



# **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: November 17, 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**

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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 October 9, 2015, January 8, 2016, May 20, 2016, November 4, 2016, March 24, 2017, June 2, 2017, and October 13, 2017 Regular Operations Committee Meetings
4. East Bay Regional Communications System Authority (EBRCSA) transition to Phase II, from Frequency Division Multiple Access (FDMA) to Time Division Multiple Access (TDMA)
5. 2018 EBRCSA Calendar Committee and Board Meetings
6. The EBRCSA is seeking nominations for the Board of Directors Chair and Vice Chair to be voted on and take effect at the close of the meeting on December 1, 2017.
7. Agenda Items for Next Meeting
8. 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

November 13, 2017



**East Bay Regional  
Communications  
System Authority**



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**AGENDA ITEM NO. 3**

**AGENDA STATEMENT  
FINANCE COMMITTEE MEETING  
MEETING DATE: November 17, 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 October 13, 2017 Regular Finance Committee Meeting

**RECOMMENDATIONS:**

Approve the minutes of the October 13, 2017 Regular Finance Committee Meeting.

**SUMMARY/DISCUSSION:**

The Finance Committee will consider approval of the minutes of the October 13, 2017 Regular Finance Committee Meeting.

**RECOMMENDED ACTION:**

It is recommended that the Committee approve the minutes of the October 13, 2017 Regular Finance Committee Meeting.



## **East Bay Regional Communications System Authority**



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### **FINANCE COMMITTEE MEETING**

#### **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

### **MINUTES**

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**1. Call to Order/Roll Call:** 11:04 a.m.

Committee Members:

T. Anderson, Police Chief, East Bay Regional Parks District  
T. Acosta, City Manager, City of Union City  
J. Calabrigo, Town Manager, Town of Danville  
S. Perkins, Councilmember, City of San Ramon  
C. Silva, Councilmember, City of Walnut Creek  
W. Tilly, Telecommunication Manager, Contra Costa County

Staff:

T. McCarthy, Executive Director  
C. Soto, Administrative Assistant

Public:

G. Poole, Motorola

**2. Public Comments:** None.

**3. Approval of Minutes of the June 2, 2017 Regular Finance Committee Meeting**

On motion of Bm. Silva, seconded by Bm. Perkins and by unanimous vote, the Finance Committee approved the minutes of the June 2, 2017 Finance Committee meeting.

#### 4. Discussion of Lease with East Bay Municipal District for Two EBRCSA Sites

Director McCarthy presented the Staff Report and advised that he would like approval to have a closed session item at the October 27, 2017, Board meeting, regarding negotiating leases with the East Bay Municipal Utility District (EBMUD). He, and Bm. Calabrigo, had met with Alex Coate, General Manager of EBMUD and Matt Elawady, Manager of Real Estate Services for EBMUD, and had reached a point where they needed authorization and terms from the full Board, to negotiate the two leases, Pearl and Alta Mesa. The Authority's attorney would be at the meeting on October 27 to conduct the closed session, and he was asking to have one or two Boardmembers appointed, decide on price and terms in order to continue the negotiations. EBMUD had asked the Authority to put the Seneca site on the back burner, to discuss it in 12-18 months. Bishop O'Dowd would be interested in purchasing the site, if available, and according to code, a JPA was not one of the entities first offered surplus property, but a school was one of the eligible entities. The closed session would include discussion of the Pearl and Alta Mesa sites. EBMUD has said there is a third site, the FAA tower on Skyline Boulevard in Oakland. He has asked EBMUD to confirm if that site was on FAA land. EBMUD has not responded yet.

Bm. Calabrigo stated although the Authority had EBMUD's attention, they were still viewing it as a commercial transaction. They have had two productive meetings, only to have them back away from what was discussed, the next day.

Bm. Perkins asked if they were absolutely convinced that there was not a site, or combination of sites that were comparable to the Seneca site.

Director McCarthy stated with the Pearl site, it could probably be done. In Moraga, it would be difficult. In Oakland, it was nearly impossible.

Bm. Anderson asked, in regard to the FAA site in Oakland, was it literally surrounded by East Bay Regional Park District (EBRPD) land. He advised Director McCarthy to approach EBRPD about an encroachment permit.

Director McCarthy stated he was currently speaking to the FAA to establish if it was their land or did they lease it from EBMUD.

Bm. Silva thanked Director McCarthy for clarification that a JPA was not allowed first offering of surplus property.

Bm. Perkins stated it was not that difficult for State Senator Steve Glazer or someone, to get an exception to the code.

Bm. Calabrigo stated they were very willing to help with that, if that was what the Authority wanted.

Director McCarthy stated EBMUD went into detail about their cost to move and maintain lines, the property that they have to purchase and maintain, capital projects that they have to build. They come up with their defensible reasoning. Every time they walked away from the negotiations conversation, they lost traction.

Bm. Calabrigo stated on two separate occasions, EBMUD had offered solutions which they had expressed a willingness to support with the Board, only to have them back away from those solutions.

Bm. Silva asked if Mr. Coate was in the room when this happened.

Director McCarthy stated yes, Mr. Coate and Mr. Elawady were the two that were in the room meeting with the himself and Bm. Calabrigo.

