



To: Bay Area UASI Approval Authority
From: Barry Fraser, BayWEB Project Manager
Date: April 12, 2012
Re: Item 9: BayRICS Authority Update for April 2012

Action or Discussion Item:

Discussion Only

Staff Recommendation:

Discussion Only

BayRICS Authority Update:

Staff activities in a number of key areas are described below.

1. BayRICS Authority Administration

The Authority will hold its monthly Board meeting on Thursday April 5, 2012. Staff has prepared reports and will provide information on the items described below. Staff also proposed a draft budget for Fiscal Year 2012-2013, which may be adopted by the Board at its May meeting. Specific actions taken by the Board at the April meeting will be included in a future UASI Approval Authority report.

2. Discussions with LA-RICS Staff

BayRICS and the Los Angeles Regional Interoperable Communications System (LA-RICS) staff began holding informal conference calls to share information and develop common areas of interest. Initial topics for discussion include access to State of California wireless sites, regional backhaul and interconnection solutions, and coordination of efforts under the recently enacted FirstNet legislation. We have also discussed a possible joint Board meeting at some point in the future. This opportunity to coordinate efforts and to share best practices/lessons learned promises to be beneficial for both entities.

3. Site Use Agreements

Staff continues to work with Motorola and site owning jurisdictions to finalize the site configuration for BayWEB. Staff estimates approximately 135 sites are currently secured, or will soon be secured, under site agreements, some of which are aggregation sites for backhaul or alternate sites.



However, no new site agreements have been executed since the last BayRICS meeting. BayRICS staff continues to work with jurisdictions to finalize site agreements in an effort to ensure the greatest number of sites can be built out using BTOP/Motorola funds.

Staff has also met with representatives of the City and County of Sacramento to discuss potential addition of Sacramento jurisdictions as BayRICS members and expansion of BayWEB to the Sacramento region. Staff presented a report on this request to the BayRICS Authority at its April 5 meeting.

4. Fiber and Backhaul

Microwave Frequencies Coordination. The microwave links required to connect many wireless sites with the backhaul network require a number of microwave spectrum licenses. Staff is working with Motorola to determine which entities are allowed under FCC rules to be named as the licensee for this spectrum. If the Authority is not eligible to be a licensee under FCC rules, staff may need to coordinate with Authority Members to designate specific cities and counties as licensees. Staff has begun the process of identifying the locations of the microwave links and the corresponding jurisdictions, and coordinating with Members to authorize the city or county to be named as the licensee.

BART. Staff has continued to meet with BART and Motorola to negotiate solutions to completing BART fiber runs, extending BayWEB service into BART tunnels and allocating costs associated with the BART sites. The draft agreement has been reviewed by the Authority legal counsel and several additional concerns are being addressed. Staff intends to bring both agreements to the Board as soon as possible.

BayLoop. The Authority has secured \$265,000 in homeland security grants from the Bay Area UASI to fund maintenance and upgrade of BayLoop. The TAC and BayLoop Working Group have developed a plan for system maintenance and monitoring to present to local jurisdictions currently operating BayLoop facilities.

San Francisco Fiber and Evolved Packet Core (EPC). Staff has been meeting with representatives of the City and County of San Francisco to develop a fiber use agreement to allow fiber connectivity to the enhanced packet core (EPC) to be located at Twin Peaks in San Francisco. Staff anticipates completing a proposed fiber agreement between San Francisco and BayRICS for Board approval in the next few months.

CENIC. Staff will meet with the Corporation for Education Network Initiatives in California (CENIC) on April 3 to renew discussions about the feasibility of partnering with that organization and related backhaul alternatives.

5. Technical Advisory Committee (TAC) and Working Group Meetings

The TAC did not meet in March, but has a regular meeting scheduled for April 16. In lieu of a monthly meeting, TAC and JPA staff travelled to Boulder Colorado to attend a series of technical



workshops conducted by the Department of Commerce Public Safety Communication Research Agency (PSCR). A report on these meetings is included below.

The BayLoop Advisory Committee met on March 16 to finalize a plan for system maintenance and monitoring to present to local jurisdictions currently operating BayLoop facilities.

