Position Statement on Clean Indoor Air Regulation in West Virginia:

Epidemiological Basis for an Occupational and Environmental Policy on Secondhand Tobacco Smoke (SHS)

Department of Health and Human Resources
West Virginia Bureau for Public Health
Research and Preparation by Division of Tobacco Prevention - Office of Epidemiology and Health Promotion

The Department of Health and Human Resources (DHHR) encourages voluntary and regulatory initiatives to eliminate secondhand smoke from public places and workplaces. West Virginia State Code (16-2-11 [ii]) states "that local boards of health shall provide... environmental health protection including the promoting and maintaining of clean and safe air". DHHR endorses the enactment of clean indoor air (CIA) regulations at the county level by local boards of health. The West Virginia Legislature gave local health boards the authority to pass such regulations, and the legal authority for local boards to protect public health through smoking bans has been upheld by an opinion of the Attorney General's Office and by several court decisions.

DHHR supports West Virginia's continued national prominence in protection of its citizens through locally enforced CIA regulations. Scientifically acknowledged research proves that boards of health are effective venues for tobacco control and public health protection. DHHR does not accept any preemptive attempts at lessening locally enforced regulations or the ability of local health departments to adopt all-inclusive smoke-free policies.

Economic as well as epidemiologic evidence justifies the implementation and enforcement of no-smoking policies at the workplace and other public settings. Because of our mission to provide a healthy environment for the benefit of all the public, DHHR encourages absolute elimination of smoking in the indoor environment as the optimal way to minimize SHS exposure. Failure to implement and enforce such clean indoor air policies will have predictable adverse health and economic outcomes for both employees and employers.

Based upon strong scientific evidence, consensus of the medical community, and common accord of both private and public regulatory agency positions, the only way to effectively eliminate health risks associated with indoor exposure to SHS is to completely ban smoking.

Passage of CIA regulations is one of four major goals for the Center for Disease Control and Prevention's National Tobacco Control and Prevention Program (of which West Virginia is a part) and it is an important component in *Best Practices for Comprehensive Tobacco Control Programs* (CDC, August 1999). These regulations are inexpensive to implement and enforce, but reach many people in a positive policy initiative.

Economic studies have been emerging since 1998 which prove that restaurants and bars do not suffer from lost revenue when smoking bans are implemented. Business revenue is maintained or it increases. Many businesses are now using their smoke-free status as a new marketing tool to appeal to the vast majority of patrons that demand a smoke-free environment. It is logical to protect the overwhelming majority of people from the negative health impact of secondhand smoke by restricting or banning smoking. The benefits include not only better health but cost savings to businesses. Fact: Eighty percent of West Virginians do not smoke.

In accord with nationally accepted guidelines and health care standards, DHHR recommends that all employers develop and implement written tobacco-free policies that incorporate best practices to provide all employees a tobacco-free work environment including voluntary, proven smoking and spit tobacco cessation programs.

This position statement of DHHR is based upon solid research and extensive work done by:
- *American College of Occupational and Environmental Medicine (ACOEM) which was prepared by the College's Environmental Medicine Committee under auspices of the Council on Scientific Affairs. The lead author for the ACOEM guidelines was Alan M. Ducatman, MD, FACOEM of the West Virginia University School of Medicine. *see attached*
- *American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) 2005* Environmental Tobacco Smoke Position Document. *see attached
- *US Surgeon General Report on the Effect of Environments Tobacco Smoke, July 2006*

__Revised Position Statement approved by DHHR Secretary Martha Yeager Walker- 03/17/06

American College of Occupational and Environmental Medicine (ACOEM) Abstract - Environmental Tobacco Smoke

Environmental Tobacco Smoke (ETS) contains numerous toxins. Robust epidemiologic evidence implicates ETS as a cause of lung cancer and as a primary cause and a source of exacerbation of excess respiratory disease. There is also increasing evidence that ETS may be associated with other outcomes, including heart disease. There is currently little doubt that ETS is an important and avoidable health hazard. Unfortunately, ETS is frequently encountered in the workplace — where it is no safer than in other environments and where it presents hazards to exposed workers and others. A unique aspect of workplace ETS is that exposure is rarely an outcome of essential manufacturing, extraction, or service delivery process. Moreover, ETS exposure, with its growing list of known hazards, is preventable by engineering or policy means.

