

This is the updated ESIA revision appraisal in 2020

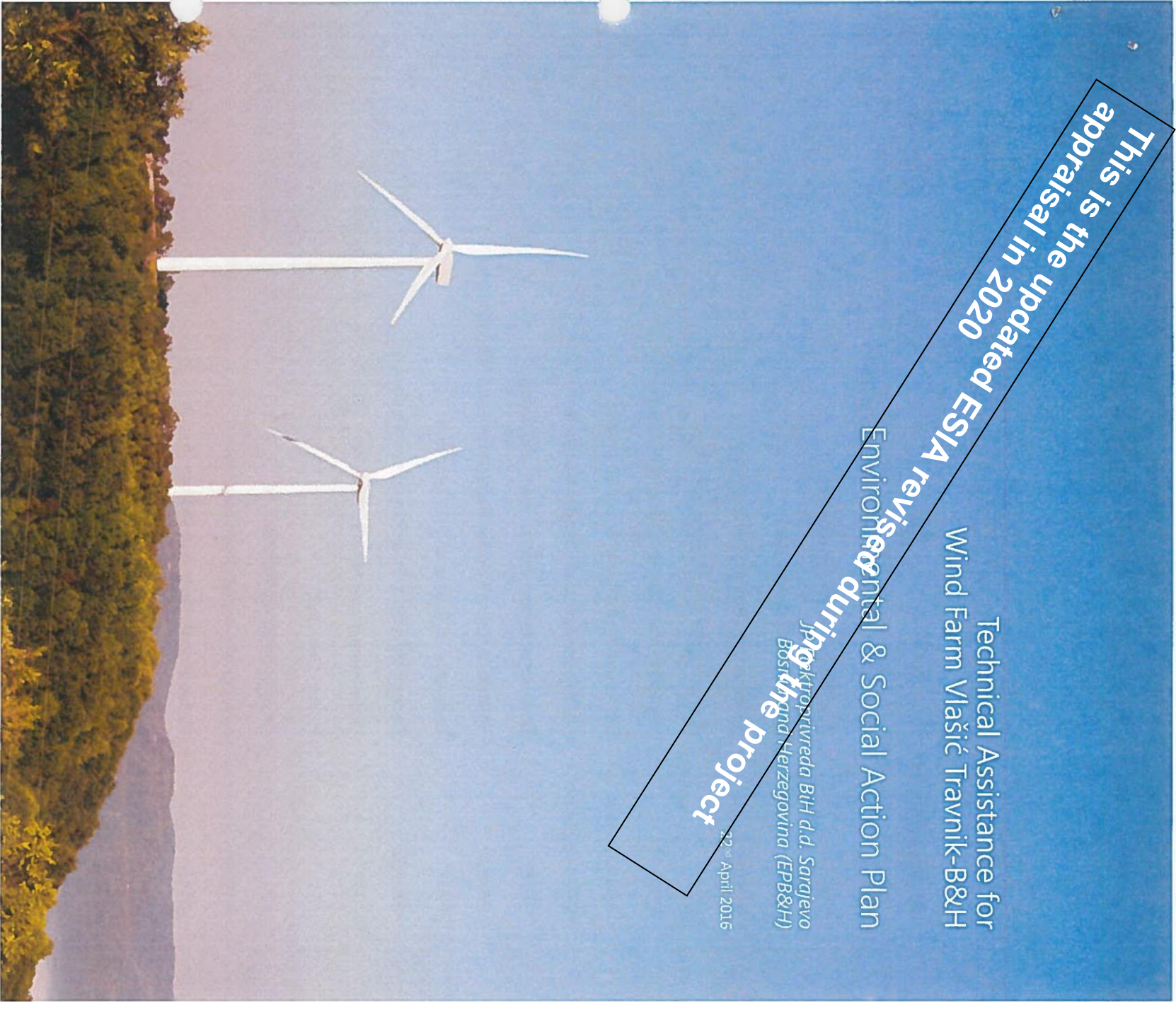
Technical Assistance for  
Wind Farm Vlašić Travnik-B&H

Environmental & Social Action Plan

J.P. Kropivreda BiH d.d. Sarajevo  
Bosnia and Herzegovina (EPB&H)

April 2016

during the project

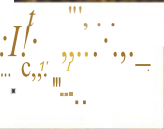
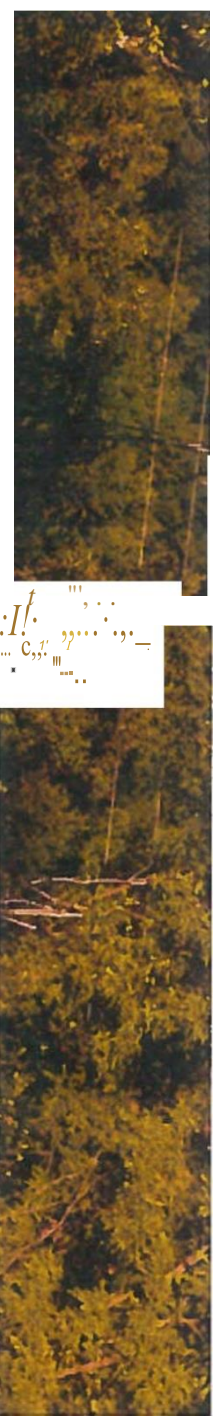


ARUP COWI

W&M consulting



geotechnical studio



## Abbreviations

CEMP	Construction Environmental Management Plan
CIA	Cumulative Impact Assessment
EIB	European Investment Bank
EPBiH	Elektroprivreda Bosne i Hercegovine
ESAP	Environmental and Social Action Plan
ESIA	Environmental and Social Impact Assessment
E&S Standards	EIB Environmental and Social Standards
ESHS	Environmental and Social Health and Safety
ESMMP	Environmental and Social Management and Mitigation Plan
FBiH	Federation of Bosnia and Herzegovina
FMoET	Federal Ministry of Environment and Tourism
GIIP	Good International Industry Practice
HR	Human Resource
KPI	Key Performance Indicator
NGO(s)	Non-Governmental Organisation(s)
OHS	Occupational Health and Safety
PPE	
SEP	Personal Protection Equipment
WBIF	Stakeholder Engagement Plan
	Western Balkan Investment Framework

