mittee to analyze and make recommendations for changing the federal R&D apparatus. The committee is to produce an interim report within a year and a final report in two years. Ad hoc committees set up earlier to examine problems and priorities facing OSTP probably will be disbanded after a final meeting in Los Angeles early next month. However, a core group from the ad hoc committees will be retained as consultants to advise OSTP and help with completion of studies being conducted by the committees. To get the new office under way, Congress is on the verge of approving a $2.3 million budget for fiscal 1977.

With Stever's departure, Dr. Richard C. Atkinson, NSF deputy director, will be in charge of running NSF. How long he will remain in that role depends on when the National Science Board (NSF's policy-making advisory group) and the Ford Administration come up with a candidate for the post. The job is a Presidential appointment and requires Senate confirmation, neither of which bodes particularly well for an early appointment in this Presidential and Congressional election year. □

ERDA oil shale tests are producing oil

The Energy Research & Development Administration is in the midst of its most successful test to date of in-situ extraction of oil from oil shale. Since early April, 10 experimental wells at Rock Springs, Wyo., have produced more than 100 bbl of oil and are still going strong. Although the experiment is designed to maximize oil production, low-quality but usable gas (with a heating value of less than 125 Btu per cu ft) also is generated.

In the experiment, conducted by ERDA's Laramie energy research center, a central well surrounded by eight others was drilled to the bottom of a 40-foot-thick oil shale deposit located 140 feet below the ground surface. The deposit was fractured hydraulically, then a slurry-type explosive forced into the fractures and detonated, creating a zone of broken oil shale. This was ignited on April 5 from the center well and air was blown through. Two days later, oil began to be pumped from six of the outer wells. Since then, a 10th well has been drilled and two of the original wells have stopped producing, giving an indication of the direction of movement of the retorting reaction taking place within the deposit.

The project is the second successful in-situ experiment ERDA has carried out at this site: the first was conducted in 1969 and 1970. The present test uses a significantly more advanced fracturing process for the shale as well as a new method of igniting the oil shale, explains Harry Carpenter, manager of the project. Newly developed explosives replace the nitroglycerin used six years ago to fracture the oil-containing shale. These are much less likely to detonate prematurely than is nitroglycerin.

The in-situ technique still has a long way to go before it will be commercially useful, Carpenter cautions. For one thing, once underground retorting has begun, there is no way to control the movement of the process along the oil shale deposit. The next experiment planned at Rock Springs will tackle this problem—attempting to move the retorting reaction from one area in the shale deposit to another. This experiment will begin sometime this fall, as soon as the present one stops producing oil or useful data, Carpenter says. □

Westinghouse will phase out PCB's

Westinghouse Electric Corp. will cease using polychlorinated biphenyls (PCB's) as fire-resistant transformer insulating fluids at the end of 1976. No quotations for new units filled with PCB's will be made for shipments occurring after Dec. 31.

Customers who now have orders scheduled for delivery after that date are being contacted by Westinghouse to determine if either shipping schedules can be advanced or an acceptable alternative can be arranged. Alternatives include substitution of oil or silicone fluid in the transformers, or alternative designs. Two of the alternative designs are open air-cooled and sealed dry type units, which are suitable in some uses.

The move to replace PCB's, which are toxic to humans, is occasioned by the recent announcement from Dow Corning that a suitable silicone replacement has been developed (C&EN, May 3, page 6) and by new or pending legislation that will severely penalize those responsible for spills from transformers containing PCB's. Under proposed regulations by the Environmental Protection Agency, a spill is defined as anything more than 1 lb of PCB. Where gross negligence is involved in a spill, an individual



Viking I robot lands on Mars, sends back photos and begins experiments

Operating flawlessly after a near perfect landing last week on Mars, Viking I, more than 200 million miles and 11 months from earth, radioed back the first pictures of the Martian surface. The photograph above, part of a panoramic view of the landing site, has been computer enhanced for clarity, although the original itself was remarkably clear. The photographs don't contain any surprises, however, and show a barren, wind-swept landscape strewn with small rocks. In many ways it resembles a desert in the southwestern U.S. But analysis of the Martian atmosphere by the unmanned lander's instruments as the craft headed toward its landing site from orbit did give National Aeronautics & Space Administration scientists some new data to mull over. For example, Viking found that the amount of argon in the Martian atmosphere, previously believed to be as much as 30%, is actually only about 1.5 to 2%. This compares with about 1% in the earth's atmosphere and is good news for NASA scientists who will eventually interpret data from the lander's gas chromatograph/mass spectrometer; a 30% argon level would seriously affect the instrument's operation. Although still not quantified, the major component of the planet's atmosphere is carbon dioxide (as expected). It also contains about 3% nitrogen, compared with the earth's 78%. More rigorous instrumental analyses begin this week with early results expected in about two more weeks.

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could be fined $10,000 and/or imprisoned for up to one year. In addition, the owner or operator of a transformer experiencing a spill could be subject to a maximum fine of $500,000. EPA also has indicated a discharge limitation on PCB's from manufacturing facilities.

