

GUIDELINES FOR ENVIRONMENTAL
AND SOCIAL PERFORMANCE

STANDARD 4: **COMMUNITY HEALTH, SAFETY, AND SECURITY**



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INTRODUCTION

The following Guidelines correspond to Environmental and Social Performance Standard 4 which, together with the other nine Environmental and Social Performance Standards (ESPS) and the Policy Statement, make up the IDB's *Environmental and Social Policy Framework* (ESPF). The ESPSs are:



Assessment and Management of Environment and Social Risks and Impacts



Community Health, Safety, and Security



Land Acquisition and Involuntary Resettlement



Indigenous People



Biodiversity Conservation and Sustainable Management of Living Natural Resources



Stakeholder Engagement and Information Disclosure



Labor and Working Conditions



Resource Efficiency and Pollution Prevention



Cultural Heritage



Gender Equality

These Guidelines provide guidance to Borrowers on the requirements of Environmental and Social Performance Standard 4: Community Health, Safety, and Security, with the overall purpose of improving project performance and environmental and social outcomes. The relevance of each ESPS and its Guideline depends on the nature, scale, and complexity of an operation and is proportionate to its level of environmental and social risks and impacts. It is important to note that ESPS 1 and 10 are likely to be relevant to all projects.

To facilitate reading:

1. All text belonging to the ESPF is formatted with a light blue background. The ESPF's text, including its footnotes, has kept its original paragraph and footnote numbering.
2. All Guideline paragraphs begin with the acronym "GL."
3. All footnotes are ESPF footnotes.

The Guidelines and other reference material will be publicly available on a dedicated website (<https://www.iadb.org/en/mpas/guidelines>). The IDB will periodically update the material on the website to reflect best practices and evolving needs.

DISCLAIMER

Guidelines are not policy, nor are they mandatory. The information presented in the Guidelines is for informational purposes only. Guidelines do not substitute the need to exercise sound judgment in making project decisions that are consistent with the ESPSs. In case of any inconsistency or conflict between the Guidelines and the ESPSs, the provisions of the ESPSs will prevail. In case of any inconsistency or conflict between the Guidelines and the Policy Statement in the ESPF, the provisions of the Policy Statement will prevail. Guidelines are approved by IDB Management and not by the IDB's Board.



INTRODUCTION

- 1.** Environmental and Social Performance Standard (ESPS) 4 recognizes that project activities, equipment, and infrastructure can increase community exposure to risks and impacts, including those caused by natural hazards and climate change. In addition, communities that are already subjected to adverse impacts from natural hazards and climate change may also experience an acceleration and/or intensification of adverse impacts due to project activities. Natural hazards and climate change impacts may affect the project itself, which may cause further adverse impacts on the health and safety of project-affected people. This ESPS addresses the Borrower's responsibility to avoid or minimize the risks and impacts to community health, safety, and security that may arise from project-related activities, with particular attention to vulnerable groups. It also addresses the Borrower's responsibility to avoid or minimize the risks and impacts to the project itself that may result from natural hazards and climate change.
- 2.** In conflict and post-conflict areas, the risks and impacts described in this ESPS may be greater. The risk that a project could exacerbate an already sensitive local situation, leading to an increase in the risk of personal or communal conflict, or stress scarce local resources, should be considered carefully, as it may lead to further conflict and increased threats to human security.

GL1. The Borrower will identify, evaluate and address community health, safety, and security risks and potential impacts that may arise from project activities, equipment, infrastructure and associated facilities, as well as risks and potential impacts from natural hazards and climate change on the project itself and on project-affected people and communities, with particular attention to risks and potential impacts on those that may be disadvantaged or vulnerable (see definitions of disadvantaged and vulnerable in paragraph 14 of ESPS1 – *Assessment and Management of Environmental and Social Risks and Impacts*). The breadth, depth, and type of analysis and assessment will be proportional to the nature and scale of the project's risks and potential impacts on the health, safety, and security of project-affected people and communities. In this process, the risk perceptions of project-affected people and communities as well as local customs and established protocols already in place to address the perceived risk should be taken into account, and where appropriate, reflected in management measures.

GL2. The design and implementation of management measures for community health, safety and security risk must meet the requirements of national law and host country obligations under international law. The design and implementation measures will be consistent with the requirements of the ESPSs.

GL3. The Borrower is also responsible for policies, procedures and measures for the safeguarding of its personnel and property, all of which must be carried out in a manner that avoids and minimizes risks to project-affected communities and does not jeopardize the community's safety and security. Security arrangements should be consistent with internationally accepted codes of conduct, Good International Industry Practice (GIIP), national laws and the requirements of ESPS 4 – *Community Health, Safety and Security*. The Borrower should take special consideration to implement measures to minimize risks to community health, safety, and security in areas of conflict and post-conflict, where the presence of security providers and organizations may exacerbate tensions among communities in relation to the project.

OBJECTIVES

- To anticipate and avoid adverse impacts on the health and safety of the project-affected people during the project life cycle from both routine and non-routine circumstances.
- To ensure that the safeguarding of personnel and property is carried out in accordance with relevant human rights principles and in a manner that avoids or minimizes risks to the project-affected people.
- To anticipate and avoid adverse impacts on the project itself from natural hazards and climate change during the project life cycle.

SCOPE OF APPLICATION

3. The applicability of this ESPS is established during the environmental and social risks and impacts identification process. The implementation of the actions necessary to meet the requirements of this ESPS is managed through the Borrower's Environmental and Social Management System, the elements of which are outlined in ESPS 1.
4. This ESPS addresses potential risks and impacts to the project-affected people from project activities. It also addresses potential risks and impacts to the project itself that may result from natural hazards and climate change. Occupational health and safety requirements for workers are included in ESPS 2; environmental standards to avoid or minimize impacts on human health and the environment due to pollution are included in ESPS 3; requirements to address sexual and gender-based violence risks in instances of communal conflict and influxes of outside workers are included in ESPS 9; and stakeholder consultation and information disclosure requirements are included in ESPS 10.

GL4. The environmental and social risks and impacts identification process outlined in ESPS 1 is part of the processes that the Borrower uses to develop, implement and manage the project. The Borrower will develop and implement an effective and sound Environmental and Social Management System (ESMS) in accordance with the requirements of ESPS 1 covering the project life cycle. The project life cycle may include, as appropriate, aspects from the early developmental stages through planning, identification, design, construction, commissioning, operation, decommissioning, closure or, where applicable, post-closure.

REQUIREMENTS

Community Health and Safety

- 5.** The Borrower will evaluate the risks and impacts to the health and safety of project affected people during the project lifecycle and will establish preventive and control measures consistent with good international industry practice (GIIP)¹⁰⁹, such as in the World Bank Group Environmental, Health and Safety Guidelines (EHSG) or other internationally recognized sources. The Borrower will identify risks and impacts and propose mitigation measures commensurate with their nature and magnitude. These measures will favor the avoidance of risks and impacts over minimization. Risk to community health and safety may also result from project activities that lead to an increased risk of personal or communal conflict or stress on scarce local resources. The Borrower should seek to identify these risks through its stakeholder analysis efforts and stakeholder engagement plan and development and implement risk-appropriate mitigation measures.
- 6.** Where there are specific risks that could result in adverse effects on the health, safety, and well-being of people with sensitivities such as age, gender, disability, or short- or long-term health conditions, the Borrower will carry out a more detailed risk assessment and make adjustments to prevent injury and ill health.

