Dear Valued AAR Customer:

America’s freight railroads are a driving force behind our nation’s economic recovery. In 2012, railroads invested at record levels; hired new workers, many of whom served our nation in the Armed Forces; and developed new and innovative technologies to enhance efficiency and improve safety. In 2013, America’s freight railroads will continue to deliver what businesses need to compete in the global marketplace, stimulate local economies and support new hiring.

Railroads truly are the backbone of our nation’s economy, which is why today, more than ever, it is critical to understand the freight rail industry and the news and issues that affect its performance. For that reason, we are pleased to present you with the 2013 edition of the Association of American Railroads’ (AAR) Catalog of Publications.

These publications and services can be purchased from AAR and its subsidiaries and will help keep you informed about economic trends affecting the industry and the nation; innovative services that keep the network running efficiently; and technical manuals, publications and training that improve safety and productivity. Specifically, you will find:

- Publications from the AAR’s Policy and Economics Department (www.aar.org)
- Information technology services and damage prevention services from Railinc, an AAR subsidiary (www.railinc.com)
- Technical manuals, including the AAR interchange rules, research publications, and emergency response training from the Transportation Technology Center, Inc., an AAR subsidiary (www.ttciaar.com)
- Information about GoRail, a national grassroots organization that focuses on building public support for the freight railroad industry (www.gorail.org)

Ordering AAR publications is easy. Simply log on to the AAR web site, www.aar.org, and click on the “Statistics and Publications” tab. We also encourage you to bookmark the AAR web site for the most up-to-date information about the industry, important public policy issues, latest industry economic data, traffic reports and news. You can also learn about AAR’s Associate and Affiliate membership programs, which are open to suppliers and non-Class I railroads.

We thank you for your continued support of North America’s railroads. Because of you, freight rail will continue to move America’s economy forward.

Sincerely,

Edward R. Hamberger
# Table of Contents

**Membership**
- Membership Application
- **Association of American Railroads**
  - AAR General Department Listing Contacts, Phone/Fax Numbers/E-Mail
- **Railinc Corp.**
  - Equipment Tracking & Tracing
  - Interchange Services
  - How to Place An Order
  - Railinc Contact Information
  - Order Form
- **Transportation Technology Center, Inc.**
  - Technical Capabilities
  - Bureau of Explosives Publications & HAZMAT Training
  - AAR/TTCI Security & Emergency Response Training Center
  - AAR/TTCI Mechanical Inspection & Certification Services
  - AAR Catalog of Technical Services Publications
  - AAR Interchange Rules
  - Engineering Scale Handbook
  - AAR Manual of Standards and Recommended Practices (MSRP)
  - AAR Circular Letter Subscription
  - Publication Price List
  - How to Place An Order
  - Order Form
  - AAR/TTCI Research Publications
  - Safety and Operations Publications
  - Damage Prevention and Loading Services
  - Open Top Loading Rules Manual
  - Manuals, Posters & Training Programs
  - Loading Publications
  - Damage Prevention Research
  - TTCI General Contacts, Phone/Fax Numbers/E-Mail

**Subject Area List for AAR, RAILINC & TTCI**
Thanks to continuing investments in technology, infrastructure and employees, railroads move safer, cleaner, more productively and more efficiently than ever. In fact, today's railroads can move a ton of freight 484 miles on just one gallon of fuel.

One freight train removes several hundred trucks from our crowded highways. One commuter train takes even more vehicles off the road.

Passenger and freight rail share the vital infrastructure that helps create a cleaner environment. As railroads work to meet the rising demand for new infrastructure to move people and products, the Association of American Railroads is working to promote the power of our industry to innovate, grow and compete effectively in the global economy.

America's green, safe, fuel-efficient transportation solution has been on track for decades — and keeps getting better.

www.AAR.org

AAR plays an integral role shaping the industry's continuing success. We provide the rail industry a strong, united voice that policymakers listen to. We also facilitate the operations, safety, security and research that have laid the track for a strong, integrated industry.

Whether your business involves freight or passengers, AAR is working for you every day — and for America's transportation future.

RAILROADS ARE THE ENGINE THAT KEEP AMERICA'S ECONOMY MOVING

Railroad affiliate members based in North America pay an annual assessment based on revenues in accordance with the following schedule.

Note: dues are prorated quarterly.

Check the box that applies:

Gross Annual Revenue

Freight Carrier

Passenger Carrier

Up to $10 million

$5,000

$2,500

$10 million-$50 million

$20,000

$10,000

$50 million-$90 million

$35,000

$17,500

$90 million-$150 million

$50,000

$25,000

More than $150 million

$100,000

$50,000

Railroad companies located outside of North America pay a flat fee of $20,000.

Contributions or gifts to the AAR are not deductible as charitable contributions; however, they may be tax deductible as ordinary and necessary business expenses.

Concentration Areas

Railroad affiliate members may select to receive information from all concentration areas.

Please select the areas that you are most interested in from the following list:

- Car Service & Car Hire
- Damage Prevention & Freight Claims
- Environmental, Hazmat & Tank Car
- Passenger Rail Service
- Technical Services
- Communications, Signals & Train Control

Please return this form to:

Association of American Railroads
Department 6015
Washington, DC 20042

JOIN US

MEMBERSHIP RATES

FOR RAILROADS

WHETHER YOU MOVE PEOPLE OR FREIGHT, AAR KEEPS YOUR BUSINESS MOVING FORWARD

JOIN AAR — AND GET ON THE INSIDE TRACK!

Help keep freight rail strong and efficient — and keep your business on the right track. To join the AAR, please fill out and return this application with your payment.

For answers to any of your questions, please contact Kelly Donley, Assistant Vice President, Industry Relations, at 202-639-2343, or email kdonley@aar.org.

Please check one of the following categories that best represents your organization:

- Car Owner/Lessor
- Mechanical/Rolling Stock Manufacturer
- Track/Bridge/Signal/Engineering

CONTACT NAME

COMPANY

TITLE

ADDRESS

CITY STATE ZIP

PHONE FAX

BEST TIME TO CALL

E-MAIL

(over please)

ASSOCIATE MEMBER INFORMATION AND BENEFITS

Association of American Railroads
425 Third Street, SW Suite 1000
Washington, DC 20024
www.AAR.org

GET ON THE INSIDE TRACK

KEEP YOUR BUSINESS ON TRACK

RAILROAD AFFILIATE MEMBER INFORMATION AND BENEFITS
Today’s Railroads: Stronger Than Ever

AAR Membership Programs

Today’s freight railroads are faster, safer and more efficient than ever, providing a cost-effective transportation system that ties local businesses together into one national economy—from farmers and manufacturers, to companies that require fast delivery.

Over the past two decades, the railroad industry has invested hundreds of billions of dollars in new tracks, modern locomotives, freight cars and state-of-the-art communication systems. The industry has introduced cutting-edge technologies to make the rail system “cleaner and greener” and safer. This commitment has resulted in record safety gains, greater efficiency, increased productivity and better customer service.

The Association of American Railroads (AAR) has played an integral role facilitating improvements in safety, operations, security, research, and development, as well as public policy. AAR works to give North America’s freight railroads a strong, united voice on Capitol Hill.

Whenever there is a policy change affecting the railroads, AAR members are the first to know. We are committed to building a bright future for the rail industry.

Advancing the Industry

AAR helps support railroad safety improvements as well as research and development efforts. We also coordinate security measures throughout the industry to keep railroads safe and products moving while playing a vital role in monitoring and promoting the freight rail industry in the public and private sectors.

PROVIDING TANGIBLE MEMBERSHIP BENEFITS

AAR’s membership programs are not just for railroad companies. They are for every business that depends on America’s freight rail system to be the best in the world—even yours.

Members receive special benefits, such as exclusive invitations to Railroad Day on Capitol Hill, as well as annual awards events and other meetings where you can network with other AAR members, leaders of the rail industry, and policy makers. You also will have access to the members’ area of the AAR Website, www.aar.org, where you can sign up to receive legislative and regulatory alerts, and access trade publications.

ASSOCIATE ADVISORY BOARD: MAKE YOUR VOICE HEARD

Through the Associate Advisory Board (AAB), associate members enjoy a formal structure for the representation of their views within the AAR — one that enables them to contribute their input and expertise to operational committee decisions.

All associates vote for members of the advisory board. Gold associate members are eligible to serve on the 12-member board.

The Board selects its own chair and solicits nominations from all gold associate members to serve as voting members on selected committees under the Safety and Operations Management Committee. It selects representatives for committee assignments from among qualified nominees.

ASSOCIATE PROGRAM

AAR associate membership levels are based on your company’s size, type of business and scope of interest.

All associate members receive AAR’s weekly electronic newsletter containing policy updates, industry news and the latest railroad traffic reports.

SILVER

Participation in the “silver” membership package allows members to enjoy their choice of two concentration areas, including newsletters, updates and minutes from relevant meetings and briefings, as well as:

- Discounted rates for certain industry conferences
- Listing of your organization on the AAR website
- Access to members’ area of the AAR website, which contains a special section for associates and electronic versions of many AAR publications
- Special, discounted rates on all AAR and TTCI publications
- Opportunity to participate in the rail industry political action committee
- Use of AAR associate program logo for promotional material and on your website.
A special “gold” membership package is available for organizations that want an even greater level of interaction with railroad industry leaders, experts and policymakers. In addition to all of the benefits of silver associate membership, gold members enjoy:

- Eligibility to serve on AAR’s Associate Advisory Board and select AAR committees
- Participation in all Concentration Areas
- Invitation to a private gold members’ event with industry CEOs
- Participation in the annual Railroad Day on Capitol Hill to support AAR’s legislative agenda
- Invitations to select annual railroad industry meetings and events

**NON-CLASS I RAILROAD AFFILIATE PROGRAM**

The AAR Affiliate program is open to all non-class I railroads, commuter railroads, and railroads that operate outside of North America.

AAR affiliate membership dues are based on your company’s revenue. All railroad affiliate members receive AAR’s weekly electronic newsletter containing policy updates, industry news and the latest railroad traffic reports as well as:

- Eligibility to serve on select AAR committees
- Participation in all AAR Concentration Areas, which includes newsletters and minutes from meetings and briefings in specific areas of the railroad industry
- Affiliate member rates on AAR and TTCI publications
- Access to the members’ area of the AAR website that contains circular letters, embargoes, weekly industry reports, newsletters and electronic versions of a number of AAR publications
- Opportunity to participate in the rail industry PAC
- Participation in the annual Railroad Day on Capitol Hill to support AAR’s legislative agenda
- A link to your company’s website from the AAR Members’ webpage
- Use of AAR affiliate program logo for promotional material and on your website

**CONCENTRATION AREAS: BENEFITS TAILORED TO YOUR COMPANY’S NEEDS**

To provide our affiliate and associate members with information about their particular field of interest, AAR offers additional, specialized services in various areas of concentration. For a complete listing of these services, please visit www.aar.org.

**TECHNICAL SERVICES**

Benefits include: Updates on industry activities and subscription to circular letters; field and office manual of AAR Interchange Rules, with updates; complimentary registration to the North American Railroad Mechanical Operations (NARMO).

**ENVIRONMENTAL, HAZMAT AND TANK CAR**

Benefits include: Opportunity to participate in the Railroad Environmental Conference and Hazardous Materials Seminar; dockets and minutes from the Hazmat, Tank Car, Environmental Affairs Committees and NAR Reduction and Nuclear Waste Transportation Task Forces; information on federal activity affecting tank cars, environmental and hazmat issues.

**PASSENGER RAIL SERVICE**

Benefits include: Updates on coordination and implementation of PTC systems between freight and passenger railroads; invitations to special events hosted by TTCI; complimentary registration to the NARMO Seminar.

**CAR SERVICE AND CAR HIRE**

Benefits include: Agendas and minutes from AAR’s Equipment Assets Committee that keep equipment owners abreast of discussion areas impacting car utilization and compensation; annual Review of Equipment Trends.

**DAMAGE PREVENTION AND FREIGHT CLAIMS**

Benefits include: Quarterly newsletter on damage prevention, freight claims and safety; updates with latest statistics on freight loss and damage trends; notice of testing completed by the Damage Prevention and Loading Services group; information resources through Railinc’s Damage Prevention and Loading Services staff.

**COMMUNICATIONS, SIGNALS AND TRAIN CONTROL**

Benefits include: Information relating to radio frequency spectrum (including frequency coordination, petitions to the FCC, responses to petitions, and development of wireless communications standards); copy of electronic standards and specifications; information on FRA activity in the signal, communications and train control area.

**SECURITY**

Benefits include: Overview presentation on the rail industry security program, periodic point papers and updates on the industry’s physical and cyber security programs; quarterly updates on priorities and progress in the rail industry security program.

**SAFETY**

Benefits include: Liaison with federal agencies on rail safety matters; participation in periodic teleconferences on benchmark industry safety practices; participation in regular teleconferences and meetings to shape industry positions on FRA rulemaking; access to industry policy outlook on operations and safety issues.
COMPANY NAME: _____________________________________________________
CONTACT PERSON: _______________________   TITLE: _____________________
ADDRESS: ____________________________________________________________
CITY: _________________________ STATE: _________________   ZIP: __________
PHONE: _____________    FAX:   _____________   EMAIL: _____________________
COMPANY’S WEBSITE ADDRESS: _________________________________________

STEP 1: Company Category
Please choose one category below that best represents your organization:

☐ Car Owner/Lessor  ☐ Mechanical/Rolling Stock Manufacturers  ☐ Track/Bridge/Signal Suppliers & Engineering Consultants

STEP 2: Membership Level
AAR Associate Memberships are available in Gold and Silver levels. Please choose the level desired. Membership dues are pro-rated quarterly.

☐ GOLD      ☐ SILVER

<table>
<thead>
<tr>
<th></th>
<th>Full Year</th>
<th>Three Qtr.-Year</th>
<th>Half-Year</th>
<th>Qtr.-Year</th>
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<tbody>
<tr>
<td>Gold:</td>
<td>$15,000</td>
<td>$11,250</td>
<td>$7,500</td>
<td>$3,750</td>
</tr>
<tr>
<td>Silver:</td>
<td>$7,500</td>
<td>$5,625</td>
<td>$3,750</td>
<td>$1,875</td>
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</table>

Step 3: Concentration Areas
Associate members have the opportunity to participate in concentration areas. Please choose the concentration area(s) that interest you.

GOLD level members may select ALL concentration areas.
SILVER level members may select TWO concentration areas.

☐ Car Service & Car Hire
☐ Communication, Signals & Train Control
☐ Damage Prevention & Freight Claims
☐ Environmental, Hazmat & Tank Car
☐ Passenger Rail Service
☐ Safety
☐ Security
☐ Technical Services

Step 4: Payment Information
Amount Enclosed: ______________

Make checks payable and remit to: Association of American Railroads
Department 6015
Washington, DC 20042-6015

Contributions or gifts to the Association of American Railroads are not tax deductible as charitable contributions; however, they may be tax deductible as ordinary and necessary business expenses.
ASSOCIATION OF AMERICAN RAILROADS

2013 Railroad Affiliate Membership Application

COMPANY NAME: _____________________________________________________

CONTACT PERSON: _______________________ TITLE: _____________________

ADDRESS: ____________________________________________________________

CITY: _________________________ STATE: _________________ ZIP: __________

PHONE: _____________ FAX: _____________ EMAIL: _____________________

COMPANY’S WEBSITE ADDRESS: _________________________________________

Railroad Affiliate Members based in North America will pay an annual assessment based on previous year’s gross freight service revenues in accordance with the following schedule. Please check the box that applies:

<table>
<thead>
<tr>
<th>Gross annual revenue:</th>
<th>Freight Carrier</th>
<th>Passenger Carrier</th>
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<tbody>
<tr>
<td>Up to $10 million</td>
<td>□ $5,000</td>
<td>□ $2,500</td>
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<tr>
<td>$10 million - $50 million</td>
<td>□ $20,000</td>
<td>□ $10,000</td>
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<tr>
<td>$50 million - $90 million</td>
<td>□ $35,000</td>
<td>□ $17,500</td>
</tr>
<tr>
<td>$90 million – 150 million</td>
<td>□ $50,000</td>
<td>□ $25,000</td>
</tr>
<tr>
<td>More than $150 million</td>
<td>□ $100,000</td>
<td>□ $50,000</td>
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</table>

☐ Railroads located outside of North America pay a flat fee of $20,000. Check here if applicable.

Railroad Affiliate Members may take part in any or all of eight concentration areas. Please check the appropriate concentration area(s) below:

☐ Car Service & Car Hire
☐ Communication, Signals & Train Control
☐ Damage Prevention & Freight Claims
☐ Environmental, Hazmat & Tank Car
☐ Passenger Rail Service
☐ Safety
☐ Security
☐ Technical Services

Payment Information

Amount Enclosed: ________________

Make checks payable and remit to: Association of American Railroads
Department 6015
Washington, DC 20042-6015

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AAR produces weekly, quarterly, and annual reports providing in-depth financial, operating, and traffic statistics about the North American freight railroad industry. These publications can be purchased from our online catalog, which is available on our Web site (www.aar.org).