Bm. Anderson stated, ultimately, Mr. Coate would have to take an offer to his Board.

Bm. Calabrigo stated this was part of the conversation that needed to be with the full Board.

Bm. Silva asked if there could be some financial analysis regarding payment of radios, what was paid to get on the System, what is the yearly fee.

Bm. Calabrigo stated they had been very proprietary with the System, and as a matter of policy, did the Authority want to be swapping radios and membership for anything else, because then they ran into an issue with the other Authority members.

## **5. Change Order #26 with Motorola Systems, Inc.**

Director McCarthy presented the staff report and advised that a new Service Upgrade Agreement (SUA) was needed to cover all the newly acquired consoles and other equipment. The SUA has an additional five years under the contract. This would be a change order of \$101,963, per year, over the next five years, for a total of \$582,904. The current annual cost was \$831,348.

Bm. Silva asked if the Time Division Multiple Access (TDMA) would impact this agreement.

Director McCarthy stated the TDMA would take three years to implement, it would be phased in over time and there could be components that could affect this SUA. He was not asking to fund the TDMA today, he was asking permission to do the full investigation and to make the Committee aware of it.

Bm. Silva asked why they were being asked to recommend increasing the value of the contract from \$37,000,000 to \$38,000,000, which looked like 5 years at \$600,000. Why were they doing that as opposed to approving an increase in the annual SUA cost, which seemed more relevant because this was an operating budget item, not a capital amount.

Director McCarthy stated the contract was for an amount not to exceed, so they had to increase the cost of the contract. The next major software update would be Version 7.17, and if these new consoles and equipment were not included in this new contract, Motorola would not do the work.

Bm. Calabrigo asked if this would require a funding appropriation or just a contract amendment.

Director McCarthy stated it required a contract amendment and an increase to the budget under the Maintenance line item. It would require a change order that would be taken to the Board for approval.

Bm. Perkins asked Director McCarthy to include the information related to the budget in the Fiscal Impact portion of the staff report for the full Board, to recognize that not only were they updating the contract, but were also increasing the budget.

On motion of Bm. Perkins, seconded by Bm. Silva and by unanimous vote, the Committee members recommended a System Upgrade Agreement (SUA II), between the East Bay Regional Communications System Authority (EBRCSA) and Motorola Solutions Inc. via Change Order #26, be forwarded to the full Board for approval.

**6. Discussion of Transition to Phase II, from Frequency Division Multiple Access (FDMA) to Time Division Multiple Access (TDMA)**

Director McCarthy presented the staff report and advised that this was Phase II, transition from Frequency Division Multiple Access (FDMA) to Time Division Multiple Access (TDMA). Currently, System radios operated on FDMA, one radio on the bandwidth at 12.5 megahertz, at a time. This was originally called Phase II by the previous Executive Director, whereby January 2017, the FCC was going to require everyone go to Phase II. TDMA doubled the bandwidth. There were three items included in the \$19,000,000 cost. The TDMA was to be purchased by the end of the year. He was asking for permission to go out and investigate this more. This is something they needed to consider in the future. It had been avoided by expanding some areas where there had been minimum number of channels, and paid for that through grants. Police and Fire had been asking for this because it allowed them to have the GPS function on their radios. If they hit an assigned button on their radios, it gives a geographic location as to where they were exactly located. The System was built for who was on the System then, but there were other issues that come into play with this. The FCC provides licensing for the channels, but they were basically running out of bandwidth to have enough for the System to operate. It was becoming more difficult to get channels from the FCC. The recommendation was to go to TDMA to be able to optimize the number of channels the System has through the FCC. It is not only expensive for the Authority, but the \$7,900,000 million did not include the replacement cost of radios. Contra Costa County was in good shape because when they did the FCC rebanding, they purchased a majority of TDMA radios. Alameda County was in a different situation. Nextel gave them a one-for-one exchange on radios. Their radios would be at end of life in January 2018. Those radios were not able to be upgraded. For the past two years, he had been telling agencies that were purchasing or replacing radios to buy them TDMA ready or buy a TDMA radio because he knew the System would eventually be going to TDMA. Radios have a seven- to 10-year life span. Alameda County IT was working with Motorola to make a large purchase, and extend that to the cities within Alameda County. The larger the purchase, the more influence on the cost of the radio. They would then lease those radios to the agencies over a fixed period of time. He was not part of that conversation. His focus was on the TDMA aspect and moving to the next phase. This had other impacts. Santa Clara and San Francisco Counties were building their systems on a TDMA platform. Marin County would be a TDMA platform, also. If you have an FDMA radio and you roam or go into an TDMA area, it pulls their System back from TDMA to FDMA.

Bm. Perkins asked what the TDMA upgrade entail.

Director McCarthy stated it was replacing hardware and software. It is replacing components of the System's Master Site, a software update at this site. It was also equipment at each one of the System's site. The Authority would pay for that, but agencies would be replacing their car radios. This would also upgrade the consoles.

Bm. Silva asked how many users the System had.

Director McCarthy stated 18,500.

Bm. Silva stated that this \$19,000,000 was about \$1,000 a user, not including the radios.

Bm. Anderson asked if it was a federal mandate.