GL5. Community health and safety considerations must be addressed through the environmental and social risks and impacts identification process in accordance with the requirements of ESPS 1. The community health and safety impacts addressed by ESPS 4, and this Guideline also include perceived impacts by the community. When complex health and/or safety issues are involved, the Borrower should consider engaging one or more external experts to conduct a Health Impact Assessment or other specialized assessment. Reference documents on Health

¹⁰⁹ Defined as the exercise of professional skill, diligence, prudence, and foresight that would reasonably be expected from skilled and experienced professionals engaged in the same type of undertaking under the same or similar circumstances globally or regionally.

Impact Assessments have been published by the World Health Organization and the European Public Health Association, among others. Other sources of guidance on the management of health and safety aspects include applicable sections of the World Bank Group General Environmental, Health and Safety (EHS) Guidelines. Where mitigation measures require action by third parties, such as local governments, the Borrower should coordinate with them in order to find a solution that helps meet the requirements of ESPS 4.

GL6. Preventive and control measures implemented by the Borrower should be consistent with GIIP and the World Bank Group EHS Guidelines or other internationally recognized reference. In accordance with the mitigation hierarchy, the Borrower should seek to eliminate or avoid the risks and potential impacts to community health, safety and security. Where a risk cannot be avoided, it should be mitigated to the extent practicable with reference to GIIP to minimize residual impacts. Borrowers that wish to adopt mitigation measures that are less stringent than those identified in the EHS Guidelines must provide justification and be able to demonstrate that the alternate level of control or mitigation over the risk has been assessed, is appropriate to the nature, scale and scope of the risk, and does not pose undue risks to project-affected people and communities.

GL7. Risks to community health as well as risk of conflict may arise when a project affects the availability of resources on which communities depend. For example, the influx of labor to meet project needs may result in increased risk to community health and safety. An influx of labor that is not managed properly may increase pressure on a community's resources, potentially resulting in changes in availability or quality land, housing, fresh water, energy, labor, food and consumer goods and other resources on which the community depends. The Borrower's risks and impacts identification process must determine the effects of a project's use of local resources on communities and propose appropriate mitigation measures. A stakeholder analysis and stakeholder engagement plan, developed in accordance with the requirements of ESPS 10, will help the Borrower ascertain how communities obtain and use different resources and how they perceive the threats from influx of labor in their communities.

GL8. The Borrower's project should not create a deficit of resources that the community cannot manage. For example, a project activity with effects that are potentially exacerbated by climate change may result in impacts on the quality and/or quantity of groundwater or surface water and, subsequently, the availability of safe drinking water. The management of project risks related to resources and ecosystem services more generally should be undertaken in accordance with paragraphs 23-28 of ESPS 6 – *Biodiversity Conservation and Management of Living Natural Resources*. Similarly, aspects related to resource management can be addressed through implementation of resource efficiency measures described in paragraph 6 of ESPS 3 – *Pollution Prevention and Resource Efficiency*. The Borrower should manage those resources that will be required over the life of the project in order to avoid or prevent significant impacts on the health and livelihoods of communities, and to reduce the risk of exacerbating existing conflict

or creating a new one. In the event that unavoidable impacts will occur on local community resources, the Borrower must provide appropriate and fair compensation that should be determined in accordance with the requirements of the ESPSs, in particular the requirements related to economic displacement, gender equality, and stakeholder engagement.

GL9. Risks to community health and safety can also arise when a project and its workforce affect the goods and services on which the community depends. For example, increased consumption of goods and services during the operational life of the project may strain local water sources, health systems, sanitation and waste management infrastructure and result in increased health risks. In these cases, the Borrower will assess the capacity of the local community and its existing infrastructure and facilities to manage the various waste streams in accordance with the requirements of ESPS 3. The Borrower will develop mitigation measures and develop a management plan to address the gaps in community capacity and infrastructure that are necessary to meet the needs of the project.

GL10. The Borrower should consider project activities that could interact with and potentially affect members of the general public who may be working at, living around or visiting in the area of the project, and should develop, implement and maintain appropriate preventive and control measures to minimize risk and prevent exposure, injury and ill health to the public in the area of the project site. The health and safety objectives of ESPS 4 with respect to project workers are further supported by the requirements of paragraphs 25-30 of ESPS 2 – *Labor and Working Conditions*.

GL11. There can be differentiated impacts when individuals and/or groups within a community may be particularly vulnerable to project-related health and safety risks because of their disability, state of health, gender identity, sexual orientation, pregnancy status, religion, race, ethnicity, age, language, political or other opinion, national or social origin, property ownership status, and economic disadvantage, among other factors. Identifying individuals and groups considered to be vulnerable is an important part of the project planning process that enables inclusive measures to be incorporated into the project to avoid harm to vulnerable groups, enhance any benefits that accrue to them, and improve project implementation performance.

GL12. The influx of labor into communities has been associated with violence, sexual violence, increased availability of alcohol and drugs and crime, human trafficking and sexually transmitted diseases, among others, leading to a reduced sense of security. The gender-related objectives of ESPS 4 are further supported by paragraphs 14 - 15 and 18 of ESPS 9 – *Gender Equality*, which establish Borrower requirements for identifying gender-based risks and potential impacts and developing measures to avoid, prevent or mitigate such risks and impacts. The decline in community safety associated with labor influx can put pressure on local law enforcement and existing health infrastructure and services, including emergency response capacity. The Borrower's environmental and social risks and impacts identification process (or the Borrower's Health Impact Assessment where such an assessment is warranted), must consider the location of communities in relation to the project site, worker camp(s) and accommodations, local socioeconomic conditions, local and regional employment conditions and opportunities for

men and women, local disease profiles, cultural norms towards out-of-town labor, the capacity of the local health care system, and the existence and severity of social issues related to alcoholism, drug use, prostitution, crime, and violence. The Borrower should establish for itself and coordinate with all third parties, policies and codes of conduct for project workers and contractors supported by a training program that is proportionate to the nature of the project and local circumstances. The Borrower must implement measures to address all project risks related to gender-based violence, sexual exploitation and abuse of children, and communicable diseases which may arise from the interaction of project workers with local communities.

Infrastructure and Equipment Design and Safety

7. The Borrower will design, construct, operate, monitor, and decommission the structural elements or components of the project in accordance with GIIP, taking into consideration safety risks to third parties and the project-affected people, including traffic and road safety, and transferred risks¹¹⁰. When new buildings and structures are accessed by members of the public, the Borrower will consider incremental risks of the public's potential exposure to operational accidents and/or natural hazards, and will be consistent with the principles of universal access. Structural elements will be designed and constructed by competent professionals and certified or approved by competent authorities or professionals. When structural elements or components are situated in high-risk locations and their failure or malfunction may threaten the safety of communities, the Borrower will engage one or more external experts with relevant and recognized experience in similar projects, separate from those responsible for the design and construction, to conduct a review as early as possible in project development and throughout the stages of project design, construction, operation, and decommissioning. The Borrower will use regular performance monitoring and recurring risk assessments for high-risk projects to inform ongoing risk mitigation. For projects that operate moving equipment on public roads and other forms of infrastructure, the Borrower will seek to avoid the occurrence of incidents and injuries to members of the public associated with the operation of such equipment.

