



North Dakota Legislative Council
600 East Boulevard Avenue
Bismarck, ND 58505-0360

701.328.2916

lcouncil@nd.gov
www.legis.nd.gov

NORTH DAKOTA LEGISLATIVE COUNCIL

Presentation by:
Kyle W. Forster
Information Technology Manager

Jason J. Steckler
Administrative Services Division Director

Legislative Procedures and Arrangements Committee

Wednesday, March 12, 2014
Harvest Room, State Capitol
Bismarck, North Dakota

CHAMBER SOUND SYSTEM PROJECT

Pursuant of replacing the chamber sound systems approved at the September 25, 2013 committee meeting; the following items need your consideration:

- Speaker Location
- Member Microphone Replacement

CHAMBER SPEAKER LOCATION

Chamber speaker location options:

- Front wall
- Ceiling (current location)

Sound Quality:

- Sound quality is currently an issue throughout both chambers particularly in the balcony, in the rear of the chamber, and under the balcony.
- Quality sound requires a direct path between the speaker's location and a person's listening location.
- In the Senate chamber, locating speakers on the front wall instead of on the ceiling will provide significantly better sound quality in the rear of the chamber and under the balcony; and improved sound quality in the balcony.
- In the House chamber, locating speakers on the front wall instead of on the ceiling will provide improved sound quality in the rear of the chamber, under the balcony, and in the balcony.

CHAMBER SPEAKER LOCATION

Recommendation:

- Install Renkus-Heinz ICONYX Digitally Steerable Line Array Loudspeaker Systems on the front walls of both chambers.

Benefits:

- Quality sound throughout the whole chamber
- Members will hear sound that is more natural
- Ability to electronically adjust sound direction and coverage

Visual Aesthetics:

- Speakers would be painted to match the wall's color allowing the speakers to blend into the normal view of the rostrum area.
- The following two slides demonstrate where the speakers would be installed on the front wall in each chamber.



HOUSE CHAMBER SPEAKERS



Speakers located on the left and right edge of the concaved upper rostrum

lcouncil@nd.gov

701.328.2916

www.legis.nd.gov

SENATE CHAMBER SPEAKERS



Speakers located on the left and right edge of the concaved upper rostrum

lcouncil@nd.gov

701.328.2916

www.legis.nd.gov

REPLACE MEMBER MICROPHONES

Recommendation:

- Install Audio-Technica gooseneck microphone with lighted mute switch at all member desks.

Sound Quality:

- Sound quality is currently an issue with the CB type microphones.
- The Audio-Technica gooseneck microphones will provide significantly better sound quality.

Usability:

- The Audio-Technica gooseneck microphone allows members to:
 - ✓ Tap the microphone switch to make the microphone live or mute it.
 - ✓ Hold the microphone at chest level when speaking as opposed to the current CB type microphones which required the member to hold the microphone directly in front of their mouth to be heard.
 - ✓ Turn their head or move the microphone away from their body while speaking without affecting their voice being picked up by the microphone.

lcouncil@nd.gov

701.328.2916

www.legis.nd.gov

GOOSENECK MICROPHONE



Audio-Technica 6 inch gooseneck microphone with lighted mute switch

lcouncil@nd.gov

701.328.2916

www.legis.nd.gov

COMMITTEE ACTION

- Speaker Location
- Member Microphone Replacement