



## COMMITTEE ON SOCIAL IMPLICATIONS OF TECHNOLOGY

Columbia University, New York City  
Mudd Engineering Building, Conference Room, 1306A

November 15, 1980

### MINUTES OF THE MEETING

#### 1. Call to Order and Attendance

Chairperson Stephen Unger called the meeting to order at 10:20am. Present for all or part of the meeting were:

Stephen H. Unger	Richard Labonski
Daniel Berger	J. F. Lindsay
R. J. Bogumil	Victor Paschkis
David C. Cook	Gerald Rabow
Irwin Feerst	William H. Underwood
Victor Klig	Donald K. Wilson
Frank Kotasek	

#### 2. Approval of Previous Minutes

The minutes of the September 13, 1980 CSIT meeting were approved.

#### 3. Report from DC Area Working Group

Richard Labonski reported that 16 people had attended the October 29 dinner and speaker meeting in Washington, DC. (See T&S, December 1980.) Frank Kotasek said that Rosemary Chalk's address on "Ethical Dilemmas in Modern Engineering" had been excellent, and that it was tentatively scheduled for publication in the March 1981 issue of T&S.

Labonski said that attendance at all the Group's meetings was hampered by the fact that there are many active IEEE society chapters in the area and that this resulted in schedule conflicts and in interested people being too busy to attend CSIT meetings. It was suggested that any CSIT regional working group formed in the future work closely with the program chairperson and the secretary of the local IEEE section(s).

ACTION:  
Andresen,  
Reisman,  
Unger

Stephen Unger reported that CSIT member Jack Andresen wished to explore the creation of a CSIT working group in the San Francisco Bay Area. Unger will coordinate the effort with Andresen and with Mona Reisman (Administrator, TAB Technical Committees).

#### 4. Report on Effort to Form a SSIT

Stephen Unger reported that, as of November 15, CSIT's petition to form an IEEE Society on Social Implications of Technology had received 856 signatures, including those of 3 former IEEE presidents--Harold Chestnut, John Guarrera, and F. Karl Willenbrock.

EXHIBIT A

Dr. Unger distributed copies of the proposed SSIT constitution (EXHIBIT A), which was drafted by the ad hoc committee appointed by Dr. Robert E. Larson (TAB Chairperson). After a thorough discussion of the contents of the document, the following resolution, introduced by Frank Kotasek, was approved by a vote of 9 to 2:

RESOLUTION

CSIT commends Stephen Unger, F. A. Furfari, Jack Jatlow, Donald Schilling, and William Underwood for having done an excellent job in drafting the SSIT Constitution.

(Note: No formal action by CSIT is called for, because the ad hoc committee reports directly to Dr. Larson.)

Unger invited all CSIT members to give him their suggestions for improving the draft constitution prior to its presentation at the December 4 TAB meeting.

5. Discussing Substantive Issues at CSIT Meetings

The following motion, made by Frank Kotasek, was approved unanimously:

MOTION

That the period from 10:15am to 11:15am of the January 17 CSIT meeting be set aside for discussion of a substantive technology-society issue. A vote was then taken to choose the topic of discussion. The topics proposed and the number of votes received by each are as follows: energy conservation (7); effect of exporting coal on the US energy position (2); transportation and energy consumption (2); ethics of phony doctorate degrees (1); ethics of recruiting students into engineering (0). Gerald Rabow was appointed to lead the January 17 discussion on energy conservation. Similar discussions will be held at subsequent CSIT meetings if the January 17 session is deemed worthwhile.

6. Publication - TECHNOLOGY AND SOCIETY

Stephen Unger reported that the December issue of T&S is on schedule.

Victor Paschkis suggested merging IEEE Technology and Society with the Technology and Society Newsletter published by the American Society of Mechanical Engineers. The new publication might be published by the American Association of Engineering Societies, of which IEEE and ASME are members. The consensus view at the meeting was that such a merger probably would not be feasible. Paschkis will send a recent issue of the ASME T&S Newsletter to Kotasek, who will distribute copies to all CSIT members.

ACTION:  
Paschkis

Frank Kotasek reported that the paid circulation of T&S was 2909 as of October 31, 1980.

