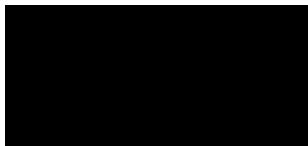


Rail Vibration Assessment Stirling Alloa Kincardine Railway Line



Clackmannanshire
Council

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Rail Vibration Assessment: Stirling Alloa Kincardine Railway

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Rail Vibration Assessment



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1 Introduction

- 1.1 AECOM was commissioned by Clackmannanshire Council to undertake the measurement and assessment of vibration from rail traffic along the Stirling-Alloa-Kincardine (SAK) railway line. This is in response to concerns raised by the occupants of nearby dwellings with regard to building damage due to train-induced vibration. The following sections detail the measurements and assesses the results with respect to recognised criteria.
- 1.2 Rail vibration measurements were undertaken at eighteen properties in close proximity to the SAK railway line in Stirling, Alloa, Clackmannan, Kennet and Kincardine between Wednesday 17 November and Thursday 25 November 2010.
- 1.3 It is understood that a condition survey was carried out by Hardies Property & Construction Consultants in 2005 prior to the SAK railway line being reopened. On the basis of the recent measurements, an assessment is made of the likelihood that changes in the condition of the properties have resulted from train-induced vibration.
- 1.4 A brief description of the SAK works relevant to this assessment is given in Section 2. The criteria for the assessment are reproduced in Section 3. The rail vibration assessment methodology and results are represented in Section 4 and 5 respectively. Finally a summary and conclusions can be found in Section 6.
- 1.5 A glossary of vibration terminology is given in Appendix 1.
- 1.6 Appendix 2 provides calibration reports for the measurement equipment.



2 A Brief Description of the Site

- 2.1 The Stirling-Alloa-Kincardine (S-A-K) rail line comprises approximately 21 km of track between Stirling and Longannet Power Station in Kincardine. It provides passenger services from Alloa to Stirling and freight services (including coal transports) to Longannet Power Station.
- 2.2 The re-opening of the rail line involved reconstructing the line between Stirling and Kincardine along its former route and upgrading the existing railway route between Kincardine and Longannet Power Station. The section of the route from Stirling to Alloa has been re-opened to passenger and freight trains, with a new railway station located at Alloa and a freight only connection through to Kincardine and on to Longannet Power Station.
- 2.3 The section of the S-A-K rail line where vibration measurements were undertaken is located in areas administered by Clackmannanshire, Stirling and Fife Councils.



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