IEA ANNUAL REPORT 1997 - 1998

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International Ergonomics Association

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The IEA Press

International Ergonomics Association

Poste Restante
Human Factors and Ergonomics Society
P.O. Box 1369
Santa Monica, CA 90406-1369, USA

http://ergonomics-iea.org

INTERNATIONAL ERGONOMICS ASSOCIATION

The **International Ergonomics Association (IEA)** is the association of ergonomics and human factors societies around the world.

Ergonomics, also known as human factors, is the scientific discipline concerned with the interaction between humans and technology.

ERGONOMICS

Ergonomics integrates knowledge derived from the human sciences to match jobs, systems, products and environments to the physical and mental abilities and limitations of people.

GOALS AND OBJECTIVES

The goal of the IEA is to promote the knowledge and practice of ergonomics by initiating and supporting international activities and cooperation. The objectives include the advancement of knowledge, information exchange and technology transfer. To meet these objectives, IEA establishes international contacts among those active in the field, cooperates with international organizations to facilitate the practical application of ergonomics in industry and other areas, and encourages scientific research by qualified persons in the field of study and practice.

ORGANIZATION

The IEA was organized pursuant to Article 60 et seq of the Swiss Civil Code. The registered headquarters of the IEA is in Zurich with a business office in the U.S.A. At present, there are 34 member societies representing about 17,000 ergonomist worldwide.

The IEA maintains liaison with the United Nations, the World Health Organization (WHO), the International Labour Office (ILO) and the International Standards Organization (ISO).

IEA GOVERNING BODY

The IEA is governed by a Council comprised of delegates from the member societies and by the Executive Committee of the Council.

EXECUTIVE COMMITTEE

The IEA Executive Committee comprises of the elected Officers, Chairs of the Standing Committees, Past President (non-voting), Newsletter Editor (non-voting), and the IEA Triennial Congress Chairperson (non-voting).

SHORT HISTORY

Ergonomics emerged as a modern discipline during World War II when the human operator became increasingly the weakest link in modern sophisticated military systems. After the war, the discipline continued to grow to meet the challenge of civilian applications.

The IEA was founded in 1959 in response to the growing need for international cooperation, principally in Europe. The emphasis in the early days was on human productivity and work physiology. As the discipline matured, other fundamental objectives were recognized, such as the provision for safer and healthier working environments
and the improvement of the quality of working life.

Today the discipline encompasses a diversity of interests including cognitive science, human-computer interaction, organizational design and management. The potential of ergonomics is becoming widely recognized by industry, government, labour and the general public.

Ergonomics has contributed to the development of industrial workplaces, transportation, aerospace systems, office design, computer hardware and software and consumer products. It is testament to the importance as well as the success of ergonomics that its scope of application is expanding at an accelerated rate to encompass virtually all aspects of human activity at work, at home and at play.

1997- 2000 IEA OFFICERS

PRESIDENT
Dr. Ian Noy
Chief, Ergonomics Division
Transport Canada
330 Sparks Street, Tower "C"
OTTAWA, Ontario K1A 0N5
CANADA
Tel: +1-613-998-2268
Fax: +1-613-998-4831
E-mail: NOYI@tc.gc.ca

SECRETARY GENERAL
Prof. Waldemar Karwowski
Center for Industrial Ergonomics
Academic Building, Room 437
University of Louisville
LOUISVILLE, KY 40292
USA
Tel: +1-502-852-7173
Fax: +1-502-852-7397
E-mail: w0karw01@homer.louisville.edu

TREASURER
Dr. Kazutaka Kogi
The Institute for Science of Labour
2-8-14, Sugao, Miyamae-ku, Kawasaki
KANAGAWA 213
JAPAN
Tel: +81-44-977-2121
Fax: +81-44-977-7504
E-mail: k.kogi@isl.or.jp

EXECUTIVE COMMITTEE

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1997- 1998 COMMITTEE CHAIRS

POLICY AND DEVELOPMENT
Prof.ir. Pieter Rookmaaker
AMG / Ergonomics
P.O. Box 2286
3500 GG UTRECHT
THE NETHERLANDS
Tel: +31-30-2399455
Fax: +31-30-2399456
E-mail: amg.ergonomics@transergo.nl

SCIENCE AND TECHNOLOGY
Prof. Kenneth R. Laughery
Dept. of Psychology
Rice University
HOUSTON, TX 77251
USA
Tel: +1-713-527-4862
Fax: +1-713-285-5221
E-mail: laugher@ruf.rice.edu

PROFESSIONAL PRACTICE & EDUCATION
Prof. Margaret Bullock
Faculty of Health & Rehabilitation Sciences
University of Queensland
ST LUCIA, QLD 4072
AUSTRALIA
Tel: +61-7-3378-2848
Fax: +61-7-3365-4754
E-mail: bullock@physio.therapies.uq.oz.au

PROMOTION & PUBLICATION
Prof. Markku Mattila
Tampere University of Technology
Occupational Safety Engineering
P.O. Box 541
FIN-33101 TAMPERE
FINLAND
Tel: +358-3-365-2621
Fax: +358-3-365-2671
E-mail: mattila@cc.tut.fi

INDUSTRIALLY DEVELOPING COUNTRIES
Dr. Kamiel Vanwonterghem
CERGO International
Zavelvennestraat 64
B-3500 HASSELT
BELGIUM
Tel: +32-11-212494
Fax: +32-11-232325
E-mail: CERGO@pophost.eunet.be

AWARDS
Past President
(non-voting)
Prof. Martin G. Helander, Chair
Division of Industrial Ergonomics
Linköping University of Technology
581 83 LINKÖPING
SWEDEN
Tel: +46-13-281599
Fax: +46-13-282579
E-mail: mahel@ikp.liu.se

NEWSLETTER EDITOR
Ergonomics International
(non-voting)
Prof. Stephan Konz
Dept. of Industrial Engineering
Durland Hall
Kansas State University
MANHATTAN, KS 66506-5101
USA
Tel: +1-913-532-5606
Fax: +1-913-532-7810
E-mail: sk@ksu.edu

IEA 2000 CONGRESS CHAIRMAN
(non-voting)
Prof. Hal Hendrick
7100 E.Crestline Avenue
ENGLEWOOD, CO 80111
USA
Tel: +1-303-843-6365
Fax: +1-303-843-6365
E-mail: hhendrick@aol.com

IEA HISTORIAN (proposed)

(non-voting)
Dr. Ilkka Kuorinka
F-46 160 Grealou
FRANCE
Tel & fax +33 5 65 40 71 89
E-mail: kuorinka@crdi.fr

IEA MAIN ACTIVITIES

The IEA sponsors its triennial Congress which is a major international event. Additionally, the IEA supports other joint conferences in ergonomics. The IEA publishes the proceedings of the triennial Congress and various other meetings as well as the Directory of Educational Institutions, other resource documents and books, and promotional material.

Much of the work of the IEA is accomplished through its standing committees. Committee chairs are normally changed or confirmed one year after the triennial Congress. The following are the standing committees of the IEA, some of which have subcommittees responsible for specific functions or activities.

IEA AWARDS

ThE Awards Committee recommends to the Council awards to be given to individuals for their contributions to the field of ergonomics.

The awards presently include:

IEA Distinguished Service Award
IEA Founders Award, IEA Outstanding Educators Award
IEA Ergonomics of Technology Transfer Award
IEA Ergonomics Development Award
The Liberty Mutual Prize in Ergonomics
and Occupational Safety
The IEA / K.U. Smith Student Award

ANNUAL REPORT OF THE PRESIDENT

by I. Noy

I am pleased to announce the following appointments that will become effective following the Council meeting in Cape Town. John Wilson (ES) will replace Margaret Bullock as Chair, Professional Practice and Education Committee. Andy Marshall (ES) will replace Stephen Konz as editor of Ergonomics International. Also, as announced last year, Pat Scott (ESSA) will replace Kamiel Vanwonterghem as Chair of IDCC. These changes were prompted by a policy adopted two years ago which limits the terms of office of IEA officers and chairs to a maximum of 6 years. I am certain that you join me in congratulating the new Executive members and that you will extend to them your complete cooperation and support.

I wish to thank Margaret, Steve, and Kamiel for the contributions they have made on behalf of the IEA. The IEA is richer and stronger as a results of their efforts. Besides being dedicated and resourceful, each is brilliant in their own way. Although we will certainly miss them on the Executive Committee, I am sure we will continue to work with them in other ways.

I am also pleased to announce that Ilkka Kuorinka has assumed the functions of IEA Historian from Brian Shackle (a proposal to formalize the position of IEA Historian will be voted on in Cape Town).

The IEA was invited to participate in the Advisory Board for the World Engineers Convention at the World Exposition EXPO 2000, Hannover, Germany. We believe that IEA participation in the Advisory Board offers an exciting opportunity to enhance links with engineering disciplines and to promote ergonomics within the engineering community. I am pleased to announce that Prof. Heiner Bubb will represent the IEA on the Advisory Board.

A priority activity for me over the past year was the coordination of the strategic plan, with the help of the Policy & Development Committee and the Executive. A key theme is to forge closer ties with our member societies and facilitate their active involvement in IEA initiatives. To that end, we are introducing a special participatory session as a formal part of the Council meeting in Cape Town to discuss in detail the strategic plan.

