

DOT inspectors take to the rails

The railroads that run through Iowa link buyers and sellers of all kinds of commodities, as well as shuttling passengers through the southern part of the state.

Like our highway infrastructure, the tracks these trains run on require inspection and maintenance on a regular basis. Unlike the highway system, the rail system is owned by private businesses, and oversight is provided by the Federal Railroad Administration (FRA).

The railroads are responsible to maintain safety and inspect their operations according to federal regulations. The FRA periodically monitors the railroad's programs related to federal compliance in five elements: (1) track; (2) signals; (3) operations and practices; (4) motive power and equipment; and (5) the shipment of hazardous materials. For additional safety, 30 states including Iowa, choose to have inspectors on staff that are trained by the FRA in one or more of the five areas of responsibility.

The Iowa DOT employs two FRA-trained track inspectors. The FRA performs all inspections on the other four elements and employs its own track inspector, as well. Peggy Baer, director of the DOT's Office of Rail Transportation, says the supplemental DOT program in Iowa began out of necessity in the 1970s when track conditions were very poor and has been continued because nationwide safety data shows increased inspections lead to safer operations.

The two Iowa track inspectors, Lindon Bowen and Jeff Secora, spend four days each week monitoring the railroads for compliance with federal standards for track inspection. Bowen, a 27-year DOT veteran, worked on the Chicago and Northwestern for 10 years prior to his state service. Secora has 16

years with the state and previous experience with the Milwaukee, Soo Line and CP railroads, for a total of 16 years.

As track inspectors, Bowen and Secora enforce FRA standards that vary by track type, tonnage and other characteristics. Each railroad employs its own inspectors for day-to-day operations, while Bowen and Secora provide periodic checks of the railroads' inspection practices to make sure they are in compliance with federal requirements.

In Iowa there are five classes of track, with class 1 being the lowest speed because of rail condition, and class 5 being the highest speed with the strongest rail. "In other parts of the country there are classes 6-9 that have much higher standards, but we don't have any of that rail in Iowa," Bowen explained.

Bowen says the DOT relies on a good working relationship with each of the Iowa railroads to keep the trains rolling. "In general we have good relationships with the railroads here in Iowa," said Bowen. "While our jobs are different, the railroads' inspectors have the same goals we do, to keep the trains running as safely as possible."

A typical work day for Bowen or Secora would start at a rail yard somewhere in Iowa, hitching a ride in a "high-rail" truck (a pickup truck with equipment to allow it to run on railroad tracks) with a railroad inspector. The two would then use this specialized vehicle to drive to a crossing, lower the wheels that grip the rail and proceed to drive the truck down the rail, inspecting the track structure along the way.

Having a high-rail truck on the track requires coordination with the railroad dispatcher to ensure no trains are allowed on the section of track being inspected. Detailed time and location information is relayed by radio between the inspector and dispatcher until the inspection is complete.

There are several elements to a safe track, including the integrity of the ties, proper amount of ballast and a solid road bed. Bowen said, "With a shortage of oak and environmental issues with the disposal of old railroad ties, several of the railroads are switching from wooden to concrete ties." He says while these concrete ties have proven to work

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DOT inspector Lindon Bowen (leaning) and Union Pacific Railroad inspector Jeff Payne at work on the main line south of Des Moines.

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Bowen noting a needed repair on his handheld computer.

well in drier climates, Bowen worries that our fairly wet ground will cause abrasion of the concrete ties at a relatively rapid rate. But Bowen said as concrete mixes are adjusted and technology changes to adapt to wetter climates, he sees railroads using concrete ties far into the future.

Another issue in Iowa that may not occur to the average person pondering railroad safety is mud. "Fouled ballast" is a condition where the rock around the ties that provides stability becomes muddy. Lack of drainage may cause this rock to wash away and take some of the protective structure of the rail bed with it. These washouts can cause one side of the rail to drop or shift too far from the other rail. Very minimal shifting can cause a train to derail. With Iowa being in the center of a region that carries the highest tonnage of coal and grain, this is a major concern---one that Bowen, Secora and the railroad inspectors deal with on a regular basis. "Water drainage is one of the most important keys to sound track structure," explained Bowen.

When a defect is found during an inspection, either the DOT inspector or railroad inspector can issue a "slow order" or go as far as closing that section of track for repairs. A slow order reduces the speed at which trains can travel on that portion of track until repairs are made. "This is an incentive to the railroad to repair this track quickly. Running the trains at a slower speed impacts schedules, which impacts the railroad's bottom line," said Bowen.

Sometimes the need for safety and the railroad's desire to keep a rail line in operation cause decisions made by the inspectors to be unpopular. Bowen added, "The railroad inspectors have a tough job; they have to make sure the track is safe to run on, but at the same time they are under pressure to keep the trains moving. I understand the stress they are under, but I can't let that influence what I need to do."



"Fouled ballast" can be a problem when the support system of a rail bed is washed away or covered in mud.



UP inspector Jeff Payne (left) and DOT inspector Lindon Bowen (right) measure the distance between track in the UP rail yard in Des Moines.

In addition to inspecting track outside a rail yard, Bowen and Secora are also charged with looking over the track used to switch cars inside a rail yard, where Bowen says many derailments occur. "Most of these are minor derailments and many don't need to be reported to the FRA. But if we have a rail yard with several derailments, Jeff and I will increase our inspections."