conscientious and interested in subcommittee business a chairman may be, the demands of campaigning in a statewide race impinge on a chairman's time and energies. Staff members acknowledge it is often hard to get the attention of a chairman engaged in a difficult campaign and, almost perforce, find themselves trying to fill the gaps on committee matters.

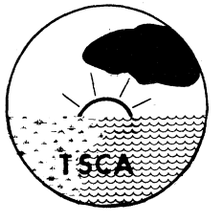
This is not to suggest that authority is being usurped wholesale by Hill staff. Many of the present senior staff underwent conditioning under an older dispensation. And most staff members observe the cardinal rule that, above all, staff members should not embarrass the boss or take credit themselves, even when it is due.

But conditions and attitudes are changing. Increased staff numbers mean the staffer has a less direct and personal relationship with his boss than in the past. Those hired because of their professional credentials have been trained to have confidence in their expertise and to assume responsibility. And in doing what they see as their jobs they are more likely to cross the line and infringe on legislators' domain than staff members of the past, who were acutely mindful of their patronage status.

Certainly, the higher turnover rate in the ranks of the legislators appears to increase the margin for staff aggrandizement. The shorter half-life of congressional service, incidentally, is not really new. Long service was much less common in the House earlier in this century. Before the New Deal, the typical congressman seems to have spent two or three terms in the House and then moved on. Those who stayed in did, of course, became seneschals of the seniority system. But the career congressman appears to be a phenomenon of the growth of the federal government and of United States power.

The trend toward more rapid turnover in Congress, if that's what it proves to be, may thus be seen simply as cyclical. But accelerated turnover and the rise of the congressional staff could produce synergistic effects. The congressional reformers of today may wish to project into the future the question of who's in charge.—JOHN WALSH

An Industry Study of TSCA: How to Achieve Credibility?



Faced with the prospect of increasingly stringent government regulation under the Toxic Substances Control Act (TSCA) and other statutes, leaders of the chemical industry have found religion—a religion called risk/benefit assessment.

Industry leaders see risk/benefit assessment as essential to restraining regulatory zeal and avoiding excesses. At the same time, they seem to feel that the most dependable assessments will be made or sponsored by the chemical companies themselves, certainly on the cost side.

But attempts by the industry to produce truly credible regulatory impact studies may, if they are to be successful, require some changes in corporate governance, at least with respect to sharing information with outsiders. Indeed, it may not be stretching the point too much to say that if the impact analysis tack is really to be pursued in earnest, the result could be a foot in the door for reform of corporate governance.

Individuals such as John W. Hanley, chairman and president of the Monsanto Company, and Robert A. Roland, president of the Manufacturing Chemists Association, preach the gospel of risk/benefit assessment with fervor. Addressing the Economic Club of Detroit some time ago, Hanley proclaimed that objective assessment of risks and benefits offered "the best way, indeed the only sensible way," of making increasingly complex regulatory decisions.

Roland, responding to a question put to him recently by Du Pont's *Context* magazine, declared that whether government understands, accepts, and applies risk/benefit analysis to regulation will be the most consequential question facing the chemical industry in the 1980's. Should the answer turn out to be no, said Roland, the result will be "yet more unnecessarily restrictive legislation and additional excessive regulations."

"Already," he added, "innovation has been stifled, productivity curtailed, inflation fueled, our ability to compete in foreign markets hampered, and our domestic markets opened to cheaper foreign imports."

The new religion is finding expression not only in such exhortations by industry leaders to government but also in efforts by the industry to mount major new regulatory impact studies of its own. For instance, several chemical companies are participating in a broad study by the Business Roundtable of the impact of a variety of federal regulatory programs—ranging from environmental and occupational safety and health regulation to equal employment and fair-trade regulation—on American industry and the economy in general. But, of much greater direct concern to the chemical industry is a study by the Manufacturing Chemists Association (MCA) on the impact of TSCA.

