

Notes and Summary

IUPAC-UNESCO-UNIDO Safety Training Program Workshop and Poster Session IUPAC General Assembly and Congress Ottawa, Ontario, Canada 13 August 2003

AGENDA

- 13:00 – 15:30 Workshop**
Brunswick Room, Westin Hotel
- 13:00 Introductory Remarks
 Dr. A. Nelson Wright, Chairman, IUPAC Committee on Chemistry and Industry
 Dr. Alexandre Pokrovsky, UNESCO
- 13:15 Overview of the IUPAC-UNESCO-UNIDO Safety Training Program
 Dr. Mark C. Cesa, Coordinator, Safety Training Program
- 13:30 Reports from Safety Training Program Fellows**
- Ms. Esmâ Toprak
 Bogazici University, Istanbul, Turkey
- 13:50 Mr. Kelvin Khisa
 UNIDO National Cleaner Production Centre, Nairobi, Kenya
- 14:10 Mr. Tersoo Charles Gwaza
 Shell Petrochemical Development Company, Port Harcourt, Nigeria
- 14:30 Discussion
 Status and Possible Improvements of the Program
- 15:30 Adjourn
- 16:30–18:00 Poster session**
Ottawa Congress Centre, Congress Halls C-D-G-H

Financial support from UNESCO and the IUPAC Committee on Chemistry and Industry is gratefully acknowledged.

Notes on the Presentations

There were approximately 20 attendees at this Workshop, including trainees, COCI members and officers, and other IUPAC officials.

Introductions

Dr. A. Nelson Wright, chairman of COCI, began the Workshop with some general remarks on the history of the IUPAC-UNESCO-UNIDO Safety Training Program, emphasizing the ties between COCI, UNESCO and UNIDO.

Dr. Mark C. Cesa, Secretary of COCI and coordinator of the Safety Training Program, then presented a brief overview of the program. The Safety Training Program, re-established in 2000, is designed to narrow the gaps in chemistry between developing countries and the developed world by disseminating state-of-the-art knowledge on health, safety and environmental protection in chemical production. The Program enables experts in HSE from developed countries to learn by visiting workplaces of IUPAC Company Associates in the industrialized world. Trainees are professional scientists and engineers currently at a supervisory or managerial level who are influential in their places of employment, their communities and their home countries. They are expected to use and disseminate their learnings and to establish new programs to improve safety practices in their home countries. Host Companies can enable learning both by employees and trainees and gain favorable publicity with shareholders and the public. Host Companies to date include BP Amoco Chemicals (USA), Bristol-Myers Squibb (USA), Sasol (South Africa), and Sankyo (Japan.) Trainees since 2000 include Ms. Esma Toprak (Turkey), Prof. Ali A. El-Emam (Egypt), Mr. Tersoo Charles Gwaza (Nigeria), Mr. Kelvin Khisa (Kenya), and Mr. Zhang GuoHong (China.) Examples of publications on trainee activities were shown, and attendees were referred to the STP web site, http://www.iupac.org/projects/1993/011_11_93.html for further information. Support of the Host Companies and of COCI and UNESCO was gratefully acknowledged.

Trainee Presentations

Following are summaries of the presentations made by the trainees at the Workshop. Copies of their presentations will be posted on the Safety Training Program Web site and are available by request.

Ms. Esma Toprak: Closing the Safety Gap at University Laboratories and Chemical Industries in Turkey.

Ms. Toprak described her training in 2000 at BP Amoco Chemicals' research facility in Naperville, IL and chemical plant in Lima, OH USA, and at the Illinois Institute of Technology in Chicago. Her training included a wide variety of topics, but her particular focus was on aspects of laboratory safety that could be translated to new programs and practices at Bogazici University in Istanbul, where she is Chief Chemical Engineer in the Department of Chemical Engineering. Training in hazardous waste handling, emergency response, site safety inspections, laboratory and process unit health and safety information binders, and emergency drills has been put to practice at Bogazici University. Ms. Toprak has instituted practices for proper use of personal protective equipment by students and staff, written a departmental safety manual, and held short courses and seminars on safety practices for students and faculty. In addition, lab and process unit safety information binders have been prepared, and safety showers, eye washes, and fire alarms have been installed. Since earthquakes are a serious threat in Turkey, several safety initiatives including securing gas cylinders and chemical storage cabinets have been implemented. Ms. Toprak has established training programs for technicians, formed an Emergency Response Team in the chemical engineering department, and formed campus-wide committees in HSE-related areas. She has also presented seminars at five industrial sites in Turkey. She is now working on an IUPAC-UNESCO sponsored Safety Workshop, "Social Contributions of Chemistry – Safety and Toxicology," scheduled to be held in Turkey in 2004.

Mr. Kelvin Khisa: Occupational Health and Safety Management in Kenya.

Mr. Khisa is Deputy Director of the UNIDO Kenya National Cleaner Production Centre. He was motivated to apply for training to help improve the record of accidents in the chemical industry in the developing

world. His training in Japan in 2002 (Sankyo Co., Shimizu Corp., Hitachi Group, Fuji Film, the Japanese National Institute of Industrial Safety, and other locations) focused on the Japanese 5S philosophy for enhanced occupational safety and health. He noted that the Japanese philosophy on personal protective equipment (PPE) is to engineer processes so that the need for PPE is minimal, and to use PPE only when absolutely necessary. Mr. Khisa put particular emphasis on emergency preparedness and response, incident investigations, safety auditing, record keeping, and awareness programs for employees.