0

0

## Contents

Abbreviations .....	2
1. Introduction .....	4
2. Environmental and Social Action Plan (ESAP) .....	4

## 1. Introduction

Public Enterprise Elektroprivreda BiH Ltd Sarajevo (referred to as "the Company") intends to develop and operate a wind farm located on a high plateau of Vlasica mountain, approximately 15 km to the north-west from Travnik City, in the Travnik municipality, Bosnia and Herzegovina. The planned wind farm (referred to as "the Project") includes about 16,5 km of new or improved access and site roads, 18 turbines, an on-site substation, underground cables to convey electricity from turbines to the substation. Project financing is being provided by allocation of grant funds to EP BiH from the Western Balkan Investment Framework (WBIF), administered by the European Investment Bank (EIB) as well as co-financing from KfW Development Bank (the "Lenders").

Elektroprivreda BiH will need to implement a number of actions to ensure and verify that the Project is constructed and operated in compliance with BiH legislation, the EIB Environmental and Social Standards, and Good International Industry Practice (GIIP). This Environmental and Social Action Plan (ESAP) defines those actions. In general, the ESAP requires compliance with the Environmental and Social Management and Mitigation Plan (ESMMP) that is part of the Environmental and Social Impact Assessment (ESIA) and includes specific requirements for many of the actions whose purpose is to avoid, reduce, or otherwise mitigate and compensate for the most significant potential impacts.



## 2. Environmental and Social Action Plan (ESAP)

The table below (*Table 1*) constitutes the ESAP. It identifies the required actions, the basis of the requirement, the timing of the action, the criteria to be used for determining whether the required action has been successfully achieved, and information that will be reported to the Lenders. Implementation of the actions is the responsibility of Elektroprivreda BiH. When contractors perform work under contract to EP BiH or their designer(s), the contractors will be responsible to EP BiH for following the requirements of the ESAP where they are under contract to do so. This is expected to be accomplished by inclusion of requirements in contracts and subcontracts, and by direct oversight and supervision by EP BiH and/or its designer, as needed.

Performance of the actions required by this ESAP will be reported to the Lenders by EP BiH as required by the ESAP and the financing agreements. The ESAP will be audited or otherwise evaluated by the Lenders throughout construction and operation of the Project.

As agreed by the Lenders and EP BiH, this ESAP may be revised from time to time during Project implementation, sometimes in response to evaluations conducted under the ESAP itself. No changes will be made if they could allow violations of BiH law or of Lender's requirements for environmental and social performance.



**Table 1: ESAP constitution**

Environmental and Social Action Plan				
	Requirement	Source of requirement	Implementation date	KP/ I Reporting <sup>l</sup>
0	EP BiH to prepare and submit environmental and social monitoring reports that cover both the windfarm and the OTL and substation that show status of compliance with EIB E&S Standards and the ESAP, and with the requirements of this ESAP. Report to cover EP BiH and contractor activities and performance.	EIB Std 1	- +	Submission of report in mutually agreed format
<b>1. EIS E&amp;S Standard 1: Assessment and Management of E&amp;S Impacts and Risks</b>				
1.1	Design a framework for defining the organisational structure of the EP BiH Project Management Team as well as the OTL, with all key roles represented in an organogramme. For construction, this is to include the main contractors. Appoint and maintain person(s) to be responsible for environmental, social, and occupational health and safety (ESHS) for the project, to report directly to the project manager, and subsequently to the EP BiH management board. The framework should include a change management procedure agreed with the Lenders.	EIB Std 1	Framework designed, responsible person(s) appointed: Within 90 days of financial close, and updated with all the contractors prior to construction	- Organogramme to include OTL - Responsible person(s) appointed/hired and on staff  <i>ESHS reporting:</i> - Status of appointments, including CVs of appointed professionals
1.2	Develop and implement an integrated management system for environmental and social performance and for occupational health and safety and security for both the windfarm and the OTL. System and implementation during construction should be the responsibility of key project contractor under EP BiH oversight; during operation, it is the responsibility of EP BiH (see also requirement 1.5 below). <i>[Note: system(s) should generally meet objectives of ISO14001 and OHSAS 18001, but need not be certified]</i>	EIB Std 1	- Approve contractor systems including contractor control plans: prior to construction - Develop operations system: prior to commissioning - Implement: throughout and during construction and operation	- Development and implementation of the ESHS management system throughout the project  <i>ESHS reporting:</i> - Report to the Lenders on status of system development and implementation

<sup>l</sup>"KP/I": Key performance indicator. "Reporting" - information to be reported to the Lenders in annual environmental and social monitoring reports under item 0.

