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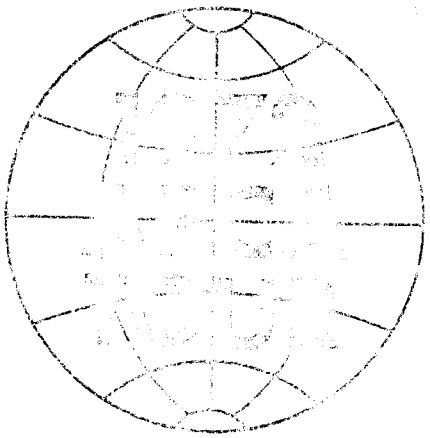


In June 1971, the S-10 International Affairs Committee of the Air Pollution Control Association planned a four-country air pollution tour for APCA members. The tour was completed during October 2–19, 1972 with visits to Great Britain, France, Germany and The Netherlands. Summary reports by four of the tour participants appear on the following pages.

"Where We Are?" — International Air Pollution

Dr. Henry C. Wohlers Drexel U.

The initial phrase of the title, "Where We Are?," was an expression used by an Argentinean member of the tour when the group was physically lost while driving from one location to another. The words were soon affectionately adopted to express any uncertainty during the trip. The question, "Where we are?," regarding international air pollution control cannot be answered in this report, but the report will cover an account of what was learned during the visits.

The cooperation of the technical organizations in each of the countries visited was beyond our expectations. In England we were royally treated by Rear Admiral P. G. Sharp, Director of the National Society for Clean Air and Mr. A. J. Clarke of the Central Electricity Generating Board. In France, Mr. J. R. Delandre, Director of the Association pour la Prevention de la Pollution Atmosperique and Professor Paul Chovin, Director of the Laboratoire Central de la Prefecture de Police were most hospitable and helpful. In Germany Dipl. Ing. N. Endell, Secretary General of the International Union of Air Pollution Prevention Association (IUAPPA) and Dr. Meyer and other members of The Bayer operations in Leverkusen were very cordial and instructive. In the Netherlands Ir. L. J. Brasser, Secretary and Dr. L. A. Clarenburg, President of the Stichting Internationaal Contactorgaan Milieubescherming (SICOM) provided an excellent conclusion to our trip. In addition to the people and organizations mentioned above, there were many more to whom we owe a debt of gratitude.

Purpose of the Tour

The purpose of the visits was to provide the tour members with on-the-scene observations of technical, political, social, and cultural aspects of international air pollution control. The short duration of the sojourn in each country precluded the creation of experts; however, face-to-face discussions with members of other nations would help cement friendships and promote understanding of national and global environmental problems. This objective was [illegible] in each country we were able to delve into both the philosophy and [illegible] aspects of air pollution control.

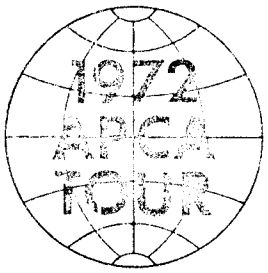
The Stockholm Conference of June 1972 clearly demonstrated the need for international cooperation in air pollution and other environmental matters. And while APCA has been diligent in stimulating world-wide interest in air pollution through its activities in IUAPPA (a Third International Clean Air Congress will take place in October 1973 at Düsseldorf), other organizations are making an even greater effort in this area. Thus an ancillary purpose of the completed tour was to express the determination of APCA to use its membership and organizational talents toward the solution of global air pollution and related environmental problems.

In addition to the technical aspects of the program, time was allotted for members to observe social and cultural activities of the people. In traveling in and out of the cities, we were able to observe traffic densities, stack emissions, and area-wide atmospheric visibility.

In summation, we were able to obtain a first-hand glimpse of the air pollution potential in each of the countries visited. With the cooperation of the individuals contacted, it will also be possible to pursue in greater depth any phase of particular interest to the tour members.