All orders for AAR Policy & Economic publications must be placed on our secure Web site at www.aar.org. Click on “Statistics & Publications – Publications – Order Publications Online” to access the AAR online publications catalog. Orders must be paid by credit card at the time they are placed. We are no longer accepting orders by fax, mail, or phone, and are therefore unable to accept checks.
## AAR General Department Listing

### General
- **202-639-2100**

### Publications
- **202-639-2102** [pubsrvcs@aar.org](mailto:pubsrvcs@aar.org)

### Press Line
- **202-639-2344**

### Website
- [www.aar.org](http://www.aar.org)

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### Executive

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Edward R. Hamberger</strong></td>
<td>President and CEO</td>
<td>202-639-2400</td>
</tr>
<tr>
<td><strong>Jeri Sparling</strong></td>
<td>Executive Assistant to the</td>
<td>202-639-2102</td>
</tr>
<tr>
<td></td>
<td>President &amp; CEO</td>
<td></td>
</tr>
<tr>
<td><strong>Janet Williams</strong></td>
<td>Administrative Assistant</td>
<td>202-639-2100</td>
</tr>
</tbody>
</table>

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### Communications

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Phone</th>
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</thead>
<tbody>
<tr>
<td><strong>Patti Reilly</strong></td>
<td>Senior VP, Communications</td>
<td>202-639-2342</td>
</tr>
<tr>
<td><strong>Holly Arthur</strong></td>
<td>AVP, Media &amp; Public Relations</td>
<td>202-639-2344</td>
</tr>
<tr>
<td><strong>Kristin Smith</strong></td>
<td>Director, Communications</td>
<td>202-639-2341</td>
</tr>
<tr>
<td><strong>Lauren Jones Sandberg</strong></td>
<td>Manager, Communications</td>
<td>202-639-2528</td>
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### Finance & Administration

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<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
<td><strong>Jeff Marsh</strong></td>
<td>Senior VP, Finance and CFO</td>
<td>202-639-2118</td>
</tr>
<tr>
<td><strong>Mark McRoberts</strong></td>
<td>AVP, Budget and Cash Management</td>
<td>202-639-2219</td>
</tr>
<tr>
<td><strong>Melody Stevens</strong></td>
<td>Controller</td>
<td>202-639-2114</td>
</tr>
<tr>
<td><strong>Carla Garcia</strong></td>
<td>AVP, Human Resources &amp; Administration</td>
<td>202-639-2542</td>
</tr>
<tr>
<td><strong>Stephanie A. Kilfeather</strong></td>
<td>Director, Meeting Services</td>
<td>202-639-2164</td>
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### Law

<table>
<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
<td><strong>Louis P. Warchot</strong></td>
<td>Senior VP, Law &amp; General Counsel</td>
<td>202-639-2103</td>
</tr>
<tr>
<td><strong>Mark McRoberts</strong></td>
<td>Assoc. General Counsel and Corporate Secretary</td>
<td>202-639-2219</td>
</tr>
<tr>
<td><strong>Melody Stevens</strong></td>
<td>Assoc. General Counsel</td>
<td>202-639-2114</td>
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<td><strong>Stephanie A. Kilfeather</strong></td>
<td>Assoc. General Counsel</td>
<td>202-639-2164</td>
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### Policy & Economics

<table>
<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
<td><strong>Barbara Morgan</strong></td>
<td>Internal Meetings &amp; Special Events Coordinator</td>
<td>202-639-2565</td>
</tr>
<tr>
<td><strong>Laurie Knight</strong></td>
<td>Senior VP, Government Affairs</td>
<td>202-639-2536</td>
</tr>
<tr>
<td><strong>John Wetzel</strong></td>
<td>VP, Government Affairs</td>
<td>202-639-2538</td>
</tr>
<tr>
<td><strong>Jennifer Macdonald</strong></td>
<td>AVP, Government Affairs</td>
<td>202-639-2533</td>
</tr>
<tr>
<td><strong>John Glaser</strong></td>
<td>Manager, Congressional Affairs</td>
<td>202-639-2527</td>
</tr>
<tr>
<td><strong>Dwayne Bolton</strong></td>
<td>Manager, Congressional Affairs</td>
<td>202-639-2553</td>
</tr>
<tr>
<td><strong>Harrison Wadsworth</strong></td>
<td>Senior Legislative Assistant</td>
<td>202-639-2535</td>
</tr>
<tr>
<td><strong>Layton Waterhouse</strong></td>
<td>Senior Legislative Assistant</td>
<td>202-639-2535</td>
</tr>
<tr>
<td><strong>Keith Waterhouse</strong></td>
<td>Senior Legislative Assistant</td>
<td>202-639-2535</td>
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### Government Affairs

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<tr>
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<tr>
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<td>202-639-2400</td>
</tr>
<tr>
<td><strong>Jeri Sparling</strong></td>
<td>Executive Assistant to the President &amp; CEO</td>
<td>202-639-2102</td>
</tr>
<tr>
<td><strong>Janet Williams</strong></td>
<td>Administrative Assistant</td>
<td>202-639-2100</td>
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### Publications

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<td><strong>Harrison Wadsworth</strong></td>
<td>Senior Legislative Assistant</td>
<td>202-639-2535</td>
</tr>
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### Press Line

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pamela Nwosu</strong></td>
<td>Senior Legal Administrator</td>
<td>202-639-2327</td>
</tr>
<tr>
<td><strong>John Gray</strong></td>
<td>Senior VP, Policy and Economics</td>
<td>202-639-2499</td>
</tr>
<tr>
<td><strong>Peter French</strong></td>
<td>AVP, Safety &amp; Performance Analysis</td>
<td>202-639-2344</td>
</tr>
<tr>
<td><strong>Frank Hardesty</strong></td>
<td>AVP, Policy &amp; Economics</td>
<td>202-639-2341</td>
</tr>
<tr>
<td><strong>Dan Frenkel</strong></td>
<td>AVP, Policy Analysis</td>
<td>202-639-2341</td>
</tr>
<tr>
<td><strong>Clyde Crimmel</strong></td>
<td>Director, Statistical Information</td>
<td>202-639-2341</td>
</tr>
<tr>
<td><strong>Shannon Stare</strong></td>
<td>Economist Analyst</td>
<td>202-639-2341</td>
</tr>
<tr>
<td><strong>Shou-Lien Liu</strong></td>
<td>Economist Analyst II</td>
<td>202-639-2341</td>
</tr>
<tr>
<td><strong>Paul Posey</strong></td>
<td>Economist</td>
<td>202-639-2341</td>
</tr>
<tr>
<td><strong>Beth Eaganey</strong></td>
<td>Senior Research Assistant</td>
<td>202-639-2341</td>
</tr>
</tbody>
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### Law

<table>
<thead>
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<td><strong>Stephanie A. Kilfeather</strong></td>
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### Safety & Operations

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<td><strong>James P. Grady</strong></td>
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<td><strong>Jeff Moller</strong></td>
<td>AVP, Transportation Systems &amp; Practices</td>
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For more than 30 years, Railinc has been an integral part of the North American rail industry by maintaining extensive industry databases, applications and services that are embedded in industry-critical operations and financial systems.

Railinc is the largest, single source of real-time, accurate interline rail data in the North American transportation industry. Railinc is the supplier of time-tested products and services like Umler, TRAIN II, Interline Settlement, Railcar Accounting, Steelroads, RailSight and EDI connection services. These systems and services support railroads, shippers, equipment owners and suppliers along every link of their supply chains. Class Is, short lines, regional railroads, and transportation professionals alike use Railinc’s tools and information to manage and analyze their rail traffic.

Railinc is headquartered in Cary, NC, and is a wholly-owned subsidiary of the Association of American Railroads. E. Allen West is the president of Railinc. To learn more about Railinc’s information and transportation solutions, visit www.Railinc.com or call 877.724.5462. Below is a list of selected Railinc products and services.

**EQUIPMENT REGISTRATION AND INFORMATION SYSTEM (Umler)**

Railinc maintains the Umler rail equipment information database and shares this information with the shipping industry. Umler contains the physical characteristics, transportation management information and pool assignments of virtually every piece of rail equipment in North America. That’s over 3.5 million pieces of rail equipment - railcars, trailers, containers, chassis, locomotives and end-of-train devices. This information is used in all facets of railway planning, providing the means for the accurate distribution of equipment, routing of shipments and determination of motive power requirements. Umler data provides the information that is critical to the safe and effective operation of the rail industry through air brake and automatic equipment identification (AEI) test reporting and other Federal Railroad Administration (FRA) data.

**TRAIN II SYSTEM**

The TRAIN II System (Tele-Rail Automated Information Network) provides physical location and status information on rail equipment in North America as reported by more than 520 railroads. Shippers, consignees, railroads, equipment owners and others use this information to enhance inventory management, operations, customer service, planning and asset management. TRAIN II supports delivery of this information in various formats through its data network directly to end-users, railroads and other service providers.

**RAIL REFERENCE INFORMATION DATABASES**

Railinc maintains the North American railroad industry’s official code tables and industry reference databases. Reference databases are used to edit and ensure the quality of data reported by railroads to key industry systems. They are also used in inter-carrier exchanges of shipment information to ensure consistency in data interpretation.

Databases include:
- Centralized Station Master (CSM)
- Customer Identification File (CIF)
- Itinerary Database (ROUTE)
- Junction Interchange Database (JUNC)
- Mark Register (MARK)
- Shipment Conditions (SCF)
- Standard Transportation Commodity Code (STCC)

**DATA EXCHANGE SYSTEMS**

Railinc’s data exchange is a family of systems that consolidates various types of railroad accounting data. Output is produced on a monthly basis and is available to subscribers in a rail proprietary format. The following is a list of Railinc’s data exchange systems:

The following is a list of Railinc’s data exchange systems:
- Car Hire Data Exchange System (CHDX)
- Car Repair Billing Data Exchange (CRBDX)
- Freight Loss and Damage Data Exchange (FLDX)
- Switching Settlements Data Exchange (SSDX)

**INTERLINE TRANSPORTATION SERVICES**

Railinc’s Interline Transportation Services team handles business process management for the rail industry. The team manages the use of the Association of American Railroads (AAR) rules and practices implemented for AAR subscribing railroads. The team also oversees railcar service and car hire agreements in an effort to maximize asset utilization and is responsible for intermodal, transborder and equipment asset business processes for Railinc. Interline Transportation Services include:
- Bid and Offer
- Depescription
- Embargo (TD-1)
- Liability Continuity System (LCS)
- Reporting MARKs - railroads and private railcar owners
- Tank Car Mileage Equalization (TME)-ER-1 form and instructions
- Car Car Accounting Rate Distribution System (RAIL-CARDS)
- Car Hire Accounting Rate Master (CHARM)
- Car Hire Transfer of Liability
- Car Repair Price Master (Price Master)
EQUIPMENT TRACKING AND TRACING
Railinc provides a single source for track and trace information for shipments moving on more than 520 railroads in the U.S., Canada and Mexico. Each day Railinc processes over 7.5 million events, making Railinc the most complete and reliable source of interline information in the industry.

RailSight - RailSight is an automated rail equipment tracking system that "pushes" rail event reports on specific fleets to its customers. With RailSight, car location messages (CLM) and estimated time of arrival (ETA) are available within minutes of being reported to Railinc. RailSight combines features of the National Industrial Transportation League’s CLM standards with enhancements to create an efficient, powerful and flexible fleet tracing and management system.

Steelroads Equipment Trace - Steelroads allows users to schedule traces to run automatically, and receive CLMs and ETAs via file transfer protocol (FTP), email, fax or Web browser.

Steelroads Parameter Trace - In addition to Equipment Tracing, Steelroads Parameter Trace offers customized reports based on parameters entered by the user, allowing users to trace cars even if equipment numbers are unknown, and offering visibility into waybill and trip plan/ETA information.

Steelroads Short Line Event Reporting - Steelroads also serves short line railroads in the event reporting arena. Railinc has joined the effort to improve event reporting by offering a free and easy-to-use reporting tool within Steelroads. Steelroads Event Reporting is in alignment with industry-wide initiatives to support the appropriate reporting of railcar movements.

SHIPMENT SERVICES
Steelroads Shipping Instructions - In addition to tracking and tracing, steelroads.com is an easy-to-use Internet portal to create and manage shipping instructions that can be sent to multiple railroads. Users can also query industry reference databases, equipment information, rail routes and link to other railroads Internet sites.

EDI Network/Value Added Network (VAN) Messaging Services
Railinc’s VAN services are a portal to the North American rail industry and our customers’ supply chain partners, facilitating the flow of mission-critical information by linking more than 1,500 trading partners, including railroads, shippers, equipment owners, government agencies and all North American VANs. Using an “any-to-any” data and document translation capability, Railinc’s VAN allows users to send and receive all kinds of business documents, from bills of lading to purchase orders. All major data protocols are supported and Railinc can easily receive and translate data in any format. Exchanges between these trading partners include: administrative data, advance consists, bills of lading, blocking instructions, customs messages, freight bills, invoices, purchase orders, price information, train sheets, trip plans, railcar and intermodal location information, and waybills.
Interchange Services

Industry Reference Files Overview

Railinc maintains the only industry-accepted version of the North American railroad industry's official code tables. Industry Reference Files (IRFs) are the spell checkers, data dictionaries and thesaurus for all intra and inter-industry communication and are used to assure consistency in data interpretation. In the following prices, participating carriers are defined as all railroads who participate in the Industry Reference databases, all other customers are defined as non-participating parties.

Available in the following media:
Secured Internet site download for subscription.

Current Master CSM Monthly Subscription
Participating carriers $1000 [PUBCSM01]
Non-participating parties $2000 [PUBCSM02]

Current Master JUNC Monthly Subscription
Participating carriers $1000 [PUBJUNC01]
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Current Master STCC Monthly Subscription
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Non-participating parties $2000 [PUBSTCC02]

OPSL PUBLICATION & SUPPLEMENTS

The Official Railroad Station List (OPSL) is a listing of revenue rail stations, including SCACs, FSACs, SPLC's and OPSL Notes for special conditions. It is divided into alphabetical freight, alpha operating (listed by state), geographical-listed by carrier in OPSL order, notes numerically listed, switch limits and junctions/interchanges published at re-issue & in consolidated supplements. Distribution is based on annual subscriptions starting in January. [OPSL 6000-AH-PDF] Available January 2013 $700

TARIFF STCC 6001-AO

The STCC Product Class Tariff (STCC 6001-AO) contains complete descriptions of commodities shipped by rail (and other modes of transportation) along with their associated 7-digit numeric code. The STCC Product Class Tariff also includes an alphabetical index to assist the user in locating numeric product class descriptions as well as markers which indicate if the commodity has been deregulated by the (former) Interstate Commerce Commission under Ex Parte 346 or 394.

Tariff Issue Date: December, 2012
Tariff Effective Date: January 1, 2013

Publication:
Product Class Tariff STCC 6001-AO
Master tariff & monthly supplements for 2013 [PDFSTCC]. $700

DIRECTORY OF HAZARDOUS MATERIALS SHIPPING DESCRIPTIONS

The Directory of Hazardous Materials Shipping Descriptions includes DOT proper shipping names, technical names, Product Class STCC classifications, hazard class, packing groups, UN and NA identification numbers and reportable quantity notations.

Directory of Hazardous Materials Shipping Descriptions No.20
Directory reissue and monthly supplements for 2013 [PDFHZMT]. $700

DIRECTORY OF SHIPMENT CONDITIONS

Shipment Condition Codes restrict prices or restrict calculation of total charges: they define price qualification. They specify anything from equipment types to accessorial services and annual volume agreements on an electronic waybill. SCF Codes are standardized to allow electronic pricing through REN, and as such, are maintained by the SCF Technical Advisory Group. Any changes to SCF Codes follow strict change control parameters.

Electronic Format:
Master SCF Monthly Subscription Participating carriers free
Non-participating parties $2000 [PUBSCF02]

To purchase publications, please visit our secure website at aarpublications.com
INDUSTRY REFERENCE FILES (IRFs)

Railinc’s Industry Reference Files (IRFs) can be purchased as either PDFs or as text files. Additionally, the new Industry Reference Files integrated (IRFi) site allows users to search for and export IRF data.

Softcopy PDF Publications

The following publications are available as PDF downloads. Each is sold as a subscription. For the STCC and HAZMAT files, supplements are provided on a monthly basis. For the OPSL supplements are available bi-weekly. The price includes unlimited usage within the corporation.

- Directory of Hazardous Materials Shipping (HAZMAT)
- Standard Transportation Commodity Code (STCC)
- Official Railroad Station List (OPSL)

Softcopy Text File Publications

The following publications are available as text files (flat). Data layouts are provided to assist with importing this raw data into a database system for the purchaser’s internal needs. Prices for these text file are set for participating and non-participating purchasers. Participating parties are all railroads who contribute to the Industry Reference Databases. All other customers are defined as non-railroad. Provided in soft-copy only. Available IRFs include:

- Centralized Station Master (CSM)
- Junction Interchange File (JUNC)
- Mark Register (MARK)
- Route File (ROUTE)
- Standard Transportation Commodity Code (STCC)

INDUSTRY REFERENCE FILES INTEGRATED (IRFi) WEBSITE

Accuracy is critical to railroad business, which is why the IRFi site provides users real-time access to this key reference information. We believe that users of the system will agree that it offers them their best choice for referencing these files and that it is a vast improvement over the traditional publication distribution model. The IRFi site includes direct views and customized extracts of data contained within the Centralized Station Master (CSM), Junction, Mark, Route and Standard Transportation Commodity Code (STCC) files.

The IRFi system includes many additional advantages. For example, the station data has been enhanced with the inclusion of a powerful mapping feature, allowing users to view the geographical location of stations and junctions. Details of displayed stations can be viewed directly by clicking the station or junction icons appearing on the map.

The IRFi site is available at the following address: http://www.railinc.com/IRFi

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TRANSPORTATION TECHNOLOGY CENTER, INC.

Accelerating the use of clean, safe and efficient technologies by railways worldwide.

The Association of American Railroads formed the Transportation Technology Center, Inc. (TTCI) in late 1997 as a wholly owned, for-profit subsidiary. TTCI is headquartered at the FRA’s Transportation Technology Center (TTC) in Pueblo, CO, and is the hub of the world’s leading railway advanced technology development program. Lisa Stabler is the president of TTCI.

TTCI serves AAR member railroads through the AAR’s technology research program, and is focused on enhancing railroad safety, reliability, and productivity. TTCI also plays a major role in the development and application of new technology for railways, suppliers, governments, and others involved in rail transportation. TTCI serves railways around the world in the implementation of new technology and solving technical problems. TTCI provides services to the railway supply industry for testing, evaluation, and demonstration of new technology. Training services are provided to help all customers apply new technology. TTCI also operates the world’s foremost emergency response training center at TTC for transportation accidents involving hazardous materials. TTCI offers services at customer locations around the world, as well as the Transportation Technology Center. AAR Technical Standards are maintained by TTCI. The rail industry Quality Assurance Program, Safety Alert System and Technical Committee Support are also supported by TTCI.

The Transportation Technology Center is a world-class facility offering a wide range of unique capabilities for research, development, testing, consulting, and training for railway-related technologies. The facility is owned by the U.S. Department of Transportation, and TTCI operates and maintains the site under a contract with the Federal Railroad Administration. TTC is an isolated and secure 52 square mile facility with a vast array of specialized testing facilities and tracks. All types of freight and passenger rolling stock, vehicle and track components, and safety devices can be tested at TTC. There are 48 miles of test track which are used for track structure and vehicle performance testing, life-cycle prediction and component reliability, lading damage prevention tests, and freight ride quality and passenger comfort.

Technical Capabilities

Heavy Axle Load Implementation
TTCI conducts full-scale research and testing on the effects of increasing axle loads from 33 tons to 38 tons at the Facility for Accelerated Service Testing at TTC and field sites throughout the North American rail system. Causes of increased wear due to heavier loads have been identified and solutions tested that mitigate them. TTCI now offers implementation services in the following areas to rail systems that are considering increasing axle loadings to improve competitive stature:

- Railcar specification development, design, safety, fatigue testing, life-cycle costing, AAR certification, acceptance testing
- Locomotive performance, train performance, train energy, longitudinal action
- Rail/wheel contact tribology, lubrication performance evaluation
- Vehicle performance, rolling and aerodynamic resistance, ride quality, loading environment
- Bearing evaluation, performance testing, failure analysis
- Conventional pneumatic and electronically controlled brake development troubleshooting, installation, testing, component testing and certification, and performance evaluation
- Suspension performance testing and evaluation
- Wheels and wheel/rail profile optimization
- Vehicle/track interaction, systems evaluation
- Subgrade soil strength testing and remediation design
- Subgrade and ballast selection and design
- Track and special trackwork, rail selection, fastener evaluation, welding practices
- Vehicle health monitoring, remote data collection and analysis
- Bridge testing, fatigue life evaluation
- Maintenance strategies, condition-based maintenance guidelines
- Track integrity monitoring systems, rail flaw detection, track strength measurement and evaluation

Transit System Services
TTCI’s unique transit test facilities and expertise are used by transit equipment manufacturers and transit agencies for performance certification, endurance testing, and problem solving. TTCI offers these services to customers on transit system locations and at TTC:
Vehicle performance and acceleration/deceleration testing
Braking performance
Shakedown and endurance testing
Interior and exterior noise and vibration measurements of rail vehicle operations
Passenger comfort
Ride quality under all load conditions
Rail/vehicle interaction
Electrical demand and power regeneration

Full Scale Testing
TTCI is equipped with special track systems designed to test freight and passenger cars, locomotives, and trains for:
- New car performance tests
- Dynamic performance: high speed and low speed stability, derailment susceptibility
- Energy consumption
- Wheel/rail studies
- Endurance tests
- Braking tests

Communications and Train Control
Communications and train control systems are an essential part of operating and maintaining the railroad system safely and efficiently. Beyond their safety role, they are key to improving service reliability, increasing the net velocity of the system, reducing congestion, and maximizing the effective use of assets required to meet customer demands. TTCI can assist customers to:
- determine CBTC system requirements,
- develop complete, unambiguous specifications,
- select/configure systems to optimize benefits,
- evaluate radio effects on system performance,
- plan & conduct effective tests,
- migrate to CBTC without disrupting operations,
- achieve interoperability.