GL13. The structural elements or components of a project are the physical parts of the project that include existing or new buildings, earthworks, bridges, retaining walls, drainage ditches, roadways, penstocks, water and irrigation channels, pylons, air cooling units, power stations, electrical utility lighting, transmission and distribution poles (and their potential need for relocation), underground utilities, spillways, and dams, among others. The health and safety risks of structural elements vary greatly from project to project and depend both on the type

¹¹⁰ A risk transfer occurs in situations where the risk reduction measure in one community can increase the risk in another.

and complexity of the infrastructure and equipment involved, and on how close the community is to the project and/or the likelihood that local people will interact with the project site. High-risk projects include any structural element or components of the project where a failure or malfunction may threaten the viability of the project and/or the safety of communities. Risk may originate from the purpose and design of the structure (e.g., water impoundment) and/or the baseline environmental context and conditions of the project site (e.g., earthquake-prone area or unstable geology). The Borrower should consult the section on the safety of dams below (GL63 – GL78) for additional guidance on managing risks related to new and existing dams. The Borrower should take into account project features and the country's environmental and social context in developing measures that are consistent with GIIP and that will result in the effective management of community health and safety risks, while avoiding the transfer of such risks to another community. Structural elements of the project should be considered in the Borrower's environmental and social risks and impacts identification process in accordance with the requirements of ESPS 1.

GL14. Design, construction, operation, maintenance and monitoring of project infrastructure and equipment should take into account project-specific engineering safety considerations, such as geotechnical, structural, electrical, mechanical, hydraulic and fire protection specifications, among others, and incorporate local, national and international applicable standards and codes, as appropriate for each sector. Engineering and other technical reviews during the project cycle, including cases when there are changes in the project design, may be completed through third parties. For example, life and fire safety audits of buildings (existing and new) that are accessible to workers and the public should be conducted by safety professionals registered with national or international professional organizations and authorized to perform such certification by local regulatory agencies or other agencies with oversight on these matters. In the absence of country-specific codes and standards, examples of GIIP for fire and life safety are provided by the National Fire Prevention Association (NFPA). GIIP for civil engineering, including structural and geotechnical aspects, are provided by the American Society of Civil Engineers. Other relevant international standards and codes (e.g., building codes, mechanical codes, energy conservation codes, plumbing codes, etc.) are provided by the International Code Council the American Society for Testing Materials, among others. Buildings accessible to the public should be designed, constructed, and operated in full compliance with local building codes, local fire department regulations, local legal and insurance requirements, and in accordance with an internationally accepted life and fire safety (L&FS) standard.

GL15. The nature, scale and scope of the project and its associated risk profile and operating environment may require certification and approval of structural elements that is beyond local regulatory capacity and/or authority. In situations where the governmental regulatory capacity to provide competent certification is limited, the Borrower should retain the services of external professionals who are competent to certify or approve structural elements. These professionals should be independent from the Borrower's management structure for project implementation. Regular performance monitoring of the structural elements of the project, in accordance with applicable standards and codes and/or the recommendations of external competent professionals, should form part of the Borrower's ESMS and management programs.

GL16. The Borrower must identify and assess the risks and potential impacts to the project caused by natural hazards such as earthquakes, droughts, landslides, hurricanes, and floods, among others, including those caused or exacerbated by climate change as per GL44 – GL50. The Borrower will incorporate these risks into infrastructure and equipment design and safety, including in the selection of the site, and retain the services of competent professionals to undertake assessment, design and other required project design and implementation functions. Equally important is the consideration of how, and to what extent, the Borrower’s project may influence or exacerbate natural hazards or climate-related risks or create new impacts that would not be possible without the existence of the project (e.g., waste stabilization/retention ponds affected by flooding may release hazardous content within the flood to nearby communities) to surrounding communities and the environment. Based on this assessment, appropriate disaster and climate change resilience and adaptation measures need to be integrated into the project design, construction, and operation, and into the stakeholder engagement plan. The nature, scale and scope of the project and associated risks and potential impacts may require the Borrower to develop a Disaster and Climate Change Risk Assessment (DRA) and an accompanying Disaster and Climate Change Risk Management Plan (DRMP) which will document the measures and management plan to deal with disaster risk (see GL44 – GL50). Particular consideration should be given to natural hazards that could lead to failure of structural elements resulting in significant and potentially catastrophic impact on a community, which may be disproportionate among vulnerable groups. For example, for dams, former quarries, ash ponds, or waste disposal sites located in high-risk locations, failure or malfunction may pose a threat to safety, or exacerbate the risks to communities downstream.

GL17. The Borrower should apply the principles of Universal Design in the design and construction of new buildings and structures, such as schools and other public facilities. The concept of “Universal Design” is defined in Article 2 of the United Nations (UN) Convention on the Rights of Persons with Disabilities (CRPD) as follows: *“the design of products, environments, programmes and services to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design. “Universal Design” shall not exclude assistive devices for particular groups of persons with disabilities where this is needed”*. Whenever possible, the Borrower should: i) seek input from stakeholders, such as potential users of the buildings and structures, and organizations representing people with disabilities in accordance with stakeholder engagement requirements of ESPS 10; ii) incorporate into procurement documents considerations relating to Universal Design; and iii) consider local accessibility standards and codes on accessibility and nondiscrimination. Examples of measures to support Universal Design in buildings and infrastructure in general include sidewalks with drop curbs, clear and visible signs, tactile strips, audible announcements, appropriate placement and height of equipment, easily identified emergency exits, raised toilet seats and handrails in bathrooms, and wide doors, among others.

GL18. The concept of “Reasonable Accommodation” can be utilized in situations where universal design alone is insufficient to remove barriers to accessibility. As defined in the UN convention, “Reasonable Accommodation” means *“necessary and appropriate modification and adjustments not imposing a disproportionate or undue burden, where needed in a particular case, to ensure to persons with disabilities the enjoyment or exercise on an equal basis with others of all human rights and fundamental freedoms.”*

GL19. The Borrower’s environmental and social risks and impacts identification process will consider, for all phases of the project, all aspects related to the movement of trucks, vessels or other heavy machinery onto community roads and waterways, and which has the potential for impacts on community safety and conflict. The presence of heavy machinery and high volume of traffic, and the resulting demands on transit routes that were not designed to accommodate such volumes of traffic, can result in traffic congestion, contribute to the deterioration of infrastructure, increase vehicle and pedestrian interaction resulting in increased accidents, restrict movement of emergency vehicles, lead to increased noise and dust, and road closures. As part of its stakeholder engagement plan, the Borrower should collaborate with the local community and keep the community informed of project activities and movements of heavy machinery. The type and frequency of communication should be commensurate with the nature and level of disturbance that is expected by project-related activities. For example, communication through local advertisements or signage can alert the community that more time may be needed to commute to work and school; that sidewalks may be closed or unsafe for pedestrian access and/or construction vehicles are entering and leaving a site. If work must be conducted at night, street lighting and vehicle speed control should be provided to mitigate the risk of injury and damage.

GL20. The Borrower’s environmental and social risks and impacts identification process must also consider all aspects related to the movement of equipment on public roads or other public transport routes including those associated with contractor and subcontractor activities. Under certain circumstances (e.g., such as for the transport of over-sized equipment) a traffic assessment will be required as the basis for a traffic management control plan, including collaboration with local law enforcement officials responsible for traffic and pedestrian management and safety as well as with other public safety officials responsible for providing fire and emergency medical response. When assessing community risks related to moving equipment and project traffic, the Borrower should consider accident hotspots, elevated risk areas such as schools, markets, community gathering places, intersections of roads with railroads, crossing points for animals, areas with high pedestrian traffic, bicycle, motorcycle, and other traffic, daytime and nighttime circulation patterns, and weather conditions, in order to design effective preventative and management measures.

Hazardous Materials Management and Safety

8. The Borrower will avoid or minimize the potential for community exposure to hazardous materials and substances that may be released by the project. Where there is potential for the public (including workers and their families) to be exposed to hazards, particularly those that may be life threatening, the Borrower will exercise special care to avoid or minimize their exposure by modifying, substituting, or eliminating the condition or material causing the potential hazards. Where hazardous materials are part of existing project infrastructure or components, the Borrower will exercise special care when conducting decommissioning activities to avoid exposure to the community. The Borrower will exercise good industry practice to control the safety of deliveries of hazardous materials, and of transportation and disposal of hazardous wastes, and will implement measures to avoid or control community exposure to pesticides, in accordance with the requirements of ESPS 3.

