**Specification for research project**

Optimising drivers' use of audible warnings in all potential warning scenarios [T1273]

The draft research specification and assessment criteria that follows is subject to change following supplier engagement. It outlines RSSB’s current proposed approach to provide an understanding of behaviours that will allow us to simplify the use of audible warnings in all potential warning scenarios.

A pre-tender suppliers meeting has been arranged for 06 December 2021 at 09:00 – 10:30, to be held remotely on Microsoft Teams. The purpose of this meeting is to:

* Provide an outline of the project proposal
* Provide interested suppliers an opportunity to discuss, understand and inform the research specification

Suppliers should be prepared to discuss the following:

* What resources and information would suppliers require, in order to deliver robust outcomes?
* What are the challenges and barriers to delivering this work? What enablers would support successful delivery of the project?
* What is the estimated effort to deliver this work to quality and time?

Please note that following the suppliers meeting, RSSB may amend the document before publishing the invitation to tender.

Suppliers wishing to attend the event must confirm the name and email address of all attendees to [Tanja.Odinsen@rssb.co.uk](mailto:Tanja.Odinsen@rssb.co.uk) by 12:00 on 03 December, you will then be issued with an invite to the meeting.

1. RSSB overview

RSSB is a membership organisation that supports the GB rail industry by:

* **Understanding safety risk** – Using safety intelligence with the latest risk modelling to inform members and support safe decision making.
* **Guiding standardisation** – Creating, reviewing, and simplifying GB standards; managing the Rule Book and making it easier for the railway to deliver efficiently and safely.
* **Leading the sustainability agenda** - Maintaining and growing rail’s position as Britain’s leading low-carbon and sustainable transport mode by working to address rail emissions and measuring the benefits rail provides to society.
* **Facilitating cross-industry collaboration** – As an independent, cross-industry body, developing industry strategies, and supporting activities that need collaboration, such as supplier assurance schemes and confidential reporting.
* **Delivering new knowledge and solutions** – Undertaking research that addresses the rail industries needs and opportunities, for now and for the future. Developing the new knowledge and solutions needed to inform the future of standards, drive improvements to the industry’s safety performance, and make rapid progress against the rail sustainability agenda.

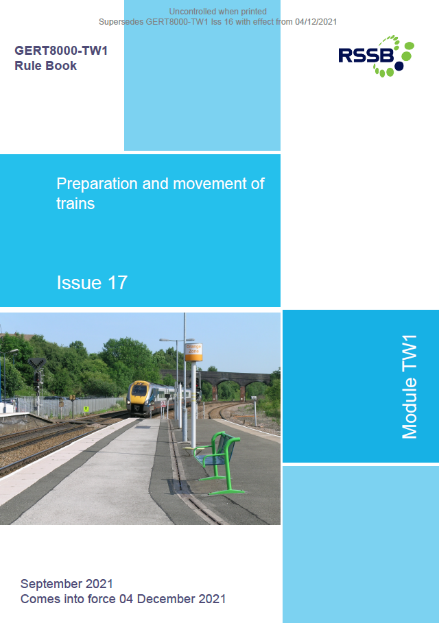
1. Background

Train drivers are required to use the train horn in various circumstances to:

* Provide the most effective warning in an emergency situation,
* Alert people on or near the track that the train is approaching either in defined locations/situations or when deemed appropriate by the driver.

In an emergency, the horn needs to make the optimum sound that will attract and hold the attention of those around the train in that situation, but the driver will have other issues to consider and tasks to perform in what can be a condensed period of high stress.

The use of horns can be a cause of annoyance to railway neighbours and therefore there is also an obligation to restrict their use to necessary or beneficial situations.

Horn control systems permit the selection of high and low tones and the driver controls the duration of the sounding giving the choice of long or short 'blasts’. Two volume levels are also available (soft and loud) and is generally set dependent on the maximum design speed of the train. Trains designed to travel above 100mph are permitted to use the lower setting below that speed and it may be possible on older trains for the driver to select high or low volumes.

Section 46 of Rule Book module [GERT8000-TW1 Issue 17 ‘Preparation and movement of trains’](https://www.rssb.co.uk/standards-catalogue/CatalogueItem/gert8000-tw1-iss-17) sets out the how the driver uses the horn in terms of the warning tones (and volumes) to be used, and how the horn is used as a warning for:

* Anyone on or near the line,
* Whistle boards,
* Within a possession,
* Wrong-direction movements, and
* Any other time the driver considers necessary.