TOUR REPORTS FOLLOW:

OTHER INTERNATIONAL NEWS AND COMMENT:



Great Britain

Dr. Robert N. Meroney
Academic Visitor, Department of Aeronautics
Imperial College of Science and Technology, London

The United Kingdom of Great Britain and Northern Ireland comprise part of the land known as the British Isles. These islands which lie off the northwest coast of Europe support a comparatively crowded population of about 56 million on a highly industrialized economy based on extensive and varied mineral resources. Energy reserves depend on coal, imported oil, and large reserves of natural gas recently found in coastal waters. Much of British industry is concerned with metal conversion—steel and aluminum rolling, leading to shipbuilding, car manufacturing, etc.

Historically, Great Britain's early industrialization has accentuated the development of air pollution as a major problem. In particular, London, the capital and commercial center, being highly populated (8 m) and in a location where winter-time fogs are common has been notorious for its air pollution incidents. The London SO_2-smog disaster of 1952 resulted in a death toll of 4000, and focused legislative attention upon air pollution. Although Great Britain had given various attentions to the air one breathes since 1273 when sea coal was prohibited in London as being "prejudicial to health," the actions arising out of the London disaster might be considered the turning point in modern attitudes on the subject even world wide. Great Britain has made a real and successful effort to combat air pollution; hence other countries such as ours are interested and anxious to learn how she has done this and whether progressive policies continue to be advanced.

Political Features and Present Controls

What then is the legislative base for the control policies in Great Britain? British common law encourages good neighborliness on all citizens; unfortunately for the average citizen it is extremely difficult to prove damage by air polluting activities. Modern control of atmospheric pollutants dates from two basic sets of legislation.

The first requires that scheduled industrial processes producing "noxious or offensive gases" from some 59 different classes of works must be registered under the Alkali & c. Works Regulations Act of 1906. Further amplified in 1966 and again in 1971, these regulations require that:

1. Scheduled Processes must be registered annually; these include such various areas as sulfuric acid, chlorine, arsenic, zinc, fluorine, aluminum, copper, electricity, ceramic, etc. production or utilization;
2. as a prior condition to first registration, the Scheduled Process must be equipped with the 'best practicable means' for preventing the escape of noxious or offensive gases and or rendering such gases harmless or inoffensive;
3. the 'best practicable means' must thereafter be maintained in good and efficient working order and must be operated continuously;
4. in the case of certain processes, upper limits are specified for the concentration of total acidity in effluent gases which may be discharged to the atmosphere.

An Alkali Inspectorate, presently within the Department of Environment, has been established to administer the Act. The inspectors are a staff of about 30 responsible for about 90 factories each. These men are chosen for their technical competence and must have a minimum of 5 years industrial experience. The staff of the Alkali Inspectorate decide in the light of advancing technology what the "best practicable means" for any process is. In general there is close cooperation between regulating authority and industry. Each case is considered on its merits; emission limits are fixed on the basis of local conditions, rather than forced to conform to some nationwide norm. In addition the courts have long held that demands by authorities for "practicable" controls means that they must be not only technically possible but also economically feasible for a given firm or industry. The firm need not install equipment costing so much that it would have to go out of business. The inspectorate depends to a large extent on good will and the social consciousness of industry to obtain cooperation. The inspector however does have right of access to all plants at any time. The inspector himself does not have funds for major equipment or staff but he may ask for any given test or require the company to install monitoring equipment, either on the chimney or at ground level some distance away. This equipment is the private property of the firm, as is any data which it produces. The polluter is on his honor not to cause pollution, and he supplies the information on which the inspectorate judges performance. As in most countries, recorded infractions of industrial levels are rare and prosecutions are even rarer (of the Alkali Act there were 25 recorded infractions and 2 prosections in 1970).

Emissions from processes or plants not covered by the Alkali Acts, and emissions from domestic and commercial furnaces are controlled by the second set of legislation, the Clean Air Acts of 1956 and 1968. These acts essentially:

1. set smoke emission limits for both domestic and industrial fuel usage;
2. limit grit and dust emissions from all non-domestic sized furnaces;
3. give powers to Local Authorities to require adequately high chimneys for furnaces in all new buildings;
4. give powers to Local Authorities to set up Smoke Control areas subject to approval of the Ministry of Housing and Local Government.