Environmental and Social Action Plan				
	Requirement	Source of requirement	Implementation date	KP/ I Reporting <sup>1</sup>
1.3	Develop an ESIA's Environmental and Social Management and Monitoring Plan (ESMMP) for both the windfarm and the OTL comprising full details of environmental, social, health and safety (ESHS) performance requirements and obligations for construction, operation and decommissioning of the project. To include detailed timelines for implementation of specific mitigation measures and monitoring activities. ESMMP to require detailed Construction Environmental and Social Management Plan (CESMP) and associated sub-plans, including those recommended within the ESAP.	EIB Std 1	<ul style="list-style-type: none"> <li>- Develop ESMMP prior to tendering of construction contracts</li> <li>- Implementation of ESMMP: throughout construction and operation</li> <li>- CESMP: develop 3 months before construction, implement throughout construction (CESMP integrates results from Critical Habitat Assessment)</li> </ul>	<ul style="list-style-type: none"> <li>- ESMMP developed and in place</li> <li>- Construction and operation in compliance with ESMMP</li> </ul> <p><i>ESHS reporting:</i></p> <ul style="list-style-type: none"> <li>- Report status of plan development</li> <li>- Report material deviations from plans</li> </ul>
1.4	EP BiH ESHS professionals (see requirement 1.1) to review and approve ESMMP and contractor CEMP sub-plans, including review and approval by third-party consultancy acceptable to the Lenders (EPBiH follows-up on the ESMMP of the OTL).	E&B Std 1	<ul style="list-style-type: none"> <li>- Prior to construction</li> </ul>	<ul style="list-style-type: none"> <li>- ESMMP and CESMP sub-plans reviewed and approved by EP BiH and competent third-party acceptable to the Lenders</li> <li>- Plans provided to the Lenders for review and no-objection approval</li> </ul> <p><i>ESHS reporting:</i></p> <ul style="list-style-type: none"> <li>- Status of ESMMP and sub-plan review and approval</li> </ul>
1.5	EP BiH to develop and implement Contractor/Subcontractor Management Plan to manage ESHS planning and performance of construction and other contractors, including at a minimum: <ul style="list-style-type: none"> <li>- Inclusion of relevant ESAP requirements in contracts/subcontracts</li> <li>- Clear assignment of EP BiH and contractor ESHS responsibilities</li> <li>- Contractor reports sufficient to allow EP BiH to include relevant data in reports to the Lenders, and to allow evaluation of need for corrective actions</li> <li>- Verification of training and/or proper credentials for contractor staff/managers responsible for ESHS</li> </ul>	EIB Std 1 GIIP	<ul style="list-style-type: none"> <li>- Develop/adopt: prior to executing contracts/subcontracts</li> <li>- Implement: throughout execution of contracts/subcontracts</li> </ul>	<ul style="list-style-type: none"> <li>- Development, adoption, and implementation of contractor management system</li> </ul> <p><i>ESHS reporting:</i></p> <ul style="list-style-type: none"> <li>- Report to the Lenders on development of policy/procedures</li> <li>- Report ESHS training(s) of contractors/subcontractors</li> <li>- Report status and highlights of</li> </ul>

Environmental and Social Action Plan				
	Requirement	Source of requirement	Implementation date	KP/I Reporting <sup>1</sup>
1.5	EP BiH and contractor(s) to undertake activities that require permits and/or consents/authorizations by relevant authorities only after such permits and/or authorizations are in place. Comply with all required conditions.	BiH legislative <sup>2</sup> EIB Std 1	Prior to undertaking any activity that requires permit or authorization	<ul style="list-style-type: none"> <li>- Permits/authorizations received</li> </ul> <p><i>ESHS reporting:</i></p> <ul style="list-style-type: none"> <li>- Report on status of permits/authorizations</li> <li>- Report immediately any citations or fines for noncompliance, and other instances of material noncompliance</li> </ul>
1.6	EP BiH to appoint a qualified independent consultant to audit ESHS performance against this ESAP and EIB E&S Standards. Implement corrective actions as needed to reach compliance.	EIB Std 1	<ul style="list-style-type: none"> <li>- Appoint: 3 months after construction start</li> <li>- Audit report: 5 months after construction start and one year after commissioning and full operation</li> </ul>	<ul style="list-style-type: none"> <li>- Consultancy approved by the Lenders and appointed</li> <li>- Audits completed and reports submitted to the Lenders</li> <li>- Corrective actions implemented as specified by the Lenders</li> </ul> <p><i>ESHS reporting:</i></p> <ul style="list-style-type: none"> <li>- Identify candidate consultancy(ies)</li> <li>- Report on status of appointment and audit</li> <li>- Report on status of corrective action implementation</li> </ul>

<sup>1</sup> Law on Spatial Planning and Land Use of the Federation of Bosnia and Herzegovina ("Official Gazette of F BiH", no. 2/06, 32/08, 41/10 and 13/10, 45/10); The Law on Electricity of the Federation of Bosnia and Herzegovina ("Official Gazette of F BiH" no. 66/13); The Law on Environmental Protection, ("Official Gazette of F BiH", no. 33/03 and 38/09);



Environmental and Social Action Plan				
Requirement		Source of requirement	Implementation date	KP/I Reporting <sup>1</sup>
<b>2. EIS E&amp;S Standard 2: Pollution Prevention and Abatement</b>				
2.1	Contractor for both windfarm and OTL to develop and implement waste and hazardous materials management plans for construction, to cover all liquid and solid wastes and materials (chemicals, paint, fuel, construction debris, excess spoil, domestic/household wastes, spill cleanup debris, etc.). All vehicles to have spill cleanup kit. EP BiH to develop and implement plan for operation.	BiH legislative <sup>3</sup> EIB Std 2	<ul style="list-style-type: none"> <li>- Plan(s): prior to generation of wastes and management of hazardous materials</li> <li>- Implementation : throughout construction and operation</li> </ul>	<ul style="list-style-type: none"> <li>- Identification of wastes and hazardous materials, development of plan(s)</li> <li>- All wastes and materials managed according to plan</li> </ul> <p><i>ESHS reporting:</i></p> <ul style="list-style-type: none"> <li>- Report on status of plan development and approval by authorities (if required)</li> <li>- Report immediately any major releases or incidents</li> </ul>
2.2	Maintain equipment and take other measures to keep noise to a minimum, including avoiding/minimizing use of equipment at night. Monitor for noise at receptor locations upon request by affected people. Implement appropriate mitigation if noise exceeds applicable standards.	EIB Std 2 GIIP WBGEHS Guidelines	<ul style="list-style-type: none"> <li>- Construction noise controls: throughout construction</li> <li>- On-demand monitoring: upon receipt of complaint or request during construction and operation</li> </ul>	<ul style="list-style-type: none"> <li>- Minimal noise disturbance</li> </ul> <p><i>ESHS reporting:</i></p> <ul style="list-style-type: none"> <li>- Report summary of noise complaints and actions taken</li> </ul>
2.3	If SF6 <sup>4</sup> is to be used for insulation and current interruption in electric transmission equipment, EP BiH is to develop and implement a plan to manage SF6 so as to minimize release to atmosphere. Plan should be consistent with Energy Network Association guidelines.	EIB Std 2 EU F-Gas Regulation GIIP/WBGEHS Guidelines on electric power transmission and distribution	<ul style="list-style-type: none"> <li>- Plan developed: prior to substation commissioning</li> <li>- Plan implemented: throughout operation</li> </ul>	<ul style="list-style-type: none"> <li>- Plan developed and implemented if SF6 is present</li> <li>- Minimal release of SF6</li> </ul> <p><i>ESHS reporting:</i></p> <ul style="list-style-type: none"> <li>- Report need for SF6 plan</li> <li>- Report status of plan development</li> <li>- Report any major releases</li> </ul>