This project was triggered by the Rail Accident Investigation Branch [(RAIB) report](https://www.gov.uk/government/news/report-112020-track-workers-struck-by-a-train-at-margam) on the 3 July 2019 Margam incident, which stated *‘It is… accepted that under such stressful circumstances, it is optimistic to expect drivers to always operate the horn control to sound short duration warnings, as required by the Rule Book’*[[1]](#footnote-1). RSSB subsequently received a Request for Help *‘To review the rule requirement based on human nature in emergency scenarios to identify if the rule can be changed to just using a continuous blast on the horn (either tone)’.*

Following the request for help, the issue was raised at Operations Standards Forum. An online survey of Operations Standards Forum members identified some drivers sounded warning horns incorrectly; and in some cases, did not sound the warning horn at all.

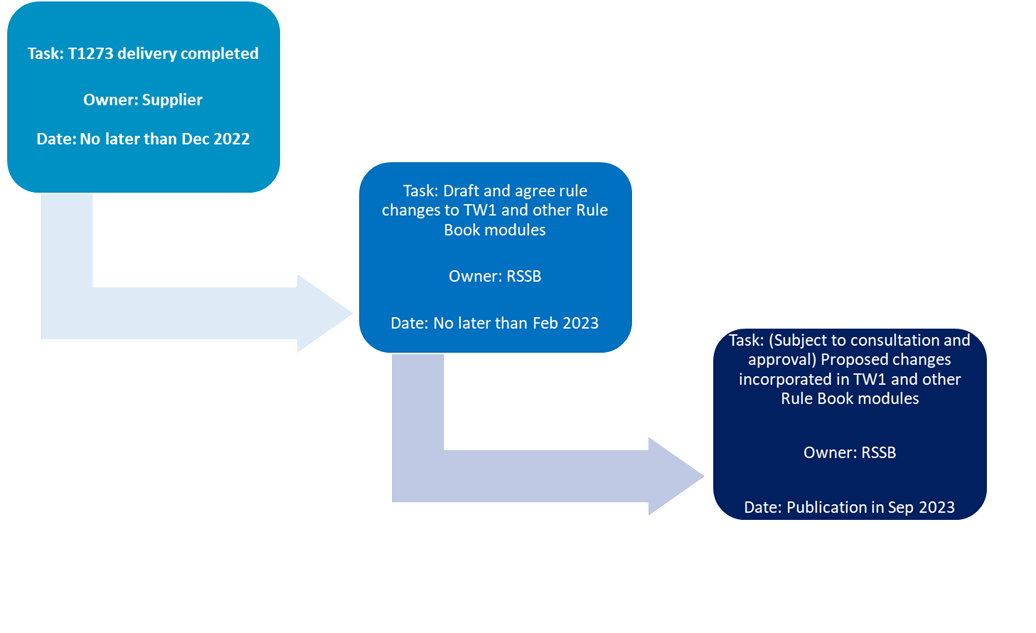
RSSB has previously commissioned a series of projects relating to audible warnings[[2]](#footnote-2) to better understand the relationship between train horn test measurements and the audibility to track workers, the technical feasibility of automating the train horn and to quantify the nuisance caused to railway neighbours.

Industry would benefit from the further research to simplify the use of audible warnings in all potential warning scenarios. Clarification of the detailed use of the horn may also help to optimise the design and validation of horn controls on the cab desk in the future.

1. Project objectives

Using existing knowledge, this project will provide an understanding of behaviours that will allow us to simplify the use of audible warnings in all potential warning scenarios. This will support RSSB in drafting changes to TW1 ‘Preparation and movement of trains and other associated standards[[3]](#footnote-3).

TW1 Issue 19 is expected to be out for review in February 2023[[4]](#footnote-4) [[5]](#footnote-5). As such, **the supplier must complete delivery no later than December 2022**, in order to enable sufficient time for RSSB to draft and agree the resulting rule changes[[6]](#footnote-6).



1. Project scope

This section defines the tasks to be undertaken; and the technical content against which the submissions will be assessed.