Director McCarthy stated it was not a mandate at this point because they had not set a new date. It had been 2016, then 2017. It would take three years to complete the work. TDMA uses the same 12.6 bandwidth, but splits it so you can have two radios operating in that same bandwidth.

Bm. Silva stated they did not have an option of not going forward and not being compliant with federal government standards, and when not compliant, the Authority would be ineligible for grants. So, the Authority needed to decide how to finance this and pass the costs along. If they were to do this at \$3 to \$4 million a year, the budget would not absorb the costs. This was where they needed to discuss raising the rates. The Authority needed to start marketing the rate increase.

Director McCarthy stated he wanted the whole Board to know that this was here.

Bm. Perkins stated when this was taken to the Board, they needed to mention the impacts on the user - what was covered and what was not covered. Consoles were covered, but handhelds and car radios were not. Distinguish between the two groups, that if you have one kind of radio, you upgrade, but if you had a different radio, you would have to replace it.

Director McCarthy stated this was the start of that process. He would be meeting with all the Chiefs of Police, Fire, and Sheriffs. He had met with some and they were inventorying what they have and what they would have to replace. This was to inform the Board he was working on this, and they needed to calculate what the costs would be. Motorola would bill the Authority one year after the contract was signed. He was bringing this forward not because most agencies had two-year budgets and would need to time to work this into those budgets.

Bm. Perkins stated it appeared that in the next FY budget, there would need to be an increase because the first payment would be due at the end of the calendar year. This could be phased in for two years.

Director McCarthy stated they had done their best to hold firm with costs, but the technology was causing the Authority to examine costs. Bm. Muranishi was assisting him with working on a contract to determine System replacement costs.

Bm. Perkins stated this accomplished some replacement over a three-year period, but did not solve the problem of what did the capital replacement budget look like in the distant future.

Director McCarthy stated that was correct. These had been in the AECOM report since the beginning. The ethernet was a change in how the radio system worked. The microwave equipment was first purchased in 2004, installed later and not turned on until 2013. The batteries in the master site were one of the first things to go in. They are gel batteries at 350 lbs. a piece. The equipment life timelines had been running.

Bm. Calabrigo stated the presumption was that this would be another ongoing cost. While they had discussed this in the past, this was the first time they had put numbers to it. These numbers



represented 25% of the System cost, exclusive of the radios, and now they were discussing 25% of the System cost and a significant number of users having to change their radios.

Cm Perkins asked if this would replace nearly all the capital. This was \$20,000,000, was there another \$20,000,000 or \$30,000,000 that would need to be replaced in 2, 3 5 years.

Director McCarthy stated the microwave portion replaced quite a bit of the expensive components, there were radios that went along with this. The microwaves radios that did the transmitting were at their end of life; transmitter receiver systems. Do we do the TDMA by end of year; in regard to the microwave, did they look at other options? This was going through Motorola. Did they contact Aviat who is the manufacturer, Alcatel, do we go through a bid process to purchase the microwave to tie the installations together. The batteries did not have a drop dead purchase date, but they were included because of their longevity.

Bm. Silva stated they were looking at the fiscal impact as a single sourced, multi-pronged project where some of this could be put out to bid.

Bm. Calabrigo stated they had been trying to understand the capital costs associated with the System. Since they did not know that answer, they needed to know how much of this was going to overlap with that. Was this 20, 30, 60 percent of the capital system. They knew based on the current rate structure, that they would be able to cover operating costs and maintain an operating reserve, the rest of the money would go into capital replacement. How much of this was able to be covered by that. He needed to redefine what was capital replacement. They discussed it a little in the previous item, and they might not look at software and technology as hardware, but yet they had to plan and budget for it, as if it were. It was not unreasonable to assume that they would be dealing with this every five to seven years.

Director McCarthy stated the recent Northern California fires were a good example of replacement costs. There were 70 cell towers that were damaged during the fires. Forty-eight were back online, but the analysis was that the majority of those cell towers would have to be replaced because the heat stressed the tower itself.

Bm. Silva stated that is where you start at a baseline, you say, how many do we have and how much would it cost to replace them.

Bm. Anderson stated the previous Executive Director had discussed barcoding equipment.

Director McCarthy stated that was done. The delay was meeting the purchasing requirements of Alameda County and he was working with Bm. Muranishi to get her GSA Director to get the RFP regarding capital replacement costs out.

Bm. Silva asked what was the current cost per radio, to be on the System, and how many radios were on the System.

Director McCarthy stated it was \$25 per month, and there were 18,500 radios on the System.

Bm. Silva stated if you took the \$19,000,000 and divided by it 18,500 radios, it was about \$1,000 per year, per radio, additional cost per agency, for the System cost. She was trying to understand how to explain the financial consequence of this in clear terms to public safety. If you took the seven-year

lease, \$3,000,000 divided by 18,500, it was \$162 per year for seven years. It was basically a 50% increase in the per-user cost.

Bm. Perkins stated he was reluctant to draw down the capital reserve. It could be phased in over a couple of years. The Authority had a net income of \$2,000,000, and this was on top of that, and the Authority was \$1,000,000 short to balance the budget. It gave the Authority an opportunity to phase in a rate increase.

