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STATE OF MINNESOTA
MINNESOTA DEPARTMENT OF HEALTH

In the Matter of Proposed Rules of the Minnesota Department of Health Relating to the Clean Indoor Air Act, Minnesota Rules, parts 4620.0050 to 4620.1500.

Statement of Need and Reasonableness

The proposed new rule parts and revisions to existing rule parts contained within Minnesota Rules, parts 4620.0050 to 4620.1500 govern smoking in public places and places of work.

The proposed rules revise parts 4620.0100 to 4620.1500 to implement statutory amendments which occurred in 1984, 1987 and most recently in 1992. Proposed new provisions governing smoking in factories, warehouses and similar places of work and other revisions reflect current evidence on the effects of environmental tobacco smoke (ETS) on nonsmokers, make rule parts gender neutral, and update rule language.

Statutory authority to adopt rules

Minnesota Statutes, section 144.412 states:

> The purpose of Minnesota Statutes, sections 144.411 to 144.417 is to protect the public health, comfort and environment by prohibiting smoking in areas where children or ill or injured persons are present, and by limiting smoking in public places and at public meetings to designated smoking areas.

With respect to factories, warehouses and similar places of work, Minnesota Statutes, section 144.414, subdivision 1, mandates the commissioner of health to:

> establish rules to restrict or prohibit smoking in those places of work where the close proximity of workers or the inadequacy of ventilation causes smoke pollution detrimental to the health and comfort of nonsmoking employees.

Minnesota Statutes, section 144.417 says the commissioner of health "...shall adopt rules necessary and reasonable to implement the provisions of sections 144.411 to 144.417, except as provided for in section 144.414."

Rulemaking procedures

Minnesota Statutes, chapter 14 sets out procedures that must be followed when an agency proposes to adopt a rule. Section 14.10 requires an agency seeking information or opinions from persons outside the agency for adoption of a rule to publish notice of such action in the <u>State Register</u>. Notice of Solicitation of Outside Opinion on this matter was published in the <u>State Register</u> July 22, 1991. A copy of the Notice of Solicitation is entered into the rule record.

A copy of this Statement of Need and Reasonableness (SNR) was sent to the Legislative Commission to Review Administrative Rules as required by Minnesota Statutes, section 14.131. A memorandum indicating transmission of the SNR to the Legislative Commission to Review Administrative Rules (LCRAR) is entered into the rule record.

The Minnesota Department of Health (MDH) provided notice of its intent to adopt the proposed rules and attached a copy of the proposed rules to all

persons who placed their names on the department's certified rulemaking list. The department provided discretionary mailing of the proposed rule and notice to all counties with delegation agreements with MDH, members of a rule advisory group, and to all parties who expressed an interest in this matter and requested that their name be added to the discretionary mailing list. The certificate attesting to the agency list, an affidavit of mailing the rule and notice to persons on the certified list and to persons on the department's discretionary mailing list, and a copy of the agency discretionary list are submitted into the rule record.

The department met with and discussed policy and draft rule provisions with members of a Clean Indoor Air Rule Advisory Group. The group was formed by the department and seven meetings were held in 1991 and 1992. A list of advisory group members is attached to this Statement of Need and Reasonableness. A separate meeting was held by the department July 9, 1992 with the Minnesota Hotel Resort and Restaurant Association to discuss concerns specific to their membership. Department staff also had discussions with the Minnesota Licensed Beverage Association to address their concerns during the timeframe the rule advisory group was meeting. Department staff met with the Minnesota AFL-CIO on July 27, 1992 to generate input from organized labor related to the proposed rules. Another meeting was held September 11, 1992 with a representative of the United Steelworkers of America. Department staff met with representatives of the Minnesota Chamber of Commerce and the Employers Association on October 28, 1992 to discuss rule provisions, the rule's impact on their membership, and solicit input from their organizations. A meeting to discuss workplace and ventilation issues was held on April 29, 1993, and was attended by the advisory group's ventilation expert and representatives from the Minnesota Department of Administration's Building Code Division and the Employers Association.

Fiscal impact

The department estimates no net fiscal impact on state and local public bodies in the two years following adoption of the proposed rules. In considering alternatives for compliance, one alternative involving examination of ventilation systems would have had a significant fiscal impact on the department. Ventilation is one of two criteria that must be met in determining whether factories, warehouses and similar places of work must regulate smoking. The design of a ventilation system does not always control how the system is actually operated and maintained. A system may be designed to function in one way, but because of the way it is operated, it actually functions in another. As a result, examination of individual ventilation systems will be necessary when complaints are received about factories, warehouses and similar places of work.

The MDH, as well as other local health departments that enforce the Minnesota Clean Indoor Air Act (MCIAA), may not have the expertise, equipment or resources to examine individual ventilation systems and how they are operated. The department considered what would be necessary in order to have staff go on-site to examine individual ventilation systems in factories, warehouses and similar places of work. To provide this service, the department would require one additional full-time employee (FTE) because existing staff compliments could not undertake this increase in workload. Even with an additional FTE, our current supplies and expense budget could not support the position. Money to cover the purchase of expensive equipment as well as travel and per diem would be necessary to provide evaluation services. In order to increase our supplies and expense budget the department would need an appropriation or authority to charge inspection fees from the state legislature. Having state or local units of government examine ventilation systems was eliminated because of the significant fiscal impact. Instead, the department will require that documentation of the ventilation rate be provided by the business operator.

With respect to licensed establishments, such as food and beverage establishments, compliance with the MCIAA and rules adopted thereunder is part of the licensure of these establishments. Compliance with the MCIAA is verified as part of the routine inspection for these establishments. The department delegates much of its inspection activity to local boards of health by mutual agreement. As part of the delegation agreement with local jurisdictions is the authority to inspect, in conjunction with licensure, for compliance with the MCIAA and rules in food and beverage establishments. The department does not anticipate major changes in the current level of regulatory activity undertaken by local boards of health with respect to delegated inspection programs. Compliance with the MCIAA in food and beverage establishments will continue to be handled through routine inspection by the appropriate licensing authority.

The department and local boards of health currently implement compliance with the existing law and rules as they relate to places of work and public places, other than licensed facilities, on a complaint basis. The department is proposing to handle compliance with the proposed provisions relating to factories, warehouses and similar places of work on a complaint basis and believes that current program compliments can handle complaint calls or investigations in this area. The department has not proposed an inspection program for factories, warehouses and similar places of work. The extent to which local boards of health inspect other public places or places of work for compliance with the Minnesota Clean Indoor Air Act and adopted rules is voluntary on the part of the local jurisdiction. Some local boards of health, such as Minneapolis, routinely will inspect or follow up on complaints in offices, for example. The department estimates no fiscal impact on state or local public bodies as a result of adopting the proposed rules.

Small business considerations

Minnesota Statutes, section 14.115, requires that an agency consider five factors for reducing the impact of proposed rules on small businesses, these being:

1. less stringent compliance or reporting requirements;
2. less stringent schedules or deadlines for compliance or reporting;
3. consolidation or simplification of compliance or reporting requirements;
4. the establishment of performance standards for small businesses to replace design or operational standards required in the rules; and
5. exemption of small businesses from the proposed rules.

Small business is defined as "...a business entity, including its affiliates that (a) is independently owned and operated; (b) is not dominant in its field; and (c) employs fewer than 50 full time employees or has gross annual sales of less than four million dollars...." The small businesses affected by the proposed rules include restaurants, bars, retail stores, small manufacturing concerns and small office buildings.

1. The proposed rules contain no reporting requirements.

2. The proposed rule parts which will have the greatest impact on small businesses have a delayed effective date for compliance. This delayed compliance date should ease implementation of the proposed rules for newly covered businesses and those already covered by the existing rules in meeting new requirements.

3. The proposed rules contain no reporting requirements. Additional options for compliance have been added where public health protection is not compromised, for example additional options for the language, size, and placement of signs have been added.

4. Minnesota Statutes, section 144.415 specifies that existing barriers and ventilation be used to separate nonsmoking and smoking-permitted areas. Performance standards are already established in part 4620.0100, subpart 2. These performance standards will remain the same with the exception of a revision to the ventilation rate performance standard. It is necessary to revise part 4620.0100, subpart 2 because it refers to a Minnesota building code provision which no longer exists. The proposed standard was developed with input from the department's rule advisory group and other affected parties that included representatives of small businesses.

5. Customers and employees of small businesses should have the same public health protection as other individuals. It is not appropriate to exempt a business on the basis of size from any or all of the rule requirements nor did the Legislature make provision in Minnesota Statutes, sections 144.411 to 144.417 for an exemption for small business with respect to protection of the public health. While the statute requires a different standard for industrial workplaces, it should be noted that this exception is for the type of business not the size of the business.

Impact on agricultural land

In accordance with Minnesota Statutes, section 14.11, the department has determined that the adoption of the rules will not have a direct and substantial adverse impact on agricultural land in the state.

