

# SERBIA RAIL INFRASTRUCTURE URGENT RENEWALS

## Non-Technical Summary (NTS)



July 2024

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## List of Abbreviations

EIA	Environmental Impact Assessment
E&S	Environmental and Social
EBRD	European Bank for Reconstruction and Development
ESMP	Environmental and Social Management Plan
EU	European Union
NTS	Non-technical Summary
OHS	Occupational Health and Safety
O&M	Operation and Maintenance
PIU	Project Implementation Unit
RoS	Republic of Serbia
SEP	Stakeholder Engagement Plan
SRI	Serbian Railways Infrastructure
TA	Technical Assistance

# 1 Introduction

**Project Background.** The European Bank for Reconstruction and Development (“EBRD”) is considering providing financing to the Republic of Serbia (“RoS”) for the **Serbia Rail Infrastructure – Urgent Renewals Project**. These funds will be used to **purchase materials for the regular maintenance of various sections of the railway network**, covering a total length of approx. 1,090 km (the "Project"). The Project is aimed at enhancing the quality of rail infrastructure with a particular emphasis on improving operational speed and reliability, as well as the safety of passenger and freight rail services by facilitating the prevention of derailments.

The Project is categorised as 'B'<sup>1</sup> in accordance with the EBRD Environmental and Social (E&S) Policy (2019)<sup>2</sup>.

**Project Benefits.** The proposed Project is expected to bring several E&S benefits:

- > reducing the risk of derailments and accidents, thereby enhancing rail transportation safety and minimising environmental contamination,
- > reducing fire risks by properly disposing of old contaminated wooden sleepers,
- > improving connectivity and mobility for communities, leading to more reliable services and greater passenger satisfaction,
- > facilitating faster emergency response times and increasing safety at road and rail crossings,
- > boosting local economies by enhancing logistics and goods transportation,
- > reducing emissions through more efficient train operations and a potential shift from road to rail transport.

**Legal Requirements.** The Project aligns with multiple national strategic objectives focused on the development and enhancement of Serbia's railway system. The *Law on Railway* and the *Rulebook on Special Types of Works*<sup>3</sup> define regular maintenance activities as those that do not require approval from the competent authority. Therefore, SRI is not legally obligated to obtain a Construction Permit or Approval for Executing Maintenance Works from the relevant institution for the Project's activities. According to the national *Regulation on the Content, Manner, and Procedure of Preparation and Control of Technical Documentation*, upon completion of the maintenance works, and in case of changes to railway geometry and/or terrain level, the Contractor will be obliged to prepare the As-Built Design document.

According to the *Law on Environmental Impact Assessment (EIA)*, an EIA is not required for the Project since the works are considered regular maintenance.

This document is the Non-technical Summary (NTS) of the E&S Assessment of the Project carried out in the period April-June 2024. The NTS provides a Project summary in non-technical language covering the Project background and description, legal requirements, E&S impacts with mitigation measures needed to structure the Project to meet the EBRD ESP 2019, and the disclosure and communication requirements of the Project. This NTS is part of the Project’s disclosure package developed during the E&S Assessment, together with the Stakeholder Engagement Plan (SEP).

<sup>1</sup> A project is categorised “B” when its potential environmental and/or social impacts are typically site-specific, and/or readily identified and addressed through effective mitigation measures.

<sup>2</sup> EBRD’s ESP is available at: <https://www.ebrd.com/news/publications/policies/environmental-and-social-policy-esp.html>

<sup>3</sup> The full name of the Rulebook is: Rulebook on special types of construction and special types of work for which it is not necessary to obtain the approval of the competent authority, as well as the type of construction that are built and works performed based on the decision on approval for the execution of works, as well as the scope, content and control of technical documentation which is attached to the request and the procedure carried out by the competent authority

## 2 Project Description

### 2.1 Project Scope

The Project is planned to be implemented in **six lots** for the purpose of purchase of the following materials:

