

AAAS Group Hosts Discussion of Ethics and NASA

BECAUSE organizations vary in how they anticipate and respond to ethical problems in the work environment, the 14 October meeting of the AAAS Professional Society Ethics Group focused on how one prominent and highly visible organization—the National Aeronautics and Space Administration (NASA)—incorporates ethical considerations into its planning and decision-making. Representing NASA were John O'Brien, general counsel, and Milton Silveira, chief engineer.

As NASA's general counsel, O'Brien also is the agency's designated ethics official responsible for maintaining a high level of ethical conduct among its 21,000 employees. Toward that end, O'Brien oversees a compilation of federal regulations intended "to set the general ethical tone for conducting government business." He reviews existing federal regulations that generally apply to all government agencies and then addresses standards of conduct adopted by NASA. Of particular interest to meeting participants was the stipulation that NASA employees not place contractors in a position where objectivity may be impaired or where they may be put in a better competitive position than other contractors.

Recognizing that regulations cannot possibly take into account all situations and behaviors, O'Brien described NASA's efforts to educate its employees about their professional respon-

sibilities on the job. In addition to an advisory service operated by the general counsel's office, NASA distributes a copy of its standards of conduct to each employee and includes discussions of the standards and expected employee conduct in its various training programs. For the most part, the program focuses on conflict of interest matters rather than on the ethical dimensions of launch decisions.

Silveira opened his presentation with a review of the rules governing space shuttle launch decisions. Some of the key factors are: weather, a critical items list which includes a check of all single point failures (no backup systems available), and a hazards analysis. Information regarding these factors is transmitted to various management officials and ultimately to the mission management team, which is responsible for deciding whether to proceed with or abort the mission. If lower management levels do not give due consideration to these rules or the relevant information regarding the launch decision, the mission management team will request that they follow a formal waiver process in which they present their rationale for deviating from routine procedures.

Regarding the launch of the ill-fated Challenger 51-L flight, Silveira admitted that some crucial information apparently did not reach upper management at NASA. As a consequence, the agency is attempting to establish formal channels through which

technical personnel—both at NASA and with contractors—can readily express their concerns to management. Furthermore, some key personnel on the launch team were relatively new to their duties and were not sufficiently familiar with the complexity of their responsibilities.

The Challenger incident, according to Silveira, has had a dramatic effect on the character of NASA. In the past, NASA officials focused on the technical aspects of failure, devoting their collective energies to finding appropriate solutions. But outside pressures have forced all those involved with the space shuttle program to focus on the question of who should bear responsibility for the flight's failure. Silveira expressed concern that attributing fault to a particular individual, an essential feature of the notion of moral responsibility, may make people at NASA less willing to take risks.

At least two other matters of concern at the meeting were raised during the open discussion period. In responding to a question regarding the Challenger flight, Silveira acknowledged that NASA was concerned with the O-ring problem prior to the launch and that an effort to correct the problem was under way. But the problem was not thought to be serious enough to warrant aborting the flight. There was also discussion of whether the Challenger launch decision was a technical or ethical matter. Silveira expressed his belief that the launch decision clearly exposed technical and managerial failures, but involved no serious breach of ethics. But while the decision obviously had a strong technical component, any decision which rests in large part on safety concerns, as do all the launch decisions involving human passengers, is essentially an ethical one and should be explicitly recognized as such by NASA.

The AAAS Professional Society Ethics Group will next meet on 13 January 1987 in Washington, D.C., to discuss possible future projects and activities. In-

quiries about the Group should be directed to Mark S. Frankel, Committee on Scientific Freedom and Responsibility, AAAS, or call 202-326-6793.

MARK S. FRANKEL
*Committee on Scientific
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Proposed Amendment to AAAS Constitution

Two proposals suggesting a constitutional change in the selection of Section Secretaries were submitted to the AAAS Council last May for a first reading and discussion. They will be considered again at the Council's meeting during the 1987 Annual Meeting in Chicago in February.

Present Wording of AAAS Constitution. Article VI, Section 2, Administrative Officers, reads as follows: "... Each Section Secretary shall be elected by his or her Section Committee for a term of four years." (A change is being considered for the italicized portions of the statement.)

The Retiring Section Chairperson, Section Chairperson, Section Chairperson-Elect, Section Secretary, four members-at-large of the Section Committee, Council Delegate(s), and one representative appointed by each Affiliate enrolled in the Section comprise the Section Committee (as defined by Bylaw Article III, Section 2(c)).

Initial Proposed Amendment. On behalf of Section A (Mathematics) officers, Council Delegate Leon Henkin and Section A Chairperson Daniel Zelinsky proposed that Article VI, Section 2, be amended as follows: "... Each Section Secretary shall be elected by the Elected Section Officials of his or her Section Committee for a term of four years."

The term, Elected Section Officials, refers to those officers elected by the Electorate: Retiring Section Chairperson, Section Chairperson, Section Chairperson-Elect, four members-at-large of the Section

Committee, Council Delegate(s), and six members of the Electorate Nominating Committee. The change was proposed to achieve an election of the Secretary by electors chosen by the Section Electorate and better positioned to represent that group in judging the administrative ability and other merits of the candidates. The amendment would reduce the size of the body of electors, with concomitant reduction of effort expended by the AAAS Executive Office staff in conducting the elections.

Alternative Proposed Amendment. As an alternative to the above proposal, Executive Officer William D. Carey proposed that Article VI, Section 2, be amended as follows: "... Each Section Secretary shall be *appointed* by his or her *Section Steering Group* for a term of four years."

