



Rail Condition and Profile Management – award of contract

Date of meeting 24 November 2024

Date of report 13 November 2024

Report by Director of Transport Operations

1. Object of report

To recommend that the Committee approves the award to Vossloh Rail Services Deutschland GmbH (Vossloh) of a contract for services to manage the condition and profile of rail within the Subway.

2. Background to report

To ensure safe and assured operation of the Subway, effective management of the condition of the 24km of track is essential. The track is subject to continual, cyclical loading as trains pass and the wheels interface with the rail. A consequence of this loading is loss of material (metal) from the rail and wheels. A range of factors influence the nature and extent of the metal loss from the rail, with different conditions potentially giving rise to uniform wear and/or abnormal cyclic wear patterns known as corrugation. In addition to metal loss through wear, if any flaws or defects are present in the rail, these are liable to grow under the loading of passing trains.

The inspection and maintenance regime for the track must account for and reflect the range of potential degradation mechanisms to which it is exposed, including those noted above. Flaws, such as cracks, in or beneath the surface of the rail cannot typically be identified through visual inspection. In order to facilitate detection of such defects, the inspection regime for the track includes periodic non-destructive testing of the rails. Non-destructive testing, principally by ultrasonic methods using specialist equipment, allows for early detection of these defects. This provides the opportunity for remedial measures to be planned and implemented in a timely manner before defects grow to an extent that presents an unacceptable risk to the integrity and strength of the rail.

Where defects and/or wear are present on the running surface of the rail, it can be effective to undertake grinding to remove the defects and restore the profile of the rail. This controlled removal of metal from the rail can be demonstrated to improve the conformity of the rail and wheel profiles, thereby reducing the rate of wear and extending the useful life of the rail and wheels. Noting that the rate and nature of rail wear varies throughout the Subway, it is necessary to ensure that the plan for grinding is tailored and targeted with definition of how much material should be removed, at what frequency and in which areas of the system. No grinding has been undertaken within the last decade in the Subway and, moreover, changes in wheel-rail interactions would be expected with the introduction of the new fleet of rolling stock; accordingly, there is a requirement for a plan and programme to be defined for grinding, informed by in-system checks and assessments.

3. Outline of proposals

3.1 Scope of services

SPT has a requirement for a contractor to deliver services to support management of the condition and profile of the rail within the Subway. The scope includes:

1. Annual non-destructive testing (ultrasonic inspection) of the rail.
2. Development of a plan for rail profile management (grinding). The plan is to be informed by survey of the rail in the Subway and is to include definition of locations, extents and frequencies of grinding.
3. Implementation of grinding in accordance with the rail profile management plan. The extent and nature of this activity is dependent on the outcome of activity 2. It is expected that annual campaigns of targeted grinding will be undertaken.

3.2 Procurement process

SPT brought the rail condition and profile management scope to market through a restricted (two stage) procedure in line with the Utilities Contracts (Scotland) Regulations 2016. In June 2024, at stage one, SPT issued an advert via Public Contracts Scotland - Tender (PCS-T) and sought responses under a qualification envelope (including Single Procurement Document (SPD) questions) and a technical envelope. Three responses were received. Following review of responses, all three organisations were invited to stage two – Invitation to Tender (ITT).

The ITT was issued in August 2024 as an NEC4 Term Service Short Contract with an initial four-year term and an option to extend for a further two years at SPT's discretion. Tenderers were advised that the award would be based on the most economically advantageous tender, with evaluation adopting a 60:40 cost:technical split.

For the purpose of technical evaluation, tenderers were asked to provide details of their technical capabilities and to outline corresponding methodologies proposed for delivery of each aspect of the scope. Key to the technical evaluation was a requirement to assess each tenderer's ability to deliver within the atypical Subway environment, specifically the small diameter tunnels and 1220mm track gauge.

Tenderers were requested to submit fixed costs for non-destructive testing of the rail and for development of a plan for rail profile management, informed by survey and assessment. Commercial evaluation was undertaken on the basis of the total fixed cost for these activities. In addition, rates for rail grinding were also sought. As the extent of such activities is to be informed by the plan being developed through the contract, a fixed cost could not be determined at tender stage and this aspect was therefore excluded from the commercial evaluation. Nonetheless, the submitted rates will apply if relevant activities are instructed through the contract.

Two bids were set aside in the technical evaluation. The technical submission from Vossloh was found to fulfil the requirements and their commercial submission was also found to be acceptable.

4. Committee action

The Committee is recommended to approve the award to Vossloh Rail Services Deutschland GmbH of a six-year contract, with a break clause at the end of year 4, for rail profile and condition management with value of £1,397,178 (excl. VAT). This includes for the fixed cost activities 1 and 2, as well as an annual allowance for activity 3.

5. Consequences

Policy consequences	<i>None identified.</i>
Legal consequences	<i>Contract will be awarded subject to the conditions of contract contained within SPT's ITT.</i>
Financial consequences	<i>The costs for the annual non-destructive testing (ultrasonic inspection) of the rail will be accommodated within the revenue budget each financial year.</i> <i>The costs for the development and implementation of a plan for rail profile management (grinding) will be accommodated within the capital budget, under project 10375 "Tunnel and Infrastructure Works". This project is funded from the Subway Infrastructure Fund (General Fund – Earmarked Reserve).</i>
Personnel consequences	<i>None identified.</i>
Equalities consequences	<i>None identified.</i>
Risk consequences	<i>None identified.</i>
Climate Change, Adaptation & Carbon consequences	<i>None identified.</i>

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