- > **LOT 1:** Rails and concrete sleepers with elastic fastenings
- > **LOT 2:** Steel switch parts with concrete sleepers, steel switch (set), and rail fastenings
- > **LOT 3:** Wooden sleepers, wooden switch sleepers, and bridge wooden sleepers
- > **LOT 4:** Limestone and eruptive ballast
- > **LOT 5:** Rubber level crossing panels
- > **LOT 6:** Other materials

All planned railway works fall under **regular maintenance activities** (e.g., replacement of rails, sleepers, switches). Although all works included in this Project are considered **small-scale construction activities**, maintenance activities can be divided into two groups:

#### More extensive maintenance activities

- > These works involve the **complete replacement of the upper machinery**, including rails, sleepers, ballast, track accessories, switches and fastenings.
- > The sections where more extensive maintenance activities will be performed are marked with an asterisk (\*) in the table below.
- > These works will be carried out on **approx. 120 km of the railway network**, and based on SRI's previous experience, can last up to 9 months.

#### Less extensive maintenance activities

- > These works involve gravel supplement/replenishment, individual replacement of rails, sleepers, switches, and other track accessories.
- > Works will be carried out on **approx. 970 km of the railway network**, and based on SRI's previous experience, can be conducted 'on the fly' or last up to several days.

*Note: The replacement of wooden sleepers on bridges will be carried out using special machines that will lift the old sleepers and install new ones. These works are classified as 'less extensive maintenance activities'.*

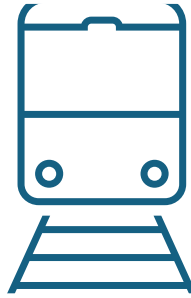
## Time schedule



Once the contract with the Contractor is signed, SRI will purchase the materials, with an estimated **delivery time of 6 to 12 months**.

The **duration of works** depends on the type of works, with the most complex works **estimated to take 12 months**.

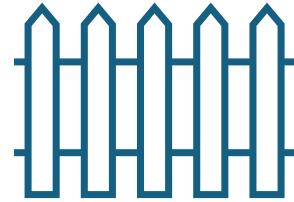
## Traffic interruption



**Railway traffic will only be interrupted during the day.** SRI will notify "Srbija Voz" and "Srbija Kargo", which use the railway infrastructure for passenger and freight transport, about the scheduled interruptions.

Both companies will adjust their operations to accommodate the expected interruptions.

## Fencing



For sections to be maintained with the aim of increasing speed, the expected speed increase after the Project implementation is between 20-40 km/h. As no section will exceed a speed limit of 120 km/h, **no fence** will be installed along the railway line within this Project.

The sections included in this Project, along with the associated planned maintenance activities, are presented in Table 1 below. Please note that LOT 6 encompasses the procurement of materials necessary for SRI's operations. Alongside acquiring materials (such as signalling cables, wheel detectors) for the sections undergoing maintenance as indicated in the table below, this LOT also covers the procurement of other auxiliary equipment (such as hard drives, storage devices, printers, computers) for the SRI offices (such as control rooms).