6. Billing and End User Support Functions

Staff, with input from Motorola, has developed an estimating tool for projecting resources needed to support billing and end user support functions that the Authority has agreed to assume under the BOOM agreement. The estimated breakdown of responsibilities has been finalized and staff is currently working on projections of annual staff hours required to conduct the required tasks. A high level summary of the identified task areas includes:

- System Administration
- Asset Management
- Application Management
- Configuration Management
- User/Device Management
- Backhaul Management
- User Billing

Staff estimates that, after initial startup, ongoing staff resource requirements will fit the projections made in the Systems Funding Plan. However, startup workloads to develop initial processes may require additional temporary resources and staffing. Staff is currently working on a plan to establish one or more Board committees to work with the TAC to identify resources to meet temporary startup needs.

7. 700MHz Spectrum Waiver Status

Waver Petition Update. Action on the three-city waiver petition has been delayed pending an ongoing review of the Spectrum (FirstNet) Act requirements for reallocating the 700MHz public safety spectrum from the Public Safety Spectrum Trust to the FirstNet Board. The NTIA is also considering the feasibility of slowing down spending on LTE equipment (core servers, radio transmitters and end user devices) to allow time to develop more certainty about FirstNet and interoperability requirements, NTIA has suggested that grant deadlines might be extended accordingly.

FCC Interoperability Board. The FCC announced the members of the Interoperability Board on March 22, 2012, as required under the Spectrum Act. No members were appointed from the Bay Area or from California. Chuck Robinson, who heads up the Charlotte, NC BTOP public safety LTE project, was elected chair of the Board. The Board is required to develop recommended minimum technical requirements to ensure a nationwide level of interoperability for the nationwide public safety broadband network, in consultation with the NTIA, NIST, and the Office of Emergency



Communications of the Department of Homeland Security. The Board must submit these technical requirements to the FCC within 90 days of the Act's enactment (approximately May 22, 2012). The FCC has established a public safety docket process by which documents may be filed for entities wishing to contribute materials for the Board's deliberations. Staff will consult with the TAC regarding the need to submit comments from the Bay Area.

8. PSST Owner-Operator Committee/Waiver Recipient Working Group (OAC/WRWG)

Staff and TAC members participate in weekly conference calls of the OAC/WRWG, in which the twenty-one cities, regions, and states who are authorized by the FCC to build public safety wireless broadband networks discuss policy and technical issues that require common solutions among all waiver recipients. In addition, on March 8, staff met with waiver recipients in Boulder CO. Additional information about that meeting is provided below. OAC has taken several actions since the Boulder meeting, highlighted below.

PLMN-ID Order Actions. An Order issued by the FCC's Public Safety and Homeland Security Bureau on January 9th ("PLMN-ID Order") required waiver recipients to recommend a PLMN numbering administrator by February 8th, and develop a PLMN numbering schema by March 31, 2012. To meet this very short timeline, the OAC established a PLMN-ID working group and agreed to recommend Science Applications International Association (SAIC) as numbering administrator. On March 16, 2012, the FCC issued an order approving the OAC recommendation of SAIC. The working group has worked with SAIC to develop an equitable numbering schema. This plan was approved by the OAC on March 29.

The PLMN-ID Order also required waiver recipients to select a clearinghouse administrator by May 31, 2012. The clearinghouse administrator's primary function is to facilitate billing for services provided under roaming agreements. The OAC will request relief from this requirement from FCC pending the ongoing review of the FirstNet legislation. The FirstNet Board will ultimately be responsible for developing roaming agreements, so selection of a clearinghouse vendor at this time may be premature.

Interoperability Architecture Design. The OAC recently established an Interconnectivity Infrastructure Group (IIG) consisting of lead architects from nine organizations, including Motorola. The IIG developed three architecture options for achieving public safety sub-network mobility and recommended "Option 1," interconnection through centralized services provided by an IPX (Internet Protocol Exchange) service provider. At the Boulder meeting the OAC selected Option 1 and subsequently filed the IIG plan with the FCC on March 26, 2012.

Organizational Working Group. At the Boulder meeting, the OAC established an organizational working group. This group is tasked with developing a plan for OAC reorganization and operation if and when the PSST is dissolved and management of the spectrum shifts to the NTIA. BayWEB Project Manager Barry Fraser serves on this working group. The working group has met one time by conference call and established a scope and timeline for the development of this plan.

Quarterly Reports. Waiver recipient quarterly reports are due to the PSST by April 12 and to the FCC by April 19. Staff will begin the drafting of the report, which will include required updates on



OAC actions related to PLMN-ID and interoperability architecture design. The OAC will circulate uniform language on these actions to ensure consistency among waiver recipients in their reports.