Modeling Services
TTCI has developed several unique analytical models which can predict performance and be used to make comparisons between alternative scenarios. TTCI continually updates the models so customers using these services can be assured of having the most up-to-date program results. These greatly reduce the cost of field testing:
- NUCARS®
- TOEST™ / STARCOTM®. Train Operations and Energy Simulato and Simulation of Train Action to Reduce Cost Operations
- RTLMTM®- Railway Track Life-cycle Model
- WRTOL™. Wheel/Rail Tolerance

Vehicle Monitoring Systems
TTCI gathers information from the following systems to create valuable information that directly helps the railroad industry. They are:
- Performance-Based Track Geometry Technology - PBTG™ - This system allows railroads to reduce track geometry-caused derailments and optimize track maintenance. Individual geometry defects do not always produce undesirable vehicle responses. Conversely, track locations that produce undesirable vehicle responses do not always relate to individual geometry defects. Experience shows that frequently the combined effect of geometry deviations, track features, operating speed, and vehicle characteristics causes poor vehicle performance. Our PBTG™ system identifies track sections that are likely to produce undesirable vehicle performance.

- Trackside Acoustic Detection System-TADS® - This system is used to detect bearing flaws in freight cars as they pass the detector at track speeds. TADS® detects and reports cup, cone, and roller defects in numerical severity levels from 1-5. This system can also be modified to include additional wheel diameters and bearing sizes. Other types of acoustic data like flat wheels and multiple defect bearings are detectable and can be refined to meet client objectives. By using TADS® you can reduce the potential for bearing related derailments, lading damage, and damage to infrastructure. Customers can experience cost savings while optimizing operations and enhancing safety.
- Instrumented Wheelsets - Dynamic vertical, lateral, longitudinal wheel/rail loads are key to understanding vehicle performance. TTCI’s load measuring wheelsets are documented and traceable to provide the confidence required for lightweight transit cars up to 125-ton freight cars and 210-ton locomotives. TTCI’s patented, multifaceted instrumented wheelsets respond to the need for accurate and proven measurement equipment. These high accuracy wheelsets provide information to improve design and management decisions, promoting safety and efficiency.

Integrated Railway Remote Information Service-InteRRIS® - TTCI’s products and services are cutting edge technology that helps companies maximize efficiency. TTCI’s Integrated Railway Remote Information Service (InteRRIS®) consists of hardware and software that, together, form a cohesive system to advise rail-oriented users concerning rail vehicle performance. InteRRIS® collects, compiles, and analyzes the data from various types of vehicle performance monitoring devices, both wayside and on-board, to create a composite view of railway vehicle performance. This view can be selectively modified by the InteRRIS® user to create semi-custom event notifications and reports for individual vehicle performance or overall fleet performance. InteRRIS® is a large database of vehicle performance data, surrounded by application layers that allow users full access to the performance data at the most beneficial and useful levels.

Train Operation Safety Services
TTCI provides a variety of services specially aimed at ensuring the safety of train operations including:
- Derailment analysis and prevention
- Safe operating practices and standards
- Hazardous materials container performance
- Crashworthiness evaluation

Metallurgical Analyses
TTCI’s laboratories are equipped to test track and rolling stock components and materials. TTCI staff offers services such as:
- Fracture mechanics and failure analysis
- Residual stress measurement
- Crack detection
- Fatigue life projection

Instrumentation and Data Collection, Analysis, and Reporting
TTCI has extensive test instrumentation, data collection and communication, and analysis capabilities that support laboratory and field testing activities around the world, including:
- Integrated Remote Railway Information System: wayside data collection system for dynamic response measurement of vehicles, track, components, and structures
- Static measurements of rail, special trackwork, track modulus, ballast and soil density, track geometry, rail flaws, lubrication, and tie stiffness
- Dynamic wayside measurements of wheel and rail forces, ground vibration, wheelset angle of attack, ballast and subgrade displacement and pressure.
- Dynamic onboard measurements of ride quality, noise, acceleration and vibration levels, lading damage, structural forces and strains, coupler forces, energy consumption, impact forces, and wheel/rail contact forces
- Load measuring instrumented wheelsets
- Longitudinal rail profile measurement system
- Attended and unattended, remotely accessed data collection and transfer systems

**Freight Damage Prevention**

TTCI is staffed to test and evaluate various methods for preventing damage to freight shipped in railcars, trailers, and containers. These services can be provided at shipper facilities, over-the-road, and at TTC:

- Loading and securement systems testing and evaluation
- Impact and vibration testing
- Revenue service testing

**Certification Testing Services**

TTCI provides certification test services for most AAR Technical Standards including:

- Wheels
- Wheel Bearings
- Brake Shoes
- ECP Brake Components
- Brake Beam Slack Adjusters
- Hand Brakes
- Center Plate Liners
- Bolsters
- Coupler Carrier Wear Plates
- Freight Cars

**Technical Standards and Quality Assurance**

TTCI assumed responsibility for the majority of the technical and administrative functions related to the standards function previously performed by the AAR Technical Services Division. The purpose of this program is to consolidate technical functions at TTC, to expand the technical standards capability, and to make this technical standard expertise available to others.

TTCI, under contract to AAR, maintains longstanding technical standards used by the railroad industry. Users include class I, short line, and regional railroads throughout the United States, Canada, and Mexico; the Federal Railroad Administration; the Transport Canada Railway Safety Directorate; private railcar owners; shippers; freight car, locomotive, and component suppliers, and others. The standards are issued and enforced to ensure safety, compatibility, reliability, and efficiency of equipment used in interchange service. Maintenance of AAR’s technical standards is critical to the safe and efficient functioning of the North American railcar fleet. AAR maintains oversight, with all technical standards development carried out by TTCI.

TTCI manages AAR’s industry safety alert system. This system is used to advise the industry of potential safety hazards related to freight and locomotive equipment. In addition, TTCI manages the AAR’s rules and standards enforcement function. Under contract to AAR, TTCI performs inspection services to ensure that AAR and FRA safety and regulations and AAR interchange, design, and maintenance rules and standards are followed.

The AAR’s industry-wide quality assurance program is also managed by TTCI. This program promotes continuous quality improvements in freight and locomotive equipment and their components. Over 500 railroad and private manufacturing and reconditioning facilities currently participate.

TTCI provides technical and administrative support to AAR’s committee structure. These committees of industry technical experts are responsible for the development and maintenance of industry standards. Committees include railroad and non-railroad experts in the areas of quality assurance, locomotives, intermodal equipment, open top loading, freight car design, freight car truck systems, railway electronics and freight and locomotive braking systems.

TTCI has identified the growing need for standards development in foreign countries. As national railroads are privatized, the need for a system that will assure interchangeability, safety, and economy of the railroad’s technical components is critical. A “blueprint” has been developed and refined, in the form of the AAR’s Interchange Rules and Manual of Standards and Recommended Practices. As an added benefit, the use of AAR Standards overseas will help U.S. industry and create manufacturing jobs as companies adopt AAR standards or model their own standards after the AAR system. TTCI is working with AAR to make the North American interchange model available. Expertise in the development, maintenance, and use of this model exist at TTC.

**Auxiliary Support Capabilities**

TTCI is fully equipped to support the full range of research, product development, testing, consulting, and training services described above. Some of its features are:

- Locomotive and railcar repair shops
- Hegensheidt fully-adjustable under-floor wheel truing lathe
- Transit and passenger car repair shop
- Instrumentation, maintenance, and calibration

**Auxiliary Support Capabilities**

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- Locomotive and railcar repair shops
- Hegensheidt fully-adjustable under-floor wheel truing lathe
- Transit and passenger car repair shop
- Instrumentation, maintenance, and calibration
- Locomotives and on/off-track instrumentation vehicles
- Fire, medical, and security protection
- Office space, equipment, and conference facilities
- Graphics design and presentation staff
- Cafeteria
- Electrical power capacity up to 50 megawatts

To purchase publications, please visit our secure website at aarpublication.com
Test Tracks

High Tonnage Loop (2.7 miles) Track system and track component testing; research on the reliability and fatigue of track structures and the performance of vehicles and components under heavy axle loads (up to 315,000 gvw).

Railroad Test Track (13.5 miles) High speed vehicle stability and endurance tests at speeds up to 165 mph. Evaluation of AC electric-powered vehicles using overhead catenary system with voltages ranging from 12.5 kV to 50 kV at 60 Hz.

Transit Test Track (9.1 miles) Transit car performance and specification compliance tests using 600 to 1500 volt DC power from electrified third rail and two miles of light overhead catenary.

Wheel/Rail Mechanism Track (3.5 miles) Rail vehicle dynamic curving safety tests.

Precision Test Track (6.2 miles) Vehicle dynamic responses to track geometries maintained to precise standards.

Impact Facility Track (0.9 miles) Tangent track for controlled collision testing of loaded and unloaded railcars.

Tight Turn Loop (A 150 foot radius) 38 degree loop used to test vehicle and track interaction when negotiating short radius turns. Equipped with third rail DC electric power for use by transit vehicles.

Test Laboratories

Air Brake Research Facility—Used to analyze methods for improving the current air brake systems such as electronically controlled pneumatic brake systems; capable of simulating trains up to 150 cars.

Inertial Wheel Dynamometer—Tests railroad wheel and brake shoes; used to study thermal and mechanical environment of train braking on wheels and to certify performance of new brake shoe designs.

Roller Bearing Test Facility—Contains four full-scale bearing test devices capable of simulating the service life of roller bearings under temperature-controlled conditions ranging from -50 F to +130 F.

Rolling Load Test Machines—Simulates the effect of passage of loaded wheels on rail; capable of producing wheel surface traction forces crucial to the study of rail defects.

Center Plate Tester—Used to test center bowl lubricants and liners, and in the study of rail rollover derailments.

Track Research Laboratory—Employs a 100 ton moving load system; used to consolidate a full-scale track section and for testing special trackwork sections. Used to study the effects of increased axle loadings on ballast, subgrade, and track structure.

Track Loading Vehicle (TLV)—Designed to study derailment prevention techniques; applies forces close to the strength limits of the rails and other track structure components such as ties, rail, fasteners, and ballast while moving at speeds of up to 30 mph.

Instrumented Wheelsets—Used for accurately measuring wheel/rail forces, new car design certification, and derailment prevention studies.

Vibration Test Unit—Subjects a railcar up to 90 feet long and weighing up to 130 tons to both vertical and lateral force displacements ranging from 0.2 to 30 Hz over simulated on-track conditions.

Simuloader—Performs full-scale vibration and fatigue testing of rail vehicles directly through the bolster; can be operated continuously to induce complete life-cycle fatigue in a few weeks.

Mini-Shaker—Measures rail vehicle truck suspension system characteristics and rigid body modes on one end of a railcar up to 210 thousand pounds.

Cone Penetrometer—A on/off track testing device for selecting the most cost-effective remedial method of repairing track subsurface problems. TTCI experts can perform investigations, diagnose problems, and develop solutions using a unique system developed by TTCI.

Crosstie Performance System—A series of tests designed to compare physical performance characteristics of crossties made with materials other than treated virgin timber and concrete.

Metallurgical Laboratory—Component and material testing: scanning-electron, stereo-optical, and x-ray microscopes; mechanical. Micro-hardness, Brinnel, and Rockwell hardness tests.

INTERNET WEB SITE

Please visit the TTCI web site at www.ttci.aar.com for detailed information on our products and services.

Customer Telephone

General Assistance: 719-584-0750
BUREAU OF EXPLOSIVES (BOE),
BOE PUBLICATIONS

To provide the rail industry with highly effective regulatory and standards compliance evaluations, publications, programs administration, training and emergency response assistance in support of improved rail hazardous materials transportation safety.

The Bureau of Explosives (BOE) is a unique membership organization dedicated to helping carriers, shippers, and container manufacturers continually improve hazardous materials (hazmat) transportation safety. Formed in 1907 by the railroad industry to serve as a self-policing agency to advance the safe transportation of explosives and other dangerous articles, the BOE actually developed the first hazmat safety rules, which were adopted and expanded upon by the Interstate Commerce Commission and later the U.S. Department of Transportation (DOT). Today’s BOE continues to provide valuable services and products throughout North America that promote compliance with federal hazmat regulations and industry safety standards.

BOE Membership
• Association of American Railroads (AAR) members
• Hazmat producers and shippers
• Tank car shops and other container manufacturing, repair, or reconditioning companies
• Rail, highway, pipeline, and marine carriers of hazmat
• Anyone interested in the safe transportation and storage of hazmat

BOE Services and Products
• Personalized, common-sense hazmat employee training and testing covering the relevant regulatory requirements of 49 CFR §172.704, emphasizing hazmat safety and regulatory compliance problems encountered in the field
• Training and testing for safe loading and unloading of railcars and other containers containing hazmat
• Independent, unbiased, confidential audits of loading, unloading, and shipping operations to evaluate regulatory compliance status and opportunities for safety improvement
• Certification / re-certification inspections and annual evaluations of tank car shops to ensure compliance with the AAR Manual of Standards and Recommended Practices, Specification M-1002
• Quality assurance audits of tank car shops and component facilities to ensure compliance with the AAR Manual of Standards and Recommended Practices, Specification M-1003
• Emergency response assistance, including tank car damage assessment
• Terminal (rail yard) inspections to ensure that railcars are being properly accepted and released for hazmat transportation
• Hazmat safety problem solving and consulting
• Monthly electronic updates of hazmat shipping descriptions and emergency response information

• Tariff No. BOE–6000 – Reprint of DOT’s Hazardous Materials Regulations, with supplemental information and guidance, in an easy-to-use format and updated quarterly
• Emergency Handling of Hazardous Materials in Surface Transportation – Commodity specific descriptions and emergency response information for all hazmat listed in the regulations and many specifically named chemicals transported under generic descriptions
• Field Guide to Tank Cars – Aids first responders in the identification of various types of tank cars that may be encountered at an emergency response scene
• Hazmat Seminar – Annual event where hundreds of hazmat professionals gather for technical sessions, innovative training workshops and an exhibit hall related to the safe transportation of hazmat and emergency response

For more information about BOE membership, services and products, please contact:

Telephone: 719-584-7151
Fax: 719-584-7151
E-Mail: boeadm@aar.com
Websites www.boe.aar.com www.boepublications.com

BUREAU OF EXPLOSIVES
DEPARTMENT CONTACTS

Mike Cook
Director, Hazardous Materials Compliance and Training
(719) 584-0541 Phone
(719) 251-6581 Mobile
(719) 584-0541 Fax
mike_cook@aar.com

Sam Chapman
HQ Manager
(719) 584-0749 Phone
(719) 584-7151 Fax
sam_chapman@aar.com

Paul Draper
Chief Inspector
(225) 326-9065 Mobile
paul_draper@aar.com

Charles Hall
Sr. Inspector
(870) 285-2423 Phone
(870) 925-0700 Mobile
(870) 285-4152 Fax
charles_hall@aar.com

Lynn Kerting
Inspector
(412) 257-2625 Phone
(412) 779-6616 Mobile
lynn_kerting@aar.com

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BUREAU OF EXPLOSIVES
DEPARTMENT CONTACTS
(CONT’D)

Gino Smith
Inspector
(951) 485-0433 Phone
(951) 485-0455 Fax
gino_smith@aar.com

R.G. Ashton
Inspector
(281) 358-6107 Phone
(281) 358-7109 Fax
rg_ashton@aar.com

Scott Moore
Inspector
(803) 649-2316 Phone
(803) 649-1314 Fax
scott_moore@aar.com

Viola Archuleta
BOE Specialist
(719) 584-7151 Phone
(719) 584-7151 Fax
viola_archuleta@aar.com

RAILWAY ASSOCIATION
OF CANADA (RAC) FIELD MANAGERS

J. Andy Ash
Director, Dangerous Goods
District 16
905-953-8991 Phone
647-206-2896 Mobile
905-953-9279 Fax
andy@railcan.ca

Jean Pierre Couture
Transportation Dangerous Goods
Specialist, District 17
450-473-4459 Phone
514-891-8935 Mobile
450-473-8835 Fax
jeanpc@railcan.ca

Curtis Myson
Transportation Dangerous Goods
Specialist, District 15
780-992-8417 Phone
780-619-2763 Mobile
780-992-0281 Fax
curtism@railcan.ca
The NDPC provides training programs to qualified state, local, and tribal emergency response providers through onsite and mobile delivery of training at the performance, management, and specialist training levels. Two courses were approved in 2010 with five anticipated courses in the near future. Perspective participants are required to be approved by their State Authorizing Agency prior to registering for the courses. For more information about the NDPC and SERTC’s 2010 Courses, please visit www.hazmattraining.com or call 1-800-933-4882.

National Domestic Preparedness Consortium Membership (NDPC)

On August 3, 2007, TTCI/SERTC was included as the National Center for Emergency Response in Surface Transportation by NDPC. TTCI/SERTC is one of two new members (the other new member being the National Disaster Preparedness Training Center at the University of Hawaii) joining the original members: the Center for Domestic Preparedness; the National Energetic Materials Research and Testing Center at the New Mexico Institute of Mining and Technology; the National Center for Biomedical Research and Training at Louisiana State University; the National Emergency Response and Rescue Training Center, Texas A&M University; and the National Exercise, Test, and Training Center at the Nevada Test Site.

The NDPC grant training program provides fully paid training to qualified state, local, and tribal emergency response providers through onsite and mobile delivery of training at the performance, management, and training levels. The grants cover course fees, transportation, hotel, and meal costs for the students’ course material.

TTCI/SERTC submitted two courses for NDPC approval in 2010. Upon approval, the courses were qualified for grant funding and were listed in both the hazmattraining.com website and the DHS/FEMA/NDPC catalog of approved courses.

Additionally, the approved courses will qualify for use of state training grant allocations.
2012 SERTC Courses

A processing fee is charged for background checks. Please check our website at www.sertc.org for prices and schedule updates.

Hazmat/WMD Technician for Surface Transportation (HWMDTDST)

$2,756: Six 10-day, 80-hr Courses

Prerequisite training: Technician level, NIMS/ICS IS-100b, IS-200b, IS-700a. Participants will be required to submit electronic verification of successful completion of the NIMS/ICS courses.