7. Choice of CSIT Chairperson for 1981

The procedure for choosing the Chairperson of CSIT calls for the submission by CSIT of three names to the TAB Chairperson, who will then appoint one of them as CSIT Chairperson. It was agreed to designate the names submitted as first, second, and third choice, respectively, and to have separate, successive elections for the three spots. R. J. Bogumil was nominated and approved unanimously as the first choice. Frank Kotasek was nominated and approved unanimously as the second choice. Richard Koch was nominated and approved unanimously as the third choice. Secretary Kotasek is to transmit these choices to Dr. Irving Engelson (Acting Staff Director, Technical Activities).

ACTION:  
Kotasek

8. CSIT Membership Drive

It was agreed to form a CSIT Subcommittee on Membership and Publicity consisting of Frank Kotasek (chairperson), Carl Barus, Jeff Bogumil, Irwin Feerst, Richard Labonski, and Stephen Unger. CSIT approved the following action items:

ACTION:  
Bogumil  
Unger  
Reisman

Bogumil and Unger will arrange to publicize newsworthy CSIT activities in IEEE publications.

Reisman will arrange to send free copies of each issue of T&S to the 150 IEEE section newsletter editors.

Barus  
Kotasek

Barus and Kotasek will compile a mailing list consisting of writers of letters to Spectrum and The Institute on SIT topics, signers of the 1980 SSIT petition, and signers of the 1972 SSIT petition. Initially the list will be used for a promotional mailing of sample copies of T&S to non-subscribers.

ACTION:

Bogumil  
Kotasek

Bogumil and Kotasek will explore the possibility of running a one-third-page paid advertisement in the March 1981 issue of Spectrum and will design the ad in consultation with Balabanian.

Kotasek

Kotasek will arrange for the mailing of approximately 2000 free copies of the December 1980 or March 1981 issue of T&S to non-subscriber IEEE members selected on the basis of their Technical Interest Profiles.

Kotasek

Kotasek will explore the possibility of mailing approximately 10,000 free copies of a special promotional issue of T&S in September 1981. This issue is to consist of the best articles from recent issues of T&S.

A "Help Needed" notice will be enclosed with the minutes of each CSIT meeting to solicit participation and assistance from CSIT members who cannot attend meetings.

Balabanian  
Kotasek  
Reisman

Balabanian and Kotasek will write a promotion piece giving a brief summary of each issue of T&S. Reisman will distribute it to society newsletter editors, either directly or through CSIT members who belong to the societies.

Members of CSIT who belong to IEEE societies will help provide articles and publicity for Technology and Society in one or more of the following ways:

- 1) Send Balabanian the names of people who might be persuaded to write articles.
- 2) Ask authors of unpublished papers or oral presentations to submit them for publication in T&S.
- 3) Send Balabanian copies of articles from society publications for possible reprint in T&S.
- 4) Forward copy of T&S promotion piece to society newsletter editor.

The following CSIT members have volunteered to cover the following societies:

Barus  
Berger  
Cook  
Kotasek  
Landis  
Lindsay  
Rabow  
Underwood

- Carl Barus - Education
- Daniel Berger - Engineering in Medicine & Biology
- David Cook - Nuclear & Plasma Sciences
- Frank Kotasek - Circuits & Systems
- Carolyn Landis - Computer
- J. F. Lindsay - Industry Applications
- Gerald Rabow - Systems, Man & Cybernetics
- William Underwood - Power Engineering

DC Group  
Labonski

Several members of the CSIT Washington Group will help EQC organize sessions at its 1984 Electrotechnology and Environment forum. Labonski will coordinate.

Labonski

Labonski is establishing informal liaison with the System Safety Society and the National Society of Professional Engineers.

Barus

Barus will monitor the following non-IEEE publications for possible news items or reprint articles for T&S: FAS Public Interest Report (Federation of American Scientists); Bulletin of Atomic Scientists; Nucleus (Union of Concerned Scientists); Technology Review.

9. Report on 1980 Frontiers in Education Conference

J.F. Lindsay reported that he had organized a session on "The Role of the Engineer in Society" at the 1980 Frontiers in Education Conference and that he had presented a paper at the session. (A summary of Dr. Lindsay's paper is appended to the minutes as EXHIBIT B.) He plans to organize similar sessions at future FIE conferences.

