



Rail Transportation

Fall 2007

CHAIRMAN'S COMMENTS



The 2007 ASME Rail Transportation Division (RTD) Fall Technical Conference and Bearing Research Symposium, held September 11 and 12 at the Chicago Hilton, was a tremendous success with industry attendees treated to cutting edge technical content. RTD intentions are to continue

these fall conferences which replace meetings previously held during the former ASME Winter Annual Meeting, more recently named IMECE. This change was made to assure our division has adequate time and space for our technical sessions and to establish a convenient time and place to meet.

2008 conferences will be:

- The Joint Rail Conference (JRC) April 22-23 at the Doubletree Hotel, Wilmington, Delaware.
- The RTD Fall Conference September 24-25, again at the Chicago Hilton Hotel.

RTD is excited to announce for the JRC that, in addition to traditional partner Institute of Electrical and Electronics Engineers (IEEE), a new partner coming aboard for 2008 will be the American Society of Civil Engineers (ASCE) Rail Transportation Committee (RTC). This extended partnership will further enhance the scope of conference technical content offerings. 2008 JRC call for papers information can be found at

<http://asmeconferences.org/JRC08/>.

The 2008 RTD Fall Conference is being coordinated with the Railway Supply Institute conference which will occur during the same week and will feature outdoor equipment exhibits. Once again this cooperative effort affords the opportunity to attend both conferences, thereby extending the opportunity to meet with industry associates and save both on travel costs and, so importantly in today's busy world, precious time.

We trust you will attend both these conferences and offer technical papers, offer to review papers, or to serve as session organizers. We encourage your participation and seek your comments.

Our thanks go out to you for your participation, to our volunteers and their employers who support their efforts, and to the companies responding to event requests for program ads, luncheon sponsorships, and exhibits.

RTD continues to pursue a commitment to identifying and serving you with timely and valuable information that meets your needs and that you can take back to your workplace to assist with daily challenges. Please let us know how we are doing and what we can do better in future events.

Nick Darien
ASME RTD Chair 2008

FUTURE MEETINGS

- 2008 JRC; April 22-23, Wilmington, DE
- 2008 RTD Fall Conference, September, 24-25
Chicago, IL
- 2009 JRC; Pueblo CO, March 2009
- 2009 RTD Fall Conference September 2009;
Chicago, IL

**2008 Joint Rail Conference
April 22-23
Wilmington, Delaware**

**SCHEDULE 2008 JRC – WILMINGTON –
Program Schedule**

APRIL 22, 2008 Tuesday:

7:00 am – **AMTRAK TOUR** - Bus leaves hotel, spouses invited (Bear & Wilmington shops)

Box Lunch – Wilmington, Amtrak Cafeteria

12:40 pm – **RETURN** - Approximate bus arrival back at hotel

1:30 pm – 3:00 pm – **SESSION IEEE-1**

3:15 pm – 4:45 pm – **SESSION RTD-1**

4:45 pm – 5:00 pm -- **REFRESHMENT BREAK**

5:00 pm – 6:30 pm – **SESSION RTD-2**

6:45 pm - 7:45 pm – **CONFERENCE SOCIAL**

APRIL 23, 2008 Wednesday

7:00 am – 7:45 am -- **Authors' Breakfast**

8:00 am – 9:30 am – **CONCURRENT SESSIONS IEEE-2 & RTD-3**

9:30 am – 9:45 am – **REFRESHMENT BREAK**

9:45 am - 11:00 am – **CONCURRENT SESSIONS**

IEEE- 3 & RTD-4

11:15 am – 2:15 pm -- **IEEE/ASME RECEPTION & LUNCHEON**

2:30 pm – 4:00 pm – **CONCURRENT SESSIONS IEEE-4 & RTD-5**

Amtrak Facility Tour

The 2008 JRC will include a tour of two Amtrak shop facilities. The National Railroad Passenger Corporation (better known as Amtrak) is a for-profit corporation that operates intercity passenger rail services in 46 States and the District of Columbia, in addition to serving as a contractor in various capacities for several commuter rail agencies. Amtrak was created by Congress in the Rail Passenger Service Act of 1970 and incorporated in the District of Columbia in 1971, assuming the common carrier obligations of the private railroads (which found passenger service to be generally unprofitable) in exchange for the right to priority access of their tracks for incremental cost.

