LETTERS

Tanker Safety

The article by Luther J. Carter discussing the *Amoco Cadiz* incident and ". . . the elusive goal of tanker safety" (News and Comment, 5 May, p. 514) unfortunately contains lopsided reporting on the February conference sponsored by the United Nations' maritime agency, the Intergovernmental Maritime Consultative Organization (IMCO). The author's statement that a sure way to prevent pollution which may arise from ballasting operations would be to require that tankers be equipped with segregated ballast tanks (SBT's) does not square with the facts.

It was emphasized both in papers prepared for delegates to the IMCO conference and in exchanges between delegations that the cost of retrofitting tankers with segregated ballast would be far out of proportion to the marginal environmental benefits which might be thereby derived.

The assertion that the crude oil washing (COW) system is neither as effective nor as self-enforcing from a pollution prevention standpoint as equipping vessels with segregated ballast is simply not true. Conference delegates recognized that proper operation of the SBT system would require heavy reliance on vessel personnel to prevent pollution. Routine washing of cargo tanks on ballast voyages after cargo has been discharged and periodic ballasting of cargo tanks during especially heavy weather would create a potential for marine pollution from vessels with segregated ballast. On the other hand, COW conducted in port under close supervision avoids this possibility of marine pollution.

An accurate account of the conference should also include recognition that, aside from the United States, the most ardent supporters of the SBT concept were the Greek, Norwegian, and Swedish delegations, whose interests were not so much environmental as economic. Requiring that tankers be retrofitted with segregated ballast would reduce worldwide tanker capacity by 10 to 25 percent, thus shrinking the immense tanker surplus which plagues the merchant fleets of these nations. However, retrofitting the tanker fleets of the world and placing into operation additional tonnage to carry the same volume of petroleum would also add billions of dollars to the energy bills of importing nations and, contrary to ongoing conservation efforts, would require the consumption of substantial additional amounts of vessel fuel. In the final analysis, IMCO delegates concluded that retrofitting tankers with SBT's simply could not be justified, either environmentally or economically.

With respect to the *Amoco Cadiz* spill, one must seriously question the author's assessment that the effects of the spill can be expected to persist for a decade or more in some places. This conclusion is not consistent with the fact that other areas affected by major oil pollution, such as resulted from the *Torrey Canyon* incident and offshore Santa Barbara drilling, fully recovered in a suprisingly short time. Scientific objectivity would be better served by making no dire predictions, but rather by letting the result of thorough investigations following such incidents speak for themselves.

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Carter's article on tanker safety is a poignant reminder of the magnitude of the task that confronts all of us in the tanker industry. Recently a former tanker captain with more than 40 years of experience in the tanker business with a major oil company wrote in a letter to me, "The tanker is an ugly, dirty beast, and the oil industry has a poor track record in trying to house-train this animal."

But it doesn't have to be this way. Oil tankers can be constructed and operated to be as environmentally and esthetically acceptable as the sailing ships that brought spices and teas into our harbors. We know how to do it. We need the legislative framework to establish the parameters within which the tanker industry can operate safely, economically, and practically pollution-free. No one company, no matter how big and rich, can afford to have its tankers operate at significantly higher costs than other tankers available for charter. Our industry wants, needs, requires, almost pleads for, firm government action to establish standards for tanker construction and operation that are considerably more effective than those presently in force. What we don't need is a watered-down, ineffective international agreement such as that proposed at the recent London conference on tanker safety and pollution prevention sponsored by IMCO. Our government should reject the results of this latest conference as inadequate and ineffective.

Changes are required in the way oil tankers are owned, operated, and built. Our government should legislate that foreign and U.S. tankers operating in U.S.–controlled waters or carrying oil for transhipment to the United States (i)

stop using water in the cargo tanks of tankers for washing and ballasting; (ii) require deck and engine officers and pilots of tankers to demonstrate their competency on simulators; (iii) provide charterers, insurers, and authorities with their accident and oil spill records; (iv) convert part of the cargo tanks on existing tankers into segregated ballast tanks; and (v) construct double hulls on future new tankers, with the space between the hulls sufficient for all segregated ballast requirements.