Housekeeping

We are working to improve the process of decision-making through changes in the format of the Council meeting and the use of technology where it can improve the effectiveness of communication. We are also studying ways of improving the IEA voting procedures. I think we also need to start thinking about the possibility of establishing a

permanent business office for the IEA. A considerable effort is expanded in transferring material and knowledge between outgoing and incoming officers and as we continue to grow so too will this problem. Although we are certainly not ready to begin phasing in a permanent office, we need to start planning for this eventuality.

The Executive Committee has been busy on a variety of activities, which are described in more detail in the reports of the officers and committee chairs. In my report, I simply want to highlight what I believe to be some of the current priorities.

Strategic Plan

As we approach the new millennium, I believe that the time is ripe for the IEA to review its mission and develop a strategic plan which will position the organization to respond effectively to the needs of federated societies, the discipline and society as a whole. I view the development of the plan a priority and I think that it is vital that we engage all of our member societies in its development to ensure that it reflects an international consensus. The draft strategic plan will be discussed in depth at the Cape Town meeting and will form the basis of specific action plans that will be formulated by the IEA standing committees. We have initiated a process that will help ensure that our plans and priorities are focused on our mission. We are committed to doing it in a transparent and participatory manner and we invite your comments.

New IEA Awards: Liberty Mutual Prize and K.U. Smith Student Award

Liberty Mutual, through the an initiative by Tom Leamon, has developed what will undoubtedly become a very coveted prize. The prize is awarded to an individual for an original, unpublished, non-proprietary research activity leading to a better understanding of avoiding, or mitigating, occupational accidents or injuries, or in the rehabilitation and return to work of an injured worker. The main criteria, therefore, include significant advancement of theory and understanding, innovation and development of new directions or approaches.

The annual Liberty Mutual Prize consists of a financial award of US$5,000. Every three years, the best of the three most-recent winners will receive the Liberty Mutual Prize Medal which consists of a further award of US$15,000. The first award will be presented at the Global Ergonomics Conference in Cape Town, September 9-11, 1998

This prize provides an excellent opportunity for the IEA to promote ergonomics within private and public sectors, academia and the general public. We need to consider how to derive maximum impact and media coverage from this program. On behalf of the IEA, I congratulate Liberty Mutual, and Tom Leamon, for creating this important initiative. We hope that it will stimulate other organizations to find similarly creative ways to express their support for the science of ergonomics.

It is also my pleasure to announce that the IEA K.U. Smith Student Award which was launched in 1997 is now firmly established, thanks to the efforts of Prof. Tom Smith. It provides a tangible means by which the IEA can further its objectives to encourage the development of the discipline, to foster scholarship and to recognize worthy achievements. Tom deserves enormous credit for his initiative in establishing the K.U. Smith Foundation and creating the Award.

IEA2000

Plans for the 14th IEA Congress are proceeding exceedingly well, under the leadership of Hal Hendrick. This will undoubtedly be the largest Congress for many years to come since it will also be the annual meeting of the Human Factors and Ergonomics Society. The Congress will take place at the San Diego Marriott Hotel, San Diego, California, July 29 to August 4, 2000. Organizers anticipate 430 technical sessions and 2500 attendees. Congress proceedings will be available on a CD.

Certification of Ergonomists

Over the past year, Margaret Bullock has completed revisions to three certification-related documents based on input from IEA'97 and federated societies. The principal document, Core Competencies for Practitioners in Ergonomics, elaborates the scope of practice in ergonomics

and defines the requisite skill set. In addition, the IEA has established minimum criteria for the certification of ergonomists.

The third document, Criteria for IEA Endorsement of Certifying Bodies, will form the basis of a program to endorse qualifying ergonomics certifying bodies. Accordingly, we are in the process of establishing an Evaluation Committee that will review and endorse certifying bodies that meet these minimum criteria. We anticipate this committee to become operational soon after the Cape Town meeting.

Academic Infrastructure

The IEA has recently formed a Task Group under the Professional Practice and Education Committee to explore the role of the IEA in the development of education infrastructure (e.g. training programs, centres of scholarship, knowledge systems) and to establish ergonomics as a recognised multi disciplinary field of science. Some preliminary objectives are to recommend strategies to influence policy setting bodies (including in the academic world), to support the offering of ergonomics education, to create some new channels for educating the community about ergonomics (including within secondary schools), and to develop strategies for enhancing quality in ergonomics education. Some specific activities include promoting ergonomics as a science to personnel in organizations such the UN, national academies of sciences, NATO and the National Research Council.

IEA History

Under the direction of Ilkka Kuorinka, we are exploring the possibility of publishing a book on the history of IEA. The date of publication is targeted for 2000 and it is anticipated that it will be available at the IEA Congress.

We have also begun to organize the IEA archives. We are interested in obtaining original material and photographs that pertain to the Association.

Electronic Journal

We will soon be launching our electronic journal, the IEA journal of Ergonomics & Human Factors. This can be found on the reconstructed IEA home page. The journal will feature sections on theroy as well as the application of ergonomics and human factors. We are very excited about this activity as it will make ergonomics knowledge accessible to users who may not have access to current periodicals. The Editor-in-Chief of the journal is Martin Helander and the Executive Editor is Markku Mattila.

IEA Conferences

We are hoping to organize IEA conferences, with the help of the Technical Committees, in the years in which there are no Congresses. This strategy will help increase the visibility and impact of the IEA, help focus interest on specific topics or sectors of the economy, stimulate regional development of ergonomics and generate additional revenues for the IEA (so that we can keep membership dues at their current rates).

International Ergonomics

Andy Marshall, new editor of the IEA newsletter, and I have discussed the merits of creating a Board of Regional Editors. He will soon begin recruiting persons to serve on the Board. The new format of the newsletter will also contain more IEA content by featuring articles written by the Executive Committee.

Think About It

The IEA is constantly in search of volunteers/leaders for new and existing committees. If you are interested in contributing actively to an existing committee or would like to initiate a new activity please let us know of your interest Similarly, if you are aware of individuals in your society who are willing and able to serve the international ergonomics community contact me or another Executive member. Service at the international level is rewarding and meaningful.

Thank You

On a personal note, I thank the Executive Committee and Council for its support over the past year. It is truly an honour for me to be working with such talented and devoted people.

ANNUAL REPORT OF THE SECRETARY GENERAL

By W. Karwowski

July 1997 - August 1998

0. PREFACE

The main responsibilities of the Secretary General (SG) include the following:

1. Functioning as the IEA Secretary:

   Facilitating the Executive Committee's plans and activities
   Preparation of IEA documents for the EC and Council meetings(agenda, minutes, logistics)
   Maintaining the IEA Basic Documents
   Maintaining the IEA Roster

2. Networking with the EC members and the COUNCIL

   Communicating with the IEA Council and IEA Federated Societies
   Communicating with other societies and organizations around the world/ in coordination with the President

3. Networking with others outside the IEA community

4. Managing the IEA secretariat

   Archiving and keeping track of the current IEA correspondence and documents
   Preparation of Annual and Triennial IEA Reports
   Maintaining of the COUNCIL and IEAWORLD electronic listserves

1. FUNCTIONING AS THE IEA SECRETARY

1.1. Transitional meetings

A transitional meeting was held on 26-27 October 1997 in Amsterdam with P. Rookmaaker in order to discuss functioning and logistics of the IEA Secretariat, and transfer important IEA documents.

A transitional meeting was also held on 25 October 1997 in Tampere, Finland, with M. Mattila to discuss the duties and responsibilities of the Chair of the P&P Committee, and to follow up on the current and future tasks.

1.2. Facilitating the Executive Committee's plans and activities

1.2.1. Internal IEA meetings

Meeting agenda, relating documents, and Minutes from the meetings with the Action Lists were prepared, and logistics support provided for the meetings of the Executive Committee and the IEA Officers Summit.

Executive Committee Meetings:

Kuala Lumpur, Malaysia, November 10-11, 1997

London, England , April 4-5, 1998

Summit Meeting of the Officers:

Ottawa, Canada , June 26-27, 1998

Similar documents were prepared for the 1998 Council.

Council Meeting:

Cape Town, South Africa , September 9-11, 1998

Prepared The Annual IEA Report 1997-1998

1.2.2. Communication with the Executive Committee

A restricted access (secure) site for the Executive Committee activities was developed and implemented on WWW:

http://www.louisville.edu/speed/ergonomics/access/iea_index.html

which at present includes current information on:

Draft IEA Strategic Plan
IEA Roster
IEA Basic Documents /working update
EC Committee Report Submission Form

1.2.3. IEA Basic Documents

During the reporting period, an updated version of the IEA Basic Documents (July 1998) was prepared in cooperation with the Chair of the Policy and Development C., and published for the 1998 Council meeting.

1.2.4. IEA Roster

Several electronic mailings of the up-dated versions of the IEA Roster were prepared and distributed to the Executive, Council and Secretariats of the IEA members.

1.2.5. IEA Journal/status, Editor decision

The SG coordinated (on behalf of the EC) the process of selecting the Editor -in-Chief for the IEA electronic journal.

1.3. Current correspondence

Correspondence by letters, faxes and e-mail have been received and processed (often electronically) about a wide variety of subjects such as literature search, individual IEA membership, invitations to meetings, policy matters, relations with international organizations, etc.