<sup>3</sup> The Law on Waste Management, ("Official Gazette of F BiH", no. 33/03, 72/09);

• Type of circuit breakers

Environmental and Social Action Plan				
	Requirement	Source of requirement	Implementation date	KP/ I Reporting <sup>1</sup>
2.4	<p>Contractor to prepare and implement materials management plan, to include requirement to:</p> <ul style="list-style-type: none"> <li>- Salvage, segregate and store in stable piles all topsoil and subsoil salvaged from all disturbed areas</li> <li>- Materials management to follow recommendations from biodiversity study update/ biodiversity management plan.</li> <li>- Store rock in stable piles</li> <li>- Protect all storage piles with covers, including vegetative cover (native grass species) as needed to prevent wind/water erosion and desiccation</li> <li>- Use specific best practices to prevent or retard run-off from piles and from disturbed areas</li> <li>- Reinstatement all disturbed areas by covering with topsoil and seeding/planting with native species, or returning to tillage. Avoid plants attractive to small mammals or insects near turbines.</li> </ul>	EIB Stds 2&3 GIIP	<ul style="list-style-type: none"> <li>- Plan: prior to ground - disturbing activities</li> <li>- Topsoil/subsoil salvage and storage: salvaged immediately, stored until used for reinstatement</li> <li>- Erosion control per plan: throughout construction</li> <li>- Reinstatement: as soon as disturbance ends</li> </ul>	<ul style="list-style-type: none"> <li>- Adoption of plan, implementation of best practices, protection of topsoil and stored rock</li> <li>- Minimal erosion and loss of topsoil</li> </ul> <p><i>ESHS reporting:</i></p> <ul style="list-style-type: none"> <li>- Report to the Lenders on plan status and highlights of erosion control program</li> </ul>
2.5	<p>Contractor to develop water management plan for construction phase, to include:</p> <ul style="list-style-type: none"> <li>- Detailed assessment of water needs for construction and potential sources, including measures to reduce water usage including use of waste water for wetting roads, etc.</li> <li>- Hydrogeologic evaluations of sustainability of water extraction from aquifers used by private and public wells. to include monitoring nearby wells to measure and evaluate aquifer response to project pumping-including adjustments in plans or providing other water sources during periods of excessive drawdown.</li> <li>- Contingency actions and sources in case any public or private well cannot or does not provide all water needs, either continuously or periodically</li> <li>- If applicable, curtailment of water imports from any public water system as necessary to ensure other users suffer no shortages or loss of water</li> </ul>	EIB Stds 2&8	<ul style="list-style-type: none"> <li>- Plan developed: prior to initial use of water from project wells or other sources</li> <li>- Plan implementation and monitoring: throughout period of water use</li> </ul>	<ul style="list-style-type: none"> <li>- Sufficient and sustainable water supply for all current users</li> </ul> <p><i>ESHS reporting:</i></p> <ul style="list-style-type: none"> <li>- Status of water management plan</li> <li>- Limitations on source sustainability, if any, and highlights of contingency plans</li> <li>• Actions taken in case changes in water supplies or usage are needed</li> </ul>
2.6	<p>Contractor to develop and implement construction-phase dust suppression plan to ensure dusty loads are covered while in transit and earthen/gravel roads are wetted as needed to suppress dust.</p>	BiH legislative <sup>5</sup> EIB Stds 2&9	<ul style="list-style-type: none"> <li>- Develop : prior to construction</li> <li>- Implement: throughout construction when suppression is needed</li> </ul>	<p>Minimal occurrence of dust nuisance</p> <p><i>ESHS reporting:</i></p> <ul style="list-style-type: none"> <li>- Report any complaints and actions taken</li> </ul>

<sup>5</sup>Law on Basics of Traffic Safety on the Roads in BiH, ("Official Gazette of BiH no. 6106); Rulebook on Emission Limit Values for Pollutants into the air, ("Official Gazette of F BiH no. 12/05); Rulebook on Monitoring of pollutants into the air ("Official Gazette of F BiH no.9/14); Rulebook on Monitoring of the air quality, ("Official Gazette of F BiH", no.12105); Rulebook on Limit Values for Air Quality, ("Official Gazette of F BiH", no. 1/12);

Environmental and Social Action Plan				
Requirement		Source of requirement	Implementation date	KP/I Reporting <sup>1</sup>
<b>3. EIS E&amp;S Standard 3: EIB Standards on Biodiversity and Ecosystems</b>				
3.1	EP BiH to appoint qualified professional(s) with expertise in ornithology and bats to assist in implementation of requirements 3.2, 3.3, 3.4, 3.7 3.8, & 3.9.	EIB Std 3	- Appointment of experts:6 months before construction	- Expert(s) approved by Lenders and appointed
3.2	Expert(s) appointed under 3.1 to design and oversee implementation of methodology to measure bird and bat mortality due to collision with turbines and blades, and with transmission line. Continue monitoring until expert(s) conclude risk is adequately understood and acceptable, but for at least three years from the start of operation.	BiH legislative <sup>6</sup> EIB Std 3	- Methodology designed: prior to commissioning - Implemented: at least three years during operation, until experts recommend cessation	- Methodology designed, approved by Institute for Nature Protection and/or independent expert - Additional mitigation implemented, if needed  <i>ESHS reporting:</i> - Provide evidence of Institute and/or expert approval of methodology - Provide summary of survey designs and results - Describe any additional mitigation
3.3	Expert(s) appointed under 3.1 to conduct annual evaluation of bird and bat monitoring (items 3.2 and 3.4) and results in order to: - Reassess previous conclusions concerning bird/bat use, residence, and passage on and near the site - Reassess potential impacts on birds and bats - Recommend changes to operating parameters (such as rotation speed or operating hours during sensitive periods/hours) and/or other mitigation needed to reduce risk and mortality - Consult with other operators concerning cumulative monitoring results and the need for any regional mitigation	EIB Std 3	- Appoint: within 12 months of the start of operation - Recommendations for mitigation, possibly including radar: annually for three years	- Reassessments/assessments completed - Recommended mitigations, if any implemented <i>ESHS reporting:</i> - Provide summary of assessments, including cumulative evaluations and recommendations - Describe mitigation measures recommended, if any

