national highways

GG 104 Requirements for safety risk assessment

Frequently asked questions

02 October 2023

Document history

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2	Rebrand as National Highways	SRR Team	Rob Mullen	Jo Goulding	18/01/2022
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Introduction

Welcome to an overview of frequently asked questions on GG 104 Requirements for safety risk assessment.

If you have any further questions, please contact:
SafetyGovernance@nationalhighways.co.uk

1. Glossary of terms and abbreviations

Acronym/ Initialism/ Term	Description
ALARP	As Low As Reasonably Practicable
DCO	Development Consent Order
ERIC	Eliminate, Reduce, Isolate and Control
FWI	Fatality Weighted Injuries
GG 104	GG 104 Requirements for safety risk assessment
HASAWA	Health And Safety At Work etc Act 1974
HS2	High Speed 2
LHA	Local Highway Authority
KSI	Killed or Seriously Injured
PCF	Project Control Framework
RAMS	Risk Assessment Method Statements
SRA	Safety Risk Assessment
SRR	Safety Risk Requirements
SFAIRP	So Far As Is Reasonably Practicable
SGAR	Stage Gate Assessment Review
SoW	Start of Works
SRN	Strategic Road Network

2. General questions

Q1: Why is GG 104 needed?

A1: In order to:

- Clarify what is required to comply with our legislative and statutory responsibilities for the safety of road users, road workers and other parties.
- Contribute to our home safe and well commitment – “No one should be harmed when travelling or working on the strategic road network”.
- Ensure appropriate safety risk management across National Highways.
- Assure that risks to all affected populations are considered during all phases of the asset management process, to reduce safety risk suitably and sufficiently.

Q2: Does GG 104 replace any other safety procedures or legislation?

A2: GG 104 is not a replacement for any other safety procedures, nor does it replace current health and safety legislation. GG 104 provides a framework for safety risk assessment and demonstrates that the organisation is meeting its legal obligations.

Q3: When should GG 104 be applied?

A3: The ideal time to apply GG 104 is at the outset when considering any activity, maximising the opportunity to eliminate safety risk. Repeat application should continue for the life of the activity when any changes materially affecting previous decisions are being considered.

Q4: Does GG 104 introduce any new requirements?

A4: GG 104 does not introduce any requirements that were not already detailed in legislation, standards, or good practice guidance.

3. Technical questions

Q5: Does GG 104 have priority over other National Highways guidance on decision making processes?

A5: GG 104 fully supports the decision-making processes advocated in other guidance used by National Highways. The first test should be compliance with and applicability to the specific activity. If this is unachievable or there is conflict between multiple standards, GG 104 can be used to help identify the appropriate solution by providing clarity on these processes, specifically in relation to safety risks presented, and via consultation through defined safety governance.

Q6: What are the key steps in GG 104?

A6: The following diagram illustrates the three key phases of the GG 104 framework, and the eight steps that constitute these:

The first five steps can be considered as preparation, followed by the assessment itself, and the final two as post implementation or initial assessment work. These phases/ steps of the framework are iterative/ cyclical as required.

Q7: How does the use of ERIC fit in with GG 104?

A7: ERIC is a hierarchy to help identify potential control measures/ mitigations for hazards and associated risks. This aligns with step 6 of GG 104, providing a framework for hazard and risk assessment, mitigation and evaluation. GG 104

provides additional criteria to help select appropriate control measures. It should also be noted that the latest hierarchy has been published in British Standard ISO 45,001, and defines a similar hierarchy, in brief:

- Elimination
- Substitution
- Engineering controls, reorganisation of work, or both
- Administrative controls
- Personal protective equipment (PPE)

Q8: Can a departure from standard be granted from GG 104?

A8: No. The requirements within GG 104 must be met. Departures from requirements are used to formalise the assessment, appraisal, and approvals for all instances where mandatory requirements are not implemented, such as where the constraints of a project do not permit a design to standards. This does not apply to GG 104.

Q9: Can I undertake a safety risk assessment (SRA) if the activity has never been done before?

A9: Yes. GG 104 provides a framework that is particularly useful for managing the safety risk posed by new and innovative approaches to an activity. It is not essential to have safety performance data relating to the activity. The step-by-step guide provides further advice. Specialist support can also be provided by the Safety Risk Requirements Team.

Q10: Does the GG 104 framework apply to a research task?