The Amtrak Wilmington Locomotive Shop services the entire Northeast Corridor, and is the most active of the Amtrak shops. Here they rebuild electric traction motors and some diesels. The diesel work consists mostly of switchers and work train motive power, as well as wheel and axle assembly.

The Bear Shop has responsibility for the progressive maintenance work on passenger cars.



Mr. Devin Rouse, a previous recipient of the Terrey Hawthorne Memorial Scholarship, has now graduated and is employed by Dulles Corridor Partners, LLC, Bechtel Corporation as a mechanical engineer. Devin is also working on the RTD Membership Development Committee

Elmer A. Sperry Board of Award

Dick Dawson currently serves as chair of the Board and his term will expire at the end of 2008. Recommendations are needed to fill the Board member position beginning in 2009. Please submit any recommendations to Dick Dawson: dickdawson@sbcglobal.net or to any RTD committee member.

The award is for a "Contribution to the advancement of transportation by land, air or sea", and is administered by ASME. Each engineering society represented on the Sperry board (ASME, IEEE, SNAME, SAE, AIAA) has two voting members and one alternate member. ASME's present voting members are Dick Dawson (also the chair for 2007) and Clifford Woodbury of LTK Engineering Services.

Since participation on the Sperry Board involves attendance at two meetings a year in New York, it would be desirable for a candidate to have a source of travel funding (such as a current employer) or be located close enough to New York that paying for transportation would not be a burden.

Please consider this request and advise if you or another ASME RTD member is interested in serving.

CALL FOR PAPERS
2008 JOINT RAIL CONFERENCE
April 22-23, 2008
Doubletree Downtown Hotel –
Wilmington, DE

ASME Rail Transportation Division, IEEE Vehicular Technology Society and ASCE Rail Transportation Committee invite you to submit papers for presentation and discussion at the annual Joint Rail Conference. The 2008 JRC theme is “Improving Railroad Efficiency and Reliability for a Safer Environment.” Papers are solicited from members of the supply industry, rail transportation corporations and rail transit agencies, governmental agencies, consulting/engineering firms, academia, technical organizations, and others. The conference will include tours of Amtrak shop facilities. Papers should cover topics of current interest, which may include but are not limited to:

- Positive Train Control
- Substation design
- Signal improvements
- Locomotive & vehicle performance including ride quality, crash worthiness, and monitoring enhancement
- Design, maintenance, and reliability of rolling stock
- New electrical/electronic concepts for heavy rail/commuter rail/light rail performance and safety improvements
- Evolution in electrical/electronic rail products for more reliable service life or safety improvements
- Electronic-controlled air braking systems
- Evolution in environmentally friendly designs for locomotives
- Improved AC/DC propulsion designs
- Computer simulations for improved railroad operations

Paper Schedule:

Abstracts Due: November 16, 2007

Author Notification of Acceptance: November 30, 2007

Draft Paper Due: January 14, 2008

Final Paper Due: March 3, 2008

All authors must register by March 10, 2008, in order to present and have their paper published in the conference proceedings.

PLEASE NOTE: Abstracts must be submitted through the ASME website:

<http://asmeconferences.org/jrc08/>

History of the RTD
Tom Harley Interview

My father was born in 1887 in Patterson, NJ, the second of 5 children. He went to work in 1902 at the age of 15 as an Office Boy in the office of the Erie Railroad Superintendent at Jersey City, NJ for the grand sum of \$15.00 per month. During the process of self-education that followed, he learned Pitman “shorthand” which enabled him to get the job of Traveling Secretary to Judge Lovett, Chairman of the Board of the Union Pacific. Traveling Secretaries had to be male because they lived for weeks on business cars while touring the railroads. In earlier days before “MBA’s,” secretarial training was a route to executive positions because they learned from the “boss” and my father considered Judge Lovett as the best “boss” he ever worked for. After a few years with the Railway Equipment Publishing Co. (Railway Line Clearances, Equipment Register, Pocket List of RR Officials, etc.), he joined the Union Tank Car Co. (UTLX), where he eventually became Vice President and a Corporate Director with a total railroad career of 51 years, ending in 1953. While there, he developed a car control system in 1939-40 utilizing punch cards from a “little-known” supplier in 1939—IBM. This was vital to UTLX when WWII made tank cars irreplaceable due to submarine activity.

