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AIR QUALITY STANDARDS AND REGULATORY STYLES IN WEST GERMANY AND THE UNITED STATES OF AMERICA

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SUMMARY

A comparative analysis of air quality standard-setting in the Federal Republic of Germany (FRG) and the United States of America (USA) suggests that the environmental regulatory processes have been significantly influenced by different cultural traditions and legal requirements. Though isolated regulatory strategies have been transferred (e.g., use of emission "bubbles"), the potential for transferring attractive elements of each country's regulatory approach will be limited. However, the authors found that the transfer of regulatory, scientific and technological information between the US and the FRG appear to have had the greatest impacts on the regulatory processes in each of the two countries.

While the interview respondents were somewhat critical of their countries' regulatory processes, when provided with the opportunity to recommend changes in the regulatory processes their suggestions for improvements did not call for major restructuring of the regulatory processes.

The results of this study also suggest that public and private sector policy makers will increasingly find it necessary to track the results of regulatory activities, as well as technological innovations, in other countries in order to forecast and influence potential regulatory or legislative actions.

1. STUDY OBJECTIVES AND METHODOLOGY

This study sought to characterize the standard-setting processes in the United States of America (US) and the Federal Republic of Germany (FRG) to identify inherent advantages of either system and possible regulatory approaches that could be transferred. With the financial support of the German Marshall Fund of the United States, the Nuclear Research Centre Juelich (KFA), the Environment Ministry (FRG), and others, this study was initiated in early 1985 at the KFA and completed in early 1988 (1,2).

Four elements of air quality standard-setting procedures were addressed: 1) understanding the procedures for setting air quality standards and the requirements for written justification of resulting standards; 2) identifying the role of risk assessment and

scientific judgement; 3) identifying the roles of affected parties in the decisionmaking processes; and, 4) identifying the apparent advantages or disadvantages of either system for transferring regulatory procedures or approaches to the other country. To accomplish these objectives, the authors selected four air quality case studies: lead, nitrogen dioxide, cadmium, and dioxins in municipal waste combustors.

The basic data collection tools were two questionnaires administered to the major parties involved in each regulatory proceeding. These parties included agency/ministry officials, industrial trade association representatives, environmental groups, labor, and other individuals.

2. MAJOR PARTIES INVOLVED IN STANDARD-SETTING

2.1 Federal Republic of Germany

The Environment Ministry in Bonn is responsible for establishing air quality regulations. Research support comes form the Federal Environment Agency (a subordinate agency to the Environment Ministry), and the Federal Health Agency (a subordinate agency to the Ministry of Health), both located in Berlin.

The Environment Ministry is responsible under German law to consult with affected parties during the development of regulations, and to balance interests. Therefore, civil servants act as mediators of affected parties. They are responsible for maximizing the public welfare by: acquiring information from subordinate agencies, scientists and technical experts, and affected parties; listening to viewpoints of affected parties; and, then determining appropriate government action.

During the development of a new or revised regulation, the ministry may have substantial and substantive discussions with outside interest groups (e.g., individual companies, or trade associations) who may be affected by the proposed regulations. This contact can and usually does include private, "closed door" negotiation sessions. By FRG standards, this is fair and normal practice. The ministry, however, has the discretion to identify affected parties and to invite them to participate in public review and comment sessions.

While they are not formal governmental institutions, three other parties have significant roles in the West German standard-setting process. These parties are the Association of German Engineers (Verband der Deutscher Ingenieur, or VDI), the German Research Society (Deutscher Forschung Gemeinschaft, or DFG), and the states' Environment Ministers' Conference (Umweltministeriumkonferenz, or UMK). For example, the VDI and a commission of the DFG are directed by law to make recommendations on new and revised environmental regulations. The VDI has an official mandate to propose new technical standards or regulations, and to review proposals submitted by interest groups or the Environment Ministry. For this work, these organizations are compensated with public funds.

The Umweltministeriumkonferenz (UMK) is composed of representatives of state-level environment ministries. The UMK normally reviews proposed regulations during or after initial drafting

within the Ministry. The UMK's approval of proposed regulations is critical because all rules must also be endorsed by the Bundesrat, a house of West Germany's Parliament. The Bundesrat is composed of appointed members for each state government.

Involvement in standards development and in the review of proposed regulations is not restricted however to only those parties noted thus far. The Environment Ministry may also form adhoc committees, or working groups, to investigate specific issues.

2.2 United States of America

In the United States of America (US), the principal federal government agency promulgating regulations affecting air, water, and solid and hazardous waste is the US Environmental Protection Agency (USEPA). The agency is headed by an Administrator who is appointed by the President of the United States. USEPA is charged with implementing the Clean Air Act (CAA). Under this Act of Congress, USEPA is responsible for setting standards for national ambient air quality (NAAQS), new source performance standards (NSPS), hazardous air pollutant (NESHAP), and mobile source emission controls (including lead in gasoline).

In the US, the standard-setting process is open and accessible to all parties. In addition to USEPA, major industry trade associations, individual companies, environmental and public interest organizations, state and local governments, labor, and other groups are often closely involved in USEPA's decisionmaking process. This involvement includes: reviewing proposed regulations; discussions with agency staff before promulgation of a proposed standard; attending meetings of the Clean Air Scientific Advisory Committee (CASAC) and other committees and subcommittees of USEPA's Science Advisory Board (SAB); making presentations at SAB meetings; and, providing written comments on proposed regulations. The steps in the regulatory process are well known to the interested parties, and the status of individual standard-setting proceedings can be easily tracked within the agency.

In contrast to the West German system wherein most of the air quality regulations are contained in one document (i.e., TA Luft) and periodically revised, in the US there are many individual regulations. At any point in time, formal standard-setting proceedings are ongoing for NAAQS, NSPS, and NESHAP standards, as well as for mobile source controls and other air pollution control programs.

