

(The following letter and attachments were received by the committee:)

DEPARTMENT OF TRANSPORTATION,
FEDERAL AVIATION ADMINISTRATION,
Washington, D.C., December 8, 1967.

HON. WILLIAM R. SPRINGER,
House of Representatives, Washington, D.C.

DEAR MR. SPRINGER: During the Hearings before the Committee on Interstate and Foreign Commerce on December 5, 1967, you expressed concern regarding the contractual provisions for the SST program as they relate to sonic boom and aircraft noise. My purpose is to explain those contractual requirements.

It is convenient to treat "aircraft noise" separately from "sonic boom." "Aircraft noise" is the noise generated by jet engines and occurs in the general vicinity of the airport during ground operations and when the aircraft is taking off or landing or flying relatively low over the community. On the other hand, the "sonic boom" occurs when the aircraft is at supersonic speeds. This is at distances of about 100 miles away from the airport after takeoff and prior to landing. For the remainder of this letter I will discuss noise and sonic boom separately.

We know a great deal about human tolerability to aircraft noise as the result of the operations in our major airports, such as O'Hare in Chicago, Kennedy and La Guardia in New York, and Los Angeles International. We have techniques for measuring noise which we are able to correlate with public reaction and predict probable public response to various levels of noise intensity. Thus, general acceptability levels have been established. We are able to incorporate accurately defined limiting noise levels in contractual language. Furthermore, there has been a considerable amount of research accomplished that promises further diminishment of aircraft engine noise. Our objective, of course, is to be certain that this knowledge is incorporated in the U.S. supersonic transport. Thus, we have a sound foundation for prescribing definitive limits for noise, and we have done so. Attachment A lists the criteria that is contained in the Phase III contract.

In the case of sonic boom there is an entirely different state of affairs. We do not have a proven measure of human tolerability as related to sonic boom intensity. In the past we have included in the SST contracts objectives for limitation of sonic boom overpressures. However, since we are unable to establish tolerability levels, these were arbitrary. Even if we achieve such arbitrarily defined limits it would not assure that the aircraft would have sonic boom characteristics that would permit supersonic operations over populated areas. Lacking such criteria we have made all our program and design decisions on the assumption that the SST may be restricted from supersonic operations over populated areas.

The sonic boom characteristics of a specific airplane design can be predicted with a considerable degree of precision. The sonic boom characteristics of the competitive SST models were evaluated by NASA last fall. The results were a factor in the SST source decision. The Boeing design had the more favorable characteristics. The present SST design incorporates all the knowhow that presently exists to assure that it has the most favorable sonic boom characteristics possible for an airplane of its size and weight. The impact, if any, on the sonic boom characteristics is a decision factor in all decision changes.

Thus, we are confident that we know the sonic boom characteristics of the SST design. Since we do not know what levels of sonic boom intensity may be tolerable and all present knowledge has been incorporated, inclusion of a more restrictive criteria for sonic boom in the contract, than the aircraft is presently predicted to have would not, in our opinion, serve a useful purpose. Such limits might, however, be interpreted to imply acceptability and possibly permission to operate over populated areas if the specified levels were achieved. The contract does require a best effort on the part of the manufacturer to reduce the sonic boom intensities. I have enclosed a copy of the specific contract language relating to sonic boom as Attachment B.

As you know the Government has a large research and test program on sonic boom which began several years ago. This program is aimed in two general directions—one, to determine what intensities of sonic boom would be acceptable for