Mr. Khisa stated that companies in Kenya are ready to invest in health and safety but want proper guidance. He emphasized that implementation of new standards, as a joint set of principles between government and industry, is key. Political will is required, including consistency of enforcement of regulations. Mr. Khisa commented that the Kenya Directorate of Professional Health and Safety, within the Ministry of Labor, needs to enact new regulations and standards to make measurement and training possible, and to push industry to meet requirements.

Since his training, Mr., Khisa has held six Safety Awareness Raising Workshops, trained 20 consultants in OHSAS 18001 and 18002 (Japanese programs for occupational safety and health), and published an OH&S policy brief. He has investigated root causes for chemical accidents in Kenya and has decided to focus efforts on improvements in fire safety in chemical production. He has worked to install fire safety equipment, establish scheduled fire drills, and encourage adoption of proper PPE. He plans to continue his work in Kenya on public education, protection of people in public buildings against fire, and establishment of a national safety policy,

Mr. Tersoo Charles Gwaza: IUPAC-UNESCO-UNIDO Safety Fellowship – Experiences.

Mr. Gwaza is Corporate Safety Advisor at Shell Petrochemical Development Company in Port Harcourt, Nigeria. His training was held at Sasol Chemical Industries in South Africa in 2002. Due to his industrial background, Mr. Gwaza brought a unique perspective to his training at Sasol, a potential competitor in petrochemicals with Shell. He was able to compare and contrast Sasol's approaches to health, safety and environment with Shell's. Mr. Gwaza's training covered Responsible Care, occupational hygiene, Process Safety Management, Material Safety Data Sheets, Hazard Identification Risk Assessments, and accident investigation techniques. Mr. Gwaza stated his plans were to make improvements in HSE training of Shell staff and contractors, and to engage discussion at a national level on waste management issues, including contacts with government.

Discussion Period

Dr. Cesa guided the discussion period. Some time was devoted to a critique of the Safety Training Program to date, to solicit opinions on what is going well and where improvements can be made. There was general agreement on the value added by the Safety Training Program for trainees, and the value of Workshops such as this one for trainees to meet each other and share learnings and experiences. The suggestion was reiterated to allow trainees to receive their training together in teams at Host Companies where possible in the future. It was also suggested to provide a longer lead time for communication between trainees and their Host Companies before training begins, to allow for proper introduction of trainees to the company, to make contacts with COCI members in the Host Company country, and to learn about technology within the company.

Mr. Gwaza pointed out that there was some awkwardness at first during his visit to Sasol because he worked for an African competitor company. Leadership in the Safety Training Program needs to be careful to avoid situations where the perception can arise that the trainee is trying to gain a competitive advantage over the Host Company. We currently encourage Host Companies to have trainees sign secrecy agreements before training begins, in part to protect the trainees and Host Companies from such potential conflicts of interest.

Some discussion followed on common themes concerning the need for HSE improvements in the trainees' home countries. One area in common among trainees was the willingness of companies,

universities, and institutions to invest in health and safety when proper information and guidance is available, particularly training of staff and raising public awareness.

Possible actions and next steps dominated discussion afterward. Dr. Alexandre Pokrovsky of UNESCO, a strong supporter of the Safety Training Program, had several suggestions for follow-up activities involving the Trainees and including possible topics for worldwide Safety Workshops. In addition to the Safety Workshop for Turkey, proposed at the 2002 COCI annual meeting, Dr. Pokrovsky proposed a similar workshop for Kenya, to be organized by Mr. Khisa, with UNESCO financial support.

Dr. Pokrovsky also proposed interactions between UNESCO, COCI, Shell Petrochemical Development Company, and Mr. Gwaza, on the topics of Shell-sponsored safety or toxicology training courses in developing countries such as Ghana and other West African countries. He also proposed a bridge between Nigeria and the Singapore Science Center, via the All African Union of Pure and Applied Chemistry, wherein Safety Training Program trainees would speak at conferences. Dr. Mike Booth was invited to organize a plenary lecture by a Safety Training Program fellow at an upcoming conference in Dar Es Salaam, Tanzania, whose subject is UNESCO-industry-university collaborations in Africa.

Dr. Pokrovsky also offered to lead a symposium at a UNESCO sponsored conference on Iraqi reconstruction and chemical education, where accomplishments of COCI and CHEMRAWN would be highlighted.

The workshop adjourned at 4:00 PM. Dr. Cesa, Ms. Toprak, Mr. Khisa, and Mr. Gwaza then presented posters on their Safety Training Program experiences at the IUPAC Congress Poster Session.

Action Items

ACTION: Pokrovsky, Gwaza, and Booth to collaborate on the following activities with Shell Petrochemical Development Company in Nigeria:

1. Courses on toxicology in Ghana and other West African countries– Shell to arrange with Gwaza's leadership; UNESCO to provide financial support.
2. Bridge between Nigeria and the Singapore Science Center.
3. All African Union of Pure and Applied Chemistry – encourage Safety Training Program Fellows to act as speakers at meetings such as an upcoming conference in Dar Es Salaam, Tanzania, on university-industry cooperation.
4. Michael Booth to arrange for a plenary lecture by one of the Safety Training Program fellows at the Dar Es Salaam conference, with UNESCO support for travel.
5. Pokrovsky to lead conference on Iraqi chemistry curriculum as part of Iraqi reconstruction efforts.

ACTION: Toprak to continue to develop a Safety Workshop in Turkey for 2004.

M. C. Cesa