Need for and Reasonableness of proposed rule provisions

I. Historical Background

Since the 1964 report of the Surgeon General entitled, "Smoking and Health: Report of the Advisory Committee to the Surgeon General of the Public Health Service" (U.S. Department of Health, Education, and Welfare, 1964), tobacco smoking has been recognized as a leading cause of cancer, primarily lung cancer. In later years, an increased risk of respiratory and heart disease would also be attributed by medical research to active tobacco smoking. In addition to the increased risk of cancer and heart disease, many individuals who do not smoke consider tobacco smoke an odorous irritant.

Problems resulting from the health effects and irritations caused by tobacco smoke led the 1975 Minnesota Legislature to enact the MCIAA, aimed at protecting public health and comfort by limiting smoking to designated areas in public places and workplaces. The MCIAA was one of the first laws in the nation to regulate smoking and, at the time, the most restrictive. Responsibility for regulating smoking in industrial workplaces was given to the Minnesota Department of Labor and Industry (DLI). Responsibility for all other public places and workplaces was given to the Minnesota Department of Health (MDH). In 1976 the MDH adopted rules to implement the MCIAA in areas under its jurisdiction. The DLI also adopted rules for buildings under its jurisdiction. The MDH rules were later revised in 1980. It is the 1980 rules which are in place at this time. In 1984, the Minnesota Legislature repealed the authority and rules of the DLI to regulate smoking in industrial workplaces and transferred this authority to the commissioner of health. Laws of Minnesota 1984, chapter 654, article 2, section 18, clause (2) and Laws of Minnesota 1984, chapter 654, article 2, section 113, amended Minnesota Statutes, section 144.414.

During the 1980's attention to the health effects of smoking began expanding to the health of nonsmokers exposed to environmental tobacco smoke (ETS), which is also known as secondhand smoke. Two major reports were issued in 1986 which assessed the health effects of ETS exposure. A report, "The Health Consequences of Involuntary Smoking: A Report of the Surgeon General" concluded that ETS can cause lung cancer in adult nonsmokers; exposure to ETS

increases the risk for respiratory infection in children whose parents smoke; and separation of smokers and nonsmokers within the same air space does not eliminate exposure to ETS. (United States Department of Health and Human Services, 1986)

The National Research Council issued its report, "Environmental Tobacco Smoke: Measuring Exposures and Assessing Health Effects," which concluded that it is prudent to eliminate ETS exposure from the environments of small children; and, the weight of evidence derived from epidemiologic studies shows an association between ETS exposure of nonsmokers and lung cancer that, taken as a whole, is unlikely to be due to chance or systematic bias. (National Research Council)

Children, the elderly, and individuals with pre-existing health conditions have long been recognized in the field of public health as high risk groups. Exposure to contaminants, such as ETS, pose a greater risk of disease to these individuals than to those individuals in the general population. In recognizing this, the Minnesota Legislature amended the MCIAA in 1987. These amendments banned smoking in licensed day care facilities during hours of operation and banned smoking in hospitals and health care facilities. The only exception to this was for patients in mental health and chemical dependency treatment areas or patients who had the written consent of their attending physician.

Since 1980 numerous studies relating to the impact and health effects of ETS exposure have been published. Exposure to ETS is linked not only with an increased risk of lung cancer. Recent studies suggest a link between ETS exposure and heart disease. A specific area of interest has been the issue of ETS exposure in the workplace because people spend a significant amount of their time in the workplace. The National Institute for Occupational Safety and Health (NIOSH) issued its Current Intelligence Bulletin 54 in 1991, which specifically addressed smoking in the workplace. NIOSH now considers "...ETS to be a potential occupational carcinogen and recommends that exposures be reduced to the lowest feasible concentration. All available preventive measures should be used to minimize occupational exposure to ETS." (National Institute)

The American Public Health Association's Policy Statement No. 8710:

> Urges businesses and work sites to provide a smoke-free environment for all working employees and provide smoking cessation programs and incentives for employees wanting to quit; and further to work to reduce those stressors in the workplace which may encourage smoking; (and) urges states with existing clean indoor air laws to improve enforcement or strengthen that legislation as needed. (American Public)

The 1992 Minnesota Legislature again amended the MCIAA and strengthened it by banning smoking in all public school facilities and vehicles, except technical colleges. Also, the authority for a physician to issue written orders for a patient to smoke in a health care facility was repealed. In 1993, the legislature did amend the statute to allow tobacco use in public schools as part of a bona fide Native American spiritual or cultural ceremony.

Most recently the United States Environmental Protection Agency issued a report in January 1993 classifying ETS as a known human carcinogen. (United States Environmental Protection Agency 1993) This report attributes lung cancer deaths in adults and increased respiratory disease in children to ETS exposure.

In response to this report, the statute was again amended in 1993 to extend the ban on smoking in day care centers to family child care homes during the

hours of operation. The legislature also amended Minnesota Statutes, section 16B.24, subdivision 9, and banned smoking in all state buildings managed or leased by the Department of Administration. Exceptions to this ban are veterans homes, educational, penal or correctional institutions.

Beginning with the 1964 Surgeon General Report there has been continuous scientific research, regulatory activity, and increased social awareness related to smoking. As scientific studies continue to link tobacco smoking and ETS exposure to disease, responsible regulatory bodies have reacted by taking measures to protect public health. Many states and cities now regulate smoking through state law or local ordinance. It is important, however, to note that these state laws and ordinances vary greatly in terms of how much they actually restrict smoking. As pointed out in a study of legislation conducted by Rigotti and Pashos, "...comprehensive laws, which are most likely to provide meaningful protection from environmental tobacco smoke exposure, remain uncommon and represent a major gap in smoking control policy." (Rigotti) Within the last decade an increase in smoke-free public buildings has occurred. Beginning in 1993 all Minnesota public schools, grade kindergarten through twelve, must be smoke-free. This prohibition on smoking also applies to school vehicles. The majority of state office buildings have been made smoke-free by legislative mandate. Even some retail areas, such as Ridgedale Mall, have become smoke-free (Rouse). Lastly, the federal government has banned smoking on all continental U. S. flights.

From the viewpoint of social acceptability, smoking is becoming less and less acceptable as time goes on. Since 1980, when the current rules were last revised, public opinion about smoking and restriction of smoking has become stronger.

According to a 1992 article on the decline in smoking rates reported in the Saint Paul Pioneer Press:

> Health officials attributed the declining figures to the decreasing social acceptability of smoking, the rising price of cigarettes, the growing awareness of the health dangers of "passive" environmental smoke and the growing fears among smokers about health consequences. (Saint Paul)

In a 1991 survey of Minnesotans by Forester et. al. they reported:

> ...results suggest that Minnesota citizens are more supportive of restrictive tobacco control policies than policy makers might believe, and that more aggressive lobbying on behalf of such measures at the state and local level is warranted.

Measures to prohibit smoking in public places was one of the measures they found to have especially wide support. (Forester)

Davis, Boyd and Schoenborn examined the results of the 1987 National Health Interview Survey on the "common courtesy" approach to eliminate ETS exposure. They conclude:

> These findings show that the common courtesy approach endorsed by the tobacco industry is unlikely, by itself, to eliminate exposure to environmental tobacco smoke. Though no one would oppose the use of common courtesy, we conclude that legislative or administrative mechanisms are the only effective strategies to eliminate passive smoking.

They also reported, "...studies have shown that fully implemented work-site policies banning or restricting smoking on the premises are well accepted by employees-smokers and nonsmokers alike." (Davis, 1990)

In his study on passive smoking Lam (1989) concluded:

> ...results from the surveys on public opinion show clearly that the public also believe that passive smoking is harmful to health, increasing support and demand for more control actions against smoking are expected from the public to protect the health, not only of smokers but especially of non-smokers, particularly the vulnerable groups of the community who are still being involuntarily exposed to tobacco smoke. (Lam)

II. Health Effects and other considerations

In preparing the proposed rules, a literature search was conducted to gather studies, papers, and articles which address the health effects of ETS exposure. This search revealed an extensive listing for review. The following summaries were taken from some of these resources and address the wide range of health effects and issues which must be considered.

CANCER

The association of ETS exposure with cancer dates back to 1981. A major conclusion of the 1993 report of the United States Environmental Protection Agency "Respiratory Health Effects of Passive Smoking: Lung Cancer and Other Disorders" was that for adults "ETS is a human lung carcinogen, responsible for approximately 3,000 lung cancer deaths annually in United States nonsmokers." (United States Environmental Protection Agency 1993) Such a significant finding cannot be ignored by this rule process because of the impact of the proposed rules on workplaces where individuals spend a large portion of their day. Exposure at work presents a significant potential for exposure to a substance which is now a known cancer causing agent.