2.. NETWORKING WITH THE EC MEMBERS AND THE COUNCIL

2.1. Communicating with the IEA Council and IEA Federated Societies

An electronic communication listerve (COUNCIL) was developed to communicate with the Council members and secretariats of the IEA societies.

2.2. Communicating with other ergonomics societies and organizations

2.2.1. Prospects for new IEA federated societies include:

Colombia
Cuba
Argentina
Chile
Andean Region (Chile, Peru, Venezuela, Cuba, Ecuador and Panama)

In the reporting period, the IEA Federated membership has been processed for:

The Ergonomics and Human Factors Society of Mexico (status pending)
Colombian Ergonomics Association (new)

2.2.2. IEA representation

In the reported period, the SG has:

•Represented the IEA President at the Opening Session of the ASEAN / IEA JointConference (ASEAN Ergonomics '97) held in Kuala Lumpur, Malaysia on November 6-8, 1997.

•Presented Welcoming Address on behalf of IEA at the 15th International Seminar of Ergonomics Teachers, sponsored by the Polish Ergonomics Society, held in Wroclaw, Poland, on June 22-24, 1998 (this annual event is not yet officially sponsored by the IEA).

2.2.3. Federation of European Ergonomics Societies/FEES

No progress (see Policy and Development)

3. NETWORKING WITH OTHERS OUTSIDE THE IEA COMMUNITY

3.1. Status of MOUs

Current agreements and MOU's include: ISSC, IAAP, ICOH, ICSID, Liberty Mutual Insurance Co. These are being incorporated into the Rules, brochures, website, etc, need to keep track of these (on going activity).

3.2. International Labour Office/ILO

IEA also has the NGO status with the ILO. Close relations are kept with the Occupational Safety and Health Branch, headed by Dr. J. Takala at ILO/Geneva. Recently, discussions were held with the members of the Branch (April 1998) about the proposed Ergonomics Checkpoints Book 2.

3.3. Ergonomic Checkpoints Book 2

1. The preparation of Ergonomic Checkpoints Book 2 was discussed with the ILO on 6 April 1998. The ILO was represented by Dr. J. Takala, Chief of the Occupational Safety and Health Branch and officials from the Publications Department. The IEA was represented by K. Kogi. It was agreed to cooperate in jointly producing Ergonomic Checkpoints Book 2 and select "agriculture" as the subject area. This area seemed timely in view of the recent decision by the ILO to include "Safety and health in agriculture" in the agenda of the 2000 and 2001 International Labour Conferences. The meeting also agreed about the chapter headings and the format of each checkpoint similar to the IEA/ILO Ergonomic Checkpoints already published. It was agreed to designate K. Kogi as editor of Book 2 as proposed by the IEA and to consider several experts as potential authors.

2. It was also agreed to further consider the possibility of IEA/ILO collaborative publication. As the time frame of the joint work, completion in two years was suggested. The final list of authors will be agreed on later. Following the meeting, we learned that the ILO invited the Silsoe Research Institute in Bedford, UK, which has prepared draft "Guidelines on Ergonomics in Agriculture" for the ILO, to participate in the preparation of Book 2. It appears beneficial to use the Guidelines as reference materials.

3. The meeting further considered the areas of IEA/ILO collaboration including the possibility for the IEA to apply for an ILO-recognized NGO status, the exchange of information about IEA and ILO activities and cooperation in promoting the use of Ergonomic Checkpoints (Book 1).

3.4 Donations, Bequests

No donations or bequests were received in the reporting period by the SG.

4. MANAGING THE IEA SECRETARIAT

4.1. Archiving and keeping track of the IEA documents

This is an on going-activity. The potential location for the permanent archives is being presently explored.

4.2. Preparation of Annual and Triennial IEA Reports

The Annual (1997-1998) IEA Report was compiled and printed for the IEA Council meeting. The Annual Reports will be used to create the Triennial Report within 6 months after the change of the Presidency (every 3 years).

The COUNCIL and IEAWORLD electronic listserves are continually being updated

4.3. Staff

In the reporting period, Mrs. Laura Abell was the acting staff person for IEA, employed for about 4 hrs a week.

ANNUAL REPORT OF THE TRESASURER

July 1997 - August 1998

By Kazutaka Kogi

Includes:
Financial Statements, 1997
Schedule of Dues Received
Equity History

NOTES TO 1997 FISCAL YEAR REPORT

Basis of Accounting

1. The IEA fiscal year-end is December 31.

2. The IEA's policy is to prepare its financial statements on the cash basis of accounting. Under this basis, revenues are recognized when received and expenses are recognized when paid.

3. The financial system comprises two parts; (i) annual operation, and (ii) special reserves.

i) The annual operations budget includes revenues from membership dues, capitation fees, interest and other receipts; and expenditures for administrative and other recurring activities.

ii) Special reserves include a loans reserve and special funds. These reserves are identified under the Equity heading of the Balance Sheet.

A loans reserve has been established to ensure an adequate supply of seed funds for conferences. The level of the reserve was set at US$ 35,000. Presently, this sum is included in the IEA general accounts but is tracked and reported separately. Seed funds given in accordance with the IEA Policy on Support of Conferences are handled through this fund. Therefore, they are not reflected in the Statement of Operations. However, amounts receivable are shown as an asset on the Balance Sheet.

4. Advances to officers are treated as expended items in the Statement of Operations when paid. However, they are tracked separately.

SUMMARY OF FINANCIAL PERFORMANCE

1. The net surplus of operations for the year was $20,735, raising the cash reserve to $61,102.

2. Capitation fees income was received from Human Ergology Society symposium '96, Yokohama, ODAM '96 and IEA '97 in the amount of $26,195.

3. The IEA financial base is stable, albeit small. Traditional and new sources of revenues need to be explored to permit undertaking larger program initiatives.

Treasurer's Operational Schedule and Milestones
- Budget approved by EC at mid-year meeting - January
- Dues notice to societies - Jan 15
- Reminder of dues outstanding - May 31
- Preparation of year-end report and financial statement - May 31

- Preparation of mid-year report for Council meeting ~Jun 30
- Final reminder re outstanding dues - Oct 30
- Call for budget estimates (deadline Nov 30) - Nov 1
- Preparation of budget for mid-year meeting - Dec 3

PO**LICY AND DEVELOPMENT COMMITTEE**

The main objectives of this Committee are as follows:

1. To study, analyze and explore new policy options, proposals and other issues relevant to the function and effectiveness of the IEA.

2. To formulate recommendations to the President and the Executive Committee, especially on matters related to the policies, operation and structure of IEA.

3. To develop medium and long range objectives for IEA, and to formulate a strategic plan to assist in development of the science and profession of ergonomics.

4. To assist in the development and implementation of new proposals and programs.

5. To analyze, explore and assist in the development of new sources of funding for IEA activities.

6. To develop and implement new initiatives and to coordinate activities aimed at the recruitment of new members.

7. To maintain, review and keep current the IEA Rules and related policy and procedures documents to ensure internal consistency and continued relevance.

8. To survey the needs for IEA support and/or assistance at Federated Societies if appropriate.

9. To organize within IEA a forum in order to monitor tendencies and develop ideas which will influence ergonomics in its theory and application.

10. To prepare and organize - preceding to the Council which is held in conjunction with the Triennial IEA Congress - an informative workshop especially for the new Council members.

Committee Policies:

1. The Committee shall maintain liaison with all Standing Committees and representatives of Federated Societies.

2. The process of formulating recommendations affecting Federated Societies shall be participative, whereby members are invited to actively contribute to the process.

3. Committee recommendations shall have due regard for the regional diversity of the IEA: the different circumstances and individual needs of member societies: and the need for increased participation of Federated Societies in the affairs of IEA.

4. The Committee shall maintain an ongoing and proactive review of all IEA rules, policies and procedures in order to respond quickly and effectively to required changes therein.

5. Policy recommendations shall be advanced only if they receive majority support of the Committee members.

Prof.ir. Pieter Rookmaaker, Chair
AMG / Ergonomics
P.O. Box 2286
3500 GG UTRECHT

THE NETHERLANDS
Tel: +31-30-2399455
Fax: +31-30-2399456
E-mail: amg.ergonomics@transergo.nl

ANNUAL COMMITTEE REPORT

By Pieter Rookmaaker

1. Structuring the P&D Cee.

The P&D Cee is structured as a small group of colleagues who live in the same geographical area (Rookmaaker, Koningsveld, Zink, Wilson) which makes a face to face contact - if needed - possible. The P&D Cee met once this period in order to prepare the amended version of the IEA Strategic Plan.

2. Activities

2.1 Strategic Plan

The received reactions on the version 1.0 of the Strategic Plan were discussed, grouped and selected with a weighting approach. The amended version 2.0 was subject for discussion with the three officers who met in Ottawa (June 1998). The final draft proposal (version 3.0) is

forwarded to Council and will be discussed during a special session in Capetown in order to get action priorities for the next year(s). The coordination of this will ask great effort of the P&D Cee.

2.2. Basic Documents

The actual edition (March 1997) of the Basic Documents has to be updated. The P&D Cee prepared the main part of the updates. The chair persons of the various committees prepared the amendments about Objectives, Committee Policies and Procedures for their committee.