This course is academically and performance challenging. It is designed to prepare participants for the offensive measures necessary to mitigate a WMD/WME Hazmat emergency. Participants respond and demonstrate proficiency with non-bulk and bulk packaging, railcars, cargo tanks, intermodal and portable tanks, and techniques necessary to perform containment and confinement procedures. Participants develop plans and assist in the development of plans while functioning in an incident command structure. Balanced classroom and field-work time maximize the learning experience.

Recommended prerequisite training: Operations Level.


Highway Emergency Response Specialist (HERS)

$1,654: Ten 5-day, 40-hr course. DHS/FEMA NTED Course Catalog #PER-291

Prerequisite training: Technician level, NIMS/ICS IS-100b, IS-200b, IS-700a. Participants will be required to submit electronic verification of successful completion of the NIMS/ICS courses.

This course focuses on specific fundamentals and skills associated with an emergency response to a highway incident involving WMD/WME Highway Emergency Response. Participants are provided with detailed technical information on cargo tanks (all types), intermodal (IM) portable tanks, freight vans, design and construction, nonbulk packaging, and compressed gas cylinders. Participants are trained for proficiency in technical mitigation techniques for highway transportation incidents, transfer procedures, grounding and bonding, and safety considerations, including extensive hands-on practice of actions and responses to simulated WMD/WME Hazmat incidents.

Dates: Feb 6-10, Feb 27-Mar 2, Mar 26-30, Apr 2-6, May 7-11, July 16-20, Aug 20-24, Sep 17-21, Oct 1-5, Oct 29 Nov 2

Highway Emergency Response Specialist-Advanced (HERS-A)

$1,654: Two 5-day, 40-hr courses

Developed to challenge the seasoned emergency responder, participants respond throughout the week and function within a designated emergency response team. Situations involve a variety of highway related incidents/accidents involving cargo tanks, intermodal tanks, van trailers, non-bulk packaging, and compressed gas cylinders. Recommended prerequisite training: Technician Level, Highway Specialist background, or Highway Emergency Response Specialist Course.

Dates: Sept 10-14, Nov 26-30

Intermodal Specialist (IMS)

$1,654: Seven 5-day, 40-hr course

Participants learn specific fundamentals and skills associated with emergency response to an intermodal portable tank or intermodal portable container incident involving WMD/WME Hazmat. Participants learn to recognize and identify the different types of intermodal tanks and containers, the most common leaks encountered, and how to handle field repairs. Participants learn modes of transportation, nomenclature, valves and valve repairs, damage assessment, transfer techniques, and response methodology, while responding to simulated incidents.

Recommended prerequisite training: Technician Level. Activities conducted contain the utilization.


Leadership and Management of Surface Transportation Incidents: (LMSTI)

$1,654: Eight 5-day, 40-hr courses

Prerequisite training: NIMS/ICS IS-100b, IS-200b, IS-700a, IS-300. Participants will be required to submit electronic verification of successful completion of the NIMS/ICS courses.

This course utilizes NIMS/ICS guidelines and is designed to prepare participants in leadership and management of WMD/WME hazardous materials incidents involving surface transportation. The course integrates with the HazMat/WMD Technician for Surface Transportation Course and requires participants to lead and manage incidents under NIMS/ICS guidelines and structures. Participants will be expected to complete proficiency requirements, all necessary NIMS/ICS documentation, and produce Incident Action Plans (IAPs) incorporating hands-on scenario-based activities. Challenging, and in-depth planning and decision-making processes are involved that will prepare participants in managing and documenting responses to real-world emergencies involving surface transportation incidents in their communities.


Tank Car Specialist (TCS)

$1,654: Eight 5-day, 40-hr courses DHS/FEMA NTED Course Catalog #PER-290

Prerequisite training: NIMS/ICS IS-100b, IS-200b, IS-700a. Participants will be required to submit electronic verification of successful completion of the NIMS/ICS courses.

Participants learn about various types of railcars, their nomenclature, design features, commodities, and common types of leaks involved during an emergency. Containment measures, product transfer techniques, and liquid/vapor flaring options are also covered. The Tank Car Specialist course covers the technical skills and knowledge necessary for effectively managing a WMD/WME HazMat incident in a rail transportation emergency. Most of the training is hands-on, conducted in the field.

Recommended prerequisite training: Technician Level.


Surface Transportation Specialist Refresher (STSR)

$1,654: Three 5-day, 40-hr course

This course is designed for participants who have attended our Tank Car, Highway, and IM Specialist courses. Participants receive an overview of containers in these modes of surface transportation emphasizing construction, common problems, emergency field repair, product removal, and associated regulatory requirements. Activities conducted contain the utilization of offensive measures. Attendance in our Specialist Level courses is not a prerequisite.

Dates: Mar 26-30, Aug 13-17, Oct 8-12

To purchase publications, please visit our secure website at aarpublications.com
Tactical Hazmat Operations in Surface Transportation (THMOST)

$1,654: Three 5-day, 40-hr courses

This course provides participants with the basic knowledge and skills required to perform law enforcement tactical operations utilizing WMD/WME Hazmat Personal Protective Equipment. Participants receive classroom and scenario-based instruction, which includes familiarization with the limitations and enhanced capabilities of personal protective equipment. Recommended prerequisite training: Operations Level. Basic law enforcement/military tactical operation.


Tank Car Specialist- Advanced (TCS-A)

$1,654: Four 5-day, 40-hr courses

This advanced course is developed to challenge the seasoned emergency responder. Participants respond throughout the week to railcar emergencies and incidents, while functioning within a designated emergency response team. Situations involve scenario based emergencies with a variety of commodities that are transported by rail. Recommended prerequisite training: Technician Level, with an extensive railcar background or Tank Car Specialist Course.

Dates: Apr 9-13, Jul 9-13, Aug 13-17, Nov 26-30
AAR/TTCI MECHANICAL INSPECTION & CERTIFICATION SERVICES

Contact for Component Approvals:
Mr. David L. Cackovic, Chief Technical Standards
(719) 585-1880 FAX: (719) 585-1895

Contact for Inspections/Certifications:
Mr. A.E. Cicciarelli, Director Mechanical Inspection
(412) 831-2980 FAX: (412) 851-9522

Quality Assurance Certification/Recertification/Compliance Audits:
Call Steven Geneva, (719) 584-0715
For Prices, Contact David L. Cackovic or refer to Office Manual Appendix E.

Rule 88 Sample Car Inspection
Verifies compliance with AAR Rules/Standards, ensuring that rebuilt cars entering the interchange system meet current safety standards and increasing values of existing car fleets. Call Charles Powell, (719) 585-1883.

Rule 88 Structural Analysis
(in conjunction with Rule 88 sample car inspection)
Verifies structural integrity of rebuilt car series, ensuring that rebuilt cars entering the interchange system are structurally sound. Call Charles Powell, (719) 585-1883.

Rule 88 Structural Analysis (special trip)
Call Charles Powell, (719) 585-1883

Certification Inspections
(Includes Service Fees per the AAR Office Manual Appendix E)

■ Air Brake Shops—Reconditioning of various types of air brake valves in accordance with AAR Manual of Standards and Recommended Practices, Sections E-I and E-II.

■ Wheel & Axle Shop—Reconditioning of wheels in accordance with the AAR Manual of Standards and Recommended Practices, Sections G-I and G-II.

■ Axle Plating Shop (M-967)—Reconditioning of wheel axles in accordance with the AAR Manual of Standards and Recommended Practices M-967.

■ Roller Bearing Reconditioner—Reconditioning of roller bearing sets for application to wheel sets in accordance with AAR Manual of Standards and Recommended Practices.

■ M-214 Shop—Reconditioning of Truck Side Frames and Bolsters in accordance with AAR Manual of Standards and Recommended Practices, Sections D-II, M-214. Training in this area is provided by the Mechanical Inspection Department.

■ Roller Bearing Mounting Shop—Inspection of roller bearing mounting and removal applications.

■ Designated Satellite Shop—Basic inspection of facilities for multi-level car facilities and maintenance practices. Reconditioned and/or repaired to rectify deficiencies in production procedures, quality

■ M-970 Rack Certification Inspection—Basic inspection of facilities for capability to construct and/or maintain multi-level rack structures.

■ Roller Bearing End Cap Removal/Reapprication—Designated as Status 9-A inspection. Inspection is for proper removal and reapprication of roller bearing end caps for the removal of old seal rings.

■ All other certifications: M-212, Rule 88 (over 85 hrs.), M-300, M-970, Roller Bearing (OEMs), Wheel Shop (OEMs), M-901, M-921-C.

Routine Inspections
Contact A.E. Cicciarelli (412) 831-2980

■ Freight Car Repair Shop, Mobile Repairs

■ Air Brake Shop

■ Wheel & Axle Shop (Status Codes 1,2-B-F-G-P-S,4,5,6,6A,7,7A,8,8A)

■ Axle Plating Shop (M-967)

■ Roller Bearing Manufacturers / Reconditioners/ Mounting/End Cap Removal

■ Multi-Level Rack (M-970), Satellite Shop (M&R Pool)

■ TOFC/COFC Ramps

Test Certification Requests: (S-060) Component Approval
Contact: David L. Cackovic, (719) 585-1880

AAR QUALITY ASSURANCE COMMODITIES/SERVICES

CATEGORY A

2. Manufacturers of Freight Car/Locomotive Couplers, Knuckles, Yokes, Side Frames or Bolsters.

3. Manufacturers of Freight Car/Locomotive Cushioning Devices.

4. Manufacturers of Wheels or Axles

5. Manufacturers of Brake Valves

6. Manufacturers of Freight Car/Locomotive Tank Cars, Freight Cars or Locomotives

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SAFETY & OPERATIONS
QUALITY ASSURANCE
INSPECTIONS

The AAR provides audit and inspection services for AAR Safety & Operations. The AAR published CIRCULAR LETTER (c-8650), dated October 31, 1996 which announced the implementation of Comprehensive AAR Specification M-1003 Facility Certifications. For fees, contact Joy Cooke at 719-584-0715 or refer to Office Manual Appendix E.

Audit Type

- Certification Audit for Any Category A Commodity
- Recertification Audit for Any Category A Commodity
- Compliance Audit Category A
- Certification Audit for Any Category B Commodity
- Recertification Audit for Any Category B Commodity
- Compliance Audit Category B
- Certification Audit for Any Category C Commodity
- Recertification Audit for Any Category C Commodity
- Compliance Audit Category C
- (Re)Certification for each added Commodity in Category A, B, or C
- Compliance Audit for each added Commodity in Category A, B or C

A deposit may be requested by the auditor. The deposit will be applied to the audit. The fee will not be refunded if the audit does not take place. A fee per day will be assessed for any Technical Certification /Recertification Inspection when combined with a Quality Assurance Audit. A fee per day (Payable to the Transportation Technology Center, Inc.) will be assessed for any Technical Inspection when combined with a Quality Assurance Audit.

AAR/TTCI MECHANICAL
INSPECTION DEPARTMENT
CONTACTS

Mechanical Services (Field Locations)

Responsible for: Customer Coordination, Assignments, Inspections and Training.

Director Mechanical Inspection
ARMAND E. (Chick) CICCARELLI
mid@aar.com
(412) 831-2980 (OFFICE)
(412) 851-9522 (FAX)
(412) 841-4894 (CELL)

Chief Inspector
KEITH STROUT
(936) 539-6916 (OFFICE/FAX)

FIELD INSPECTORS

BILLY M. BENTON
Field Inspector - Mechanical
(870) 642-2843 (OFFICE)

STEPHEN C. BERKSHIRE
Field Inspector - Mechanical
(804) 716-9392 (OFFICE/FAX)

JORGE MOLINA GARCIA
Field Inspector - Mechanical - Mexico
(52) 871-209-0132 (OFFICE)

FRED ALTHOFF
Field Inspector - Mechanical
(904) 645-6344 (OFFICE)

JON A. MARSH
Senior Field Inspector - Mechanical
(719) 576-3809 (OFFICE/FAX)

GREGORY L. MILLS
Senior Field Inspector - Mechanical
(901) 373-9137 (OFFICE)

KENNETH PFAHLER
Field Inspector
(814) 742-8143 (OFFICE)

ROSS SHAW
Field Inspector - Mechanical
(204) 222-9176 (OFFICE)

DAVID E. SULLIVAN
Field Inspector - Mechanical
(810) 714-5027 (OFFICE/HOME)

DAVID G. WALTERS
Field Inspector - Mechanical
(951) 609-0459 (OFFICE/HOME)

MICK J. LODGE
Field Inspector - Mechanical
(815) 782-7569 (OFFICE)

JEFF GRAINER
Field Inspector - Mechanical
(716) 698-4361 (MOBILE)

 CRAIG M. MAYHEW
Field Inspector - Mechanical
(913) 417-7366 (OFFICE)
Manufacturer Component Certification
Responsible for: S-060 Certifications, Standards Interpretations, AAR Technical Committee Coordination, Quality Assurance.

Chief—Technical Standards
David L. Cackovic
(719) 585-1880 (OFFICE/FAX)

To provide fulfillment of requested inspections, facility certifications and component tests, a formal letter with a photo copy of advance payment is required prior to dispatching resources. Any payment due after these activities will be invoiced subsequent to inspection, certification or component testing. All checks should be made out to:

Transportation Technology Center, Inc. and mail to: TTCI, P.O. Box 79780, Baltimore, Maryland, 21279-0780.

FOR AAR PUBLICATIONS:
Call toll-free, 1-877-999-8824, Fax order form to: (719) 584-7157 or e-mail at: pubs@aar.com. See order form for details.
MANUAL OF STANDARDS AND RECOMMENDED PRACTICES

The Manual of Standards and Recommended Practices of the Association of American Railroads is issued by authority of the AAR Technical Services Working Committee and includes all regularly adopted specifications, standards, and recommended practices covering freight cars, locomotives, and their components. The manual is composed of the following sections. Refer to the enclosed price list for product codes, prices, and CD ROM availability.

Administrative Standards—Contains standards that are common to each and every section of AAR’s Manual of Standards and Recommended Practices.


Technical resource: 719-585-1880

Section B—(includes former Part II) Freight Car Draft Components. Cushion units, draft gears, and related standards.

Technical resource: 719-585-1880

Section C—Car Construction Fundamentals and Details. General car construction details, interior bulkheads, flooring, body bolsters, center plates, clearance diagrams, coupler height, draft pocket arrangements, end arrangements, ladders, refrigerator cars, roofs, safety appliances, striker arrangements, and certification of car builders.

Technical resource: 719-585-1880

Section C, Part II—Design, Fabrication, and Construction of Freight Cars. Car body design loads and forces, structural materials, underframe and superstructure design, painting, welding requirements, car body forces and stresses, fatigue design of freight cars, clearance test for car body and truck, and requirements for new and untried car designs. Also known as M-1001.

Technical resource: 719-585-1880

Section C, Part III—Specifications for Tank Cars, including approval requirements, general design and test requirements, structural requirements, valves and fittings, marking, recommended maintenance practice, and certification of tank car facilities. Also known as M-1002.

Technical resource: 202-639-2262

Section D—Trucks and Truck Details. Freight car trucks, side frames, bolsters, brake beams, brake heads, center plate liners, springs, and side bearings.

Technical resource: 719-585-1880

Please direct any technical questions about the publications listed below to the technical resource number that follows each entry. Refer to the enclosed pricelist for product codes, prices, and CD-ROM availability.

RULES OF INTERCHANGE FOR RAILROAD CARS

Field Manual of the AAR Interchange Rules (latest edition)
Contains all rules dealing with care and repair, responsibility for, disposition of, settlement of freight cars, and Appendix B, Rule 1. Price includes all revisions and/or changes issued during the year. Changes will be automatically forwarded to you in sequence for insertion into the manual. The manual is available in both bound and loose-leaf editions.

Technical resource: 202-639-2139

Spanish Bound Field Manual
This manual is released several weeks after the English version is released.

Office Manual of the AAR Interchange Rules
Combines mandatory rules covering all aspects of billing car repairs, mechanical requirements for new or rebuilt cars (as defined in Rule 88), settlement of disputes, and transfer and adjustment of lading. Appendix B contains procedures for operating and billing car repair and maintenance pools.

The Office Manual also contains the AAR price matrix showing the labor and material breakdown and applicable charges for each of the job codes.

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Technical resource: 202-639-2140

ENGINEERING SCALE HANDBOOK
The Scale Handbook contains rules and specifications for locations, design, manufacture, installation, operation and maintenance of, and procedures and tolerances for testing railway track scales.

Technical resource: 719-584-0691

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Section E—Brakes and Brake Equipment. Air brake valves, air brake rubber, brake cylinders, slack adjusters, angle cocks, air flow leakage measurement devices, air brake hose, brake pipe, brake shoes, air hose couplings, empty/load devices, hand brakes, gaskets, reservoirs, and general brake system design details. Also includes air brake shop certification requirements and shop maintenance instructions for air brake equipment.

Technical resource: 719-584-0668

Section E, Part II—Electrically Controlled Brake Systems. AAR specifications for electronically controlled pneumatic (EPC) brake systems. Contains requirements for systems and individual component performance; communications protocol; connector and cable design; and testing requirements for AAR approval of cables and connectors.

Technical resource: 719-584-0668

Section F—Sensors. Contains Standards related to trackside vehicle defect detection systems and detector criteria.

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Section H—Bearings and Lubrication. Roller bearings, adapters, bearing lubrication, locking plates, pedestals, wedges, and sealing compounds.

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Technical resource: 719-585-1880

Section I—Intermodal Equipment Manual. Specifications for intermodal equipment, including TOFC trailers, COFC containers, chassis, container pedestals, trailer hitches, and TOFC bridge plates.

Technical resource: 719-585-1883

Section J—Quality Assurance. AAR Quality Assurance Program requirements, including administrative provisions, certification requirements, and auditor accreditation procedures. Also known as M-1003.

Technical resource: 719-584-0715

Section K, Part I—Railway Electronics Systems Architecture and Concepts of Operations (9000 Series). Provides the system architecture for an interoperable train control (ITC) compliant positive train control system (PTC). Describes how the ITC-compliant PTC system, which is a locomotive-centric train control system, is designed to be overlaid on existing methods of operation and to provide a high level of railroad safety. This is achieved through enforcement of a train's authorized operating limits and protection against train-to-train collisions, derailments due to over speed operations, unauthorized incursion into work zones, and operation through main track switches improperly lined.

Technical Resource: 202 639-2142

Section K, Part II—Locomotive Electronics and Train Consist System Architecture (9100 Series). Defines the logical system architecture for locomotive electronics and specifies the associated physical architecture requirements. Drives the architecture which, in turn, defines the framework for the functional requirements, including the derivation of the architecture. Provides general discussion of functionality and architecture. Presents the standard for train information systems, additional train handling and safety information in locomotive cabs. Sets forth the requirements for use of Radio Frequency (RF) spectrum on frequencies in the 220 MHz band for operation of Remote Control Locomotives (RCL).