GL21. Hazardous materials and substances may include: explosives; compressed gases, including toxic or flammable gases; flammable liquids; flammable solids; oxidizing substances; toxic materials; radioactive material; corrosive substances; chemical fertilizers; soil amendments; chemicals, oils, and other hydrocarbons; paints; pesticides; herbicides; fungicides; asbestos; hospital and pharmaceutical waste; used batteries; radioactive medical waste; some types of fluorescent light bulbs and ballasts; and polychlorinated biphenyls (PCBs) in electrical equipment, among others. In all cases, the Borrower should make reasonable efforts to avoid the use of hazardous materials and substance, as some hazardous materials may pose a significant risk to the community during their use and at the end of their useful life. When avoidance is not possible, the Borrower must provide for the safe management of hazardous materials and substances, including materials and substances that become hazardous after their use (e.g., inert material that is used to capture spilled chemicals). The safe management of hazardous materials should extend into the decommissioning phase of the project when remaining wastes, including demolition wastes, must be safely managed in accordance with the requirements of ESPS 3. Additional guidance is provided in the World Bank Group EHS Guidelines and relevant sections of Industry Sector EHS Guidelines.

GL22. The Borrower's environmental and social risks and impacts identification process should determine whether community members are likely to be exposed to project-related emissions or releases of hazardous materials and substances, taking into account customary activities of the community. The Borrower should also evaluate the risks and potential impacts posed by the management of hazardous materials that may extend beyond the project's property boundary and into areas inhabited or used by the community. The Borrower shall aim to eliminate or minimize exposure to hazardous materials and substances that may be discharged by the project into the environment (e.g., air, water, land) as a result of accidental releases, and to areas otherwise accessible to the community. The requirements related to pollution prevention and management are provided in ESPS 3. In instances where the use of hazardous

materials and substances is unavoidable, the Borrower will develop a project-specific Hazardous Materials Management Plan (HMMP). Where the project is expected to produce hazardous substances and materials that meet the definition of hazardous waste, the Borrower will prepare a Hazardous Waste Management Plan (HWMP). The HMMP and HWMP should be prepared in accordance with the requirements of ESPS 3 and should be communicated to project-affected communities and stakeholders in accordance with the requirements of ESPS10.

GL23. For projects involving the renovation or repair of existing buildings, vessels, and structures, the Borrower must assess the likelihood of any hazardous materials being present, such as asbestos, lead-based paint, radioactive materials, or contaminated soils. This may require specialized site assessments by competent professionals. If such hazardous materials and substances are identified, the Borrower shall determine whether project activities may alter or disturb the current state of these materials and release them into the environment, and if so, take appropriate measures to prevent or mitigate the release of these materials into the environment and the community, as well as the proper disposal of the waste generated.

GL24. ESPS 4 requirements are relevant and applicable to operational and process safety risks related to the storage, handling, transport and use of large quantities of hazardous substances and materials, such as explosives, flammable liquids, solids and gases, toxic substances, strong acids and bases, among others. There are often industry-specific requirements and good practices that have been adopted globally (e.g., the Risk Management Program/Process Safety Management rules published by the US Environmental Protection Agency and the US Occupational Safety and Health Administration). The Borrower should also consider associated regulatory guidance, such as that published by the National Fire Protection Association (NFPA), in the event that the project will store, use, handle or generate large quantities of hazardous materials and substances. The EHS Guidelines and Industry Sector EHS Guidelines are also useful references for the identification, evaluation and control of process safety risks.

GL25. Where a project has the potential to release toxic, hazardous, flammable or explosive substances beyond the project site or property that may directly or indirectly affect communities or their resources, the Borrower should conduct a process hazard analysis of its operations and disclose relevant information to stakeholders and communities in accordance with ESPS 10. A process hazard analysis (PHA) is a systematic review of (i) how a process, operation or activity might go wrong; (ii) what might be the effects and impacts of such malfunctions and incidents, and; (iii) what safeguards must be implemented to prevent uncontrolled releases of hazardous materials and substances. Borrowers should identify those processes, operations and activities that pose the greatest risks for priority assessment under a PHA. “Process” means any activity involving a highly hazardous chemical including using, storing, manufacturing, handling, or moving such chemicals at the site, or any combination of these activities. Hazard analysis can take many forms, including but not limited to Hazard Identification (HAZID), Hazard and Operability Study (HAZOP), Failure Mode Effects Analysis (FMEA) and Quantitative Risk Analysis (QRA). A formal hazard analysis, whether quantitative or semi-quantitative, will allow the Borrower to identify those activities or equipment that could result in accidental release

of a hazardous substance or material and to quantify these risks, to prioritize the allocation of resources for risk mitigation, emergency response and training. A useful summary of process safety risk assessment methodology is provided by the U.S. Department of Labor Occupational Safety and Health Administration in publication OSHA 3132 Process Safety Management.

Ecosystem Services

9. The project's direct, indirect and cumulative impacts on priority ecosystem services may result in adverse health and safety risks and impacts to the project-affected people. With respect to this ESPS, ecosystem services are limited to provisioning and regulating services as defined in paragraph 2 of ESPS 6. For example, land use changes or the loss of natural buffer areas such as wetlands, mangroves, and upland forests that mitigate the effects of natural hazards such as flooding, landslides, and fire may result in increased vulnerability and community safety-related risks and impacts. The diminution or degradation of natural resources, such as adverse impacts on the quality, quantity, and availability of freshwater¹¹¹, may result in health-related risks and impacts. Where appropriate and feasible, the Borrower will identify those risks and potential impacts on priority ecosystem services that may be exacerbated by natural hazards and climate change. Adverse impacts should be avoided, and if these impacts are unavoidable, the Borrower will implement mitigation measures in accordance with paragraphs 24 and 25 of ESPS 6. With respect to the use of and loss of access to provisioning services, Borrowers will implement mitigation measures in accordance with paragraphs 25–29 of ESPS 5.

GL26. The Borrower's environmental and social risks and impacts identification process will consider priority ecosystem services in accordance with requirements of ESPS 1 and ESPS 6. The risks and impacts identification process should integrate natural hazards and climate-related risks into the assessment of potential impacts on community health and safety and the mitigation measures required in the design and operation of the project.

GL27. Ecosystem services are most likely to be affected by projects that significantly change the physical environment, such as loss of natural vegetation cover or soil resources caused by the construction of, for example, industrial parks, roads, airports, pipelines and new agricultural developments and projects that impact the watershed such as dams, large-scale irrigated and rain-fed agriculture and forestry, among others.

¹¹¹ Freshwater is an example of provisioning ecosystem services.

GL28. The Borrower should seek to avoid adverse impacts on ecosystem services. If impacts are unavoidable, the Borrower will implement mitigation measures to minimize the degradation in the quality and quantity of priority ecosystem services in accordance with the requirements of ESPS 3 and ESPS 6. Where project activities affect the provisioning of priority ecosystem services with subsequent impacts on livelihoods, such as, for example, a reduction in the availability of surface water or groundwater for human consumption or use, the Borrower will develop and implement a livelihood restoration plan in accordance with the requirements of ESPS 5 – *Land Acquisition and Involuntary Resettlement*. When Indigenous Peoples rely on those ecosystem services the Borrower should follow, in addition, ESPS 7 requirements regarding E&A assessment and engagement process.