Table 1: The list of the railway network sections included in the Project scope

No. railway	Railway	Section	LOT 1	LOT 2	LOT 3	LOT 4	LOT 5	LOT 6
115*	Shunting station Belgrade “B” – Rasp. “R” – Rasp. “A” – (Resnik)	Shunting station Belgrade “B” – Rasp. “R” – Rasp. “A”	✓	✓	✓	✓		✓
117*	Shunting station Belgrade “A” – Rasp. “T” – Rakovica	Rasp. “T” – Rakovica	✓	✓		✓		✓
103	(Rakovica) Jajinci – Mala Krsna – Velika Plana	Mala Krsna – Velika Plana				✓		✓
107	Belgrade Center – Pancevo – Vrsac	Belgrade Center – Pancevo – Vrsac		✓	✓	✓	✓	✓
108	Resnik – Pozega – Vrbnica – state border	Valjevo – Pozega – Vrbnica	✓	✓	✓	✓	✓	✓
109	Lapovo – Kraljevo	Lapovo – Kraljevo	✓	✓	✓	✓	✓	
211	Ruma – Sabac – Rasp. Donja Borina – state border – (Zvornik Novi)	Ruma – Sabac	✓	✓	✓	✓	✓	
211*	Ruma – Sabac – Rasp. Donja Borina – state border – (Zvornik Novi)	Station Sabac	✓	✓	✓			
212*	(Platicevo) – Rasput. “1” – Rasput. “3” – (Stitar)	(Platicevo) – Rasput. “1” – Rasput. “3” – (Stitar) – Brasina	✓	✓	✓	✓		
216	Smederevo – Mala Krsna	Smederevo – Mala Krsna		✓				✓
218	Mala Krsna – Bor – Rasputnica “2” – (Vrazognac)	Mala Krsna – Pozarevac – Zvizd – Majdanpek	✓	✓	✓	✓	✓	✓
218*	Mala Krsna – Bor – Rasputnica “2” – (Vrazognac)	Majdanpek – Leskovo – Vrazognac	✓	✓	✓	✓	✓	
219*	(Nis) – Crveni Krst – Zajecar – Prahovo – state border	Crveni Krst – Knjazevac – Grljan – Zajecar – Vrazognac	✓	✓	✓	✓	✓	✓
219*	(Nis) – Crveni Krst – Zajecar – Prahovo – state border	Trnavac – Tabakovac	✓	✓	✓	✓		
219*	(Nis) – Crveni Krst – Zajecar – Prahovo – state border	Tabakovac – Prahovo	✓	✓	✓	✓	✓	
202*	Pancevo – Zrenjanin – Kikinda	Pancevo – Zrenjanin – Kikinda – Banatsko Milosevo – Senta	✓	✓	✓	✓	✓	
110	Subotica – Bogojevo – state border	Subotica – Bogojevo – state border Serbia-Croatia		✓	✓	✓		
207*	Novi Sad – Odzaci – Bogojevo	Sajlovo – Futog – Bogojevo	✓	✓	✓	✓		
208*	(N.Sad) – Rasp.Sajlovo – R.Sancevi – Orlovat staj	Novi Sad Ranzirna – Sajlovo – Rimski Sancevi – Orlovat	✓	✓	✓	✓	✓	

The map of the railway network in Serbia, depicting sections within the Project, divided by main and regional railway lines, is shown in Figure 1 below.