2.3 Sustaining Membership

The growth of the Sustaining Membership amount is part of the P&D Cee-task. We are aiming to realize a considerable increase for the next 2 years. The commitment and support of the Federated Societies for this is essential!

2.4 Survey

It is foreseen to realize an update of the existing survey of the member societies in the forthcoming period. The "how" and "what" about the data gathering is not yet clear. The P&D Cee will prepare a meaningful approach for the survey which will result in useful and actual information.

ITEMS FOR VOTING

1. Strategic Plan IEA/Proposal for voting

Council accepts the IEA Strategic Plan as coherent and living framework for actions with IEA, between IEA and the member societies, and towards the community as such; to be developed and elaborated in the forthcoming period.

2. IEA Historian

2.1 Introduction

As discussed several times in the past the Executive proposes to Council to create the function of IEA historian. The IEA historian will function in close cooperation with the Executive, in particular with the Secretary General.

The historian is responsible for the IEA-archive which must contain all documents, reports, letters etc. which remain important for IEA. He will get document input in particular from the three IEA-officers and the chairs of the IEA-Standing Committees.

The historian is responsible to systemize the specific documents, to store them in the archive in such a way that retrieval is possible.
The IEA Historian is also actively involved in publications about the IEA history. In this field he takes initiatives.
As the historian is not involved in the ongoing IEA-activities, he is organisationally added to the Secretary General, not as member of the Executive Committee. He receives on annual base financial means. Ilkka Kuorinka has been appointed to be the IEA historian.

2.2 Proposal for voting about the IEA historian

Council supports the proposal to establish the function of IEA historian as discribed under 2.1.

ITEMS FOR INFORMATION

1. Update IEA Basic Documents

The P&D Cee has prepared an update of the IEA Basic Documents/ed. March 1997, taken into account various additions, corrections and remarks. The updated edition will be presented in Capetown at the Council, if attainable.

2. Elections of officers

After the officers-elections in Tampere (1997) there was a feeling to reconsider the election-procedure of the three officers as described in the Basic Documents (see page 16 Basic Documents/ed. March 1997).

In order to make a proper proposal to Council, the P&D Cee asks Council's input about their ideas about this important item. Therefore a draft proposal is presented to Council with the aim to get reactions and suggestions. The outcome of the discussion will be used for a final voting proposal at the 1999-Council.

PROFESSIONAL PRACTICE AND EDUCATION COMMITTEE

This committee compiles and disseminates information relevant to offerings in ergonomics at educational institutions, educational materials, including instructional methods, aids and standards. Three subcommittees have been established as follows:

1. Accreditation and Certification
2. Ergonomics Education and Resources
3. Education in Industrially Developing Countries

In the recent past, the main goals of the Committee were :

•To encourage harmonization of criteria and procedures for certification of ergonomist.
•To develop an outline of core competencies of ergonomist.
•To develop international guidelines for accreditation of ergonomics educational programs.
•To maintain an up to date Directory of Ergonomics Education programs throughout the world.
• To facilitate a process for electronic educational information sharing.

Prof. Margaret Bullock, Chair
Faculty of Health & Rehab. Sciences
University of Queensland
ST LUCIA, QLD 4072
AUSTRALIA
Tel: +61-7-337-8848
Fax: +61-7-336-5775
E-mail: bullock@physio.therapies.uq.oz.au

ANNUAL COMMITTEE REPORT

By Margaret Bullock

The former Education and Training Committee has been renamed as the Professional Practice and Education Committee, to reflect its responsibilities.

1. Goals and Objectives, 1997-2000

New goals for the Professional Practice and Education Committee have been developed, in line with the Strategic Plan, as follows:

a. To develop internationally accepted guidelines for accreditation of ergonomics educational programs, including guidelines for ergonomics curricula, which satisfy IEA Competency Standards.

b. To provide a process for the IEA endorsement of certifying systems, and certifying bodies, according to

IEA Guidelines.

c. To review the Directory of Ergonomics Education programs and develop firmer guidelines for inclusion of courses within the Directory; to encourage updating via the IEA home-page.

d. To provide a resource in relation to educational programs available on the internet.

g. To explore strategies to enhance support of ergonomics education programs.

Various Task Forces have been formed to address each of these objectives.

ITEMS FOR VOTING

IEA endorsement of a Certification process and of a Certifying body

With the agreement of Council in 1997, an IEA Certification Endorsement Sub-Committee has been established to review and, if appropriate, endorse certifying bodies and their individual systems of certification.

The Executive Committee has noted that the review of the two areas should occur concurrently, and that a requirement for endorsement of a certifying body should be that its certification criteria meets the minimum IEA certification requirements.

Council agreed in 1997 that the IEA should charge a fee to cover costs of review of any application. The Executive Committee has considered this matter and recommends that a fee of $500 be charged for the review of material submitted for endorsement and that an annual fee of $200 be charged for renewal. Other resolutions are listed below.

Recommendations for voting:

i) That the IEA charge $US 500 for the consideration of each application for endorsement of a certifying body and its system of certification.

ii) That the IEA endorsement have a life of five (5) years.

Iii) That no refund be given if the application is not successful.

iv) That where applications are not successful in gaining endorsement, the IEA Endorsement committee would list deficiencies identified and that resubmissions be invited.
v) That the IEA charge $US200 for annual renewal of endorsement of a certifying body and its system of certification.

Specific Requests; Items For Information

CERTIFICATION OF ERGONOMISTS

a) IEA minimum criteria for Certification of an ergonomist

. To provide guidance to Federated Societies contemplating the development of a system of certification for ergonomists, a set of minimum criteria relevant to the process of certification and its standards was outlined. This draft was discussed at a special Education and Training Committee workshop on Certification during the IEA '97 Congress. After some modifications, the IEA criteria were circulated to all Federated Societies for information and comment. The attached set of criteria represents the final version agreed upon.

b) Guidelines for IEA endorsement of the Certifying body

. Because in at least one country, more than one certifying body had been established and problems were foreseen if the standards applied by one or more bodies were not consistent with the IEA's aspirations for quality, criteria for the endorsement of a certifying body by the IEA were prepared. After discussion in Tampere, these were circulated to Federated Societies for information and comment. The attached guidelines represent the final version for implementation.

c) IEA endorsement of a Certification process

It was agreed in 1997 that the IEA Certification Criteria would provide a means by which the IEA could endorse individual systems of certification, through an IEA Sub-Committee created for that purpose. IEA endorsement of a Society's (or group's) system of certification would indicate that it had met the minimum criteria established internationally.

d) Establishment of an IEA Certification Endorsement Sub-Committee.

An IEA Certification Endorsement Sub-Committee has been established with the following Terms of Reference:

. to determine whether the Certification process designed and submitted for review by an individual Federated Society or any other group meets the minimum criteria defined by the IEA for the certification of an ergonomist.

. to make recommendations to the IEA Executive Committee that the process under consideration be endorsed / not endorsed by the IEA.

. to review the way in which a certifying body meets the criteria specified by the IEA

. to make recommendations to the IEA Executive Committee that the certifying body under consideration be endorsed / not endorsed by the IEA.

. to periodically review the criteria for endorsing the certification process and the certifying body.

. to seek the views of the relevant Federated Society on all applications for IEA endorsement of a certifying process or of a certifying body.

It was agreed in 1997 that the IEA would charge a fee to cover costs of review of any application.

e) Process to be followed by the Endorsement Committee

Administrative Guidelines to be followed by the Committee involved in the endorsement process have been developed. These will be tabled at the Council meeting for the information of members.

ACCREDITATION OF EDUCATIONAL PROGRAMS

Guidelines for basic criteria to be considered during a process of accreditation of ergonomics educational programs were accepted by Council in 1997 and subsequently circulated to Federated Societies. A new Task Force has been established to develop standards relating to each criterion, including guidelines for educational criteria which meet the Competency Standards.

The Task Force members are as follows: Prof Margaret Bullock, Prof Tim Gallwey, Prof David Stubbs, Dr Bill Moroney, Dr Herb Colle and Dr Karen Piegorsch.

CORE COMPETENCIES

After wide consultation, including discussion at a special Education and Training Committee workshop on Competency Standards for ergonomists during the IEA '97 Congress, an outline of (core) competencies for practising ergonomists was finalised and circulated to Federated Societies as a `living document' for use as Societies considered appropriate. A copy of this document is attached.

DIRECTORY OF ERGONOMICS EDUCATION PROGRAMS ON THE INTERNET

Dr Leon Straker has been appointed as the new Editor of the Directory. Together with members of a new Task Force, he prepared some guidelines for presentation of the material to be included in the Directory.

Task Force members include Dr R Benedyke, Prof M Ayoub, Dr R Sen, Ms A Cooper.

i) Request to Councillors:

Councillors are requested to advise their Secretariats of the need to review the entries in the current Directories and to seek an updating from Institutions currently offering education programs leading to the award of a qualification in ergonomics, according to the guidelines which will be circulated by Dr Straker.

The Executive Committee asks that the updated material be endorsed by the relevant Federated Society before electronic transfer to the Directory.

Where details of a particular program are available (including curricula or application forms for enrolment), a link from the IEA home page could be made available.