This study, now in a pilot stage, is expected to be an ambitious, large-scale effort which would continue for up to 4 years and cost more than $1.5 million. Its principal aims, going from the relatively easy to the very difficult, are (i) to determine how much money the chemical industry is spending on the testing and administrative costs related to TSCA; (ii) to assess the act's effects with respect to the rate of new product development and changes in the kinds of products developed and in the level and pattern of R & D expenditures; and (iii) to examine, after implementation of TSCA (now still in its beginning stage) is well advanced, the costs and benefits of certain selected regulatory actions taken under the act to ban or restrict the use of specific chemicals.

The importance that the MCA attaches to the impact study is reflected in a memorandum which the association circulated among its member companies in October. This memo notes that, under TSCA, the Environmental Protection Agency (EPA) is required to consider cost impacts in adopting regulations for implementation of the act.

Specifically, the memo points out that in issuing rules for testing chemicals for acute or chronic health effects, the EPA is required to take into account "the relative costs of the various test protocols

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and methodologies"; that, in proceeding against chemicals which pose an "unreasonable risk," the agency is enjoined to adopt the "least burdensome" means of control; and that, in administering the act overall, it is "not to impede unduly or create unnecessary economic barriers to technological innovation. . . ." In addition, the memo notes that, under the presidential executive order of last March dealing with the possible inflationary impacts of regulation, any proposed regulation promising to have an annual effect of $100 million or more on the economy shall undergo a special economic analysis.

The memo suggests that, with "credible" cost/benefit data in hand, the MCA will be far better able to influence EPA on its regulatory decisions, or, failing that, to obtain relief from the White House or Congress. With respect to the latter, it was noted that the implementation of TSCA will be subject to annual review by the congressional appropriations committees and that within the next 3 to 5 years major legislative oversight hearings can be expected.

The MCA staff, together with company representatives serving on the association task force which is laying plans for the TSCA impact study, knows that the study hardly will have much influence on federal policy-makers unless it is seen as thoroughly honest and credible.

An earlier MCA study, prepared in 1975 by the consulting firm of Foster D. Snell, Inc., led to an embarassing episode on Capitol Hill. In this study, the cost to industry of complying with the toxic substances control legislation then before Congress was estimated at between $360 million and $1.3 billion a year. Nearly half of the higher estimate was attributed to the increase in company R & D budgets believed to be necessary if, with all major new chemicals undergoing premarket screening for health and environmental effects, the rate of product innovation was to be maintained at pre-TSCA levels. The estimates also reflected costs of such things as testing, delay in the introduction of new products, and the loss of products and productive capacity that could result from complete or partial bans imposed "without adequate justification."

The MCA was called to account for the estimates at a subcommittee hearing in October 1975 presided over by Senator John V. Tunney of California, a principal sponsor of the toxic substances control legislation. These estimates were far higher than those made by the EPA and the General Accounting Office (GAO), and Tunney and his staff were no doubt aware that industry lobbyists and spokesmen had been citing them in their campaign in Congress and at the White House to weaken the legislation by eliminating the requirement for all new chemicals to undergo premarket screening.

When told that the data supporting the estimates had been destroyed in keeping with a confidentiality agreement with the companies that participated in the study, Tunney was outraged. "Why is it not possible, when you are dealing with a congressional committee, to treat us as adults?" he asked.

The Senator said that, if the identity of individual companies were masked to protect proprietary interests, this would be all right by him. But why, he wanted to know, was the committee getting only study findings based upon the interpretations of the industry trade association or its contractor? "Why can't we have the basic data?" he demanded.

George W. Ingle, a key staff person at the MCA, was present at the hearing that day and was disturbed that the industry had produced a cost impact study which in Tunney's eyes seemed suspect. Hearkening back to that uncomfortable moment, Ingle now recalls in an interview with *Science*, "I felt that, the next time [the MCA undertakes such a study], we have to do it right."

