

Technology & Society Division Annual Report Operating Year 2004 – 2005

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I. Executive Summary

The Technology & Society Division has implemented a minor reorganization in the Operating Year 2004-2005 to enhance the scope and value of its activities. First of all, the division has timely established Energy and Economics (E&E) Committee, the sixth program committee for the division, in summer 2004, and over fifty members showed an interest in being actively involved with the committee activities, only in two weeks after announcement of its inauguration. Secondly, History & Society Committee has been renamed to Emerging Technology & Society (ET&S) Committee with a new committee chair, who is promoting Adaptation and Innovation Theory to enrich its activities. Thirdly, the two function committees, Conferences Committee and Professional Development Committee were merged, and Conferences and Continuing Education Committee was launched. The division's strength lies in its diversity, as evidenced by the fact that the division's key volunteer officers for these activities include members residing in Japan, Venezuela, U. K., and Switzerland.

A vast majority of program committees are planning technical sessions for International Mechanical Engineering Congress and Exposition (IMECE) 2005 and National Manufacturing Week (NMW) 2006, and it is of a particular note that Sustainable Engineering (SE) and Ethics & Technology (E&T) Committees have proposed Sustainable Engineering Track and Ethics and Licensure Track for IMECE 2005, respectively, which were approved by IMECE 2005 Organizing Body. For NMW 2005, the Division Chair invited a total of four speakers from US Department of Energy (DOE) National Energy Technology Laboratory (NETL), Environmental Protection Agency and private industry to NMW 2005 sessions held on March 7-10 in Chicago, and chaired one of its Plenary Sessions and spoke jointly with a US DOE NETL representative on that occasion.

The Division has enjoyed the healthy financial status and the enhanced value of activities for the Operating Year 2004-2005, and plans to launch exciting events and programs for the Operating Year 2005-2006.

II. Key Division Metrics

- 1) **Income Statement:** Expected year-end revenue total of **\$2,112.00** (See **Appendix A: Financial Statement**)
- 2) **Balance Sheet:** Expected year-end custodial account balance of **\$4,128.40** (See **Appendix A**)
- 3) **Membership:** **513 primary members as of April 30, 2005 (down 1.5% from 521 as of April 30, 2004, up 0.2% from 512 as of April 30, 2003, and up 3.4% from 496 as of July 1, 2002)**
- 4) **Volunteers:** at least 100 active volunteers as of May 2005 (**up three times from May, 2004**)
- 5) **Two Leadership Committees** (Division Executive and General Committee meetings): **twenty meetings** (of which 13 are teleconferences and 7 are face to face meetings) held for the operating year 2004-2005
- 6) **Six Program Committees** (Sustainable Engineering (SE), Engineering Public Policy (EPP), Ethics & Technology (E&T), Emerging Technology & Society (ET&S), Intellectual Property (IP), and Energy and Economics (E&E) Committees): Numerous meetings held for the operating year 2004-2005
- 7) **Six Function Committees** (Conferences and Continuing Education, Publications, Honors, Nominating, Past Chairs and Website Committees): Held on as-needed basis for the Operating year 2004-2005
- 8) **International Committee:** Hosted a session with Management Division for Engineering Business management (EBM) Track at IMECE 2004
- 9) **Conference sessions and Events hosted by the Division:** Delivery of a **total of 11 technical sessions and one special event** for IMECE 2004 and NMW 2005, and publication of the IMECE 2004 Proceedings of peer reviewed papers presented at T&S Track sessions, the fifth volume in series since IMECE 2000
- 10) **Recognition:** three Certificates of Appreciation given to three young members at IMECE 2004

III. Division Functional Accomplishment Assessment

Reference: Council on Engineering Operating Guide (1997), section 4.2.1 "Division Functions":

A. Organizing Committee Meetings and Technical Sessions/Events

A1. Division Executive Committee Meetings: A total of ten meetings (seven teleconference meetings and three face-to-face meetings) were held on June 6 (F), June 24 (T), September 27 (T), October 25 (T), November 14 (F), 2004, and January 22 (T), March 6 (F), April 18 (T), May 16 (T), and May 21 (T), 2005 to discuss and make a decision on key issues of the mission, objectives, planning, strategies, etc., of the division.

A2. Division General Committee Meetings: A total of ten meetings (six teleconference meetings and four face-to-face meetings) were held on June 6 (F), July 2 (T), September 10 (T), October 25 (T), November 14 (F) and 15 (F), 2004, and January 22 (T), March 6 (F), April 18 (T), and May 16(T), 2005 to discuss and make a decision on key issues of the mission, objectives, planning, strategies, etc., of the division.

