

CHAIR'S REMARKS Al Bieber



It is hard to believe that my term as Chair of the Rail Transportation Division (RTD) is half over. The first blush of idealism has now turned to realism but it has been fun. It is my hope that you had a Joyous Holiday Season and are looking forward to an even better 2004. My thanks go out to all who have made this first half truly successful and in particular the Executive Committee – Dave Cackovic, Gary Wagner, Roger Sims and A.D. McKisic. You will see all of these names in the future taking their turns as Chair of the Division.

It is with regret that I report that Grant Arrasmith, the long time Manager of Division Affairs, submitted a letter of resignation effective August 2003. His many contributions to ASME and the Rail Transportation Division will be sorely missed. I believe I can speak for the Division when I say that we probably never really appreciated all that he did – until we

tried to do it ourselves. Thanks, Grant!!

On a positive note, however, I am pleased to announce that the Executive Committee has appointed Sam Williams as Grant's replacement. Welcome, Sam, we all look forward to working with you as Manager of Division Affairs. Please take the time to read more about Sam on page 2 of this newsletter.

Earlier this year RTD set forth three goals. They were:

- Sponsoring Quality Conferences
- Timely Communications
- Increasing Membership

It is always appropriate for an organization to look back and assess how well the goals were met and how best to improve as we move on. Lets take a look.

Sponsoring Quality Conferences -

In September 2003, RTD held a joint conference with the Internal Combustion Engine Division in Erie, PA. It was well

attended with over 170 registrants. There were more than 50 papers presented during three concurrent sessions over two days. Two tours were conducted, one of GE's locomotive manufacturing facility in Erie and a second at GE's diesel engine manufacturing plant in Grove City, PA. On Tuesday evening an Awards Banquet was held in Erie's historic Union Station.

In November, RTD sponsored eight sessions at IMECE in Washington, DC. Many excellent presentations were given and the sessions were well attended. The question and answer periods provided additional insight into each topic. Please note that this interaction can only be realized by attending conferences and asking questions or providing comment, since these are not included in the proceedings.

We are now well underway with planning for the ASME/IEEE Joint Rail Conference to be held in Baltimore on April 6-8, 2004. The call for papers has resulted in over 40 submissions. It promises to be an exciting event and I look forward to seeing you all there.

Timely Communications -

RTD recognizes that timely communications are very vital to keeping you appropriately informed while generating interest and enthusiasm in the affairs, activities and conferences of this Division. You have noticed that RTD, indeed ASME as well, have initiated the use of email messages as a way of keeping you, the Division's customers, better informed. It is my hope that you take the time to read them, benefit from doing so and participate in our activities. In addition, RTD will continue to issue two newsletters a year, this being the first for 2004, and you can expect the other in the 3rd quarter. They will also be posted to the RTD website, www.asme.org/divisions/rtd.

Communication within the Executive Committee is also vital for achieving division goals. In addition to the two scheduled

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A TRIBUTE TO GRANT H. ARRASMITH

Neither words nor a plaque can adequately express the appreciation that the ASME and its Rail Transportation Division have for the fine work Grant Arrasmith carried out over the last 17 years as Manager of Division Affairs. Our success as a Division is in no small part attributed to his foresight, diligence, and insight.

Our thanks to Grant, not only for the job he has done for our Division, but the style in which he accomplished it. Everything he did was professional and top rate. Those traits reflected very positively on RTD and encouraged others to join in to make our Division a first class operation. Thanks, Grant.

Grant's history in the industry includes work in the Mechanical Department of CB&Q Railroad, involved for a time with

testing and air brakes. He was also with the Burlington Zephyr.

Following his experience on the railroad, Grant joined the Friction Products Group of ABEX in Mahwah, New Jersey. Assignments there included being Chief Engineer of Testing and at least one assignment in Paris, France related to brake shoes.

