

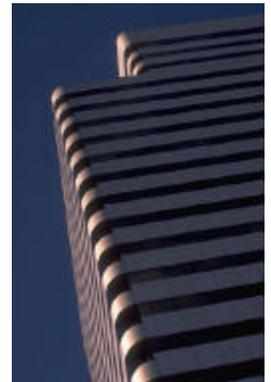


## Taurus Investment - A Case Study

### Problem

Complaints of lethargy, weeping eyes, respiratory irritation and other symptoms characteristic of what is often called "Sick Building Syndrome" became an intolerable financial and productivity drain in an Orlando, Florida, office building. This 40,000 square

foot, single story building was constructed in 1985 and was occupied by 257 employees. The building is served by 21 separate HVAC systems.



### History

Although indoor air quality complaints began almost immediately after occupancy, they were discounted until the summer of 1990. By then, over 150 of the employees were complaining and several refused to return to the building. OSHA, NIOSH, the CDC and the local health department were all consulted and a series of events began to unfurl. Smoking was banned in the summer of 1990, with no reduction of complaints. Industrial hygiene testing was done in mid-September showing high levels of afternoon CO<sub>2</sub> and Andersen Sampler retrieval levels from six sites averaged 921.7

Colony Forming Units/m<sup>3</sup> (Range: 273-1694 CFU/m<sup>3</sup>). A 25% increase of fresh air and cleaning of the HVAC pans and coils were done in early October. No change in the complaint profile was noted.

New vents were added, but not opened, and design work on redistribution and removal/renovation of the HVAC systems was undertaken

### Solution

## The AEGIS™ Antimicrobial Program.

### Solution Method and Results

On Saturday, October 20, AEGIS Environmental Management of Florida treated the carpet, selected fabric wall dividers, walls and ceiling tiles with its proprietary AEGIS™ Antimicrobial (formerly SYLGARD® Treatment from Dow Corning Corporation). It was decided not to treat or disturb the HVAC units. Post treatment Andersen Sampler retrieval levels of microorganisms from eight sites averaged 78.8 CFU/m<sup>3</sup> (Range: 0-119 CFU/m<sup>3</sup>) - a 91.5% reduction in airborne microorganisms.

On Monday the 22<sup>nd</sup> of October, the buildings felt and smelled "fresh" to the returning employees and only seven of the employees remained symptomatic. By November 9, the

number of symptomatic employees had fallen to five.

Despite the dramatic reductions, the tenant requested that the building owner replace all HVAC units. Before proceeding, interviews were done with four of the five affected people and it was confirmed that they were still symptomatic. Microbiological samples of surfaces (ceilings, carpet, wall, etc.) and agar plate grab samples at the HVAC supply diffusers were taken. These samples showed zero to very low numbers of retrieved organisms. It was concluded that: a) it was unlikely that microorganisms sourced from the building were responsible for the symptoms experienced by the four employees; b) there

was no need to disturb the HVAC systems; c) if building microbes were involved, a longer desensitization period was needed; and d) if microbes were causing the symptoms, the individuals' exposure might be coming from their cars, homes or other sources. As of January 10, 1991, none of the people remained symptomatic. The last of the symptomatic people was diagnosed as being allergic to his cat. The new fresh air vents have been opened and, because of a major reorganization, the HVAC systems are being rebalanced to accommodate the changes in floor layout.

This parallels many experiences that AEGIS personnel have had in buildings throughout the

country and is one more piece of evidence that microorganisms play a much greater role in Sick Building Syndrome episodes than is generally portrayed in the press or trade literature. If airborne microbial contamination can be significantly reduced, the symptomatic responses of people living or working in a building are typically eliminated or greatly eased. Use of the broad spectrum, durable, immobilized AEGIS Antimicrobial to treat carpets and other surfaces (which are the most common sources of microbial growth) dramatically reduces airborne microbial contamination in most buildings and maintains it at reduced levels for extended periods.

## Solving Indoor Environmental Problems: Remediation, Testing, Lab Services, Consulting

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