I knew that I wanted a railroad career for my entire life even though my father recommended medicine or law, in spite of his lifetime loyalty to the railroad industry. My first opportunity was as a machinist apprentice at the age of 16 during the summer of 1944 at 40th Street Shops of the C& NW in Chicago. I worked on steam locomotive components such as valve gear and spring rigging including the operation of a bushing lathe, which was the lowest level of machine tool operation. Each bushing was made to fit a particular place in the spring or brake rigging of a particular locomotive using inside and outside calipers for measurements. This was work done with my own hands, which I thoroughly enjoyed at a grand pay level of 57 cents per hour for 51 hours per week...

My railroad photographic career started in earnest with my Kodak “35” when I shot my first roll of “Kodachrome” in 1941. Over a period of 10 years I took about 800 railroad Kodachromes. Railroad author friends like the late Don Ball and by Dave Sweetland and others have published approximately 150 of them. The slide collection is now owned by Al Chione, who continues to offer them for publication or reproduction, always giving me photographic credit, which I appreciate. My friend, the famous railroad artist, the late Howard Fogg, painted his last watercolor (1996) of a scene that I took on the PRR near Spruce Creek, PA in 1951 and was published in Don Ball’s last book. During my service in the Army (1946-47), I attended 17 weeks of Photographic School in New York City but I always kept my Kodak “35” handy

for railroad trips including the Northern Pacific's North Coast Limited to Ft. Lewis, WA, and a 5 day trip from Ft. Lewis, WA, to Ft. Monmouth, NJ, over 5 different railroads in a troop sleeper car. The ride on a troop sleeper was tolerable because you could pull down the 3 high berths during the day and the weather (May) was fine without air conditioning. During the trip the railroaders went on strike, but we were allowed to proceed at Conneaut, Ohio, on the Nickel Plate, because the strikers did not want to interfere with a troop train.

I was released from the Army at Camp Stoneman, CA, early in 1947 and immediately returned to Northwestern University on the "City of San Francisco" to complete my training in Mechanical Engineering. Northwestern, unlike Purdue or the University of Illinois, had no railroad courses. The head of mechanical engineering was disappointed when I told him that I was planning to work for the Pennsylvania RR and he suggested American Car and Foundry at Berwick, PA (which subsequently closed). My only connection with Engineering Societies was Pi Tau Sigma (of which I was chapter president) and Tau Beta Pi honoraries. I graduated in a total of three years by going to school all year long, which was not a problem because my home in Evanston, IL was within walking distance of the engineering school.

When I found that the Pennsylvania RR was interviewing at Northwestern, I scheduled an interview (my only interview) but the representative was only looking for Civil Engineers for the Maintenance of Way Dept. and gave me the name of Harold Wright, the Equipment Supt. in Chicago. I met with Mr. Wright and he sent me to Philadelphia to CMO Hal Cover and ACMO "Bobby" Bennett. I made the mistake of asking Mr. Bennett if the Jr. Engineer program was going from the 48 hr week to the 40 hr week. He told me that railroading was "24 hrs a day 7 days a week," but (later) Mr. Cover said that the program would be changed to the 40 hr week, which would be the new railroad standard later in 1949. I joined the PRR because it had the most structured program of any railroad (with a wonderful illustrated brochure) and offered opportunities to Engineering grads not offered on other railroads, some of which considered the only proper employment for an engineer was a drawing board.