In scope

1. **Establish the current state of play**  
   The supplier shall undertake a literature review (industry standards, literature etc) and undertake engagement with industry stakeholders to:
   * Summarise the existing scenarios for train audible warnings, clarifying who are the recipients of the warning for these scenarios
     + For the above scenarios, assign a risk category to the consequence of the recipient not receiving and acting on the warning[[7]](#footnote-7)
   * Review the historical change in rules relating to train audible warnings[[8]](#footnote-8), providing rationale on changes and context on current rules
2. **Establish the characteristics of the optimal warning**

The supplier shall undertake stakeholder engagement and utilise existing information (literature, data, etc) to:

* + Clarify, for the recipient of the warning, the implied meaning (if any) of high, low or both horn tones and long or short blasts considering operational circumstances
  + Define the characteristics of the optimal warning in all circumstances, including a specific focus on emergency situations (i.e., how should an urgent warning sound like compared to a less urgent warning)

1. **Evaluate what drivers could reasonably be expected to do**

The supplier shall undertake stakeholder engagement and utilise existing information to:

* + Consider the task of sounding the horn from the driver’s perspective for specific operational scenarios, taking into account:
    - Drivers’ cognitive workload;
    - Drivers’ physical workload;
    - Desk layout;
    - Horn control ergonomics;
    - Tone (high and low)
    - Volume (soft and loud)
    - ‘Blast’ length (short and long)
    - Number of blasts
    - What other tasks are required by the driver at the same time
  + Undertake human error risk analysis for the task of sounding the horn to understand the potential and consequences of not sounding the horn, using a different sound to the rules, or the potential to miss other crucial tasks while concentrating on the horn sounding

1. **Recommendations**The supplier shall:
   * Propose on when and how the horn is sounded in relation to a stimulus to the driver, including whistle boards and potential consequences
   * Provide clarity on the benefits and risks of the defined recommendations and the supporting evidence to make the change. This shall:
     + Clarify what the recipient of the train horn needs for the intended meaning of the horn to be conveyed effectively
     + Clarify what the driver can deliver, taking into account the scenarios and task demands for horn usage
     + Consider whether there is a common set of requirements available across all GB mainline rolling stock, which the recommendations should be based upon

Out of scope

1. **Establish the current state of play**
   * Review the historical change in rules relating to infrastructure based audible warnings
2. **Establish the characteristics of the optimal warning**
   * Evaluation and proposal of modifications to horns and changes to horn tones or sound pressure levels currently specified in rolling stock standards
   * Laboratory testing of horns
   * Track testing of horns
   * In-service testing of horns
3. **Evaluate what drivers could reasonably be expected to do**
   * On-track trials of sounding the horn from the driver’s perspective
   * In-service trials of sounding the horn from the driver’s perspective
4. **Provide recommendations**
   * Draft changes to TW1 ‘Preparation and movement of trains and other associated standards

On-going requirements

In addition to the above, the supplier will be required to undertake the following tasks during delivery:

* Attendance at project kick-off meeting at RSSB’s London office[[9]](#footnote-9) in February 2022
* Attendance at three project steering group meetings (to be held as hybrid meetings at RSSB’s office and/or as online-only meetings)
* Presentation to Operations Standards Forum (to be held as a hybrid meeting in London, or as an online-only meeting)
* Attendance at project closure meeting (to be held as a hybrid meeting at RSSB’s office, or as an online-only meeting)
* Creation of a recorded presentation on the research findings to future reference by industry
* Creation and maintenance of project management plan
* Creation and maintenance of project risk register
* Provision of monthly progress reports

RSSB’s facilities can be provided to the supplier for meetings and/or workshops without cost (subject to RSSB meeting room availability). Where appropriate, meetings can be held elsewhere if RSSB considers this beneficial.

1. Deliverables

The supplier will produce the following deliverables:

|  |  |
| --- | --- |
| **Deliverable Title** | Final report |
| **Description** | The supplier shall detail the findings and methodology on simplifying the use of audible warnings in all potential warning scenarios. The report shall:   1. Establish the current state of play    * Establish the existing scenarios for train audible warnings, clarifying who are the recipients of the warning for these scenarios      + For the above scenarios, provide a risk category to the consequence of the recipient not receiving and acting on the warning    * Clarify the historical change in rules relating to train audible warnings, providing rationale on changes and context on current rules 2. Establish the characteristics of the optimal warning    * Clarify, for the recipient of the warning, the implied meaning (if any) of high, low or both horn tones and long or short blasts considering operational circumstances    * Define the characteristics of the optimal warning in all circumstances, including a specific focus on emergency situations (i.e., how should an urgent warning sound like compared to a less urgent warning) 3. Evaluate what drivers could reasonably be expected to do    * Assess the task of sounding the horn from the driver’s perspective for specific operational scenarios    * Detail the human error risk analysis for the task of sounding the horn to understand the potential and consequences of not sounding the horn, using a different sound to the rules, or the potential to miss other crucial tasks while concentrating on the horn sounding 4. Provide recommendations    * Propose on when and how the horn is sounded in relation to a stimulus to the driver, including whistle boards and potential consequences    * Provide clarity on the benefits and risks of the defined recommendations and the supporting evidence to make the change. This shall:      + Clarify what the recipient of the train horn needs for the intended meaning of the horn to be conveyed effectively      + Clarify what the driver can deliver, taking into account the scenarios and task demands for horn usage      + Consider whether there is a common set of requirements available across all GB mainline rolling stock, which the recommendations should be based upon   The report shall provide the underpinning evidence to support RSSB’s drafting of proposed changes to the Rule Book. |
| **Publication** | The deliverable is to be produced in the standard RSSB format and shall be reviewed by RSSB and the project steering group, to allow for comment. The deliverable is to be made widely available. |

|  |  |
| --- | --- |
| **Deliverable Title** | Presentation |
| **Description** | The supplier shall produce a summary presentation capturing the key findings and methodology on simplifying the use of audible warnings in all potential warning scenarios.  The presentation shall be targeted at Heads of Operations, Standards and Safety. The supplier shall deliver the presentation to the project steering group and Operations Standards Forum.  A recorded version of this presentation shall be made for future reference by industry. |
| **Publication** | The deliverable is to be produced in the standard RSSB format is to incorporate appropriate infographics. The deliverable shall be reviewed by RSSB to allow for comment. The deliverable is to be made widely available. |

Where a deliverable is submitted that closely meets the requirements, it is anticipated that RSSB shall provide a single consolidated feedback on a complete deliverable from the project steering group, followed by a single consolidated review from an executive panel. Within the schedule the supplier should allow for two weeks for each review to return comments.

1. Stakeholder roles and responsibilities

The key stakeholders and their responsibilities are detailed in the table below:

|  |  |  |
| --- | --- | --- |
| **Role** | **High level description** | **Specific responsibilities are to:** |
| RSSB Project Manager | The RSSB Project Manager is the first point of contact for the suppliers once the contract has been put into place.  The RSSB Project Manager is responsible for ensuring that the supplier delivers the project as agreed in their proposal. | * Organisation, co-ordination, and chair of project meetings. * Monitoring and tracking of project progress and spend * Point of contact for escalation for enquiries from supplier, steering group, or project sponsor. * Dissemination of deliverables to project steering group and governance group. * Authorisation of payment within agreed project spend. |
| RSSB Technical Lead | Throughout the project, the RSSB Technical Lead, generally a RSSB employee, ensures that technical aspects are considered and reflected accurately. | * Provide input to the specification, either by writing it or reviewing its content, and assure it is technically sound and appropriately scoped * Assess tenders * Review and provide input to draft deliverables * Review final deliverables to ensure that they are technically sound and the conclusions defensible |
| RSSB Sponsor | The RSSB Sponsor is a senior RSSB employee that is best placed to actively monitor the project through development and delivery, keeping the project aligned with and informed by industry's expectations and initiatives; and steers implementation facilitation activities. | * Sponsors the RSSB business case and implementation plan, focusing on how RSSB can support industry benefiting from the findings * Advises the Project Steering Group on shaping the project and its deliverables to most effectively support industry take up and to get most value out of it * Actively monitor the project through delivery working with the Industry Sponsor to successfully navigate the project through any points of conflict between stakeholders, and decision points relating to emerging findings * Keep active awareness of the emerging findings and, as appropriate, bring them (and any related decision points) to the attention of the Industry Sponsor to jointly provide advice to the steering group * Provide advice and steer on activities required to facilitate implementation |
| Industry Sponsor | The Industry Sponsor acts as figurehead for the research, championing its importance and its outputs.  The Industry Sponsor forms part of the Project Steering Group, however, their key role as Industry Sponsor is to provide steer to the research as it progresses and to influence industry to make use of its findings. | * Advises the Project Steering Group on shaping the project and its deliverables to most effectively support industry take up * If required, facilitate access to industry data, people and equipment needed to deliver the project * Oversees the project through delivery working with the RSSB sponsor to successfully navigate the project through any points of conflict between stakeholders, and decision points relating to emerging findings * Promote industry take up and implementation of the research beyond completion of the R&D project * Provide feedback to RSSB during project delivery and after completion |
| Industry Project Supporters | The two Industry Project Supporters represent parts of industry complementary to the Industry Sponsor’s organisation. | * Offer expertise during project development and delivery * If required, facilitate access to industry data, people and equipment needed to deliver the project * Support the implementation of findings |
| Project Steering Group | The Project Steering Group ensures the project is specified and delivered to take into account different stakeholders’ needs. The group is made up of representatives from within the rail industry and other industries where appropriate. | * Provides input to and reviews the ‘case for research’ (i.e., the business case, specification and implementation plan) * Monitors and steers the project through delivery * If required, facilitates access to industry data, people and equipment needed to deliver the project * Attends meetings with Project Team and suppliers * Reviews draft and final output(s) |
| Primary Governance Group | The Primary Governance Group is an established industry group that has responsibility to steer and oversee activities in a specific topic area. | * Comment on research ideas and consider outcomes from idea review activities that RSSB undertakes * Review and endorses the ‘case for research’ before it goes for budget authority * Endorse the findings and support their implementation |