Bm. Silva stated this was not a technical question. The question was, how does the Authority finance and fund this, and communicate the alternatives to the Board.

Bm. Perkins stated the staff report needed to focus on the financial options as opposed to the technical justifications.

Director McCarthy stated the technical side would be how soon the Authority would require System agencies to be TDMA compliant. Financially, there was an increase in user fees, but then there was the cost of radios. Because of the increase in fees, that worked into the technical aspect as to what did the Authority have to do immediately. How did the ethernet microwave update tie to the TDMA? Was it required for TDMA? What was the lifespan of the batteries?

Bm. Calabrigo stated they needed to present a scenario to the full Board on how to pay for the project, rather than have a technical discussion. The Board was not equipped to have a technical discussion. What the Board needed to know was what did they need to buy, and when. Then they needed to discuss how to pay for it. Some agencies might need more than a year to figure out how to pay for a subscriber rate fee increase from \$25 to \$40, or \$25 to \$50 per subscriber unit.

Bm. Perkins stated it could be raised by \$5 per month, per radio, per year, over three years.

Bm. Silva stated this was a finance discussion without understanding how much money was needed over what time frame in order to achieve the objective, and which of these were single-sourced and which needed to go out to bid.

Bm. Anderson stated they needed to present it to the Board, that this was coming.

Bm. Perkins stated this needed to come before the Board in December.

Bm. Calabrigo stated they would need both Board meetings, October 27 and December 1, because many Boardmembers had not been on the Board five years ago. He would break it into more than one piece. The first question that needed to be answered, was did the Authority want to commit to \$7,900,000 by the end of the year, or look at having to pay \$9,500,000 if they waited. Some of the questions that needed to be answered with some level of certainty were, how long was this going to be good for, because in order to make a decision about a five- or seven-year lease, he would pick the seven year lease. But if he knew that they were going to run the risk of the technology changing in year six, and he still had two more years to pay the \$3,000,000 and they were already into the next lease for \$3,000,000 more, now he was looking at \$6,000,000 a year instead of three. They needed to make some reasonable assumptions. For the October meeting with the Board, they should inform and educate, before the need for the Board to make some hard decisions at the December Board meeting. This would give Boardmembers a chance to speak to their public safety people, look at number of

subscriber units they have, how would it affect their budgets, and what did they need to do in order to absorb that.

Bm. Silva stated they were not talking to the Board in two weeks about the financial strategies. They were talking about the reality of a major technology upgrade.

G. Poole stated when they looked at the different pieces, with the TDMA piece, they were getting the GPS capability, and double the capacity.

Bm. Perkins stated on Page 38 of the staff report, it showed the financing of the \$7,900,000, at a 1.85% rate, was \$1,200,000 per year, which the Authority could absorb in its existing budget, but it did not account for the microwave or battery upgrade. They could absorb without a rate increase, but the Committee was convinced that there would have to be a rate increase sooner or later.

Bm. Calabrigo stated this put a rate increase into a different context because, there was \$8,000,000 they did not anticipate, but the other \$11,100,000 was part of the bigger discussion that the Committee had been having for the last two years. How much more on top of the \$11,100,00 was there. One strategy was to go to the Board and say they needed to deal with the \$7,900,000 issue by December, and they could see their way clear to pay out of reserves, but having said that, they now know there is at least another \$11,100,000 coming down the road and they needed to know what the balance of the capital replacement cost was going to be. They needed to tell the Boardmembers this was the recommendation, here is the financing option, and they were putting them on notice now, and they were looking at an increase in 2019, and that rate increase might take the \$25 to a minimum of \$30 and a maximum of \$40 and they could start building their budget around that now.

Bm. Anderson asked how much of that should be discussed at the October Board meeting and how much would be discussed at the December Board meeting.

Bm. Calabrigo stated he would discuss all of it in October. The question he would ask them in December was regarding the \$7,900,000.

Cm. Anderson asked if the Committee was going to tell the Board, this is what you have to do.

G. Poole stated in terms of the System replacement, the Authority was already investing in it with the SUA, it was a System upgrade every two years, getting new pieces.

Bm. Calabrigo stated the Committee wanted to know what the life of the System was and the capital replacement costs. If they knew they had a 50-year capital replacement cost and a 20-year life, they could build that into the budget and plan for it moving forward. The only decision that was critical and needed to be made by the end of the year was the \$7,900,000. They were going to have 6 to 12 months to get their arms around the whole picture. They were going to have to make a recommendation to the Board of where to set the rates in order to make sure they had sufficient funds to deal with capital replacements. They needed to have that built into the rate structure, to smooth those rates so they did not ramp up suddenly.

Director McCarthy stated capital replacement was replacement item-for-item. It did not take into account future technology replacement.

Bm. Calabrigo stated after five years, you could make certain assumptions. It appeared that assumption would be about a \$1,500,000 assumption. You could put it in as a plug number as long as you had something in there.

Bm. Silva stated when she looked at the 10-year projection, there would not be enough. The question was, did the Authority buy now at \$7,900,000 or wait 30 days and buy at \$9,500,000. Then the Finance Committee could make a recommendation on the structure of the financing.