The Mechanical Department's Junior Engineer Program was quite active at the time with 10-15 accepted every year for a 3-year management trainee program. The Engineering (MW) Department also had a very active program largely concentrated on Civil Engineering while the Mechanical Dept. chose ME or EE grads. In 1949 the engineering market was soft and I'm sure that a number of acceptances were on the basis of nothing else being available (@ \$278.32/mo. which was typical for 1949). A few of the hires were like me—someone who really wanted to work for a railroad and no other employer. We had to make sure that we were not seen as "rail fans" as there was a negative bias toward them

at the time. I did not take my camera to work, as this would have been a sure sign of "rail fan." Years later I even found railroad presidents who were "rail fans," but even they admitted that they initially hid it because of industry biases. The President of the Reading Co. is alleged to have told the CMO, "Don't hire any rail fans as they will leave the drawing board every time a locomotive passes the window."

I worked at 8 locations —Columbus, OH (steam locomotive and freight car), Ft. Wayne IN (airbrake), Terre Haute IN (freight car rebuilding), Altoona, PA (diesel locomotive and passenger car), Harrisburg, PA (diesel locomotive), New York, NY (various), Paoli, PA (MU car) and Wilmington, DE (electric locomotive). I was somewhat disappointed at most of the work being as an observer because union rules prevented the "hands on" work that I had on the C&NW. There were unexpected incidents that I will never forget like the wreck at W. Lafayette, Ohio on Sept. 11, 1950, in which 33 soldiers were killed in a rear end collision. This showed me the horror that can come from an error, and I never forgot it. I had permission to go to any wreck, so when I heard the wreck whistle at 20th St. Shop I checked it out and it was great experience for what I had to do later—more times than I ever really wanted.

My first job was as Gang Foreman at Crestline, Ohio Engine house (1952-53). While the Gang Foremen were unionized, there were a limited number of "exempt" jobs that could be filled by management trainees and this job was one of them. My later assignments included Assistant Car Foreman at Pitcairn, PA and Pittsburgh PA (1954), Asst. EH Foreman at Wilmington, DE (1954-1956), EH Foreman at Terre Haute, IN (1956-1957) and Motive Power Foreman at Louisville, KY (1957-58). Motive Power Foreman duties included Engine house, Freight car and Passenger car responsibility. The biggest annual event was the Kentucky Derby which involved the handling of 50 or more business cars—keeping them cool, well lit and not getting the "ire" of the occupants" like Benjamin Fairless, Chairman of U. S. Steel and a number of RR officers and their guests.

I served as Asst. Master Mechanic at Harrisburg, PA, from 1958 to 1961. This position covered a large territory including operations at Enola, Lancaster, Thorndale and Hagerstown (MD). Strangely, most of my wrecking experience occurred on a branch, the Cumberland Valley. This branch handled considerable coal traffic (Cumbo-Rutherford) from the B&O to the Reading over track that was in poor condition. The wrecks stopped when welded rail replaced the jointed rail, but that was after I left. The job was very interesting because it included large engine facilities at Enola and Harrisburg, major freight car repair activities including a "steel" shop and wheel shop at Enola and significant passenger operations at Harrisburg. During a particularly bad winter, Master Mechanic Carl Korn and I worked 12-hour shifts 7 days a week at the Harrisburg Passenger Station. I then went to Philadelphia where I

served for most of 1961 as Asst. Manager Methods and Cost Control, a system-wide industrial engineering task. This was my first system-wide job. Most of 1962 and part of 1963 was spent as Master Mechanic at Kearny, New Jersey. This operation had something that I had never had before—marine operations at Harsimus Cove and Greenville. It also involved two of the busiest tracks on the railroad: the tracks across to Jersey Meadows and through the Hudson (North) River tunnels and a large piggyback operation at Kearny. My boss in New York, E. C. Hanly also my commanding officer in the Army Railroad Reserve unit to which I had belonged since 1950 was very supportive to both my railroad and reserve careers.

As Superintendent of Locomotive Equipment at Philadelphia (late 1963 and 1964), it was my first opportunity to work in an area where I could help to advance policy. My most important steps were to advance the use of 6 motor units working with our new Industrial Engineer, L. Stanley Crane, who had come up from the Southern. We went to M & K Junction W. VA on the B&O to ride new SD35 units and recommended their acquisition by the PRR, as horsepower available for a single engine increased to and beyond the SD 35's 2500 HP. High HP 6 motor units immediately replaced 1800 HP 6 motor Alco units as hill helpers at Altoona. This avoided overheated traction motors on "road" units because of incompatible continuous ratings, something the PRR had ignored at great expense. Mr. Crane, who became Railroader of the Year twice (1974 and 1983), was one of two twice-elected Railroaders of the Year that I worked with through the years; and to this day I give him credit for probably being the only man who could have saved Conrail. After a short stay in 1965 on the Western Region (Chicago), I was appointed Asst. CMO, Motive Power, 7-15-1965, three days before my 38th birthday. This was my lifetime ambition achieved much sooner than I ever could have expected. Later this position became General Mechanical Supt. Locomotives under Penn Central where I was responsible for over 4,000 locomotives.