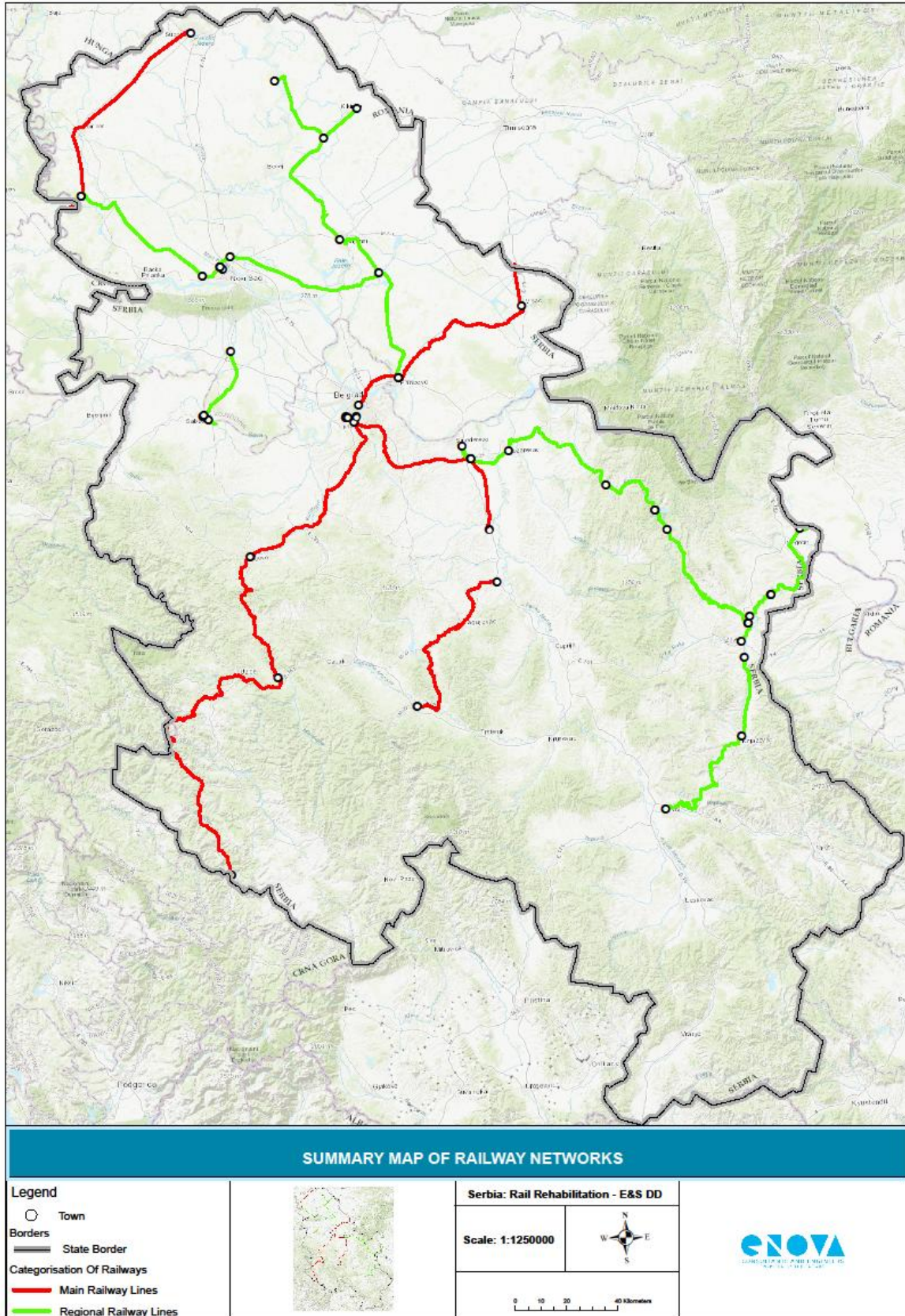


Figure 1: Railway network included in the Project scope (categorised by main and regional railway lines)

The following figures illustrate the layout of the locations where maintenance activities will take place.



*Figure 2: Maintained track at the railway section Lukicevo – Zrenjanin Fabrika (outside of the Project scope) which connects to the railway no. 208 which is part of the Project (Source: Enova)*



*Figure 3: Titel railway bridge across the Tisa River (railway no. 208, chainage 52+279 to 52+679) planned for maintenance as part of the Project (Source: Enova)*

The E&S surroundings where the railway rehabilitation activities will take place are primarily characterised by low vegetation, with the railway line often passing through agricultural areas and orchards. The railway crosses watercourses at several locations and some sections are near potential Sites of Community Importance, Potential Special Protection Area or potential Natura 2000 sites. In populated areas, the railway is close to houses, with the nearest being approx. 5 m away. Additionally, there are community facilities such as stadiums, cemeteries, and churches along the railway line.

## 2.2 Project Rationale

The majority of railways have not been regularly maintained for decades, with most being reconstructed before the 1980s. As a result, the railways are in poor condition which has increased the risk of derailment, reduced the operational speed and quality of travel and created transport ‘bottle necks’ to industrial facilities which rely on the freight rail transport.

The Project sections have been selected on the basis of urgency for improving the current deteriorated condition of the infrastructure and increase the safety and quality of passenger and freight rail service.



## 2.3 Project Implementation Arrangements

A Project Implementation Unit (PIU) responsible for Project management and monitoring will be established within SRI.

The maintenance activities will be performed by both SRI itself (for less complex works) and by third parties (for more complex works and those requiring specialised equipment). Up to 10 workers are expected to be present at each site maintained by SRI.

### 3 Environmental and Social Impacts/Risks and Mitigation Measures

As part of the E&S Assessment of the Project, a detailed analysis of potential impacts and risks for the operation and maintenance (O&M) phase was conducted. Based on the identified risks and impacts, mitigation measures were proposed and included in the Project's **Environmental and Social Management Plan (ESMP)**. SRI will be responsible for implementing an ESMP. In the case of engaging a Contractor, SRI will delegate the responsibility for implementing the ESMP measures to the Contractor.