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Section K, Part III—Wayside Electronics and Mobile Worker Communications Architecture (9200 Series). Provides specifications for the wayside interface unit (WIU), a device that provides an interface to the wayside signal system to forward signal information to locomotives (i.e., train management computers (TMCs)] in a vital manner. Provides specifications for the Back Office PTC segment, which is typically found at central dispatching and management facilities. Specifies requirements for the automatic equipment identification of equipment used in rail transportation, including a reflected energy system in which sensing equipment shall decode radio waves reflected by tag mounted equipment. Provides information about AEI Site-to-Host consist report format. Describes the two segments required to communicate train inspection data in a consistent file format.

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Section K-IV – Office Architecture and Railroad Electronics Messaging (9300 Series). Specifies the Edge Message Protocol (EMP) message envelope which describes the fields of the envelope, their semantics, and commentary about their use, with detailed information provided for implementation. Documentation specifies the Class C messaging protocols with sufficient detail for implementation. The Class D protocol is divided into 5 layers and is intended for applications requiring point-to-point message delivery. Specifies the formats for a time message and a location message which are expected to be multicast in an area. The behavior of the publishers and subscribers to these messages is provided.

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R-887 Literature Review Testing Timber Railway Bridges (12/95)

**BEARINGS**

R-755 MOVPIPE-The Moving Brake Pipe Simulation Model: Analysis and Development (9/90)
R-756 Undesired Emergency Brake Applications Causes and Recommendations (8/90)
R-757 A Computer Micro-Model of Freight Train Exhaust Valves (8/91)
R-795 Fatigue Damage Evaluation Charts for Steel Railway Bridges (7/96)
R-894 Analytical Investigation of the Longitudinal Loads in an Open-Deck Through Plate Girder Bridge (9/96)
R-895 Economic/Fatigue Implications of Heavy Axle Loads on Steel Railway Bridges on an 1100-Mile Coal Route (9/96)
R-905 Experimental and Analytical Investigation of the Longitudinal Loads in an Open-Deck Plate Girder Railway Bridge (11/97)
R-908 Investigation of Effects of 110-Ton Cars on a Pin-Connected Truss (11/97)
R-911 Shear and Static Bending Stresses of Used Railroad Bridge Timber Stringers (12/97)
R-913 Field Testing of Two Open-Deck Timber Railroad Bridges (12/97)
R-922 Methodologies for Strengthening and Extending Life of Timber Railroad Bridges (11/98)
R-923 Development of Seismic Response Criteria for North American Railroads (11/98)
R-926 Field Testing of Three Strengthened Timber Railroad Bridges (8/99)
R-927 Experimental and Analytical Investigation of Longitudinal Forces in a Multi-span Railway Bridge (3/99)
R-929 Nondestructive Evaluation Technologies for Steel Bridge Inspection (5/99)
R-933 Field Studies of Timber Railroad Bridges (8/99)
R-935 Longitudinal Forces in a Single-Span, Ballasted Deck, Steel Plate-Girder Bridge (8/99)
R-939 Seismic Resistance Tests on an Open Deck Steel Bridge (10/00)
R-944 Economics of Strengthening Timber Railroad Bridges (12/00)
R-945 Fatigue Strength of Southern Pine Railroad Bridge Stringers (2/01)
R-946 Compendium of Recent Research on Railroad Timber Bridges and their Components (5/01)
R-947 FAST Bridge Tests 1997-1999 (7/01)
R-948 Longitudinal Resistance Test on an Open Deck Steel Bridge (7/01)
R-949 Longitudinal Forces in Bridges due to Revenue Service Traffic (7/01)
R-950 Fatigue Strength of Douglas Fir Railroad Bridge Stringers (12/01)
R-952 Field Study of a Strengthened Timber Railroad Bridge (7/02)
R-953 Investigation of Longitudinal Forces in a Long, Concrete Railroad Trestle Subjected to Unit Coal Train Traffic (9/02)
R-960 Fatigue Testing of Douglas Fir, Glued-Laminated, Timber Railroad Bridges (11/02)
R-964 Impact Loads in Railroad Short Steel Bridge Spans (12/03)
R-969 Fatigue Testing of Full-Scale Solid Sawn and Glued-Laminated Timber Railroad Bridge Stringers (8/04)
R-970 Static Tests of Above Ground Column Strength of Timber Bridge Piles (10/04)
RS-04-002 Inspection of Bridge Deck Membrane Systems on the Conventional Concrete Bridge at FAST (11/04)
R-972 Acoustic Emission Monitoring of Fatigue Cracks on the FAST Steel Railroad Bridge (5/05)
RS-05-005 Ultrasonic Impact Treatment at Stevens Point (9/05)
RS-06-003 2nd Annual Inspection of Bridge Deck Membrane Systems on the Conventional Concrete Bridge at FAST (9/06)
RS-07-001 Evaluation of the Effects of Heavy Axle Loads on Rail Joints for Moveable Span Bridges (5/07)
R-996 Thermal Forces on Open Deck Steel Bridges (5/09)
R-998 Evaluation of Bridge Deck Waterproofing Membrane Systems on a Concrete Bridge at FAST (2/11)

CROSSTIES & FASTENERS
R-767 Iron Degradation of Wood Crossties (12/90)
R-774 Economic Analysis - Des Plaines Tie Configurations (12/90)
R-795 FAST/HAL Tie and Fastener Experiments (12/91)
R-813 Field Evaluation of New and Remedial Alternative Tie Treatments - A Progress Report (6/92)
R-816 Tie Performance at Des Plaines (10/92)
R-831 Tie Model: A Crosstie Replacement Planning and Life-Cycle Costing Model (7/94)
R-843 The Effects of Drying Methodology on the Properties of Oat Crossties (7/93)
R-861 A Review of Toxicity Characteristic Leaching Procedure Testing of Railroad Crossties (7/94)
R-899 Field Evaluation of New & Alternative Tie Treatments - Final Report (10/96)
R-909 Review of Fatigue and Strength Research for Wood in Flexure (11/97)
R-915 The Effects of Weathering on Wooden Crossties (12/97)
R-937 Results of the Wood Tie and Fastener Test at FAST after 900 Million Gross Tons of Heavy Axle Load Traffic 1988-1999 (4/00)
RS-05-003 In-Track Performance Testing of Synthetic Tie-Plugging Materials at FAST and in Revenue Service (6/05)
RS-05-009 Long-Term Performance Testing of Wood Ties and Fastening Systems at FAST (10/05)
R-990 Concept Demonstration: Nondestructive Testing and Strength Performance of Plastic and Composite Ties (12/07)
RS-08-003 2006 FAST Tie and Fastener Test As Built Status Report (11/08)
RS-09-001 Evaluation of Concrete Tie Rail Seat Abrasion Detection/Measurement Systems (5/09)

ENERGY
R-738 Determining Train Energy Savings in Revenue Unit Coal Train Service Through Train-Mounted Rail Lubricators (1/90)
R-766 Bearing Energy Test (10/90)
R-771 Diesel Fuel Specification and Locomotive Improvement Program - Tenth Research Final (3/91)
R-786 Train Energy Model Validation Using Revenue Service Unit Coal Train Data (8/91)
R-800 Vehicle Track Resistance Research - A summary Document (1/92)
R-819 Train Energy Model Validation Using Revenue Service Mixed Intermodal Train Data (12/92)
R-999 Alternative Fuels Availability, Make-up, and Potential Impact on Locomotive Engines (8/11)

FREIGHT CAR COMPONENTS
R-716 PC Edition - Programmable Calculator Programs for Car Design, Car and Suspension, and General Engineering (1/90)
R-745 Effect of Coupler Static Loading on Coupler Knuckle (3/90)
R-747 Freight Car Fatigue - Coal Car Simuload Demonstration Test (10/90)
R-748 High Productivity Integral Train Project - Transit America LOPAC II Tests (12/90)
R-760 Improving Railroad Car Maintenance by Using Knowledge Based Systems (7/90)
R-762 Strain Life Method for Fatigue Analysis of Freight Cars and Components (10/90)
R-772 Coupler Angling Under In-Train Loads: Modeling and Validation (3/91)
R-776 A Proposal for Systems to Support Interline Service Management (5/91)
R-787 FAST/HAL Mechanical Components Performance Test (8/91) (MOVED in this section)
R-809 High Productivity Integral Train Phase I Testing of New York Air Brake Company "Iron Highway" (4/92)
R-827 Load Environment of Double Stack Revenue Service Trains (1/93)
R-832 Dynamic Buff and Draft Testing Techniques (3/93)
R-839 Laboratory Fatigue Testing of Welded and Bolted Aluminum Connections for Freight Car Design (6/93)
R-907 Advanced Freight Car Truck Program Phase II (11/97)
RS-03-003 National Castings of Mexico Bolster Radiographic, Fatigue, and Failure Analysis (6/03)
RS-06-001 Offset Load Limits for Coil Steel Cars (4/06)
RS-06-002 Vibration Testing of Coil Steel Loads (4/06)
R-985 Performance History and Teardown Results of Five Loaded Coal Cars Identified as Poor Performers while Passing across a Truck Performance Detector (8/07)
R-992 Nondestructive Inspection of Side Frame and Bolster Castings at the Cudahy Car Shop, Cudahy, Wisconsin (5/08)
R-994 Nondestructive Inspection of Side Frame and Bolster Castings at Gunderson (10/08)
RS-10-001 Truck Casting Quality Research Summary (1/10)
R-1002 Comprehensive Evaluation of the Structural Durability of Railroad Coupler Assemblies (8/12)

HEAVY AXLE LOADS
R-720 Heavy Axle Load Characterization (3/90)
R-791 FAST/HAL Track Loads Evaluation (10/91)
R-796 FAST/HAL Rail Performance Experiment and Overview (11/91)
R-798 FAST/HAL Turnout and Frog Performance (11/91)
R-916 Interim Report on the Effects of the Introduction of Heavy Axle Loads in Revenue Service (12/97)
R-943 Economics of Heavy Axle Loads: Predicted and Actual Benefits of HAL Operations (12/00)
RS-05-001 Laboratory Evaluation of the Laser-based Ultrasonic Inspection Technique for Detecting Freight Car Axle Defects (5/05)
RS-05-002 Measurement of Wheel Load and Axle Strain Environment, 266,000-pound Gross Rail Load Coal Train Service August 2004 (6/05)
R-973  FAST/HAL Program Summary 2003-2004 (8/05)

RS-05-006  Measurement of Coal Hopper Top Chord Strain Environment, 286,000-pound Gross Rail Load Service March 2005 (10/05)

RS-05-007  Measurement of Wheel Load and Axle Strain Environment, 286,000-pound Gross Rail Load Coal Train Service March 2005 (10/05)


R-984  Measurement of Coal Hopper Dynamic Load Environment, 286,000-Pound Gross Rail Load Unit Train Service: August 2004 to May 2006 (6/07)

R-987  Heavy Axle Load environment: Wheel Forces and Track Geometry on the FAST High Tonnage Loop-2005 (9/07)

R-988  Finite Element and Fatigue Analysis of Axles: 286,000-Pound Gross Rail Load Coal Train Service (9/07)

RS-07-003  Performance Evaluation of Premium Turnout Components under 39,000-Pound Wheel Loads (10/07)

LOCOMOTIVES

R-732  RDU Testing of AC Traction Locomotive, AMTRAK #202 (3/90)

R-752  Locomotive Component Efficiency Study - Phase 2 Final Report - Testing of EMD Traction Motors at TTC (2/90)

R-778  Three-Phase Asynchronous A.C. Traction Motor Systems, Technology Assessment - Phase I Design Evaluation and Equipment Description (5/91)

R-780  AAR Locomotive Maintenance Survey Summary and Analysis of Locomotive Component Utility (10/91)

R-783  An Evaluation of the F69PH-AC Locomotive Dynamic Response to Track Perturbations (8/91)

R-807  Locomotive Improvement Program Eleventh Research Phase Final Report (7/92)

R-840  Locomotive 2000: A Proposed AAR Motive Power Research Program (7/93)

R-841  Locomotive Improvement Program 12th Research Phase - Final Report (7/93)

R-849  Interim Report on GE Traction Motor Testing at TTC (11/93)

R-869  Measurement of Rail Forces and Displacements Under AC Traction and DC Traction (9/94)

R-877  Locomotive Exhaust Emission Field Tests - Phase I EMD SD40-2 and GE C40-8 Locomotives (10/94)

R-885  Locomotive Exhaust Emission Field Tests - Phase II (6/95)

R-919  Maintaining Performance of Automatic Shutoff Nozzles used for Locomotive Fueling (2/01)

OPERATIONS

R-991  Railroad Train Delay and Network Reliability (3/08)

R-993  Railroad Industry Priority Technology Goals and Directions for the Next 20 Years (10/08)

R-1000  Railroad Industry Priority Technology Goals and Directions for the Next 20 Years (2011 Revision) 11/11

RAIL

R-742  A Simplified Model of Rail Wear for Use in Track Maintenance Planning and Costing (2/90)

R-764  The Effect of Metal Removal, Steel Cleanliness, and Wheel Load on the Fatigue Life of Rail (12/90)

R-765  Evaluation of Electric Flash Butt Rail Welds (5/91)

R-768  Catastrophic Web Cracking of Railroad Rail: Discussion of the Unanswered Questions (12/90)

R-779  Stress Measurement in Rail Using Ultrasonic-Based Nondestructive Methods and Strain Gage Hole Drilling (6/91)

R-793  Performance Requirements of Railroad Rail (10/91)

R-821  Improvement of Rail Thermite Weld Properties by Oxy-acetylene Gas Normalization (12/92)

R-826  A Modified Thermite Rail Welding Procedure (1/93)

R-833  Plastic Deformation of Railroad Rail (5/93)

R-845  Hardenability of Carbon and Alloy Rail Steels (8/93)

R-847  The Impact of Rail Grinding on the Life of Rail: A Theoretical Study (9/93)

R-856  Effect of Inclusion Content on Fatigue Performance and Fracture Toughness of Rail Steels (12/93)

R-866  Longitudinal Stress Measurement in Rail Using the Debro-30 Ultrasonic Stress Meter (7/94)

R-874  Progress in the Development of the Squeeze Welding Process (10/94)


R-938  Metallurgy, Properties and Commercial Availability of Microalloyed Plate Steels (7/00)

R-941  The Comparative Wear Performances of Premium and Bainitic Rail Steels under Heavy Axle Loads (10/00)

RS-05-008  Modeling Predicted Performance Differences between 8- and 10-inch Crown Radius Rail Profiles (10/05)

RS-07-002  Rail Grinding Economic Assessment: Based on the Grinding Trial on a Norfolk Southern Railway Line (10/07)

SAFETY AND ENVIRONMENT


R-835  The Environmental Impact of Wayside Rail Lubrication (5/93)

R-857  A guide for Railroad Industry Use of In Situ Bioremediation (5/94)

R-858  Railroad Industry Research Needs for In Situ Bioremediation (5/94)

R-860  Selection and Use of Bioremediation Enhancement Products and Processes (7/94)

R-865  Exhaust Emissions and Fuel Consumption with Upgraded Engine Components (6/94)

R-893  Exhaust Emissions from Several EMD SD 50's Locomotives (1/96)

R-897  Risk-Based Determination of Soil Clean-Up Goals for Diesel Contaminated Sites in the Railroad Industry (9/96)

R-900  Environmental Aspects of Railroad Locomotive Coolant Discharge (10/96)

R-903  Comparison of Analytical Methods for Use in Evaluating the Risk From Petroleum Hydrocarbons in Soil (7/97)


R-940  Development of Risk-Based Cleanup Goals for Diesel-Contaminated Soils at a Southeastern Rail Yard Site (10/00)

R-942  Comparative TPH Analyses of Aged Diesel Contamination at Four Railroad Sites (12/00)

RS-08-002  Eye Safety Considerations for the U-Rail Laser-Based Rail Flaw Detection System (3/08)

SIGNALS

RS-01-002  Generation and Reception of Laser-Ultrasonic Signals for Rail Detection (4/01)

R-951  Technologies for Real-Time Detection of Landslides and Other Wayside Hazards (9/01)

R-952  Using Bonded Fiber Optics for Broken Rail Detection (10/01)

RS-01-004  Broken Rail Detection: A Review of Track Circuit-based Technologies (12/01)

RS-02-004  Demonstration of an Acoustic Rail Break Detection System (6/02)

SPECIAL TRACKWORK

R-784  Radiographic Image Enhancement Techniques and Computer Modeling of Radiographic Inspection (8/91)
R-797 Partial Validation of a Generalized Turnout Model Based on NUCARS (3/92)
R-854 Development of a Comprehensive Life-Cycle Costing Model for Railroad Turnouts (12/93)
R-912 Considerations for the Fabrication of Railroad Frogs from Hot-Rolled Plate and Bar (12/97)
R-954 Results from Special Track Work Experiment at FAST (2/02)
R-961 A Review of Turnout Current Design Practices (12/02)
RS-03-004 Service Evaluation of Improved Running Surface Profile Frogs (12/03)
RS-09-002 Flange Bearing Frog Wheel Work Summary (12/09)

TANK CARS
R-751 Tank Car Project Report - RA-12-4-58 - Railroad Tank Car Safety Assessment (2/90)
R-773 Evaluation of New Steels for Tank Cars, Phase II (5/91)
R-794 Benefit-Cost Analysis of Using Type 105 Tank Cars Instead of Type 111 Tank Cars to Ship Environmentally Sensitive Chemical (11/91)
R-815 Bottom Discontinuity Protection Effectiveness on DOT 111A Stub Sill Tank Cars (8/92)
R-924 Fracture Behavior of Tank Car Steels in Accidents from 1981 through 1994 (12/98)

TRACK-GENERAL
R-719 Track Surfacing with Conventional Tamping and Stone Injection (3/90)
R-753 On the Component of Track Damping Resistance and Related Damping Measurements (1/90)
R-842 Evaluation of the Use of Geotextiles in Track (7/93)
R-850 Track Substructure Drainage (11/93)
R-884 Potential Railway Subgrade Problems: Their Evaluation and Remediation Under Repeated Heavy Axle Loads (6/95)
R-892 Hot Mix Asphalt Underlayment Test on Burlington Northern Railroad (7/96)
R-898 Procedure for Railway Track Granular Layer Thickness Determination (10/96)
R-930 Characterization of Track Stiffness and Damping Parameters (5/99)
R-946 Damping Characteristics of Ballasted Track with Subgrade Improvement Layer (4/01)

TRAIN OPERATION
R-717 A Review of Literature and Methodologies in the Study of Derailments caused by Excessive Forces at the Wheel/Rail Interface (4/90)
R-799 Revenue Service Validation of Train Operations and Energy Simulator (TOES) - Version 1.5 Part I: Conventional Unit Train (11/91)
R-802 Train Make-Up Manual (1/92)
R-803 Background on Railroad Reliability (3/92)
R-822 Revenue Service Validation of Train Operations and Energy Simulator (TOES) Version 2.0 Part II: Intermediate Train (12/92)
R-888 High Productivity Integral Train Iron Highway Phase II Testing (12/95)
R-925 Effect of Track Twist on Vehicle Dynamic Performance (12/98)