A10: Yes, if the research activity itself or the research could result in a direct or indirect change to activities that could have an impact on safety risk to any of the populations, then the framework applies.

Q11: Do all eight steps need to be done in full if it's a Type A issue?

A11: Yes. The requirements of the framework must be followed when undertaking any SRA in relation to any activity. GG 104 is proportionate to the activity; many of the type A business as usual hazards will be well understood with established risk control measures, and an SRA can be used to test if there are any changes required to the business-as-usual procedures. For Type A activities, the level of detail, complexity and effort required to undertake the SRA will be less than for Type B or C activities.

Q12: How does GG 104 apply to the management of safety risk when being undertaken by an external organisation?

A12: All external organisations, regardless of their undertaking are required to manage safety risk to fulfil GG 104 for any activity that impacts on the safety risk of the strategic road network (SRN). National Highways will assure that work undertaken is suitable and sufficient in this respect.

Nominated undertakers
A nominated undertaker is a body responsible for delivering a proposed scheme under the powers granted by a legal Bill. A nominated undertaker, such as HS2 (for which specific guidance is available) have automatic approval to undertake works on the strategic road network (SRN), as granted in accordance with Parliamentary regulations, and will incur associated costs. A Section 278 legal agreement (Highways Act 1980) with National Highways is not required in this respect. The undertaker are still restricted in that they must undertake those works in accordance with the Highway Authority i.e. they've been confirmed as being appropriately qualified to undertake works but need to consult with those affected.

Statutory undertakers
Statutory undertakers are typically companies responsible for electric, gas, telecommunications, and water supplies. They are legally allowed under this status to undertake certain works in or under the highway network, under the street works sections of the New Roads and Street Works Act 1991.

Third parties
Third parties are any other external organisation, other than nominated and statutory undertakers that propose works or development that impacts in some way on the strategic road network, and a Section 278 legal agreement (Highways Act 1980) with National Highways is required prior to works.

Safety risk management by an external organisation

External organisations must discharge their health and safety obligations under the Health and Safety at Work etc. Act (HASAWA) 1974, and in accordance with GG 104. National Highways will accept(/reject) safety risk assessments and evidence presented, but not approve or own those assessments. There would be an expectation that the undertaker was managing safety risk in the same way that National Highways do, aligning to GG 104. We would also expect to see documented, the safety risk impacts of their works on National Highways workers, users of the SRN and other parties. When the undertaker's works have taken the SRN out of normal operation, all populations safety risk would require to be managed as ALARP.

Where works are taking place by an undertaker adjacent to the SRN, the undertaker would be expected to undertake their own SRAs and manage their worker safety risk accordingly. National Highways would only require input to these safety risk

assessments if there could be an impact on the SRN, determined through consultation with National Highways.

For further information please see our Third Parties and Safety Governance Management Arrangement, via National Highways' corporate website.

4. Major Projects related questions

Q13: How do I know if GG 104 applies to my activity?

A13: It should be assumed that GG 104 always applies. The framework will help you to decide if your activity has an impact on safety risk and the level of rigour to be applied to the SRA.

Q14: Who is expected to undertake the SRA required by GG 104?

A14: The activity manager is responsible for ensuring the SRA is undertaken by a competent person(s). Depending on the nature of the activity, the activity manager may need to seek support in producing the documentation as they are encouraged to consult with both those undertaking the activity and those impacted by the activity. A self-assessment tool is available to ascertain and to guide on improving competence where necessary.

Q15: Can applying GG 104 result in costs and delay?

A15: The framework described in GG 104 is proportionate to the complexity of the activity. Following the framework should not result in disproportionate cost increases or delay. It is more likely to save money by applying at the earliest opportunity, ensuring safety issues are identified and addressed at an early stage, rather than later when abortive work might have been undertaken. Please also refer to Q1 in this document.

Q16: What if the outcome of the SRA necessitates changes to the activity which results in increased cost?

A16: Undertaking the SRA process in an appropriate manner highlights changes necessary to comply with National Highways' requirements, and support our aim that no one should be harmed when travelling or working on the strategic road network. Any cost increase will be justified by evaluating the safety risk against the criteria in the framework. Changes to an activity suggested in an SRA are likely to be necessary as they will help the organisation comply with the law.