My late Penn Central and Conrail years (1970-1979) were almost as much of a letdown as the promotion to ACMO was a lift. I eventually ended up in charge of Equipment Engineering, Research (including the Collinwood Research Lab) and the Environment group. I did a lot of testifying during this period—ICC, FRA, Presidential Emergency Board, Railroads of Indiana, EPA, Public Utility Commissions of various states, Federal Court supervising Penn Central assets, etc. Some of this was adversarial, but I had confidence in my testimony, and I believe it showed. My last wreck while still working for the railroad—a rear ender near Williamsport, PA, convinced me that my testimony against the use of a caboose was correct. Two people died unnecessarily because a caboose was there. I loved the steam locomotive and the caboose, but *both* "icons" had to go.

In my Penn Central and Conrail years, I served on a number of AAR committees including the Research (under Chairman Bill Harris, 1976 Railroader of the Year), Locomotive and Electric and Mechanical General Committee which gave me an insight as to industry-wide problems and solutions. It also gave me a chance to get contacts outside of Conrail and when Curt Buford the CEO of Trailer Train called to see who might be interested in the job of VP-Equipment at Trailer Train in Chicago it took only a few seconds to "jump on the wagon." My only regret was that I left Conrail before L. Stanley Crane came on board in 1981 as CEO & Chairman, but it got me the opportunity to work for another two time "Railroader of the Year," Raymond C. Burton, who replaced Curt Buford.

My first reaction to Trailer Train (now called TTX) in 1979 was that I had "died and gone to heaven." Trailer Train had a 100,000-car fleet, which made it the largest private car assemblage with ownership in the hands of the railroads, which was unique. It wasn't long (1980) until the reality of the railroad industry kicked in and we suffered a recession that caused us to have to reduce our staff by 25%. Then Railbox suffered from the drop in box car utilization, which at least was partially caused by government encouragement to doctors, lawyers, and business people to buy box cars when they really weren't needed. Hundreds of Railboxes even ended up in Mexico where they were used as haciendas until the President of Mexico sent them back. To the rescue came Ray Burton, who had great financial expertise and arranged a "work out" with the creditors and saved Railbox from bankruptcy. Parts of the Railbox and Railgon fleet were sold to various railroads to reduce the obligation.

We started Railgon with 4000 cars bought at the wrong time with recession, double-digit inflation (stagflation) and high car prices. The design, however, was outstanding with features that have now become standard in gondola design such as a stronger end design connected to the sides by a pin connection that avoids corner tears. From the day that I arrived at Trailer Train I felt that the future of Trailer Train depended on developing new car designs to handle large trailers and containers (marine and domestic). We had to try anything—single axle trucks, articulated cars, double stacks, etc. and had to do it faster than railroad industry norms. We made mistakes, which were costly, but the worst thing would have been to do nothing. Luckily the demands for automobile transport caused many of our 89'-4" cars to get auto racks and be continued in revenue service while we replaced them with new designs for trailers or containers, or in some cases both trailers and containers, which were referred to as "all purpose" cars. The articulated car became dominant because "lift on-lift off" loading had become the way to handle trailers and containers. Double stacking also took over because the interbox connector made it practical since marine and domestic containers had common "pick points" to lock them together. (This was

not an accident but the result of intelligent domestic container design). The use of 125-ton trucks at the articulations gave us the ability to handle containers that would have been too heavy for 100-ton trucks. The railroads had to spend millions to improve clearances to 20'-2" above the rail, but it was necessary for the future of railroading. My career with Trailer Train ended 12-31-87 while I was Senior VP—Equipment. I didn't stop there, working 9 more years as a railroad consultant for LTK Engineering Services in the Philadelphia area and as far away as Chile, Australia and Jamaica. At one time I even had an office in Montreal, Quebec, at Point St. Charles shop.

