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U. S. DEPARTMENT OF TRANSPORTATION  
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WASHINGTON, D. C. 20590

STATEMENT OF JOHN A. VOLPE, SECRETARY, DEPARTMENT OF TRANSPORTATION, BEFORE THE SENATE COMMITTEE ON COMMERCE, AND THE SUBCOMMITTEE ON AIR AND WATER POLLUTION, SENATE COMMITTEE ON PUBLIC WORKS, REGARDING JET AIRCRAFT ENGINE EMISSIONS, WEDNESDAY, FEBRUARY 4, 1970.

Mr. Chairman and members of the Committee:

I appreciate this opportunity to appear before you today to discuss jet aircraft engine emissions.

The air pollution problem this Nation faces today is most grave. Man's pollution of his air is now a problem that does more than irritate and shame each one of us. If it continues unabated, it could jeopardize our very existence. Because of this, we must strive to ensure that we quickly identify the causes of air pollution; that we focus this country's great resources on finding the means to combat these causes; and, that we promptly implement the solutions we find to reduce and soon eliminate this blight.

We all recognize that the automobile engine is the largest single contributor to air pollution in this country. Jet aircraft engine emissions include the same pollutants emitted by automobile engines, and thus, contribute to the same overall air pollution problem. When compared to other air pollution sources like the automobile, we know that the contribution of jet aircraft engine emissions to the overall air pollution problem is small. However, when airport traffic increases, air pollution levels rise markedly in the airport environs, both due to emissions from aircraft and from the automobiles which crowd into the terminal areas.

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Also, jet engine particulate emissions (seen as smoke) and odors draw considerable public attention and objection. As a result, while jet aircraft engine emissions are a relatively minor source of air pollution when viewed on a national average, those emissions are a contributor, they are a significant factor at airports and in areas near airports, and they are particularly objectionable to the public.

With your permission, we would like to present a demonstration of some of the improvements being made in the abatement of aircraft emissions. We have a film clip that runs less than 6 minutes which compares engine smoke emissions from a Boeing 727-100 aircraft with and without the modified burner cans.

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The exhibit which has been distributed among you shows emissions from the Boeing 747 in the top frame, from the Boeing 707 in the middle frame, and from the Boeing 727 in the bottom frame.

We understand that after this month, no more of the engines which produce the smoke noticeable in the picture of the Boeing 727 will be delivered by the engine manufacturer. The new engine with low smoke emission will be the only model supplied.

Early last year, HEW completed its report to Congress respecting the nature and control of aircraft engine exhaust emissions. That report concluded that the reductions of particulate emissions from jet aircraft was both desirable and feasible. It also indicated the prospects were good

for the voluntary application of available technology by the industry to reduce particulate emissions. Our activities since that report was published have been consistent with these conclusions. We have worked closely with the engine manufacturers and the carriers to expedite the testing and certification of the burner cans. When confident that an expedited schedule was feasible, Secretary Finch and I met with the representatives of 31 air carriers and arrived at the current agreement. These carriers operate 2900 of the 3000 engines which require retrofiting.

Under the agreement, the air carriers will submit, within 90 days, their schedules for installing smoke reduction devices on certain jet aircraft. This voluntary effort will involve modification of an estimated 3000 Pratt & Whitney JT8D engines, mostly on Boeing 727, Boeing 737 and McDonnell Douglas DC-9 short-haul aircraft. The devices being installed are improved combustion chambers in which the fuel is burned (called combustors). We are advised that Pratt & Whitney is manufacturing these combustors at the rate of about 50 sets (nine combustors to a set) each month. That rate is expected to reach 200 sets each month by January 1, 1971.

Implementation of the agreement should yield noticeable improvements within the next few months, and should be substantially completed by late 1972. The air carriers will normally install the devices when the engines are "down" for routine overhaul, usually after about 5000 flying hours for each engine on the average. In some cases, however, carriers may have to make the modification before the routine overhaul time in order to meet

the 1972 deadline. We will, of course, follow closely the progress of this voluntary program to assure that the targets are met.

While we applaud the airline industry's voluntary program and the efforts of the engine manufacturers which have made this program possible, we also recognize that more must be done to assess and eliminate other engine emissions. At this point, the technology is not available to set standards for jet engine emissions other than smoke. Therefore, our current need is to proceed with research and development efforts aimed at identifying additional measures to control these emissions. These efforts will be undertaken by HEW, DOT, and NASA as they have been in the past.

Mr. Chairman, that concludes my prepared statement. The Administrator and I will be pleased to answer questions that you may have.