Implementation of policies to prevent workplace ETS can be highly effective, entailing low costs and yielding primary and secondary benefits to employers and employees. ACOEM strongly supports an increase in the scope and effectiveness of policies and efforts that protect against exposure to ETS in the workplace and elsewhere. To that end, ACOEM supports voluntary, regulatory, and legislative initiatives to eliminate ETS form the workplace, including public spaces such as bars, casinos, restaurants, schools, daycare centers, and public transportation. ACOEM also encourages employers to provide employee training concerning the health hazards of ETS and also voluntary personal smoking cessation programs.

The American College of Occupational and Environmental Medicine (ACOEM) published its first position statement on environmental tobacco smoke (ETS) in 1993. At that time, ACOEM found sufficient evidence to support minimizing occupational exposure to ETS. Since then, additional scientific information has accumulated that compels ACOEM to update and strengthen this statement.

Tobacco use is the largest preventable cause of death and disease in our society. ETS adds to that burden. The goal of this document is to address and reduce involuntary ETS exposure in public places, including worksites. Disease Outcomes Evidence that ETS causes a variety of preventable disease outcomes is becoming stronger with each new study. By 1993, the Environmental Protection Agency (EPA) had reviewed 30 existing studies, of which 24 showed a positive association between passive smoking and lung cancer. The probability that this could occur by chance, or that all studies characterized by exposure data would show an association by chance is remote. 1 Since 1993, the number of studies showing positive association between smoking and cancer has grown. In fact, the National Toxicology Program has listed ETS as a workplace carcinogen in its Ninth Annual Report on Carcinogens.

For example, available data suggest that marriage to a smoker increases the risk of lung cancer by 26 percent (95% CI 8%_49%).2 A dose response relationship between ETS exposure and lung cancer has also been demonstrated.3 Emerging evidence shows that certain common genes substantially increase the risk of lung cancer in involuntary smokers.4 As more is learned about gene environment interactions, additional populations at special risk are likely to be identified. The EPA has estimated that 3000 excess lung cancer deaths occur yearly among nonsmokers due to environmental tobacco smoke. Accumulated evidence now includes more than 40 studies, establishing the causal role of ETS in the induction of lung cancer.55

Lung cancer is merely the most infamous of known outcomes from both voluntary smoking and ETS, but is by no means the only one. Data link secondhand smoke and other cancers, such as nasal sinus cancer.6 Heart disease mortality7, 8,9 and morbidity10, 11 are epidemiologically associated with ETS. Secondhand smoke exposure also elevates pneumococcal pneumonia risk.12, 13 Prenatal and childhood outcomes from ETS exposure include retardation of fetal growth, 14,15 sudden infant death syndrome, childhood respiratory infections, asthma,16,17 and overall respiratory morbidity.18 When parents decrease their smoking, childhood asthma severity also decreases. 19

The list of population outcomes is large and growing, but epidemiologic data do not stand alone. A strong, plausible physiologic basis also exists for the observed adult and childhood outcomes. Monitoring of ETS constituents has confirmed biologically relevant exposures associated with circulating carcinogens and adverse responses of the respiratory, immune, cardiovascular, and neuroendocrine systems.20

The workplace is an important venue of exposure, and therefore of disease outcomes from secondhand smoke. Adequate epidemiologic evidence demonstrates that the increase of lung cancer risk from workplace exposure is about the same as from household exposure.21 Dose related effects for ETS have been found in the workplace (OR 1.93; CI 1.04_3.58) and in vehicles (OR 2.64; CI 1.30_5.36).22 Again, lung cancer is not alone. Chinese women exposed to passive smoking at work experienced excess heart disease (adjusted OR 1.85; CI 0.86_4.00), with a statistically significant linear trend for both crude and adjusted odds ratios with measures of increasing exposures.10 Dose related excess lung cancer has been found for ETS in German workplaces (OR 1.93; CI 1.04_3.58) and in transportation settings (OR 2.64; CI 1.30_5.36).22 Cough, phlegm, and days lost from work are greater in workers exposed to passive smoke.23 Control of adult asthma is more difficult, and morbidity greater, in adult patients with asthma who are exposed to ETS at home or at work.24 The workplace presents a clear opportunity to prevent unnecessary morbidity and mortality associated with ETS exposure.