(Note) T: Teleconference meeting F: Face-to-face meeting

A3. Program and Function Committees:

- * The SE committee met 5 times (4 by teleconference, and 1 by face to face at IMECE 2004). The SE activities for 2004-2005 were: 1) 1st and 2nd online modules on the Professional Practice Curriculum (PPC) on Sustainable Engineering and Sustainability Tools, respectively, 2) Collaborated and reviewed material for the ASME's Anniversary page for the month of February on Appropriate and Sustainable Technology, 3) Preparation of 10 sessions for SE Track for IMECE 2005, as well as planning a session at the Young Engineer's Forum on Sustainability, 4) Participation of SE committee members in SE Forum virtual meeting organized by AIChE's Institute for Sustainability, 5) Presentation to engineering students of University of Zulia (Maracaibo, Venezuela) about ASME benefits and division participation, an event organized by ASME student chapter LUZ, and 6) Improved outreach and visibility with web content.
 - * The E&T committee met at IMECE 2004 and via teleconference meetings. The E&T primary activities for 2004-2005 were: 1) Creation of an Ethics and Licensure track proposal for the ASME Congress, 2) Presented Ethics Workshop at IMECE 2004, 3) Development of 5 sessions for E&L Track at IMECE 2005, 4) Recruited three new committee members, and 5) Updated content on committee web page.
 - * ET&S committee constructed its operating guide, and is improving its outreach and visibility with updated web content (in progress). Its members met once at IMECE 2004 and the committee is organizing two sessions for IMECE 2005.
 - * E&E committee recruited more than 50 interested participants within two weeks after announcement of its inauguration, of which 27 became formal volunteer members, approved by the T&S Executive Committee. The committee developed its operating guide and is organizing three panel sessions for IMECE2005, inviting engineers, economists as well as environmentalists as panelists. The committee's three founding organizers met at IMECE2004 for discussion on future activities, and started to develop the E&E channels and liaisons for inter-divisional and international collaborations within ASME, and for inter-societal collaborations.
 - * The EPP committee met at IMECE 2004 and discussed future planning.
 - * The IP committee met by teleconference and is organizing one session for IMECE 2005.
 - * The Conferences and Continuing Education committee offered an on-line seminar entitled "Inviting Disaster" from September 20 to October 15, 2004, in which 19 people participated, bringing revenue of \$640 to the division.
 - * Young Engineer and On-Line Community Liaison reported that the T&S Division and four T&S Division Committees have migrated their forums and discussion groups over to the new ASME Communities of Practice (all membership numbers as of 05/16/05) with their current state as follows:
 - Technology & Society Division: <http://cop.asme.org/COP/TechnologySocietyDivision/> 45 members
 - Intellectual Property: <http://cop.asme.org/COP/IntellectualProperty/> 81 members
 - Engineering Public Policy: <http://cop.asme.org/COP/EngineeringPublicPolicy/> 101 members
 - Sustainable Engineering: <http://cop.asme.org/COP/SustainableEngineering/> 78 members
 - Ethics & Technology (under the Ethics & Licensing CoP): <http://cop.asme.org/COP/EthicsandLicensing/> 63 members
- Each T&S Division CoP is averaging over 60 hits per month by both members and visitors.
- * The division's webmaster requested and received access for direct maintenance of the division's web pages

immediately following the reorganization of ASME's sub-domain names for volunteer website (i.e., from www.asme.org/divisions/ts to <http://divisions.asme.org/ts/>) in March 2005. With such direct access, the webmaster was able to complete an audit/update of all of the division's website pages and their embedded links within 60 days.

Table 1 List of Technology and Society Division Function, Program and Other Committees

Function Committees and Liaison	Program and Other Committees
Conferences and Continuing Education	Intellectual Property (IP)
Publications	Emerging Technology and Society (ET&S)
Honors	Engineering Public Policy (EPP)
Past Chairs	Ethics and Technology (E&T)
Nominating	Sustainable Engineering (SE)
Website –At Large-	Energy and Economics (E&E)
Young Engineer & On-Line Communities Liaison	International Committee (with Management Division)
	Ad Hoc Governance Committee
	Ad Hoc Planning Committee

A4. Conferences

The division participated in the following conferences during the Operating Year 2004-2005:

- June 2, 2004 The Division Chair attended the ASME, IEEE, AIChE planning meeting on Ethics and Changing Energy Market Conference planned to be held in Chicago.
- June 6-9, 2004: ASME Summer Annual Meeting (SAM) in San Diego, California
 Seven division volunteers and one ASME Staff attended **the T&S Division Executive and General Committee meetings on June 6.** One division member attended **the E&TM Group Operating Board meeting.**
- November 13-19, 2004: International Mechanical Engineering Congress and Exposition (IMECE) 2004 in Anaheim, California
 Seven technical sessions directly sponsored by the T&S division
 One special event (T&S Dinner) presided by the Division Chair.
 The meetings of Executive and General Committees were chaired by the Division Chair on November 15 and 16.
 The Division Chair and Ethics and Licensure Track Manger attended the **Congress orientation and business meetings.**
- March 2-3, 2005 The Division Chair delivered a lecture entitled "Studying and Working Abroad: Challenges and Opportunities for Students and Young Professionals" for students and faculty on March 2 and 3, respectively, at Harrisburg Campus of the Pennsylvania State University, on behalf of the ASME.
- March 4-6, 2005: ASME Technology Executives Conference in Pittsburgh, PA
 Five division volunteers (the Division Chair, Secretary/Treasurer, ET&S and SE Committee Chairs, and Young Engineers and On-Line Communities Liaison) attended the Conference. The T&S Executive and General Committee meetings were held on March 6, and were attended by the Division Chair, and TEC attendees onsite, and by other committee members over phone.
- March 7-10, 2005: National Manufacturing Week 2005 in Chicago, IL
 Four technical sessions were sponsored by the T&S division.
 The T&S Program Chair for NMW 2005 (also T&S Division Chair) attended the

NMW 2006 planning committee on March 7, spoke at one of the plenary sessions, and joined discussions at keynote and technical sessions on March 7 and 8.

B. Coverage of Technical and Social Disciplines/ Areas

The division's technical programming covered the areas of **Engineering Public Policy, Ethics and Technology, Emerging Technology & Society, Intellectual Property, Sustainable Engineering, Energy and Economics, and International Business Management issues.**

C. Learning

C1. The division maintained its already strong conference participation at International Mechanical Engineering Congress & Exposition (IMECE) 2004, National Manufacturing Week (NMW) 2005, delivered a total of 11 technical sessions and one special event at IMECE 2004 and NMW 2005, and published the Proceedings of peer reviewed papers presented at IMECE 2004 (the fifth volume in series since IMECE 2000).

C2. External relations included liaison relationships with the ASME units and 2 external societies - the Society of Social Impacts of Technology (SSIT) of IEEE, and Institute for Sustainability of AIChE among others, as listed in **F. Cooperation.**

D. Recruitment

The division's known and identified active volunteer members grew **three times (mostly by establishing E&E Committee)** during the operating period.

E. Applications

The division did not cooperate with any other Divisions or Societies to identify how basic Division output may be used in products and designs.

F. Cooperation

The division did maintain informal liaison relationships with the following ASME units and external societies:

F1. ASME:

- * CMA / Board on Professional Practice and Ethics
- * CPA / Board on Government Relations
- * COE / Board on Research and Technology Development / Edison Patent Award Committee
- * COE / Environment and Transportation Group / Environmental Engineering Division / Solar Engineering Division
- * ASME Publications Committee
- * Region III, VIII and XIII Vice Presidents, Sub-Region Chairs, and Section Chairs

F2. External:

- * IEEE / Society of Social Impacts of Technology (SSIT)
- * American Institute of Chemical Engineers (AIChE)'s Institute for Sustainability
- * Engineers Sustainability Projects Coalition
- * Environmental Protection Agency
- * National Energy Technology Laboratory, Department of Energy

F3. CMA Unit Cooperation

The division did actively cooperate with CMA in the following areas:

- * The division provided a speaker (Division Chair) for a lecture entitled “Studying and Working Abroad: Challenges and Opportunities for Students and Young Professionals” on March 2 and 3, 2005 at Penn State Harrisburg Campus.
- * The Division Chair contributed to discussion and planning for global operation of the society as a member of Global Communities Work Team.

F4. COE Unit Cooperation

The division cooperated with other technical divisions in the following areas:

- * co-sponsored an EBM Track session with the management division at IMECE 2004.

G. Viability

The division actively sought and implemented ways to become financially viable, while providing quality technology transfer through conferences, etc. The income derived from its activities exceeded its expenses.