The decision to become a smokeless zone or the application of the provisions of the Clean Air Acts is largely the responsibility of Local Authorities. If they feel there is no local problem they need not take action. As of 31st December 1970 there were 976,221 acres of land covered by smoke control orders confirmed or awaiting decision encompassing 5,540,487 dwellings. Some 30,000 industrial works are also controlled by the local authorities. As a result of the great improvement in the environment in the last ten years due to these orders the average citizen appears convinced that it is a good idea. Indeed recent smoke areas have found fifty percent or more of the population in voluntary compliance even before a survey is made. For domestic premises the local home-owners may obtain a grant to cover conversion to smokeless heat and ap-

pliances. The cost of conversion is normally borne by owner or occupier 30 percent, local authority 30 percent, and Exchequer 40 percent.

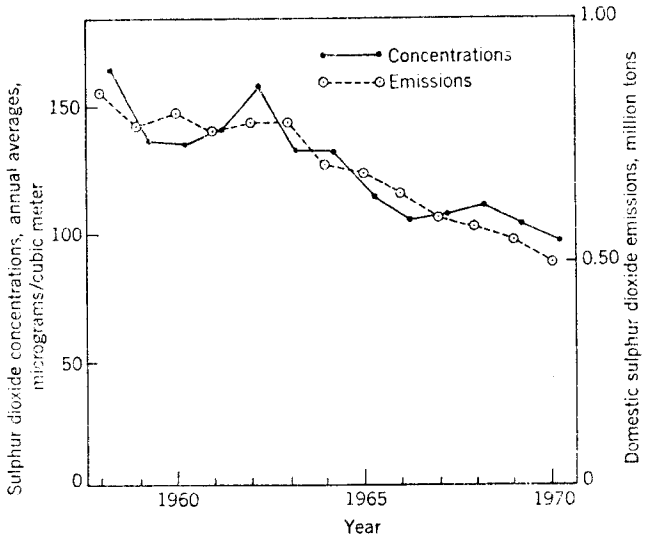
Despite world-wide opinion that emissions from motor vehicles exhausts must be strictly controlled if the urban environment is to be improved, no effective legislation exists in the United Kingdom to deal with this problem, other than that of smoke pollution. The Motor Vehicles Regulations 1966 require that every vehicle be so constructed that no avoidable smoke or visible vapor is emitted. The Department of the Environment is consulting interest organizations on a proposal that by October 1973 new petrol-engined vehicles must comply with the limits for the emission of carbon monoxide and hydrocarbons laid down by ECE Regulation No. 15. This regulation proposes to reduce emissions of carbon monoxide by up to 30 percent and of hydrocarbons by up to 10 percent by careful adjustment of the carburetor and timing devices.

By and large air pollution officials and researchers do not see automobile sustained photochemical smog as a problem in the British Isles. It is generally believed that the typical smaller and more efficient engines, the difference in the solar exposure of Great Britain, and the cooler climate preclude significant photochemical oxident incidents. Nevertheless the problems are being watched. A very interesting recent study carried out by researchers at the Atomic Energy Research Establishment at Harwell suggests ozone levels of 12–13 parts per hundred million can exist on a few exceptional summer days. The British desire to avoid what they consider to be rather savage legislation prevalent in the United States but are willing to see again a "best practicable means" policy applied tempered with consideration for the continued use of the automobile as a means of transport. In addition it has been proposed to reduce allowable lead in gasoline by 50 percent over a period of several years; however, such a reduction will only bring the level into agreement with actual current practice.