GL29. The Borrower will evaluate natural hazards risk and climate change risk during the design phase of the project (see GL16). As part of this assessment, the Borrower will evaluate the project's potential for direct, indirect and cumulative impacts on those regulating services protecting against natural hazards (e.g., tree cover and vegetation on slopes, wetlands and other natural flood protection systems) as they relate to the project and the surrounding community. Based on this assessment, appropriate disaster and climate change resilience and adaptation measures can be integrated into project design, construction, and operation.

GL30. The Borrower should consider how and to what extent nature-based solutions can be prioritized and incorporated into the project as risk mitigation measures and how ecosystems, and the natural capital that supports ecosystems and the services they provide, can be enhanced over the life of the project. Nature-based solutions refers to the sustainable management and use of nature for tackling environmental challenges. See IDB's report "Mainstreaming of Natural Capital and Biodiversity into Planning and Decision-Making: Cases from Latin America and the Caribbean" and "Increasing Infrastructure Resilience with Nature-based Solutions (NbS)" The International Union for Conservation of Nature (IUCN) has published a number of resources relating to the adoption of nature-based solutions to protect, sustainably manage, and restore natural and modified ecosystems and specific tools for measuring, modelling, and valuing ecosystem services."

Community Exposure to Disease

- 10.** The Borrower will avoid or minimize the potential for community exposure to water-related (i.e., waterborne, water-based, and vector-borne diseases) and communicable diseases that could result from, or exacerbated by, project activities, taking into consideration differentiated exposure to and higher sensitivity of vulnerable groups. Where specific diseases are endemic in communities in the project area of influence, the Borrower is encouraged to explore opportunities during the project life cycle to improve environmental conditions that could help minimize their incidence. In the case of non-endemic disease outbreaks, the Borrower must take precautionary measures to avoid community exposure.

11. The Borrower will avoid or minimize transmission of communicable diseases that may be associated with the influx of temporary or permanent project labor.

GL31. Waterborne diseases are caused by pathogenic microorganisms that are transmitted via the use and/or consumption of water contaminated with human, animal or chemical waste. These diseases spread when contaminated water is ingested via bathing, swimming, washing, drinking or eating foods washed in contaminated water. Waterborne diseases are common in areas lacking safe drinking water supply, proper hygiene practices, and water and sewage treatment facilities. Common waterborne diseases include cholera, dysentery, typhoid, and other gastrointestinal diseases. Water-based diseases are caused by organisms that spend part of their life cycle in an aquatic environment and another part in an animal or human host as a parasite. Common water-based diseases include schistosomiasis, guinea worm, leishmaniasis and amebiasis, among others. Vector-borne diseases are caused by parasites, viruses and bacteria that are transmitted to humans by vectors. A vector is a living organism (e.g., mosquito, aquatic snail, flea) that can transmit infectious pathogens between humans and/or animals to humans. These diseases are often regional in nature (e.g., prevalent in tropical and sub-tropical areas) and include malaria, dengue, chikungunya, zika and yellow fever. Communicable diseases are illnesses caused by viruses or bacteria that humans can spread to one another directly or indirectly. The most common forms of spread between humans include fecal-oral transfer, food, sexual intercourse, blood to blood, insect bites, and via contact with contaminated fomites, droplets or skin contact. Common communicable diseases include hepatitis, HIV/AIDs, measles, influenza, and coronaviruses. The incidence of disease may increase in a community depending on the nature, scale, scope, and management of the Borrower's project. For example, projects that include components such as dams, deep construction pits and irrigation schemes might lead to the creation of permanent or temporary waterbodies that could increase the spread of water-borne and water-based diseases in a community. Similarly, projects located in areas that lack proper infrastructure to house and support an influx of temporary or permanent project labor (i.e., insufficient water and sewage treatment facilities) could increase the risk of spread of communicable and water-borne disease.

GL32. The Borrower's environmental and social risks and impacts identification process will include an evaluation of the potential for community exposure to water-related (i.e., waterborne, water-based, and vector-borne diseases) and communicable diseases that could result from, or be exacerbated by, project activities. Where the risks are deemed significant, the Borrower should undertake a stand-alone health impact assessment. A good example of health impact assessment methodology has been published by the European Public Health Association and the International Association for Impact Assessment. The WHO has developed a conceptual framework and a suggested approach to health impact assessment. The Borrower will identify and implement measures to avoid, minimize, or mitigate impacts throughout the life of the project. Disease-related risks may vary both between and within communities. Factors such as age, gender, economic status, physical disability, and intellectual, sensorial, and psychosocial disability contribute to higher exposure risks for certain groups within a community. For

example, a project might create suitable conditions for malaria in communities where malaria is already endemic. In such circumstances, the Borrower should adopt measures during the construction and operational phases to eliminate stagnant pools of water suitable for mosquito breeding, maintain project work sites in good sanitary condition, and improve environmental conditions in the community. The Borrower should collaborate with local health authorities and local community representatives in accordance with the requirements of ESPS 10.

GL33. The Borrower's environmental and social risks and impacts identification process should identify and assess project-related health risks caused by, or exacerbated by, climate change. Health risks from vector-borne and water-borne diseases have the potential to increase because of climate change (e.g., from increased flooding events and heavy rains). More intense rain and extreme weather events may increase areas of standing water that are breeding sites for mosquitos and may contaminate sources of drinking water.

GL34. The Borrower should consider local disease profiles and the location of communities in relation to the project site and worker camps. The Borrower should provide its workforce with health services for occupational and communicable illnesses. The Borrower should also develop a good baseline profile of the local healthcare capacity in the event that the project workforce requires healthcare services from local providers. The Borrower should ensure that project workers are vaccinated, at a minimum, in accordance with public health requirements, in order to prevent the proliferation of communicable diseases among workers and local communities.

Emergency Preparedness and Response

- 12.** In addition to the emergency preparedness and response requirements described in ESPS 1, the Borrower will also assist and collaborate with the project-affected people, local government agencies, and other relevant parties, in their preparations to respond effectively to emergency situations, especially when their participation and collaboration are necessary to respond to such emergency situations. If local government agencies have little or no capacity to respond effectively, the Borrower will play an active role in preparing for and responding to emergencies associated with the project. These emergency situations include those associated with disease outbreaks and those associated with large-scale infrastructure. The Borrower will document its emergency preparedness and response activities, resources, and responsibilities, and will disclose appropriate information to the project-affected people, relevant government agencies, or other relevant parties.

GL35. An emergency is an unanticipated event that demands immediate action to prevent or reduce harm to people, property, or the environment. Examples of human-made and human influenced emergencies include active assailants, civil disturbances, labor actions, bomb threats, power failures, fires, explosions, chemical releases, building collapses and disease outbreaks.

Emergencies can also occur due to natural-hazard related disasters such as extreme weather, wildfires, floods, earthquakes, and other such hazards, including the impact from climate change. Regardless of the efforts made to reduce the risk due to natural hazards, climate (as per GL44 - GL50) and other natural and human-made risks, it is important for the Borrower to recognize and acknowledge that emergency events can happen at any time and during any phase of a project.

GL36. The Borrower should establish an Emergency Preparedness and Response Plan (EPRP) that is appropriate for each phase of the life of the project. The Borrower's EPRP should address the four phases of emergency management and include measures to prevent emergencies, mitigate the consequences of emergencies, respond to emergencies, and recover from emergencies. The Borrower should establish a team with responsibility for the development, implementation and regular review of the EPRP. There are a number of different emergency preparedness related instruments that should be considered by the Borrower, as is appropriate to the nature and scope of the project and probability and severity of emergencies. Emergency preparedness instruments include business continuity plans, critical control plans, evacuation plans, spill response plans, emergency response plans, and disaster relief plans, with associated simulacra and training.

