

**IMPACT OF ACOUSTIC CRITERIA ON HVAC SYSTEM DESIGN  
FOR THE  
FRANCIS WINSPEAR CENTRE FOR MUSIC  
EDMONTON, ALBERTA**

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The Francis Winspear Centre for Music will provide concert audiences with world class acoustic performance. The project construction cost will be 30 million dollars, and is scheduled to be complete in September, 1997.

The acoustic criteria for this project has substantial impact on the heating, ventilation and air conditioning systems design.

Heating systems for the theatre space were selected to ensure hydronic noise does not impact in the theatre zone.

Central plant equipment location was carefully positioned for noise to have the least possible impact through structural transmission.

Rotating equipment, such as fans and pumps, were selected with minimum noise generation criteria.

Air supply systems to the theatre space were designed with low air velocities and with careful consideration to air distribution patterns to avoid cold drafts, and to provide a comfortable environment for the audience and performers. Air distribution throughout the theatre is governed by sound trapped slot entry points into void spaces behind seating racks, and transferred through large collection plenums back to central plant systems.

Special systems were provided to cool high heat generation spaces, such as spot follow rooms and electronic equipment rooms.

Vibration isolation was provided for equipment, piping and ductwork.

Acoustic provisions were made for a unique problem of removing hydrocarbon vapours from contaminated soils.

In summary, the heating, ventilating and air conditioning systems design was carefully fashioned to respect the noise criteria performance that was established for the facility.

## Speech Intelligibility Workshop - Acoustics Week in Canada 1996

At Acoustics Week in Canada 1996 in Calgary a speech-intelligibility discussion group will be convened to discuss the delivery of speech intelligibility in the architectural environment. This will include unamplified and reinforced speech in public-assembly spaces such as churches, schools, lecture theatres, drama theatres etc. In addition, speech-intelligibility delivery in life-safety and critical public-address functions - such as voice warning and fire page systems, swimming pools, airports, train stations, industrial plants, prisons, and others - will be discussed.

Participants will be invited to present background papers and case studies as bases for the discussion. The ultimate goal of the discussion group will be to determine what possibilities may exist for enshrining a minimum requirement for speech intelligibility in building regulations governing life safety, and public-assembly spaces where delivery of information through the spoken word is considered a prime requirement of the space. This new regulation would offer a parallel requirement to the barrier-free-access regulations outlining the need for a listening-assistance systems for the hearing impaired, and would finally establish a minimum guideline for the members of the audience with normal hearing.

At this preliminary discussion-group meeting, the possibility of establishing a new intelligibility standards committee will be discussed. Further reports will follow in a future issue of the CAA journal.

*Barry McKinnon*

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