TRUCKS AND SUSPENSION
R-739 Rolling Resistance Characterization of Single-Axle Trucks (1/90)
R-741 An Overview of Wheel/Rail Load Environment Caused by Freight Car Suspension Dynamics (1/90)
R-785 Suspension Wear and Truck Performance: A Case Study (8/91)
R-792 One Hundred Twenty-Five Ton Freight Car Vertical Performance: A Case Study (10/91)
R-859 Ride Quality Evaluation of Doublestack Equipment (10/94)
R-875 A Methodology for the Evaluation of the Economics of Improved Truck Design (8/94)
R-896 On-Track Test Results for the Heavy Axle Load Alternative Suspension Project (10/96)
R-902 Advanced Freight Car Truck for Bi-Level Autorack Railcar Service (11/96)
R-995 Investigation into the Root Causes for Loaded Car Hunting (11/08)
R-997 Inspection of Cars Identified as Poor Performers at Truck Performance Detectors (4/10)

VEHICLE/TRACK DYNAMICS
R-722 Investigation of Vertical Track Irregularities: Phase-2, Vehicle/Track System Testing (1/90)
R-754 Condemning Wheels Due to Impact Loads: Preliminary Surrey-Six Railroad's Experience (2/90)
R-758 Track Loading Vehicle: Mathematical Modeling (5/91)
R-769 Results of the Automatic Equipment Identification Standard Verification Tests Conducted at the Transportation Test Center - Pueblo, Colorado June 19-20, 1990 (11/90)

R-782 Demonstration Testing of the Track Loading Vehicle (5/92)
R-810 Vehicle/Track System Response Due to Condemnable Wheel Tread Defects (4/92)
R-811 Summary of Laboratory Tests Performed on AMTECH Automatic Equipment Identification (7/92)
R-814 Wheel Spalling/Shelling Study (6/92)
R-820 Track and Structure Characterization to Improve Freight Train Performance (12/92)
R-823 Prediction of Wheel Shelling in 263,000 - 287,000 - and 315,000- Pound Unit Train Cars (12/92)
R-829 Wheel Impact Load Detector Tests and Development of Wheel-Flat Specification (5/93)
R-834 Rail Longitudinal Force Measurement Evaluation Studies Using the TLV (9/93)
R-851 Evaluation of Railroad Wheel Tread Impact Load Damage Factors (10/93)
R-852 Wheel Impact Acceleration Detector System Performance Tests (10/93)
R-855 Economic Analysis of High Impact Load Wheels (12/93)
R-862 Fundamental Track Gage Widening Tests Using the Track Loading Vehicle (6/94)
R-873 Heavy Axle Load Track Gage Widening Tests by Using the Track Loading Vehicle (10/94)
R-886 Revenue Track Gage Widening Tests Using the Track Loading Vehicle (8/95)
R-901 Rail Profile Maintenance Practices and Effects of Rail Profiles (11/96)
R-910 Wheel-Climb Derailment Testing Using AAR’s Track Loading Vehicle (12/97)
R-917 Investigation of Lateral Track Strength and Track Panel Shift using AAR's Track Loading Vehicle (12/97)
R-918 Automated Measurements of Lateral Track Panel Strength and Examinations of Track Maintenance Effects using AAR's Track Loading Vehicle (5/99)
R-928 North American Rail Grinding: Practices and Effectiveness (8/99)
R-932 Vehicle/Track Interaction Tests on the High Tonnage Loop (8/99)
RS-01-001 Effects of High-Adhesion Locomotives on Wheels and Rail (3/01)
R-955 Performance Based Track Geometry Study: Vehicle/Track Interaction Tests and Modeling (2/02)
RS-05-004 Case Study: FRA Track Geometry Exceptions versus Vehicle Response Exceptions (7/05)
### TECHNOLOGY DIGESTS

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### AFFILIATED LABORATORY PROJECTS

**TD-07-021** Technology Scanning Update-Status of 2006 University of Illinois Affiliated Laboratory Projects (8/07)

**TD-12-018** Evaluation of a Lidar-Based Ballast-Section Mapping System (9/12)

**TD-07-024** Acoustic Bearing Detectors and Bearing Failures (9/07)

**TD-06-007** Braking Test of a Thirty-Six Inch Wheel for 315,000-Pound Cars (3/06)

**TD-06-030** Environmental Effects on Brake Beams (12/06)

**TD-06-031** Brake Beam Fatigue Environment for Truck Mounted Brakes (12/06)

**TD-08-030** Pareto Analysis of the Causes for In-service Brake Failures (8/08)

**TD-08-031** Factors Influencing Unwanted Air Hose Separations (8/08)

**TD-06-038** Possible Root Causes of Unwanted Air Hose Separations (10/08)

**TD-08-054** Analysis of Wheel and Brake Shoe Forces and Reactions for Zero Tapered Shoe Wear (12/08)

**TD-08-055** Forces on a Unit Brake Beam I (12/08)

**TD-08-056** Forces on a Unit Brake Beam II (12/08)

**TD-08-057** A Review of Forces on a Unit Brake Beam (12/08)

**TD-10-030** Cold Weather Brake Valve Performance and Built-Up Tread Wheels (9/10)

**TD-11-022** Cold Weather Leak Audits of Air Brake System (8/11)

**TD-11-039** Static Testing of Alternative Brake Beam Design (10/11)

**TD-12-002** Dynamic Testing of Alternative Brake Beam Designs (1/12)

**TD-12-003** Alternative Brake Beam Performance with Rod-Under-Bolster Rigging (2/12)

**TD-12-015** Test Results of Products Designed to Reude Lateral Shifting of Brake Beams (8/12)

**TD-06-013** Stress-State Evaluation of Lateral Braces in Open Deck Steel Girder Bridge at FAST (5/06)

**TD-06-016** Stress-State Reduction in Concrete Bridges using Under-Tie Rubber Pads and Wood Ties (6/06)

**TD-06-020** Reduction of Continuous Welded Rail Expansion Joints on a Long Open Deck Bridge (8/06)

**TD-06-022** Investigation of Open Deck Bridge Transition Issues at the Eastern Mega Site (8/06)

**TD-06-026** Demonstration of Acoustic Emission Monitoring of Fatigue Cracks in a Revenue Service Bridge (10/06)

**TD-06-027** The Economic Effects of Train Speed on Steel Railway Bridges (11/06)

**TD-07-025** Electrochemical Fatigue Sensor Demonstration on the Steel Bridge at FAST (9/07)

**TD-07-023** Technology Scanning Update-Status of 2006 Texas Transportation Institute/Texas A&M University Affiliated Laboratory Projects (8/07)

**TD-07-029** Technology Scanning Update-Status of 2006 Virginia Polytechnic Institute and State University Affiliated Laboratory Projects (10/07)

**TD-09-011** New Rail Steel for the 21st Century: Advanced Alloy Thermo-Mechanical Processing Development (4/09)

**TD-09-013** A Multibody Dynamics Approach to the Modeling of the Three-Piece Truck for Freight Train Suspension (5/09)

**TD-09-015** Analysis of Tie Plate Cracking under Heavy Axle Loads (6/09)

**TD-09-022** Failure Model and Effect Analysis of North American Concrete Ties (8/09)

**TD-09-028** New Ground Penetrating Radar Analysis Techniques for Ballast Assessment (12/09)

**TD-09-032** Machine Vision Inspection of Railroad Track (12/09)

**TD-09-033** Data Analysis of Railroad Substructure Conditions using Ground Penetrating Radar (12/09)

**TD-10-012** Fiber Optical Grating Sensors for Railroad Applications (3/10)

**TD-10-020** Self-Contained Structural Health Monitoring System for Repairing Bolted Connections (7/10)

**TD-10-026** Evaluation of a Track Transition Design for Soft Subgrade Bridges (8/10)

**TD-10-028** Modeling the Vertical Split Rim Failure of Wheels (8/10)

**TD-10-029** Ultrasonic Acoustic Health Monitoring of Ball Bearings using Neural Network Classification of Power Spectral Density (9/10)

**TD-10-032** Analysis of Speech Metrics to Estimate Crew Alertness using Fuzzy Logic (10/10)

**TD-11-009** Energy Harvesting for Smart Sensor Systems (4/11)

**TD-11-051** AAR Affiliated Laboratory Project Summary (12/11)

**TD-12-018** Technology Scanning Update-Status of 2006 University of Illinois Affiliated Laboratory Projects (8/07)
CROSSTIES & FASTENERS

TD-06-005 Preliminary Performance of Plastic Ties in Revenue Service at the Eastern Mega Site (NS) (2/06)

TD-06-015 In-Track Performance of Plastic Composite Ties under Heavy Axle Loads at FAST (9/07)

TD-07-027 Update: New Crosstie and Fastening System Test at FAST (9/07)

TD-07-031 Preliminary Performance of Elastic Fastening Systems in Revenue Service at Eastern Mega Site (10/07)

TD-07-036 Insulator Performance in High-Load Areas in Revenue Service (10/07)

TD-07-038 Tie Degradation Model Implemented for Maintenance Planning on Heavy Haul Lines (11/07)

TD-08-004 Laboratory Evaluation of Plastic Composite Crossties (1/08)

TD-08-009 Evaluation of Tie Plate Cracking on Composite Ties (2/08)

TD-09-003 In Track Tie Plate Performance: Plate Stress and Hold-Down Forces (2/09)

TD-09-007 Revenue Service Test of Rail Anchors on Concrete Tie Track at Western Mega Site (3/09)

TD-09-032 Machine Vision Inspection of Railroad Track (12/09)

TD-11-001 Performance of Elastic Fasteners on an 8-degree Curve in Revenue Service (1/11)

TD-11-002 Effect of Missing or Broken Fasteners on Gauge Constraint of Concrete Ties (1/11)

TD-11-003 Performance of Plastic Composite Ties in Revenue Service – Final Report (1/11)

TD-11-034 Preliminary Evaluation of Improved Strength Concrete Ties at FAST (9/11)

TD-12-008 Evaluation of Alternative Open Deck Bridge Ties at FAST (4/12)

TD-12-013 Improving Performance of Crossties and Fasteners (7/12)

FREIGHT CAR COMPONENTS

TD-08-001 Recommended Nondestructive Inspection Guide for Side Frame, Bolster, and Knuckle Castings (1/08)

TD-08-048 Measurement of Coupler Load Spectrum Heavy Haul Coal Hopper Car Service (11/08)

TD-09-009 Inspection Methods for Side Frame, Bolster, and Knuckle Castings (3/09)

TD-09-016 Interim Results of Finite Element and Fatigue Analyses of Bolsters (6/09)

TD-09-023 Influence of Lug Contact Misalignment on Knuckle and Coupler Stress (9/09)

TD-09-024 Summary Statistics of Broken or Cracked Cast Car Components (9/09)

TD-10-016 Finite Element Analysis of a Knuckle and Coupler Assembly (5/10)

TD-10-017 Coupler and Knuckle Assembly Interchangeability and Tolerance Investigation (5/10)

TD-10-033 Survey of Failed Couplers and Knuckles (10/10)

TD-11-046 Fracture Surface Analysis of Grade B+ Material over a Range of Temperatures (11/11)

TD-11-054 Areas of Stress in a Knuckle/Coupler Assembly (12/11)

TD-12-005 Dimensional Analysis of Coupler Castings (3/12)

TD-12-014 Investigation of ‘Fail to Couple’ Events in Hump Yards (7/12)

HEAVY AXLE LOADS

TD-07-032 Effects of Rail Profile Grinding on High-Hardness Premium Rail at FAST (10/07)

TD-07-035 Development of Improved Materials and Surface Preparation for Insulated Joints in Heavy Axle Load Service (4/08)

TD-07-042 Dynamic Load and Track Response: Bridge Approach Test at the Western Mega Site (12/07)

TD-08-008 Interim Performance Results of Premium Rails in Revenue Service at Mega Sites (2/08)

TD-08-024 Update of Heavy Axle Load Revenue Service Testing at Mega Sites (6/08)

TD-08-041 Premium Rail Performance under 39-ton Axle Loads at FAST (10/08)

TD-09-012 Preliminary Performance of Wide Gap Wells at Eastern Mega Site (4/09)

TD-09-017 Update of Experiments at the Revenue Service Mega Sites (6/09)

TD-10-019 Load Environment of Standard Rail Joint Bars used in 39-ton Axle Load Service (7/10)

TD-10-022 Update of Mega Site Experiments in Revenue Service (7/10)

TD-10-027 Reducing the Stress State of the Railroad through Testing at FAST (8/10)

TD-10-042 Update on Performance of No. 20 Turnouts under Heavy Axle Load Traffic (12/10)

TD-11-033 Rail Life Extension through Friction Control and Grinding (9/11)

TD-12-007 Testing at the Facility for Accelerated Service Testing Summary of 2011 Results (4/12)

RAIL MATERIALS/ INSPECTION/MAINTENANCE

TD-06-008 Initial Results of Robotic Slot Weld and Reduced Consumption Electric Flash Butt Weld Testing at FAST (4/06)

TD-06-010 Methodology for More Efficient Continuous Welded Rail Management through Improved De-Stressing and Neutral Temperature Readjustment - Part 1 of 2 (4/06)
TD-11-003 Evaluation of an Automated Turnout Inspection System (12/11)
TD-12-001 Evaluation of Switch Point and Stock Rail Profiles for Heavy Axle Loads (6/12)
TD-12-017 Evaluation of Load Environment of Flange Bearing Frogs (9/12)
TD-12-019 Performance of a Moveable Point Frog under Heavy Axle Load Traffic (9/12)
TD-12-021 Turnout Alignments for Heavy Axle Load Mainline Traffic (10/12)

TRACK GENERAL
TD-07-003 Update of Experiments at Western Mega Site (3/07)
TD-07-004 Update of Experiments at Eastern Mega Site (3/07)
TD-08-007 Investigation of D’strean Rail Neutral Temperature Measurement System (2/08)
TD-08-058 Rail-Wire Interface Performance Issues (12/08)
TD-10-002 Evaluation of the MAPS-SFT Rail Neutral Temperature Measurement Technique (2/10)
TD-10-005 Track Inspection using an Instrumented Freight Car in Revenue Service (3/10)
TD-11-010 Maintenance Resistant Track Wire Connections (4/11)
TD-11-025 Review of Loss of Shunt Issues (8/11)
TD-11-026 In Service Evaluation of Track-to-Wire Connections for Signals (6/11)
TD-11-048 Revenue Service Track Circuit Shunt Performance (11/11)

TRACK STRENGTH/ GEOMETRY/TESTING
TD-08-028 Instrumented Freight Car for Performance-based Track Inspection (7/08)
TD-11-004 Results of Union Pacific Concrete Tie Track Panel Shift Tests (2/11)

TRUCKS & SUSPENSION
TD-06-009 Truck/Carbody Interface Design Principles (4/06)
TD-06-029 Implementing Improved Bulk Commodity Suspensions (12/06)
TD-08-034 Understanding the Effects of Freight Car Component Life with Truck Performance Detector Technology (9/08)
TD-09-016 Interim Results of Finite Element and Fatigue Analyses of Bolsters (6/09)
TD-11-041 A Methodology to Evaluate the Curving Performance of a Freight Car Truck (10/11)

VEHICLE/TRACK DYNAMICS
TD-06-021 Measurement of the State of Imbalanced Loads (8/06)

WHEEL/RAIL LUBRICATION
TD-07-039 Top of Rail Friction Control on Rail Surface Performance and Grinding (11/07)
TD-08-015 Optimization of Top of Rail Application System Configuration (4/08)
TD-08-022 Top of Rail Friction Control-Friction Control Materials (6/08)
TD-08-027 Wayside-based Top of Rail Friction Control-Gage Face Lubrication Issues (7/08)
TD-08-035 Locomotive-based Top of Rail Friction Control Application Issues-Effectiveness and Deployment (9/08)

WAYSIDE DETECTION & CAR IDENTIFICATION
TD-06-025 Evaluation of Cars Registering Salient Hunting Indices at or above 0.25 (10/06)
TD-07-005 Inspection and Maintenance of Poorly Performing Cars Identified by Hunting Detectors (4/07)
TD-07-006 Inspection and Maintenance of Poorly Performing Cars Identified by Truck Performance Detectors (4/07)
TD-07-007 Measurement and Rectification of Carbody Twist (4/07)
TD-07-008 Evaluation of Truck Warp Misalignment (4/07)
TD-07-009 Development of a Truck Warp Index (4/07)
TD-07-010 Evaluation of Rotational Resistance between Truck and Carbody (4/07)
TD-07-011 Relating Warp Index, Truck Gage Spread Force, Track Curvature, Friction, and Axle Load (4/07)
TD-07-012 Evaluation of Cars Registering Salient Hunting Indices at or above 0.1 (4/07)
TD-07-033 Evaluating Repair Effectiveness via Hunting Detector Data (10/07)
TD-07-034 Initial Performance Limits: Three Hunting Detector Types (10/07)
TD-08-013 Wayside Wheel Temperature Detector Test (3/08)
TD-08-023 Optimal Locations of Railroad Wayside Defect Detection Installations (6/08)
TD-08-042 Teardown Results of Coal Cars Identified by Truck Performance Detectors (10/08)
TD-10-031 Teardown Study of TXC Equipment Identified by Wayside Detectors (9/10)
TD-12-001 Development of Automated Inspection of Structural Components Algorithm (1/12)
TD-12-012 Industry-wide Wheel Impact Measurement Variation (6/12)