A good synopsis of British air pollution legislation and control structure may be found in the Clean Air Year Book: 1971–1972, published by the National Society for Clean Air.[1]

Committees, Commissions, and other Organizations

The control of environmental pollution in Britain is diffused through a dozen departments. Coordination is effected through an Inter-Departmental Committee which has a separate Secretary of State. A permanent Royal Commission on Environmental Pollution has been established under the chairmanship of Sir Eric Ashby to advise on all aspects of conservation activity. Technical research for the Government is the responsibility of the Warren Spring Laboratory (WSL) under the Ministry of Trade and Industry and also the Ministry of Technology. The Atomic Energy Research Establishment (AERE) has recently been given the task to bring its expertise gained in radioactive studies to bear on the study of atmospheric chemistry of industrial and natural mists. In addition many private, industrial, and professional associations are interested in air pollution, i.e., British Iron and Steel Research Association, Institute of Petroleum, Motor Industry Research Association, etc. Numerous projects are under way



Sulfur dioxide trends in urban areas of the United Kingdom.[4]

at British Universities and Polytechnics loosely coordinated through the Department of Education and Science. An important private organization which is a counterpart to the APCA in the USA is the National Society for Clean Air (NSCA) which has membership both private and corporate from all the above organizations. A comprehensive summary of current research may be found in the 1971–72 issue of the NSCA Clean Air Year Book and also in the EMSO report funded by the U.S. Department of Health, Education and Welfare, "Profile Study of Air Pollution Control Activities in Foreign Countries—First-Year Report".[2]

Examination of the Air Pollution Records: Trends

As a result of the London Smog of 1952 daily observations of smoke and sulfur dioxide as well as monthly measurements of grit and dust fall are made by local authorities throughout Great Britain. As of March 1970, there were 485 Authorities making these observations at 1197 sites, and of these sites, 164 are in the country to give background information, for comparison. These data are collated, interpreted, and published under the co-ordination of the Warren Springs Laboratory as the National Survey of Air Pollution.[3,4]

Over the past ten years nearly £400 million has been spent by industry on cutting down the output of polluting substances. Cement, iron and steel works, and power stations have reduced their output of grit and dust. In particular, power stations have seen a fifty percent increase in their use of coal but a five fold decrease in tons of grit and dust emission. Potteries have reduced their number of coal-fired kilns from 2200 in 1961 to 128 in 1971. The railroads have cut out production of smoke altogether. Smoke from the home fire has been reduced fifty percent since 1953, although it now probably represents 90 percent of the remaining source. It is expected that its total will fall a further 15 percent by 1975. One of the benefits of the cleaner air has been a 60 percent increase in winter sunshine in London.

The total output of sulfur dioxide has not shown quite such a dramatic decrease, and is predicted to increase slightly in the next few years. However through domestic fire conversion to smokeless fuels, specification of low sulfur fuels in critical areas, and increased attention to ventilation by means of tall stack design, concentrations at ground level in towns have been cut down by a third since 1964 (see figure). Nevertheless, a recent joint study by AERE, Harwell, and Imperial College of Science and Technology, Botany Department, personnel indicates that current winter level rural area pollu-

tion levels of 180 micrograms per meter cubed result in a 40 to 50 percent reduction in yield of certain commonly grown rye grass crops. This is in contrast to previous belief that there were no deleterious effects present if there were no leaf damage.

Future Trends and Comments

Concern about all aspects of environmental conservation is lively throughout Britain. The establishment in 1970 of the new Department of Environment has been recognized as a significant political step in focusing attention on the problem. Mr. Peter Walker, Secretary of State, has recently said "I am firmly of the view that those who pollute must pay for it. Whether it be at sea, in the air, on the land—or shall we say, in the eye." Nevertheless British air pollution control administrators are keenly aware of the delicate nature of Great Britains economic balance. Indeed, this seems to be a common trait of most European control officials. Hence the administrators tend to take a "long term" view of their responsibility and avoid the dramatic dictate or strong reaction to surges of popular pressure.

In Great Britain this has resulted in a tendency to avoid setting public ambient air quality standards and an effort to keep concentration level results "in house" and away from so-called alarmists or demagogic populizers of public causes. These policies have led to some criticism both at home and abroad. One British journalist, who points out that data on individual factory emissions are guarded more closely than military blue-prints, argues that, in an open society, the comment and criticism of the scientific community, conservation groups, the press, and the public should be available to "spotlight" mistakes before serious harm has been done.[5] Scientists from other countries complain they rarely have access to data suitable to confirm or deny the practicality of British methods. They also feel that the "well ventilated" nature of Britain's maritime position off the coast of Europe leads to the popularity of "tall stack" solutions and fosters an insular attitude toward the European communities' problems of background pollution levels, i.e., the acidic rain problem referred to in the recent Stockholm environmental olympics.[6]