In 1978 Grant transferred to Stanray (Railroad Products Group of ABEX) as Manager of Engineering in Hammond, Indiana. He was responsible for Product Design, Development and Engineering. In 1982 Grant transferred to the ABEX Trackwork Products Group in Chicago Heights, Illinois as Manager of Quality Assurance. What a great career and what a dedicated professional. ▲

MONTANA WESTERN 31 RAILCAR RECOGNIZED AS HISTORIC MECHANICAL ENGINEERING LANDMARK

Yet another notable piece of rolling stock joined the ranks of ASME's Historic Mechanical Engineering Landmarks with the dedication of gas-electric railcar Montana Western 31 on August 16, 2003 at the Mid-Continent Railway Museum, North Freedom, Wisconsin.

This project was brought to completion through the joint efforts of members of the ASME Chicago, Fox Valley, and Rock River Valley Sections, and the Mid-Continent Railway Museum.

Montana Western 31, originally built as Great Northern 2313, is significant as the oldest surviving gas-electric rail motorcar with the Lemp load control system. The Lemp control system, invented by Dr. Hermann Lemp of the General Electric Company, allowed an engineman to operate the same way as he would have operated a steam locomotive, by the manipulation of throttle, reverser and air brake. Previous to Dr. Lemp's invention it was necessary for the operator to constantly monitor and regulate the interface between the engine and main generator. The Lemp invention was the key to the development not only of the gas-electric car but also to the ultimate development of the diesel-electric locomotive.

Montana Western 31 was 30th production railcar of the Electro-Motive

Engineering Corporation, the predecessor of the present Electro-Motive Division of General Motors Corporation. At the time of the completion of MW31 on October 28, 1925, EMC subcontracted construction of its cars. The car body of MW 31 was built by the St. Louis Car Co., with the Model 106-A gasoline engine being provided by the Winton Company, and the electric traction equipment by the General Electric Company.

About 50 members and friends of the ASME and the Mid-Continent Railway Museum were on hand for the dedication ceremonies. Celebrants were welcomed by ASME Central Region Vice President, Dr. Howard Conlon, and the history and significance of the ASME Landmarks program was reviewed by William DeFotis of the ASME History and Heritage Committee.

Among others present were Diane Peters, ASME Chicago Section Chair; David Mattoon, ASME Chicago Section Secretary and MCRM member, Fred Biederman, ASME Chicago Section History & Heritage Committee member and MCRM member; and Donald Zweip, ASME Past- President.

Also present were several descendants of inventor Dr. Hermann Lemp. These were

his great-granddaughters Lisa Lemp Cheney and Diana Lemp, and grandson Dr. Hermann Lemp. ▲



ASME Region VI Vice President, Howard Conlon, at ceremony dedicating the Montana Western 31 railcar as a national landmark.



Throttle quadrant (top left), reverser (bottom left) and air brake handle (right).

SAM WILLIAMS - NEW RTD MANAGER OF DIVISION AFFAIRS

Al Bieber

It is the RTD Executive Committee's pleasure to introduce Sam Williams as the Rail Transportation Division's new Manager of Division Affairs.

The Executive Committee chose Sam from amongst individuals expressing interest in serving the Division in this capacity. Sam's managerial skills, technical achievements, enthusiasm, and long-term association with ASME allow him to bring new ideas and thinking to RTD.

When someone assumes a new position it is always with a sense of anticipation and concern. Questions are frequently asked, such as - what does the job really require, is it all that I thought it to be and will I meet the expectations of those that I work with. I'm sure Sam is quickly finding out what is

required, I don't know if it is all he thought it would be, but I can say with certainty that he is meeting the Executive Committee's expectations and then some.

Sam has had a long and rewarding career with the Timken Company beginning in 1957 as Draftsman - Co-Op Student in the Railroad Division while attending Georgia Tech. He received his Bachelor of Mechanical Engineering degree in 1964 from the Georgia Institute of Technology and a Masters of Science in Mechanical Engineering from Case Western Reserve University in 1980. Sam's career continued with ever increasing responsibility within the Timken Company until he retired in 2003 as Chief Engineer in the Customer Engineering-Railroad Division, a position he

held for 12 years.