1. Budget, timescales, and responsibilities

The budget for this work is up to £90k. If, whilst compiling a response, tenderers determine that it is not feasible to submit a quote to this budget but still wish to provide a response, they shall:

* Provide a quote for all work as requested, even if this exceeds the budget. This allows RSSB to conduct a like-for-like comparison as required by the evaluation criteria. Those who price within RSSB’s budget will score more highly in line with the pricing calculation, however, higher bids will not be automatically disqualified.
* Provide a supporting explanation as to why an increase in budget is required to deliver the work to a good standard.

RSSB expects the work to start in March 2022. **The supplier must complete delivery no later than December 2022**, in order to enable sufficient time for RSSB to draft and agree the resulting rule changes.

1. Critical success criteria and risk management

The following critical success criteria have been identified to help ensure successful delivery and to increase likelihood of industry acceptance/implementation:

* The supplier shall provide, no later than December 2022, recommendations to enable the drafting of revised and consistent rules on the use and different soundings of the horn under all conditions. Clarity shall be provided on the benefits and risks of the defined recommendations and the supporting evidence to make the change.

The following initial risks have been identified to highlight where the project may encounter issues during delivery, the supplier will be expected to propose approaches to mitigate these risks and any others they perceive:

* Access to staff, information and data.  
  Where possible, RSSB and the project steering group will support the supplier to access staff, information and data to undertake the work. Where necessary request for further support can be escalated to Operations Standards Forum.

1. Selection and award criteria

**Tenderer refers to the organisation, or organisations that are part of this tender, and experience can be drawn from across any involved party**

**Tenderers must carefully read the selection criteria in order to address EACH requirement.**

**Tenderers shall fail the selection criteria unless they address EACH requirement, tenderers that fail the selection criteria will not have their award criteria evaluated.**

**The stated limit on the length of each response must be adhered to.**

**Responses will only be evaluated within the stated length limit, any response exceeding the stated limit will be disregarded beyond that limit.**

Selection criteria

| **Selection criteria** | **Detail and Evaluation Criteria** |
| --- | --- |
| **S1** Tenderer’s expertise in human factors involving train drivers  [Total 1 page for example(s)] | The tenderer shall provide a short description of at least one completed example within the past five years that focused on human factors involving train drivers. Tenderers must state the completion date of the example provided.  For clarification, a ‘completed example’ refers to work specifically completed by the tenderer. If the completed work forms part of a larger activity (involving other organisations), the overall activity does not need to have been completed.  In order to pass the selection criteria, the tenderer’s response must address the following within their example(s):   * Demonstrate successfully delivering work on human factors involving train drivers * Give RSSB full confidence in the tenderer’s ability to successfully undertake work on human factors involving train drivers   The tenderer shall fail the selection criteria if it either fails to provide a short description of at least one completed example within the past five years that focused on rail human factors; or the provided example fails to achieve ANY of the following:   * Demonstrate successfully delivering work on human factors involving train drivers * Give RSSB full confidence in the tenderer’s ability to successfully undertake work on human factors involving train drivers |

| **Selection criteria** | **Detail and Evaluation Criteria** |
| --- | --- |
| **S2** Tenderer’s expertise in human error analysis  [Total 1 page for all examples] | The tenderer shall provide a short description of at least one completed example within the past five years that involved human error analysis. Tenderers must state the completion date of the example provided.  For clarification, a ‘completed example’ refers to work specifically completed by the tenderer. If the completed work forms part of a larger activity (involving other organisations), the overall activity does not need to have been completed.  In order to pass the selection criteria, the tenderer’s response must address the following within their example(s):   * Demonstrate successfully delivering work on human error analysis * Give RSSB full confidence in the tenderer’s ability to successfully undertake work on human error analysis   The tenderer shall fail the selection criteria if it either fails to provide a short description of at least one completed example within the past five years that involved human error analysis; or the provided example fails to achieve ANY of the following:   * Demonstrate successfully delivering work on human error analysis * Give RSSB full confidence in the tenderer’s ability to successfully undertake work on human error analysis |

