088	L4TNM-PSA TYPE N MALE PS FOR 1/2 IN CABLE
1	DDN1089	L4TNF-PSA TYPE N FEMALE PS FOR 1/2 IN CABLE
6	DSSG1206B2A	SG12-06B2A 1/2IN SURE GROUND GROUNDING KIT
2	DSL4SGRIP	L4SGRIP SUPPORT HOIST GRIP 1/2" LDF
9	MDN6816	STD HANGERS FOR 1/2IN CABLE & EW180/EW220/EW-HANGER KIT STAINLESS-10PK
9	TDN6949	42396A-2 1-5/8" CABLE HANGER KIT 10 PACK
1	DS1090501WA	RF SPD, 700-1000MHZ BROADBAND 12 VDC PASS NM ANTENNA, NF EQUIPMENT
1	DS1090501WA	RF SPD, 700-1000MHZ BROADBAND 12 VDC PASS NM ANTENNA, NF EQUIPMENT
25	L1700	FSJ1-50A CABLE: 1/4" SUPERFLEX POLY JKT PER FOOT

2	DDN9769	F1TNM-HC 1/4" TYPE N MALE CONNECTOR FOR FSJ1-50A CABLE
25	L1702	FSJ4-50B CABLE: 1/2" SUPERFLEX POLY JKT PER FOOT
2	DDN9682	F4PNMV2-HC 1/2" TYPE N MALE PLATED CONNECTOR
1	DDN9743	TK-TW TORQUE WRENCH KIT FOR 7-16 DIN & TYPE N COUPLING NUTS
1	NPI_000224	DEFAULT ANTENNA
15	L1705	LDF4-50A CABLE: 1/2" LDF HELIAX POLY JKT PER FOOT
2	DDN1090	L4TDM-PSA 7-16 DIN MALE PS FOR 1/2 IN CABLE
2	TDN9289	221213 CABLE WRAP WEATHERPROOFING
225	DSAVA550	AVA5-50, COAXIAL CABLE, CORRUGATED COPPER, 7/8 IN, BLACK PE JACKET
2	DSA5DFD	D-CLASS 7-16 DIN FEMALE FOR AVA5-50 CABLE
5	DSSG7806B2A	SG78-06B2A GROUNDING KIT FOR 7/8 IN COAXIAL CABLE
2	DSL5SGRIP	L5SGRIP 7/8" SUPPORT HOIST GRIP
8	MDN6817	42396A-5 7/8" CABLE HANGER STAINLESS, 10 PK
1	DSTSXDfMBF	RF SPD, 698-2700MHZ DC BLOCK HIGH POWER, DIN FEMALE/MALE BIDIRECTIONAL
1	DSGSAKITD	GROUND STRAP KIT - DIN
25	L1705	LDF4-50A CABLE: 1/2" LDF HELIAX POLY JKT PER FOOT
2	DDN1090	L4TDM-PSA 7-16 DIN MALE PS FOR 1/2 IN CABLE
1	DQLMHF5260IEBS A	400A, DC POWER SYSTEM 7 FT X 23 IN
1	DSWLBG696MST	696 AH 48 VDC VLRA BATTERY

SERVICES

4.1 MOTOROLA INTEGRATION SERVICES

To ensure a smooth system installation and deployment, our solution for EBRCS includes estimates for the following services:

- System staging at our Customer Center for Solutions Integration (CCSi).
- Project Management.
- Field Engineering.
- System installation and optimization.

This solution will be installed, optimized, tested, and cutover by our dedicated Project Implementation Team.



ASSUMPTIONS

Motorola has made several assumptions in preparing this proposal for EBRCS.

- All existing sites or equipment locations will have sufficient space available for the system described.
- Final system design and coverage analysis are based on FCC Licensing Information.
- All existing sites or equipment locations will have adequate electrical power and site grounding suitable to support the requirements of the system described.
 - There is no more than 25’ wire distance between existing power system and new equipment terminals
 - There is a site R56 compliant ground connection within 33’ of new equipment installation location.
- Existing tower will have adequate space and size to support the antenna network requirements of the Walton Lane Site Add-on described, and there are available entry ports for antenna cabling within 25’ of the ESS rack.
- Any site/location upgrades or modifications are the responsibility of EBRCS.
- Any tower stress analysis or tower upgrade requirements are the responsibility of EBRCS.
- Approved FCC licensing will be provided by EBRCS.
- Approved local, State, or Federal permits as may be required for the installation and operation of the proposed equipment, are the responsibility of EBRCS.
- Any required system interconnections not specifically outlined here will be provided by EBRCS, including but not limited to dedicated phone circuits or microwave links.
- EBRCS will provide the backhaul demarcation point within 10’ of the ESS rack location.
- The new equipment will share the current ASR located at the Walton Lane Site until the ASR site is decommissioned. EBRCS will provide connections to the Backhaul network at Walton Lane.
- EBRCS will provide a dedicated delivery point for receipt, inventory, and storage of equipment prior to delivery to the site.
- Work will be completed during non-holidays Monday – Friday during normal business hours, 8:00 am – 5:00 pm.
- No training is included in this proposal.
- Motorola is not responsible for interference caused or received by the Motorola provided equipment except for interference that is directly caused by the Motorola provided transmitter(s) to the Motorola provided receiver(s). Should the EBRCS’s system experience interference, Motorola can be contracted to investigate the source and recommend solutions to mitigate the issue.
- There is no Frequency Planning, Fleetmapping, or Subscriber programming and installation content included in this scope.



SYSTEM ESTIMATE

Motorola estimates the proposed system solution and services for EBRCS will be within the following price ranges:

Description	Estimated Price		
System	\$1,100,000	to	\$1,200,000

Note: Applicable federal, state, and local taxes are not included.