9. PSCR Technical Workshops and Related Meetings in Boulder, CO – March 5-8, 2012

BayWEB Project Manager Barry Fraser and Technical Advisory Committee (TAC) member Ahsan Baig attended a series of technical workshops and related meetings conducted by the Department of Commerce Public Safety Communications Research (PSCR) and National Institute of Standards and Technology (NIST) in Boulder, Colorado. PSCR reimbursed all travel costs for Mr. Fraser and Mr. Baig. BayRICS staff also attended meetings with the seven BTOP public safety grant recipients (including Motorola representatives) and the NTIA, and with the 21 waiver recipients making up the Operator Advisory Committee (OAC) of the Public Safety Spectrum Trust (PSST).

PSCR Workshops

The PSCR and NIST workshops were primarily technical in nature and included keynote addresses from Anna Gomez, Deputy Assistant Secretary, NTIA; Dr. David Boyd, Science and Technology Directorate Command, DHS; Tom Power, Deputy CTO for Telecommunications, Executive Office of the President; and Jennifer Manner, Public Safety and Homeland Security Bureau, FCC.

Technical presentations included updates on LTE network equipment and device interoperability testing by PSCR/NIST; Mission Critical Voice over LTE status and timelines; LTE network and device management; LTE future release updates; presentations on NPSTC and Broadband Working Group requirements and standards for broadband and LTE; and LTE nationwide network modeling research.

PSCR/NIST also conducted demonstrations of high-definition video streaming between LTE eNodeB and end user devices using full 10x10 MHz (D Block) spectrum configurations, including demonstrations of interoperability between equipment and devices of competing manufacturers.

Most of the technical presentation slides at the conference are available following PSCR website:

http://www.pscr.gov/projects/broadband/700mhz_demo_net/stakeholder_mtg_032012/stakeholder_mtg_032012.php

Meetings with NTIA and BTOP public safety grantees

Representatives of the seven BTOP public safety grantees (including Motorola) met with Laura Pettis and Lance Johnson of the NTIA. Much of the discussion involved various grant status reporting, grant management and compliance requirements, but there was also discussion of NTIA planning for \$7B funding for the nationwide public safety broadband network and formation of FirstNet Authority. Although NTIA staff stressed that everything is “still under review,” they repeated several times that they and the Obama Administration strongly supported keeping the current \$382 million in BTOP public safety grant money available for the nationwide system. That said, NTIA is evaluating how to proceed with both initiatives. The NTIA seeks commitment from grantees that their projects will fully integrate into FirstNet and they raised the sobering possibility that without an extension or assignment of their spectrum rights, the public safety grants might be subject to termination. The NTIA is also considering the feasibility of slowing down build outs to allow time to develop more certainty about FirstNet and interoperability requirements (and suggested that grant deadlines might be extended accordingly).



OAC/WRWG (Waiver Recipients) Meeting

Representatives from all waiver recipient jurisdictions, with the exception of Washington DC, were in attendance. OAC Chair Bill Schrier (Seattle) led the discussion on the following topics.

PLMN-ID Numbering Schema. Sara Henry (LA-RICS) described the work of the PLMN-ID numbering schema working group, which has been meeting once or twice a week.

Clearing house Vendor Selection. In light of the new FirstNet legislation, the OAC agreed to seek FCC relief from the PLMN-ID Order to establish a clearinghouse vendor by May 31st. The only reason to have a clearinghouse vendor is to allow commercial roaming, which now falls under the FirstNet Board's authority. The group agreed to have Bill Schrier draft and file a waiver request.

Interconnectivity Infrastructure Group (IIG) Recommendation. IIG representatives briefed the group on their work and the IIG recommendations.

FirstNet Legislation. The OAC group discussed the implications of the new FirstNet legislation, primarily the orderly transition of the PSST, leases and waivers. The group discussed whether to provide recommendations to the FCC's Technical Advisory Board for First Responder Interoperability, which will be named by March 22 and must complete its work by May 22. The group expressed several opinions, and several members cautioned the group about providing extensive information to the Board. Since the Board only has 60 days, the group chose to wait and see who is appointed and what the OAC will be asked to provide.

Reorganization and Future Role of the OAC. The group discussed options for reorganization and decided to establish two committees, one to develop a plan to support transition of leases from the PSST to FirstNet and the second to develop an OAC organizational plan going forward. The plan should identify and refine the OAC's mission, core values and external value provided by the group. The plan will also address membership questions, such as expansion to include jurisdictions with pending waiver requests. Finally, the plan should consider developing affiliations or strategic partnerships with other national organizations, or incorporation as a stand-alone nonprofit organization. BayWEB Project Manager Barry Fraser has agreed to participate on this committee.