COLLATION OF ERGONOMICS EDUCATIONAL PROGRAMS (OR COMPONENTS OF A PROGRAM) AVAILABLE ON THE INTERNET

A Task Force under the direction of Dr Johannes Springer is searching for education programs offered through the internet. Using guidelines which they have developed to evaluate quality of content and presentation, the Task Force will review any programs identified and, where considered appropriate, will provide a link to them through the IEA home page.

ii) Request to Councillors:

Councillors are requested to advise the Chair of the Professional Practice and Education Committee should they learn of any form of ergonomics education program being offered on the internet or available on CD ROM.

STRATEGIES TO ENHANCE SUPPORT OF ERGONOMICS EDUCATION PROGRAMS

Dr Luc Desnoyers has accepted the position of leader of the Task Force established to develop such strategies.

CORE COMPETENCIES FOR PRACTITIONERS IN ERGONOMICS

Discussions revolving around quality control and the scope of ergonomics at IEA sponsored Symposia and Congresses highlighted a need to define more clearly the core competencies of ergonomists. Accordingly, the IEA Education and Training Committee co-ordinated a project to achieve that goal.

In preparing this outline, the IEA Committee has consulted with several Ergonomics Societies, and has sought input and progressive review from experienced ergonomists in various parts of the world and at the IEA/97 Triennial Congress in Tampere.

It is important to realise that competency standards do not represent an outline of certification requirements, although they may be a resource for the certification process. Nor do they represent a curriculum document, although they may help direct the development of a curriculum.

The exercise of defining core competencies is itself well worth while, because it prompts a profession to look closely at itself, its goals and its perceived contribution to society. Once complete, it provides a record of standards by which the profession can ensure quality of performance.

Definition of competency

A competency has been defined as a combination of attributes underlying some aspect of successful professional performance. An outline of core ergonomics competencies should describe what it is that ergonomists are able to do in practice.

Terms

Ergonomics competency standards have been developed in terms of Units, Elements and Performance Criteria, which is the accepted format today.

Units of Competency reflect the significant major functions of the profession or occupation.

Elements of Competency describe the identifiable components of ergonomics performance which contribute to and build a unit of competency.

Performance Criteria describe the standards expected of performance in the ergonomist's workplace. Expressed in terms of outcome and professional ergonomics performance, they provide the basis on which an ergonomist assessor could judge whether the performance of the ergonomist reached the standard acceptable for professional practice.

Scope of ergonomics; reflection in the outline of competencies.

The scope of ergonomics is broad and ergonomists can be involved in both pro-active and retrospective applications of problem solving. The contexts of ergonomics practice are also diverse and recommendations may relate to the workplace, the home or to leisure activities, or to the use of a variety of products. The IEA Competency Standards have been outlined to acknowledge this diversity and should be interpreted with this breadth of scope in mind.

Uses of competency standards

Ergonomics competency standards could be used in a variety of ways. These include:

as a resource fo**r**

- the development or review of curricula in ergonomics;
- the accreditation of new and existing ergonomics educational programs;
- the development of comprehensive and equitable assessment processes for the evaluation of a person's professional competence;
- the recognition by ergonomics certification authorities of the competency of graduates holding qualifications in ergonomics conferred by recognised institutions.
- the assessment of competence of eligible overseas qualified ergonomists seeking to practise in another country.
- the assessment of eligible ergonomists who have not practised for a defined period of time and who are seeking to re-enter the profession or to be re- certified.
- the development of continuing education programs offered by the Society
- the determination of need for continuing professional education by employers
- the preparation of public information defining ergonomics roles and responsibilities.

Benefits of national (and international) competency standards

Those who have been involved with the application of Competency Standards have found them of benefit in the following ways:

- national consistency
- chance to examine the profession and its scope
- better definition of the profession
- basis for communication at a national (and international) level
- a resource for Universities
- provision of a more equitable basis for certification
- quality assurance

Review of Competency Standards

Any set of competencies has a limited life and this IEA outline will be reviewed on a regular basis.

PRESENTATION

The core competencies have been presented in two formats:

The ‘Summary’ version presents the units and elements of ergonomics competency as a summary, for those who require a concise overview.

The full outline presents the complete set of Units, Elements and Performance Criteria to illustrate the standards of performance required. It is anticipated that the full outline would become the standard reference source.

SUMMARY OF CORE COMPETENCIES IN ERGONOMICS

UNITS AND ELEMENTS OF COMPETENCY

Unit 1. Investigates and analyses the demands for ergonomic design to ensure the optimal interaction between work, product or environment and human capacities and limitations

1.1 Understands the theoretical bases for ergonomic planning and review of the workplace.

1.2 Applies a systems approach to analysis.

1.3 Understands the requirements for safety, the concepts of risk, risk assessment and risk management.

1.4 Understands and can cope with the diversity of factors influencing human performance and quality of life, and their inter-relationships.

1.5 Demonstrates an understanding of methods of measurement relevant to ergonomic appraisal and design.

1.6 Recognises the scope of personal ability for ergonomic analysis.

Unit 2. Analyses and Interprets findings of ergonomics investigations

2.1 Evaluates products or work situations in relation to expectations for error-free performance.

2.2 Appreciates the effect of factors influencing health and human performance.

2.3 Consults appropriately regarding analysis and interpretation of research data.

2.4 Analyses current Guidelines, Standards and legislation, regarding the variables influencing the activity.

2.5 Makes justifiable decisions regarding relevant criteria which would influence a new design or a solution to a specified problem.

Unit 3. Documents ergonomic findings appropriately.

3.1 Provides a succinct report in terms understandable by the client and appropriate to the project or problem.

Unit 4. Determines the compatibility of human capacity and planned or existing demands.

4.1 Appreciates the extent of human variability influencing design.

4.2 Determines the match and the interaction between a person's characteristics, abilities, capacities and motivation, and the organization, the planned or existing environment, the products used, equipment, work systems, machines and tasks.

4.3 Identifies potential or existing high risk areas and high risk tasks.

4.4 Determines whether the source of a problem is amenable to ergonomic intervention.

Unit 5. Develops a plan for ergonomic design or intervention

5.1 Adopts a holistic view of ergonomics in developing solutions

5.2 *Incorporates approaches which would improve quality of life in the working environment*

5.3 Develops strategies to introduce a new design

5.4 Considers alternatives for optimisation of the match between the person and the product, the task or the environment and to achieve a good performance.

5.5 Develops a balanced plan for risk control

5.6 Communicates effectively with the client and professional colleagues.

Unit 6. Makes appropriate recommendations for ergonomic design or intervention

6.1 Understands the hierarchies of control systems

6.2 Outlines appropriate recommendations for design or intervention

6.3 Outlines appropriate recommendations for organisational management

6.4 Makes recommendations regarding personnel selection

*6.5 Develops appropriate recommendations for education and training in the workplace.****CORE COMPETENCIES IN ERGONOMICS***

(Full Outline)

Units, elements, and performance criteria

Unit 1. Investigates and assesses the demands for ergonomic design to ensure the optimal interaction between work, product or environment and human capacities and limitations

Element 1.1Understands the theoretical bases for ergonomic planning and review of the workplace.

Performance Criteria

1.1a Understands theoretical concepts and principles of physical and biological sciences relevant to ergonomics.

i) Demonstrates a working knowledge of physics, chemistry, mathematics, anatomy, functional anatomy, physiology, pathophysiology, exercise physiology and environmental science as they apply to ergonomics practice.

ii) Can apply knowledge of biomechanics, anthropometry, motor control, energy, forces applied as they relate to stresses and strains produced in the human body.

iii) Demonstrates an understanding of the pathology relating to environmentally or occupationally generated disorders or causes of human failure.

1.1b Understands the effects of the environment (acoustic, thermal, visual, vibration) on human health and performance.

1.1c Understands theoretical concepts and principles of social and behavioural sciences relevant to ergonomics.

i) Demonstrates a working knowledge of sensory, cognitive and behavioural psychology and sociology, and recognises psychological characteristics and responses and how these affect health, human performance and attitudes.

ii) Can apply knowledge of information intake, information handling and decision making; sensory motor skills, human development and motivation principles as they relate to human performance.

iii) Understands the principles of group functioning and socio-technical systems.

1.1d Understands basic engineering concepts, with a focus on design solutions.

i) Demonstrates an understanding of design and operation of technologies in which they work.

ii) Appreciates hardware design problems.

iii) Understands and can apply the basics of industrial safety

1.1e Understands and can apply the basics of experimental design and statistics.

1.1f Understands the principles of organisational management.

i) Demonstrates an understanding of individual and organisational change techniques, including training, work structuring and motivational strategies.

1.1g Demonstrates an understanding of the principles of ergonomics and human-machine interface technology.

Element 1.2 Applies a systems approach to analysis.

Performance Criteria

1.2a Demonstrates a knowledge of the principles of systems theory and systems design and their application to ergonomics.

1.2b Demonstrates a knowledge of the principles of ergonomics analysis and planning in a variety of contexts, and the scope of information required to ensure quality of life.

1.2c Understands the determinants and organization of a person's activities in the field and plans the analysis according to the organisation's strategy and purposes.

1.2d Can explain the scientific or empirical rationale for appraisals selected and has the expertise required to perform them.

