



Philip Dregger, PE, RRC

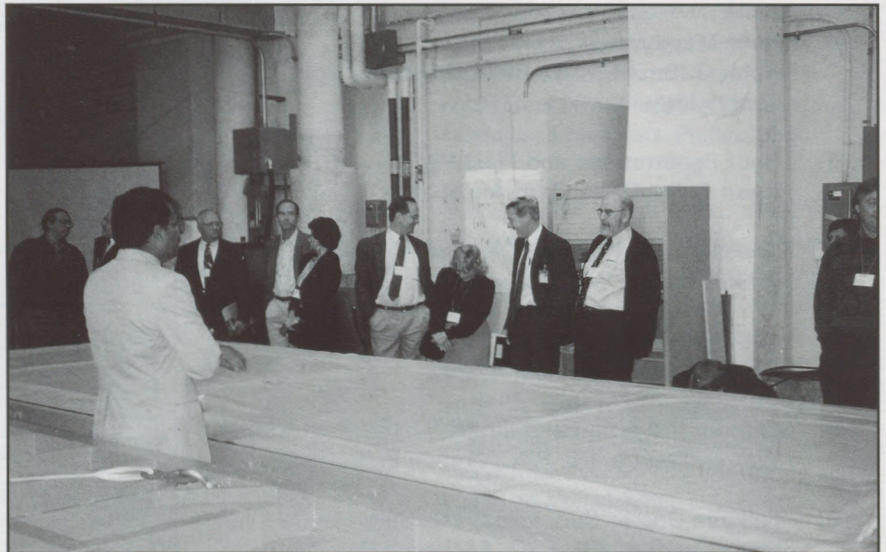
Wind Takes RICOWI North

Philip Dregger received his Master of Science degree in civil engineering with honors from the University of Minnesota. After gaining experience in cold region roofing and waterproofing in St. Paul, Minnesota, he came to the West Coast and is currently president and senior consultant of Technical Roof Services, Inc., in Pleasant Hill, California.

Mr. Dregger is both a registered Professional Engineer and a Registered Roof Consultant. He has investigated numerous roofing failures and provided expert testimony. He is the author of a number of articles for professional trade magazines and has lectured on a wide range of roofing topics. Mr. Dregger is an active member of the American Society of Testing and Materials and is RCI's representative to RICOWI (Roofing Industry Committee on Wind Issues).

Roofing industry representatives to RICOWI journeyed north to Canada for their meeting held October 27, 1995, taking advantage of a gracious offer to tour the National Research Council of Canada's Wind Tunnel Facility in Ottawa. Dr. Ralph Paroli, Research Officer, Institute for Research in Construction, explained some of the current roof related research activity as part of the Building Envelope Program of the Institute for Research in Construction. Highlights of current research include:

- Causes of EPDM roof membrane shrinkage.



Dr. Bas Baskaran (NRCC) explains dynamic testing procedures to RICOWI representatives.

- Causes of shattering and cracking in unreinforced PVC membranes.
- Effect of acrylic coating of modified bituminous membranes.
- Resistance of membranes to static puncture and tear.
- Dynamic evaluation of roof attachment systems.

Dr. Bas Baskaran, National Research Council of Canada, led the group on a tour of the large wind tunnel facility and various laboratory facilities. One highlight of his discussions was a preliminary finding that dynamic pull-out resistance testing of fasteners with a horizontal load component yielded maximum loads 30-40 percent less than loads from

static tests without the horizontal component.

During the subsequent RICOWI meeting, Phil Dregger reported on RCI's progress toward gathering information on the field performance of roofs during major wind events. Specifically, he cited the following:

- Beginning of pre-storm condition surveys and construction data gathering for some of the State Farm facilities in the study and a recent offer by Mervyn's stores to be included in the study is being strongly considered.
- Establishment of Wind Event Study Teams (WEST) to assess the cause and extent of damages following major wind storm events.

- Further study of how to accomplish basic goals of wind storm data gathering using mobile weather stations.

RCI secretary Robb Smith, RRC, RRO, gave a brief report on RCI's response to Hurricane Opal, indicating that typical "peel back" of edge metal associated with the lack of continuous cleats and other conditions were observed at many locations.