I married my first wife, Rosemary Sharp, in 1949 and we eventually had three (3) children—Linda (1958) who works as a Search Specialist for a division of Day and Zimmerman, Bob (1960) who works as a mechanical engineer for Lockheed-Martin, and Brian (1966) who is a B-737 Captain for Continental Airlines. I tried to interest my sons in my hobby of brass O Scale locomotive model building, but as you would expect they stuck with radio-controlled airplane, glider and helicopter models.

Rosemary died in 1996, and I married Patricia Pendency in 2003.

I served on a number of LMOA committees, eventually becoming President in 1979 and Chairman for several years thereafter. My service with the AAR included 16 years on the Research Committee, which was always interesting with fellow members such as L. Stanley Crane and Chairman Dr. Bill Harris. I also served on the AAR Clean Cab Committee, which consisted of railroad, labor, FRA, AAR, and manufacturer members with the goal of standardizing cab layout. My association with ASME consisted of many years on the General Committee of the Rail Transport Division, as the author of Steam Locomotive History—Century of Progress in Railway Mechanical Engineering—ASME 1979, and finally as ASME member of the Elmer Sperry Board of Award. The ASME honored me by electing me to the grade of Fellow in August 1986

**ASME RAIL TRANSPORTATION DIVISION
EXECUTIVE COMMITTEE
July 1, 2007 to June 30, 2008**

CHAIR:

Nicholas J. Darien
Sr. Principal/Project Manager
CTL Group
Construction Technology Laboratories,
Inc.
5400 Old Orchard Road
Skokie, IL 60077-1030
Phone: [main] (847) 965-7500, X3224
[direct] (847) 972-3224
Cell: (708) 334-9340
Fax: (847) 965-8997
Email: ndarien@ctlgroup.com

SECRETARY-TREASURER:

Gerald B. Anderson
Senior Principal Investigator
Transportation Technology Center, Inc.
55500 DOT Road
PO Box 11130
Pueblo, CO 81001-0130
Phone: (719) 584-0587
Fax: (719) 585-1898
Cell: (719) 250-6113
Email: gerald_anderson@ttci.aar.com

TECHNICAL PROGRAM CHAIR:

Cameron P. Lonsdale
Vice President - Technical
Standard Steel
500 North Walnut Street
Burnham, PA 17009-1644
Phone: (717) 242-4698
Cell: (814) 574-5141
Fax: (717) 242-4680
Email: clonsdale@standardsteel.com

ASST. TECHNICAL PROGRAM

CHAIR:

David Tyrell
Senior Engineer
USDOT / Volpe Center
55 Broadway
Cambridge, MA 02142
Phone: (617) 494-2687
Fax: (617) 494-3616
Email: tyrell@volpe.dot.gov

**CHAIR PUBLICITY RR-8, & CHAIR
ANNUAL LUNCHEON:**

Matthew Dick
Manager - Mechanical Research
Rail Sciences Inc.
605 N. 13th St.
Omaha, NE 68102
Phone: (402) 827-5712
Cell: (402) 415-7680
Email: matt@railsciences.com

MANAGER OF DIVISIONAL AFFAIRS:

Samuel R. Williams
5759 Scotia Court
Dublin, OH 43016-3256
Phone: (614) 766-6970
 (614)-799-1870
Cell: (614) 570-9197
Fax: (614) 766-6970
Email: srwilliams@columbus.rr.com

ASME STAFF SUPPORT:

Richard Ulvila
Program Manager
ASME International
Environment & Transportation Group
Three Park Avenue
New York, NY 10016-5990
Phone: (212) 591-7797
Fax: (212) 591-7671
Email: ulvilar@asme.org

ASME STAFF SUPPORT:

Erin Dolan
Meetings Manager
ASME International
Three Park Avenue, MS 22E5
New York, NY 10016-5990
Phone: (212) 591-7123
Fax: (212) 591-7856
Email: dolane@asme.org