Exposure Basis for Policy

Workplace and other public encounters with ETS have been recognized to result in known and quantifiable exposures. For example, ETS causes measurable and significant exposures of nonsmokers in commercial buildings, residences, and vehicles.25,26,27 The U.S. Surgeon General linked public smoking practices to involuntary exposure and to disease outcomes more than a decade ago.28 The Centers for Disease Control and Prevention

(CDC) has reported employee discomfort where smoking is permitted in workplaces, and recommended a policy approach to reducing discomfort and exposure.29 Populations of workers have been identified who currently suffer involuntary ETS exposures as a consequence of their job activities and responsibilities, and who would benefit from appropriate ETS protective policies.

To date, affected populations reported at special risk include flight attendants30; food service and hospitality workers,31 including restaurant and bar employees32; and casino workers.33 Although these worker groups have been studied, many more workers are exposed in other job categories. Of indoor workers, 58 million are not protected by a smoke-free workplace policy; most (40 million) are nonsmokers Although the number of employees at a worksite has not been directly related to the difficulty of implementing a protective policy, workers in small workplaces are generally less sheltered by policy.34 Workers unprotected by policy are exposed to ETS which has been demonstrated to cause adverse health outcomes in all populations, including workers.

Impact of Policy on Workplace Risks and Health

The primary purpose of policies forbidding or restricting smoking in workplaces and other public venues is protection of nonsmokers Opponents of workplace tobacco control policies spread the notion, often effectively, that workplace tobacco control advocates seek to outlaw smoking, including smoking in the privacy of the home.35 This assertion lacks both logic and supporting evidence. From a public health standpoint, workplace smoking protection policies are justified by the common good and the reduction of unnecessary involuntary exposure. There is formal knowledge of risk, a population with involuntary risk in the absence of protection, and a means to prevent risk.

Representatives of organized labor do not oppose workplace policies preventing exposure to ETS, since those they represent are the primary beneficiaries of such policies. Engaging labor in smoking policy formulation contributes to the success of those policies.36

Worksite smoking cessation policies can effectively prevent exposure when enforced.37,38,39 Furthermore, effective policy leads to the perception that smoking is socially inappropriate in workplaces.40 Favorable attitudes toward smoking restriction increase after implementation of an effective no smoking policy.41,42 A study of 1998 California legislation, prohibiting smoking in restaurants and bars, revealed markedly decreased ETS exposure to ETS from a median of 25 hours per week before legislation, to 2 hours per week after legislation. With the decrease in exposure came concomitant substantial decreases in a number of respiratory symptoms and improved pulmonary function.43 In brief, workplace no smoking policies in the workplace improve health.

A significant minority of workers report some exposure to ETS even where policies exist, suggesting that the nature of policies and their enforcement are as important as their mere presence.44 For example, simple separation of smoking and nonsmoking indoor workers fails to prevent involuntary exposure to ETS,45,46 possibly blunting the epidemiologic impact of a smoke-free workplace policy.

Nonsmokers working at a workplace with a "work area only" smoking restriction were more likely to be exposed to ETS than those working at a completely smoke-free worksite. Designated smoking areas do not work well to protect nonsmokers total bans work more effectively by increasing awareness of policy. 47,48,49,50 In work areas where no policy prohibited work area smoking, nonsmokers were more than 8 times more likely to be exposed to ETS than those who worked in smoke-free worksites.48 Among variables measured, only increasingly strict policies correlate meaningfully with prevention of exposure to ETS at work51 and decreased smoking at work.52,53

Smoking bans also provide secondary benefits. Quit and reduction rates have been higher in some prospective studies of employees in worksites with smoking bans,54,55 especially where enforcement of bans can be demonstrated. 41,42,44,55,56,57,58 Successful quitters from working at smoke-free workplaces report that a reduction in access to places to smoke, in the workplace and in other public spaces, had influenced the desire to quit.44

In contrast to the voluntary actions of some private employers, most state governments have taken minimal steps to protect workers from ETS. While 46 states and the District of Columbia have restricted smoking at work to some extent, only 20 restrict smoking in private worksites, and 30 restrict smoking in restaurants.59 In many cases, the smoking restrictions are partial, permitting smoking in designated areas or exempting worksites with a minimum number of employees. In general, federal employees are better protected than private sector employees or consumers who visit workplaces.