1.2e Identifies the demands of the situation and accesses sources of appropriate information.

1.2f Develops action plans with those involved and identifies the critical factors of the ergonomic analysis.

1.2g Carries out a systematic, efficient and goal orientated review of demands appropriate to ergonomics, addressing the needs of the project.

Element 1.3 Understands the requirements for safety, the concepts of risk, risk assessment and risk management.

1.3a Recognises the importance of safety principles, guidelines and legislation in risk management

1.3b Understands the goals of risk management.

i) Demonstrates ability to manage change.

Ii) Understands how to gain commitment of management and participation of worker in risk management approaches.

Element 1.4 Understands and can cope with the diversity of factors influencing human performance and quality of life and their inter- relationships.

1.4a Understands the organisational, physical, psycho-social and environmental factors which could influence human performance, an activity, a task, or use of a product and knows how to cope with adverse conditions.

1.4b Understands the impact of individual factors on other possible factors and the implications for ergonomic assessment.

1.4c Recognises those aspects of the environment that are flexible and changeable.

Element 1.5 Demonstrates an understanding of methods of measurement relevant to ergonomic appraisal and design.

1.5a Understands the type of quantitative and qualitative data required to clarify the basis for ergonomic appraisal and design, and validates the measurements selected for data collection and/or application.

1.5b Demonstrates the ability to carry out appropriate surveillance of the nature and magnitude of risks.

1.5c Selects the appropriate form of measurement for the particular context.

1.5d Applies measurement procedures and uses measurement instruments effectively, or refers appropriately to other ergonomics team members, to quantify load on the person and human characteristics.

1.5e Understands the concepts and principles of computer modelling and simulation.

1.5f Understands the use of the computer for data acquisition, analysis and design development.

Element 1.6 Recognises the scope of personal ability for ergonomic analysis

1.6a Appreciates when it is necessary to consult and collaborate with a person with different professional skills to ensure comprehensive measurement taking and analysis.

Unit 2. Analyses and interprets findings of ergonomics investigations

Element 2.1 Evaluates products or work situations in relation to expectations for error-free performance.

Performance Criteria

2.1a Determines the demands placed on people by tools, machines, jobs and environments.

2.1b Evaluates user needs for safety efficiency, reliability and durability, and ease of use of products and equipment and how these are met.

Element 2.2 Appreciates the effect of factors influencing health and human performance.

Performance Criteria

2.2a Has a basic understanding of the mechanisms by which work or prolonged exposure to environmental hazards may affect human performance or be manifested in injury, disorder or disease.

2.2b Defines efficiency, safety, health and comfort criteria.

2.2c Specifies the indicators of poor match between people and their tools, machines, jobs and environments.

Element 2.3 Consults appropriately regarding analysis and interpretation of research data.

Element 2.4 Analyses current Guidelines, Standards and legislation, regarding the variables influencing the activity.

Performance Criteria

2.4a Refers to and applies relevant scientific literature and national and international recommendations and standards appropriate to the project.

2.4b Matches measurements against identified Standards.

Element 2.5 Makes justifiable decisions regarding relevant criteria which would influence a new design or a solution to a specified problem.

Unit 3. Documents ergonomic findings appropriately.

Element 3.1 Provides a succinct report in terms understandable by the client and appropriate to the project or problem.

Unit 4. Determines the compatibility of human capacity and planned or existing demands.

Element 4.1 Appreciates the extent of human variability influencing design.

Performance Criteria

4.1a Understands the influence of such factors as a user's body size, skill, cognitive abilities, age, sensory capacity, general health and experience on design features.

Element 4.2 Determines the match and the interaction between a person's characteristics, abilities, capacities and motivations, and the organisation, the planned or existing environment, the products used, equipment, work systems, machines and tasks.

Element 4.3 Identifies potential or existing high risk areas and high risk tasks.

Element 4.4 Determines whether the source of a problem is amenable to ergonomic intervention.

Unit 5. Develops a plan for ergonomic design or intervention

Element 5.1 Adopts a holistic view of ergonomics in developing solutions

Performance Criteria

5.1a Identifies the relative contribution of organisational, social, cognitive, perceptual, environmental, musculoskeletal or industrial factors to the total problem and develops solutions accordingly.

5.1b Considers the impact of legislation, codes of practice, Government Standards and industry-based standards on defined problems and possible solutions.

Element 5.2 Incorporates approaches which would improve quality of life in the working environment

Performance Criteria

5.2a Provides opportunities for self development.

5.2b Considers factors influencing the person's sense of satisfaction with the workplace.

Element 5.3 Develops strategies to introduce a new design to achieve a healthy and safe work place.

Performance Criteria

5.2a Understands the iterative nature of design development.

5.2b Recognises the practicalities and limitations of applying ergonomics, including the introduction of change.

5.2c Prepares a design specification report based on the systematic analysis to meet the objectives of the project, for use by industrial designers, engineers, computer scientists, systems analysts, architects or other professionals.

Element 5.4 Considers alternatives for optimisation of the match between the person and the product, the task or the environment and to achieve a good performance

Performance Criteria

5.3a Establishes appropriate short and long term goals relevant to the defined problems, in consultation with the client.

5.3b Considers the options available and the balance of approaches to be applied, relevant to the objectives.

5.3d Considers the potential benefits and costs of each form of ergonomic solution.

Element 5.5 Develops a balanced plan for risk control

Performance Criteria

5.4a Appreciates the background information required for effective risk management.

5.4b Understands how to control adverse physical and chemical conditions and major pollutants.

5.4c Establishes priorities in relation to level of risks identified, and to their consequences for health safety.

5.4d Selects appropriate forms of risk control, based on theoretical knowledge and ergonomics practice and develops a comprehensive, integrated and prioritised approach for realistic risk control.

5.4e Identifies where assistive devices and aids could enhance compatibility between the person and the environment.

5.4f Considers the needs of special groups (eg. ageing or disabled).

Element 5.6 Communicates effectively with the client and professional colleagues.

Performance Criteria

5.5a Discusses with the client, users and management the design or intervention strategies available, their rationale, realistic expectations of outcome, limitations to achieving outcome, and the costs of the proposed ergonomics plan.

5.5b Establishes effective relationships and collaborates effectively with professional colleagues in other disciplines in the development of ergonomic design solutions.

5.5c Recognises the need for appropriate consultation at all levels of an organisation when carrying out ergonomic analysis and determining recommendations for introduction of ergonomic approaches.

Unit 6. Makes appropriate recommendations for ergonomic design or intervention

Element 6.1 Understands the hierarchies of control systems

6.1a Recognises the safety hierarchy, application of primary and secondary controls and the order of introducing controls.

Element 6.2 Outlines appropriate recommendations for design or intervention

Performance Criteria

6.2a Utilises the systems approach to human-workplace integrated design for new or modified systems and understands design methodology and its use in systems development.

6.2b Applies correct design principles to design of products, job aids, controls, displays, instrumentation and other aspects of the workplace, work and activities and considers human factors in the design of any utility.

6.2c Drafts systems concepts for a functional interaction of tasks/technological variants, work means/tools, work objects/materials, work places/work stations and the work environment.

6.2d Develops appropriate simulations to optimise and validate recommendations.

6.2e Outlines details of the appropriate concept and develops specific solutions for testing under realistic conditions.

6.2f Provides design specifications and guidelines for technological, organisational and ergonomic design or redesign of the work process, the activity and the environment which match the findings of ergonomic analysis.

6.2g Is able to justify recommendations.

Element 6.3 Outlines appropriate recommendations for organisational management

Performance Criteria

6.3a Understands the principles of total quality management.

6.3b Recognises the need to design organisations for effective and efficient performance and good quality of work place.

6.3c Recommends changes to the organisational design appropriate to the problem identified.

6.3d Considers issues such as participation, role analysis, career development, autonomy, feedback and task redesign as appropriate to the client and defined problem.

Element 6.4 Makes recommendations regarding personnel selection

Performance Criteria

6.4a Recommends personnel selection where appropriate as part of a balanced solution to the defined problem.

6.4a Applies appropriate criteria for personnel selection, where relevant, according to the nature of the demands.

Element 6.5 Develops appropriate recommendations for education and training in relation to ergonomic principles.

Performance Criteria

6.5a Understands current concepts of education and training relevant to application of ergonomic principles, including encouragement of learning.

6.5b Implements effective education programs relevant to understanding the introduction of ergonomic measures or to the control of potential risks in the workplace, home, public or leisure environments, and to achieve safe and comfortable and successful performance and productive output in new and/or changed activities.

Unit 7. Implements recommendations to optimise human performance

Element 7.1 Relates effectively to clients at all levels of personnel.

Performance Criteria

7.1a Communicates with the users, management and other professional colleagues in relation to method of implementation of the new design or risk control measures.

7.1b Uses appropriate processes to motivate the client to participate in the recommended ergonomics program and to take responsibility for achieving defined goals.

7.1c Where appropriate, provides individual guidelines for personnel in a form understandable to the client.

Element 7.2 Supervises the application of the ergonomic plan.

Performance Criteria

7.2a Implements appropriate design or modifications.

7.2b Facilitates the adaptation to new approaches to activity.

7.2c Provides appropriate feedback on progress to client.

7.2d Incorporates methods to allow continuous improvement.

