Summarized Minutes: Telecomm/Audio Visual Systems 11 September 2013

<table>
<thead>
<tr>
<th>Location</th>
<th>Start</th>
<th>End</th>
<th>Prepared By</th>
<th>Company</th>
</tr>
</thead>
<tbody>
<tr>
<td>318 Capitol St. Paul, MN</td>
<td>1 p.m.</td>
<td>4 p.m.</td>
<td>Michael Bjornberg</td>
<td>HGA</td>
</tr>
</tbody>
</table>

**Attendees**

- Gordon Christofferson, RECS
- Wayne Waslaski, RECS
- Lyndon Carlson, House
- Mike Charboneau, House
- Don Crosby, House
- Barry LaGrave, House TU
- Doug LaPitz, House TU
- Al Mathiowetz, House
- Jess Mingo, House Telecom
- Jessica Nyman, DFL, House Caucus
- Andy Pomroy, House
- Gail Romanowski, House
- A Michael Speiker, House IT
- David Surdez, House
- A Travis Waite, House CCO
- Amos Briggs, Senate
- Jim Greenwalt, Senate
- A Ann Rest, Senate
- Sven Lindquist, Senate
- Chris Runquist, Senate
- A Steve Senyk, Senate
- Vic Thorstenson, Senate
- Chris Stang, Senate Counsel
- A Philip Mednick, Senate Media
- Travis Reese, Sergeant at Arms

A – Full Attendance  P – Partial Attendance  Blank – Did Not Attend

These minutes will be held as part of the permanent records for this project unless amended in writing within seven (7) days. (Item number designations are “item” – “meeting origination number).  

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Discussion Item</th>
<th>Resp.</th>
<th>Target Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>001-001</td>
<td>Telecommunications</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>A. Have traditionally had problems with grounding in the building. “dirty” power,</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ground looping, harmonics. Isolated grounds necessary. Equipment gets added,</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>circuits get added into when modifications are made. Projects are done “ad hoc”</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>and grow should be anticipated.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>B. Considering air blown fiber. Upfront costs are 25-30% higher than a traditional</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>system. However, it is currently included in our budget. It accommodates growth,</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>and growth should be anticipated.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>C. TVs in office will be owner/tenant supplied. Mounting the TVs on the wall is</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>problematic – we do not want to drill holes in the wall, no two tenants want</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>them in the same spot.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
D. The 70 volt system is used by the House to provide each office an audio feed from the chambers. Desire to still have this function, but 70-volt technology may be outdated. The Senate uses a tone on the closed circuit TV broadcast to call members to the chambers.

E. The baseboard raceway provides the flexibility that is desired. Need to consider utilizing a similar system.

F. Outlets for viewing broadcast TV will be fed with UTP cable (CAT6A). The UTP cabling will support an RF solution as well as an IPTV solution. The use of RF video transmission or IPTV will be discussed.

G. Chamber Desks:
   1. Two data outlets and duplex power at each desk would be adequate.

H. Wireless LAN and DAS System

I. Need to maintain existing cellular coverage system throughout building occupancy.

J. Separate Intercom from Public Address/Mass Notification. Public Address/Mass Notification will be part of life safety/fire alarm system. The intercom system will include the Two-way communication system – call boxes near entry doors and at select elevator lobbies. It’s the intercom boxes people use when they forget key cards.

K. Another system to consider is the duress buttons.

L. Basement – main telecom rooms – schedule? New telecom rooms will be constructed approximately next summer/fall.

M. Discussed building electrode grounding system.
   1. #4/0 AWG and buss bar to be located/routed to every telecom. and electrical room.
   2. Asked client/users to identify any locations where additional grounding requirements should be considered. No response.

N. HGA recommended bonding the lightning protections system together under the Terrace level floor, and bond to the grounding electrode system.

O. HGA recommended that power panels be located within Terrace level east and west main telecom. rooms to serve that specific equipment. No one took exception to the recommendation.

P. Generator distribution power was explained.
   1. Generator will provide 3 distribution systems. Emergency, Stand-by Optional, and Legally Required.
      • Stand-by Optional distribution will support IT MDF rooms and technologies.
      • It is assumed the client/users will provide rack mounted UPS equipment.

Q. The current generator load allowed for technology equipment is 40kW.
   1. HGA asked that user identify any loads that will require generator power.
   2. HGA explained that generator capacity is limited and any loads must be identified as soon as possible.
   3. No one in the room had any additional comments, but it was apparent not all technology stockholders were present in the room.

R. Design does not account for centralized building UPS system.
   1. No one took exception to this design. See above.

S. Panels serving technology equipment will be equipped with surge protective devices and isolated ground.
   1. Some users mentioned isolated grounding was necessary for some of the media audio and visual equipment.

002-001 Audiovisual

A. Need to designate a “controller” position where these things take place. Needs to be easily operated by whoever is in charge. Senate / House needs to identify who will be controller and where this person will control the systems from.

B. Committee Chair control the AV system? No – Senators do not want this
The State of Minnesota Real Estate and Construction Services (RECS)

02CB0015 Repairs, Restoration and Preservation to the Minnesota State Capitol Building

Design Development Review Meeting : AudioVisual and Telecommunications

11 September 2013

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Discussion Item</th>
<th>Resp.</th>
<th>Target Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

  responsibility.

C. Right now the volume controls are at the testimony table. This does not work.
D. Planning for analog and digital inputs.
E. Senate needs to determine how they want the systems to work.
F. Presentation System could be separate from Media recording system.
G. There have recently been requests to Skype in the Hearing/Committee room. We may need to consider incorporating the ability to do this. It may be requested more frequently in the future. Maybe have this capability in one Committee Room.
H. The House is looking to migrate to a server-based digital archiving system. The Senate already has a server for digital archiving.
I. All Infrastructure for the Press needs to be discussed further with Press representative.
J. Senate and House media will want to be able to do “live stand ups” from various locations in the building. We will need to identify and prioritize these locations.

cc: E-mailed to the following:

Susan Jones, CPMI
Paul Oberhaus, CPMI
Wayne Waslaski, RECS
Gordon Christofferson, RECS
Bob Loversidge, SCA
Jim Rinner, JE Dunn
Rik Myhre, JE Dunn
Jeff Callinan, JE Dunn
David Slovikoski, JE Dunn
Melinda Shah, SCA

David Hart, MOCA
Paul Brown, MOCA
Joe Stahlmann, MOCA
Michael Bjornberg, HGA
Kimberly Monson, HGA

File: 0476-061-00