Bm. Anderson stated for the upcoming Board meeting, the project needed to be simplified – this is where we are, this is where we need to be, and this is how much it is going to cost.

Bm. Perkins stated the seven-year option came out to \$5.40 per radio, per year. If you wanted to raise rates immediately, preliminary analysis was a \$5 increase per radio, per month.

Bm. Calabrigo stated from a policy perspective, \$25 per subscriber unit had been the rate that everyone had been paying since 2013. So, if this was the first increase and they were going to go from \$25 to \$30 for 2018 to begin to cover the cost, then they were setting the stage for doing more than that and in the meantime, they knew they were going to cover the cost of the \$7,900,000.

Bm. Perkins stated that should be put in the staff report at preliminary analysis of Option 2, at 18,500 radios was about \$5.40 per radio per month, and round to \$5.00.

Bm. Silva stated that it also needed to be mentioned that this would affect the radios and there were one-time costs associated with the radio.

Bm. Anderson stated they needed to impress upon the Board that they needed to go back to their constituents to see how many radio they have.

Bm. Perkins stated this not only needed to be provided to Boardmembers, but also to the City Managers, District Managers, general managers, etc.

Bm. Calabrigo stated they should start the discussion at the Board meeting, and tell the Boardmembers that they were going to print off a list and provide it to all member agencies so they could determine what, if any, upgrades they were going to need to make, from nothing up to potentially having to replace their radios. The Authority would communicate that to them between the October 27 Board meeting and the December Board meeting.

G. Poole stated the System had the ability, at the Master Site, to pull a report regarding each member agency's radios.

Bm. Silva stated this was not a technology decision, this was a how-do-we-finance-this question.

Bm. Perkins stated the other two pieces of the upgrade needed to be discussed early in the calendar year, and was the Authority going to put them out to bid, the microwave and the batteries.

Bm. Anderson asked if each agency not only had to buy radios, but they would also have to program them at their cost.

## **7. Increase NICE Logger Capacity**

Director McCarthy advised that the NICE logger had reached its capacity on what it could hold in recordings. Motorola had come up with a 12 TB expansion that could help solve the problem. This would also provide two-days training for six technicians to give them a basic understanding of the logger and keep it up and running. The Logger was critical; it recorded pursuits, all calls, evidence, items that went to the District Attorney's Office for charging. The cost was \$82,645, a one-time maintenance cost. That information would be put in the staff report, and well as a budget change.

On motion of Bm. Perkins, seconded by Bm. Acosta and by unanimous vote, the Finance Committee agreed to recommend to the Board of Directors that the Authority add an additional Logging Storage Center to the EBRCSA Master Site, and include training for up to 6 (six) Technicians.

## **8. Walton Lane Simulcast Site Add-On**

Director McCarthy presented the staff report and advised that this item was not supported by the Operations Committee. Antioch had an area called Walton Lane which had a water tower at the top of a hill where Antioch and several cell towers were around it. The Authority had two antennas on the hill, which face the water tank, but there was a community called James Donlon that was shadowed. Whenever Police or Fire had to go there on calls, they had to switch back to their old radio channel. They had worked with Motorola on solutions. It would need an additional site and it was expensive. Contra Costa County had put into its budget to pay for the shelter because they would be using it for some of their equipment, also. The Authority would be responsible for the equipment that would go into the shelter, at a cost of \$697,762. This would also cause an SUA increase for that equipment.

Bm. Calabrigo asked who this benefited.

Director McCarthy stated it benefited Antioch and a small part of Pittsburg. The Operations Committee acknowledged that Antioch came on the System later and the Authority thought they had adequate coverage for this. Now that the System was operating there, this problem had been brought to his attention. He was looking into remedies, costs and financial responsibilities.

Bm. Anderson stated the coverage was what it was.

Director McCarthy stated he would be working with Antioch to find solutions to the problem. He was not looking for approval.

## **9. Receive an update concerning Expansion of Alameda County East Cell to 12 Channels**

Director McCarthy stated the work on the expansion had been completed. It was working well.

## **10. Receive an update concerning the Motorola Inter Sub-System Interface ISSI 8000**

Director McCarthy stated the ISSA had been installed and he was working with BART to optimize it and get it completed. He was working to get reimbursements from grants.

**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**

Bm. Anderson stated he was retiring and October 27, 2017 would be his last meeting. The Committee would need a new Chair and the Board would need a new Vice Chair.

Bm. Calabrigo asked if the Chair position was due to rotate to Contra Costa County.

Director McCarthy stated the Chair did not rotate, but it would be open for nominations, not necessarily to a different county.

Bm. Silva asked what the Bylaws said regarding the election of Chair and Vice Chair, and could it be any position, City Manager, elected, etc.

Director McCarthy stated the Bylaws only stated that the Chair and Vice Chair could not be from the same County.

Bm. Calabrigo stated because Bm. Anderson was appointed by the Special Districts, EBRPD would appoint a new Chief, the Special Districts would appoint a new Special District Boardmember. The Board would need to make a decision about a new Vice Chair.

**12. Agenda Items for Next Meeting:** None.

**13. With no further business before the Finance Committee, the meeting was adjourned at 12:32 p.m.**



**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. 4**

**AGENDA STATEMENT  
FINANCE COMMITTEE  
MEETING DATE: November 17, 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 for the TDMA upgrade. The timing of the upgrade is important as the total project will take approximately 18 (eighteen) months to complete.