Unilateral action by the United States is required. Our actions will quickly become adopted by other maritime nations. These proposed changes would add less than 1 cent to the cost of gasoline. They would result in oil tankers becoming "beautiful."

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Physicists Postpone Visit to Soviet Union

Under the aegis of the Joint Coordinating Committee on Research on Fundamental Properties of Matter (JCC-FPM) established under the Nixon-Brezhnev agreements and involving the U.S. Department of Energy and the U.S.S.R. State Committee on the Peaceful Uses of Atomic Energy, we had planned, as a formal U.S. delegation, to visit nuclear research institutes in Moscow, Dubna, Leningrad, Kiev, Kharkov, Tashkent, Alma Ata, and Novosibirsk during the period 24 May through 7 June 1978. This delegation was the formal counterpart of a Soviet one that visited a number of U.S. nuclear research institutions roughly a year ago.

Collaborative activities under the JCC-FPM have thus far been heavily concentrated in particle physics with productive cooperative utilization of facilities at Fermilab and Novosibirsk. It had been our hope—and that of the JCC-FPM—that through the personal contacts established during our visits, and through our better understanding of the research programs under way in the Soviet institutions visited, it would be possible to broaden these collaborative activities substantially to include a number of areas of nuclear science.

In view of recent developments in the Soviet Union and discussions among ourselves, however, we have found it necessary to postpone our visit. We have forwarded the following letter to the directors of the institutions that had been on our planned itinerary explaining this decision.

We believe our colleagues in the U.S. scientific community will be interested in our decision and the reasons for it.

As you have already learned through formal channels of the Joint Coordinating Committee on Research on Fundamental Properties of Matter (JCC-FPM), and the message from Dr. Kane to Professor Chuvilo dated May 22, 1978, we have decided to postpone our visit to your Institute.

We want to tell you why we have made this decision.

Our planned visits under JCC-FPM sponsorship have reflected our very strong belief in the importance of communication throughout the scientific—and particularly the physics—communities, and our belief that the activities already achieved under the JCC-FPM have made major contributions to scientific cooperation between our countries and to better understanding between our peoples. It has been—and is—our hope that such activities can be extended to new areas of science and to greater cooperation in those areas in which programs already exist.

We are sure that you will agree that one of the most important conditions for the advancement of any science—and again physics in particular—is freedom of communication among scientists. The exchange of ideas as well as the sharing of responsibilities is well known to be fruitful while compartmentalization is, in the end, sterile and unproductive.

It is for this reason that we are happy to have the opportunity to plan for our visits to Soviet institutions, such as your own, as a formal part of the JCC-FPM activity and as a counterpart of the productive visit paid to a number of U.S. nuclear research institutions by a Soviet nuclear science group during the past year. We have envisioned that cooperation between our two scientific communities would be mutually very valuable and we have been anxious to assist in its development.

It is, therefore, with the greatest regret that we have postponed the planned visits.

Cooperative ventures, however, as we are certain you will agree, can flourish only in an atmosphere of good will. It is a fact—an unfortunate fact, but nevertheless a fact—that the atmosphere of good will has eroded as a result of events in your country with the consequence that individual American physicists have progressively become more reluctant to become involved in joint programs involving our two countries.

It must be emphasized that American physicists have a very high regard for Soviet scientists and for Soviet science. It is a fact, however, that American physicists are reacting against a pattern of actions on the part of your government, which they view as repressive, exemplified most recently by the Orlov case. This reaction has now reached an intensity such that we, as individual members of the U.S. nuclear science community, have decided that it would not be possible, at this time, for us to achieve our goal of fostering greater communication and cooperation between our scientists and institutions and yours. It is our judgement that the concern of the American scientists who would be most valuable for participation in joint programs in nuclear science is so strong that little purpose would be served by our visit at this time.

In postponing our visit, it is of course our strong hope that, in future, circumstances will