Following the technical opinions of the Warren Spring Laboratory the government continues to concentrate on the reduction of smoke emissions. The considerable improvement in atmospheric conditions in most British towns is definitely a result of previous applications of this policy. Pollution by sulfur oxides is given much less precedence, especially from the medical point of view. Cost of damage by sulfur dioxides must be balanced against the undoubted expenditures required and the nebulous nature of the "best practicable means" for their control.

A government White Paper entitled "The Protection of the Environment: the Fight against Pollution" was issued in May 1970.[7] The paper suggests a tightening of standard, an extension of the Alkali Inspectorate, and placing the responsibility of clean air to the top tier government authorities. A number of authorities of course consider that the responsibility for furthering a clean air policy should remain with those who have been already carrying it out successfully for some time. February 1971 saw the publication of the first report of the Royal Commission on Environmental Pollution.[8] The report encourages further efforts within the economic reality that some of Great Britain's resources are limited.

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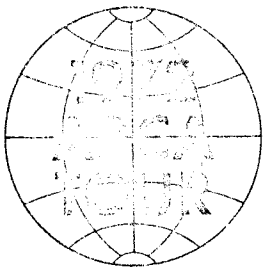


The Netherlands

Dr. Henry C. Wohlers

The group met with three organizations during a one-day visit to The Netherlands:

(*a*) Foundation for International Liaison on Environmental Protection (SICOM) and The Netherlands Organization for Applied Scientific Research (TNO),
(*b*) Shell Refinery and Chemical Works, and
(*c*) Rijnmond Authority at Schiedam.

The environmental problems of The Netherlands are intimately related to the small land area and large population. The population density of about 1000 per square mile is the largest of any nation in the world (with the exception of Malta). By comparison, the population density of France is about 250/mi², that of England and Germany 600/mi²; the world population density approximates 60/mi².

As almost 60 percent of the land area of The Netherlands is below sea level, water and soil contamination are more serious than air pollution. Further, as a result of the low elevation, air pollution generated is swept away by favorable winds. The vehicle density is low (6 people per car compared to 1.2 in France and Germany), but industrialization is intensive. Air pollution problems exist, particularly during prolonged periods of stable weather.

Gover mental action is now being taken to control both air and noise pollution. The first air pollution act was passed in November 1970; this act provided the framework on which future regulations will be based. The decision as to whether or not to adopt air quality standards will be made by mid-1973. A noise law is in the drafting stage and is expected to be completed in two or three years.

There is a shortage of trained personnel in the environmental field. The educational philosophy is that the fundamental background in a specialty (chemistry, biology, engineering, etc.) should precede a broad training in the total environment. Detailed knowledge of environmental problems is left to "on-the-job" experience or graduate study. It is eventually planned to initiate environmental study programs at the elementary level.

TNO and SICOM

"The Netherlands Organization for Applied Research" (TNO) was established by law in October 1930. The organization, largely supported by governmental funds, coordinates pure and applied research in The Netherlands; some 40 laboratories (usually called the institutes of TNO) carry out research that will yield the highest possible return from the raw materials and production facilities of the country.

Air pollution investigations are conducted under the Organization for Health Research, one of four TNO organizations directed by a central board. Ir. L. J. Brasser heads the Atmospheric Pollution Division. Much attention is devoted to ambient air monitoring equipment; developed instruments are tested in the field. Although routine air sampling is usually not undertaken, some 100 stations are used to monitor for one or more pollutants of particular interest. In addition to the ambient air monitoring and data evaluation, TNO also develops stack monitoring equipment and is involved in studies on atmospheric reactions and effects.

