

A photograph of a K+S train car on tracks at sunset. The sun is low on the horizon, creating a bright lens flare effect. The train car is blue and white with 'K+S' and 'KSPX 1350' visible. The tracks run parallel to the car. A white diagonal overlay covers the right side of the image.

Bethune Mine – Cable Tray
Cover Incidents
March 1, 2018
Chad Binsfeld

Introduction

- Cable tray design
 - Safety through the design phase
 - Materials of Construction
- Issues and Timelines
 - Safety through the maintenance phase
 - Recurring failures, potential loss of history
- Incident Potential
 - Location of failure
 - Trial and error problem solving
- Solutions
 - Investigations, findings
 - Management of Change





Design

- KSPC involved and participated in design phase
 - Installed per manufacturer specifications using proper accessories
- Desire to maintain to original design
 - Tunnel vision regarding the problem
- Environmental variables
 - Saskatchewan is windy...





Timeline

- January 17, 2017 (60-90 km/hr gusts)
 - Two tray covers found on road below piperack, incident investigation initiated
 - Installation reviewed, installed per manufacturer recommendations, clamps were located quite close to ends of cover sections, additional clamps added mid-span
- March 25, 2017 (70 km/hr gusts)
 - Found that even additional clamps in center and adjustment of end clamps failed over time (short hardware)
 - Add teck screws



March 2017



K+S Potash Canada

March 2017



K+S Potash Canada



Incident Potential

- Loose tray covers in high winds
- Location is relatively high vehicle traffic, low foot traffic



Present Day





Timeline

- October 17, 2017 (130 km/hr gusts)
 - Back to basics
 - Review of design concept and cable UV ratings
 - Removal of all horizontal tray covers





Solution and Take Away

- Understanding the design philosophy
 - Question design assumptions or inputs to avoid making the same mistakes (repairs)
- Thorough investigations
 - Document incidents, collect data and analyze and build the history behind systemic issues
- Management of Change
 - Manage the change, don't allow changes to manage you



Questions?

