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January 26, 2004

Mr. Nigel Howard
U.S. Green Buildings Council
1015 18th St. NW, Suite 805
Washington, DC 20036

Subject: LEED Energy and Atmosphere Credit #4

Dear Mr. Howard:

Trane would like to provide input to the Technical and Scientific Advisory Committee (TSAC) with regard to the LEED Energy and Atmosphere Credit #4.

As an industry, it is our responsibility to continually evaluate industry practices to ensure that we are moving consistently forward in the area of environmental responsibility. The U.S. Green Buildings Council has made tremendous strides towards making our industry more environmentally responsible.

It is also the responsibility of our industry to make sure that we are consistent with the latest technological findings in our quest to protect the environment.

It is Trane's view that Energy and Atmosphere Credit #4 does not completely meet its original intent to have a positive environmental impact. Recent technological findings indicate that HCFC-123 has very limited impact on the stratospheric ozone layer. In addition, due to its very low Global Warming Potential (GWP), and high energy efficiency, it has a measured positive impact on the environment.

The Montreal Protocol has a very narrow focus - that of reducing or eliminating substances with a positive Ozone Depletion Potential (ODP). Subsequent protocols such as the Kyoto Protocol are now focusing on GWP, and its impact on the environment. As the scientific community now begins to understand the importance of how ODP, GWP, and energy efficiency interconnect in how these factors impact the environment, the USGBC must also review its standards to reflect the latest scientific data. Trane supports the goals of the Montreal Protocol, but we believe that the appropriate environmental approach with regard to HVAC equipment should incorporate a wide range of factors that consider the total environmental impact.

The attached report, as well as others posted on the USGBC web site paint a clear rationale for HCFC-123 to be considered one of the most environmentally beneficial refrigerants on the market.

The attached document “Building Owners Save Money, Save the Earth: Replace Your CFC Air Conditioning Chiller”, written by the U.S. Environmental Protection Agency, uses the most current scientific data to lay out a “Responsible Use” strategy that is a well balanced guide towards helping the environment. Some key elements to this document are:

- Any refrigerant is environmentally safe as long as it is never emitted
- Do not select equipment based on the type of refrigerant it uses; rather look at the Life-Cycle Climate Performance (LCCP), which heavily focuses on energy efficiency.
- There is no perfect refrigerant; some have better ODP, and some have better GWP. LCCP should be the primary focus.



It is also important to note, as indicated in the piece, that every major HVAC manufacturer, every major HVAC industry organization, and every major environmental organization in the world has endorsed this document.

An additional example of the world’s scientific community looking at HCFC-123 in a new light is the 2002 assessment “Report for the Refrigeration, Air-Conditioning, and Heat Pumps Technical Options Committee (RTOC), prepared for the United Nations Energy Program (UNEP). This report states: “HCFC-123 has a favorable overall impact on the environment that is attributable to five factors: (1) a low ODP, (2) a very low GWP, (3) a very short atmospheric lifetime, (4) the extremely low emissions of current designs for HCFC-123 chillers, and (5) the highest efficiency of all current options”. This assessment cites studies that show “continued use of HCFC-123 in chillers would have an imperceptible impact on stratospheric ozone while offering significant advantages in energy efficiency, thereby lowering greenhouse gas emissions from associated energy use”.

As an industry, we must be vigilant to ensure that our policies and directions are founded upon proper scientific principles. There is overwhelming scientific evidence today demonstrating HCFC-123 as one of the most environmentally friendly refrigerants available in the market today.

Based on the scientific evidence supporting the environmental merits of HCFC-123, Trane is recommending the LEED Energy and Atmospheric Credit #4 encourage the use of this environmentally beneficial refrigerant.

Sincerely,

Craig Kissel
President
Trane Commercial Systems