

EXCERPT: FEASIBILITY STUDY OF 12-11-13 4 PAGES

Report described above. The AECOM System Design Report contains the same information in Table 3-2, which is included in the discussion on UHF T-Band frequency availability.

CSI's task was to determine if the T-Band frequencies listed in the report could be licensed in compliance with 90.303 and 90.187 of the Federal Communications Commission Rules. Of the frequencies listed in the "Radio Frequency Compatibility Report" CSI found eight frequencies that possibly could be licensed without limitation of the 27 identified as needed in the AECOM report. Another ten frequencies might be licensed if Letters of Concurrence from other agencies were obtained. Sixteen frequencies have co-channel or adjacent channel issues that appear to make obtaining a Letter of Concurrence unlikely.

For this reason, Options b. and c. listed above in the AECOM System Design Report are likely infeasible.

Summary of Options

Option	Frequencies available	Meets new federal regulations	Status
a	yes	Yes	Completed 2010
b	no	No	Not recommended
c	no	No	Not recommended
d	yes	Yes	Recommended

Planned System Life

Systems are typically planned with a 15 to 20 year lifespan. This lifespan is used to forecast potential growth in users over that period, which determines the number of channels needed. For future planning purposes we recommend that fixed core equipment be planned for replacement in 15 years. Other infrastructure components will have a physical life in excess of 20 years which can be used with any replacement equipment.

An option to extend the life of the system is to enter into a system upgrade agreement with the selected vendor to provide system technology refresh including hardware and software. Various terms are available, typically from 1 to 10 years. Historically, the industry has developed new platforms every 6-7 years, then has a manufacturing run for 9-10 years, then supports the systems for 5 years.

It is recommended that any Request for Proposal (RFP) issued by MERA for a Next Generation system include options for system upgrades for consideration. It is also recommended that the RFP responders be asked to identify any required radio upgrades or replacements needed with system upgrades.

Appendix H MERA: Operating/Maintenance Cost Projections

(IN THOUSANDS OF DOLLARS)

	APPROVED BUDGET 2013-14	ESTIMATED BUDGET 2014-15	ESTIMATED BUDGET 2015-16	ESTIMATED BUDGET 2016-17	ESTIMATED BUDGET 2017-18 (building out new system)	2018-19 BUDGET (both systems on line)	2019-20 ESTIMATED BUDGET (new system out of warranty)	2020-21 ESTIMATED BUDGET	2021-2022 ESTIMATED BUDGET	2022-2023 ESTIMATED BUDGET
Preventive and Corrective Programming	\$420	\$433	\$447	\$462	\$476	\$596	\$615	\$635	\$656	\$676
Parts, Materials, and Factory Repairs	0	0	0	0	0	0	0	0	0	0
Training	80	84	88	93	97	102	107	113	118	124
Technical Services	31	32	33	34	36	38	38	39	40	41
Administrative Services	100	100	100	100	100	100	100	100	100	100
Communications Engineer	155	160	165	171	176	182	188	195	201	208
Contract Services	170	190	196	203	208	216	223	230	237	246
Auditing	158	164	170	176	182	188	195	202	209	216
Legal	15	15	16	16	17	18	19	20	21	22
Misc.	10	10	10	10	11	11	12	13	13	14
Contingency	1	1	1	1	2	2	2	2	2	2
Site Utilities - Current	20	20	20	20	30	30	30	30	30	30
Site Utilities - With Next Gen	85	91	97	104	222	237	127	136	145	156
Site Maintenance	13	13	13	14	14	15	15	15	16	17
Site Maintenance - With Next Gen					6	6	6	6	7	7
Insurance	40	44	48	53	59	64	71	78	86	94
Insurance - With Next Gen					24	27	30	32	36	39
Current Leases	354	372	390	410	430	452	474	480	523	549
Next Gen Tomales, Marbra, Wolfback, Stinson, EOF					210	220	231	242	254	265
TOTAL MERA Operating Costs:	1,650	1,728	1,795	1,866	2,374	2,580	2,536	2,624	2,753	2,870
Optional System User Upgrade	0	0	0	0	0	0	450	450	450	450
TOTAL MERA Operating Costs with Option:	1,650	1,728	1,795	1,866	2,374	2,580	2,986	3,074	3,203	3,320