Economic Impact of Eliminating ETS from the Workplace

Strong economic incentives exist for rapid adoption of smoke-free workplaces. The costs to governments and private industry associated with the development and implementation of policies preventing worksite and public exposure to ETS are far less than the resulting economic gains. Economic benefits derived from improved health and increased productivity have been well documented for workers and employers,59 and so have the benefits realized from decreased time invested in smoking behaviors.41,42,60 An additional economic incentive may be the wish to avoid the costs of litigation based on claims of employer liability for occupational exposures to ETS, an area of case law that has been accumulating since the 1970s.61 Workplace smoking bans limit that risk.

Action to Minimize Occupational Exposure to the Hazards of ETS — Best Practices

ACOEM supports the position that ETS should be eliminated from the workplace. ETS is an important cause of occupational morbidity and mortality; its sources are discretionary, easily identified, and easily eliminated without regard to technical feasibility. Therefore, ETS should be regulated by federal standards independent of the investigation and control of other indoor air quality problems. In keeping with this approach, the American Society

of Heating, Refrigerating, and Air Conditioning Engineers (ASHRAE) has declared that its ventilation standard 62_1999 assumes a smoke-free workplace.62 Establishing and enforcing public and private policies that eliminate exposure to ETS protects the health of non-smokers.52,63

ACOEM encourages voluntary, regulatory, and legislative initiatives to eliminate ETS from the workplace, including public spaces such as bars, casinos, restaurants, schools, daycare centers, and public transportation. ACOEM recommends that employers develop and implement written policies which incorporate the following best practices:

Provides all employees with a smoke-free work environment. Theoretically, clean indoor air could be achieved by segregation of smokers with effective engineering controls. However, banning workplace smoking most effectively achieves the desired result. Smoking bans are less expensive, more effective, and more amenable to audit. Applies to everyone who enters the work environment, including visitors (defined to include customers). Involves employees in the transition to a smoke-free workplace. Is clearly communicated to all employees and visitors. Has a brief phase in implementation, which includes advance notice to employees. Includes ongoing employee training concerning the health hazards of ETS and policies to prevent exposure. Provides for voluntary personal smoking cessation programs.

Economic as well as epidemiologic evidence justifies the implementation and enforcement of no smoking policies at the workplace and other public settings. Failure to implement and enforce such policies will have predictable adverse health and economic outcomes for both employees and employers.

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The Health Consequences of Involuntary Exposure to Tobacco Smoke: A Report of the Surgeon General, U.S. The Health Consequences of Involuntary Exposure to Tobacco Smoke: A Report of the Surgeon General, U.S. Department of Health and Human Services

There is No Risk-Free Level of Exposure to Secondhand Smoke. The U.S. Surgeon General has concluded that breathing even a little secondhand smoke poses a risk to your health. Scientific evidence indicates that there is no risk-free level of exposure to secondhand smoke. Breathing even a little secondhand smoke can be harmful to your health.

Secondhand smoke causes lung cancer.

- Secondhand smoke is a known human carcinogen and contains more than 50 chemicals that can cause cancer. - Concentrations of many cancer-causing and toxic chemicals are potentially higher in secondhand smoke than in the smoke inhaled by smokers.

Secondhand smoke causes heart disease.

- Breathing secondhand smoke for even a short time can have immediate adverse effects on the cardiovascular system, interfering with the normal functioning of the heart, blood, and vascular systems in ways that increase the risk of heart attack.
- Even a short time in a smoky room can cause your blood platelets to become stickier, damage the lining of blood vessels, decrease coronary flow velocity reserves, and reduce heart rate variability.
- Persons who already have heart disease are at especially high risk of suffering adverse affects from breathing secondhand smoke, and should take special precautions to avoid even brief exposure.

Secondhand smoke causes acute respiratory effects.