Q17: Do Project Control Framework (PCF) products need to be updated for early start of works (SoW)?

A17: The project should confirm full details of the proposed works and that they are not permanent construction works. Updates are required to the relevant PCF safety

products with words to the effect that the SoW will not prejudice any of the detailed design process and that the project will include stakeholders and consultees to manage Stage 4 end and Stage 5 as appropriate.

An example of works being:

The SoW are off Network and detailed below:

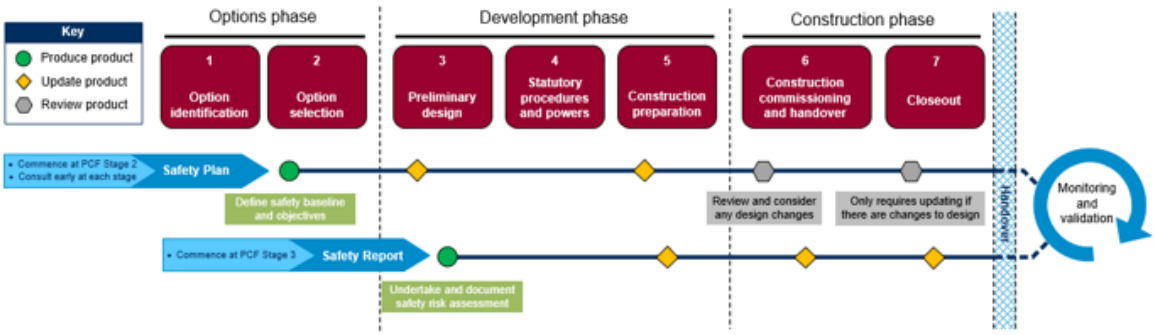
1. *Construction of site offices, with access.*
2. *Installation of newt fencing in agricultural fields in the vicinity of the new mainline link road for the project.*
3. *Trial holes for utilities (most likely to be located in fields, verges adjacent to the local road network, and possibly in verges to the M42).*
4. *Asset surveys on the local road network and the M42.*
5. *Construction of (and associated preparatory works for) a secondary access to a caravan park, a local authority road.*
6. *Construction of (and associated preparatory works for) a pedestrian overbridge over the A45, a local authority road.*
7. *Ground investigation on the M42 at gantry locations proposed for the project.*
8. *Demolition of a house which National Highways already owns.*

Q18: What approach is required for managing safety products in the Major Projects PCF stage management plan?

A18: There are a range of PCF products that have safety implications. The following products have a safety focus and are key to fulfilling GG 104 requirements for safety risk assessment, but this is not an exhaustive list:

Safety Plan
This should be produced early in the stage to set out how the project intends to manage the operational safety aspects of the scheme.

A guidance document is available to support template completion, including the following diagram:



A Safety Control Review Group (SCRG) will be required if the scheme categorisation required by GG104 Requirements for safety risk assessment show that the scheme is a type B or C.

Safety Report
The Safety Report should be written throughout the appropriate stage as the design progresses. Sign off/approval should be towards the end of the stage when the preliminary design is fixed.

A guidance document is available to support template completion.

Combined Safety Plan and Report
Please note that this combined template is intended for use by Smart Motorways Programme (SMP) Alliance projects only.

The Safety Plan and Safety Report guidance templates can be used to support completion of the combined template. Update and review activities and timeframes are required to meet that for both the Safety Plan and the Safety Report.

Road Safety Audit
The Safety Risk Requirements team only need to review the designer's response when the designer does not accept a finding or recommendation. We will focus particularly on the review of the safety risk assessment supporting the designer's response.

Q19: Are all Major Projects PCF safety products required for an interim Stage Gate Assessment Review (SGAR)?

A19: Both the Safety Plan and Safety Report products are deemed critical products, as per PCF designation.

The Safety Plan and Report can be deferred but given their status as above there would be a number of considerations to include, such as; what is the importance of the safety updates relevant to scheme progress; and if the interim is to provide a health check only. It should be noted that the Safety Plan is a start of stage product, and therefore less likely to be suitable and sufficient reason for its deferral. The PCF team have requirements to upload the papers for an SGAR, seven days before attendance. Any change to that should be by agreement with the PCF team.

Delaying an SGAR would eliminate the issues referred to above. It may introduce others for other reasons but unlikely to be any that relate to the products or PCF requirements. Time bound actions issued at SGAR have been used in the past as another way around such challenges. There may be other options too.

