

Rail Squat Strategies (R3.105)

Background

Rail squats (rail head surface deformation) can cause deep defects requiring relatively new rail to be discarded. Squats are becoming a major form of rail damage for railways worldwide. Current practice is to grind out rail squats and weld back material to replace that missing. This is labor intensive and may not prevent the squat from redeveloping.

Objective

The aim of the project is to examine the formation of rail squats, identify formation mechanisms, and to investigate methods of prevention of rail squats. The project will also seek to identify the effects of changes in operating conditions on squat formation.

Outcomes

Deliverables will include:

- knowledge base: relative importance of keys factors in squat initiation and growth,
- rules for avoiding conditions of squat formation,
- models for predicting initiation and growth,
- manuals, practices for classification, detection, measurement and minimisation of squat initiation and growth,
- tools for early detection: Non Destructive Inspection – instruments and methods, and
- pro-active strategies for network management of squats.

Benefits

The project has the potential to reduce rail maintenance costs as well as increase life of rail assets.

Project timeframe

1 June 2008 to 31 May 2010