

1 **RADIO COMMUNICATIONS SYSTEMS COMMITTEE**

2
3 Sheriff's Office
4 West Bend, Wisconsin

September 16, 2013
1:30 p.m.

5
6 Present: Daniel Goetz, Rick Gundrum, Dennis Myers, Thomas Niebler, Herbert Tennes

7
8 Also present: Sheriff Schmidt, Captain Gonwa, County Purchasing Agent, County Emergency Manager,
9 John Schrader, Chief Groves, and Chief Paul Fahey, Jack Hart and Todd Mechler from Tusa Consulting

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11 Excused: Supervisor Brian Krebs, Chief Dean Schmidt

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13 County Board Chair Tennes called the meeting to order at 1:35 p.m. and read the affidavit of posting

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15 **MINUTES**

16 Minutes for July 8, 2013 – Moved by Supervisor Myers and second by Supervisor Gundrum to approve the
17 minutes of July 8, 2013. Motion carried.

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19 **UPDATE ON STUDY - TUSA CONSULTING**

20 Jack Hart presented the updates via PowerPoint presentation. Tusa has reviewed the current system by:
21 Developing a list of reported and identified complaints via questionnaires to municipalities and user
22 interviews.

23 Synopsis: To date Tusa has tested to verify complaint areas. They reviewed and quantified the current
24 system performance. They will make suggestions for system improvements, provide budgetary impact,
25 review county administration system and review user operations. Jack Hart presented a chart showing the
26 perception of the users of the current portables, in-building coverage, mobile reception and "other"
27 problems. Most users feel coverage is poor and the approval rate was at 13% of those who responded.

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29 Tusa performed a number of tests throughout the county for audio quality, signal strength, and a
30 propagation analysis. They anticipate doing a Bit Error Test, which will confirm signal quality received by
31 the digital subscriber unit. This will require vendor-specific equipment to assess subsequent performance.

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33 Results: After reviewing all the data Tusa has found that we have strong signal levels throughout the
34 county. However, some are overlapping others and with a VHF system, they are not merging well, which
35 can give radio breakups. The VHF non-linear system that we have does not penetrate buildings well, but it
36 the best option for use in mobile units. When covering a large county, it was the best system at that time
37 for overall coverage. The high signals from all the towers are still giving poor performance and are
38 interfering with each other.

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40 Observations: Antenna configurations had discrepancies on what was shown in paperwork and what was
41 actually at the tower sites. The Richfield site is handling more receive traffic than it is suppose to and may
42 interfere with surrounding towers. It is unknown if subscriber radios have been aligned per Harris specs.
43 There is a Time Delay Interference (TDI) happening when one tower is overlapping another and both are
44 fighting to get the signal through instead of merging.

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46 Next Steps: Meet with Harris Corp. Engineer to conduct a system "health check" and review issues found.
47 They need to verify that all equipment is checked for "RF" and not turned off. They will conduct a Bit
48 Error Test with the Harris Engineer present. They will determine if antenna configurations could be
49 modified or changed to better balance and minimize TDI. Tusa will request Harris to evaluate operational
50 impact of converting the present system from non-linear to linear simulcast. They will review current VHF

1 paging system and determine effectiveness. Hopefully this will occur within 30 days, depending on Harris
2 Corp. Engineer's availability.

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4 Once this is completed, they will develop an action plan and alternatives. Each will have associated costs
5 to implement. Hopefully this will occur within 30 days, depending on Harris Corp. Engineer's availability.

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7 There was some discussion on several of the observations and anticipated next steps.

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9 **NEXT MEETING DATE**

10 The next meeting date was not set at this time. It was agreed the next meeting will be within 4-6 weeks to
11 allow time for Tusa to meet with Harris and review findings.

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13 **ADJOURNMENT**

14 Moved by Supervisor Gundrum second by Supervisor Goetz to adjourn at 3:25 p.m. Motion carried.

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18 Dale K. Schmidt
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