EXHIBIT B

10. Report from Working Group on Energy/Environment

CSIT appointed David Cook as alternate CSIT representative to the IEEE Energy Committee.

11. Report on Cooperation with EQC

Daniel Berger and Frank Kotasek gave the following report on CSIT cooperation with the IEEE Environmental Quality Committee:

Carl Barus has contacted several activists in the Philadelphia IEEE Section concerning the IEEE Centennial in 1984. To date, no one knows of any plans under way for Centennial activities by the section. Barus and Berger will follow up on this to coordinate the Centennial activities of EQC with those of the Philadelphia Section.

ACTION:  
Barus  
Berger

The November 5 EQC meeting included the following items:

- 1) EQC voted to co-sponsor the CSIT Award for Outstanding Service in the Public Interest and to contribute \$250--of the \$750 total--toward each award, up to a total of 5 awards over the next 5 years. EQC designated Lester Nagel as its representative on the Award Committee.
- 2) EQC adopted a resolution supporting society status for CSIT and magazine status for T&S.
- 3) EQC is organizing sessions on Electromagnetic Radiation, Electric Power Transmission, Computers and Society (tentative), and Measuring and Sensing of Pollutants (tentative) for the Electrotechnology and Environment (ETE) forum at the 1984 IEEE Centennial. (Note: Frank Kotasek will forward the names and addresses of the session organizers to anyone who wishes to help provide ideas or names of possible speakers.)

Leonard Thomas (a member of the CSIT Washington Group and of EQC) is writing an article on the history of EQC for possible publication in T&S. Thomas is also the organizer of the ETE session on Electromagnetic Radiation.

12. Report from Working Group on Ethics and Employment Practices

Stephen Unger presented the case of an engineer whose name had been submitted to him as a nominee for the CSIT Award for Outstanding Service in the Public Interest. After some discussion, it was decided that the case did not merit an award. Unger noted that this was the first award nomination in over 2 years. It was agreed that Joseph Kaufman (Chairperson of the CSIT Award Committee) would be asked to draft a notice inviting nominations for the award. Kaufman will send the notice to Balabanian for publication in T&S and to Kotasek for distribution to editors of other IEEE publications.

ACTION:  
Kaufman

Donald Wilson reported that he is trying to arrange for publication in The Institute of a notice calling attention to the IEEE Code of Ethics and to the relevant procedures and communication channels available to IEEE members.

13. Next Meetings

The next CSIT meeting will be held at Columbia University on Saturday, January 17, 1981, at 10:15am. The meeting after that is tentatively scheduled for April 7, 8, or 9 at Electro '81.

14. Adjournment

The meeting was adjourned at 4:00pm.

Frank Kotasek Jr., Secretary  
December 5, 1980

Recommendation of TAB Ad Hoc Committee on the Formation of an Entity  
on Social Implications of Technology

EXHIBIT A

November 11, 1980

page 1

The Ad Hoc Committee recommends that TAB now enhance and unify the IEEE's overall consideration of the social implications of technology by approving Society status for the activity, and that that it be organized and operated as set forth in the proposed constitution submitted herewith.

The following points are presented in support of this recommendation:

1. There will be Divisional Members of the Society AdCom: one AdCom Member, having full voting rights, will be appointed by each of the (currently) 7 divisional Directors.
2. There will be 9 Members-At-Large on the AdCom, elected by the Society members.
3. With the addition of the Society Officers, immediate past President, Publications Chairman and Chapter Representative (the Vice President and Secretary are to be chosen from among the current AdCom Members), the total number of voting AdCom members will be between 16 and 21.
4. Presidents of IEEE Groups and Societies are invited to appoint liaison members, who will participate on the AdCom as Associate Members without vote.
5. The balanced structure set forth above will give the new society much of the character of a council and will thereby serve to ensure that:
  - 5.1. A conservative and technological quality will exist in the make-up of the AdCom.
  - 5.2. TAB consensus on any issue will receive due consideration in the decision processes of the AdCom in its formal actions on Society matters, publications, position statements and position papers.
  - 5.3. Actions of the AdCom --therefore of the Society-- will generally be consonant with the consensus of TAB and with the aims and objectives of the IEEE.