<sup>1</sup> • The Law on Nature Protection, ("Official Gazette of FBiH", no. 66113);

Environmental and Social Action Plan				
Requirement		Source of requirement	Implementation date	KP/I Reporting <sup>1</sup>
3.4	Prior to construction of transmission line towers, EP BiH to appoint (or approve contractor-appointed) qualified ecologist/botanist to conduct surveys of habitats 6170 and 6230 <sup>7</sup> in the transmission line corridor (and elsewhere, if detected) in accordance with biodiversity study update and critical habitat assessment under 3.11; micro-locate towers to avoid specimens/populations of protected plant species. The expert under 3.1. (ornithologist/ecologist) will survey for Golden Eagle ( <i>Aquila chrysaetos</i> ) and other resident protected birds that are nesting within the corridor. If needed to avoid disturbance to bird/fauna species of conservation concern, schedule nearby work to avoid critical lifecycle periods as recommended by expert.	EIB Std 3	<ul style="list-style-type: none"> <li>- Competent professional appointed and surveys conducted: immediately prior to construction of transmission line towers and associated roads</li> <li>- Mitigation/conservation implemented: as required to avoid impacts on species of conservation concern</li> </ul>	<ul style="list-style-type: none"> <li>- Competent professional appointed</li> <li>- Survey completed</li> <li>- No adverse effects on protected species</li> </ul> <p><i>ESHS reporting:</i></p> <ul style="list-style-type: none"> <li>- Report on status of appointment and surveys, and of any required mitigations</li> </ul>
3.5	Take other measures to reduce impacts on birds, including: <ul style="list-style-type: none"> <li>- Contractor to clear vegetation around all turbines and remove any perching points (fences, bushes, etc.) within 100 m of turbines. EP BiH to maintain clearance during operation</li> <li>- EP BiH to implement appropriate mitigation to prevent spills.</li> </ul>	BiH legislative <sup>8</sup> EIB Std 3	<ul style="list-style-type: none"> <li>- Clearing vegetation: prior to commissioning and at least annually thereafter</li> <li>- All spills cleanup: immediately after spill</li> </ul>	<ul style="list-style-type: none"> <li>- Vegetation cleared initially and periodically thereafter</li> </ul> <p><i>ESHS reporting:</i></p> <ul style="list-style-type: none"> <li>- Report highlights of actions taken</li> </ul>
3.6	EP BiH to design transmission line towers to be "bird-friendly", with sufficient spacing and insulation to minimize risk of electrocution of the largest bird species known to occur in Project area and Devecani plateau area.	EIB Std 3 <b>GIIP</b>	- At time of design	<ul style="list-style-type: none"> <li>- Bird - friendly towers</li> </ul> <p><i>ESHS reporting:</i></p> <ul style="list-style-type: none"> <li>- Report status of tower design</li> </ul>
3.7	If recommended by competent experts appointed under 6.1 above: <ul style="list-style-type: none"> <li>- Install bird diverters on all or part of transmission line conductors, including where the line crosses the valley with habitats 6170 and 6230 or bird sensitive areas.</li> </ul>	EIB Std 3 GIIP	- Install diverters: as recommended by experts	<ul style="list-style-type: none"> <li>- Bird diverters installed as recommended</li> <li>- Minimal collision and electrocution mortality</li> <li>- Increased nesting by bird species included <i>Aquila chrysaetos</i> and other rapiers</li> </ul> <p><i>ESHS reporting:</i></p> <ul style="list-style-type: none"> <li>- Report status of bird diverters</li> </ul>

<sup>1</sup> This number represents the universal code under which the link habitats are registered on a concession area. It comes from EUNIS habitat classification and the same code is taken for Natura 2000 areas

<sup>8</sup> The Law on Nature Protection, ("Official Gazette of F BiH", no. 66113);

Environmental and Social Action Plan				
Requirement		Source of requirement	Implementation date	KP/I Reporting <sup>1</sup>
3.8	<p>EP BiH to establish and maintain a collaborative relationship with developers of other windfarms in the vicinity of Wind Farm Vlasic to enhance collective understanding of the potential cumulative impact of these wind farms. The objective will be to share information on bird and bat movement, collision risk, mortality, as well as management actions to mitigate possible cumulative impacts. A cumulative impact assessment will be conducted by the Project Implementation Consultant. The conclusions of any collaborative cumulative impact assessment (CIA) activity should be used to inform and, if relevant, revise the monitoring methodologies under 6.2 and 6.3 above. Other areas of collaboration could be social investment programs (education grants, worker training, etc.).</p>	EIB Std 3 GIIP	<ul style="list-style-type: none"> <li>- Information shared: as needed</li> <li>- Cumulative Impact Assessment finalized before tender process.</li> <li>- Adaptive management: throughout construction and at least three years of operation</li> </ul>	<ul style="list-style-type: none"> <li>- Adaptive management approach implemented based on engagement with other developers/operators</li> <li>- Revision of methodologies as needed to address cumulative impacts; information shared as requested</li> <li>- Collaboration leads to project and social benefits</li> </ul> <p><i>ESHS Reporting:</i></p> <ul style="list-style-type: none"> <li>- Report status of other wind projects in area and operators' collaborative efforts</li> <li>- Report on recommended changes to methodologies</li> </ul>
3.9	<p>Contractor to prepare and implement a landscape management plan for all project activities. Plan is to call for (at a minimum):</p> <ul style="list-style-type: none"> <li>- Vegetation planting to screen views of substation and permanent buildings</li> <li>- Buildings, turbines, other permanent features painted in neutral unobtrusive colours, without logos, etc.</li> <li>- Use of native species for seeding/replanting. Avoid plants attractive to small mammals or insects near turbines</li> <li>- Monitoring and management until vegetation is self-sustaining for at least three successive years</li> </ul>	EIB Stds 3&8	<ul style="list-style-type: none"> <li>- Plan: prior to construction</li> <li>- Implementation: throughout construction and operation</li> </ul>	<ul style="list-style-type: none"> <li>- Development and implementation of the plan</li> <li>- Agreement of planting areas</li> <li>- Clearing of vegetation only where required</li> </ul> <p><i>ESHS reporting:</i></p> <ul style="list-style-type: none"> <li>- Report highlights of plan and of implementation</li> </ul>