Topic	Potential impacts and risks	Mitigation measures
<b>Water</b>	<p>During the <u>maintenance phase</u>, potential negative impacts are related to: (i) the release of fuels, oils, or chemicals from maintenance activities, mechanisation and equipment, (ii) the discharge of sanitary wastewater from temporary mobile toilets for workers, and (iii) the discharge of wastewater during works and maintenance of mechanisation and equipment at worksites.</p> <p>During <u>regular railway operation activities</u>, contamination of surrounding agricultural areas and orchards may occur due to the application of herbicides and other hazardous substances used for maintenance activities (such as paints, de-icing fluids, and track grease) and chemical releases from trucks resulting from derailments.</p>	To minimise potential impacts in the O&M phase, SRI and/or Contractor to implement specific measures for <u>hazardous substance management</u> (e.g., oils, lubricants and other hazardous substances used during maintenance activities to be stored in special closed and leak-proof containers (or boxes); regularly visual monitor of river quality during maintenance activities on bridges; usage of biodegradable and less toxic herbicides and hazardous substances; the areas where the use of herbicides is prohibited to be defined (e.g., in areas of sensitive vegetation, zones near the rivers); conduction of water and/or soil quality monitoring in case of noticeable turbidity and deterioration of water quality, as well as deterioration of soil quality).
<b>Soil and Land</b>	<p>The quality of soil during <u>maintenance phase</u> might be impacted by accidental situations, such as (i) the release of fuels, oils, or chemicals from maintenance activities, mechanisation and equipment, (ii) the discharge of sanitary wastewater from temporary mobile toilets for workers, and (iii) the discharge of wastewater during works and maintenance of mechanisation and equipment at worksites.</p> <p>During the <u>regular railway operation activities</u> contamination of surrounding agricultural areas and orchards can be expected due to application of herbicides and other hazardous substances used for maintenance activities (paints, de-icing fluids, track grease); and inappropriate long-term (mainly hazardous) waste disposal practices.</p>	SRI and/or Contractor to implement measures for <u>hazardous substance management</u> , as defined under <i>Water</i> issue above.
<b>Climate and Climate Change</b>	<p>The Project implementation will result in GHG emissions savings from the modal shift from road to rail for both passenger and freight traffic, with estimated savings of 20%.</p> <p>Regarding the Project alignment with Paris Agreement adaptation goals, a review of the national rulebooks and in-house procedures established that current arrangements are sufficiently detailed from a technical and operational perspective. However, the current arrangements have yet to address climate change effects on the railway infrastructure.</p>	The proposed Project could help the SRI with a dedicated technical assistance (TA) support in relation to climate change effects and their incorporation in the SRI asset management setup. The work scope includes understanding the current baseline for asset management in SRI, assessing national frameworks and data availability on weather and climate change, building SRI's capability to incorporate climate change effects into decision-making, conducting vulnerability assessments, recommending updates to maintenance procedures, aligning with national hazard identification procedures, developing a tailored roadmap for incorporating weather-related risks, and identifying necessary resources for monitoring and interpreting these risks.
<b>Noise and Vibration</b>	<p>During <u>maintenance activities</u>, the degree of noise and vibration impacts on nearby residential, business, and community facilities will depend on the type and scope of works, the equipment used, and the proximity to sensitive properties. These impacts will be spatially limited and short-term compared to the overall lifespan of the Project and the regular noise and vibrations from train traffic.</p>	SRI and/or Contractor to implement specific measures for <u>noise and vibration management</u> (e.g., maintenance work hours to be limited from 06:00 to 22:00; all equipment and mechanisation used for maintenance activities to comply with the requirements of EU Directive 2000/14/EC (must have CE marking); equipment and mechanisation to be maintained in good working conditions; grievance mechanisms to be