Ad Hoc Committee

Stephen H. Unger (Chairman)

F. A. Furfari

Jack Jatlow

Donald L. Schilling

William H. Underwood

A  
2

Proposed Constitution for IEEE Society on Social Implications of  
Technology

November 11, 1980

Article 1. Name and Objectives

Section 1. This organization shall be known as the IEEE Society on Social Implications of Technology (SSIT).

Section 2. The Society's purposes shall be scientific, literary and educational in character. The Society shall strive for the application of science for the beneficial use of mankind and for the maintenance of high professional and ethical standards among its members, all in consonance with the Constitution and Bylaws of the IEEE and with special attention to such aims within the field of interest of the Society, as hereinafter defined.

Section 3. The Society shall promote close cooperation and exchange of information pertinent to its field of interest among its members and others, and to this end shall hold meetings for the presentation of papers and their discussion, and shall study and provide for the needs of its members and affiliates.

Section 4. All provisions of the Society shall be in consonance with the Constitution and Bylaws of the IEEE.

Section 5. The IEEE SSIT supercedes the IEEE Committee on Social Implications of Technology (CSIT) and shall assume its various functions as appropriate, within the Bylaws of the Society, including publication of Technology and Society and responsibility for the Award for Outstanding Service in the Public Interest. The subscription list for Technology and Society will be used as an initial basis for membership in the Society in consonance with the membership standards of the IEEE.

Article II. Field of Interest

The field of interest of the society shall be the impact of technology (as embodied by the fields of interest of IEEE) on society, including both positive and negative effects, the impact of society on the engineering profession, and professional, social and economic responsibility in the practice of engineering and its related technology.

Article III. Membership

Section 1. IEEE members in any grade may become Members of the Society upon application and payment of fees as prescribed in the Bylaws.

Section 2. The Society may have Affiliates and Honorary Members as prescribed in the Bylaws.

Section 3. There may be special categories of membership with

appropriate fees, as specified in the IEEE Bylaws.

#### Article IV. Finances

Section 1. The Society shall collect from its members fees as prescribed in the Bylaws.

Section 2. the Society may make registration charges at its Society meetings, symposia, conferences and conventions. The registration fee for nonmembers of the IEEE may be higher than for IEEE members or affiliates.

Section 3. The Society may raise revenues by other means, such as advertising, shows and requests for contributions, provided such means are consistent with applicable rules and regulations, and do not encroach on revenue fields previously established by other Groups, Societies, or Sections. Any new revenue means not explicitly covered by IEEE rules and regulations must be approved by the General Manager of IEEE before being adopted by the Society.

#### Article V. Administration

Section 1. The Society shall be managed by an Administrative Committee (AdCom) with the following composition:

- 1.1. Divisional Members: Each Divisional Director (currently there are 7) shall appoint a representative to serve a two year term on the Society's AdCom. Such appointment shall be made effective coincident with the start of that director's term of service on TAB. Preferably, such appointments should be made from among the members of the Society, but, in any event, all AdCom members must be members of the Society while in office.
- 1.2. Elected Members: 9 Society members, elected at large by the members of the Society for 3 year terms, no more than 2 of which may be consecutive. (Eligibility is restored after a lapse of one year.) Terms of 3 elected members shall elapse every year. Special arrangements to achieve this effect will be made during the initial election of officers. Nine will be elected, with the 3 receiving the most votes serving 3 year terms, the 3 with the next largest vote totals serving 2 year terms, and the remaining 3 serving one year terms.)
- 1.3. The Society Officers, if they are not members by provisions 1.1, 1.2 or 1.4.
- 1.4. The immediate past President shall serve on the AdCom until replaced by a successor. (This post shall remain vacant until the second President takes office.)
- 1.5. The Chairman of the Publications Committee, if not an AdCom member in some other capacity.
- 1.6. The Chapter Representative, if not an AdCom member in some other capacity.

Section 2. The Officers of the Society shall be the President, the Vice President, The Secretary and the Treasurer. The offices of Secretary and Treasurer may be combined and held by one individual as Secretary-Treasurer.

Section 3. All categories of AdCom members defined in Section 1 shall have full voting privileges.

Section 4. Each Officer and AdCom member must be a member of the Society during his term of office.

