



Winter Operations

Best Practices at Customer Facilities



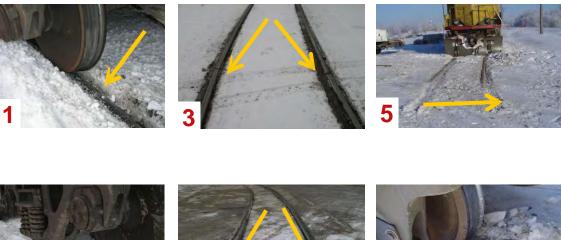
Overview of Winter Considerations At Customer Facilities

- Clean inside flange-way of rail to prevent road crossing derailments.
- Be alert and check road crossings regularly.
- Vehicle traffic at crossings compounds issues.

CHECK AFTER EACH SNOW EVENT!



Road Crossings Removing Obstructions





EST. 1914

1 & 2: Industry road crossing compacted with snow. Snow obstructing the flange-way.

3 & 4: Same crossing after being cleaned.

5: Example of how wheels climbed rail at industry road crossing and derailed the locomotive.

> 6: Accumulated snow and ice obstructed the wheel flange-way.

Truck Crossings

Compacting Issues





1: Rail flange-way of industry crossing needs to be cleaned before ARRC can safely spot the facility.

2: Road crossing compacted and industry switch buried under snow. Both can cause a derailment.

Industry Switches Winter Considerations





ANUROAD CORPORTOR

1: An industry switch that should be properly cleaned out before use.

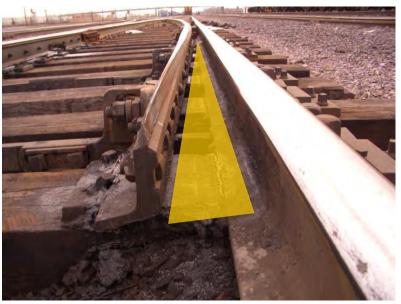
> 2: Example of how snow and ice can accumulate between rails.

3: Debris that should be swept and chipped away to ensure good point made when switch thrown.

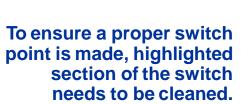
4: Snow and ice build up can cause a gap for wheel to pick up switch.

Industry Switches Winter Considerations





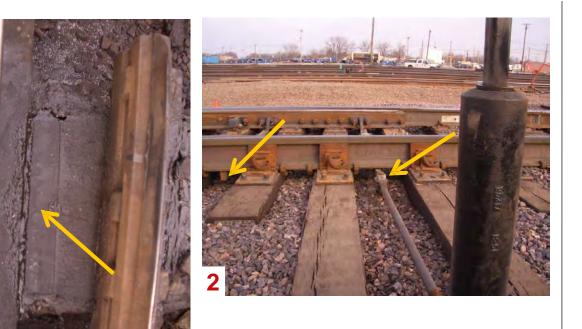
These photos show different angles of the section that needs to be cleaned.







Industry Switches Winter Considerations



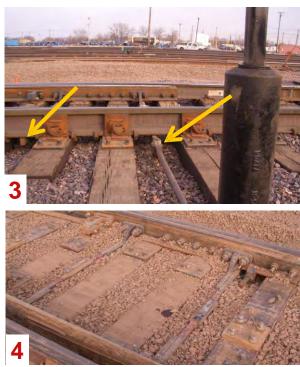
1: It may be necessary to chip away compacted snow and ice off the tie plate to get the switch to latch and get a switch point that does not gap.

2: These movable parts of the switch also must be cleaned out and free of debris to properly throw the switch.

Preventative Maintenance Mitigating Derailment Risks









1: Movable point under rail is "cribbed" out and free from obstructions.

2: To operate properly, metal bars between two switch plates need to move freely under rail when switch is thrown.

3: Movable parts of switch have been cribbed out.

4: Switch that has not been cribbed out.