Topic	Potential impacts and risks	Mitigation measures
	<p>During the <u>railway operation phase</u>, continuous train operations inevitably lead to elevated noise levels, especially during nighttime, potentially causing sleep disturbances and annoyance for residents. Train movements generate vibrations that can be felt in nearby facilities, potentially causing discomfort over time.</p>	<p>established to respond to concerns and resolve any potential noise complaints and adequately communicated to local residents; in case of noise level exceedance, SRI to implement mitigation measures to reduce negative impacts on the local population – installation of noise barriers and/or replacing doors and windows with ones offering better sound insulation and adequately soundproofing facades).</p>
<p><b>Biological and Ecological Resources</b></p>	<p><u>Maintenance works</u> are expected to create minor disturbance to fauna inhabiting habitats along the railway due to noise, vibration and light pollution, as well as cause potential mortality of wildlife, predominantly through collisions with machinery or destruction of nests and burrows. As previously mentioned under <i>Water and Soil and Land</i>, the water and soil quality and, consequentially, the biodiversity found in terrestrial and aquatic ecosystems along the railway may be impacted by accidental pollution.</p> <p>Railways are often the corridors facilitating the spread of invasive species. On the other hand, vegetation control measures implemented during <u>railway operation</u> can help control the spread of invasive species, which can otherwise outcompete autochthonous flora and fauna.</p>	<p>SRI and/or Contractor to implement specific measures for <u>biodiversity management</u> (e.g., perform daily walkovers of the section(s) subject to maintenance activities and report on presence of slow-moving fauna such as tortoises or any fauna present in larger numbers so that they can be allowed to escape; if bird nests, snake or animal eggs are found, Institute for Nature Conservation of Serbia or Vojvodina Province (depending on location of maintenance works) must be informed of the findings and engaged to perform relocation (if necessary); waste must not be disposed within nationally designated sites, candidate Emerald sites, potential Sites of Community Importance or Potential Special Protection Area including Important Bird Areas).</p>
<p><b>Materials and Waste</b></p>	<p><u>Maintenance activities</u> will generate various types of waste, including wooden sleepers characterised as hazardous waste, concrete sleepers (in smaller quantities compared to wooden sleepers), ballast which can also be classified as hazardous if it has been in contact with oil and lubricants, waste oil, lubricants, and fuel, as well as significant quantities of waste rails/switches (metal waste), waste cables, and electrical equipment. It is also expected that small amounts of municipal and packaging waste will be generated during maintenance activities.</p>	<p>SRI to update and continue to implement its three-year <u>Waste Management Plan</u> in accordance with the national <i>Law on Waste Management</i>. The updated Plan will include measures such as: safe, isolated storage area for wooden sleepers, away from houses, should be designated; storage area should be fenced, and signs indicating restricted access zones to be installed; sleepers must be stored in blocks with a firebreak distance between them and should not be located near vegetation; SRI to allocate a sufficient budget to transport the already removed and inadequately disposed wooden sleepers along the railway line; waste truck ballast to be classified according to the Serbian and European Waste Catalogue; used oil to be sent for recycling to Nisar Zrenjanin for delivery to Serbian cement plants for co-incineration.</p>
<p><b>Occupational Health and Safety (OHS)</b></p>	<p>The <u>regular maintenance</u> of upper rail systems involves various operations that pose significant OHS risks to workers and nearby communities. These include physical injuries from heavy machinery and manual material handling, hearing damage due to high noise levels from machinery and passing trains, and respiratory health issues from dust and particulate matter. Chemical hazards arise from exposure to substances used in treating wooden sleepers, while the storage of these treated sleepers also poses a fire risk. Ergonomic risks from repetitive tasks and improper lifting techniques can lead to musculoskeletal disorders. Additionally, maintenance work involving electrical systems presents risks of shock and electrocution, and uneven surfaces, debris, and adverse weather conditions increase the likelihood of slips, trips, and falls.</p>	<p>SRI and/or Contractor to implement specific measures for <u>OHS management</u> (e.g., trainings on machinery operation, enforce the use of personal protective equipment such as hard hats, gloves, and safety boots; usage of dust suppression techniques, such as water spraying, provide respiratory protection (e.g., masks), and ensure proper ventilation in enclosed workspaces; de-energizing of electrical systems before maintenance and usage of insulated tools; worksite maintenance).</p>
<p><b>Community Health and Safety</b></p>	<p>Potential negative impacts during <u>railway maintenance and operation</u> include the need to store old contaminated wooden sleepers, which could increase traffic and machinery activity, posing a fire risk due to the chemical treatment and dryness of the wood. Rail welding may pose a fire risk to nearby agricultural crops. Trespassing on construction sites where specialised railway machinery is used poses significant risks to locals. Additionally, there are concerns about gender-based violence and harassment, as well as noise and vibration from the works that could affect nearby houses and facilities.</p>	<p>SRI and/or Contractor to implement several measures to ensure <u>community health and safety</u> during railway maintenance (e.g., a designated isolated storage area to be established for wooden sleepers, situated away from residences and equipped with easy fire truck access, strict fire safety protocols, and maintained firefighting equipment; during welding, strict adherence to fire prevention measures outlined in the <i>Rulebook on Fire Prevention at Temporary Welding Sites</i> to be enforced; information boards at construction sites that will display contact details for addressing third-party concerns to be installed;</p>

