

is too long; I can even abbreviate that further, but I would prefer to read it into the record.

Mr. DADDARIO. I think a 12-page précis is all right.

Mr. STERN. Thank you.

I am pleased to have this opportunity to appear before you and to review the adequacy of present technology for controlling the problem of air pollution in this country.

Air pollution, as recently as the early 1940's, was perceived as a relatively simple problem having to do with the emission of black smoke and cinders, and confined to a relatively few eastern and mid-western industrial cities. The technology for controlling this kind of air pollution consisted of improvements in combustion practices, restrictions on the kinds of fuel used, and in some cases, devices to control cinder emissions. When smoke became so intense in some cities as to bring on a public clamor for relief, this technology was applied and, with considerable help from the fortuitous change from steam to diesel powered locomotives and the substitution of gas and oil for coal in space heating, the atmospheres of these cities visibly improved.

Today, Mr. Chairman, as you are well aware, the air pollution problem is known to be much more complex than this, and its effects are infinitely more serious than was once suspected. Moreover, these effects are felt daily in every region of the country.

As Under Secretary Cohen has pointed out, there are many cogent reasons why we must control air pollution. But by far the most compelling reason, the principal reason why the American public and its representatives have demanded that we restore the atmosphere, is that air pollution contributes to illness and death.

Just as our perception of the nature of the air pollution problem has changed drastically in the past few decades, so has the problem changed, and so has our ability to deal with it changed. In 1955 when the Federal air pollution program was initiated, there was little exact knowledge of the kinds and quantities of pollutants in the air, or of the mechanisms by which they accumulate or are dispersed. The national air sampling network and the continuous air monitoring program, both operated by this Department have since gathered extensive data on the amounts and chemical composition of particulates in the air, and the concentrations of such gaseous pollutants as nitrogen dioxide, nitric oxide, carbon monoxide, oxidants, total hydrocarbons, and sulfur dioxide. Advances in meteorology have enabled us to gage the atmosphere's total mixing or absorptive capacity over a particular geographic region, and thus to estimate the degree of air pollution control needed for a given area.

The technological means of controlling the sources of air pollution have also been rapidly developed in the past several years. Particulate pollutants can be removed by devices which employ principles of filtration, electrostatic precipitation, or centrifugal force. Gaseous pollutants can be taken out through liquid scrubbing, vapor recovery, combustion, and solid adsorption. Open burning, once widely employed to dispose of a city's trash and to get rid of leaves, upholstery in scrapped automobiles, battery cases, tires, and so forth, can and has been in some cases replaced by processes which do not pollute the