HEART DISEASE

Studies of the effects of ETS on the nonsmoker have also begun to focus on an increased risk of heart disease. The connection to heart disease was suggested in the 1986 Report of the Surgeon General and National Research Council Report. These reports noted however that more research would be necessary. Additional evidence has subsequently been gathered. On June 10, 1992, The Coalition on Smoking OR Health comprised of the American Heart Association (AHA), American Lung Association and American Cancer Society released an American Heart Association Medical/Scientific Statement which concluded, "...environmental tobacco smoke is a major preventable cause of cardiovascular disease and death." The AHA's Council on Cardiopulmonary and Critical Care indicated that ETS must be "... considered as an environmental toxin from which the public and workers should be protected (and) strongly supports efforts to eliminate all exposure of nonsmokers to environmental tobacco smoke." (Taylor)

Kyle Steenland in 1992 reviewed evidence on ETS exposure and increases in the risk of heart disease death and estimated 35,000 to 40,000 deaths annually from ischemic (constriction or obstruction of blood vessels) heart disease among never-smokers (persons who have never smoked) and long-term former smokers. According to Steenland:

> The public health burden due to ETS exposure is likely to be much greater for heart disease than for lung cancer, which has been the focus of most debate to date. Individual lifetime excess risks of heart disease death due to ETS of one to three per 100 can be compared with much lower excess risks of one death per 100,000, which are often used in determining environmental limits for other toxins. (Steenland)

In 1991 Glantz and Parmley conducted a review of epidemiological studies and found with respect to cardiovascular effects of ETS, "Nonsmokers appear to be more sensitive to ETS than do smokers. The results suggest heart disease is an important consequence of exposure to ETS...leads to the conclusion that ETS causes heart disease. This increase in risk translates into about 10 times as many deaths from ETS-induced heart disease as lung cancer." (Glantz)

In a study conducted by Leone, et. al. in 1991 they conclude that "Acute exposure to passive smoke impairs the cardiac performance of both survivors of infarction [MDH Note: heart attack] and healthy volunteers. Survivors, who often have haemodynamic impairment, should avoid indoor spaces polluted by cigarette smoke. The fact that passive smoking also clearly affects the cardiac measurements made in the healthy volunteers has implications for public health and legislation." (Leone)

RESPIRATORY ILLNESS

Exposure to ETS has also been linked to respiratory diseases and reduced lung function.

Roy Shepard reviewed respiratory irritation in 1992 and stated, "The dose of irritant particles actually received by a nonsmoker who sits near a smoker may be substantially greater than would be predicted from average room concentrations." He concluded, "The increased risk of chronic respiratory lung disease and possible exacerbation of asthma are two additional reasons for reducing exposure of the nonsmoker to ETS." (Shephard)

A six year study of 6,000 nonsmoking California Seventh-Day Adventists by Abbey, et. al. released in 1991 lead them to conclude:

> The general conclusion of a number of recent review articles is that elevated concentrations of total suspended particulates contribute to respiratory morbidity over and above the effects due to cigarette smoking. Our findings relating elevated ambient levels of TSP (total suspended particulates) to incidence of respiratory symptoms in nonsmokers are consistent with this. (Abbey)

Anderson, et. al. exposed 16 healthy nonsmokers to cigarette smoke in an effort to determine proinflammatory effects of ETS exposure. They concluded in a 1991 report that:

> This study has demonstrated that passive smoking sensitizes the migratory and oxidant-generating activities of circulating neutrophils. Because phagocyte-derived reactive oxidants are immunosuppressive, cytotoxic, and potentially carcinogenic, it is possible that these agents are involved in the pathogenesis of respiratory illness, pulmonary dysfunction, and bronchial carcinoma in some passive smokers. (Anderson)

A 1991 article discussing the treatment of chronic bronchitis by S. W. Clarke pointed out that smoking cessation is the most important step that can be taken to slow the progression of chronic bronchitis. However, it goes beyond active smoking to passive smoking. He noted, "Two other adverse features concerning smoking include the now proven effects of passive smoking, whereby others inhale the smoker's smoke, and there now seems no doubt that this can have deleterious effects on the recipient's lung, a fact which has always seemed likely." (Clarke)

Iwase, Aiba and Kira conducted a study to measure respiratory nicotine absorption in order to estimate nicotine intake during passive smoking. Their 1991 report was the first "...on the estimation of respiratory nicotine

absorption and nicotine intake during passive smoking based on the direct measurement of nicotine concentrations in both inspired and expired air." They estimated, "...the average intake of nicotine was 0.026 mg/h in a group of non-smokers exposed in a room containing a nicotine concentration of 100 ug/m, which is equivalent to fairly severe involuntary tobacco smoking." (Iwase)

The Working Group on Passive Smoking reviewed over 2,900 articles on the health effects of ETS and concluded:

> (a) there is strong evidence of an association between residential exposure to environmental tobacco smoke and both respiratory illness and reduction of lung function, and also between active maternal smoking and reduced birth weight; (b) the weight of evidence is compatible with an association between active maternal smoking during pregnancy and increased infant mortality, and also between residential exposure to environmental tobacco smoke (primarily spousal smoking) and the risk of lung cancer; (c) there is evidence consistent with a relationship between exposure to environmental tobacco smoke in the workplace and respiratory symptoms...." (Spitzer)

In a study of 293 nonsmoking young men and women, Masi, Hanley, Ernst and Becklake reported in 1988 that their "...findings contribute to the gathering evidence that environmental exposure to tobacco smoke is harmful to respiratory health, and suggest that the effects are not insignificant." (Masi)

Kalandidi, et. al. conducted a case-control study to explore passive smoking and its contribution to the cause of chronic obstructive lung disease (COLD). They reported that, "The results suggest that exposure to environmental tobacco smoke may contribute to the cause of COLD." (Kalandidi)

In an evaluation of long-term ETS exposure in 2,100 subjects by White and Froeb, their findings suggest, "...if long-term small-airways dysfunction is occurring, the nonsmokers who work in a smoky environment have about the same risk of impairment as do smokers who do not inhale and smokers who inhale between one and 10 cigarettes per day." They also cited a study by Niewoehner that showed, "...further increases in exposure to cigarette smoke cause a progression from small-airways involvement to extensive bronchial and alveolar disease: the greater the exposure, the greater the involvement." White and Froeb went on to conclude, "Although many nonsmokers believe that exposure to tobacco smoke is irritating and generally obnoxious, our studies and Tager's show the adverse effects of passive smoking on the small-airways function of both adults and children." (White)

IRRITATION

As stated in Minnesota Statutes, section 144.412, the purpose of the MCIAA "...is to protect the public health, comfort and environment...." "Comfort" has a different meaning for each individual. The second college edition of the American Heritage Dictionary defines comfort as, "...a condition of ease or well being...capacity to give physical ease and well being...." (American Heritage, p. 296). According to Webster's college edition of the New World Dictionary of the American Language "comfort" is defined as "...a state of comfort; at ease in body or mind...sufficient to satisfy; adequate...." (Webster's, p. 292)

In a study of 2,092 randomly selected adults 18 years of age or older by Brownson, et. al. they concluded in 1992: "Data on passive smoking annoyance affirm the declining social acceptability of smoking in public places." (Brownson)

A Minnesota Poll, reported in the Star Tribune in 1992 found that "Four out of five Minnesota adults think there's a health risk from inhaling second-hand cigarette smoke." Further, "...two out of three Minnesota adults say that they are bothered by other people's smoking, including one in four smokers." Lastly, according to the poll, "59% of those surveyed, including smokers, said the MCIAA needs to do more to protect non-smokers." (Star 1992)

When considering the effects of ETS exposure, acute (short-term) effects must be discussed. Ginzel summarized the acute effects of ETS as, "...irritation of the delicate tissues of eyes and airways, resulting in itching, tearing, sneezing, wheezing, coughing, sore throat, hoarseness, headache, dizziness, and nausea...." (Ginzel). These acute effects are most commonly associated with a person's comfort. Many of the complaints received by the Minnesota Department of Health focus on comfort. For example, smoke drifts throughout a building and is detectable by smell to nonsmokers. Complaints about exposure to ETS include headaches and watery eyes. The department has taken comfort and public complaints into consideration in proposing rule language.

PREGNANT WOMEN, MINORS AND PERSONS WITH HEALTH PROBLEMS IN THE WORKPLACE

The main impact of the proposed rules is on places of work. The department must consider the fact that pregnant women, persons with pre-existing lung conditions such as asthma, persons who have suffered heart attacks, and young persons comprise part of Minnesota's workforce. Studies have indicated that these individuals are at greater risk from ETS exposure than the general population.