Award criteria scoring

Each of the criteria set out in the weighted award criteria are scored 0-5. The below gives an explanation of the scoring system used:

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| --- | --- |
| **Grade** | **Definition of grade** |
| 5 | An Excellent Tender Response that (where applicable):   * Addresses all aspects of the question in an informed and comprehensive manner; * Demonstrates a thorough understanding of what is being asked for; * Provides evidence of how that understanding can be applied in practice; * Offers full confidence that the Tenderer will deliver the service in full; * Addresses the majority of areas of doubt and uncertainty; and * Provides certain, unambiguous commitments or statements of intent that permit reliance through translation into contractual terms |
| 4 | A Good Tender Response that (where applicable):   * Addresses all aspects of the question and is generally of a good standard; * Demonstrates a good understanding of what is being asked for; * Provides a worked-up methodical approach; * Offers confidence that the Tenderer will deliver the service in full, with limited areas of doubt or uncertainty; * Addresses key areas of doubt and uncertainty; and * Provides commitments that can be translated well into contractual terms |
| 3 | A Satisfactory Tender Response that (where applicable):   * Addresses the majority of the question and is generally of a good standard but lacks substance or detail in some areas; * Demonstrates an understanding of what is being asked for; * Provides a satisfactory approach; * Offers a general level of confidence that the Tenderer will deliver the service (but with room for doubt in some areas); * Address some areas of doubt and uncertainty; and * Provides some commitments that can be translated well into contractual terms. |
| 2 | A Poor Tender Response that (where applicable):   * Addresses some of the question but either lacks relevant information and detail or lacks substance in a manner that would suggest the response is a “model answer”; * Demonstrates some understanding but with a lack of clarity in key areas; * Provides an approach which is not wholly appropriate or viable or lacks evidence; * Shows that the level of confidence that the supplier can deliver does not outweigh the doubt; * Does not address many areas of doubt and uncertainty; and * Does not offer sufficient commitment (with doubt as to the extent to which would translate into contractual terms). |
| 1 | An Unsatisfactory Tenderer response that (where applicable):   * Does not address the question or has omissions; * Lacks understanding in significant areas: * Provides an approach which has gaps or creates concerns; * Shows that the level of confidence that the supplier can deliver is low; * Creates uncertainty; and * Displays significant lack of commitment (with doubt as to the extent to which would translate into contractual terms) |
| 0 | An Unacceptable Tenderer response that (where applicable):   * Provides no response or omissions/oversights that prevent scoring; * Refuses to deliver the requirement; and * Creates concerns so significant that the response would be detrimental to the interests of RSSB |

