things never quite worked out that way. The regulatory staff never achieved full independence. Moreover, right from the beginning and all through the years, communication and coordination between the two sides was notoriously poor—in part because the commission simply neglected to establish clear and reliable lines of administrative contact between the two "hands" of its staff. Indeed, in April 1967, more than 5 years after a distinct regulatory staff came into being, Congress's usually friendly and paternal Joint Committee on Atomic Energy found itself imploring the commission to improve its internal communications:

> It appears to the committee that not all the necessary steps have been taken in the past to coordinate the work of these two organizations. The supposed ease of exchanging information and views between the operating and development staff, on the one hand, and the regulatory staff, on the other, is one of the chief arguments made against a complete separation of the AEC's regulatory functions from its other activities. It is most important that this exchange take place in fact as well as in theory, and that one of the results be a meaningful nuclear safety research effort.

The 1961 reshuffle had left both sides—the regulatory and development units—in a difficult situation, pregnant with conflicts of interest. For one thing, the safety research program had remained behind in the AEC's main development arm, the RDT. While this probably made eminent sense at a time when nuclear power plants were still under development and far from a commercial reality, times changed. Five years later, the regulatory staff would depend heavily on the safety program for help in assessing the safety of dozens of power plants coming up for licensing. Thus, in the middle 1960's, the RDT found itself in the position of conducting a research program that was actively engaged in raising pointed questions about the very reactors the RDT had worked so hard to develop. Moreover, the division could scarcely have hoped to avoid accusations of mutual backscratching with the industry when, precisely at the time the AEC began cutting back its reactor safety budget, it began spending lavishly on the breeder program and encouraged utilities and reactor vendors to do the same.

To make matters worse, the regulatory staff remained almost totally dependent on the charity of the RDT to pay for research on any broad, pressing questions that new designs of nuclear power plants might raise. Whereas "Reg" could let small, special purpose consulting contracts to universities or private firms, the commission gave it no money for a coherent research program of its own. Nor has the regulatory arm ever had the option of paying money directly to the RDT for work it wanted done. Instead, the

Saccharin: Future Uncertain

About half a dozen rats in Wisconsin developed bladder cancer not long ago. Apparently, they got tumors from eating too much saccharin and, because of their unfortunate condition, saccharin could go the way that cyclamates went before it—off the market.

Although a ban on saccharin is by no means certain, it is a very distinct possibility. Food and Drug Administration (FDA) commissioner Charles Edwards says that the agency will probably take no action until several studies on the toxicology of the artificial sweetener are completed within the next few months; he already has asked the National Academy of Sciences (NAS) to review the data when they are in.

The Wisconsin study was conducted by Paul Nees and his associates at the Wisconsin Alumni Research Foundation in Madison. According to Nees, long-term studies began 2 years ago and were recently completed. About 6 rats (he wishes to withhold the exact number until his data are published) in a group of 20 developed tumors that he considers malignant. For 2 years, the 20 male animals daily consumed saccharin in a dosage that constituted 5 percent of their diet. Other groups of rats, fed saccharin as 1 percent of their diet, or less, showed no evidence of tumors at the end of the study. Nees's experiments were supported by the International Sugar Research Foundation.

Other long-term studies of the toxicology of saccharin are nearing completion at FDA laboratories and elsewhere. Jean Taylor, who heads the FDA experiments, reports no evidence of tumors among groups of rats that have been consuming a diet containing as much as 7½ percent saccharin. She calls this a very "suspenseful" time during the experiments because the "animals will develop tumors now if they're going to. We should know more in just a few months."

A man or woman who uses saccharin in coffee, drinks artificially sweetened colas, and eats foods containing saccharin consumes the chemical as an estimated 0.1 percent of his diet in a day.

As far as FDA is aware, no other group has duplicated the data of the Wisconsin investigators as yet. Once each experimental team turns in its results, an academy committee—probably the same one that reviewed the cyclamate case—will evaluate the data to determine the validity of the various studies, the conditions under which they were performed, and so on.

Then, if NAS finds that saccharin can induce tumors in rats, the Institute of Medicine will convene a panel to consider the broad question of the need for artificial sweeteners by persons with various metabolic diseases, particularly diabetes. The institute would ask, for example, whether there is medical justification for making saccharin a prescription drug if the FDA is forced to ban it from food shelves under the Delaney amendment that prohibits the use in human food of any agent known to be carcinogenic in animals (*Science*, 18 August).

The matter of saccharin and some half-dozen cancerous rats also raises once again the whole issue of the validity of the Delaney amendment, which some scientists and government officials would like to see modified. One way to tackle the question, many officials believe, is to begin with a scientific meeting on the issues involved, a meeting that would be sponsored by a private foundation or other disinterested party. There are various plans afoot to organize such a meeting which, its advocates hope, would force members of the scientific community to stand up and be counted rather than to express themselves off-the-record and in private as they generally have thus far.—B.J.C.