Ogawa, et. al studied the effects of ETS exposure on fetal growth in 6,831 Japanese women. Passive smoking was defined as, "exposure to other persons' cigarette smoke for at least 2 hours per day at home, the workplace and other places...." Their results "...suggest that maternal passive smoke exposure has a small effect on fetal growth." They conclude that, "Although this study did not show a significant effect of passive exposure on fetal growth, it is expected from our results that heavy exposure does induce a reduction in fetal growth, just as active smoking does." (Ogawa 1991)

Makin and Watkinson examined the long-term consequences of active and passive smoking during pregnancy. They reported in 1991 that:

> In considering the results of the passively exposed group a number of factors must be recalled. For almost half of the nonsmoking women, involuntary smoking occurred outside the home...this study indicates, for the first time, that maternal passive exposure to cigarettes is associated with long-term negative effects that are similar but milder in degree to the long-term effects of maternal active smoking. (Makin)

According to a 1991 U. S. Department of Health and Human Services Publication, "In a prospective study, it was demonstrated that nonsmoking mothers exposed to environmental tobacco smoke for at least 2 hours a day had an increased relative risk of 2.17 for delivering a baby of low birth weight." (U.S. Department of Health, 1991) A prospective study, also known as a cohort study, over time follows a group of individuals that were initially disease-free who have been exposed to a contaminant. They are then compared to a similar unexposed group of individuals.

In a prospective study of 3,891 antenatal patients by Martin and Bracken (1986) their results, "...suggest that passive smoking during pregnancy doubles a nonsmoker's risk of having a growth-retarded infant." They also indicated:

> The implications of this study are that nonsmoking pregnant women

should avoid and be protected from the heavy sidestream smoke of their husbands and coworkers. This may be especially important for women who are already at increased risk of having a growth retarded infant, such as young, nonwhite mothers having their first child. (Martin)

A 1993 United State Environmental Protection Agency report on respiratory health effects contained some major conclusions relating to children. The report indicated that ETS exposure has significant health impacts on our children, including:

1) an increased risk of lower respiratory tract infections;
2) a causal association with increased prevalence of fluid in the middle ear, symptoms of upper respiratory tract irritation, and a small but significant reduction in lung function;
3) a causal association with additional episodes and increased severity of symptoms in children with asthma; and
4) a risk factor for new cases of asthma in children who have not previously displayed symptoms. (U.S. Environmental Protection Agency, 1993).

In a study of asthma in 240 children by Murray and Morrison in 1992 they state: "Our analysis reconfirmed that asthmatic children who had smoking mothers had more severe asthma than those who did not...." (Murray)

Willers, Svenonius and Skarping studied asthma in new cases of children and found:

> In the present study, exposure to environmental tobacco smoke in asthmatic children was higher than among healthy children, as indicated by the prevalence and intensity of smoking in mothers, and the cotinine levels in urine in the children. Thus, passive smoking may be a predisposing and/or aggravating factor in asthma" (Willers 1991).

In a paper which focused on the effects of ETS exposure on cancer and cardiovascular disease in adults and on the health of infants and children Lam concluded, "...almost all of the more recent results lend further support to the deleterious effect of passive smoking on the pulmonary health of infants, children and possibly young adults." (Lam 1989)

WORKPLACE PERFORMANCE

Exposure to ETS in the workplace has become a primary concern for many nonsmokers. This is due, in part, to the fact that individuals spend a significant portion of their day at work. For the majority of people, working is not a voluntary activity and many may be forced to tolerate unacceptable working conditions because of their need for employment.

Survey findings of the 1988 National Health Interview Survey-Occupational Health Supplement showed that of 79.2 million employed nonsmokers, "...12.4 million reported some or moderate discomfort and 4.5 million reported great discomfort from ETS at the workplace. Of 16.7 million current smokers, 2.5 million reported at least some degree of discomfort from ETS at the workplace." (Massachusetts, 41:351-354)

Borland, et. al. (1992) studied ETS exposure in the workplace and concluded, "Our data indicate that the only way to protect nonsmokers' health is with a smoke-free workplace." They estimated that "...2.2 million California nonsmokers were exposed to tobacco smoke at indoor work sites in 1990." (Borland)

Emmons, et. al. (1992) studied exposure to ETS and reported, "The primary

source of ETS exposure was the workplace, except when there was a smoker in the household, in which case the household was the primary source." (Emmons)

Ryan, Zwerling and Orav (1992) examined the association between smoking and rates of employee turnover, absenteeism, accidents, injuries, and discipline. They found, "...significant positive associations between cigarette smoking and absenteeism, industrial accidents, occupational injuries and disciplinary action. Smokers had a 34% increase in mean absenteeism that remained significant after adjustment for covariates." (Ryan)

In an analysis of laws and ordinances restricting smoking, Rigotti and Pashos (1991) stated, "Limits on workplace smoking should provide the greatest protection from ETS exposure and may have the greatest impact on smoking behavior because adults spend more time at work than in any other single place outside the home." (Rigotti)

Woodward considered the question of whether passive smoking in the workplace is hazardous to health and concluded in 1991 that:

> ...it appears reasonable to extrapolate from what is known about health effects of passive smoking in other settings (predominantly the home) to the likely health effects in the workplace. It is difficult to quantify the risks involved. Since hazard is a binary variable, it is easier to answer the question posed in the title of this paper: on the balance of what is now known, passive smoking at work is hazardous to health. It is hoped that further research will improve the precision of the estimated risks to health. However, there is widespread opinion that enough is already known to justify action and the restriction or prohibition of smoking at work. (Woodward)

Note: As used in this quote, the term "binary variable" can be construed to mean that there is more than one factor to consider when determining the hazard to health.

Cummings, et. al. examined ETS exposure and found in 1990 that: "The two most frequently mentioned locations for exposure to passive smoke were at work and at home...84% of subjects who did not live with a smoker had detectable cotinine levels, which underscores the need to consider exposures outside the home." (Cummings)

In a study of workplace ETS exposure and performance Beh (1989) concluded:

> ...this experiment has provided clear evidence that passive smoking exerts an adverse effect on performance accuracy. It has further shown that it is highly likely that this effect is related to perceived annoyance and anger, which is greater in nonsmokers than smokers and which results in a diversion of attention from the task in hand. (Beh)

Maiuro studied the effects of a no smoking policy in a community mental health center and concluded in 1989 that "...the primary effects of a mental health center smoking policy may be the protection of the service environment and improvements in the well-being of nonsmoking patients and staff who would otherwise be at risk for the effects of secondhand smoke." (Maiuro)

In his review of data relating to the health effects of involuntary tobacco smoke exposure and the workplace, Tager stated, "...it can be inferred that the workplace can provide relevant environments for exposure to ETS, at least based on current evaluation techniques." (Tager 1989)

PROPOSED RULE PARTS

Part 4620.0050 SCOPE AND PURPOSE.

Parts 4620.0050 to 4620.1450 must be read in conjunction with Minnesota Statutes, sections 144.411 to 144.417. The department has attempted not to repeat statutory requirements in rule. Where terms are defined in the MCIAA they apply to parts 4620.0050 to 4620.1450. The department is repealing the existing part 4620.0200 SCOPE AND PURPOSE and creating a similar new provision at the beginning of the proposed rules. The provision pertaining to prohibitions of the fire marshal is in existing part 4620.0200.

Part 4620.0100 DEFINITIONS.

Subpart 1. **Scope**. This subpart is being revised to specify which rule parts are covered by the terms defined in this part. The language referencing Minnesota Statutes, sections 144.411 to 144.417 is being repealed because it repeats the provision in proposed part 4620.0050 that the rules be read in conjunction with the MCIAA. The definitions contained in rule supplement those in statute. Those terms used in these rules, such as the term "public place" which are defined in both the MCIAA and further defined in these rules, have the meaning as specified in the Act as further clarified by the rule.

Subp. 2. **Acceptable nonsmoking area**. The term "smoke-free" is proposed for change throughout the proposed rules to the term "nonsmoking." The department has found that the public often interprets the term "smoke-free" to mean "absolutely free of smoke." Minnesota Statutes, section 144.415 states that the proprietor or person in charge of a public place may designate a smoking-permitted area. When a room or building contains both nonsmoking and smoking-permitted areas, the environment will not actually be "smoke-free." Although the proposed rules are intended to prevent a nonsmoker from having direct contact with smoke, smoke may still be detectible in nonsmoking areas when the nonsmoker is in a room or building with smoking-permitted areas. It is sometimes difficult for people to understand that compliance with the MCIAA and these rules does not actually result in areas which are free of environmental tobacco smoke. It is preferable to use the term "nonsmoking" which more closely reflects actual conditions. This should make the rule easier to explain to people and help prevent misunderstanding about the extent of the law as well.

The substantial change to this definition is the change in part 4620.0100, subpart 2, item B, (3). The reference to "SBC 6007 (c) (3)" in existing rule is being replaced with the phrase "must provide outdoor air requirements for ventilation of not less than 15 cubic feet per minute per person." It is necessary to replace the building code reference in the current rule because it no longer exists. Current building codes specify ventilation rates in cubic feet per minute per person.