Element 7.3 Manages change effectively

Performance Criteria

7.3a In a work environment, where necessary, overcomes resistance of workers, managers and labour unions to change, and gains their co-operation for implementing new approaches.

Unit 8. Evaluates outcome of implementing ergonomic recommendations

Element 8.1 Monitors effectively the results of ergonomic design or intervention.

Performance Criteria

8.1a Selects appropriate criteria for evaluation.

8.1b Assesses level of acceptance of and satisfaction with implemented ergonomic measures.

8.1c Produces clear, concise, accurate and meaningful records and reports.

Element 8.2 Carries out evaluative research relevant to ergonomics

Performance Criteria

8.2a Demonstrates rational, critical, logical and conceptual thinking.

8.2b Critically evaluates new concepts and findings.

8.2c Demonstrates a knowledge of basic research methodology for ergonomics research in an area relevant to individual ergonomic expertise.

Element 8.3 Makes sound judgements on the quality and effectiveness of ergonomics design or intervention.

Performance Criteria

8.3a Considers the cost effectiveness of the program in terms of financial implication, improvement in productivity, product useability and human requirements for the enhancement of comfort and safety.

***Element 8.4 Modifies the program in accordance with results of evaluation, where necessary*.**

Unit 9. Demonstrates professional behaviour

Element 9.1 Shows a commitment to ethical practice and high standards of performance and acts in accordance with legal requirements.

Performance Criteria

9.1a Behaves in a manner consistent with accepted codes and standards of professional behaviour.

Element 9.2 Recognises personal and professional strengths and limitations and acknowledges the abilities of others.

Performance Criteria

9.2a Recognises extent of own knowledge in ergonomics, appreciates areas where knowledge and skill are lacking and knows what to do and whom to contact to access missing expertise.

9.2b Demonstrates a desire for life long learning, regularly reviews and updates knowledge and skills relevant to current practice of ergonomics, to ensure appropriate breadth and depth of understanding.

9.2c Recognises those areas of ergonomics where knowledge is limited and consults appropriately with professional colleagues to ensure application of relevant expertise to particular problems.

9.2d Recognises the value of tem work between multidisciplinary experts.

Element 9.3 Maintains up -to- date knowledge of national strategies relevant to ergonomics practice.

Performance Criteria

9.3a Demonstrates knowledge of government legislation relating to occupational health, control of environmental hazards and other areas relevant to ergonomics practice.

9.3b Understands the industrial, legal and liability issues that impact upon professional ergonomics practice, and takes appropriate action regarding them.

Element 9.4 Recognises the impact of ergonomics on peoples' lives.

Performance Criteria

9.4a Appreciates the social and psychological impact of ergonomics investigations.

9.4b Appreciates professional responsibilities and requirements.**THE PROCESS OF CERTIFICATION OF AN ERGONOMIST:**
IEA MINIMUM CRITERIA

The IEA suggests that all Federated Societies establish a process of certification of ergonomists and offers the following guidelines for the process and the minimum criteria to be applied.

A) Evaluation of the applicant

- *Purpose*

The purpose of evaluating the applicant is to ensure that the person is competent to practise as an ergonomist and can demonstrate an appropriate standard of professional performance.

- *Reference Standards*

Expected standards of ergonomics practice should be defined clearly by the evaluating body* and should relate to defined ergonomics competencies. Reference should be made to the IEA Core Competency Standards for a Practising Ergonomist and evidence should be sought that would demonstrate that the applicant possessed those core competencies or a defined sub-set of them appropriate to a specific area of expertise and practice.

*The evaluating body should meet the requirements of the specific IEA criteria or those of CEN/CENELEC European Standard 45013.

• *Methods of Evaluation of Competencies*

The certification process must apply a range of effective measures to determine the person's competence as an ergonomist.

Competency in core areas of ergonomics may be demonstrated in a variety of ways and a suitable combination should be used to ensure appropriate appraisal of core competencies. These may include, but not be limited by the following possibilities:

•Evidence of completion of an educational program in ergonomics which has successfully demonstrated its coverage and assessment of a set of core competencies. (see Section B for further details).

•Evidence of substantial professional experience in ergonomics.

•Presentation of appropriate products, work samples or descriptions of work projects and evidence of their successful outcome, to demonstrate specified relevant ergonomic competencies.

•Examination of selected core competencies. The provision of an examination acknowledges the diverse background of applicants and the ability to reach a level of competent ergonomics practice by a variety of means. Forms of examination may vary depending on the competencies being evaluated and could include written papers, oral interviews or practical tests

Assessors

Evaluation of applications for certification should be carried out by qualified and multiple assessors and, for each form of evaluation, specified criteria should be applied.

B) Minimum Criteria to be Satisfied by Applicant

1. *Educational Qualifications*

a) Ergonomics qualification from a tertiary (university level) institution. (It is anticipated that in due course, the educational program would be accreditated according to national standards.)

i) Tertiary (undergraduate) qualification in ergonomics of no less than four years duration, which has included comprehensive preparation in ergonomics competencies.

ii) Tertiary (postgraduate) qualification in ergonomics of a minimum of one year duration, following prior completion of a tertiary (university level) educational program in a relevant specialist field (involving a minimum of three years education).

b) Tertiary (university level) qualification in a related field (of a minimum duration of four years), which has included a major component of ergonomics and has addressed a comprehensive set of core competencies and has required completion of a major ergonomics project.

c) Tertiary (university level) qualification in a related field (of a minimum duration of 3 years), followed by continuing education (CE) programs to ensure comprehensive preparation in ergonomics competencies and substantial experience in the practice of ergonomics.

Evaluation of applicants in this category must be designed to ensure that ergonomics competencies can be demonstrated and a variety of evaluative methods should be used for this purpose. If a formal examination is not offered, then other methods such as oral interview, preparation of written essays or examples of work products should be required.

Note:

I) "related area" or 'relevant specialist field' may be in any professional field that prepares the student in a substantial set of the core competencies.

ii) Ergonomic competencies not achieved through formal education should be developed specifically during post-qualification experience and appropriate evidence should be sought to confirm this.

iii) It is preferable that the educational program should include appropriate periods of ergonomics practice supervised and validated by a qualified educationalist and/or a practising ergonomist to achieve competency in specified core areas. Where this has not occurred, evidence of access to a mentor or supervisor during initial periods of professional practice (for example for no less than two years) should be sought.

2. *Post-qualification experience in Ergonomics Practice*

Experience may include:

- Working as an ergonomics practitioner.
- Educating others about ergonomics or doing ergonomics research, where ergonomics practice and experience forms part of the person's total activity.

Where supervised training in ergonomics has not occurred during the educational program, the initial two year period of practice should include opportunities for the ergonomist to seek advice from experienced practitioners.

The outcome of post-qualification experience should be achievement of competencies in defined core areas and would normally be expected to cover no less than three years of full-time practice in ergonomics or the part-time equivalent.

C) Recertification

The IEA recommends that certification be provided for a finite period (for example five years) and that a suitable process for Recertification be defined by the certifying body, in which the applicant must demonstrate their continuing work in ergonomics.

D) Code of Conduct

The IEA recommends that the Code of Conduct for professional ergonomists be applied to those who receive certification. The IEA has previously established guidelines for a Code of Conduct.

CRITERIA FOR IEA ENDORSEMENT OF CERTIFYING BODIES

In considering the IEA endorsement of a certifying body concerned with the certification of individual practising ergonomists, the IEA will apply the following criteria:

1. Features of the certifying body

The body should:

- be national or international in scope.
- be separate and independent from any educational body.
- have a governing body comprised of certified ergonomists, the balance of which reflects the range of interests of practising ergonomists and will ensure impartiality.
- be responsible for formulation of policy matters relating to operation of the certifying body.
- demonstrate clearly the line of responsibility, the reporting structure and the relationship between the assessment and certification functions.
- have the financial resources to conduct the certification procedure efficiently.
- be operated for no profit.
- be explicit about its legal status.
- be staffed by personnel knowledgeable about ergonomics and competent for the functions for which they are responsible.

2. Operation of the certifying bodyIn considering applications for certification, the certifying body should have regard to the following features:

a) Eligibility of applicants

The eligibility criteria used by the certifying body should

- be independent of whether the person is a member of ergonomics Society membership.
- be non-discriminatory in terms of gender, ethnicity, religion, or physical status.
- be related to contemporary ergonomics practice.
- be defined clearly, and should include specific reference to qualifications, supervised experience, professional experience in ergonomics and any forms of evidence required for the certification process.
- refer to requirements for recency of an individual's practice.

b) Procedural information for applicants

The procedural information provided to applicants should include

- literature clearly outlining the formal procedures to be followed by the applicant in seeking certification.
- the deadlines for applying for certification in any year.
- information on all fees relevant to the process.
- the process used by the certifying body in evaluating the suitability of the applicant for certification.
- the standards of competency to be applied in all aspects of the review.

c) Certification processes followed

The processes followed by the certifying body should

- be properly documented.
- be in accordance with the minimum IEA criteria for certification.
- include statements and rules relating to the current process of certification and policies relating to the granting of certification.
- be reviewed regularly to ensure their currency in relation to ergonomics practice.
- include a documented appeal mechanism.

