Attachment 12

PRESS RELEASE FOR IAPWS ANNUAL MEETING IN PRAGUE, CZECH REPUBLIC

September 2000

Fifty seven scientists and engineers from thirteen countries attended the annual meetings of the International Association for the Properties of Water and Steam (IAPWS), September 3-9, 2000 in Prague, Czech Republic. IAPWS serves as a forum where engineers from the power industry and academic scientists can communicate problems and solutions to each other. IAPWS has traditionally concentrated on the science underlying the thermodynamics and chemistry in steam power plants, but is broadening into other aspects of power generation and high temperature aqueous systems. One highlight of the meeting was one-day symposium on Processes in Steam and Material Protection in Power Plants.

Andrzej Anderko of OLI, Inc. presented the inaugural IAPWS Helmholtz Award Lecture on Modelling Transport Properties of Electrolyte Solutions in Wide Concentration and Temperature Ranges. His joining the IAPWS working group on Physical Chemistry of Aqueous Systems broadens the base of activities in that group. IAPWS has formed a task group to provide guidance to users for the evaluation of computer models and data bases for aqueous systems. Other areas of focus include pH standards at high temperature and pressure, models for the thermodynamic properties of organic compounds in water, and molecular level understanding of ion-pairing interactions of alkali metal chlorides at temperatures exceeding 200°C.

IAPWS formally adopted the Guideline on the Critical Locus of Aqueous Sodium Chloride which correlates pressure, temperature, density and composition of the critical point of this solution.

IAPWS is looking into providing software at their website for Tabulated Taylor Series Expansion of the thermodynamic properties of Water and Steam. This will enable the fast approximation of the IAPWS-95 formulation for general and scientific use. Details will appear later.

In 1997, IAPWS adopted a formulation for industrial calculations IAPWS-IF97. It includes both defining equations and backward (inverse) equations to promote speed of calculation. IAPWS agreed to evaluate a supplementary backward equation which significantly enhances the speed of computation for calculations using IAPWS-IF97. IAPWS will consider further enhancements to IAPWS-IF97 with additional backward equations in the supercritical region. A guideline for the thermodynamic properties of water-ammonia mixtures was agreed upon. It is anticipated that the guideline will be available by the next meeting.

The working group on Power Cycle chemistry exchanges information on the chemical problems in steam power plants world wide. The significance, sources, and methods of removal for organic chemicals, particularly carboxylic acids and their precursors, in the steam cycle was a topic of heated discussion. Copper transport in power systems is also a major topic of interest. The many corrosion problems in heat recovery steam generators (HRSGs) also attracted considerable attention.

The next IAPWS meeting will be held September 10-14, 2001 in Gaithersburg, MD USA. It will feature a symposium on Electric Power of the Future on September 12. Details are available through links from the IAPWS website at www.iapws.org. Minutes of the 2000 meeting will appear on the website shortly.

People interested in IAPWS activities should contact the chairman of their IAPWS National Committee (see website [or fill in information]) or the IAPWS Executive Secretary, Dr. Barry Dooley, EPRI, 3412 Hillview Ave, Palo Alto, California 94303, USA.