A ventilation rate has been referenced in the existing rule since 1980. For the purpose of proposed rule language; the proposed ventilation rate serves two functions. First, it is one option for separating nonsmoking and smoking-permitted areas that building operators may choose. Any of the options may be used by the operators of restaurants, retail stores, and office buildings.

Second, the ventilation rate of 15 cubic feet per minute per person (cfm/person) serves as a marker for defining an acceptable ventilation rate for industrial workplaces. It will be used to determine whether an industrial workplace must restrict smoking as specified in these proposed rules.

To ease enforcement of the rules on smoking in public places, the department determined that one ventilation rate for all the buildings that will be covered by these rules should be proposed.

The department explored different options for determining the ventilation rate to be used. It is important to point out that the ventilation rate proposed is not a health-based rate. There are no health-based ventilation rates relating to smoking. There are some comfort-based rates which have been developed which take smoking into consideration. In addition, the department lacks the expertise, staff and resources to embark on the development of a health-based ventilation standard for smoking.

The rate proposed, 15 cfm/person, is taken from existing Minnesota Rules, part 5205.0110, subpart 1, which addresses outside air requirements for all workrooms. Part 5205.0100 is a Department of Labor and Industry (DLI) rule that is applicable to any type of workroom, including one-employee businesses. MDH proposes using the same standard in this rule because it will be easy for employers to use and simple for the MDH to enforce. MDH is not establishing a new ventilation rate. The department will be using an existing minimum ventilation rate that, according to the information we have received from OSHA staff of the DLI, already applies to any type of workroom.

Rule advisory group members suggested incorporation of the American National Standards Institute/American Society of Heating Refrigerating and Air Conditioning Engineers (ANSI/ASHRAE) Standard 62-1989 for specific ventilation rates. The ANSI/ASHRAE ventilation standard is a consensus standard used by many states and was developed taking smoking into consideration. It is a comfort-based standard rather than a health-based standard. For most buildings this standard would not present a problem with respect to existing ventilation systems. Using the ANSI/ASHRAE standard does, however, present a problem for industrial buildings (e.g. factories, warehouses and similar places of work) because a single specific ventilation rate is not specified by this standard. Instead, ANSI/ASHRAE Standard 62-1989 states those buildings should determine their outside air requirements for ventilation using 1986 Industrial Ventilation - A Manual of Recommended Practice, 1986 ed., published by the American Conference of Governmental Industrial Hygienists (ACGIH) and the criteria outlined in ANSI/ASHRAE Standard 62-1989, Section G.

Use of the ACGIH ventilation manual presents enforcement problems. First, the ACGIH rate would be difficult for enforcement personnel as well as employers to use in determining the exact ventilation rate that must be met for a particular building or even a room within the building. The ACGIH ventilation rate, including exhaust and supply air, is determined based on the industrial process and materials used in the process. This ACGIH rate can vary from one area of a room to another. Ventilation rates, if determined according to the ACGIH recommendations, would also vary from one facility to the next.

The department lacks the expertise to assist building operators in determining what ACGIH ventilation rate they should meet. The ACGIH ventilation manual is used by certified industrial hygienists and ventilation engineers as the major reference for industrial ventilation design work. While these individuals have the expertise to use this manual, it should be pointed out that it is a detailed, time consuming, and highly technical reference to use. Staff in the department of health and local health agencies that enforce the MCIAA are not likely to have this expertise. Because the second function of the ventilation rate proposed is to determine whether industrial workplaces must restrict smoking, it is important that the rate be easily determined. By specifying the single rate, which is already required by DLI rule, rather than referencing the ACGIH manual, the proposed rule will be easy for building operators to use and health department staff to enforce.

Lastly, the ACGIH ventilation manual is now in the 21st edition; the edition referenced by the ANSI/ASHRAE standard is outdated and no longer in use. The ANSI/ASHRAE 62-1989 standard is currently being revised as well.

The remaining changes in this subpart are grammatical or remove redundant language.

Subp. 4. **Bar**. Minnesota Statutes, section 144.415 specifies that a "bar" may be designated as a smoking area in its entirety. However, section 144.415 does not define a "bar." The MDH is not aware of a Minnesota state statutory or regulatory definition of a "bar." Many establishments in Minnesota have what is referred to as a restaurant and a bar in the same building. Sometimes they are separate areas and sometimes they are not.

Subpart 4 attempts to clarify within the definition of a bar, for purposes of these rules, the difference between a "restaurant" which may serve both food and liquor, and a "bar" which may serve both food and liquor. The MDH recognizes that many bars now serve food in conjunction with their liquor service. This practice has become widespread according to industry representatives because of liability and insurance issues related to serving alcohol without food to mitigate the effect of the alcohol. As a result, bars which have menu service or meals available are entering the realm of more traditional restaurant services. A selection of appetizer type foods can, in fact, serve as a meal to many people. Thus MDH is faced with the problem of distinguishing between a bar serving food with drinks, and a restaurant serving drinks with food.

Different options of defining a "meal" were considered. One option was to develop a list of foods that would be considered as "appetizers" on the presumption that appetizers were what bars routinely served and meals were what restaurants served. It quickly became clear that many appetizers (e.g., chicken wings, cheese and crackers, vegetable sticks, meatballs) constitute a meal for some people. Conversely, it is common for restaurant patrons to just order appetizers and drinks. It became difficult to differentiate between what is and is not appetizer type-food with respect to restaurants and bars.

The second option considered was to base the distinction between a bar and a restaurant on which activity is the primary source of revenue. This option is not proposed because of the difficulty and time consuming problems it presents from an enforcement perspective for state and local inspection personnel who already have approximately 45 different items which they must look at.

The department believes the most efficient and effective way to define what is a "bar" for purposes of these rules is to hinge the definition on two conditions: 1) licensure to serve food with a restaurant or limited food service license; and 2) size. This will be the easiest enforcement method.

The two categories of food service establishment licenses were selected because these are the types of facilities that typically have table seating and food service for patrons. Other types of food establishment licenses, such as itinerant food services, are for food services like hot dog stands.

The size limit of 50 people is referred to in Minnesota Statutes, section 340A.101, subdivision 25 defining a "restaurant" with respect to liquor licenses. The seating capacity of 50 is in existing subpart 4 and has, in the past, been a distinguishing factor for what constitutes a "bar." In addition, bars are generally construed as a service counter. The proposed amendments to subpart 4 were reviewed by the Minnesota Licensed Beverage Association and Minnesota Hotel, Resort and Restaurant Association, who raised no objections to the department.

Subp. 4a. **Environmental tobacco smoke.** This definition, as used in part 4620.0300, includes language recommended by rule advisory group members (Minnesota Department of Health 9/91). The United States Environmental Protection Agency defines "secondhand smoke" as "...secondhand smoke exhaled by smokers and sidestream smoke emitted from the burning end of cigarettes,

cigars, and pipes" (U.S. EPA, 6/89). The National Institute for Occupational Safety and Health defines secondhand smoke as "...tobacco smoke in the ambient atmosphere composed of sidestream smoke and exhaled mainstream smoke." The U. S. Department of Health and Human Services in the 1986 report of the Surgeon General defined secondhand smoke as "...the combination of smoke emitted from a burning tobacco product between puffs (sidestream smoke) and the smoke exhaled by the smoker." The definition proposed in subpart 4a is widely used and accepted. It was taken from the EPA fact sheet ANR-445.

Subp. 5. **Factory, warehouse or similar place of work.** The addition of "warehouse, or similar place of work" to the definition of "factory" is being proposed so the rule reflects language in Minnesota Statutes, section 144.414. The words "or store" are being added to reflect how warehouses are typically used.

Subp. 8. **Office.**
Subp. 9. **One side of the room.**
Subp. 10. **Other person in charge.**

The proposed changes in subparts 8, 9, and 10 are grammatical and move the parts into the active voice, making the rule parts consistent with other rule parts.

Subp. 11. **Place of work.** Grammatical changes have been proposed for subpart 11 along with a sentence listing examples clarifying what is a place of work. The examples listed clarify that these types of enclosed work places are covered by the rule parts. The proposed clarification historically has been the interpretation of this term by the department. The clarification was reviewed by advisory work group members and they concurred with the interpretation.

Subp. 11a. **Private enclosed office.** Minnesota Statutes, section 144.413, subdivision 2 specifically exempts a private, enclosed office from the smoking restrictions applicable to public places. A definition of "private enclosed office" is provided to distinguish between different types of offices. The Department believes the legislature intended that private enclosed offices which serve as a permanent work area for only one person be exempt from the smoking prohibition. The department has consistently interpreted the statute in this manner.