Section 5. Organizational entities subordinate to the AdCom may be formed as prescribed in the Bylaws.

Section 6. the President and Vice President of the Society shall each be elected annually by the AdCom for a one-year term. Each may be re-elected, but no more than 2 terms shall be consecutive.

Section 7. To qualify for the positions of President or Vice President, a person must have served at least one year on the AdCom during the past 6 years. (This provision shall not be effective until the Society has been in operation for 3 years.) In order to help keep the AdCom at a manageable size, the Vice President shall be chosen from among those already designated as AdCom members by virtue of provisions 1.1, 1.2 or 1.4. The President may or may not be in this category.

Section 8. The retiring President shall serve as Past-President until displaced by a successor.

Section 9. The newly elected AdCom members, President and Vice President shall assume office on the first day of January.

Section 10. A Secretary shall be appointed from among the AdCom members by the President with the advice and consent of AdCom for a term of one year, and may be so reappointed without limit.

Section 11. A Treasurer (or Secretary-treasurer; if this option is chosen then Section 10 above is void) shall be appointed by the President with the advice and consent of AdCom for a term of one year and may be reappointed without limit. This Officer need not have current or prior tenure as an AdCom member. Because of the complexities of budgeting and fiscal interfaces with IEEE, some continuity in the office of Treasurer is desirable.

Section 12. The following, if not members of AdCom in other capacities, shall be Associate Members of the AdCom having no vote:

- 12.1. Liaison members appointed by presidents of other IEEE Societies or Groups.
- 12.2. Chairmen of Society committees.
- 12.3. Special appointees designated by the President with the



advice and consent of AdCom. The number of these shall be kept to a minimum.

Section 13. Duties and responsibilities of the Officers shall be as defined hereinunder and in the Bylaws and as delineated by the AdCom.

Section 14. The President, under the direction of the AdCom, shall have general supervision of the affairs of the Society. He shall preside at meetings of the AdCom, at general meetings of the Society, and have such other powers and perform such other duties as may be provided in the Society Bylaws, or as may be delegated to him by the AdCom.

Section 15. The President shall be an ex officio member of all committees of the Society. He is a member of the IEEE Technical Activities Board and, when notified of a meeting of said Board, he shall ensure representation of the Society at such meeting by himself or by an alternate. If an alternate cannot be found, the President shall present the views of the Society by a letter of proxy.

Section 16. The AdCom may establish standing or ad hoc committees as prescribed in the Bylaws, including both functional committees (e.g. Awards, Chapters, Membership, Nominations) and technical committees. Technical committees within the Society may be established as needed to develop specific areas of the field of interest. All appointments to committee and similar posts will be for a term not to exceed one year. Committee reappointment can be made without limit. In the event that reappointments are not made, and the affected committees and/or similar posts are not formally dissolved, past appointments shall continue until successors are appointed and take office or until the committees and/or similar posts are dissolved.

Section 17. The AdCom may utilize the services of Headquarters as bursar for all or part of the Society funds. If any part of the Society funds is received and deposited separately, the terms and conditions shall be in accordance with IEEE policies and subject to the provisions of the Society Bylaws and to any special limitations imposed by the AdCom.

Section 18. Neither the Society nor any Officer or representative thereof shall have any authority to contract debts for, pledge the credit of, or in any way bind the IEEE except within prior approved budgets.

#### Article VI. Nomination and Election of AdCom

Section 1. The nominating procedure for Elected Members of AdCom shall include provision for petition by Society Members to place a name on the ballot. The election procedure shall be prescribed in the Bylaws.

Section 2. Vacancies on the AdCom may be filled by appointments as prescribed in the Bylaws.

#### Article VII. Meetings

Section 1. The Society may hold meetings, conferences, symposia or conventions, either alone or in cooperation with Sectional, Regional or National Convention Committees of the IEEE, or other technical or scholarly organizations, subject to IEEE rules and regulations.

Section 2. Meetings and conferences of the Society shall be open on an equal basis to all members of the IEEE. The Society may not sponsor or cosponsor a meeting which is subject to security clearance.