GL37. Throughout the life of the project, the Borrower will identify emergency events, including those originating from the disaster and climate change risk assessment (see GL44-48), that have the potential to impact the project and/or community health, safety and security. The Borrower should consider worst-case emergency events as well as less severe events that have a higher probability of occurring. Useful resources on business continuity management are available from the Disaster Recovery Institute International (DRII).

GL38. The Borrower's EPRP should identify all credible human-made and disaster and climate-related emergency events and scenarios that could reasonably be expected to impact the project, the environment, its workers and the general public. The Borrower should consider similar emergency risk assessments conducted by local, regional, or national government organizations to inform their own risk assessment. Detailed technical guidance to assess disaster and climate-related events can be found in the Disaster and Climate Change Risk Assessment Methodology . Prevention of an emergency and reducing the potential impact of an emergency is by far preferred over efforts to respond and recover from an emergency. The Borrower should therefore evaluate the need for additional measures and controls to reduce the probability of an emergency event occurring and to reduce the impact of the natural or human-made emergency on project, the environment, its workers and/or the general public.

GL39. The Borrower's EPRP should evaluate the availability and ability of local emergency response services, including law enforcement, fire department, rescue services, and emergency medical services. Each service should be evaluated to determine their response capabilities. The workforce, procedures, skill level, experience, certifications, and equipment resources should also be evaluated. Any agreement related to the provision of local emergency response services

should be documented, including a description of the nature of services to be provided to the Borrower. While locally available emergency response services can be part of the Borrower's EPRP, the responsibility for emergency preparation, mitigation, response, and recovery remains with the Borrower.

GL40. In situations where emergency response resources and controls are limited, inadequate, or unavailable, the Borrower should provide, either directly or through third parties, the emergency response resources needed, including manpower, equipment, supplies, institutional arrangements with other government agencies, as needed and training and procedures required to protect the people, project, property, community and the environment from the impacts of identified emergency scenarios that are within the control or influence of the Borrower.

GL41. The EPRP should also include all necessary measures and procedures related to notification of emergency responders, communication channels for notification of communities, a periodic and updated training program that demonstrates proof of competency of responders, public evacuation procedures and practice drills, a designated coordinator for response and recovery, as well as measures for the restoration and cleanup of any environmental impact from an emergency caused by the Borrower. Useful references for notification, communication and alerts may be found in National Fire Protection Association (NFPA) 1600 Standard, 2019 Edition; "Standard on Disaster/Emergency Management and Business Continuity Programs" Annex K; "Emergency Communications: Public Alerts and Warnings in Disaster Response", and Disaster Recovery Institute International (DRII) Professional Practice Ten, 2017: "Coordinating with External Agencies."

GL42. The Borrower should consult with key stakeholders, communities, relevant government agencies at national or local level, emergency response services, and engage with affected communities throughout the preparation and implementation of the EPRP. Engagement with communities should be in accordance with the requirements of ESPS 10. The EPRP usually consists in a separate document but may be integrated into another plan, such as contingency plans or a business continuity plans. The EPRP should also outline the roles and responsibilities of the communities have agreed to assume in responding to emergency situations.

GL43. The Borrower should test, review and update its EPRP on a regular basis in accordance with changes in the project's risk profile or other circumstances that affect the probability and/or severity of events, but no less than annually. The review and update process will allow the Borrower to verify the continued relevance of the nature, scale and scope of potential emergency scenarios and confirm or update, as appropriate, the EPRP.

Resilience to Natural Hazards and Climate Change

- 13.** The Borrower will identify and assess the potential risks caused by natural hazards, such as earthquakes, droughts, landslides, or floods, including those caused or exacerbated by climate change, as these relate to the project. This may require the Borrower to undertake an assessment of the risk of the project to natural hazards and climate change. Based on this assessment, the Borrower will identify appropriate disaster and climate change resilience and adaptation measures to be integrated to the project design, construction, and operation. The project will include the necessary measures to reduce disaster and climate change risk to acceptable levels. The Borrower will also avoid and/or minimize risks caused by natural hazards or land use changes to which the project activities may contribute.
- 14.** Projects that finance recovery and reconstruction after a disaster require special precautions to avoid rebuilding or increasing vulnerability. Particular attention must be paid to lessons learned from recent hazard events. The Borrower will not assume that pre-disaster conditions persist in whole or in part in the affected area. Disaster risk assessment of the reconstruction project should be carried out considering the specifics of the area, the sector and the infrastructure concerned, and the current environmental, social, and economic situation and any changes in the affected area as a result of the disaster.

GL44. Identification, assessment, and management of natural hazard and climate change risk, including extensive (low-severity, high-frequency) and intensive (high-severity, mid to low-frequency) risk and rapid- and slow-onset effects, applies to all stages of the project life cycle. The “Disaster and Climate Change Risk Assessment Methodology for IDB Projects - A Technical Reference Document for IDB Project Teams,” referred to as the Methodology in this guidance, should be used for sections GL45-50. Other useful references to support the assessment are listed in the Annotated Bibliography, here: <https://www.iadb.org/en/mpas/guidelines>. The term risk, when used in the context of disaster and climate change risk, is comprised of three parts: (i) the likelihood of occurrence of a load (e.g., flood, earthquake, etc.), (ii) the likelihood of an adverse structural response (e.g., structural damage or failure, etc.), and (iii) the magnitude of the consequences resulting from that adverse event (e.g., life loss, economic damages, environmental damages, etc.). The term resilience, when used in this Guideline and in the context of disaster and climate change risk, refers to the capability of an asset, system, or community exposed to natural hazards to resist, adapt to, and recover from the effects of a hazard, preserving its essential functions, through risk management (as per the terminology from the United Nations Office for Disaster Risk Reduction).

GL45. The Borrower's environmental and social risks and impacts identification process will assess the risks and potential impacts caused by natural hazards, including the effects of climate change on the project, as well as project-related risk to communities and the environment. Natural hazard and climate change risk to the project is dependent on the project's geographic location, the nature and characteristics of the natural hazards in that location and on the vulnerability of the project itself. The exacerbation of risks refers to a situation where the project has the potential to aggravate or further intensify the potential impacts of natural hazard and climate change risks on human life, property, or the environment of nearby communities, and is dependent on the communities' geographic location and level of exposure, the characteristics of the natural hazards and the scale and vulnerabilities of the communities themselves. Projects must not increase the threat of loss of human life, or the risk of significant human injuries, severe economic disruption, or significant property damage related to natural hazards and climate change. The Borrower will identify appropriate disaster and climate change resilience and adaptation measures to be integrated to the project design, construction, and operation.

GL46. On the basis of the environmental and social risks and impacts identification process, operations will be assigned a disaster and climate change risk classification (i.e., High-risk, Moderate-risk or Low-risk) in accordance with the Methodology. The nature, extent, evaluation and final classification should be determined by a professional with subject matter knowledge. The three disaster and climate change risk classifications are as defined below.

