The efforts of the industry in this regard have been spread over a great many fronts.

Mr. FRIEDEL. Pardon me. Was it your statement the procedures they are experimenting with now are on takeoff?

Mr. STEPHEN. This is a takeoff procedure; yes, sir. Within a year after the introduction of jets the aviation community, made up of the manufacturers, the airlines, the pilots, and the airport operators, had formed an organization known as the National Aircraft Noise Abatement Council. That organization is a voluntary organization which takes in all of the manufacturers, some 15,000 licensed pilots, the 36 scheduled airlines of the United States, and the airports making up the Airport Operators Council International. They are the members who contribute to the activity of that organization.

NANAC has been responsible for performing extensive research on aircraft noise, particularly aircraft noise at the source, the development of flight procedures for noise reduction, and improvements in the ground environment. It was a pioneer in bringing about volunteer and cooperative noise abatement programs throughout the United States, programs participated in by FAA, pilots, airlines, and airport operators alike.

In wide use at the airports today are refined takeoff procedures developed by NANAC to produce the smallest amount of noise compatible with safety requirements and to confine that noise to the smallest possible area adjacent to the airport.

Among the many contributions of NANAC is the development of an operations research model to give a system solution to the total aircraft-airport environment. This output will be an optimum combination of aircraft modifications, flight procedures, and compatible land-use measures to produce the maximum noise abatement for the expenditures made.

A $200,000 contract for the performance of phase I of this systems project has just been let by AIA on behalf of the manufacturers and ATA on behalf of the U.S. airlines. Phase I is expected to be completed within 6 to 8 months and if successful will then be carried out in phase II of the project at a further cost of approximately a million dollars.

I think it is evident that even in the substantial absence of any legal regulation by Federal or local government, the aviation community in the United States has exercised responsible initiative and has made substantial gains in alleviating aircraft noise.

The aircraft noise problem in its present posture is essentially connected with the advent of jets in late 1958.

Mr. Burnard's statement I think will point that out. You had some noise problems with piston aircraft, but not of as great consequence. However, it is significant that, since 1958 when the initial jets were introduced, each successive jet aircraft which has been introduced has been a little quieter on takeoff than the jets before it, and generally this is expected to continue.

Even the SST, as I am sure this committee is aware, has specifications in the contract which would call for it to be quieter than present jet aircraft.

The airlines in particular, at substantial cost, have devoted their energies to this objective. As noted in the Harris report of the parent