**NOTES TO ACCOMPANY PRELIMINARY MERA NEXT GEN
OPERATING/MAINTENANCE COST PROJECTIONS**

MERA OPERATING FUND 70030

ASSUMPTIONS:

- 1) REFLECTS COST ESTIMATES FROM FY14-15 THROUGH FY22-23
- 2) ESTIMATES BASED ON TWO-YEAR CONCURRENT OPERATION OF CURRENT SYSTEM AND NEXT GEN, EFFECTIVE FY17-18 AND FY18-19

DEPARTMENT OF PUBLIC WORKS:

PREVENTIVE AND CORRECTIVE MAINTENANCE - 3.2% EACH YEAR, ASSUME MERA PURCHASES ONE YEAR WARRANTY FROM VENDOR, INCREASE IN FY 18-19 WITH NEW SITES.

PROGRAMMING - 3.2% EACH YEAR

PARTS, MATERIALS, FACTORY REPAIRS - 5% EACH YEAR

TRAINING - 3.3% EACH YEAR TO 16-17, THEN INCREASED WITH NEW SYSTEM FOR ALL USERS. TO INCLUDE: TRAIN THE TRAINER, END USER, DISPATCH, SUPERVISOR AT \$60,000, THEN 3.3% EACH YEAR

TECHNICAL SERVICES - 3.2% EACH YEAR, MOTOROLA TECHNICAL SUPPORT AGREEMENT COSTS FY 14/15 \$25,689, FY 15/16 \$26,973, FY 16/17 \$28,052, FY 17/18 \$29,174. THEN ESTIMATED AT FY 18/19 \$26,590, FY 19/20 \$28,620, FY 20/21 \$29,765, FY 21/22 \$30,955, FY 22/23 \$32,194.

ADMINISTRATIVE SERVICES - 3.3% EACH YEAR

SYSTEM UPDGRADE AGREEMENT - THIS IS PRESENTED AS AN OPTIONAL ITEM. MERA DOES NOT HAVE A SYSTEM UPDGRADE AGREEMENT WITH THE CURRENT SYSTEM. DETAILS CAN BE FOUND IN THE PLANNED SYSTEM LIFE SECTION ON PAGE 11. COST IS ESTIMATED AT \$450,000 PER YEAR, STARTING IN FY 19/20

MERA (NON-DPW COSTS):

CONTRACT SERVICES - 3.5% EACH YEAR

AUDITING SERVICES - 3.0% EACH YEAR THRU FY16-17 AND 5.0% BEGINNING FY17-18

LEGAL SERVICES - 3.0% EACH YEAR THRU FY16-17 AND 5.0% BEGINNING FY17-18

NOTES TO ACCOMPANY PRELIMINARY MERA NEXT GEN
OPERATING/MAINTENANCE COST ESTIMATES
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MISCELLANEOUS EXP - NO % INCREASE - BEGINNING FY17-18 ADDED \$1,000 EACH YR

CONTINGENCY EXP - NO % INCREASE - BEGINNING FY17-18 ADDED \$10,000 EACH YR

NOTE: LINE ITEMS BELOW AFFECTED BY ADDITION OF 5 NEW SITES IN FY17-18
(TOMALES, MARTHA/TIBURON, WOLFBACK, STINSON AND EOF)

SITE UTILITIES - 7.0% EACH YEAR & W/INCREASE OF 5 SITES BEGINNING FY17-18

SITE MAINTENANCE - 3.0% EACH YEAR & W/INCREASE OF 5 SITES BEGINNING FY17-18

INSURANCE - 10.0% EACH YEAR & W/INCREASE OF 5 SITES BEGINNING FY17-18

CURRENT SITE LEASES - 5.0% EACH YEAR

NEXT GEN SITE LEASES - BEGINNING FY17-18

TOMALES - FY17-18 ANNUAL LEASE IS \$10,200 - REFLECTS 1.0% EACH YR
MARTHA/TIBURON, WOLFBACK, STINSON AND EOF:
NO LEASES SIGNED AS OF NOVEMBER 1, 2013
ESTIMATED COSTS BASED ON AVERAGE OF ALL CURRENT SITE LEASES (8)
W/INCREASE OF 5% FOR EACH SITE BEGINNING FY18-19