Environmental and Social Action Plan				
Requirement		Source of requirement	Implementation date	KP/I Reporting <sup>1</sup>
3.10	EP BiH to continue to engage with Federal Ministry of Environment and Tourism (FMoET) and independent experts to verify monitoring programmes under 6.2, 6.3, and 6.4 meet the requirement for continuous monitoring.	BiH legislative <sup>9</sup>	- At least once prior to commissioning and again after one year of operation	- Authorities engaged/consulted and approved monitoring  <i>ESHS reporting:</i> - Report results of engagement
3.11	EP BiH with the support of qualified international and national ecologist, to update the biodiversity baseline contained in the ESIA.  Carry out a critical habitat determination based on EIB Standard 3 criteria and thresholds for the following biodiversity features – Nardus Grasslands and Alpine and Sub-Alpine Grasslands as well as birds belonging to species of Community interest as listed in Annex I of the Birds Directive, e.g. the Golden Eagle - to determine the scale of the assessment. Carry out the assessment of the impacts for these features using the data and information provided by the ESIA. Identify any specific mitigation measures required and where significant residual impacts have been identified, develop measures to deliver a net gain for the biodiversity attributes of these CH features. If significant residual impacts are identified, a biodiversity management plan is developed and implemented, which includes the mitigation strategy with the net gain.  Mitigation measures need to be included into Construction and Operational ESMP and forwarded to the contractors.		- The CH desktop study should be completed prior to financial close. - The update of the biodiversity baseline and the verification of ecological data for the CH assessment and the stakeholder engagement with relevant experts will be carried out as soon as the COVID-19 circumstances allow for such surveys to be carried out - Biodiversity Management plan including Net Gain Strategy, if required, should be provided prior to construction	- Reports outcomes of CH determination and assessment - Mitigation strategy designed to achieve Net Gain for CH features, if required.
<b>4. EIB E&amp;S Standard 5: Cultural Heritage</b>				
	Appoint one or more competent professional(s) identified by the Commission to Preserve National Monuments, BiH to oversee all excavations and other ground-disturbing activities at the 18 turbines and	BiH legislative <sup>10</sup> EIB Std 5	- Appointment: prior to ground disturbance at designated locations	- Competent professional(s) appointed

<sup>9</sup> The Law on Environmental Protection, ("Official Gazette of F BiH", no. 33103 and 38/09); The Law on Nature Protection, ("Official Gazette of F BiH", no. 66/13);

<sup>10</sup> The decision to amend decision to designate national monuments made as of the 50th session of the Commission to Preserve National Monuments ("Official Gazette of BiH", no. 42/14);  
The decision of deleting the monuments from the Provisional lists ("Official Gazette of BiH", no. 37/04); Provisional list of National Monuments of ("Official Gazette of BiH", no. 33/02);

<sup>11</sup> Law on Spatial Planning and Land Use of the Federation of Bosnia and Herzegovina ("Official Gazette of F BiH", no. 2/06, 32108, 4110 and 13/10, 45110);

<b>Environmental and Social Action Plan</b>			
<i>Requirement</i>	<i>Source of requirement</i>	<i>Implementation date</i>	<i>Reporting</i>
<b>5. EIS E&amp;S Standard 6: Involuntary Resettlement</b>			
5.1	Prepare a land acquisition and compensation plan (LACP) for the windfarm, OTL and substation detailing the national process, the census carried out to date, the compensation principles and methodology based on the type of acquisition (temporary land access, land lease, land purchase, etc.) the entitlement matrix, the disclosure of the process and the engagement with the affected parties and the establishment of a LAC grievance mechanism  Continue to provide replacement or compensation at replacement value to any person who suffers economic losses caused by loss of use of land (whether use was authorized or not), damage to crops, injury or death to animals, loss of access to fields, etc.	BiH legislative <sup>12</sup> EIB Std 6	LACP plan has to be prepared prior to the start of any expropriation  Replace/compensate as soon as possible after damages or losses
			<ul style="list-style-type: none"> <li>- LACP to be submitted to Lenders for approval</li> <li>- No economic losses by any affected person</li> </ul> <p><i>ESHS reporting:</i></p> <ul style="list-style-type: none"> <li>- Report summary of damages/losses and status of replacement/compensation</li> <li>- Report on any grievances related to land acquisition and compensation and resolution of such grievances</li> </ul>
<b>6. EIS E&amp;S Standards 8&amp;9: Labour Standards &amp; Occupational Health, Safety and Security (applies also to the OTL)</b>			
6.1	EP BiH and their contractors to develop/maintain written human resources policies and procedures in accordance with EIB E&S Standard 9 requirements and ensure the relevant policies are available to all employees in their language(s). The HR policy/procedure <sup>13</sup> should contain an enforceable code of conduct applicable to all workers, including in particular those who are not of local origin, or a stand-alone code will need to be developed (see also 4.2 below). To go through the EP BiH Rule Book on Employment and to include if necessary: <ul style="list-style-type: none"> <li>- Prohibition against child labour</li> <li>- Explicit right to collective bargaining and association</li> <li>- Employee grievance mechanism, including availability to contract employees</li> </ul>	EIB Stds 8&9	Within 3 months of commitment of funds or prior to construction (whichever is first).  <ul style="list-style-type: none"> <li>- HR policy and procedures are developed in accordance with EIB E&amp;S Standards 8&amp;9, in place and available to direct workers and contractor employees;</li> <li>- Contractors' policies and approved by the Lenders or third party acceptable to the Lenders</li> </ul> <p><i>ESHS reporting:</i></p> <ul style="list-style-type: none"> <li>- Report status of HR policies and procedures</li> <li>- Provide summary of makeup of workforce by ski/I level, age, gender, geographic origin (local, other Bosnian, expat), and other key variables</li> </ul>