WHEELS/MAINTENANCE
TD-06-002 Preliminary Placement Guidelines Top of Rail Friction Control Application Systems (2/06)
TD-06-003 Effect of Top of Rail Friction Control on Rail Wear-Preliminary Findings (2/06)
TD-06-006 Eastern Mega Site Wayside Top of Rail Friction Control Implementation Status (3/06)
TD-06-023 New Wheel Profile Design and Preliminary Service Test Results (9/06)
TD-07-014 Effects of Friction Control on Fuel Consumption using the Train Energy Model (5/07)
TD-07-019 Wayside-Based Top of Rail Friction Control: 95 MGT Update (6/07)
TD-07-022 Effect of Microvoids, Oxide Inclusions, and Sulphide Inclusions on the Fatigue Strength of Wheel Steels (8/07)
TD-07-028 Automated Cracked Wheel Detection System Overview (8/07)
TD-08-021 Effect and Formation of Asymmetric Worn Wheels (6/08)
TD-08-025 Service Test Results of a New Designed Wheel Profile (6/08)
TD-08-045 Review of the Influence of Axle Misalignment on Fuel Savings and Wheel Damage (10/08)
TD-08-047 Steel Development for High Performance Wheels (11/08)
TD-09-001 Properties and Microstructure of High Performance Wheels (01/09)
TD-09-002 SRI-1A Wheel Profile Service Test on Coal Cars (1/09)
TD-09-004 Analysis of Residual Stresses on High Performance Wheels (2/09)
TD-09-005 Drag Brake and Durability Test of High Performance Wheels (2/09)
TD-09-006 Broken Wheel Inspections (3/09)
TD-09-014 A Review of the Root Causes for Loaded Car Hunting (5/09)
TD-09-020 Durability Test of High Performance Wheels: 20,000-Mile Interim Results (8/09)
TD-09-025 Initiation of the Revenue Service Test of High Performance Wheels (9/09)
TD-09-026 High Temperature Tensile Properties of High Performance Wheel Steels (9/09)
<table>
<thead>
<tr>
<th>TD-09-027</th>
<th>A Mechanism for the Formation of Shells on Freight Car Wheels (9/09)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TD-09-038</td>
<td>A Parametric Analysis of Lateral Forces on a Single Wheelset Curving with an Angle of Attack (12/09)</td>
</tr>
<tr>
<td>TD-09-039</td>
<td>A Wheelset Suspension to Prevent Shells on Freight Car Wheels Part 1 or 2 (12/09)</td>
</tr>
<tr>
<td>TD-09-040</td>
<td>Wheel/Rail Forces Associated with the Formation of High Impact Wheels (12/09)</td>
</tr>
<tr>
<td>TD-09-041</td>
<td>Review of the Mechanism for the Formation of Thermal Mechanical Shells (12/09)</td>
</tr>
<tr>
<td>TD-10-003</td>
<td>Analysis of Wheelset Removals (3/10)</td>
</tr>
<tr>
<td>TD-10-021</td>
<td>Revenue Service Test of High Performance Wheels: 23,000-mile Interim Results (7/10)</td>
</tr>
<tr>
<td>TD-10-034</td>
<td>Asymmetric Flange Wear: Data Analysis (10/10)</td>
</tr>
<tr>
<td>TD-10-035</td>
<td>Asymmetric Flange Wear: Inspection and Teardown Results (10/10)</td>
</tr>
<tr>
<td>TTD-10-036</td>
<td>Asymmetric Flange Wear: Possible Root Causes and Remedies (10/10)</td>
</tr>
<tr>
<td>D-10-037</td>
<td>Possible Root Cause for High Conicity Wheel Profiles on Grain Cars Associated with Loaded Car Hunting (10/10)</td>
</tr>
<tr>
<td>TD-10-038</td>
<td>Brake Shoe Shape to Reduce the Incidence of Asymmetric Wheel Wear, Overhanging Brake Shoes, and High Contact Conicity (10/10)</td>
</tr>
<tr>
<td>TD-10-039</td>
<td>Incidence of Asymmetric Wheel Flange Wear in Revenue Service (10/10)</td>
</tr>
<tr>
<td>TD-10-040</td>
<td>Overview of Rolling Contact Fatigue Prediction (11/10)</td>
</tr>
<tr>
<td>TD-10-041</td>
<td>Proposed Method to Test and Calibrate Rolling Contact Fatigue Prediction Models (11/10)</td>
</tr>
<tr>
<td>TD-11-007</td>
<td>A Review of Wheel Impact Measurement Variation (3/11)</td>
</tr>
<tr>
<td>TD-11-008</td>
<td>High Performance Wheel Test: 88,000-mile Interim Results (3/11)</td>
</tr>
<tr>
<td>TD-11-015</td>
<td>Teardowns of Cars Identified by Optical Geometry Detectors (5/11)</td>
</tr>
<tr>
<td>TD-11-017</td>
<td>Modeling of Shattered Rim Wheel Failure Model (5/11)</td>
</tr>
<tr>
<td>TD-11-020</td>
<td>Inspection Results and Impact Load History of Vertical Split Rim Wheels (7/11)</td>
</tr>
<tr>
<td>TD-11-021</td>
<td>Microcleanliness and Residual Hoop Stress of Vertical Split Rim Wheels (7/11)</td>
</tr>
<tr>
<td>TD-11-023</td>
<td>Ultrasonic Inspection and Subsurface Cracking of Vertical Split Rim Wheels (8/11)</td>
</tr>
<tr>
<td>TD-11-024</td>
<td>Seasonality of Wheelset Removals: Repair Data and Inspections (8/11)</td>
</tr>
<tr>
<td>TD-11-040</td>
<td>Axial Residual Stresses in Vertical Split Rim Wheels (10/11)</td>
</tr>
<tr>
<td>TD-11-042</td>
<td>Wheel Life Comparison 3-Piece versus M-976 Trucks Case A: Two Train Sets of 135 Cars in West Coal Service (10/11)</td>
</tr>
<tr>
<td>TD-11-043</td>
<td>Wheel Life Comparison 3-Piece versus M-976 Trucks Analysis Case B: 809 versus 124 Cars in Western Coal Service (10/11)</td>
</tr>
<tr>
<td>TD-12-004</td>
<td>High Performance Wheel Test: 158,000-mile Interim Results (2/12)</td>
</tr>
</tbody>
</table>
SAFETY AND OPERATIONS PUBLICATIONS

ENVIRONMENTAL

Environmental activities span three departments at the AAR. There are several committees that are actively working on environmental issues. Environmental is one of the concentration areas available under the railroad supplier associate membership program.

The Environmental Affairs Committee (EAC) is the principal AAR technical & policy committee for environmental issues in the rail industry. The EAC is only open to railroad members and is comprised of the Chief Environmental Officers of the railroads or their designates. The AAR sponsors an environmental conference each year. The environmental conference covers pollution prevention, environmental management and remediation. Contact Kim Hagemann at The University of Illinois at 217-244-0841.

Environmental Publications

Many environmental publications that the AAR has either published on its own or has co-funded are available.

The following is a list of AAR Safety and Operations Environmental publications. Call Kathy Drotar of TTCI at 1-719-584-0644 for pricing, availability and ordering.

Research Report Pricing: $55 (Non-Members, $385)

AAR SAFETY AND OPERATIONS ENVIRONMENTAL PUBLICATION

AAR “R” Reports

R-900 Environmental Aspects of Railroad Locomotive Coolant Discharge. 1996.
R-897 Risk-Based Management of Diesel-Contaminated Soil. 1996.

OTHER ENVIRONMENTAL PUBLICATIONS


Total Petroleum Hydrocarbon Criteria Working Group series:
Volume 1. Petroleum Hydrocarbon Analysis of Soil and Water in the Environment
Volume 2. Composition of Petroleum Mixtures
Volume 3. Selection of Representative TPH Fractions Based on Rate and Transport Considerations
Volume 4. Development of Fraction-Specific RFDs and RFCs for Total Petroleum Hydrocarbons


Environmental Protection Agency and Federal Railroad Administration: In cooperation with the American Short Line Railroad Association and Association of American Railroads, Washington, D.C.


To purchase publications, please visit our secure website at aarpublication.com

Management Of Used Treated Wood Products, American Wood Preservers Institute, AAR, et. al., 1994.

*No Charge*


**HAZARDOUS MATERIALS TRANSPORTATION SAFETY PUBLICATIONS**

**AAR “R” Reports**


R-794 Benefit-Cost Analysis of Using 105 Type Tank Cars Instead of Type 111 Tank Cars to Ship Environmentally Sensitive Chemicals. 1991.


**OTHER HAZARDOUS MATERIALS RESEARCH PUBLICATIONS**


Damage Prevention & Loading Services

The DP&LS team conducts testing for railroads, shippers and suppliers in establishing industry accepted loading rules and standards. DP&LS is responsible for testing and publishing approved loading methods and materials for closed car shipments moving in boxcars and intermodal equipment, as well as open top shipments. This group coordinates their efforts through the industry’s Damage Prevention and Freight Claim Committee and Open Top Loading Rules Committee.

Another key function of the DP&LS group is the prevention of damage to motor vehicles shipped by rail. The DP&LS group conducts Quality Reviews and provides training at motor vehicle loading and unloading facilities involving equipment maintenance and placement; vehicle handling; loading/unloading procedures; and security. The Multi-Level Manual containing industry rules; standards; specifications; and recommended practices with respect to equipment, maintenance, vehicle handling and securement is maintained by DP&LS. All video training programs are now available in DVD format. Video training programs are also available on many damage prevention and freight loading topics.

The DP&LS group also maintains rules for interline settlement of freight claims and coordinates an annual educational conference on the latest developments in damage prevention and freight loading related topics.

The DP&LS group is headquartered at TTCI in Pueblo, Co.

VIDEO TRAINING PROGRAMS (DVD Format)

Intermodal Damage Prevention

General Topics

General Principles of Securement for Intermodal Shipping
Covers general guidelines for use of wood blocking, steel strapping, Ty-Gard, Palla-Gard, D.I.D. bags and friction panels, and trailer end doors as explained in Rule 5-A, Intermodal Loading Guide. Highlights several popular intermodal securement systems. (16 min., 5/90) (DPV 19)

Understanding the Intermodal Environment
Illustrates the effects of forces generated on freight transported in an intermodal environment. Highlights AAR approved securement methods, state-of-the-art equipment and technology, along with premium intermodal services designed to reduce potential for damage. (9 min., 7/91) (DPV 22)

$35 (Non-Member, $70)

Intermodal Loading of Printing Paper Braced with Ty-Gard
Illustrates an AAR approved intermodal loading method for rolled printing paper braced with Ty-Gard. Emphasizes trailer inspection, preparation and loading along with proper installation of Ty-Gard barriers using Ty-Bond and Ty-Patch adhesive strips. (7 min., 6/89) (DPV 15)

$35 (Non-Member, $70)

Intermodal Loading of Printing Paper Using Wood Blocking & Steel Strapping
Demonstrates AAR approved procedures for damage-free intermodal shipment of rolled printing paper using wood blocking and steel strapping. Features trailer inspection and preparation, with emphasis on loading, blocking and bracing procedures. (6.5 min., 6/89) (DPV 16)

$35 (Non-Member, $70)

Intermodal Loading of Pulpboard
Illustrates loading and bracing of pulpboard rolls in TOFC/COFC. Demonstrates application of wood floor blocking and steel or web strapping as tested and approved for intermodal shipments. (7 min., 7/90) (DPV 20)

$35 (Non-Member, $70)

Intermodal Loading of Lumber Using Floor Blocking & D.I.D. Bags
Demonstrates AAR approved procedure for loading of dimensional lumber TOFC/COFC. Highlights equipment inspection, materials, and application of securement system as described in the Intermodal Loading Guide. (7 min., 8/90) (DPV 21)

$35 (Non-Member, $70)

Other Topics

Intermodal Drum Loading for Rail Shipment (DPV 1)
Provides information on loading drums of non-hazardous materials for intermodal rail shipment. Highlights safety, trailer inspection, trailer preparation and loading techniques. Features four approved drum loading configurations universally accepted by the railroad industry. (16 min., 6/87) (DPV 1)

$35 (Non-Member, $70)

Case Goods Secured with Disposable Inflatable Dunnage Bags (DPV 25)
Demonstrates an AAR approved method for shipping case goods in TOFC/COFC shipments by rail. This method is used with stretch-wrapped case goods (minimum 90 gauge) on pallets or slip sheets. Video highlights trailer inspection/ preparation, load planning, and placement of materials. (5.5 min., 10/92) (DPV 25)

$35 (Non-Member, $70)
MOTOR VEHICLE DAMAGE PREVENTION

Equipment Maintenance and Handling

Proper Placement of Multi-Levels
This video is directed towards switch crews that place multi-level auto racks for loading and unloading motor vehicles. The video details many recommended procedures for placing multi-levels that will aid in preventing damage during the loading and unloading process. Many of these procedures also address safety issues for the switch crew as well as loading and unloading personnel. The video illustrates examples of both good and bad practices and how damage may result if the multi-levels are not properly placed. (10 min., 1/03) (DPV 48)

$35 (Non-Member, $70)

Multi-Level Inspection and Preparation
Provides training on maintenance and inspection of multi-level equipment. Highlights proper procedures for maintaining interior and exterior components, mechanical parts and other equipment, including wheel chocks, chain tie down devices, and more. References AAR Interchange Rules, Section I of Manual of Standards and Recommended Practices, and the Multi-Level Manual. (12.5 min., 7/94) (DPV 35)

$35 (Non-Member, $70)

Chocking the Motor Vehicle
Demonstrates how to install, remove and store various types of tri-level and bi-level wheel chocks. Steel, plastic and co-polymer chocks are shown as well as the new grate system used on bi-level equipment. (21 min., 5/95) (DPV 37)

$35 (Non-Member, $70)

Chock Equipped! Handle with Care
Developed to help educate railroad personnel in the proper handling of motor vehicle shipments restrained with wheel chock systems. This video focuses on bi-level auto racks equipped with the “Grate/Lock” chock system; however the principles of careful handling apply to all railcars. (15 min., 10/96) (DPV 40)

$35 (Non-Member, $70)

Vehicle Loading and Unloading

Quality Reviews—Damage Awareness
This video details some recommended practices and procedures that have scored poorly during Quality Reviews of motor vehicle handling facilities. Scenes depict some of the damage that may result if the procedures and recommended practices as detailed in the AAR Multi-Level Manual are not followed. The video is designed as an awareness video for all personnel working at these facilities. (8 min., 09/01) (DPV 46)

$35 (Non-Member, $70)

Quality Inspections of Motor Vehicles
This video puts the viewer in the shoes of the inspector as he demonstrates the accuracy and timeliness of motor vehicle inspections and various methods for locating damage. Clean clothing is stressed, with the proper handling of equipment to prevent damage during the inspection process. Safety is emphasized throughout. (7 min., 5/93) (DPV 32)

$35 (Non-Member, $70)

Origin Motor Vehicle Handling
Details recommended handling principles for origin loading personnel to help prevent damage to motor vehicles. The recommendations parallel the recommended practices found in the AAR Multi-level Manual. (20 min., 7/98) (DPV 43)

$35 (Non-Member, $70)

Destination Handling of Motor Vehicles
This video demonstrates the recommended handling practices for motor vehicles at destination facilities. The program covers the spotting of the multi-levels, handling of bridge plates and end doors, release of securement systems, unloading the vehicle and proper baying procedures. Damage prevention and safety practices are stressed throughout the video. (13.5 min., 3/00) (DPV 44)

$35 (Non-Member, $70)

Safety

Auto Ramp Safety
The video is designed to be of interest to all personnel at either an Origin or a Destination Auto facility. The 15 minute video illustrates issues such as climbing auto rack ladders, proper clothing, storage of equipment such as chocks and tools, shuttle van safety and many other safety related practices. (15 min., 06/01) (DPV 45)

$35 (Non-Member, $70)

Work Safely with Multi-Levels
Aimed at heightening safety awareness of people who work with and around multi-level auto racks. Special emphasis is placed on safe climbing of railcar side ladders. Also covers handling of safety equipment, tools, and proper clothing. (14.5 min., 10/96) (DPV 41)

$35 (Non-Member, $70)

Special Vehicle Handling

Motor Vehicle Shipping for Import Manufacturers
Developed for import vehicle manufacturers and their engineering personnel although others involved in vehicle shipping will be interested. Focuses on types of multi-levels, restraint systems, vehicle design factors and research to find better methods of delivering vehicles damage-free. Domestic manufacturers and various railroad departments will find this an informative production. (12.5 min., 7/88) (DPV 12)

$35 (Non-Member, $70)

Proper Loading & Unloading of Dual-Wheel Pickups
Demonstrates recommended methods of handling dual wheel pickup trucks to reduce potential for damage during rail transportation process. Safe handling methods demonstrated include: staging dual wheel pickups in bay, planning the load, using a spotter, and positioning and securing units on multi-level. (8 min., 8/91) (DPV 23)

$35 (Non-Member, $70)

Current Distribution Operations for Motor Vehicles
Gives an overview of the current handling practices for shipping motor vehicles by rail. Each step in handling the vehicle from plant or port through the transportation process to the final customer is shown. Basic Damage Prevention principles are demonstrated as well as dramatic footage of the phenomenon called truck hunting. (12 min., 3/93) (DPV 30)

$35 (Non-Member, $70)

PAPER DAMAGE PREVENTION

Quality Damage-Free Service

$35 (Non-Member, $70)

On the Core . . . Out the Door
Illustrates fundamental loading practices for 40”, 45”, and 50” diameter roll paper and gives the customer information about various options available for safe, damage-free transit over the North American rail system. Demonstrates use of void fillers, contour buffer pads, disposable inflatable dunnage bags, steel straps, and synthetic strap. (13 min., 7/93) (DPV 33)

$35 (Non-Member, $70)
Roll Paper Awareness
A slide program on video—presents basic principles of shipping roll paper by rail. The video is divided into nine modules addressing: packaging, rail equipment, intermodal equipment, transportation equipment selection and preparation, materials handling, loading procedures, load securement, doorway protection, and damage descriptions. (20 min., 7/94) (DPV 36)

$35 (Non-Member, $70)

Handling 3-Meter Rolls
Demonstrates AAR approved procedures for loading and securing 120” (3-meter) wide roll printing paper using steel strap in cushion-equipped boxcars. Car inspection, preparation, loading, and installation of securement straps highlighted. (8 min., 9/95) (DPV 38)

$35 (Non-Member, $70)

“Who’s Responsible? You Are . . . We All Are”
Created to illustrate the effects of damage to roll paper from the customer’s perspective. It stresses the impact of handling roll paper in the manufacturing, transportation, receiving, and warehousing processes. (16 min., 7/96) (DPV 39)

$35 (Non-Member, $70)

Also see Intermodal section for other Paper-Handling Videos.

General Damage Prevention & Equipment

Boxcar Doors—An Overview
This video is designed to help educate personnel in proper and safe operation of plug and sliding doors commonly found on boxcars. Video scenes detail recommended inspection procedures and illustrate how doors operate to open and close. Various styles of door types are shown, along with examples of damage. Safety practices and tips are highlighted throughout the video. The Automotive Industry Action Group (AIAG), representing major automotive manufacturers, has endorsed this video which was made through a cooperative effort of the AIAG, the Association of American Railroads (AAR) and Railinc. (19 min., 9/02) (DPV 47)

$35 (Non-Member, $70)

Grain Car Loading
Addresses imbalanced and overloaded grain cars. This video was produced by Burlington Northern Railroad, and is a cooperative effort by grain shippers and rail carriers to share information on proper grain loading procedures. Also see General Information Bulletin (G.I.B.) No. 5—Overloaded or Unbalanced Hopper Cars Are Unsafe. (15 min., 8/93) (DPV 34)

$35 (Non-Member, $70)

Use and Protection of Boxcar Doors
Addresses damage to boxcar doors caused by improper opening and closing of doors, and by the loading and unloading process. This video demonstrates how to open and close boxcar doors correctly to prevent door damage. (12 min., 4/98) (DPV 42)

$35 (Non-Member, $70)

The Freight Goes Through
A classic film on careful car handling practices converted to video. Addresses principles train crews should follow during switching operations. Stresses the railroad customers’ need for a damage-free product, not a claim settlement. Slow motion footage of over-speed impacts shows negative results in damage to product and rail equipment. (20 min., 1952) (DPV 302)

$35 (Non-Member, $70)

Understanding Shock and Vibration
Defines shock and vibration, shows how forces are measured, and explains effects on lading. Part 2 introduces data collection and interpretation techniques. (23 min., 11/92) (DPV 28)

$35 (Non-Member, $70)
Damage Prevention & Loading Services

Open Top Loading Rules Manual (Section 1 through 7)

Please direct any technical questions about the Open Top Loading Rules Manual to the Manager AAR Loading Rules 719-584-0511, or email to otlr@aar.com. Refer to the enclosed price list for product codes, prices, and CD-ROM availability.

