

Trip Report:

**XXV Solar Energy Congress Conference,
San Luis Potosi, Mexico**

by:

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XXV Solar Energy Congress Conference From October 3 to October 5, 2001:

Presentation of Papers:

Paper: Bipin Shah presented “Labeling and Certification Procedures for Energy Rating in North America” and “The Impact on Market for Energy Efficient Products”. The papers were presented on the October 3rd, the first day of the conference in an afternoon session (4:00 pm), which was very well attended. The presentation has provoked number of questions.

Software Demonstration:

Dr. Curcija demonstrated capabilities of THERM, WINDOW and OPTICS computer programs at the scheduled software demonstration seminar session. There were about 15-20 people who visited this demonstration. Dragan with the help of Bipin provided overview of the programs (power point presentation) and also interactively demonstrated several examples using WINDOW 5 Prerelease and THERM 2.1a and THERM 5 Alpha. Visitors were asked to leave their business cards if they wanted to receive a copy of the programs. Almost all participants wanted a copy. Dr. Dragan Curcija will send them a copy when the final version of WINDOW5 and THERM are completed, tentatively at end of November 2001.

Observations:

The conference had many participants from the Mexican government and from research and code writing bodies. We were introduced to Odon de Buen, Director of CONAE, which is a National Commission for Energy Conservation (i.e., Comision Nacional Para El Ahorro de Energia) and Arnoldo Bautista, Director of CENIDET, which is the Technical University and Institute in Mexico City and Cuernavaca. [The Director of CONAE is roughly equivalent to the DOE Assistant Secretary of Energy Efficiency and Renewable Energy.] Along with our host, Dr. Gabriela Alvarez and Dr. Claudio Alvarez from the CENIDET Mechanical Engineering Department, and the senior deputy to Mr. Odon from CONAE, these people would be our critical contacts in our efforts to establish closer co-operation in the area of fenestration energy rating and standards harmonization in Mexico. Dr. Gabriela Alvarez has been invited and visited twice in United States where she participated at NFRC and ASHRAE meetings. She has been our main contact in Mexico and has been instrumental in advancing our co-operation. [At ASHRAE, the “US/Canada” Joint Research Project on Window Performance semi-annual meeting is now the “North American” meeting with Mexican participation.]

At the end of the conference we discussed with Dr. Alvarez and with the senior deputy to Mr. Odon specific issues of our future collaborative work. We proposed a collaborative effort for the translation of software tools (i.e., WINDOW, THERM, OPTICS) and Terminology and Glossary to Spanish. We also proposed inclusion of terms, specific to Mexican and other Latin American countries in the Spanish version of Glossary and Terminology. We also proposed extended Mexican participation at the international train-the-trainers workshop, scheduled tentatively for the second half of next year. We

agreed to exchange early drafts of our cooperative agreement and to try to finalize the plan and budget before the end of year.

Fenestration Workshop in San Luis Potosi On October 3:

Logistics:

The software workshop was organized by Dr. Gabriela Alvarez from CENIDET Mech. Eng. Department, on the initiative by Bipin. The workshop was held at the Universidad Autónoma de San Luis Potosí as an event for the XXV solar conference.

Content of the workshop:

After the opening remarks from Dr. Alvarez, Bipin started with the presentation outlining NFRC program and the role of simulation tools in ratings and certification. Dragan then provided overview of simulation tools and continued with interactive training of THERM and WINDOW. He showed how to prepare a model in THERM, how to run it and how to view and interpret results. After that, he showed how to create glazing system in WINDOW and how to assemble results for the whole fenestration system. He explained libraries in WINDOW, including solar optical data of glazing layers. The completion of THERM and WINDOW interactive demonstrations was followed by a lunch and the workshop was then concluded first by Bipin and then by Dragan who both demonstrated aspects of Optics program (stand alone and within WINDOW 5) and Dragan showed how to install programs provided on distribution CDs. The workshop ended at 6:45 p.m.

Comments:

Questions were mostly asked during the presentations and demonstrations and they were mostly aimed at clarifying statements and language barriers. There were questions regarding the accuracy of simulation results from WINDOW and THERM. We explained that simulation procedure had been extensively validated both in US and Europe. We noted that for the systems that can be simulated, this approach gives much more consistent and accurate results than thermal testing. Inquiry about the Mexico industry and typical practices had revealed that most of the glazing systems were single glazed, regular or laminated with Aluminum framing. Their primary concern is reduction of solar heat gain and acoustical control. Because of the warm climate, U-factor is not a concern, however, the OPTICS tool and Optical Properties Database is very useful for Mexican window applications. [The value of the WINDOW 5 OPTICS module was also emphasized in the August workshop in Brazil.]

Observations:

There is a new certification requirement in Mexico, which the government is trying to implement. To date manufacturers are free to claim their own numbers, which they get from their own laboratories, or from private independent laboratories. There is no independent commercial laboratory to perform either solar optical measurements (i.e., spectral photometer) or solar heat gain measurements (i.e., solar calorimeter). Occasionally they contract with laboratory at CENIDET. There seems to be genuine interest in simulation tools and they were very eager to find out how accurate are the computer programs and how much they can trust the outputs. The workshop was well

organized by CENIDET and there is basis for further collaboration and joint work. We have discussed international workshop that is to take place next year in United States as well as possible future conference on efficient fenestration technologies in Mexico, which would include other Latin American countries (e.g., Brazil, Argentina, Chile, etc.).

Action items:

- Continue with the contacts with Mexico representatives that were present at the meeting. Provide technical assistance and updates for new versions of programs. Coordinate activities with US industry active in Latin American market.
- Develop a cooperative agreement and budget for the proposed joint activities
- Further develop a plan for the international train-the-trainers workshop in USA with participation of several Latin American countries, like Mexico, Brazil, Argentina, Chile, etc. The workshop is tentatively scheduled for the second half of next year.
- Start preliminary work on joint projects to translate computer programs, training documents, and technical glossary into Spanish.
- Encourage expansion of Mexican participation in the North American Thermal standards harmonization activities.