During his tenure at Timken, Sam authored over 13 papers that were presented at various rail technical conferences including those sponsored by the ASME, the International Wheelset Congress and the International Heavy Haul Congress. Sam has been granted five patents with another filed in 2003. In April 2003 he was presented with the Arnold Stucki Award for eminent achievement in advancing the art of rail transportation.

Let's all welcome Sam to his new position and be sure to say hello when you see him at any of the Division's Conferences. ▲



PRELIMINARY ANNOUNCEMENT AND

CALL - F O R - P A P E R S

2004 IMECE, November 15–19 Anaheim, California

www.asmeconferences.org/Congress04/callforpapers.cfm

The Rail Transportation Division invites the submission of papers for their meeting during the 2004 International Mechanical Engineering Conference (IMECE). These papers should address Locomotive, Freight and Passenger Rail Technology in any of the following topics or others that are of interest to the rail mechanical engineering community. Authors need to access the ASME web tool at: <http://www.asmeconferences.org/Congress04/callforpapers.cfm>. From that page, select: — Submit Abstract

If you are not a registered ASME user, you will need to obtain a password, etc. If you need a password, make that selection and provide the requested information and ASME will e-mail you one promptly. After that there is a brief census form and then you are able to proceed to submit your abstract. Please match your paper with the topic in the web tool that seems best to describe your work.

Thank you in advance for your interest, and even if you are unable to provide a paper at these 2004 sessions, please join us for an interesting and informative technical conference in Anaheim.

List of Topical Areas

- Passenger Rail Technology
- Heavier Freight Vehicles
- Testing
- Technical Advances
- Industry Progress
- Operating Environment System Performance
- Suspensions and Wheels

BOOKMARK IT!

www.asme.org/divisions/rtd

Visit the RTD website often for the most current information about our Division, such as up coming ASME conferences and recent awards. The site was recently redesigned by ASME staff to incorporate many new features to assist our members.

CHAIR'S REMARKS *continued from page 1*

meetings, the Joint Rail Conference in the spring and IMECE in the fall, your Executive Committee schedules monthly teleconferences to address RTD business on a timely basis. General Committee members also participate when appropriate, thus minimizing their need to take time away from busy schedules.

Membership -

RTD is one of the smaller divisions within ASME. Those who have selected this division as your primary interest have enabled us to maintain our membership at a fairly consistent level for quite a few years. This is in spite of the significant reductions in rail employment, manufacturing consolidations

and firms going out of business. Thanks to all of you for your support.

There is still improvement to be had. RTD does not have any significant number of members outside of the United States. We will work diligently to try to rectify this statistic. It may not be easy, but it is an opportunity we need to explore.

Summing up, I'm sure you would agree that RTD has met our Quality Conference and Communication goals, however Membership still needs work, while not neglecting the other goals.

Again, I want to wish you the best for 2004 and look forward to your participation in the activities of RTD. Please let me or any of the committee members know how the division can better meet your needs and expectations. You will find our contact information within this newsletter. ▲

ADVERTISING OPPORTUNITIES IN RTD NEWSLETTER

The RTD Newsletter Summer 2004 issue will offer advertising space to interested parties. The RTD newsletter provides exposure to the technically oriented engineering groups in the Rail Industry. Our circulation includes Class I Railroads, Transit Authorities, Freight Car Builders, Suppliers, Consultants and Government Agencies with more than 1,200 members.

For details contact Gary Wagner www.wagnerg@hadadycorp.com or at (708) 596-5168.

2004 JOINT RAIL CONFERENCE - APRIL 6-8, BALTIMORE, MD



The 2004 ASME/IEEE Joint Rail Conference (JRC) will be held April 6-8, at the Renaissance Harborplace Hotel in Baltimore, MD. The preliminary program below gives you an idea of the broad range of mechanical engineering papers to be presented at the conference. There will be an equal number of rail-related electrical engineering papers as well. You won't want to miss this opportunity to learn about the new and innovative activities in railway mechanical engineering. The Joint Conference also provides a wonderful opportunity to interact with the leaders in research, development and application of railway advancements.