- Secondhand smoke contains many chemicals that can quickly irritate and damage the lining of the airways. - Even brief exposure can trigger respiratory symptoms, including cough, phlegm, wheezing, and breathlessness. - Brief exposure to secondhand smoke can trigger an asthma attack in children with asthma. - Persons who already have asthma or other respiratory conditions are at especially high risk for being affected by secondhand smoke, and should take special precautions to avoid secondhand smoke exposure.

Secondhand smoke can cause sudden infant death syndrome and other health consequences in infants and children.

- Smoking by women during pregnancy has been known for some time to cause SIDS.
- Infants who are exposed to secondhand smoke after birth are also at greater risk of SIDS.
- Children exposed to secondhand smoke are also at an increased risk for acute respiratory infections, ear problems, and more severe asthma. Smoking by parents causes respiratory symptoms and slows lung growth in their children.

Separating smokers from nonsmokers, cleaning the air, and ventilating buildings cannot eliminate secondhand smoke exposure.

- The American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), the preeminent U.S. standard-setting body on ventilation issues, has concluded that ventilation technology cannot be relied on to completely control health risks from secondhand smoke exposure.
- Conventional air cleaning systems can remove large particles, but not the smaller particles or the gases found in secondhand smoke.
- Operation of a heating, ventilating, and air conditioning system can distribute secondhand smoke throughout a building.

Information contained on this highlight sheet has been taken directly from The Health Consequences of Involuntary Exposure to Tobacco Smoke: A Report of the Surgeon General. For more information, please refer to the Resources and How to Protect Yourself and Your Loved Ones from Secondhand Smoke highlight sheets. Additional highlight sheets are also available at :www.cdc.gov/tobacco.

Last revised: June 27, 2006

SUMMARY: American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) New Position Document (2005) On Secondhand Smoke (SHS) / Environmental Tobacco Smoke (ETS) in the Workplace, Public Places.

Local Boards of Health and business managers need to know that there are new recommendations from the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) that will help determine the balance the health and local regulatory impacts of smoking with the desires of building owners / managers. According to a recently issued new position document from ASHRAE, all should abide by local regulations and codes addressing secondhand smoke (SHS). The Society also believes that the public should be educated of the substantial limitations and insufficient benefits of ventilation controls.

Document address: http://www.ashrae.org/template/AboutLinkLanding/category/1590

ASHRAE's *Environmental Tobacco Smoke Position Document* provides information on the health consequences of exposure of nonsmokers, especially workers, to tobacco smoke in indoor environments. ASHRAE realizes that elimination of indoor smoking is the best way to minimize SHS exposure, and the Society also recognizes that much of the non-smoking population is exposed to SHS in workplaces, homes and public places.

ASHRAE recognizes that any level of SHS exposure is not healthy, and recommends that that all laws and regulations in regard to indoor smoking should be developed that will result in the lowest possible SHS exposure to building occupants. The document includes outline design and operation approaches to addressing SHS exposure in buildings, and also contains information on characteristics and concentrations of SHS in indoor spaces, health effects of involuntary smoking, and different considerations related to HVAC system design and operation.

Among the findings by ASHRAE in the 2005 document are:

- It is the consensus of the medical community and its cognizant authorities that SHS is a health risk, causing lung cancer and heart disease in adults, and exacerbation of asthma, lower respiratory illnesses, and other adverse effects on the respiratory health of children.

- Currently, the only way to effectively eliminate health risk associated with indoor exposure is to completely ban smoking activity.
- Although complete separation and isolation of smoking rooms can control SHS exposure in non-smoking spaces in the same building, adverse health effects for the occupants of the smoking room cannot be controlled by ventilation.
- No other engineering approaches, including current and advanced dilution ventilation or air-cleaning technologies, have been demonstrated or should be relied on to control health risks from SHS exposure in spaces where smoking occurs.
- An increasing number of local and national governments, as well as many private building owners, are implementing bans on indoor smoking.
- Because of ASHRAE's mission to act for the benefit of the public, it encourages absolute elimination of smoking in the indoor environment as the optimal way to minimize SHS exposure.

Division of Tobacco Prevention
WEST VIRGINIA
DEPARTMENT OF HEALTH AND HUMAN SERVICES