By this, Ingle was thinking not so much of changing the study methodology—in his view the 1975 study was, on the whole, defensible—as of doing more to make the study credible. In particular, this would include appointing an advisory committee made up of prominent individuals from outside the industry to review all aspects of the study and—this time—making all supporting data available for independent audit by an appropriate organization such as the GAO, the investigative arm of Congress.

The MCA task force that is developing plans for the new study of the impact of TSCA is fully committed to the view that an outside advisory committee should be appointed and that the supporting data should be made available for evaluation by independent auditors who will respect its confidentiality. This is significant, for the task force is made up largely of representatives of such industry giants as Du Pont, Dow, Monsanto, Shell, and Allied Chemical, although this is not to say that the companies themselves have agreed to the plans for the study yet.

The 1-year pilot study which the MCA has initiated under a $300,000 contract with National Economic Research Associates, Inc. (a New York–based consulting firm) will, if enough MCA member companies and other firms agree to participate, be followed by a study representative of the entire chemical industry. According to the vice chairman of the task force, Donald E. Ellison of the Virginia Chemical Company, once the MCA's committee on chemical regulation (the parent body of the task force) has given the go-ahead, the advisory committee will be appointed, its members to be chosen from labor, public health, the environmental movement, and disciplines related to the study, such as economics and statistics.

This group would be expected both to help define the scope and design of the study and to communicate its findings to people outside the industry. Also, some of its members would be expected to testify as expert witnesses before congressional oversight hearings on TSCA.

The task force recognizes that the MCA could have a difficult job of persuading prominent individuals to serve on the committee, for many of those approached may fear that they would be used by the industry for cosmetic and public relations purposes without their having any real influence on the study. Indeed, the association may have to lean over backwards to assure prospective members that this will not be the case.

As for whether the study data will be available for independent audit, the companies that participate in the study (the MCA hopes that about half of its 200 members will take part) will have to decide this individually. Some may choose to submit to such an audit only under subpoena.

"It would be interesting if they were willing to give up that much control," observes Karl Braithwaite of the Senate Environment and Public Works Committee staff, referring to the possibility of an independent audit and advisory committee for the study. "That would certainly give the study more credibility." But, by the same token, if the MCA should back away from such an independent review, and especially if many member companies should refuse to go along voluntarily with an audit, the credibility of the study would almost certainly suffer.

Many knowledgeable people, such as Terry Davies of the Conservation Foundation, believe that, at best, to make a reliable industry-wide assessment of costs will be difficult given the problem of ensuring consistency of accounting practices from one company to another (for instance, as things now stand, testing costs one company might lay to regulation might be attributed by another to product development).

As a matter of fact, Davies questions whether members of an advisory committee could get into a cost impact study deeply enough to be able to vouch for the results. "I can't imagine any advisory committee spending enough time to get on top of the problem," he says, referring especially to the difficulty of knowing whether costs are being counted in a consistent manner from company to company. In Davies' opinion, about the most that such a committee could usefully do would be to advise on the design of the study and the makeup of the questionnaire to be submitted to participating companies.

Major chemical companies could foster greater public acceptance of this study and other industry studies and positions by electing to their boards of directors more outsiders of demonstrated independence and concern for social and environmental issues. Some companies have in fact taken steps in this direction. In 1977, for instance, Union Carbide added Russell Train, former administrator of the EPA, to its board of directors and to the board's audit and policy committees, which are now composed entirely of outside directors. "As far as I am aware, the company has been tremendously open with me," Train says.

Also, at a meeting held last April under the auspices of Columbia University's American Assembly, a number of officers of major corporations (such as General Electric, Peabody Coal, Western Union Telegraph, and Xerox) joined in a resolution calling for reforms in corporate governance. Albeit fairly modest, the reforms cited included strengthening the independence of the board of directors vis-à-vis management as well as appointing "quality of life" advisory committees.

