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BEFORE THE
AVIATION SUBCOMMITTEE OF THE
COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION
HOUSE OF REPRESENTATIVES
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Mr. Chairman, members of the committee. I appreciate the opportunity to discuss with you the Department of Transportation's views on legislation to ban smoking on airline aircraft. The issue of exposure of airliner cabin occupants to tobacco smoke has been a point of great controversy with the traveling public. Our concern has been primarily in trying to answer the question of whether the levels of tobacco smoke found in the airliner cabin environment present an undue hazard to non-smoking passengers or non-smoking members of the cabin crew. I would like to briefly review the background on this issue, and the Department's proposal for handling it in a reasonable and effective manner.

The Civil Aeronautics Board (CAB) passed its first regulation restricting smoking on aircraft in 1973. Because of continuing public concern, the CAB, Federal Aviation Administration (FAA), and the Congress have each looked, over a period of years, at the question of whether tobacco smoke in the airliner cabin environment presents risks to its occupants. In addition, there has been a question as to the roles that microbial aerosols and the low relative humidity present in airliner cabins may also play in conjunction with smoking. We do not know with precision the answers to these questions.

Public Law 98-466, which was enacted in October, 1984, required that the Secretary of Transportation contract with the National Academy of Sciences (Academy) for an independent study on the health and safety aspects of the airliner cabin. The statute enumerated several areas of inquiry related not only to air quality but also cabin and aircraft safety, the cabin environment, and data collection.

The Academy created a Committee on Airliner Cabin Air Quality, which issued its report in August 1986. The findings of the report that relate to air quality fall into two categories: general issues concerning overall air quality within the cabin not related to smoking, and specific recommendations concerning smoking. With respect to the first, the Committee found that

- o the minimum rate of cabin ventilation available using current design specifications will provide acceptable air quality if it were assumed that there are no smoking or contaminants from other sources, even with a full passenger capacity;
- o the FAA carbon dioxide standard should be reviewed;
- o no remedial action to increase the relative humidity could be justified;

- o the FAA should carry out a program to ensure that cabin ozone concentrations comply with the standards they established in 1985; and
- o the health hazard due to microbial aerosols needed more study.

With regard to smoking per se, the Committee recommended that smoking be banned on all commercial domestic flights. They gave four major reasons:

- o to lessen irritation and discomfort to passengers and crew;
- o to reduce potential health hazards to cabin crew associated with tobacco smoke in the cabin environment;
- o to eliminate the possibility of fires caused by cigarettes, and
- o to bring cabin air quality into line with established standards for other closed environments.

The Committee went on to say, however, that "Empirical evidence is lacking in quality and quantity for a scientific evaluation of the quality of airliner cabin air or of the probable health effects of short or long exposure to it."

In February 1987, the Department of Transportation submitted its report to Congress in which it commented on the Committee findings and made its own recommendations. It accepted in full or in part most of the recommendations of the Committee. With regard to the recommendation on smoking, the Department agreed with the Committee finding that empirical evidence with respect to health effects is lacking, and stated that it believed that further study is needed before proposing a definitive response on that subject.

The Department fully recognizes that exposure to environmental tobacco smoke is a matter of serious concern to passengers and crew. Testimony presented to Congress, Federal agencies, and the National Academy of Sciences; the provisions being proposed in our FY 1988 Appropriations Act; and the letters and petitions to the Department attest to this concern. Since the issuance of the Academy's report, the Department has received over 2,100 comments and, in addition, a petition presenting the views of an additional 6,100 persons on this issue.

In accordance with the responsibilities placed on us by Congress, our primary interest is in ensuring the overall safety and health of passengers and crew. With respect to safety, we believe that the banning would reduce the risk of or damage from fire caused by cigarette smoking only marginally compared to other recent requirements imposed by the Department, such as the use of fire-blocking materials on seat cushions, smoke detectors in

lavatories, automatic fire extinguishers in lavatory trash receptacles, more and better hand-held fire extinguishers, fire-fighting training and protective breathing equipment for crewmembers, and more fire-resistant interior materials.

With respect to passenger and crew health, at this time the actual levels of contaminants due to smoking in airliner cabins are almost entirely unknown. The Academy noted that, "Aircraft air quality has not been the subject of systematic investigation by independent researchers." In addition, while information on the effects of exposure to environmental smoke is now sufficient to infer its hazard to health under some circumstances, it has never been linked to the contaminant levels that may prevail in the cabins.

It should also be noted that the cabin environment is determined in part by the settings of the aircraft's environmental control system. For the majority of aircraft in commercial service, i.e., those with pressurized cabins, the free exchange between cabin air and the atmosphere is not possible. And for the newer generation aircraft, cabin air includes a significant component of re-circulated air. Hence, it is essential that we collect data on the actual contaminant levels in airliner cabins during actual operations.