Motorola has provided the System Upgrade Pricing Summary:



## 5.1 EQUIPMENT AND SERVICES PRICING

<b>TDMA Upgrade:</b>	\$13,316,404
- Equipment	
- Software	
- Licenses	
TDMA Discount	\$2,663,281
TDMA System Integration Services	\$1,185,191
<b>TDMA Upgrade Total</b>	<b>\$11,838,314</b>
Special Discount:	
DDM Promo for TDMA purchase by 12/15/17	\$3,938,314
<b>Project Total (after Special Discount)</b>	<b>\$7,900,000</b>
Estimated 9.25% Tax on Equipment (HW Only)	\$8,363

**Note:** TDMA Pricing valid through 2017, increases to \$9.5M if purchased in 2018, by July 31<sup>st</sup>. TDMA Upgrade \$7,900,000

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

### **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 0.210744 with the lease payment of \$1,664,897.21. The first payment will be due one year after the contract is executed.

The second is a 7-year lease at 1.85%, with a lease rate of 0.153622 with a lease payment of \$2,002,069.93. The first payment will be due one year after the contract is executed.

The Fiscal Impact will require work 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 whether or not we should move to Phase II TDMA and recommend what the price increase will be for subscribers. It is also requested that the Committee recommend to the Board of Directors as to whether we should enter into a contract with Motorola Solutions, Inc. to implement the transition to Phase II.

Attachments:

## “A” –EBRCSA TDMA System Upgrade

PROPOSAL  
EAST BAY REGIONAL COMMUNICATIONS SYSTEM AUTHORITY

# EBRCSA TDMA UPGRADE



**MOTOROLA SOLUTIONS**

# TABLE OF CONTENTS

1. Solution Overview.....	6
2. TDMA Upgrade.....	7
2.1 TDMA Benefits.....	7
2.1.1 TDMA Channel Efficiency.....	7
2.1.2 Dynamic Dual Mode.....	7
2.1.3 Dynamic Transcoding.....	8
2.2 TDMA Upgrade Components.....	9
3. Equipment List.....	10
4. Implementation Plan.....	13
4.1 Statement of Work.....	13
4.2 Assumptions.....	19
4.3 Project Schedule.....	20
4.4 Acceptance Test Plan.....	21
4.4.1 Coverage Validation.....	21
4.5 Warranty and Maintenance Services.....	22
5. Pricing.....	23
5.1 Equipment and Services Pricing .....	23
5.2 Lease-Purchase Terms.....	23
6. Contractual Documentation.....	25
7. Appendix.....	26

7.1 Sample Lease-Purchase Agreement.....	26
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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 be disclosed publicly or in any manner to anyone other than those required to evaluate the Information without the express written permission of Motorola. MOTOROLA, MOTO, MOTOROLA SOLUTIONS, and the Stylized M Logo are the trademarks or registered trademarks of Motorola Trademark Holdings, LLC and are used under license. All other trademarks are the property of their respective owners. © 2017 Motorola Solutions, Inc. All rights reserved.





October 31, 2017

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

RE: EBRCSA TDMA Upgrade

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, Motorola has prepared this proposal to implement a Phase 2 TDMA Upgrade on the current system. Motorola has also prepared lease proposal for EBRCSA to finance this project over 5 or 7 year periods 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 for **Phase 2 TDMA and Dynamic Dual Mode Upgrade** of their system. With this 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.

In order to facilitate EBRCSA to budget for this upgrade project, Motorola has designed a special lease-purchase program for periods of 5 and 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 will develop a multi-phase deployment plan to upgrade the existing 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.

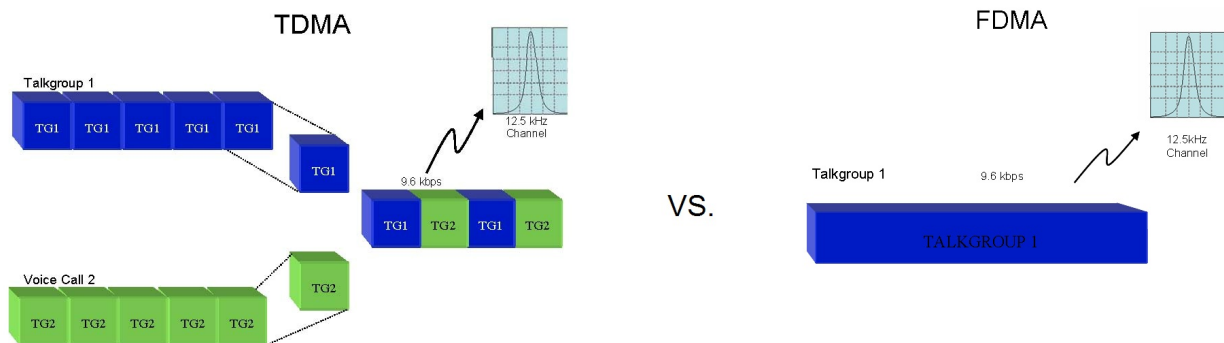
## 2.1 TDMA BENEFITS

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.

