MEMORANDUM

TO: D'Ann Mazzocca

FROM: Eric Connery

DATE: October 1, 2004

RE: Indoor Air Quality

We perform air quality testing in the Legislative Office Building and the Capitol in response to complaints or requests to test the air. We also perform random tests taking readings over two-day period to monitor how the system is function over time within a specific area. Past testing has shown that in general the air quality in both buildings is good. Most of the testing is performed using a hand held meter we own to which a data recorder is attached. We have also used the services of environmental testing firms when we need to do testing that requires more specialized equipment or an analysis of the data.

The handheld meter we own tests for temperature, humidity and CO^2 levels. We monitor the temperatures and are able to quickly make adjustments as problems are found. Where there is a pattern to these calls we make adjustments to the air handling equipment above the ceilings to respond to the comfort requests of the staff.

CO^2 (carbon dioxide) is in the air we exhale. An elevated reading is an indication that insufficient fresh air is being brought into the area being tested. If we find an elevated reading it is usually due to a stuck fresh air damper and quickly corrected. As a regular preventative maintenance task the fresh air dampers are checked and repaired when they are found to not be functioning properly.

Nether the LOB or Capitol have humidity control equipment. While being able to control humidity levels would at times allow us to respond to complaints, primarily that the air is too dry during the winter, it would be extremely costly to retrofit the buildings for humidity control.

When we have a complaint that relates to air quality that we cannot correct we have testing performed by a testing lab. They begin by performing temperature; humidity and CO^2 level testing and then perform additional tests based on the complaint. They will also speak to the staff in the area to get a better idea of why the staff feels that there is a problem. There are many tests that can be performed and these interviews assist the lab in narrowing down the tests they feel should be performed.

Our preventative maintenance program, the close monitoring of the HVAC systems and having licensed HVAC technicians in the building allows us to maintain good air quality in the buildings. The air filters in the main air-handler units in the Capitol and Legislative Office Building are changed quarterly and the filters in the variable air volume (VAV) boxes, which are located after the main units as the air flows through the system are changed semi-annually. The filters in the heat pump units, which are in the offices in the Capitol, are also changed semi-

annually. The filters we purchase are high capacity filters that exceed the ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers) standards and have longer life then standard filters.

The recommended replacement period of filters is depended on a number of factors. For a clean office environment such as the LOB and the Capitol the interval would be anywhere from quarterly to semiannually or longer depending on how dirty the filters get over time. The optimum time for the filters in terms of when they remove the most particles from the air passing through them is when they are a little dirty.

One problem area that we are addressing this interim is the Hearing Rooms when they are filled to capacity with people for an extended period of time. During the original construction CO^2 monitors were installed in the hearing rooms to adjust the amount of fresh air in response to the number of people in the rooms. This portion of the system did not work and was disconnected. As a part of the upgrades to the energy management and temperature control system in the LOB new sensors are being installed. The upgrades are scheduled to be in place and operational by the first day of session.