Section 3. The AdCom shall hold at least 2 meetings each year, one of which shall be designated the Annual Meeting, at a time specified in the Bylaws. Other meetings of the AdCom shall be held at such times as are found necessary and/or convenient. Special meetings of the AdCom may be called by the President of the Society at his own discretion or upon request of 3 other members of the AdCom with at least 30 days' notice.

Section 4. A quorum of the AdCom shall be a majority of those members having voting rights.

Section 5. A majority of the legal votes cast by those members of the AdCom attending a meeting shall be necessary for the conduct of its business except as otherwise specified in this constitution.

Section 6. Business of the AdCom may be handled by correspondence, telephone, or telegraph as appropriate in the opinion of the Officer concerned. When such business involves actions not having the prior approval by majority vote of the AdCom, or is outside its normal policy, approval by majority vote is necessary, unless otherwise provided. Telephone acts are to be confirmed promptly in writing.

#### Article VIII. Publications

Section 1. Publications undertaken by the Society shall be subject to IEEE policies and to any further guidance or controls prescribed by the AdCom or its duly appointed committees. The Society shall be responsible for the financial aspects of its publication program.

Section 2. The President, with the advice and consent of the AdCom, shall appoint such editors as may be required to implement the publication program. The duties of an editor, and his compensation, if any, shall be prescribed in the Bylaws.

#### Article IX. Bylaws

Section 1. Bylaws governing the conduct of the affairs of the Society shall be in consonance with the governing laws and policies of IEEE and the constitution. They may be adopted and amended by a two-thirds vote of the AdCom.,

Section 2. A complete statement of a proposed Bylaw or amendment and the reasons for its proposal shall be given to all AdCom and Society members at least 30 days before the vote is to be tallied. Inclusion in a Society publication circulated to all Society members shall be

considered adequate notice to Society members.

Section 3. A new bylaw or amendment shall become effective only after a copy has been deposited with the chairman and Secretary of the IEEE Technical Activities Board.

Section 4. A vote on adoption or amendment of the Bylaws may be taken in an AdCom meeting or by letter ballot of AdCom members at the option of the Society President.

Section 5. If the vote is taken in meeting, AdCom members may vote in person or by duly delegated alternate.

Section 6. If a letter ballot is selected, at least 30 days shall be allowed for response.

#### Article X. Constitutional Amendments

Section 1. Amendments to this Constitution may be initiated by petition submitted to the President by a minimum of 40 members of the Society or by 2/3 majority vote of the AdCom. Each proposed amendment will be transmitted for administrative approval to the IEEE Technical Activities Board (TAB) and to the Executive Committee of the IEEE. If approved by TAB and the Executive Committee, the proposed amendment shall be published in a Society publication distributed to all Society members with notice that it goes into effect unless 40 or more Society members object in writing within 30 days. If such objections are received, a copy of the proposed amendment shall be mailed with a ballot to all members of the Society at least 30 days before the date appointed for return of the ballots, and the ballots shall carry a statement of the time limit for their return to the IEEE office. Approval of the amendment by at least two-thirds of the ballots legally cast shall be necessary for its enactment. For each petition submitted, the AdCom shall prepare summary statements for and against the proposed amendment and a recommendation in the form of a vote of the AdCom concerning its adoption. The summary statements and recommendations shall be transmitted along with the petition to the IEEE TAB and Executive Committee, and shall appear along with the proposed amendment when the latter is published for Society consideration.

Section 2. All amendments to the Constitution shall become effective 30 days after all necessary approvals and notifications, unless a later date has been specified at the time the vote is taken.

EDUCATING ENGINEERS IN THE ASSESSMENT AND CONTROL OF INDIRECT IMPACTS

Hugh J. McQueen and James Lindsay  
Faculty of Engineering  
Concordia University, Montreal

Summary

Consideration is given to an exemplary selection of recent cases in which engineers have engaged in issues regarding the societal impact of technology. These examples are drawn primarily from the work of one provincial licensing organization but are considered to be typical of problems facing engineers everywhere. In addition, the new functions of socio-technical planning in the Federal departments are examined and the resulting opportunities for interdisciplinary activities by engineers pointed out. As a means of preparing graduates to be more effective in dealing with this aspect of engineering, a series of topics are suggested for inclusion in the social sciences and humanities part of an engineering program. Experience in offering appropriate courses at the authors' university is cited for both undergraduate and graduate students.