The content of the Open Top Loading Rules Manual is advanced by the AAR Open Top Loading Rules Committee and is issued by authority of AAR’s Safety and Operations. The entire manual is comprised of seven books. Each has a specific focus and application covering industry requirements and procedures for loading and securing various commodities and equipment on open top railcars, as well as open top trailers and containers that are to be loaded on railcar for transport. Following is a brief description of each section.

Note: During the first quarter 2013, revised sections of the Open Top Loading Rules will be published.

Section 1

General Rules Governing Loading of Commodities on Open Top Cars. Contains general rules and guidelines applicable to all commodities shipped on open top railcars in interchange service. This includes procedures for open top load testing and rule changes, party responsibilities, minimum requirements, and guidance on setting up multicar and dimensional load shipments. Also included are lists of various approved tie-down and securement materials as well as specifications, performance standards, and test procedures for gaining product approval. This section is to be used in conjunction with Sections 2 through 7.

Section 2

Rules Governing Loading of Steel Products Including Pipe on Open Top Cars. Contains approved loading figures (load patterns) with securement specifications for all steel products including unprocessed, structural, fabricated (except machinery), scrap, raw metals as well as steel and iron pipe. This section is to be used in conjunction with Section 1.

Section 3

Rules Governing Loading of Heavy Equipment, Vehicles, and Farm Machinery on Open Top Cars. Contains approved loading figures (load patterns) with securement specifications and block patterns for farm equipment, vehicles, and machinery such as tractors, combines, heavy equipment, and other implements used in road grading/making, excavating, etc. This section is to be used in conjunction with Section 1.

Section 4

Rules Governing Loading of Miscellaneous Commodities, Including Machinery on Open Top Cars. Contains approved loading figures (load patterns) with securement specifications for such commodities as cranes, nonmetallic pipe, tanks, transformers, boilers, locomotives, car bodies, etc. This section is to be used in conjunction with Section 1.

Section 5

Rules Governing Loading of Forest Products, Including Miscellaneous Building Materials, on Open Top Cars. Contains approved loading figures (load patterns) with securement specifications for wood commodities like lumber, logs, poles, pulpwood, certain panel products, and fabricated products such as laminated beams, veneer lumber, etc. Also included are miscellaneous building materials such as gypsum, hardboard, cellulose board, and styrene sheets. This section is to be used in conjunction with Section 1.

Section 6

Rules Governing Loading of Military Vehicles and Materiel on Open Top Cars. Contains approved loading figures (load patterns) with securement specifications for military vehicles, equipment, and materiel. This includes armored tanks and similar vehicles, trucks, artillery, pontoons, cranes, road building and materiel handling equipment such as forklifts. This section is to be used in conjunction with Section 1.

Section 7

Rules Governing Loading of Commodities on Open Top Trailers and Containers for Rail Transport. Contains approved loading figures (load patterns) with securement specifications for flat bed truck trailers loaded with a variety of commodities and equipment, that are loaded onto Trailer-on-Flatcar (TOFC) service open top cars. It also contains a section with figures of open top containers loaded with a variety of commodities, that are loaded onto open top flat cars known as Container-on-Flatcar (COFC) Service. This section is to be used in conjunction with Section 1.
Damage Prevention & Loading Services

Manuals, Posters & Training Programs

MANUALS

MOTOR VEHICLES

Motor Vehicle Loading and Unloading Terminals Manual
List of terminal locations along with involved railroads, manufacturers and contractors. (7/08) (DP 203)

$40 (Non-Member, $80)

Also available in CD-ROM/PDF format (DP 203CD)

Multi-Level Manual for Motor Vehicles
Recommended practices for motor vehicle loading and unloading. Includes AAR Standard Vehicle Inspection Format—Definitions & Instructions. Also includes Section I and Appendix B from Mechanical Division Manual of Standards & Recommended Practices. (Rev. 1/12) (DP 204)

$70 (Non-Member, $140)

Also available in PDF format (DP 204CD)

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## TTCI CONTACTS

**TRANSPORTATION TECHNOLOGY CENTER, INC.**

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Email</th>
<th>Phone</th>
<th>Fax</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lisa A. Stabler</td>
<td>President</td>
<td><a href="mailto:lisa_stabler@aar.com">lisa_stabler@aar.com</a></td>
<td>(719) 584-7148</td>
<td>(719) 584-7148</td>
</tr>
<tr>
<td>Semih F. Kalay</td>
<td>Senior Vice President, Corporate Research</td>
<td><a href="mailto:semih_kalay@aar.com">semih_kalay@aar.com</a></td>
<td>(719) 584-0717</td>
<td>(719) 584-0717</td>
</tr>
<tr>
<td>Firdausi Irani</td>
<td>Vice President, Business Development</td>
<td><a href="mailto:firdausi_irani@aar.com">firdausi_irani@aar.com</a></td>
<td>(719) 584-0522</td>
<td>(719) 5840522</td>
</tr>
<tr>
<td>David C. Meeks</td>
<td>Treasurer, Chief Financial Officer and Vice President, Business Services</td>
<td><a href="mailto:dave_meeks@aar.com">dave_meeks@aar.com</a></td>
<td>(719) 584-0703</td>
<td>(719) 584-0703</td>
</tr>
<tr>
<td>Robert L. Florom</td>
<td>Vice President, Engineering and Quality Services</td>
<td><a href="mailto:robert_florom@aar.com">robert_florom@aar.com</a></td>
<td>(719) 584-0565</td>
<td>(719) 584-0565</td>
</tr>
<tr>
<td>Michael Sherer</td>
<td>Vice President, Operations</td>
<td><a href="mailto:michael_sherer@aar.com">michael_sherer@aar.com</a></td>
<td>(719) 584-0518</td>
<td>(719) 584-0518</td>
</tr>
<tr>
<td>Alan L. Polivka</td>
<td>AVP Communications and Train Control Technologies</td>
<td><a href="mailto:alan_polivka@aar.com">alan_polivka@aar.com</a></td>
<td>(719) 584-0657</td>
<td>(719) 584-0657</td>
</tr>
<tr>
<td>David L. Cackovic</td>
<td>Chief Technical Standards</td>
<td><a href="mailto:david_cackovic@aar.com">david_cackovic@aar.com</a></td>
<td>(719) 585-1880</td>
<td>(719) 585-1880</td>
</tr>
<tr>
<td>Gary Held</td>
<td>Director, Damage Prevention and Loading Services</td>
<td><a href="mailto:gary_held@aar.com">gary_held@aar.com</a></td>
<td>(919) 651-5027</td>
<td>(919) 651-5027</td>
</tr>
<tr>
<td>Mike Cook</td>
<td>Director, Hazardous Materials Compliance and Training</td>
<td><a href="mailto:mike_cook@aar.com">mike_cook@aar.com</a></td>
<td>(719) 584-0541</td>
<td>(719) 584-0541</td>
</tr>
<tr>
<td>A. E. Ciccarelli</td>
<td>Director – Inspections</td>
<td><a href="mailto:ae_ciccarelli@aar.com">ae_ciccarelli@aar.com</a></td>
<td>(412) 831-2980</td>
<td>(412) 851-9522</td>
</tr>
<tr>
<td>Thomas S. Guins</td>
<td>Chief Economist</td>
<td><a href="mailto:tom_guins@aar.com">tom_guins@aar.com</a></td>
<td>(719) 585-1893</td>
<td>(719) 585-1893</td>
</tr>
<tr>
<td>Tom Feltault</td>
<td>Senior Manager, Damage Prevention Engineering</td>
<td><a href="mailto:tom_feltault@aar.com">tom_feltault@aar.com</a></td>
<td>(719) 585-1817</td>
<td>(719) 585-1817</td>
</tr>
<tr>
<td>Mike Sandoval</td>
<td>Manager, AAR Loading Rules</td>
<td><a href="mailto:mike_sandoval@aar.com">mike_sandoval@aar.com</a></td>
<td>(719) 584-0511</td>
<td>(719) 585-0511</td>
</tr>
<tr>
<td>Charles S. Powell</td>
<td>Senior Manager, Equipment Standards</td>
<td><a href="mailto:charles_powell@aar.com">charles_powell@aar.com</a></td>
<td>(719) 585-1883</td>
<td>(719) 585-1883</td>
</tr>
<tr>
<td>Tammy L. Bregar</td>
<td>Controller</td>
<td><a href="mailto:tammy_bregar@aar.com">tammy_bregar@aar.com</a></td>
<td>(719) 585-1866</td>
<td>(719) 584-0866</td>
</tr>
<tr>
<td>Peggy Herman</td>
<td>Manager Documentation and Multimedia Services, Public Relations</td>
<td><a href="mailto:peggy_herman@aar.com">peggy_herman@aar.com</a></td>
<td>(719) 584-0576</td>
<td>(719) 584-0576</td>
</tr>
<tr>
<td>Steve Geneva</td>
<td>Manager, Quality Assurance</td>
<td><a href="mailto:steven_geneva@aar.com">steven_geneva@aar.com</a></td>
<td>(719) 584-0715</td>
<td>(719) 584-0715</td>
</tr>
<tr>
<td>Sam B. Chapman</td>
<td>Manager, Hazardous Materials</td>
<td><a href="mailto:Sam_Chapman@aar.com">Sam_Chapman@aar.com</a></td>
<td>(719) 584-0749</td>
<td>(719) 584-0749</td>
</tr>
<tr>
<td>Jon S. Hannafious</td>
<td>Manager, Coupling Systems &amp; Castings Committee</td>
<td><a href="mailto:jon_hannafious@aar.com">jon_hannafious@aar.com</a></td>
<td>(719) 584-0682</td>
<td>(719) 584-0682</td>
</tr>
<tr>
<td>Kenneth C. Rownd</td>
<td>Principal Investigator/Committee Manager WABL</td>
<td><a href="mailto:ken_rownd@aar.com">ken_rownd@aar.com</a></td>
<td>(719) 584-0670</td>
<td>(719) 584-0670</td>
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<tr>
<td>Steven M. Belport</td>
<td>Manager, Braking Systems</td>
<td><a href="mailto:steven_belport@aar.com">steven_belport@aar.com</a></td>
<td>(719) 584-0668</td>
<td>(719) 584-0668</td>
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<tr>
<td>James Colley</td>
<td>SERTC/ERTC Manager</td>
<td><a href="mailto:james_colley@aar.com">james_colley@aar.com</a></td>
<td>(719) 584-0583</td>
<td>(719) 584-0583</td>
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<tr>
<td>Gary Pike</td>
<td>SERTC/CIRG Manager</td>
<td><a href="mailto:gary_pike@aar.com">gary_pike@aar.com</a></td>
<td>(719) 584-0611</td>
<td>(719) 584-0611</td>
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<tr>
<td>Kathleen A. Trujillo</td>
<td>Customer Focus Specialist, AAR Publications</td>
<td><a href="mailto:kathleen_trujillo@aar.com">kathleen_trujillo@aar.com</a></td>
<td><em>(877) 999-8824</em></td>
<td>(719) 584-7157</td>
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<td>Mickey Johnson</td>
<td>Executive/Marketing Assistant</td>
<td><a href="mailto:michele_johnson@aar.com">michele_johnson@aar.com</a></td>
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<td>Member Services</td>
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<td><a href="mailto:ray_fries@aar.com">ray_fries@aar.com</a></td>
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<td>719-584-0511</td>
<td><a href="mailto:mikesandoval@aar.com">mikesandoval@aar.com</a></td>
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<td>Jeff Moller</td>
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<td><a href="mailto:jmoller@aar.org">jmoller@aar.org</a></td>
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<td>Operational Economics</td>
<td>Peter French</td>
<td>202-639-2268</td>
<td><a href="mailto:pfrench@aar.org">pfrench@aar.org</a></td>
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<td>719-584-0715</td>
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<td>Safety (Regulation)</td>
<td>Michael Rush</td>
<td>202-639-2503</td>
<td><a href="mailto:mrush@aar.org">mrush@aar.org</a></td>
</tr>
<tr>
<td></td>
<td>Sarah Yurasko</td>
<td>202-639-2504</td>
<td><a href="mailto:syurasko@aar.org">syurasko@aar.org</a></td>
</tr>
<tr>
<td>Safety Data &amp; Analysis</td>
<td>Peter French</td>
<td>202-639-2268</td>
<td><a href="mailto:pfrench@aar.org">pfrench@aar.org</a></td>
</tr>
<tr>
<td>Safety Rules</td>
<td>Mike Martino</td>
<td>202-639-2212</td>
<td><a href="mailto:mmartino@aar.org">mmartino@aar.org</a></td>
</tr>
<tr>
<td>Scale Issues</td>
<td>Rafael Jimenez</td>
<td>719-584-0691</td>
<td><a href="mailto:rafael_jimenez@aar.com">rafael_jimenez@aar.com</a></td>
</tr>
<tr>
<td>Security (Legislative)</td>
<td>Jennifer Macdonald</td>
<td>202-639-2533</td>
<td><a href="mailto:jmacdonald@aar.org">jmacdonald@aar.org</a></td>
</tr>
<tr>
<td>Security (Rail)</td>
<td>Tom Farmer</td>
<td>202-639-2220</td>
<td><a href="mailto:tfarmer@aar.org">tfarmer@aar.org</a></td>
</tr>
<tr>
<td>Serving Carrier Reciprocal Switch (SCRS)</td>
<td>Railinc Customer Support</td>
<td>877-724-5462</td>
<td><a href="mailto:csc@railinc.com">csc@railinc.com</a></td>
</tr>
<tr>
<td>Side Frames, Truck</td>
<td>Jon Hannafious</td>
<td>719-584-0682</td>
<td><a href="mailto:castings@aar.com">castings@aar.com</a></td>
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<tr>
<td>Signal Issues</td>
<td>Bob Kollmar</td>
<td>202-639-2142</td>
<td><a href="mailto:rkollmar@aar.org">rkollmar@aar.org</a></td>
</tr>
<tr>
<td>SmartBrief</td>
<td>Holly Arthur</td>
<td>202-639-2344</td>
<td><a href="mailto:harthur@aar.org">harthur@aar.org</a></td>
</tr>
<tr>
<td>Spent Nuclear Fuel Issues</td>
<td>Bob Fronczak</td>
<td>202-639-2839</td>
<td><a href="mailto:rfronczak@aar.org">rfronczak@aar.org</a></td>
</tr>
<tr>
<td>Standard Transportation Commodity Codes (STCC)</td>
<td>Railinc Customer Service</td>
<td>877-724-5462</td>
<td><a href="mailto:csc@railinc.com">csc@railinc.com</a></td>
</tr>
<tr>
<td>State Legislation</td>
<td>Jennifer Macdonald</td>
<td>202-639-2533</td>
<td><a href="mailto:jmacdonald@aar.org">jmacdonald@aar.org</a></td>
</tr>
<tr>
<td>Statistics – General</td>
<td>Clyde Crimmel</td>
<td>202-639-2309</td>
<td><a href="mailto:ccrimmel@aar.org">ccrimmel@aar.org</a></td>
</tr>
<tr>
<td></td>
<td>Dan Keen</td>
<td>202-639-2326</td>
<td><a href="mailto:dkeen@aar.org">dkeen@aar.org</a></td>
</tr>
<tr>
<td>Statistics – Traffic</td>
<td>Paul Posey</td>
<td>202-639-2323</td>
<td><a href="mailto:pposey@aar.org">pposey@aar.org</a></td>
</tr>
<tr>
<td>STB Issues (Law)</td>
<td>Louis Warchot</td>
<td>202-639-2502</td>
<td><a href="mailto:lwarchot@aar.org">lwarchot@aar.org</a></td>
</tr>
<tr>
<td></td>
<td>Timothy Strafford</td>
<td>202-639-2506</td>
<td><a href="mailto:tstrafford@aar.org">tstrafford@aar.org</a></td>
</tr>
<tr>
<td>Strapping – Non-Metallic Open &amp; Closed Cars</td>
<td>Tom Feltault</td>
<td>719-585-1817</td>
<td><a href="mailto:tom_feltault@aar.com">tom_feltault@aar.com</a></td>
</tr>
<tr>
<td>Surface Transportation ISAC</td>
<td>Tom Farmer</td>
<td>202-639-2220</td>
<td><a href="mailto:tfarmer@aar.org">tfarmer@aar.org</a></td>
</tr>
<tr>
<td>Tank Car Committee</td>
<td>Ken Dorsey</td>
<td>202-639-2262</td>
<td>kдор<a href="mailto:sey@aar.org">sey@aar.org</a></td>
</tr>
<tr>
<td>Tank Cars &amp; Standards</td>
<td>Ken Dorsey</td>
<td>202-639-2262</td>
<td>kдор<a href="mailto:sey@aar.org">sey@aar.org</a></td>
</tr>
<tr>
<td></td>
<td>Matt Forister</td>
<td>202-639-2260</td>
<td><a href="mailto:mforister@aar.org">mforister@aar.org</a></td>
</tr>
<tr>
<td>Tax Policy (Law)</td>
<td>Janet Bartelmay</td>
<td>202-639-2513</td>
<td><a href="mailto:jbartelmay@aar.org">jbartelmay@aar.org</a></td>
</tr>
<tr>
<td>Taxes (Legislative)</td>
<td>Jennifer Macdonald</td>
<td>202-639-2533</td>
<td><a href="mailto:jmacdonald@aar.org">jmacdonald@aar.org</a></td>
</tr>
<tr>
<td>Teacher Resources</td>
<td>Janet Williams</td>
<td>202-639-2100</td>
<td><a href="mailto:jwilliams@aar.org">jwilliams@aar.org</a></td>
</tr>
<tr>
<td>Ten-Year Trends</td>
<td>Clyde Crimmel</td>
<td>202-639-2309</td>
<td><a href="mailto:ccrimmel@aar.org">ccrimmel@aar.org</a></td>
</tr>
<tr>
<td>Tort Matters</td>
<td>Daniel Saphire</td>
<td>202-639-2505</td>
<td><a href="mailto:dsaphire@aar.org">dsaphire@aar.org</a></td>
</tr>
<tr>
<td>Track &amp; Infrastructure</td>
<td>Bob Kollmar</td>
<td>202-639-2142</td>
<td><a href="mailto:rkollmar@aar.org">rkollmar@aar.org</a></td>
</tr>
<tr>
<td>Trailer Hitches</td>
<td>Charles Powell</td>
<td>719-585-1883</td>
<td><a href="mailto:imodal@aar.com">imodal@aar.com</a></td>
</tr>
<tr>
<td>Trailers and Containers</td>
<td>Mike Lesniak</td>
<td>202-639-2216</td>
<td><a href="mailto:mlesniak@aar.org">mlesniak@aar.org</a></td>
</tr>
<tr>
<td>Truck Reconditioning (M-214)</td>
<td>Jon Hannafious</td>
<td>719-584-0682</td>
<td><a href="mailto:castings@aar.com">castings@aar.com</a></td>
</tr>
<tr>
<td>Truck Size and Weights</td>
<td>John Gray</td>
<td>202-639-2319</td>
<td><a href="mailto:jgray@aar.org">jgray@aar.org</a></td>
</tr>
<tr>
<td>TTCI President</td>
<td>Lisa Stabler</td>
<td>719-584-7148</td>
<td><a href="mailto:lisa_stabler@aar.com">lisa_stabler@aar.com</a></td>
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