A portion of an abstract of a paper to be presented gives you an idea of the exciting information to be gained at the conference:

"Independent rolling wheels are now frequently being applied to light rail passenger vehicles (LRVs) for use on articulated vehicles with low floors. This paper will present results of investigations of the wheel/rail interaction performance of independently rotating wheels. Performance issues examined include flange climb, wheel/rail wear and noise, in comparison with wheels mounted on common axles. The influences of wheel and rail profile shapes, track curvature and track geometry (imperfections in the track) have been analyzed. Vehicle design considerations, such as

www.asmeconferences.org/jrc04/

bogie and articulation joint arrangements will also be discussed. Results presented will be primarily from computer simulations using the NUCARS multi-body vehicle/track interaction simulation program. Where possible, simulation results will also be compared to on-track test results of actual vehicles."

Preliminary 2004 JRC Paper Presentations

Vehicle Dynamics

- Nonlinear Investigation of the Effect of Primary Suspension on the Hunting Stability of a Rail Wheelset
- A Dynamic Stiffness and Damping Model for Rail Car Center Plate Polymer Liners
- Suspension Dynamics and Design Optimization of a High Speed Railway Vehicle
- Effects of Independently Rolling Wheels on Flange Climb Derailment
- Modeling Friction Wedges: The State of the Art

Longitudinal Vehicle dynamics

- Investigation of the Longitudinal Dynamic Effects Before and After the Derailment of a Freight Train
- Innovative Uses of Train Simulation Modeling to Implement RCL and DP Technology
- Investigation of Train Dynamics in Passing Through Curves Using a Full Model

Passenger Components

- The Next Generation of Air Supply Units
- Performing of Multiyear Scientific Investigations and Analysis of Field Test Results of Railway Vehicles With New Designs of Wheelsets
- Multi-Level Boarding of Bi-Level Commuter Car for North American Market
- Overview of the General Atomics Urban Maglev Technology Development Program
- Wheel Wear Management on High-Speed Passenger Rail: A Common Playground for Design and Maintenance Engineering in the Talgo Engineering Cycle.

Infrastructure

- The Hi-Lo Bi-Track System Adding Automatic Train Protection To An Existing Light Rail Vehicle - A Case Study

Preliminary Schedule

April 6

- Technical Tour
- RTD Comm. Meetings
- IEEE Comm. Meetings

April 7-8

- Technical Paper Sessions
- Continental Breakfast each session day will provide opportunity to meet paper presenters and network with conference attendees. ▲

FUTURE MEETINGS

2004 ASME / IEEE Joint Rail Conference;
Baltimore, MD, April 6-8
www.asmeconferences.org/jrc04/

2004 ASME International Mechanical
Engineering Congress (IMECE), co-located
with RD&D Expo, Anaheim, CA,
November 15-19
www.asmeconferences.org/Congress04/index.cfm

RTD SPOTLIGHT IN RAILWAY AGE - "MAKING A DIFFERENCE"

The February 2004 issue of *Railway Age* magazine will feature a "Point of View" editorial on the ASME Rail Transportation Division. The article will highlight the benefits of participating in RTD - such as technology transfer, networking, training, and future conferences. It will also feature how we work to improve the Rail Industry by generating new ideas and technology to make the rail industry more competitive, safer and a better place to work. This unique opportunity from *Railway Age* will provide RTD with invaluable exposure to the Rail Industry and highlight how we all work to "Make A Difference." Be sure to tell everyone you know. ▲

ASME / IEEE Joint Rail Conference

April 6–8, 2004



Renaissance Harborplace Hotel

202 East Pratt Street, Baltimore, Maryland 21202

Phone (410) 547-1200

(800) 535-1201 Toll Free (U.S. & Canada)

(800) 228-9290 International Toll Free



Experience Charm City in a place that's destined to charm you - the Renaissance Harborplace Hotel. Perfectly situated in Baltimore's famed Inner Harbor area, the hotel is truly your personal Gateway to the Harbor - ensuring business, leisure and meetings guests an enchanting and distinctive stay.