The "Foundation for International Liaison on Environmental Protection" (SICOM) is a professional organization which represents its five corporate members in environmental problems. The corporate members include the national chemical society, the engineering society, environmental organization, medical group, and the equipment manufacturers (boilers, furnaces, incinerators, etc.). SICOM acts as a service organization for the resolution of governmental and nongovermental environmental problems. As such, SICOM emphasizes that each region and each country has its own environmental problems and that the technical solutions must be integrated with economical and cultural development of the area or country. Thus the rapport between government and all other groups is excellent; problems are usually resolved on the basis of advice from SICOM and major conflicts are avoided or minimized by this approach.

Shell Refinery and Chemical Works

The Shell Refinery at Rotterdam is the largest in the world, with a processing capacity of 650,000 bbl day spread over a one- to two-square kilometer area. Time was not available for a detailed examination of the pollution control techniques —floating roofs, baffled valves flanges, covered skim tanks, etc. The need for organic emission control is apparent when it is realized that the Rotterdam area processes about 1.3 million barrels of crude oil daily.

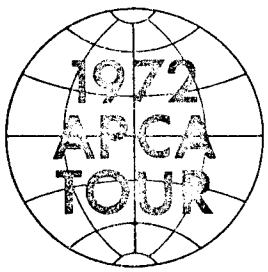
The Shell Chemical Works, producing agricultural and industrial chemicals, plastics, resins and rubbers, is the largest single plant in Europe. Odor control is emphasized by use of roaming inspectors who "sniff" both in-plant and out-plant.

Rijnmond Authority Schiedam

The Rijnmond area includes the large petro-chemical and chemical industry in The Netherlands. In 1971 almost 30,000 air pollution complaints were received by the authority, the majority relating to odor. The control objective of the Rijnmond Authority Schiedam, under the direction of Dr. L. A. Clarenburg, is to reduce or eliminate environmental stress to the area inhabitants.

Continuous monitoring for sulfur dioxide is telemetered into the central office to provide real time measurements. When SO_2 values in any area exceed the equivalent of 150 micrograms SO_2 per cubic meter, direct contact with industrial operations permits interchange to reduce emissions. A sulfur dioxide mathematical model has been developed for both "standard" and "unfavorable" meteorological conditions.

An innovative mathematical model for odor control based on emissions, odor complaints and meteorology has also been developed. With this procedure, the total concentration of odorous pollutants (stench) can be computed at any site. Validation of the model using more refined sociological input (questionnaires) has been completed and will be reported shortly.



France

Dr. David L. Brenchley
Assistant Professor of Environmental Engineering
School of Civil Engineering, Purdue University

Our plane brought us over Paris on a sunny Sunday afternoon. Much to our surprise the air seemed to have the same "photochemical tint" as found in Los Angeles. Later we found out that unusual meteorological conditions had caused the air to stagnate over Paris. This condition existed for two more days before a light rain occurred.

Our APCA group spent three days in Paris visiting pollution control agencies and industrial facilities. Initially we had some communication problems since only one person in our group spoke any French. However this problem was mostly alleviated when our hosts extended the courtesy of speaking in English. We still, on occasion, needed an interpreter. This whole situation reminded us of how spoiled Americans are when it comes to speaking any language other than English.

UPPA: Our first visit was with some of the officers and members of the Association for the Protection from Atmo-

spheric Pollution. Some of the people we talked with were:

Mr. M. J. Syrota
Chief Engineer of Mines
Ministry for the Protection of the Natural Environment

Professor A. Roussel
Vice President
APPA

Mr. J. P. Detrie
Director
Center for Interprofessional Techniques for the Study of Atmospheric Pollution (CITEPA)

France has a Ministry of Environment which was formed in 1970. It is organized similar to EPA having divisions for air, water, noise, and solid wastes. They have assessed national problems but as yet no specific strategies or new laws exist. However, Mr. Syrota assured us that there has been a substantial interest and effort toward air pollution control since the time of Napoleon! This is at least partly evidenced by the fact that there are 318 air monitoring stations in Paris. The basic tone of the discussion indicated that French officials generally view air pollution as a problem to be associated with specific local sources. They mentioned that France is well-ventilated and usually does not have to worry about frequent adverse meteorological conditions.