Where an examination forms part of the review,

- the standards expected should be relevant to current practice and should be clearly defined.
- mechanisms should exist to ensure confidentiality of the examination.
- the form of evaluation should be a valid test of competencies be assessed.
- methods used by the certifying body to test the reliability of the assessment should be described.

d) Selection and guidance of certification personnel

- The certifying body must have access to a pool of qualified and competent certification personnel and to other facilities to carry out a certification review initially and for re-certification purposes.

•The certifying personnel must be competent in the areas in which they will make evaluations.
•Up to date information on relevant qualifications, training and experience of certifying personnel should be maintained.
•Clear guidelines relating to duties and responsibilities of certifying personnel will be provided by the certifying body.

INDUSTRIALLY DEVELOPING COUNTRIES (IDC) COMMITTEE

This committee promotes, coordinates, and implements ergonomic activities in IDC's by supporting local and regional initiatives concerning research, development, training, and meetings and conference. The committee implements an ergonomics development program in IDC's, and collaborates with other IEA committees with interests in IDC's. The committee policies are to develop a methodology for workload assessment for international comparisons, survey ergonomics problems in IDC's and establish a list of priority actions.

The committee established an international network of ergonomics professionals related to IDC's. The committee utilizes knowledge from industrialized countries regarding research and development, training and education and transfer of technology. It explores nationally and internationally the possibilities for funding for the planned actions, and establishes reliable contacts with world organizations including ILO, WHO, and UNDP.

Dr. Kamiel Vanwonterghem, Chair
CERGO International
Zavelvennestraat 64
B-3500 Hasselt
BELGIUM
Tel: +32-11-212494
Fax: +32-11-232325
E-mail: cergo@pophost.eunet.be

ANNUAL COMMITTEE REPORT

by Kamiel Vanwonterghem

Executive Summary

The Council decision of establishing a Standing Committee Industrially Developing Countries (IDCC) has been made at the Rio Conference in October 1995 and the first mandate comes to and end now. As decided in Tampere after the Cape Town conference Pat Scott will take over the duties. In this tri-annual report a survey is given for the total period. The main activities of the committee will be discussed and in a concluding paragraph some basic considerations will be made about the possible evolution of IEA's duties for developing countries,

The activities of the IDC Committee can be put into three categories:

- Development of a policy
- Establishment of a structure
- Activities in the field of the different Technical Committees

The following steps and ideas have been build up on experiences in Developing countries since about 10 years. They are a compilation of many contacts with the IDCC's Technical Group chairs and may other instances and persons in IDC. Actually nothing have changed much in the regions, unless the heavy economical crisis in South East Asia. At the end of the report we try conclude about future steps within the new strategic plan of the IEA.

Policy

a) the establishment of a structure which should become operative within 2 years, i.e. after the Tampere conference;

b) the development of an action program for the IDCC in order to realize the Committees objectives (see basic documents IEA February 1997 p. 27, paragraph 2.3. a) and to investigate funding possibilities to realize the program

c) continuing the actions started by the Standing Committee 'Training and Education.

IDCC-structure

The committee is composed as follows, all persons having formally accepted the proposed duties:

- South East Asia and the Pacific: A. MANUABA, Bali, Indonesia
- India: R.N. SEN, India
- Eastern Europe: L. PACHOLSKI, Poland
- Central & South America: M. GONZALES DE URIBE, Columbia
- Africa: P. SCOTT, South Africa
- Central Asia: H. SHAHNAVAZ, Sweden
- Chair: K. VANWONTERGHEM, Belgium

Comments:

From China, no formal commitment has been obtained through the contacts first of Prof. Rongfang SHEN, later through Prof. Zhen. Several attempts have been made, the last at the Tampere conference but with no result.

- Next Technical groups have been established:
- Training and Education: Chair: H. Shahnavaz, (Sweden)
- Technology Transfer; R.N. Sen (India)
- Meetings & gatherings: A. Manuaba (Bali-Indonesia)
- Research: L. Pacholski (Poland)
- Consulting: P. Scott (South Africa)
- Finances and international contacts: chairman

<u>Objectives Technical Groups:</u>

The first informal contacts have been made either during contacts at Congresses and Seminars (eg New Delhi, Taipei, Denpasar, Breckenridge, …) or by telecommunication facilities.

The definitive start of the committee was planned at the Tampere Congress. The delay was due to the fact that the persons could not meet all together because of a lack in financial resources. The first plenary meeting of IDCC has been held after a discussion session about Ergonomics in IDC at the Tampere conference.

Workshop Tampere Preparatory discussions have been made with the chairpersons of the Technical group. They presented the topics of their basic strategy and policy of the Technical Group (10 minutes) and summarized the specific needs for their region. After the presentations of the chairs Technical Groups a general discussion andquestioning period took place from which me remain the huge interest of the participants to implement ergonomics in their regions and industries.

All topics of the technical groups have been mentioned as being important in the industrializing world, reason why it has been tried to set priorities in the working of the committees.

Action program

Contacts with UNDP, ILO and WHO lead to the establishment of the proposal for 'The program in Ergonomics to promote health, safety, well being and efficiency of working processes in the industrially developing world' which has been re-modeled following eventual funding possibilities within ILO. In principle the program, unchanged in its principles, was split into two three year phases: a 'launching' phase 1997-2000 and a consolidation phase (2000-2002) but did not find any support via the ILO and WHO contacts even though both organizations endorsed the ideas. Therefor the chairs of the technical committees were left with the basic intention declaration of the initial proposal, discussed and approved at the Tampere Meeting. In discussion each Technical group, the reports of the chairs are included (sic) with omitting some personal messages.

Roving Seminars :

- Besides the RS in Southern Africa (P. Scott & H. Shahnavaz) and some in Iran (H. Shahnavaz). A new initiative have been launched commonly with ILO and WHO, namely the Training for Trainers - Roving Seminars Ergonomics.

The idea is to establish a team of trainers able to handle the Check Points Book and having some basic ideas about ergonomics and training. The first one has been organized in Thailand from April 8- 11, 1997 by Ms. Pongjan Yoopat, Head Department of Physiology and Ergonomics Unit, Rangsit University, Pathumtani. IEA participants/ lecturers/experts: H. Shahnavaz and K. Vanwonterghem Cooperation ILO-WHO-IEA.

- ILO provided 22 copies of check points book for free, plus one speaker introducing the organization. (Ms. Pia Markkanen, ILO-Office Bangkok)

- WHO supports the Roving Seminar by sending leaflets to the surrounding countriesand stimulating them to participate. Dr. Han Tun introduced WHO's interest inErgonomics (WHO-representative in Bangkok). Participants received an IEA-ILO-WHO certificate of participation.

- Margarite Gonzales de Uribe intends to start with RS in Bolivia, but for the time being no further details available.

Objectives: Technical Groups

Besides active participation in the IDC Committees' objectives, next specific topics have been set for the first period after the workshop discussions and installation of the Technical Groups at the Tampere Conference. The defined goals are repeated, followed by the TG chair's report and the comments of the IDCC chair.

1. Technology Transfer (Chair RN. Sen)

Establishing a list of experts with their specialization for cooperation

- Examination of existing ISO, CEN and other Standards and guidelines regarding their relevance, reliability and applicability in IDC's, with reference to the data already collected in India and other countries

- Collecting information and dissemination of practical and low-cost solutions as well as successful improvement measures about tools, equipment, working conditions etc. Results could be used as a complement to the existing IEA-ILO Ergonomics Checkpoints Book

- Categorizing industrial machinery, equipment, tools and consumer products etc regarding their suitability by means of a quality label. Contacts with IOCU (International Organization for Consumer Unions, made already in 1996) should be planned.

Report by Prof. R.N. Sen

I joined this University as a Professor in March,1998, hence I did not receive your Email dated 14th. April,1998 sent to my Calcutta University Email address, which I received in 4th. Week of May, here. As you know, the Committee and the sub-committees only met at the time of 13th. Triennial Congress of IEA at Tampere. There was no opportunity to meet for a sub-committee meeting. Unfortunately, I also did not receive any communication from the newly appointed Chairman of IDCC.

With my own initiative, I contacted the Director dealing with the Technology Development, Technology Management and Technology Transfer of the Department of Science and Technology (DST), Government of India.

The Director informed me that there are funds available for supporting Appropriate Technology or other Technologies needing development to be applied for finilization of processing and manufacturing, but there is no small amount of funds available for programmes such as, Roving Seminars on Technology Transfer or Participatory Ergonomics.

An International Conference on Management of Technology (ICMoT-97) was held at the Indian Institute of Technology(IIT), Delhi,India, from 21-24 th.December,1997, and the Proceedings were published under the name" Globalisation, Flexibility and Competitiveness " edited by Sushil,S. Karunes and K. Momaya, with total 1131 pages,consisting of three Parts : Choice of Technology, Technology Transfer and Absorption (6 pages),in Part -II, Strategic Planning of Information Systems for Technology Management (by P. Ramaraj Pp. 690-712).

A list of Experts and Specialists has been prepared.

The examination of the Standards (e.g., ISO, CEN, etc.) by the group regarding the relevance, reliability, applicability etc., in Industrially Developing Countries was not done, nor the Ergonomics Quality Labeling for tools, machinery, equipment, etc. was possible.