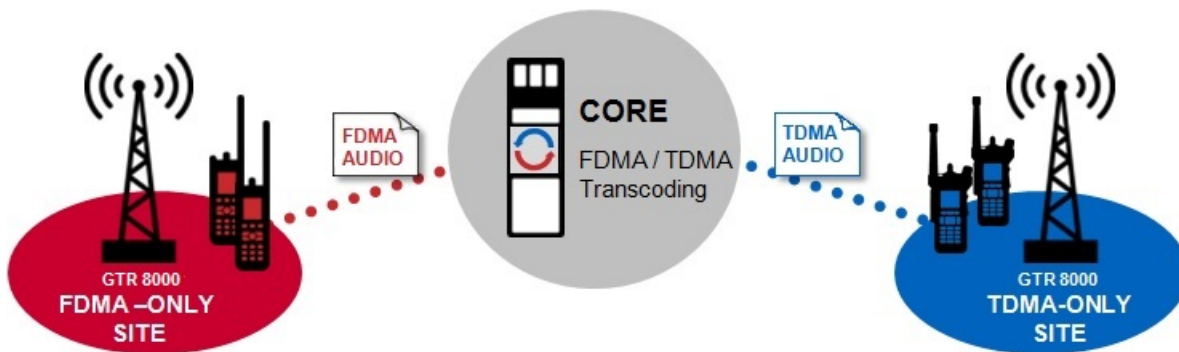
### 2.1.2.2 Dynamic Talkgroup Assignment

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
<b>CCCO Total</b>	<b>17</b>		<b>164</b>
ALCO NW	4	18	68
ALCO SW	7	12	77
ALCO East	4	12	44
Crane ASR	1	6	5
<b>ALCO Total</b>	<b>16</b>		<b>194</b>
<b>System Total</b>	<b>33</b>		<b>358</b>

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

# EQUIPMENT LIST

Below is the Equipment List for the EBRCS TDMA Upgrade project.

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
COCO C	KREGOR	1	T7614	G-SERIES HARDWARE UPGRADES

Location	Equipment	Qty	Part Number	Description
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
ALCONW	SKYLINE	1	T7614	G-SERIES HARDWARE UPGRADES

Location	Equipment	Qty	Part Number	Description
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

SECTION 4

# IMPLEMENTATION PLAN

## 4.1 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
<b>Contract Finalization and Team Creation</b>		
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.		
<b>Project Administration</b>		
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.		
<b>Project Kickoff</b>		
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.		
<b>Design Review</b>		
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"/>
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.		
<b>Site Access</b>		
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.		
<b>Site Planning</b>		
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"/>
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"/>







Tasks	Motorola Solutions	EBRCSA
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.		
<b>General Facility Improvements</b>		
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.		
<b>Equipment Order and Manufacturing</b>		
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.		
<b>Equipment Shipment and Storage</b>		
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		
<b>General Installation</b>		
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"/>





Tasks	Motorola Solutions	EBRCSA
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"/>
Deliverable: Equipment installed.		
<b>Solution Optimization</b>		
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"/>
Deliverable: Completion of System Optimization.		
<b>Functional Acceptance Testing</b>		
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.		
<b>Coverage Testing (TDMA Upgrade project, informational only)</b>		
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"/>





Tasks	Motorola Solutions	EBRCSA
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"/>
<b>Deliverable: Completion of coverage testing and approval by Customer.</b>		
<b>Cutover</b>		
Finalize Cutover Plan.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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"/>
<b>Deliverable: Migration to new system completed, and punchlist items resolved.</b>		
<b>Transition to Warranty</b>		
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"/>
<b>Deliverable: Service information delivered and approved by Customer.</b>		
<b>Finalize Documentation and System Acceptance</b>		
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.		





Tasks	Motorola Solutions	EBRCSA
• 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.		



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## 4.2 ASSUMPTIONS

Motorola has made several assumptions in preparing this proposal for EBRCSA TDMA 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.
- It is assumed that the current backhaul network will be capable of supporting the increased traffic generated due to the TDMA upgrade.



## 4.3 PROJECT SCHEDULE

The EBRCS TDMA upgrade project would require a carefully developed deployment plan, keeping in mind the importance of continuous operations of the current network. By taking smaller and controlled upgrade steps through a multi-phase deployment plan, EBRCSA and Motorola will avoid any potential network operations challenges .

The estimated time for completion of the entire upgrade project is approximately 12 months from the date of Contract signature. 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.





## 4.4 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.

### 4.4.1 Coverage Validation

As part of the TDMA upgrade proposal, Motorola is including services to perform baseline coverage measurements of the EBRCSA's system before the upgrade 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 Voyager<sup>SM</sup> 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).





## 4.5 WARRANTY AND MAINTENANCE SERVICES

As part of this upgrade project, Motorola will include its standard warranty as set forth in the existing contract. 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.







SECTION 5

## PRICING

Please see the pricing table included below.