- a. High-Risk: Is assigned to those projects that have high-risk due to a combination of project exposure to high intensities of natural hazards or climate change and/or high project criticality and vulnerability to those hazards, or similarly high potential for exacerbating risk. Natural hazards including the effects of climate change may occur several times during the construction period and/or the operational life of the project and/or the likely severity of social, economic, and/or environmental consequences is major or extreme. These consequences are of sufficient magnitude to affect project viability and may affect an area broader than the project site. As such, a more detailed investigation of the disaster and climate change risk, in the form of a project-specific qualitative and/or quantitative Disaster and Climate Change Risk Assessment (DRA) and Disaster and Climate Change Risk Management Plan (DRMP) is required to be completed.
- b. Moderate Risk: Is assigned to those projects that have a medium risk due to a combination of project exposure to medium intensities of natural hazards or climate change and/or moderate project criticality and vulnerability to those hazards, or similarly moderate potential for exacerbating risk. Natural hazards including the effects of climate change may occur at least one time during the execution (construction) period and/or operational life of the project and/or the likely severity of the impacts is average. These impacts are typically confined to the project site and can be mitigated at reasonable cost. A project assigned a moderate-risk rating must evaluate if a project-specific qualitative and/or quantitative DRA and DRMP would be needed to demonstrate Borrower readiness and commitment to manage natural hazard and climate change risk.

- c. Low Risk: Is assigned to those projects that have a low risk due to a combination of project exposure to low intensities of natural hazards or climate change and/or low project criticality and vulnerability to those hazards, and a low potential for exacerbating risk. Natural hazards, including the effects of climate change, are not likely to occur during the project execution (construction) and/or the operational life of the project, and/or is associated with a low severity of impact. The corresponding impacts that occur do not lead to a disruption of the normal functioning of the project and can be corrected as part of the project maintenance and operation work. The occurrence of these hazards does not significantly impact project performance. A DRA is not required in these circumstances.

GL47. For projects assigned a high-risk or moderate-risk rating, the Borrower will first prepare a simplified qualitative DRA, consisting of a diagnosis compiling and identifying existing information and measures as well as existing gaps. For high-risk projects, a complete qualitative DRA must also be conducted. If the resulting qualitative DRA is able to adequately evaluate the risks and propose measures, then a DRMP must also be prepared. If the resulting qualitative DRA identifies the need for risk quantification, then a quantitative DRA and DRMP must also be prepared. For moderate-risk projects where the simplified qualitative DRA found no existing gaps, a DRMP must be prepared that proposes the necessary measures to manage the identified risks. For moderate-risk projects where the simplified qualitative DRA found existing gaps, a complete qualitative DRA must be conducted. If the resulting qualitative DRA is able to adequately evaluate the risks and propose measures, then a DRMP must also be prepared. If the resulting qualitative DRA identifies the need for risk quantification, then a quantitative DRA and DRMP must also be prepared.

GL48. The objective of a DRA is to evaluate in more detail the potential impacts of natural hazards, including climate change. The DRA may be a stand-alone report, or it may be incorporated into the Borrower's consolidated reporting on its environmental and social risks and impacts identification process. The results of the risk assessment will support and inform the selection of the appropriate risk management and mitigation measures to be included in the DRMP. The Methodology should be followed for the preparation of any DRA and DRMP; additional guidance related to safety of dams is available in GL63 - GL78. The climate change analysis included in the DRA must provide the necessary information to allow for an assessment of the appropriateness of the design and operation of the project, including applicable infrastructure, structural elements and equipment, as planned over the life of the assets. Additional resources are listed in the Annotated Bibliography (here: <https://www.iadb.org/en/mpas/guidelines>). The DRA should include, at a minimum, the following elements:

- a. Identification and evaluation of all natural hazards, including the effects of climate change when applicable, that can potentially affect the project and exacerbate risk in the project area using appropriate qualitative or quantitative methods to characterize the frequency, intensity, and spatial extent of natural hazard and/or climate related events;

- b. Identification and characterization of the baseline and post-project intervention exposure related to assets and population;
- c. Identification and evaluation of the physical and social vulnerability of the project and surrounding communities and environment; and
- d. Evaluation of risk for baseline and post-project intervention conditions, as well as for any proposed alternatives or measures, using appropriate qualitative or quantitative methods, including an assessment of whether the project creates additional risk or not.

GL49. Necessary disaster and climate change resilience and adaptation measures are documented in a DRMP. The Borrower should include the necessary measures in the project planning, design, construction and operation phases to reduce natural hazard and climate change related risk to a level consistent with relevant laws, regulations and standards, and aligned with international good practice. There are different types of structural and non-structural measures to address risk reduction, risk transfer, residual risk management, risk preparedness and emergency response. These measures may be grouped into: (i) strengthening, (ii) protection and control, (iii) planning, (iv) natural systems protection, (v) education and awareness, and (vi) preparedness and response. It is recommended to mitigate risk from a natural hazard by combining different options to ensure effective risk management. It is also important to consider risk tolerability standards, when available, which are usually sector-specific, and to assess whether the proposed mitigation measures meet them. The Methodology, which provides further technical guidance on how to develop a DRMP and provides examples of measures and risk tolerability standards, should be followed for this for all project sectors. See GL35-GL43 for further explanation related to emergency preparedness and response. These measures must be implemented and monitored by the Borrower as part of the consolidated reporting on its environmental and social risk and impact management process.

GL50. These guidelines also apply to rehabilitation and reconstruction projects following the impacts of natural hazard events and physical damage (e.g., structural collapse and explosions). Projects that finance recovery and reconstruction after a disaster must incorporate lessons learned from the investigation of the disaster. Methods to conduct post-event damage and loss assessments include the ECLAC's Damage and Loss Assessment Methodology (DALA) and the Post Disaster Needs Assessment (PDNA). If it is identified that such assessment is needed, the Borrower should seek specialized technical support for this. In order to avoid the rebuilding of or an increase in vulnerability during rehabilitation and reconstruction, the Borrower may consider allocating project resources to prevention, mitigation and risk transfer.

Security Personnel

15. When the Borrower retains direct or contracted workers to provide security to safeguard its personnel and property, it will assess risks posed by its security arrangements to those within and outside the project site. In making such arrangements, the Borrower will be guided by the principles of proportionality and

good international practice¹¹² in relation to hiring, rules of conduct, training, equipping, and monitoring of such workers, and by applicable law. The Borrower will make reasonable inquiries to ensure that those providing security are not implicated in past abuses; will train them adequately in the use of force (and where applicable, firearms), and appropriate conduct toward workers and the project-affected people; and will require them to act within the applicable law. The Borrower will not sanction any use of force except when used for preventive and defensive purposes in proportion to the nature and extent of the threat. The Borrower will provide a grievance mechanism for project-affected people to express concerns about the security arrangements and acts of security personnel, in accordance with ESPS 10.

16. The Borrower will assess and document risks arising from the project's use of personnel deployed to provide security services. The Borrower will seek to ensure that security personnel will act in a manner consistent with paragraph 11 above and encourage the relevant public authorities to disclose the security arrangements for the Borrower's facilities to the public, subject to overriding security concerns.
17. The Borrower will consider and, where appropriate, investigate all allegations of unlawful or abusive acts of security personnel, take action (or urge appropriate parties to take action) to prevent recurrence, and report unlawful and abusive acts to the appropriate public authorities.

GL51. The Borrower will assess the risks and impacts associated with its proposed use of security personnel, as direct workers or contracted workers (see ESPS 2), through its environmental and social risks and impacts identification process or through a dedicated assessment of the use of security personnel. This assessment should consider the changing needs for security arrangements throughout the life of the project. Good international practice related to the use of security personnel includes practice consistent with the United Nation's (UN) Code of Conduct for Law Enforcement Officials and the UN Basic Principles on the Use of Force and Firearms by Law Enforcement Officials. Based on the project's specific needs for security services, the Borrower should give priority to selecting security service providers, whether public security service providers or Private Security Companies (PSCs), who are signatories to the International Code of Conduct for Private Security Service Providers (ICoC) adopted by the International Code of Conduct Association. In the event no signatory firms are available, the Borrower will require the security service providers to adhere to the standards outlined in the ICoC, the principles of the Voluntary Principles, and the requirements of ESPS 4 and be guided by its Guidelines.