<sup>12</sup> Law on Expropriation ("Official Gazette of F BiH", no. 70/07, 36110, 25112);

"Human Resource Policies /Procedure

Environmental and Social Action Plan				
	Requirement	Source of requirement	Implementation date	KP/ I Reporting <sup>1</sup>
6.2	<p>Develop and implement occupational health and safety plan(s) to guide all activities on project site during site preparation, construction, and operation and ensure that all contractors adopt these plans.</p> <p>Requirements to include, at a minimum:</p> <ul style="list-style-type: none"> <li>- Job- and task-specific hazard analysis and controls for all activities</li> <li>- Provision of personal protection equipment (PPE), requirements for use of PPE, and enforcement of PPE use</li> <li>- Safety training for all personnel in their language, covering general hazards and safety protocols and those that are specific to their assigned tasks</li> <li>- Special training for specific hazards: working at heights, in excavations, with electricity</li> <li>- Review and approval of contractors' OHS plan(s)</li> <li>- Oversight of contractor OHS implementation, including mandatory reporting by contractor(s)</li> <li>- Recording incident statistics, including total work hours, lost time incidents, major injuries, fatalities, etc.</li> </ul>	<p>BiH legislative<sup>14</sup> EIB Std 8</p>	<p>Plans in place prior to undertaking on-site activities that would be subject to requirement</p>	<ul style="list-style-type: none"> <li>- OHS plans developed, reviewed/approved, and in place</li> <li>- Safe workplace, minimal incidents and lost time</li> </ul> <p><i>ESHS reporting:</i></p> <ul style="list-style-type: none"> <li>- Provide evidence of review and approval of OHS plan(s) for all project contractors and subcontractors by qualified professional</li> <li>- Report on OHS issues, including work hours, incident statistics, and status of training (to cover entire site workforce)</li> <li>- Report immediately (within 48 h) in case of major accidents and/or fatalities</li> </ul>
6.3	<p>EP BiH to develop and implement a grievance procedure for all workers, including contractor employees, or require contractor to have equivalent procedure. Include in formal HR policy, ensure all workers know it is available (see requirement 2.1 above).</p> <p><i>Note: this mechanism is separate from the one for external stakeholders that is part of the Stakeholder Engagement Plan under PR/PS 10.</i></p>	<p>EIB Std 8</p>	<p>Same as item 2.1 above</p> <ul style="list-style-type: none"> <li>- Dissemination of information to workers: at time of hiring or first work</li> </ul>	<ul style="list-style-type: none"> <li>- Adoption and implementation of employee grievance procedure</li> </ul> <p><i>ESHS reporting:</i></p> <ul style="list-style-type: none"> <li>- Report to the Lenders summary of grievances and resolutions (EP BiH and contractors)</li> </ul>

<sup>14</sup> Law on Occupational Safety and Health ("Offic1a/ Gazette of SR B1H" no. 22190);



Environmental and Social Action Plan				
Requirement		Source of requirement	Implementation date	KP/I Reporting <sup>1</sup>
<b>1. EIS E&amp;S Standard 9: Occupational and Public Health, Safety and Security</b>				
7.1	Contractor to develop and implement plans and procedures to protect public health, safety and security. Plans and procedures to include, as a minimum: <ul style="list-style-type: none"> <li>- Traffic management plan (see 4.2)</li> <li>- Public notices of hazards associated with works and equipment during construction and operation (see 10.1 and 10.2)</li> <li>- Emergency preparedness and response plan, including collaboration with local responders</li> <li>- Security measures to prevent unauthorised access during construction and minimize access to substation and turbine interiors during operation</li> </ul>	BiH legislative <sup>15</sup> EIB Sid 9	<ul style="list-style-type: none"> <li>- Develop/ approve plans and procedures: before construction</li> <li>- Plans and procedures to be kept up to date and relevant, throughout the project lifecycle</li> </ul>	<ul style="list-style-type: none"> <li>- Plans and procedures developed, made available, and implemented</li> </ul> <p><i>ESHS reporting:</i></p> <ul style="list-style-type: none"> <li>- Report on status of plans and procedures development/approval</li> <li>- Report summary of incidents involving members of the public including trespassers</li> <li>- Report to the Lenders immediately if EP BiH and/or contractors determined that armed guards are necessary - report before providing arms</li> </ul>
7.2	Contractor to develop and implement traffic and transport management plan(s) to include access, routing, diversions, abnormal loads, driver training and signage. Consult with local stakeholders and provide timely information to users of land of the times access to their land may be necessary, or when access may be limited. Plan to be developed in consultation with traffic/road authorities. Supported by EP BiH, contractor to make every effort to coordinate traffic planning with developers/contractors of Wind Farm Vlasic project, including consultations with authorities. Contracts must ensure compliance with plan(s). Plans must cover transport of turbines, rock/stone, and other materials to be brought to or removed from the <b>site</b> .	BiH legislative <sup>8</sup> EIB Std 9	<ul style="list-style-type: none"> <li>- Develop/approve: prior to construction</li> <li>- Implement: throughout equipment/materials transport</li> </ul>	<ul style="list-style-type: none"> <li>- Plan developed in consultation with local authorities</li> <li>- Traffic managed in compliance with plan</li> </ul> <p><i>ESHS reporting:</i></p> <ul style="list-style-type: none"> <li>- Report on status of the plan development/approval</li> <li>- Report summary of training and of traffic incidents</li> </ul>

<sup>15</sup> Law on Occupational Safety and Health ("Official Gazette of SR BiH", no. 22190).