- Adjacent to Baltimore's Inner Harbor attractions
- Connected to upscale Gallery shopping mall
- Distinctive meeting and event space
- Your personal gateway to the Harbor

Method of Reservations

Individual attendees will make reservations for the event directly with Renaissance reservations at (800) 468-3571 or (410) 547-1200. It is important for the attendees to identify themselves with ASME Joint Rail Conference in order to receive the group rate.

Come Experience Baltimore From the cobblestone streets of historic Fells Point and Federal Hill, up the wide avenues of wealthy Mount Vernon, and across the countless modest blue-collar enclaves, Baltimore wears many different faces. On the east and west sides, seamless blocks of the city's trademark redbrick row houses, each fronted by white marble steps, radiate outward from the modern towers of downtown Baltimore.

The town of Baltimore was established by the Colonial government in 1729, at the end of the broad Patapsco River that empties into the Chesapeake Bay. The town grew as a port and shipbuilding center and enjoyed booming business during the War of Independence. Because it was the home port for a significant portion of U.S. Navy vessels and for privateers (many of them skipping the infamously swift Baltimore clipper ships) that preyed on British shipping, the city was a natural target for the enemy during the War of 1812. After capturing and torching Washington, D.C., the British fleet sailed up the Patapsco River and bombarded Baltimore's Ft. McHenry, but in vain. The 30- by 42-ft, 15-star, 15-stripe flag was still flying "by the dawn's early light," a spectacle that inspired Francis Scott Key to write "The Star-Spangled Banner."

After the War of 1812, Baltimore prospered as a slave market, and during the Civil War the population's sympathies were divided between North and South, provoking riots. The first bloodshed of the Civil War occurred in Baltimore when the Sixth Massachusetts Regiment was stoned by an angry group of Baltimoreans. (This is a town whose regional identity has always been, and remains, ambiguous.)

In the postbellum period, Baltimore became a manufacturing center, notably of iron, steel, chemical fertilizer, and textiles. It also became the oyster capital of the world, packing more of those tasty mollusks than any other place in 1880. After a 1904 fire destroyed 1,500 structures, Baltimore rebuilt valiantly and rode the economic roller coaster over two world wars and the Great Depression. The city's manufacturing base faltered in the 1950s and '60s, but the massive revitalization efforts of the '80s helped the city get back on its feet.

Today, Baltimore's Inner Harbor provides the heartbeat of a vibrant, growing metropolis. The downtown renaissance at Charles Center and Inner Harbor spurred a growth in tourism, making it a \$1 billion-a-year industry by the mid-1980s. Historic neighborhoods such as Bolton Hill, Federal Hill, Fells Point, Otterbein, and Roland Park (developed by Frederick L. Olmsted, co-designer of New York City's Central Park) are home to businesspeople and families who only a few years ago might have lived in the suburbs.

2003-2004 RAIL TRANSPORTATION DIVISION ROSTER

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HIGHLIGHTS FROM 2003 IMECE CONFERENCE, WASHINGTON, DC

The 2003 IMECE conference RTD sessions and annual luncheon were well attended, and including many interesting papers. This was one of the stronger technical programs in recent memory.

RTD Luncheon Notes:

The RTD Luncheon featured several notable events, including a presentation from an eminent rail policy expert. Following are photos from the luncheon and a list of luncheon sponsors.

The Rail Transportation Division warmly expresses its thanks to Mr. Craig Rockey, Association of American Railroads' Vice President for Policy and Economics, for his luncheon presentation.

Luncheon Sponsors —

Thanks to the following RTD Luncheon Sponsors at the 2003 IMECE in Washington, DC:

- Ellcon National
- Hadady Corporation
- LTK Engineering
- Rail Sciences
- Railway Research, Inc.
- Sims PE
- Standard Car Truck
- Strato, Inc.
- A. Stucki Company
- TTCI



Craig Rockey speaks to ASME RTD.



Sam Williams (left), new Manager of Division Affairs, is introduced to luncheon speaker Craig Rockey by Chair Al Bieber (right).



Outgoing Chair Award — Claire L. Orth, Chief, Equip. & Operating Practices, Research Division, Federal Railroad Administration, accepts award on behalf of John Punwami, Outgoing Chair of RTD.