During the course of discussion with the rule advisory group, there was some agreement that to be considered a private enclosed office, the room must have floor to ceiling walls and a closeable door. The American Heritage Dictionary of the Houghton Mufflin Company (American Heritage, p. 451) defines "enclose" as "to surround on all sides; close in" or "to place within a container." As a verb, "close" connotes "shutting," "stopping up." As a phrasal verb it connotes surrounding with an isolating effect. As an adjective "closed" means "enclosed" which connotes "blocked or barred to passage or entry," "self contained." The American Heritage Dictionary (American Heritage, p. 986) defines "private" as "secluded from the sight, presence, or intrusion of others" and "of or confined to one person." Webster (Webster, pp. 1159-1160) defines "private" as "not common or general" and "away from public view; secluded." The legislature did give MDH authority to regulate private sector businesses. It did not give MDH authority to regulate smoking within private enclosed offices of an individual.

Subp. 12. **Private social function.** The word "recreational" is being repealed because it is redundant and already included in the meaning of "social." The word "hall" can mean a walkway within a building or an entire building, such as the local fireman's hall. The MDH has interpreted "hall" to mean "building." Repealing this word and using "building" instead clarifies interpretation of subpart 12 and reflects past and current practice. Other

changes to this subpart are grammatical.

Subp. 14. **Public conveyance.** The proposed language in subpart 14 clarifies that a public conveyance which serves as a place of work comes under the jurisdiction of Minnesota Statutes, section 144.413, subd. 2. Historically, the MDH has treated police squad cars, fire trucks, locomotive cabs, and any other vehicle used as a place of work as a public conveyance. This clarification reflects past and current interpretation.

Subp. 14a. **Public meeting.** The definition of "public meeting" incorporates the definition in Minnesota Statutes, section 144.413, subdivision 3 into rule. It is reasonable to use the statutory definition so the rule and statute are consistent.

Subp. 14b. **Public place.** The proposed rules are applicable to public places. The proposed definition incorporates, with further clarification, the definition in Minnesota Statutes, section 144.413, subdivision 2. The MDH has interpreted areas used for jury duty to be places of work and, therefore, covered by the rules. "Jury duty" is being added to this definition to clarify past and current interpretation. The sentence relating to private social functions and private enclosed offices is proposed to clarify that we do not regulate these activities, as specified in Minnesota Statutes, section 144.414.

Subp. 15. **Responsible person.** The language which is being deleted is redundant and unnecessary.

Subp. 16. **Restaurant.** The language proposed in this subpart clarifies that any food and beverage service which requires licensure under Minnesota Statutes, chapter 157 and part 4625.2401, subpart 15 constitutes a restaurant for purposes of these rules. Parts 4625.2401 to 4625.7801 were revised in 1989 and cover what may be conventionally thought of as a restaurant as well as other establishments that serve food. The proposed definition brings the term "restaurant" as used in the MCIAA up to date with revised food service standards. It also rids the department of the "what constitutes a meal" issue which would be impossible to uniformly administer as discussed above in part 4620.0100, subpart 4. The same people familiar with the food service licensing standard also enforce the MCIAA in restaurants.

Subp. 16a. **Retail store.** The rules do not currently have a definition for "retail store." Part 4620.1425 relating specifically to smoking in retail stores is being proposed so a definition also is being proposed. This definition was taken from the definition of a "mercantile occupancy" contained in section 4-1.7 and chapters 24 and 25 of the 1985 Life Safety Code. It was modified slightly for our purposes. No objections to this new definition were raised by the rule advisory group (MDH 9/91).

Subp 17. **Room.** This definition is being revised to clarify what is a "room" for purposes of the MCIAA and rules adopted thereunder. The definition of a "room" was discussed at length by the rule advisory group. There was general agreement that it is reasonable to define a room as having "floor to ceiling walls." Under existing rule language, a cubicle with walls that are 56 inches or more in height could be construed to be a private office. As a result, large open rooms with several cubicles may have several smoking-permitted areas dispersed throughout the room. Since the rules were last revised in 1980, modular furniture has become very popular. Without this change, each cubicle could be considered a private office. This situation has given rise to frequent complaints over the years because of drifting smoke. Clarification of this definition is also necessary to make the designation of nonsmoking and smoking-permitted areas, as prescribed in subsequent parts, clear and easy to implement.

4620.0300 SMOKING PROHIBITED AREAS.

Some of the proposed changes put this part into the active voice. This is consistent with the Revisor's rule drafting guidelines. The language "...shall be determined such that toxic effects of smoking are minimized..." is being altered to make it less subjective. What is "toxic" to one individual may not be to another. For some, any smoke at all may be toxic. Since the rules cannot require the total elimination of smoking, because Minnesota Statutes, section 144.415 says smoking-permitted areas may be designated by responsible persons, the language proposed reflects actual conditions. It proposes a measurable standard, which is compliance with adopted standards in rule.

4620.0400 SMOKING-PERMITTED AREA.

Subpart 1. **Smoking-permitted area in one room.** Minor changes to this subpart move the language into the active voice. The substantial change is the requirement that only one smoking-permitted area may be designated per 20,000 square feet for any room which measures more than 20,000 square feet. Under the existing subpart, any room that measures more than 20,000 square feet may have what would seem to be an unlimited number of smoking-permitted areas because the proprietor may designate "...more than one smoking-permitted area." The proposed language was suggested by members of the rule advisory group, who discussed the impact of this part on workplaces as well as public places such as convention halls (MDH 9/91). Since rooms measuring less than 20,000 square feet are allowed only one smoking-permitted area, it is reasonable to allow one smoking-permitted area per each 20,000 square feet in larger rooms. This provision is a reasonable compromise because it uses the existing standard and takes it one step further for larger rooms. It will allow larger facilities such as a convention hall to have more than one smoking-permitted area, yet it does not permit an unlimited number of smoking-permitted areas.

Subp. 2. **Smoking-permitted area in two or more rooms.** This subpart proposes that if an entire room is designated as smoking-permitted, a comparable room must be designated as nonsmoking. This is more restrictive than existing language which requires only a portion of a comparable room be designated as nonsmoking. Since 78% of Minnesota adults do not smoke (MDH, Behavioral), it is reasonable to require that more acceptable facilities for nonsmokers than is currently provided in this part be required to remedy a gross inequity.

Subp 3. **Acceptable nonsmoking area within a room.** Some of the changes in this subpart put the language into the active voice. On the advice of the rule advisory group, the language requiring responsible persons to make reasonable efforts to maintain the integrity of nonsmoking areas was added (MDH 9/91). The language reinforces the intent of Minnesota Statutes, section 144.416.

Subp. 4. **Size of the area.** The proposed changes to this subpart are grammatical and also put the rule into the active voice.

Subp. 5. **Private enclosed office.** The MDH recognizes that it cannot eliminate smoking in an individual's private office because of Minnesota Statutes, section 144.413, subdivision 2, even if it gives rise to complaints from people in adjacent nonsmoking areas. Only the proprietor of a public place or workplace may eliminate smoking in these areas. Over the years, smoking in private offices has lead to frequent complaints because the smoke spills out into adjacent areas.

The proposed language is a response to concerns raised by individuals to the MDH about smoke spillage. Ideally, a separate ventilation system would

alleviate the problem. However, Minnesota Statutes, section 144.415 prohibits the Department from requiring a separate ventilation system in private offices. MDH thinks it reasonable to require that the door to a private enclosed office remain closed while smoking takes place. The closure of a door reinforces and is consistent with the concept of a private "enclosed" office as discussed in part 4620.0100, subpart 11a. The proposed amendment to subpart 5 may help minimize smoke in adjacent areas.

4620.0500 SIGNS.

Subp. 1. **Posting.** Proposed changes to this subpart clarify where "No Smoking" and "Smoking Permitted" signs must be posted. It also becomes less restrictive because the subpart allows some latitude as far as the statement required on entrance signs. Many businesses choose to use messages such as "Please Help Keep Our Building Smoke Free." The proposed language allows the proprietor to select language for a sign as long as it conveys building policy on smoking. It also makes this subpart consistent with the requirements of part 4620.0500, subpart 2.

Subp. 2. **Statement on sign.** The majority of changes to this subpart are either grammatical or put the rule into the active voice. The only substantial change is the language which allows signs to be posted on or immediately inside of entrances to public places. This allows additional flexibility for proprietors when posting signs and trying to maintain building decor at the same time.

Subp. 3. **Placement of sign.** Most of the changes proposed for this subpart are grammatical. The language relating to lettering size is being repealed because it repeats the language provisions in part 4620.0500, subpart 4.

The proposed standard for signs to be read at 75 feet allows for a smaller sized sign and allows for situations where people will be closer to the sign. This addition gives responsible persons more flexibility and adds another option for compliance.