The term, Steering Group, includes the Retiring Section Chairperson, Section Chairperson, Section Chairperson-Elect, Section Secretary, and four members-at-large. This proposed change would simplify and reduce the extensive effort involved in the current Executive Office administration of the Secretary elections, as well as eliminating the repeated complaints of Section officers who have found it difficult to convince a second person to run against a top-notch candidate for the office of Secretary. (Historically, prior to 1973, the Board of Directors appointed

the Section Secretary.) In addition, Steering Group appointment of the Secretary would conform to a Bylaw amendment approved in 1985: in the event of a vacancy, the Steering Group appoints a replacement of all Steering Group positions except that of Retiring Chairperson.

During the 1986 Annual Meeting in Philadelphia the Committee on Council Affairs recommended, and the Council concurred, that comments be collected from the Sections and that the two versions of the proposed constitutional amendment be reconsidered at the Council meeting in February 1987. Most of the Sections discussed the two variations of the proposed amendment during their respective business meetings held during the Philadelphia Annual Meeting.

Since then, 17 of the 21 Sections have sent to the Executive Officer the views of the Section Committee members in attendance. A majority of those Sections reporting has indicated a preference for appointment of the Section Secretaries by each corresponding Section Steering Group. The matter will be reconsidered by the Committee on Council Affairs at its December 1986 meeting, and final action will be taken by the Council at its February 1987 meeting.

This notice is published in accordance with Constitution Article IX, which calls for publication of proposed amendments at least 30 days in advance of the Council meeting at which they

1986 General Election Results

The successful candidates in the 1986 general election are listed below. Terms begin on February 1987.

President-Elect: Walter E. Massey

Members of the Board of Directors: Beatrix A. Hamburg and Frank von Hippel

Members of the Committee on Nominations: Rita R. Colwell, Thelma Estrin, Alice S. Huang, and Frederick Reines

Results of the 1986 electorate elections will be announced in the 2 January 1987 issue of *Science*.

are to be presented. If a majority of Council members so votes at the meeting on 18 February 1987, the amendment will be submitted to the AAAS membership for ratification by mail at the time of the 1987 elections. A favorable vote by two-thirds of the members who return ballots is required for adoption. A ratified amendment would become effective upon its adoption, that is, November 1987.

MARGE WHITE
Executive Office

Media and Shuttle Transcripts Offered

Transcripts of the symposium "Media Coverage of the Shuttle Disaster: A Critical Look" are now available.

The symposium took place at the AAAS Annual Meeting in Philadelphia this past May. The discussion featured Scott Carpenter, former NASA astronaut;

Gregg Easterbrook, national correspondent for *Atlantic Monthly*; Richard Flaste, director of science news for the *New York Times*; Laurie Garrett, science correspondent for National Public Radio; and Hugh Harris, chief of public information at NASA's Kennedy Space Center. George Tressel, division director in science education for the National Science Foundation, moderated the discussion.

For a free copy of the transcript, write Carol L. Rogers, Office of Communications and Membership, at the AAAS address.

For the Library . . .

The Association has recently published several volumes of interest to members.

Frontiers in the Chemical Sciences includes 38 papers selected from *Science* by William Spindel and Robert M. Simon of the Board of Chemical Science and Technology at the National Re-

Chairmen and Secretaries of AAAS Sections

MATHEMATICS (A)
Peter D. Lax
Lynn Arthur Steen
PHYSICS (B)
Paul C. Martin
Rolf M. Sinclair
CHEMISTRY (C)
Blaine G. McKusick
Jeanne M. Shreeve
ASTRONOMY (D)
Michael J. S. Belton
John E. Gaustad
GEOLOGY AND GEOGRAPHY (E)
William W. Hambleton
Helen M. McCammon

BIOLOGICAL SCIENCES (G)

Ruth D. Turner
Judith P. Grassle
ANTHROPOLOGY (H)

Richard I. Ford
Priscilla Reining

PSYCHOLOGY (J)
Richard F. Thompson
William N. Dember

SOCIAL, ECONOMIC, AND POLITICAL SCIENCES (K)

Renée C. Fox
William R. Freudenburg

HISTORY AND PHILOSOPHY OF SCIENCE (L)

Sally Gregory Kohlstedt
Arthur L. Norberg

ENGINEERING (M)
Peter Elias
W. Edward Lear

MEDICAL SCIENCES (N)

Alexander Leaf

Henry Blackburn

AGRICULTURE (O)
William E. Larson
Ralph J. McCracken

INDUSTRIAL SCIENCE (P)
James L. Dwyer
Robert L. Stern

EDUCATION (Q)
Robert E. Yager
Joseph D. Novak

DENTISTRY (R)
Harald Löe
Harold M. Fullmer

PHARMACEUTICAL SCIENCES (S)
Grant R. Wilkinson
Betty-ann Hoener

INFORMATION, COMPUTING, AND COMMUNICATION (T)

Marshall C. Yovits
Elliot R. Siegel

STATISTICS (U)
Margaret E. Martin
Edward J. Wegman

ATMOSPHERIC AND HYDROSPHERIC SCIENCES (W)
David Atlas
Bernice Ackerman

SOCIETAL IMPACTS OF SCIENCE AND ENGINEERING (X)
Dean Abrahamson
Rodney W. Nichols

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For more information about the activities and publications described in "AAAS News," write to the appropriate office, AAAS, 1333 H Street, NW, Washington, D.C. 20005, unless otherwise indicated.