We inquired about the concern over the "energy crisis." Basically they realize that fossil fuel reserves are limited. But, they feel that trying to make accurate projections for the future is fruitless. They are more concerned about the short-term situation than the long-term one. This attitude is certainly understandable when you realize that France has almost no control over the long-term availability of its oil supply.

Prefecture de Police Laboratory: We visited Professor Paul Chovin's laboratory. This facility has about 40 people and has responsibilities for all sorts of measurements and analyses including explosives, drugs, food, and air pollution. They have installed and operate a number of monitoring stations throughout Paris. The basic measurements are for carbon monoxide and sulfur dioxide. This laboratory also has one mobile air sampling van. With respect to industry, this laboratory also has the responsibility to police their operations; this includes making measurements near-by the plants. Any required action is regarded then as a normal police function.

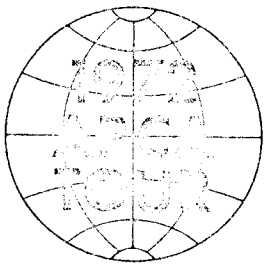
UTAC: The Technical Association of Automobile, Motorcycle and Cycle Industries is a private, non-commercial, non-profit concern. This organization does extensive testing for automobile emissions and safety. Mr. Jean Roth, an engineer, showed us the facilities available. It was very interesting to see the extensive U. S. hardware in operation for conducting the certification tests required under U. S. Federal legislation —sort of a French Detroit! There are also French and European motor vehicle standards and regulations. UTAC is also involved in making these tests.

Industrial Hygiene Laboratory: The Ministry of Health operates a laboratory in Paris which, as one of its many functions, operates a network of air sampling stations. These stations are located at schools and other public installations. This network is operated independently of the one operated by Professor Chovin. The network measures only sulfur dioxide but carbon monoxide measurements are also taken at the laboratory facility. The purpose of this network then is somewhat different than Professor Chovin's. In this network the samplers are located for the purpose of making sure that exposures in residential areas are not too high. Professor Chovin's samplers are operated with the objective of determining if a specific industry is causing a local problem.

Electricity of France: Electricity generation in France has been nationalized. We visited the main laboratory which is located at Saint-Denis, just outside of Paris. While at this facility some of the people we talked with were: Messrs. Edouard, Jacquet, Mery, and Debrun. This laboratory was built in 1963 and serves as the research and development facility. One of the major efforts here was the development of the continuous monitoring equipment for sulfur dioxide. All of the present equipment they had operated on the principle of changing the acidity of a solution. These monitors are placed around all of the fossil fuel generating stations in France.

Presently the electricity demand in France is being met in the following way: 50% fossil fuel, 40% hydroelectric, and 10% nuclear. They will put 15-600-MW fossil fuel plants and 4-900-MW plants into service before 1980. Public protest to the nuclear power plants has been strong. They feel that a public education program is needed.

The above busy schedule did not allow too much time for leisure. However, we did manage to see many of the standard siteseeing attractions. But even here we could not get away from the air pollution aspects. We noticed that the Eiffel Tower has air monitoring stations at the 57, 115, and 300-m levels. Also at least one of the new nice-looking monuments turned out to be a smoke stack for a municipal incinerator. In Paris there are 5 solid waste incinerators which produce steam for heating and electricity generating purposes. These incinerators are tied in with the Electricitè de France grid network.



Germany

Joseph J. Soporowski, Jr.
Professor, Department of Environmental Sciences
Rutgers University

From "Gay Paree" and that which still has an Old World European reference, we made the transition to Dusseldorf and the new Federal Republic of Germany. Over 80% of this city had been rebuilt since World War II. Everything had the look and feel of modern America. Uncle Sam's past and current presence was evident.

The wheels of progress were everywhere to be seen. Construction, production, highways, people, and cars. Lots and lots of cars. A weekend on the Autoban could easily provide the comparative calm needed by New York City visitors to endure the traffic problems of the city. The workaday's end seemed to transplant the heart of the city to the countryside with a similar flow of traffic from the city streets to the outer arteries. Unlike New York, Dusseldorf rested on the weekend.