Subp. 4. **Size of lettering.** The proposed language addresses lettering for any sign used to identify a nonsmoking or smoking-permitted area. Size of lettering will now be consistent for all signs and more reasonable than requiring different size lettering for different sized signs. The repealed language addressing where signs should be posted is not appropriately placed in this part, which addresses lettering size. Lettering size was discussed by and agreed upon by the rule advisory group (MDH 1/92).

Subp. 5. **Posting in a bar.** The minor changes proposed to this subpart are grammatical or make the part consistent with requirements for other public places. The substantial change is the sign language requirement for bars where food service is available. The proposed change is reasonable because it requires facilities to have a sign which accurately reflects how the facility is designated. This language was discussed and agreed upon by the Minnesota, Hotel, Resort and Restaurant Association.

Subp. 6. **Posting in a restaurant.** The grammatical and editing changes proposed to this subpart do three things: 1) make the subpart gender neutral; 2) put the subpart provisions into the active voice; and, 3) clarify that the subpart applies only to restaurants. In addition, flexibility is given to operators on where the entrance signs must be posted by allowing them to be located either on or immediately inside of the entrances.

4620.0600 PERMISSIBLE ASH TRAYS.

The minor changes proposed to this part are grammatical. The revisions are

also consistent with revisions to other rule parts that relate to the statement on signs.

4620.0700 COMPLIANCE.

The proposed changes to this part clarify and specify the parts with which a responsible person must comply. It does not change the meaning or effect of the part.

4620.0750 EMPLOYEE LUNCHROOM OR LOUNGE.

This part specifies how employee lunchrooms or lounges must be designated with respect to smoking. Item A requires that nonsmoking areas which meet employee demand be provided. The department has interpreted the existing rules, part 4620.0400, subpart 2 to mean that when smoking is allowed, comparable nonsmoking areas must be provided. Thus, if an employer is going to provide amenities, such as refrigerators and microwaves, and there is only one of each, they must be located in the nonsmoking areas. This item more clearly specifies where amenities must be located.

Item B specifies how employee lunchrooms or lounges must be designated. It gives the employer flexibility to determine user preference by offering a choice of two options to determine employee demand. Subitem (2) specifies a method to determine demand that has been in effect since 1980 in part 4620.0400, subpart 4. This has posed no enforcement problems. As an alternate, the employer may designate 70% of the area as nonsmoking. The most current (1992) smoking rates for Minnesota indicate that 22% of the adult population smokes. Given this rate, the department determined that making 70% percent of the area as nonsmoking is reasonable.

Item C provides flexibility to employers by specifying a choice of one of three options for separating nonsmoking and smoking-permitted areas. These options for the separation of nonsmoking and smoking-permitted areas have been in rule since 1980 and are the same choices that public places such as a restaurant have for separating nonsmoking and smoking-permitted areas.

Item D provides another compliance option by allowing the designation of an entire room used as a lounge or lunchroom as smoking-permitted if another comparable room is designated as nonsmoking.

Item E provides another compliance option for employers that have only one breakroom but the break room is too small to divide into nonsmoking and smoking permitted areas. This option allows for the alternation of nonsmoking and smoking-permitted break times.

4620.0950 OFFICES BUILDINGS.

Regulating smoking in the workplace generated much discussion by the rule advisory group. Several points, especially the need for adequate ventilation, were raised by members about smoking in the workplace.

Because ventilation plays such an important role in minimizing or reducing smoke in a room or building, the group examined several issues on ventilation (MDH 11/91). It must be noted that Minnesota Statutes, section 144.415 limits what may be required in the way of alteration to ventilation systems.

Controlling air flow patterns (e.g. requiring that nonsmoking areas be located "upwind" of smoking-permitted areas) was one option considered and eventually eliminated. Three factors make it difficult to maintain and control the air flow pattern to ensure that nonsmoking areas remain "upwind."

First, modular furniture that includes barriers has become an increasingly

popular method of designing office space. Modular furniture may change how the air flows in a room. Most buildings do not have ventilation systems designed for use of these barriers.

Second, older buildings lack modern ventilation systems and the department is prohibited by Minnesota Statutes, section 144.415 from requiring that outdated systems be upgraded.

Third, occupant smoking preference may change over time, affecting layout and designation of nonsmoking and smoking-permitted areas.

Finally, as discussed above in the fiscal impact section, the design of a ventilation system does not always control how the system is actually operated and maintained. A system may be designed to function in one way, but because of the way it is operated, it actually functions in another.

It is important to note that rule advisory group members urged simple, easily understood approaches to regulating smoking. At a rule advisory group meeting when this issue was discussed extensively, there was agreement by members present (with the exception of the Tobacco Institute representative) that in offices and industrial workplaces smoking should be limited to separate, well ventilated rooms, private enclosed offices, and the smoking-permitted seating in establishments with a licensed food service (MDH 12/91). From a health protection standpoint this seemed to be a good policy. However, not all business operators can provide two employee lounges, one nonsmoking and one smoking-permitted. This proposed language relating to office buildings was drafted, in part, based upon the group's discussion. Some group members would have preferred a separately ventilated room. However, rather than require a business to provide a separately ventilated room for smoking the department believes it reasonable to provide business operators with the options listed in part 4620.0750 for employee lunchrooms or lounges. This allows more flexibility, especially for small businesses, and would not be as costly as putting in a separately ventilated lounge.

This part specifies that smoking will only be permitted in private offices and an employee lunchroom or lounge, as specified in part 4620.0750.

Several public opinion polls support restrictions of smoking in the workplace. A survey for the American Lung Association (1992) which was conducted by the Gallup Organization found "...increasing support for total bans or restrictions on smoking in public places such as restaurants, workplaces, hotels, buses and trains." The survey also found that "...an increasing number (30% in 1992 compared to 17% in 1983) prefer no smoking at all in the workplace, though the majority (64% in 1992 and in 1983) favor limiting where smoking is permitted." (American Lung Association)

The Star Tribune reported in 1991 the results of a Minnesota Poll on smoking. This poll indicated, "The declining popularity of smoking also is indicated by the fact that three out of five Minnesotans favor tightening the state law that limits smoking in restaurants, on the job, and in almost all indoor public places. (Star 1991)

In a Gallup Poll reported by the Star Tribune in 1990, "Twenty-five percent want a total ban on smoking in the workplace; 69 percent desire some restrictions; and 5 percent want no restrictions." (Star 1990)

This proposed standard is more restrictive for office buildings than existing rule. It does provide, however, compliance options for providing smoking-permitted space for employees. The department believes such a restriction is necessary and reasonable in light of the evidence concerning the health effects from ETS exposure, the fact that individuals spend a significant amount of time at the workplace, and that public opinion polls favor

strengthening smoking regulations.

The proposed provisions are reasonable because they do not require the expenditure of money by a business in order to provide a smoking-permitted area for employees.

The proposed language relating to office buildings was provided to the Minnesota Chamber of Commerce, the Employers Association Inc., and the United Steelworkers (who indicated to the department that they were seeking input on the rules from other organized labor groups). The department asked these groups to notify us if they had major problems with the proposed language; no response was received.

4620.0975 FACTORIES, WAREHOUSES OR SIMILAR PLACES OF WORK.

The MDH believes regulation of smoking in the workplaces affected by this rule part should be equitable by providing the same protection to all employees of industrial facilities as that afforded to all employees in an office building. ETS impacts both the health and comfort of nonsmoking individuals in all workplaces. Generally, work is a necessity for most individuals. It requires that a significant amount of time be spent at the worksite each day, unlike going to a restaurant to eat.

From a public health protection standpoint, the ideal solution would be to prohibit smoking in all workplaces. It is difficult to justify a lesser or greater level of protection for individuals depending on the type of facility in which the person is employed. However, the legislature did make a distinction between industrial workplaces and office buildings. Minnesota Statutes, section 144.414 restricts the regulation of smoking in industrial facilities to only those where, "...close proximity of workers or inadequacy of ventilation causes smoke pollution detrimental to the health and comfort of nonsmoking employees." This places a burden on the department to define these two conditions. There is currently no health-based ventilation rate nor is there scientific evidence which establishes a safe distance from smoking that will protect the health and comfort of nonsmokers. Some organizations have indicated there really is no safe distance or ventilation rate (U.S. Surgeon General 1986, National Institute).

The proposed language for factories warehouses and similar places of work was provided to the same organizations as rule language related to office buildings (see discussion above). No objections to the proposed language were made to the department related to this rule part by the representatives of those organizations.

Subpart 1. **Conditions.** Regulation of smoking in industrial workplaces, as is general enforcement of the act, will be complaint driven and frequently involves organized labor where it exists. A labor representative from the United Steelworkers served on our advisory group. In addition, he indicated to the department that he sought input on the rules from the United Auto Workers of America, the Machinists, the Minnesota AFL-CIO and the Communication Workers of America, who expressed an interest in helping to protect the health and safety of workers.