H. Leadership

The chair and members of the division executive and general committees provided active leadership in developing ideas in the areas of **Energy and Economics** and **International Education** among others.

I. Research

The division did not work with any group Vice Presidents or the Center for Research and Technology Development to identify research needs or foster their fulfillment or translate results.

J. Publication

- 1) The division has published the Proceedings of the papers presented at sessions of T&S Division Track of IMECE 2004, following those for the papers presented at the T&S and Management Division Tracks from IMECE 2000 to 2003, but does not maintain any journals.
- 2) As the division’s webmaster obtained direct file transfer protocol (FTP) access to the web server hosting the division’s website in March, 2005, all of the division’s Website content has been updated.

K. Recognition

Three young general committee members, who have served as Young Engineer & On-Line Communities Liaison, Sustainable Engineering Committee Chair, and Energy & Economics Committee Chair, were conferred certificates of appreciation at IMECE 2004.

L. Students

The Penn State Harrisburg Student Section members and faculty were given an opportunity to attend a lecture entitled “Studying and Working Abroad: Challenges and Opportunities for Students and Young Professionals” delivered by the Division Chair on March 2 and 3.

M. Minorities and Women

The division actively promoted the participation of minorities and women in the activities of the Division and its Executive Committee, in the following manner:

- * One Region XIII member serves as Chair of T&S Division Executive Committee/Division Chair,
- * Four Region XIII members serve on the T&S Division General Committee, and

* Three female members serve on the T&S Division General Committee.

IV. Planning for the 2005-2006 Operating Year

The division plans to achieve several high level objectives during the 2005-2006 operating year. These objectives and their supporting execution plan are as follows:

- A. Promote the Division priority activities, shown in Table 2.
- B. Promote multi-disciplinary and cross-cutting engineering approaches in the aforementioned focused areas.
- C. Promote international activities such as international education of students and young professionals.
- D. Substantial increase in volunteers from current 100, across 16 committees shown in Table 1, reaching all member ages, geographic locations and professional roles.
- E. Increase in revenue to 50% of division subsidy by hosting NMW 2006 and IMECE 2005 sessions
- F. Increase in overall technical content quality as well as meeting specific targets: 25 technical sessions, 6 short courses, and monthly website content posting and 3 technical honors or awards
- G. Ratification of new or revised governance documents (operating guides of committees)
- H. Formation and adoption of a multi-year strategic and financial plan that will create a 10% operating surplus by 2007.

Table 2 Priority of T&S Division Activities Based on Multi-Vote by Executive Committee Members

Items	Priority	Description	Multi-Vote Results (October 21, 2003)
White Papers	1	Approved statements that convey T&S Division's official position on a technical subject to government	15
Advocacy Statements	2	Advocacy of positions and knowledge to outside groups such as legislators and policy makers	13
Peer Reviewed Papers	3	Quality research papers published in T&S Division's knowledge or position on a technical subject to specific audience	12
Recognition, Honors and Awards	3	Issuance of honors/awards to leading technical professionals who are role models	12
Idea Exchange	5	Idea exchange to write white papers, advocacy statements, etc.	11
Technical Articles	5	General interest technical articles authored by division members to educate other division members	11
Expert Discussion	7	Expert discussion for Congress sessions, etc.	9
Interpersonal Networks	7	Typically to hold T&S Division volunteers together	9
Information Archives	9	Utilizing website, etc.	6
Short Courses	9	Forums where authors and experts present their research and exchange views on technical subjects	6
Lectures	11	One-way conveyance of important technical knowledge and views	5
Paper and Project Competition	11	Typically for students	5
Sponsored Research	11	Typically to support a white paper or position statement	5

Appendix A: Financial Statement (July 1, 2004 – June 11, 2005)

The American Society of Mechanical Engineers 4-04230000 COE-TECHNOLOGY AND SOCIETY For the Seven Months Ending January 31, 2005 CURRENT FISCAL YEAR 2005		
	JAN Actual	YTD Actual
Opening Balance	0.00	4,000.27
FYTD Investment Income	(46.28)	353.36
FYTD Revenue	180.00	1,440.00
FYTD Expense	0.00	(2,337.23)
Ending Balance	133.72	3,456.40
Expected Revenue after Jan. 31, 2005		672.00
Expected Rough Ending Balance as of June 11		4,128.40
Note: The revenue of US \$672 gained by the division sponsored sessions for National Manufacturing Week 2005 on March 7-10 is not included in the ending balance as of January 31, 2005.		