Highlights of other executive committee reports include:

- Joe Jones, Asphalt Roofing Manufacturers Association (ARMA) reported that the results of ARMA-sponsored Colorado State University research on uplift forces on shingle tabs were presently in a peer review process with final decisions regarding communication of the information anticipated late this year.
- Tom Smith, AIA, RRC, National Roofing Contractors Association, reported that ASCE 7-95 "Minimum Design Loads for Buildings and Other Structures" had been recently approved and should be available early in 1996. Mr. Smith also reported that an ASTM Task Force was presently soliciting test proposals to evaluate shingles in "unsealed" tab conditions following general procedures of ASTM D-3462.
- John Hickman, SPRI (sheet membrane and component suppliers to the commercial roofing industry), announced the recent hiring of David Roodvoets as technical director.
- John Miller, Steel Roofing Manufacturers Association, reported that a recently proposed change to the Uniform Building Code wind design requirements contains a simplified version of ASCE 7-95 "Wind Design



National Research Council of Canada (NRC) Wind Tunnel Facility, located in Ottawa, Canada.

Criteria", including special provisions for low-rise buildings.

- Dale Perry, American Association of Wind Engineers, reported that his group's best estimate of fastest mile winds experienced during recent hurricanes were: Marilyn at 100 MPH, Opal at 90-100 MPH, Erin at 80 MPH.

The next RICOWI meeting is scheduled for Saturday, April 13, 1996, in conjunction with RCI's convention to be held in Richmond. RCI has extended an invitation to Dr. Jim McDonald, PE, to present a technical session highlighting the Texas Tech University Edge Metal Research Project.

Executive Package Advertisers

RCI wishes to acknowledge and thank participants in its executive marketing package. These companies have reaffirmed their commitment to the profession of roof consulting and have made possible the monthly publication of *Interface*.

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RICOWI Proposes Cooperative Field Investigations

By Philip Dregger, PE, RRC

RICOWI (Roofing Industry Committee on Wind Issues) has initiated an ambitious plan to cooperatively investigate roof performance following major hurricane events. The effort's draft statement is:

1. To investigate field performance of roof assemblies after major wind storm events.
2. To describe roof assembly performance and modes of damage.
3. To report results for substantiated wind speeds.

Target events are tentatively identi-

fied as wind storms with sustained wind speeds of 95 MPH or greater when they make landfall on continental U.S.A.

RCI's representative, Phil Dregger, was appointed to the three-person committee along with a representative from the American Association of Wind Engineers and the acting chair of the RICOWI executive committee who is charged with making final decisions for mobilization of the field investigation teams to major events.

Oak Ridge National Laboratory (ORNL), through its representative Andre Desjarlais, offered to take a lead-

ership role in producing final documents from the research effort.

To aid in thorough and objective investigations, each investigation team is to consist of a roof manufacturer representative, a non-manufacturer roof industry representative, and an academic/insurance industry representative.

Formal training sessions are tentatively planned for all investigation team members at ORNL in the spring of 1996. Phil Dregger has been asked to assist with training sessions, discussing "Roof Wind Failure Causes and Damage Modes".

10 Years Ago This Month . . .

Issue #110 of *Interface*, published in 1986, contained the program for RCI's first National Convention to be held in Dallas, Texas. "Professional Roof Consultants — a Reality Whose Time Has Come" would be the theme for this meeting. Planned speakers were: Dr. Herbert Busching, George Courville, Steve Phillips, Dave Spangler, Richard Coursey, Brian Whelan, Thomas Patrarca, Gaylon Baumgardner, Joel Rouvaldt, Paul Grover, and D. Ben Hales.

Following are words of then-president Richard Canon about this convention:

"The Executive Committee feels this is RCI's greatest step forward since we were founded in 1981. For four days in the middle of April, 1986, we will have an opportunity to meet in an exchange of ideas, information, and business sessions unlike anything we have enjoyed before. This convention will be for you, the roof consultant, and for those who are related in some way with roof consulting.

In the past, we have seen 50 to 100 attendees during the course of our conferences. With your support and the participation of nonmembers, we anticipate an attendance far exceeding that of previous conferences. You will make this convention happen. We have selected a time of year and a location that will be favorable and attractive for this event. We need your support in order to begin to tap the full potential of our organization.

I look forward to seeing you there. Tell others about us and invite them to join us. A good, fine, and old gentleman friend of mine often uses the expression, 'If you ain't there when it happens, it ain't goin' to happen to you.' Be there! Let it happen to you. Let's convene and talk on the subject of 'professional roof consultants — a reality whose time has come'."