### 5.1 EQUIPMENT AND SERVICES PRICING

Description	Price (USD)
<b>TDMA Upgrade:</b>	
- Equipment	\$13,316,404
- Software	
- Licenses	
TDMA Discount	-\$2,663,281
TDMA System Integration Services	\$1,185,191
<b>TDMA Upgrade Total</b>	<b>\$11,838,314</b>
<b>Special Discount:</b>	
DDM Promo for TDMA purchase by 12/15/17	-\$3,938,314
<b>Project Total (after Special Discount)</b>	<b>\$7,900,000</b>
Estimated 9.25% Tax on Equipment (HW Only)	\$8,363

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

### 5.2 LEASE-PURCHASE TERMS

Motorola has prepared a special lease-purchase program for EBRC SA for periods of 5 and 7 years at exceptionally low interest rates. The terms of this lease-purchase proposal are described on the following page.

**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>
<b>Estimated Order Date:</b>	<b>2017</b>	<b>2017</b>	<b>2018</b>	<b>2018</b>
<b>Balance to Finance:</b>	\$7,900,000.00	\$7,900,000.00	\$9,500,000.00	\$9,500,000.00
<b>Lease Term:</b>	Five Years	Seven Years	Five Years	Seven Years
<b>Payment Frequency:</b>	Annual	Annual	Annual	Annual
<b>Lease Rate: ***</b>	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.				
<b>Lease Factor:</b>	0.210744	0.153622	0.210744	0.153622
<b>Lease Payment:</b>	\$1,664,879.21	\$1,213,616.18	\$2,002,069.93	\$1,459,411.87
<b>Payment Structure:</b>	Arrears	Arrears	Arrears	Arrears
<b>Payment Commencement:</b>	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  
 847.593.3707  
 jim@motorolasolutions.com  
 Use or disclosure of this proposal is subject to the restrictions on the disclosure page.



SECTION 6

# 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 7

## APPENDIX

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

### 7.1 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

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

**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 <b>ABCDE</b>		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 <b>Equipment Lease Purchase Agreement # 12345</b>		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 dates(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.

10/31/2017



**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. 5**

**AGENDA STATEMENT  
FINANCE COMMITTEE MEETING  
MEETING DATE: November 17, 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 2018 Meeting Schedule

**RECOMMENDATIONS:**

Approve the 2018 Meeting Schedule

**SUMMARY/DISCUSSION:**

The Board of Directors will review the 2018 meeting schedule for the Board of Directors, Finance Committee, Operations Committee, and Technical Advisory Committee Meetings.

**RECOMMENDED ACTION:**

Committee recommended that the Board of Directors approve the 2018 Meeting Schedule.



# **East Bay Regional Communications System Authority**



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## **2018 EBRCSA Board and Committee Meeting Schedule**

### **Board of Directors**

February 23	10:00-12:00	Assembly Room, Alameda County OES
May 18	10:00-12:00	Assembly Room, Alameda County OES
September 21	10:00-12:00	Assembly Room, Alameda County OES
December 7	10:00-12:00	Assembly Room, Alameda County OES

### **Committees:**

February 2

Operations Committee	9:30-10:30	Room 1013
Finance Committee	11:00-12:00	Room 1013

April 27

Operations Committee	9:30-10:30	Room 1013
Finance Committee	11:00-12:00	Room 1013

August 31

Operations Committee	9:30-10:30	Room 1013
Finance Committee	11:00-12:00	Room 1013

November 16

Operations Committee	9:30-10:30	Room 1013
Finance Committee	11:00-12:00	Room 1013

TAC Meetings: First Thursday of the Month 9:30-11:30 in Room 1013 (if available) or 40% side

January 4

February 1

March 1

April 5

May 3

June 7

July 5

August 2

September 13 (Note: Alternate Date due to Urban Shield)

October 4

November 1

December 6

Created November 13, 2017





**East Bay Regional  
Communications  
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**AGENDA ITEM NO. 6**

**AGENDA STATEMENT  
FINANCE COMMITTEE MEETING  
MEETING DATE: November 17, 2017**

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

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

**SUBJECT:** Annual Election of a Board Chair and Vice Chair as Required by the JPA Agreement and Bylaws

**RECOMMENDATIONS:**

Committee recommend to the Board of Directors the Annual Election a Board Chair and Vice Chair, as required by the JPA Agreement and Bylaws, de done at the December 1, 2017 meeting.

**SUMMARY/DISCUSSION:**

The JPA Agreement and Bylaws for the Authority state that the Board Presiding officers shall be a Chair and Vice-Chair, elected annually from among its membership, to preside at meetings. In the absence of the Chair, the Board shall be presided over by the Vice-Chair. The positions of Chair and Vice-Chair will be filled by a representative from each County. If the Chair is from Alameda County, the Vice-Chair will be from Contra Costa County. If the Chair is from Contra Costa County, the Vice-Chair will be from Alameda County.

The Board of Directors will receive nominations from sitting members of the Board to fill the positions of Chair and Vice-Chair. The Board will vote on the nominations for Chair and Vice-Chair following Roberts's Rules of Order. The newly elected Chair and Vice Chair will assume their positions at the conclusion of the meeting, and will continue in the positions for one year.

**RECOMMENDED ACTION:**

It is recommended that the Committee recommend to the Board of Directors to hold the election of Board Chair and Vice Chair as required by the JPA Agreement and Bylaws, at the December 1, 2017 Board of Directors meeting.