Introducing us to Deutschland was Dipl.-Ing. Norbert

Endell, Secretary General of the International Union of Air Pollution Associations (IUAPPA). A most competent and cordial individual who among other things was working diligently to make the October 8-14 IUAPPA Meeting in Dusseldorf become a successful professional reality. Through Mr. Endell we met Prof. H. Schackman and learned of the activities of the Verein Deutscher Ingenieure (V.D.I.)

The V.D.I. was found in 1856 and is recognized as the greatest technical scientific non-profit institutional in Europe. It is comprised of more than 60,000 individual members and about 2000 sponsors. As Chairman of our APCA Membership Committee, these figures made me very envious.

The main task of the V.D.I. is to establish technical guidelines and standards, to initiate research, to exchange scientific data, and to promote education of engineers. The activities cover all fields of engineering excepting mining, metallurgy, and electrical.

One of the most effective commitees of the VDI is its Kommission Reinhaltung der Luft (Commission for Clean Air). This unit was founded in 1955 and incorporates all branches of knowledge related to clean air including administration and legislation. The VDI publishes the "VDI-Richtlenien" which are guideline documents for all branches of industry. These guidelines prepared by over 500 volunteer professionals on various VDI committees comprise the Clean Air Handbook which is the basis for the TAL statutes implementing the German Clean Air Law.

In general discussion, we were told that there was no concern about depletion of fossil fuel; the public had just begun to show interest in the problem of pollution within the past 6 months as result of a "public opinion" movement started by the Protestant Church; the public was better informed in Germany than in the U. S. because there was more correct information from their federal government; Germany's pollution control work was slower but better; there are no competitive environmental meetings; they intend to build smaller cars with less horsepower; and quoting Prof. Schaakman, "We feel pollution is a problem under control."

Completing our tour of Germany were visitations to the Bodenmitzungsschutz Control Agency in Essen, Northrhine Westphalia's State Center for Air Pollution Control and Land Use Protection and Bayer, a chemical plant in Leverkusen. The control agency, which operated on an annual budget of 85 million, employed an emergency system based on monitored information. They defined the main air pollution problem in Germany as sulfur dioxide. If readings from at least two stations exceed set limits then restriction are imposed, i.e., cars are prohibited on roads between 6-10 A.M. and 4-6 P.M. and industry must revert to use of low sulfur fuel.

The State Center at Leverkusen was founded in 1963 by the state government of Northrhine Westphalia. Activities of the Center include practical research and technical advice for the officials and courts of Northrhine Westphalia. The center samples the air, tests effects of air pollution on plants and materials, and also concerns itself with the harmful effects of noise and vibration on men and materials. It provides an excellent technical reference developed through its 350 employees and discussed with a scientific council of 42 professionals.

A full day at Bayer revealed an industry of great magnitude. This chemical giant employs a full-time staff of 207 persons to work on matters relating to the prevention of air and water pollution and the harmless disposal of waste materials. The plant check system includes T.V. and other monitoring equipment, 3 full-time "air spies" who tour the plant continuously to observe visual and odor problems, and continual specific checks for CO, CO_2, SO_2, H_2S, Ch_2, NO, and NO_2. Bayer management expressed the opinion that, "Our big fight for the next ten years will be organic compounds."

Our German driver seemed to express the feeling of at least some of the people we met in his response to our varied transporation instructions: "All is clear." Based on a very minimal and superficial observation, progress especially with instrumentation is being made, but the sky is still cloudy in Germany.

NEW TOURS PLANNED . . .

The 1972 APCA European Tour was a cooperative effort of the Air Pollution Control Association and Franklin Travel, Incorporated, 344 Suburban Station Building, Philadelphia, Pa. 19103.

Another such cooperative activity is planned for October 1973 to facilitate North American participation in the Third International Clean Air Congress of the International Union of Air Pollution Prevention Associations (IUAPPA). Scheduled for Dusseldorf, Germany, during October 8–12, 1973, the Congress will be hosted by the VDI—Commission for Clean Air, a charter member of IUAPPA.

Details of the 1973 Tour Travel Plans appear on pages 580–581, this issue. A preliminary program for the Third International Clean Air Congress begins on page 582.