It is fair to say, however, that even the milder advocates of corporate governance reform—to say nothing of the Ralph Naders—believe that the chemical industry and all other major industries still have a long way to go in making their boards more independent of management and in disclosing information bearing on the corporate response to environmental and other societal problems.

The "corporate responsibility" issue has been off Page One since the early 1970's and the now almost forgotten campaign to "tame General Motors." But in October 1977, Secretary of Commerce Juanita M. Kreps, addressing the Conference of Chief Executive Officers at Duke University, tried in a modest way to give this issue a new vitality. She announced that the Department of Commerce was planning to develop and publish a "social performance index" which companies would be urged to use voluntarily.

Some hostile editorials in the business press and a negative reaction by a House appropriations committee were enough to lead to a hasty withdrawal of the Kreps proposal, and no more has been heard from it. A few weeks ago, Gus Speth, a member of the Council on Environmental Quality, spoke out strongly for reform of corporate governance and for more corporate responsibiliy as at least a partial alternative to more regulation. But his proposals carried no White House endorsement and were meant only to generate discussion.

Such is industry's political clout and its resistance to outside initiatives for changes in corporate governance that, if significant changes do occur, they are likely to come about on the initiative of the companies themselves. The need to win greater trust and confidence on the part of the public—which, according to one recent poll (*Science*, 12 January), tends to regard big business as self-serving and politically dominant—will offer an inducement for such initiatives.

For instance, if it proves necessary for industry to bend the accepted rules of confidentiality to gain credibility for its studies of the cost of regulation, then those rules may indeed be bent. And, if companies must look to prominent outsiders to serve as advisers or directors and to help them make a persuasive case before regulatory agencies or Congress, then such individuals may be sought out and made party to internal deliberations which heretofore have been closely held within the confines of management. In this sense, what is going on now at the MCA with respect to the TSCA study and its credibility may be a revealing straw in the wind.—LUTHER J. CARTER

Heroin Study at Georgetown

The nation's second clinical study of the pain-killing properties of heroin is to begin soon at Georgetown University's Vincent T. Lombardi Cancer Center.

The study, unlike the wide-ranging pharmacological investigations now under way at Sloan-Kettering Institute for Cancer Research in New York (*Science*, 25 November 1977), will be a narrowly focused investigation comparing the benefits of intramuscular injections of morphine and heroin in about 30 patients hospitalized with advanced cancer.

Principal investigators of the study, which is funded by the National Cancer Institute, are Philip Schein of Goergetown's division of medical oncology and William T. Beaver of the departments of pharmacology and anesthesia. The drugs will be administered in a double-blind setting, with both patients and nurse-observers supplying assessments of the severity of pain suffered, the extent of relief, and the nature of the drugs' side effects.

There is currently a great deal of public confusion over the potential benefits of heroin in pain relief, as witness the letters to the editor that regularly appear in newspapers pleading that it be made available to cancer sufferers. Many people believe that heroin will work where morphine will not, that it has better mood-enhancing properties, and that side effects such as nausea, constipation, and grogginess are less pronounced.

According to evidence so far available, none of this is true. A study conducted in Britain found that heroin had no advantage over morphine when administered orally. Schein, who has observed extensive use of heroin for analgesic purposes in England, says he has no reason to believe that the Georgetown study will reveal any significant differences in the effects of the drugs. The only definite advantage so far reported for heroin is that its greater potency permits the injection of smaller amounts.

Although definitive tests are obviously long overdue, Schein emphasizes that the main benefit of such investigations should be to help educate physicians on the proper use of opiate analgesics. They should be used less for acute or benign pain and more for the chronic pain of malignancy. Doctors who are sophisticated in pain management repeatedly contend that the drugs are there—including methadone and other opiates—to handle most cases of advanced cancer pain. Still grievously lacking are physicians with the knowledge and skill to administer the treatment boldly and effectively.—C.H.

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