Westinghouse also is advising owners of PCB-filled transformers that although retrofitting may be possible, a case-by-case analysis is necessary. Retrofitting involves a series of drainings and flushings that always leaves some residual PCB.

Dow Corning now is engaged in a service test of its silicone fluids to be followed by general marketing in a year or two, assuming no difficulties are encountered. Monsanto, the only U.S. producer of PCB's, already has declared that it will cease production as soon as a suitable substitute is found. Other major producers of transformers note only that they have not yet made up their minds to follow Westinghouse. □

ACS backs proposed clinical lab standards

Although suggesting a few minor changes, the American Chemical Society supports the proposed standards for clinical laboratory personnel now being developed by the Department of Health, Education & Welfare. ACS's position, authorized by the board of directors, was presented at an HEW public meeting last Wednesday by Dr. Kurt M. Dubowski, chairman of the society's Committee on Clinical Chemistry.

Dubowski said at the meeting, "The society endorses the intent of the proposed standards for personnel in clinical laboratories and particularly the planned extension of those standards to the clinical laboratories of hospitals. We support also the policy of promulgating a single appropriate set of criteria to be uniformly applicable to clinical laboratories in various settings."

Representatives of more than 30 scientific societies and associations, hospitals, and state health agencies also presented official statements on the proposed HEW standards (*Federal Register*, June 22, page 25043). The standards specify the required duties and qualifications of clinical lab directors, technical supervisors, general supervisors, technologists, and technicians. They also briefly discuss the duties of trainees.

For the past few years, HEW has been attempting to draft uniform regulations to improve the competence of clinical lab workers. One



Dubowski: single set of criteria

problem is that the rules governing these labs differ depending on the type of clinical lab and its location.

HEW's new proposed standards are similar, in general, to those that already apply to independent clinical labs. One of the main thrusts of the proposed standards is to establish the same regulations for personnel in hospital clinical labs. The new rules would not affect clinical labs in the offices of private physicians.

Among other things, the proposed standards say that a technical supervisor specializing in clinical chemistry must have "at least an earned master's degree in chemistry from an accredited institution, or is a physician." After graduation, he or she must have at least four years of experience in clinical chemistry.

In his prepared statement, Dubowski recommends that the term "chemistry" be changed to "a chemical science." Thus, a person with a master's degree in biochemistry, for example, would qualify. In addition, Dubowski urges that an individual also should be eligible to serve as a technical supervisor if he or she has "at least an earned bachelor's degree in a chemical science from an accredited institution and, subsequent to graduation, has at least six years of experience in clinical chemistry."

In recent months, other efforts have been under way to improve clinical lab performance. On April 29, the Senate passed a bill (S. 1737) to "encourage the establishment of uniform standards for licensing and regulation of clinical laboratories and for other purposes."

In part, the bill, which covers both independent and hospital labs, requires the Secretary of HEW to set standards to assure the "qualifications of the director of the laboratory and other supervisory and technical personnel." If such a measure is passed by Congress, HEW's current efforts to draw up uniform standards for clinical labs will doubtless be highly useful.

This week, the House Committee on Interstate & Foreign Commerce will consider a similar bill (H.R. 14319), which it is expected to act on favorably. The full House probably will not vote on the measure before September. □

Petition candidates for ACS director

There will be two petition candidates on the ballots for director in the American Chemical Society elections this fall. Dr. William J. Bailey will be running for director-at-large and Dr. Gordon L. Nelson will be a candidate for director from Region I—the Northeast.

ACS bylaws were changed last April to make it easier to nominate a candidate for director-at-large via the petition route. Such a petition now needs 300 signatures, down from about 900. For regional director a petition needs signatures from 1% of the voting members of the region. For Region I this means 160 signatures.

There were also two petition candidates in last fall's election—ACS past president Alan C. Nixon, who ran unsuccessfully for director-at-large, and Dr. Warren D. Niederhauser, who was elected director for Region III—the Middle Atlantic area.

Bailey was ACS president in 1975 and he has served on the society's board of directors since 1973. He is a professor of chemistry at the University of Maryland. In this fall's election he will join a slate of four candidates drawn up by the Committee on Nominations & Elections. This slate consists of the two incumbents—Dr. Robert W. Parry and Dr. John C. Sheehan—plus Dr. Robert B. Carlin and Dr. David C. Young. The two candidates receiving the highest votes in a mail ballot of all councilors will be elected.

Nelson has been active in the society's professionalism efforts. He was chairman of the Division of Professional Relations in 1975. He is a staff chemist at General Electric, Pittsfield, Mass. His opponents will be Dr. Ernest I. Becker and Dr. Robert E. Lyle Jr., who were chosen by a recent mail ballot of the councilors from the region from a slate of four drawn up by the Committee on Nominations & Elections. The final choice among the three candidates will be made via a mail ballot of the members of the region. □

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