In any deviation from expected process, standards, guidance, and /or policy anywhere within the business a record of who, why and what would need to be retained by those making the decisions.

Q20: Section 4 'Conclusions' of the Safety Plan template requires evidence to demonstrate various project elements, but what should this constitute?

A20: Essentially it should provide a summary of the key points. I.e.: What information would be required to give someone who knows nothing about the project and does not have time to read the full report to tell them about what we plan to do on safety governance and safety risk assessment. The information provided should assure them that we know what we are doing and everything is under control. Or in other words; that we have a clear, realistic and proportionate plan in place for managing operational safety on this project.

So, for example:

Safety challenges have been identified: If you only have a few then repeat them. If you have a lot, then group them and just talk about them at that aggregated level rather than in detail (which can be in the main chapter about safety challenges).

Scheme categorisation: Repeat the main outcome e.g. scheme has been categorised as type A overall with 5 features categorise as A and one feature categorised as B, being XX.

Safety risk management and activities: Summary of what you are planning to do to identify, assess and mitigate hazards.

Affected populations: List them, perhaps highlighting any specific road user populations that are particularly relevant e.g. this could be WCHRs, motorcyclists or HGVs

Safety baselines and safety objectives: It is worth stating/repeating what they are. Such as, the safety baseline is the existing road. The safety objective for road workers is to manage risk to be ALARP. The safety risk for road users is to be better than the baseline. This will be typically measured using FWI numbers and FWI rates.

Safety governance: Again, summarise what you have or will be putting in place based on the information in the main chapter.

Q21: When a project plans to de-trunk a section of SRN, how should that carriageway be treated?

A21: The project shall agree with the Local Highway Authority (LHA) the de-trunking approach and process. Any safety concerns and agreements on approach will be decided through the Development Consent Order (DCO) process.

The Safety Risk Requirements Team do not expect to be consulted on design decisions for de-trunked sections of road, and don't expect there to be any specific safety objectives or monitoring requirements. However, de-trunking may impact on

the strategic road network and if identified this impact must be managed and monitored. There's a recognition that there may be safety challenges despite the de-trunked section ordinarily being to a high design standard relative to LHA road network, and that these should be discussed with the LHA to achieve their acceptance of outcomes for handover. If safety objectives and monitoring were defined and implemented for de-trunked sections of a project, then any associated issues identified would invariably be too late for National Highways to address, being post-handover, unless a bespoke approach was agreed by exception.

Q22: Are the SRR team required to provide signatures on Major Projects PCF safety products, when accepted?

A22: The SRR team are not signatories for any PCF products, as previously agreed with the PCF team. The SRR team provide input and assurance through their consultee/ reviewer role, and templated safety product sign off sheets reflect this non-requirement.

5. Assessment and analysis questions

Q23: How do I ensure the safety objectives in the SRA are appropriate?

A23: Each business area in National Highways maintains their own governance procedures that provide advice on the setting of safety objectives. The selected safety objective for each population will be a result of consultation with relevant stakeholders, consideration of National Highways policy and health and safety legislation.

Q24: Do the safety baselines and the safety objectives need to be quantifiable?

A24: Essentially, the best available data must be used. Ordinarily the safety baselines will be quantifiable to enable the safety risk implications of an activity to be evaluated, through comparison against quantified objectives. This data may be qualitative or a proxy measure, that still allows for a quantitative comparison. In cases where even these aren't available, a well-reasoned argument using professional judgement and supported by appropriate risk analysis is key.

Q25: How stretching should safety objectives be?

A25: Project safety objectives are considered and defined on a case-by-case basis. However, it's acknowledged that they can be difficult to demonstrate and can be significantly impacted by one killed or seriously injured (KSI) incident. Theoretical safety risk improvements can bear limited resemblance to actual safety data. It's important to be cognisant of what's in the gift of engineering to achieve in terms of safety, particularly if strategic objectives aren't safety focused. However, it should be easy to achieve for instance an average type 2 rural dual carriageway baseline when most of that national network is over fifty years old.

The key is to focus the mind of the author of the safety products on achieving/ maintaining levels of safety risk improvement and therefore using mitigations accordingly, with a transparent and justified thought and decision-making process.