|  |  |  |
| --- | --- | --- |
| **Award criteria** | **Detail and Evaluation Criteria** | **Weighting** |
| **W1** Summary of proposal  [Max 1 page] | Tenderers should concisely summarise key aspects of their proposal. The information will be used by RSSB to contextualise the tenderer’s response.  The tenderer’s response shall be evaluated on the following criteria within the maximum stated page limit:   * The tenderer has clearly outlined their understanding of the project’s objectives and outputs; * The tenderer has summarised their proposal (excluding any pricing information), outlining how it shall clearly address the project’s objectives and outputs. | N/A (For information only) |
| **W2** Supplier’s understanding and methodology  [Max 5 pages] | Tenderers should clearly outline their understanding and methodology to carry out the required works defined in the project specification.  The tenderer’s response shall be evaluated on the following criteria within the maximum stated page limit:   * The tenderer clearly demonstrates their understanding of each of the project objectives and outputs; * The tenderer establishes and presents a clear and appropriate methodology to address each of the project objectives and to deliver each of the project outputs, detailing how it shall commit to ensuring the project and outputs are delivered to a sufficient quality; * The tenderer presents a viable and practical approach to:   + Establish the current state of play     - Summarise the existing scenarios for train audible warnings, clarifying who are the recipients of the warning for these scenarios       * For the above scenarios, assign a risk category to the consequence of the recipient not receiving and acting on the warning     - Detail the historical change in rules relating to train audible warnings, providing rationale on changes and context on current rules   + Establish the characteristics of the optimal warning     - Clarify, for the recipient of the warning, the implied meaning (if any) of high, low or both horn tones and long or short blasts considering operational circumstances     - Define the characteristics of the optimal warning in all circumstances, including a specific focus on emergency situations (i.e., how should an urgent warning sound like compared to a less urgent warning)   + Evaluate what drivers could reasonably be expected to do     - Assess the task of sounding the horn from the driver’s perspective for specific operational scenarios     - Detail the human error risk analysis for the task of sounding the horn to understand the potential and consequences of not sounding the horn, using a different sound to the rules, or the potential to miss other crucial tasks while concentrating on the horn sounding   + Provide recommendations     - Propose on when and how the horn is sounded in relation to a stimulus to the driver, including whistle boards and potential consequences     - Provide clarity on the benefits and risks of the defined recommendations and the supporting evidence to make the change * The tenderer addresses the success criteria in order to ensure successful project delivery and increased likelihood of industry implementation | 30% |
| **W3** Tenderer’s experience and individual expertise  [Max 3 pages] | Tenderers should clearly outline how the organisation(s) experience and individual project team members expertise can directly address the required works defined in the project specification.  The tenderer’s response shall be evaluated on the following criteria within the maximum stated page limit:   * The tenderer outlines relevant activities undertaken by their organisation(s), that demonstrates suitable experience to meet the requirements of the project; * The tenderer demonstrates what capabilities individual project team members will bring and how this shall contribute to successfully meeting the project’s objectives and outputs. To support RSSB’s evaluation, the tenderer shall provide a one-page CV for each key project member within an appendix.   + **The tenderer must not provide any team members or CVs unless that person is expected to have a role in the project** | 20% |
| **W4** Project management: Planning and engagement  [Max 4 pages] | Tenderers should outline the processes and resources it proposes to use in order to fulfil RSSB’s requirements.  The tender’s response shall be evaluated on the following criteria:   * The tenderer provides adequate allocation of resource to successfully deliver outcomes to time, cost and quality[[10]](#footnote-10). * The tenderer provides a clear engagement plan.   To support RSSB’s evaluation, the tenderer shall submit a response that incorporates:   * + The RSSB supplied ‘Gantt Chart’ template, detailing key tasks and timeframes (in months)   + The RSSB supplied ‘Resource Table’ template, detailing tasks, resources, roles and effort (in days).   + The RSSB supplied ‘Stakeholder engagement’ template to:     - Detail which stakeholders / stakeholder groups it intends to engage with (this should be as specific as possible)     - Detail when and how engagement will be undertaken     - Detail what input it shall seek from stakeholders | 25% |
| **W5** Risks and opportunities | Using the RSSB supplied ‘Risk and Opportunity Register’ template, tenderers should detail what risks and opportunities[[11]](#footnote-11) are foreseen in the delivery of the project.  The tenderer’s response shall be evaluated on the following criteria within the maximum stated page limit:   * For each risk, the tenderer shall:   + Assign a unique reference number   + Provide a description of the risk   + Provide actions to address the probability and impact of the risk   + Provide a rating (1 – 5) of the impact of the mitigated risk on Time, Quality and Cost   + Provide a rating (1 – 5) of the likelihood of the mitigated risk occurring   + Provide the calculated mitigated risk rating (impact multiplied by probability)   + List actions to be taken should the risk be realised   + List the specific individual ultimately responsible for the risk control * For each opportunity, the tenderer shall:   + Assign a unique reference number   + Provide a description of the opportunity   + Detail the benefits of realising the opportunity on project Time, Quality and Cost   + List actions to be taken to support the opportunity being realised   + List the specific individual ultimately responsible for the opportunity   Please note: Tenderers must not use their own template for this section. | 10% |
| **W6** Cost of project | Tenderers should provide a fixed cost for the project and the associated cost break down.  The tender with the lowest total cost will receive 100% of the available weighted score (15%). Other tenderers will receive a pro-rated score relative to the lowest cost according to the following formula:   * Score of tender = lowest tender total cost / tender total cost x 15%. | 15% |

1. Procurement timeline

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| --- | --- |
|  | **Start Date** |
| Supplier engagement meeting | 6 December 2021; 09:00 – 10:30 hours |
| Request for proposal issued on Delta eSourcing | 6 January 2022 |
| Supplier clarification questions deadline | 1 February 2022; 15:00 hours |
| **Deadline for Submitting tenders** | 3 February 2022; 15:00 hours |
| Evaluation and moderation | 18 February 2022 |
| Estimated notification of award decision | w/c 28 February 2022 |
| Target contract commencement date | w/c 14 March 2022 |

Note: RSSB reserves the right to amend these dates as business requirements demand and will communicate any changes to tenderers.