In view of the widespread interest and concern over this issue, and because we are fully mindful of our responsibilities for the health and safety of cabin occupants, the Department has requested that it be given the time and the necessary funding to do a study on these issues, using funds already appropriated. Such a study should comprise three elements. First, the contaminants created by smoking which have significant health effects must be identified and their levels sampled in the airline cabin environment. The sample size must be sufficient to draw statistically valid inferences on the distribution and concentrations of smoke constituents for airliner cabins in general service--covering different types of aircraft, the duration of flight, the type of service, the number of smokers on board, and the status of the environmental control system. We feel that, with the advances in technology over the past five years, such measurement is well within the state of the art, using equipment that is portable and unobtrusive. This equipment should be able to collect the large volume of data necessary for accurate estimations of contaminant levels. Depending on the cost, the distribution and concentrations of microbial aerosols might also be measured, in accordance with another recommendation of the Academy.

Once the contaminant levels are known, the next step would be to derive the health risk to the health of non-smoking passengers and crew members from exposure to those levels. This would be done using standard risk assessment methods, with health effects in this case defined to include both acute and chronic effects.

If it is determined that contaminant levels pose health risks, options for mitigating exposure can be analyzed. As alternatives to a possible total ban on smoking, other options can also be envisioned, such as operational or technical modifications to aircraft ventilation systems, or not allowing smoking for shorter intervals--perhaps one or two hours. For a mitigation option to be considered viable, we would have to have evidence from the study that it would reduce the health risk to acceptable levels. With such information, the Department could be assured that any rulemaking then initiated would be based on hard data and the known effectiveness of various mitigation strategies.

Since the Academy report and our comments on it were forwarded to Congress, the Department has been considering its course of action, and formulating a study such as just outlined. We feel that it would be most desirable to utilize specialists in measuring indoor environmental contaminant levels. These specialists would be brought in to execute the study under contract after a competitive procurement. Based upon the response to a presolicitation notice we issued in June, we are confident that the expertise and interest exist to address our requirements and to ensure a scientifically sound study.

To further assure completeness and objectivity, it would seem that such a contractor should be under the guidance of a team of experts in this field. The Department has held a number of meetings with such experts since May, and we are convinced that if

they are used to assure that the sampling plan is statistically valid, and if they oversee the methodology for linking the contaminant levels to health effects, the results of the study will be scientifically sound.

Such a study can be completed in about 14 months, once the contract is underway. Further, the study can be paid for with existing Departmental funds, if some reprogramming is permitted. On September 28, then Secretary Dole sent a letter to the Appropriations Committees, requesting such a reprogramming of funds to conduct a study of the nature that I have described. We are now awaiting approval of that request.

If the study shows that the airline cabin environment poses a significant health risk to non-smoking passengers and crew and that it is not feasible to mitigate this problem through engineering or operational solutions, then we would expect to issue a notice of proposed rulemaking that calls for a full or partial smoking ban.

In the last few years, societal attitudes toward smoking have changed dramatically. Many states and municipalities have adopted laws and ordinances to protect non-smokers from environmental tobacco smoke. Recently, as you know, California passed legislation banning smoking on airline flights, buses, and trains traveling with that state. It appears that a smoke-free public indoor environment is becoming an accepted norm, at least under

certain circumstances. Also, the level of smoking in the national population has been dropping dramatically. According to the Centers for Disease Control, the percentage of adult smokers in the United States dropped from 30.4 percent to 26.5 percent between 1985 and 1986.

Some airlines have responded to this trend. Air Canada recently indicated that its experiment of banning smoking on certain flights was supported by 96 percent of its passengers. Accordingly, they plan to extend the ban to other routes. Their primary competitor now bans smoking on some flights. Airlines in the Soviet Union, Sweden, Saudia Arabia, Hungary, and South Africa are reported to have banned smoking on many flights.

Our carriers, of course, are also free to impose such measures on their own, depending on how they interpret the market forces for and against allowing smoking on board. There are no prohibitions against U.S. carriers placing restrictions on passenger smoking on their own.

In summary, Mr. Chairman, the Department feels that this is a major issue in interstate commerce relating to passenger health and comfort, as well as to the long term health effects on the crew. While we do not question that future regulatory action may be warranted concerning smoking aboard airliners, we cannot do this reasonably without being supported by more factual information. We believe that Congressional action should also

await such information. We have identified funds within existing appropriations which would allow us to conduct an appropriate study, and have requested the reprogramming of these funds.

Thank you for this opportunity to represent the Department's views, and I would be pleased to answer any questions you may have.