We wouldn't expect illegal/ human error incidents to be discounted as multiple causations will invariably present in these incidents occurring. However, explanatory text around such incidents can be used to qualitatively justify an overall maintenance or improvement of safety risk aligned to safety baselines and objectives.

Q26: How does an SRA show that a control measure is reasonably required?

A26: The SRA should demonstrate that the benefits of any proposed control measures are not grossly disproportionate, considering the benefit to the activity in question and the benefits in committing the same funding elsewhere in the organisation. It is assumed that a mitigation(s) will be implemented unless it is grossly disproportionate.

Q27: Can road worker safety risk be increased if compensated by improving road user safety?

A27: In some circumstances. An increase in worker safety risk would only be justifiable if this remained within controlled, acceptable limits with control measures to demonstrate ALARP. In addition, the benefit to another population or sub-population must be significantly greater. The same is true of a proposed increase in road user safety risk justified by improving road worker safety. Transfer of a safety risk dis-benefit should only occur between populations affected by the same hazard, and where risks to all populations remain tolerable.

It's also important to recognise that National Highways has a low corporate, operational risk appetite where our actions will potentially compromise the safety of our customers or workers. Therefore, to support any such undertaking a well-reasoned argument would be required, escalated appropriately through the Business by application of our safety governance requirements to provide adequate management review and assurance.

Q28: When evaluating safety risk how do I know what unacceptable risk and tolerable risk is for my activity?

A28: The concept of tolerability is described within the HSE document R2P2 Reducing Risks and Protecting People. This document contains boundaries that describe risks as unacceptable, tolerable and broadly acceptable; unacceptable because the benefits secured do not warrant the risk being taken and broadly acceptable because the risk is so low that there is no discernible benefit from reducing it further.

Q29: Does GG 104 allow safety risk to increase for the activity?

A29: For an activity the SRA must demonstrate that the safety risk criteria and safety objective can be met. The SRA might show risk has increased, however any increase in risk must be justified in line with the requirements stated within GG 104. Also, see question 23 with respect to setting safety objectives. This may involve an increase in risk for the provision of a new activity, but that has safety risk managed ALARP/ as reasonably required and is therefore justified to deliver an additional customer benefit(s).

6. Other information

Q30: What other guidance is available to help using GG 104?

A30: The following resources are available:

- GG 104 self-assessment tool
- Step-by-step guide
- National Highways Requirements for Safety Risk Assessment e-learning
- Various internal and external, online content, including via National Highways' corporate website.
- Business specific governance procedures
- Safety Risk Requirements team support. Please contact: SafetyGovernance@nationalhighways.co.uk

Q31: Is it possible to obtain worked examples of how to apply GG 104:

A31: Reliance on worked examples is not a preferred method for undertaking SRA due to the varying nature of safety risk by activity. A step-by-step guide has been developed to help those undertaking or reviewing an SRA.

Q32: If the activity is a highways scheme, does a road safety audit and an SRA need to be undertaken?

A31: Yes, the road safety audit process is independent of undertaking an SRA and primarily focuses on road user safety, whereas GG 104 considers the safety risk to all exposed populations.

Q33: I already have risk assessments for the proposed activity, will these do?

A32: GG 104 is to be applied when undertaking any activity that does or can have an impact on safety on National Highways' motorway and all-purpose trunk roads, either directly or indirectly, and therefore, should be considered in all cases. The review of existing risk assessments should include an update to ensure compliance with GG 104, this exercise will likely involve transposing or amending content. This exercise should include a review of controls to ensure that risks are managed in accordance with the principles of ALARP. Documents such as Risk Assessment Method Statements (RAMS) or hazard elimination schedules may contribute to a GG 104 compliant SRA, but are insufficient as standalone assessments of risk.

Q34: If I don't have any departures from standard in relation to my project, then do I need to undertake an SRA?

A34: Yes, every activity that has the potential to change the safety risk to any exposed population needs to be risk assessed in line with the GG 104 framework.

Q35: If a departure from standard is being submitted, do I need to undertake an SRA?

A35: Yes, GG 104 should be used from the outset to support the development of a departure from standard, an SRA is a mandatory document to be submitted alongside one.

Q36: If I am undertaking a road safety scheme, do I need to undertake an SRA?

Q36: Yes. Whilst a road safety scheme may target improvements to a particular outcome this does not guarantee a scheme that is compliant with GG 104.