1. Rail Accident Report, Track workers struck by a train at Margam, Neath Port Talbot, 3 July 2019, Rail Accident Investigation Branch, Report 11/2020, PG 77 (Crown copyright) [↑](#footnote-ref-1)
2. A summary of projects is included below:

   [**T1205 Relationship between horn test measurements and perceived sound  
   levels on the track**](https://www.rssb.co.uk/research-catalogue/CatalogueItem/T1205) – This project investigated the degradation of sound over   
   distance and the factors that affect it. This focused on track workers as the   
   ‘audience’, however, RSSB engaged with Network Rail to apply the analysis   
   to members of the public at level crossings (Network Rail project MSF313)

   **2021-SSH-002 Improving the effectiveness of the train horn in emergency   
   situations** – This technical feasibility project is evaluating the potential   
   to automate the horn sounding when the driver activates the emergency brake.  
   The project is in response to Recommendation 11 from the RAIB’s Margam   
   accident report (addressed to the Rail Delivery Group, in conjunction  
   with RSSB and Network Rail).

   A series of research projects into noise nuisance was undertaken over 2006 - 2009 after strong national and local political pressure on the impact of railway noise:

   [**T668 Research into the safety benefits provided by train horns at level crossings**](https://www.sparkrail.org/Lists/Records/DispForm.aspx?ID=532)

   [**T680 Mapping the extent of the train horn noise problem**](https://www.sparkrail.org/Lists/Records/DispForm.aspx?ID=542)

   [**T681 Understanding the problems that train horn noise causes to neighbours**](https://www.sparkrail.org/Lists/Records/DispForm.aspx?ID=543) [↑](#footnote-ref-2)
3. Other Rule Book modules RSSB will assess include:

   [GERM8000-traindriver ‘Train Driver Manual’](https://www.rssb.co.uk/standards-catalogue/CatalogueItem/germ8000-traindriver-iss-10)

   [GERM8000-trainoperationsstaff ‘Train Operations Staff Manual’](https://www.rssb.co.uk/standards-catalogue/CatalogueItem/germ8000-trainoperationsstaff-iss-10)

   [GERT8000-SS2 ‘Shunting’](https://www.rssb.co.uk/standards-catalogue/CatalogueItem/gert8000-ss2-iss-5-2)

   [GERT8000-TW5 ‘Preparation and movement of trains: Defective or isolated vehicles and on-train equipment’](https://www.rssb.co.uk/en/standards-catalogue/CatalogueItem/GERT8000-TW5-Iss-10)

   [GERT8000-G1 ‘General safety responsibilities and personal track safety for non-trackworkers’](https://www.rssb.co.uk/en/standards-catalogue/CatalogueItem/GERT8000-G1-Iss-8)

   [GERT8000-TW7 ‘Wrong-direction movements’](https://www.rssb.co.uk/en/standards-catalogue/CatalogueItem/GERT8000-TW7-Iss-8) [↑](#footnote-ref-3)
4. To be published in September 2023; in force in December 2023 [↑](#footnote-ref-4)
5. For clarity, there will be insufficient time for the project findings to feed into TW1 Issue 18 [↑](#footnote-ref-5)
6. For clarity, the supplier will have no involvement in drafting proposed changes to the Rule Book [↑](#footnote-ref-6)
7. Risk combines severity of consequence and likelihood of consequence [↑](#footnote-ref-7)
8. Up to the current Rule Book [↑](#footnote-ref-8)
9. To be held as a hybrid meeting, enabling attendees to join remotely [↑](#footnote-ref-9)
10. For clarity, ‘quality’ is defined as the delivery of robust outputs that successfully meet the project’s objectives [↑](#footnote-ref-10)
11. For clarity, ‘opportunities’ is defined as an upside, beneficial source of risk [↑](#footnote-ref-11)