Environmental and Social Action Plan				
	Requirement	Source of requirement	Implementation date	KP/ I Reporting <sup>1</sup>
7.3	<p>Beyond requirements of the environmental consent (including annual monitoring at nearest houses):</p> <ul style="list-style-type: none"> <li>- During operation, EP BiH to monitor noise at residences upon reasonable request<sup>16</sup> and take actions to reduce or control noise as needed to meet applicable standards</li> <li>- Contractor to ensure proper noise controls on vehicles and equipment</li> <li>- When designing the substation, EP BiH to use technology with specifications that ensure that noise standards will not be exceeded</li> <li>- If piles are to be driven, contractor to conduct monitoring at nearest residences to verify noise levels are within standards and limit work to normal business hours</li> <li>- EP BiH to implement mitigation measures to reduce operation noise if levels increase 3dB or more over background levels.</li> </ul>	<p>BiH legislative<sup>17</sup> EIB Std 9 GIIP</p>	<p>Monitoring and controls: monitor as requested and if piles are driven, control/ reduce noise as needed</p>	<ul style="list-style-type: none"> <li>- Appropriate construction design to minimise noise</li> <li>- On demand monitoring and mitigation as needed</li> <li>- Compliance with noise standards</li> </ul> <p>ESHS reporting:</p> <ul style="list-style-type: none"> <li>- Report noise complaints, monitoring results, and mitigation measures applied</li> </ul>
7.4	<p>Assessment and Monitoring of shadow flicker and noise in particular for mountain lodge Devecani.</p>	<p>EIB Std 9 GIIP WBGEHS Guidelines on wind energy</p>	<ul style="list-style-type: none"> <li>- Assessment conducted and monitoring and mitigation plan developed by Project Implementation Consultant before commissioning.</li> <li>- Investigate: upon receipt of complaint</li> <li>- Mitigation (turbine shut down at certain hours of certain days in certain weather conditions): as needed if limits are exceeded</li> <li>- Compensation/mitigation: if needed and agreed by affected people</li> </ul>	<ul style="list-style-type: none"> <li>- No shadow flicker disturbance, or appropriate mitigation/ compensation in place</li> </ul> <p>ESHS reporting:</p> <ul style="list-style-type: none"> <li>- Report shadow flicker complaints and actions taken</li> </ul>

<sup>16</sup> Noise monitoring on request and also where the noise modelling indicates it needs to be done

<sup>17</sup> The Law on Noise Protection, ("Official Gazette of F BiH", no. 110/12); The Law on Environmental Protection, ("Official Gazette of F BiH", no. 33103 and 38109);

Environmental and Social Action Plan				
Requirement		Source of requirement	Implementation date	KP/ I Reporting <sup>1</sup>
7.5	<p>EP BiH to implement actions to ensure community benefits, including:</p> <ul style="list-style-type: none"> <li>- Set goals for and encourage contractors to hire local workers with preference for those who may be directly affected by noise, traffic, or other project activities</li> <li>- Commission and implement a training program to upgrade <b>skills</b> of unskilled local workers as part of the social investment program</li> <li>- Provide funding for local students' university education in science and/or engineering disciplines (e.g., ornithology, electrical engineering)</li> <li>- Establish a Social Investment Programme that would guide annual investments to benefit the Project as well as local communities and people</li> </ul>	EIB Std 9	<ul style="list-style-type: none"> <li>- Establish goals: prior to engaging contractors</li> <li>- Commission training program: by financial close</li> </ul>	<ul style="list-style-type: none"> <li>- Significant local hiring, including semi-skilled and skilled workers</li> <li>- Training for local workers</li> <li>- Educational support provided</li> </ul> <p><i>ESHS reporting:</i></p> <ul style="list-style-type: none"> <li>- Report numbers of local, non-local, expatriate workers, and skill levels of these</li> <li>- Report results of social investment program, including for training, education, and other investments that can benefit the project as well as social welfare</li> </ul>
<b>2. EIS E&amp;S Standard 10: Stakeholder Engagement</b>				
8.1	<p>EP BiH to implement the Stakeholder Engagement Plan (SEP), including the grievance mechanism for project affected and other stakeholders, and a second round of public consultations, which will include:</p> <ul style="list-style-type: none"> <li>- <b>Make</b> monitoring data available via website or otherwise on request</li> <li>- Open-house events in villages Ovcarevo, Paklarevo, Velika Bukovica, Mala Bukovica, Galica and Travnik municipality. Invite all stakeholders, prepare visual displays of key project information, and make knowledgeable company officials available to answer stakeholder questions</li> <li>- Make copies of ESIA documentation (updated ESIA, SEP, ESAP) available for review at all open houses and maintain documents in all town halls</li> <li>- Notify BiH NGOs with interest and expertise in birds and bats of the availability of the updated ESIA documentation, request meeting to provide and receive information</li> </ul>	EIB Std 10	<ul style="list-style-type: none"> <li>- Implement second round during EIB disclosure periods</li> <li>- Implement continuing engagement per SEP throughout construction and operation</li> </ul>	<ul style="list-style-type: none"> <li>- Stakeholders informed and engaged as defined in SEP</li> <li>- Grievance mechanism for external stakeholders in place and operational</li> </ul> <p><i>ESHS reporting:</i></p> <ul style="list-style-type: none"> <li>- Report to the Lenders highlighting stakeholder engagement</li> <li>- Report to the Lenders summary of grievances and responses</li> </ul>

Environmental and Social Action Plan				
Requirement		Source of requirement	Implementation date	Reporting
8.2	In accordance with the SEP, contractor to assist EP BiH in providing early notice to villages and residents prior to major increases in traffic or other project activities that could affect them.	EIB Std 10	Notice provided: before impacts occur	<ul style="list-style-type: none"> <li>- Affected people given advance notice of activities that may affect them and of changes in any impacts</li> </ul> <p><i>ESHS reporting:</i></p> <ul style="list-style-type: none"> <li>- Report to the Lenders highlights of notices</li> </ul>

ARUP

COWI

M&M consulting



geotahnički  
studio



