

operations are directed at a broad range of disturbances other than noise. This is why reduction of noise alone is only a part of the "problem", and why—ultimately—only those measures which control and limit *land-use* near airports can afford a solution to the problem of complaints against airport operations.

Apart from these conceptual shortcomings of certification as a device for noise abatement, there is a built-in limitation on the degree of noise reduction which could be attained. This limitation arises from the nature of our nationwide air transport system, under which a given type of aircraft must be designed for flying into *all* of the airports in the system. Transport aircraft cannot be produced in different models for different airports. They must be standardized at an optimum design for all airports. This means that any certification noise-limit for a given type of future transport aircraft would have to be fixed at a *single specific level* of noise output, expressed in some measurable and widely-accepted unit.

From the viewpoint of safety alone, moreover, that criterion must be made standard on a national basis, to preclude varying and conflicting local regulations. To the maximum extent feasible, those criteria and procedures should be uniform for all airports.

In determining what single noise value to prescribe for a new aircraft type, the Administrator (Secretary) would have to select an *optimum* noise-level—one which would be acceptable to airport neighbors at *most* airports, or the "average" airport. He could not adopt as the single such noise-value one calculated to satisfy the complaints at the most *noise-sensitive* airports. To require all aircraft of a given type to be designed solely to satisfy a few noise-critical localities would be to put the cart before the horse. In short, freezing the entire design and production of a new aircraft type on the basis of the most noise-sensitive airports, would be to impose inequitable and unjustified penalties on the total air transport system.

Yet, it is the noise-sensitive airports—comparatively few in number—which constitute the nub of the aircraft "noise problem" in the United States. Since an *optimum* noise level would not satisfy the specific noise complaints at the noise-sensitive airports, it is apparent that—in a very fundamental sense—"the noise problem" would not be resolved through mere certification for noise. This limitation is inherent in the problem.

At the same time, the adoption of even an optimum noise limit in the design of an entire family of aircraft would impose operating and economic penalties on each such aircraft *at every airport* in the total air transport system—regardless of whether there is a serious noise problem at a particular airport. Normally, this would be a wasteful approach to noise abatement, since most airports do not have a serious noise problem.

Moreover, the penalties imposed on the aircraft by such design limitations might ultimately be reflected in degraded air transport service or higher costs of air transportation to the public, or both. The question then becomes one whether noise certification is justifiable if it penalizes the entire air transport system while still not satisfying *the communities with the more serious noise problem*. This is a very difficult question of regulatory policy.

Added to this difficulty is the fact that U.S.-manufactured aircraft are not designed for the United States market alone. They are sold world-wide for air transport operations into more than 100 countries. Just as it is impractical to produce one version of a transport aircraft type for operation into noise-sensitive U.S. communities and a different version for nonsensitive communities, it is not feasible to produce one version of an aircraft for U.S. operations and a different one for operations into other countries.

In these circumstances, for the United States to freeze the design of U.S.-made aircraft in the interest of noise reduction would either ignore the sovereign prerogative of foreign governments to regulate, or risk the loss of U.S. markets abroad for both our aircraft manufacturers and our air transport services. How would it avail our long-term U.S. aviation objectives to fix a design noise-limit of 120-decibels for a future American aircraft, if foreign governments were to impose a legal operating limit on the aircraft of only 100-decibels? The U.S. aircraft in such case could not be operated by U.S.-flag airlines into those countries, nor would a U.S. aircraft built to such specifications be purchased from the U.S. manufacturer by foreign airlines operating into those countries.

Finally, certification authority is essentially a tool for *future application*. Its benefits, such as they are, would not be expected to be felt for a relatively long