In the end, the US process leads to standard with a substantial data base that justifies the standard, and this justification is published. Such justification is a requirement of the US system of government (3).

3. COMPARISON OF STANDARD-SETTING PROCESSES

The standard-setting processes in the two countries appear to be quite different, but in fact are only different in degree and style. Citizens of the FRG, however, seem to have different attitudes toward the role of government, civil servants, and the role of science. The opinions of scientists and experts carries much weight in the FRG (4). In addition, citizens have traditionally trusted the civil servant to truly represent their interests,

though more recently environmentalists appear to be less accepting of this traditional trust relationship.

The US system is open and adversarial, where documentation and justification are critical. The FRG system involves more "closed door" negotiations, and dependence on expert committees which are not formal governmental entities. Specific interest groups are involved, but the method of involvement and the invitation for involvement are largely done at the discretion of the government. There does appear, however, to be increasing pressure to "open up" the process in the FRG.

Explicit health risk assessments and cost/benefit analyses have less of a role in the FRG rulemaking process than in the US. However, the authors were told that industry and the environmental groups in the FRG would like to see such assessments introduced into the public rulemaking process so that their issues can be better aired. In the US, health risk assessments are subject to rigorous public scientific peer review, while these assessments were more judgmental and occurred earlier in the standard-setting process in the FRG.

The FRG approach appears to be more accommodating to time pressures, and the government can respond relatively quickly to pressing issues. Efforts to promulgate new regulations for the control of acid rain are a good example of the speed in which new regulations may occur. After the federal government consulted with industry and other interest groups for almost ten years to revise existing laws without success, new controls were promulgated in less than six months once the extent of damages were documented. In the US, due process dictates an orderly, deliberate, and lengthy decisionmaking process.

Consideration of economics and available control technologies seems to be important in both the US and FRG standard-setting. In the US, however, only health effects can be considered in the establishment of National Ambient Air Quality Standards.

The outcomes of the standard-setting in the US are determined by scientific studies and environmental evidence which must be supportable and documented. When legal, economics and technological availability and effectiveness appear to play some role. In the FRG, the final decisions on standards lies in technical feasibility of achieving reductions at reasonable costs, and the levels are agreed upon through negotiations, largely without "public involvement" as practiced in the US, and with little resulting written, public justification.

The major points of conflict in the US standard-setting centered on: a) disputes over whether marginal increases in health benefits where worth marginal increased costs of pollution control; b) the applicability of animal studies to human health; c) quality of the data in cited studies considering appropriate human health exposures. In the FRG, the major conflicts in the regulatory processes also seemed to be: a) affordability of control technologies; b) quality and applicability of data to human health exposures experienced in reality.

A shared characteristic of the two systems is that none of the involved, interested parties are normally satisfied with the end results, at least not publicly. However, the environmental groups

in both countries seem less satisfied with the processes than does industry.

The transfer of regulatory, scientific, and technological information between the US and the FRG, as well as among other nations, appears to have had a significant impact on the standard-setting activities in each country. For example, the construction in Japan of selective catalytic reduction (SCR) units for controlling nitrogen dioxide emissions at fossil-fuel fired power plants was a major factor leading to the West German adoption of strict NO_x retrofit requirements for existing power generating stations. Air pollution scientists in both countries were also aware of developments regarding dioxins in municipal waste combustors.

The authors were not able to clearly identify any element of either country's approach that offered distinctive advantages to the other country's process. Each process reflects the constitutional requirements, cultural and social traditions so that neither country's standard-setting process could work in the other. However, the authors note that certain aspects of the respective approaches have been tried. For example, emission "bubbles" are being experimented with in the FRG, and the USEPA has successfully used a regulatory negotiation process for a number of standard-setting processes. In the FRG, some interest groups have recommended incorporating more explicit considerations of analytical health risk assessments and cost/benefit analyses.

4. RECOMMENDATIONS FOR IMPROVEMENTS IN STANDARD-SETTING

Suggestions for improvements in the regulatory development process in the FRG included: a) more openness to other interested parties; b) the rationale for decisions should be more explicit and publicly available; c) process should be more flexible; d) economic incentives should be used more to encourage development of control technologies; e) enforcement of ambient standards should be strengthened; and, f) health risk assessments and cost/benefit analyses should be required and used in regulatory development.

Respondents in the US offered the following suggestions for improving air quality standard-setting: a) federal funding should be provided to public interest groups so that they can adequately and effectively participate in regulatory development; b) the open, adversarial process is good and will remain with us since it reduces the chances for making hasty, misinformed decisions; c) process can be shortened so that it can be more responsive to changes in scientific information (e.g., incorporating scientific information by reference into NAAQS criteria documents); d) use regulatory negotiation more; e) Office of Management and Budget should be excluded from the rulemaking process; and, f) use of marginal benefits/costs analyses should be strengthened.

While numerous respondents in the US indicated an interest in having the process shortened, USEPA indicated that up to 80 percent of its final regulations were challenged. Given the due process requirements, and court challenges, developing mechanisms for shortening the process will be difficult. USEPA's Regulatory Negotiation Project has demonstrated that alternative strategies may be

attractive for reducing time requirements and improving satisfaction with resulting standards.

5. CONCLUSIONS

Given the differences in constitutional and administrative law, as well as culture, it is apparent that the procedures for setting standards are not directly transferrable, even if some aspects of one system were attractive to interested parties. The authors have not seen any specific aspect of either system that would appear to greatly benefit the other, though affected parties in each country suggested some changes within their own system. Furthermore, the greatest transnational impacts appear to be that of transfer of regulatory, scientific, and technological information. This suggests that parties may find it advantageous to allocate additional organizational resources to track this information.

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