EQUIPMENT HEALTH MANAGEMENT SYSTEM (EHMS)

Railinc's Equipment Health Management System (EHMS) is a web-based application that monitors the condition of rail equipment. Using data collected by wayside detectors throughout North America, EHMS identifies mechanical problems as they develop, allowing ample time to fix equipment before serious damage or accidents occur.

IMPROVES SAFETY, IMPROVES ASSET USE, REDUCES COSTS

By enabling proactive equipment maintenance, EHMS reduces costly repairs, improves asset utilization, reduces infrastructure stress and improves rail safety. EHMS also lets car owners, railroads and equipment maintenance providers report equipment repairs and collect repair history data. Users can pull data for free and can subscribe to receive EHMS data. With EHMS, users can always have access to accurate and up-to-date information on equipment condition and repair.

IDENTIFY EQUIPMENT PROBLEMS EARLY

EHMS is a dynamic system that provides rapid-alert deployment to parties responsible for maintaining equipment health. EHMS uses real-time or batched email and system-to-system messaging to notify Umler™ mark owners and designated maintenance providers when detectors indicate that equipment is in need of repair. EHMS identifies the following types of defective conditions through wayside detectors:

1. **WHEEL DEFECTS**

   Wheel Impact Load Detectors identify wheel-specific defects. Alerts fall into four categories that indicate the severity of the mechanical problem and the urgency with which repairs should be made. These range from notifications of when some degradation of wheel roundness has started to alerts that inform carriers and car owners that high stresses are being placed on rails and that the problem requires immediate action.

2. **TRUCK DEFECTS**

   Truck Hunting Detectors and Truck Performance Detectors look for defects in the truck systems of equipment. These detectors identify movement and force discrepancies of the trucks on the rail surface.

3. **BEARING DEFECTS**

   Acoustic Bearing Detectors identify bearing issues through wayside acoustic devices.

These automatic alerts enhance manual car inspections by providing insight into problems that might otherwise go undetected. Alerts from these detectors are automatically sent to EHMS and retained until a repair event is entered to resolve the alert.

EHMS IMPROVES EQUIPMENT MAINTENANCE, MANAGEMENT AND UTILIZATION

EHMS's ability to monitor the condition of rail equipment and alert responsible parties when repairs are needed helps car owners, railroads and equipment maintenance providers make more informed operational decisions. With EHMS, these parties can:

- **PREVENT SERIOUS EQUIPMENT DAMAGE OR ACCIDENTS**

  EHMS alerts equipment owners and railroads as soon as problems are detected so that they can make repairs before more serious problems arise.

- **IMPROVE COMMUNICATION ABOUT REPAIR STATUS**

  EHMS provides daily reports on mechanical problems identified by wayside detectors so that owners and carriers are always informed of rail equipment condition. As repairs are made, system users can update equipment status and communicate that information to the appropriate parties with system-to-system messaging or web interface. Timely communication helps prevent duplicate repairs.

- **IMPROVE ASSET UTILIZATION**

  With EHMS, equipment repairs are proactive instead of reactive. Repair shops can fix problems before they get worse and take more time to rectify. Equipment is back in full operation sooner.

- **ACCESS CRITICAL EQUIPMENT INFORMATION**

  With EHMS, users have access to the information they need for better car and fleet management. Queries on equipment history, equipment status and airbrake testing dates provide quick status checks or more detailed equipment information based on the parameters the user sets. Early warning letters and maintenance advisories on cars also can be queried from within EHMS. Daily email or system-to-system alerts of changes in equipment health and repairs ensure that system users always have reliable, up-to-date information on equipment condition.

- **MAINTAIN DATA CONFIDENTIALITY**

  EHMS employs a sophisticated security module to protect company information and to ensure that only authorized parties can view or change data. EHMS provides secure Internet access to online reports and historical impact load data. Designated company administrators manage access to the system.

- **CUT EQUIPMENT-MANAGEMENT COSTS**

  EHMS provides the rail industry millions of dollars in an annual savings by averting incidents.

EHMS OFFERS WEB SERVICES

EHMS provides web services using industry standard formats. Web services allow users to report equipment repairs and inspections and retrieve data such as alert types, job codes, equipment history and status through an open protocol that can be integrated with other systems.

To learn more about Railinc's Equipment Health Management System, contact the Railinc Customer Support Center at (877) 724-5462 or csc@railinc.com or visit the Railinc website at www.railinc.com.