Item A establishes that work stations in rooms with outdoor air requirements for ventilation of not less than 15 cfm/person will have "adequate" ventilation. If this rate cannot be met, smoking will have to be restricted to those areas specified in subpart 2. As discussed above in part 4620.0100, subp. 2, item B(3), this is the ventilation standard for outside air currently specified in Minnesota Rules, part 5205.0110, subpart 1. This rate is required for all workrooms and is the best available option for determining "adequate ventilation" until such time as a health-based standard is adopted or the legislature amends the MCIAA to give the MDH authority to require

changes to ventilation systems.

The proposed ventilation rate in this part is reasonable because part 4620.0100, subp. 2, item B(3) defines a ventilation rate acceptable for separating nonsmoking and smoking-permitted areas. A rate in excess of that specified for separation should be adequate for the purpose of restricting smoking in industrial workplaces.

Item B attempts to define "close proximity of workers." The department must, to the best of its ability, make a determination of "close proximity detrimental to public health." A distance of zero to four feet will be considered "close proximity." This distance has been in current rule as a method of separation between nonsmoking and smoking-permitted areas since 1980. The department has used the distance of four feet for thirteen years.

This subpart requires that the ventilation rate be verified by individuals who are certified by one of two organizations, the National Environmental Balancing Bureau or the Associated Air Balance Council. MDH believes it is reasonable to require that individuals be trained to evaluate a ventilation system. These two organizations have a rigorous training and apprentice program that members must successfully complete. A person who works with ventilation systems must be trained to understand the system's design and proper operation.

Written documentation must show that the rate has been verified within the previous twelve months. There have been situations where the department has received numerous complaints about a business within a twelve month period. It would be unreasonable to require that the ventilation rate be verified each time MDH receives a complaint in cases where more than one complaint was received in a year, unless there have been changes affecting the operation of the system. Such changes could be alteration to the heating, ventilating and air conditioning system itself or the building. The department has determined that the ventilation rate must have been verified within the previous twelve month period. This frequency was also provided to the organizations who reviewed the workplace language. No objections were raised concerning this frequency.

Subpart 2. **Restriction.** Having established the conditions under which smoking may be regulated in industrial workplaces, a ventilation rate of less that 15 cfm/person and workers less than four feet apart, the restriction of smoking in regulated facilities is then described in this subpart. The same restrictions used in office buildings have been proposed for industrial workplaces. For the industrial facilities which we have authority to regulate, the department believes the employees in those workplaces should be afforded the same measure of protection as that afforded to employees in office buildings. If smoking cannot be prohibited and must be permitted in some area of an office building, then it is reasonable that smoking be permitted under the same circumstances in factories, warehouses and similar places of work.

4620.1000 RESTAURANTS.

The language in part 4620.1000 relating to bars is proposed for strike out because part 4620.1025 relating specifically to bars is being proposed. The reference to restaurants in factories, warehouses and similar places of work is being repealed because these facilities are no longer regulated by the Department of Labor and Industry (Laws of Minnesota, Chapter 654, Art. 2, 1984).

4620.1025 BARS.

This rule part is proposed to address smoking in bars when the bar also

functions for periods of time as a restaurant. As discussed earlier, food service that requires licensure makes the facility a restaurant as well as a bar. Recognizing that some facilities have food service available only during certain hours, the department proposes that the bar must have nonsmoking seating the same as restaurants with no bar when food is available. At all other times, a bar may be smoking-permitted in its entirety as intended by Minnesota Statutes, section 144.415.

4620.1200 HEALTH CARE FACILITIES.

Subp. 1. **Chemical dependency and mental health patients.** This language is being proposed because of 1987 and 1992 amendments to the MCIAA relating to smoking in health care facilities. The language is the same as that provided in Minnesota Statutes, section 144.414, subdivision 3, paragraph (b).

Subp. 2. **Smoking in a nursing home, boarding care facility.** This subpart clarifies what types of health care facilities are not covered by the prohibition provided in Minnesota Statutes, section 144.414, subdivision 3. Some of the changes are grammatical and put the rule into the active voice. The language relating to hospitals is being repealed because they are statutorily required to be entirely smoke-free. The language relating to common areas is being added to clarify that nonsmoking and smoking-permitted areas in the common areas of nursing homes and boarding care facilities be designated in the same manner as common areas of other public buildings.

4620.1400 COMMON AREAS.

Subpart 1. **General.** The changes proposed to this subpart clarify its applicability. The subpart indicates that the examples of common areas given are not all inclusive. It is unnecessary and impossible to list every possible example of a common area in this rule. The proposed language also includes lobby areas, which the department has always interpreted to be covered by this rule.

Subp. 2. **Elevators.** The department occasionally receives calls complaining about smoking in elevators. Most people assume that smoking is already prohibited in elevators. However, according to the state fire marshall, each municipality determines by ordinance if smoking will be permitted in elevators. The Uniform Fire Code does not specifically address smoking in elevators. Rather, each local fire chief has the authority to restrict smoking, through ordinance, in elevators if that person so desires. The majority of elevators are too small to be divided into nonsmoking and smoking-permitted areas. No objections to this rule requirement were raised by the rule advisory group (MDH 9/91).

4620.1425 RETAIL STORES.

The MDH has interpreted the existing rule part 4620.0400, subpart 2, to mean that smoking cannot be allowed in customer areas of retail establishments, unless a comparable nonsmoking area with the same goods and services is provided in a nonsmoking area. These areas are common use areas of a public space. The department's ongoing interpretation is consistent with common practice in retail establishments according the representative from the Minnesota Retail Merchants Association.

As noted in a release by Rouse Ridgedale Management, some retail establishments such as Ridgedale Shopping Center, have gone entirely smoke-free (Rouse). No concerns were raised about this proposed provision by the rule advisory group (MDH 9/91), which included a representative of the Minnesota Retail Merchants Association. The advisory group did request language clarifying whether smoking would be allowed in any restaurants located within a retail setting and the clarification is included in this

part.

EFFECTIVE DATE.

A delayed effective date for part 4620.0500, subpart 5 is proposed to allow establishments adequate time to obtain the proper signs.

Because the provisions in parts 4620.0950, 4620.0975 and 4620.1025 will be new to many employers and may be different for those employers and bar operators covered by the current rules, a delayed effective date is proposed. It will provide time for employees to adjust to different rules governing smoking at their workplace and for bar operators to designate their seating appropriately.

A delayed effective date was provided when smoking was prohibited in licensed day care centers, hospitals and other health care facilities. It is reasonable to allow time for establishments and employers to come into compliance with new regulatory provisions.

REPEALER.

Part 4620.0100, subpart 3 is being repealed because the term will not be used in revised parts 4620.0050 to 4620.1500.

Subpart 6 is being repealed because part 4620.1200 is the only part which addresses smoking in health care facilities. Since the term does not appear in any other part, it is not necessary to have a separate definition.

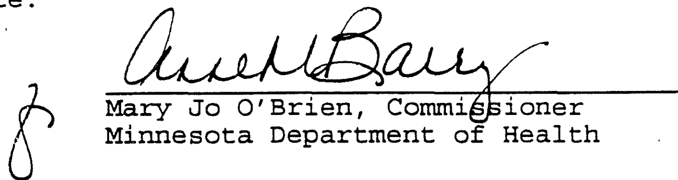
Subpart 7 is being repealed because the definition of a "meal" will no longer be necessary. The definition of "restaurant" will address this issue. To retain this subpart would be redundant.

Part 4620.0200 is being repealed because the scope and purpose was added in part 4620.0050.

Parts 4620.0800 and 0900 affecting places of work are being repealed and entirely new rule parts are being proposed for work places in parts 4620.0950 and 4620.0975.

Part 4620.1500 is being repealed. The department has provisions to vary these rules in parts 4717.7000 to 4717.7050. The recent classification of ETS as a human cancer causing agent is a basis for which the department would not grant a waiver from compliance with statute.

Date: March 24, 1994



Mary Jo O'Brien, Commissioner
Minnesota Department of Health

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Note: This material will be available for review at MDH or through the MDH Barr Reference Library.

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SF-00006-05 (4/86)

STATE OF MINNESOTA

Office Memorandum

DEPARTMENT : Health

DATE : April 28, 1994

TO : Legislative Commission to Review Administrative Rules
Room 55 State Office Building
100 Constitution Avenue, St. Paul, Minnesota

FROM : Jane A. Nelson, Rules Coordinator
Environmental Health Division
Minnesota Department of Health

PHONE : 627-5038

SUBJECT : Submission of Statement of Need and Reasonableness pursuant to Minnesota Statutes, sections 14.131 and 14.23

In accordance with the above matter, the Minnesota Department of Health is submitting to you the Statement of Need and Reasonableness on proposed rules relating to the Clean Indoor Air Act, Minnesota Rules, parts 4620.0050 to 4620.1500. These rules are scheduled for publication in the State Register May 2, 1994.

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Enclosure