Topic	Potential impacts and risks	Mitigation measures
<b>Labour and Working Conditions</b>	<p>For <u>maintenance works</u> to be carried out by external contractors, there are some risks usually associated with the nature of the construction industry (e.g., undeclared work, long hours of work, unavailability of a workers' grievance mechanism). These risks are not expected for SRI employees to be engaged in these maintenance works because SRI is a well-established public company with sound labour procedures.</p> <p>Worker accommodation may be necessary during maintenance activities.</p>	<p>train workers about codes of conduct and prevention of gender-based violence and harassment; development of grievance management).</p> <p>PIU to require from Contractor: (i) to submit a statement of Contractor's compliance with all national labour regulations and commitment to adhere to these throughout all works, (ii) to establish a workers' grievance mechanism; (iii) to ensure Contractor's performance is monitored by SRI's internal supervision.</p> <p>If worker accommodation is needed, Contractor or SRI to develop and implement a Workers' Accommodation Management.</p>

## 4 Disclosure and Communication

A detailed **Stakeholder Engagement Plan (SEP)** has been developed for this Project, outlining the stakeholder engagement and communication programme, including access to the Project’s Grievance Mechanism. A contact person appointed by SRI will be specifically responsible for implementation of this SEP, and the contact details are provided in the SEP.

As elaborated in the SEP, SRI will undertake **the following disclosure and consultation activities:**

1. Disclose the following documents:
  - > the SEP;
  - > the Public Grievance Form (Appendix 1 of SEP); and
  - > this NTS.

The documents will be publicly available in Serbian and English language in electronic and printed forms at:

Name of organisation	Website	Address
SRI	<a href="https://www.infrazs.rs">https://www.infrazs.rs</a>	Nemanjina 6, Belgrade, Serbia
Ministry of Construction, Transport and Infrastructure	<a href="https://www.mgsi.gov.rs">https://www.mgsi.gov.rs</a>	Nemanjina 22-26, Belgrade, Serbia

2. SRI will place notifications with information on the location, extent, timing and duration of planned works and contact information for third-party concerns at least 15 days in advance at:
  - > railway stations between which maintenance works will be carried out, and
  - > on buildings of local self-government units or community offices with administrative jurisdiction over the area undergoing railway maintenance works.

Additionally, SRI will provide media with national frequency and/or daily newspapers distributed throughout the entire territory of the RoS with a written statement containing information on the location, extent, timing, and duration of planned works at least 15 days prior to the commencement of the initial maintenance works.

SRI will also inform the operators of rail passenger and/or cargo transport (Srbija Voz, Srbija Cargo and private companies for railway transport) in writing at least 7-10 days prior to the start of works.

3. SRI will implement the Project-specific grievance mechanism to ensure that it is responsive to any concerns and complaints particularly from affected stakeholders and communities. SRI will record all grievances in a Grievance Registry.
4. The results of the stakeholder engagement process will be included in E&S Reports to EBRD which will be prepared by SRI, summarising E&S impacts, health and safety performance, disclosure and consultation performance and implementation of the external grievance mechanism.