¹¹² Including practice consistent with the United Nation's (UN) Code of Conduct for Law Enforcement Officials, and UN Basic Principles on the Use of Force and Firearms by Law Enforcement Officials.

GL52. The Borrower will ensure that all security services workers, whether direct workers or contracted workers, are selected only after undergoing a rigorous background check to verify that security service workers:

- i. Have the requisite qualifications as defined by the applicable contract, applicable national law and industry standards, and the principles contained in the ICoC
- ii. Are at least 18 years of age
- iii. Meet the appropriate physical and mental fitness standards necessary to perform their contracted duties
- iv. Have not been convicted of a crime that would call into question their moral character and ability to perform their duties according to the standards outlined in this Guideline.
- v. Have not been dismissed previously from any PSC for a violation of any of the standards outlined in the ICoC and/or ESPS 4 Guidelines.
- vi. If required to carry a weapon, have not engaged in any prior conduct which would question their ability to carry a weapon and to follow required use of force policies and procedures.

GL53. All security services workers must also, as a condition of employment, agree to cooperate in any internal investigation conducted by their employer and/or by competent local authorities, including law enforcement, and agree to report any violation of any rules of conduct or use of force policies they observe, or become aware of, to their individual supervisors immediately, or to higher authorities if the violations involve their supervisors. Security service providers should strive to provide gender-appropriate treatment of community members, through the promotion of gender balance among service personnel.

GL54. The Borrower should seek to ensure that any security services worker employed by a PSC or any other organization selected to provide security services for a project will, as a priority, avoid the use of physical force when fulfilling their responsibilities in accordance with the Voluntary Principles on Security and Human Rights. When physical force is required, security personnel must use only that level of force necessary to overcome resistance, with a focus on using the lowest level of force necessary to gain compliance and that is in proportion to the threat and appropriate for the situation. The use of deadly force must only be used when there is an imminent threat of death or serious injury to security personnel or others, or to prevent the immediate threat of a particularly serious crime involving a grave threat to life. Written policies and procedures, consistent with all applicable laws and mandating these standards for security services workers, must be established and promulgated to all security personnel.

GL55. The Borrower will ensure that all PSCs and all other security services organizations that are under contract with the Borrower have established written rules of conduct for their personnel requiring them to follow all applicable laws, as well as international rules of conduct that prohibit crimes against humanity, genocide, torture, forced or compulsory labor, hostage taking, sexual or gender-based violence, human trafficking, trafficking in illicit drugs or weapons,

or child labor. Rules of conduct must also prohibit sexual exploitation, abuse and harassment, as well as any form of discrimination. All security services workers, direct and contracted, must agree in writing to adhere to rules of conduct prior to providing security services to the Borrower and agree to treat all persons humanely and with respect for their dignity and privacy.

GL56. The Borrower will establish an administrative and operational process to monitor the operations and activities of its security operations, direct and contracted, and their interactions with the community, on an ongoing basis, including holding regular meetings to discuss security operations with security services providers. PSCs and all other security services providers must also establish formal administrative and operational policies, procedures and protocols that allow them to engage in proactive monitoring of the activities of its security personnel and to take all necessary actions to address issues, including investigating and disciplining personnel for any misconduct. The Borrower's grievance mechanism will be made available to channel concerns about security arrangements in accordance with the requirements of ESPS 10.

GL57. The Borrower will confirm that security services providers deliver appropriate training to their security personnel on an ongoing basis to help ensure they develop the knowledge, skills and abilities necessary to perform their required duties, as well as to comply with the Rules of Conduct outlined in the ICoC and the requirements of ESPS 4 and the Guideline.

GL58. The Borrower will also ensure that the security services providers and organizations with whom they have contracted for security services are providing security personnel with the appropriate security-related equipment and associated facilities necessary to perform their duties, with a focus on ensuring the uniforms and safety equipment are modern, functional, appropriate for the nature of the security risks, standardized among all security personnel, and updated on a regular basis. The Borrower will also ensure that a formal protocol is established whereby security workers may report faulty or out-of-date equipment to the security services organization, after which the organization will investigate the reports and address concerns, update the equipment if necessary, and then report to the Borrower on measures and actions taken. The Borrower will also provide adequate protective gear that will protect security personnel from any hazardous materials on a project site, as well as from any exposure to communicable diseases as they come in contact with other workers that are on the project site.

GL59. Subject to any overriding security concerns, the Borrower should facilitate engagement of its security services providers and organizations with local representatives, local public officials and authorities to advise them of security procedures and operations at project locations. This enables leadership and supervisors of security personnel to establish a direct, positive working relationship with local law enforcement and other public safety officials in the event they need to collaborate to address a security concern of the Borrower. It also helps to prevent confusion and any unnecessary confrontations between security personnel and public officials if and when local authorities need to access a project location. It is also recommended that regular training exercises involving security personnel and local law enforcement and/or fire safety personnel occur for large and complex projects with extensive physical facilities, as well as for sites where any hazardous materials are used and stored.

GL60. For large projects with extensive security needs, the Borrower should consider establishing a formal written memorandum of understanding with its security personnel providers and local officials in advance so all will know the exact protocols that will be followed by all parties if and when a need arises.

GL61. The Borrower will require its security services providers and organizations to report any significant violations of the Rules of Conduct, as well as any violations of applicable laws, to the Borrower and to the appropriate local law enforcement officials. This will require security services providers and organizations to have the ability to receive reports of misconduct or unlawful acts on the part of its personnel, and, where appropriate, investigate acts of misconduct, take disciplinary action when necessary, and report incidents and follow-up actions to the Borrower. It will also require security services providers and organizations, in coordination with the Borrower, to promptly report any unlawful activity to the appropriate public authorities, working cooperatively with them during any subsequent investigation that may occur.

GL62. There may be cases where the government decides to deploy public security forces to protect a borrower's operations, whether on a routine or as needed basis. In countries where it is illegal for companies to employ private security forces, the borrower may have no choice but to engage public security forces to protect its assets and employees. Governments have the primary responsibility for maintaining law and order and the decision-making authority with respect to deployments. Nonetheless, borrowers whose assets are being protected by public security forces have an interest in encouraging those forces to behave consistently with the requirements and principles set out above for private security personnel in order to promote and maintain good relations with the community, bearing in mind that public security forces may be unwilling to accept restrictions on their ability to use offensive force where they consider necessary. Borrowers are expected to communicate their principles of conduct to public security forces, and express their desire that security be provided in a manner consistent with those standards by personnel with adequate and effective training. The borrower should request the government to disclose information about the arrangements to the borrower and the community, subject to overriding safety and security needs. If borrowers are required or requested to compensate the public security forces or provide equipment to them, and if the option of declining the request is not available or desirable, borrowers may choose to provide in kind compensation, such as food, uniform, or vehicles, rather than cash or lethal weapons. Borrowers should also try to implement restrictions, controls, and monitoring as necessary and possible under the circumstances to prevent misappropriation or use of the equipment in a manner that is not consistent with the principles and requirements set out above.

Safety of Dams

GL63. The dam safety requirements set out in this section apply to new and existing dams, including Dams Under Construction (DUC) and dams under rehabilitation. Dams provide material impoundment or flood control management solutions. Dams include a water storage dam for a hydropower, water supply, irrigation, flood control, or multipurpose project; a tailing or a slimes dam; or an ash impoundment dam, among other things. The dam safety requirements set out in this section apply to: (a) “large dams” per the definition of the International Committee on Large Dams (ICOLD): dams with a height of 15 meters or greater from the lowest foundation to crest or dams between 5 meters and 15 meters impounding more than 3 million cubic meters; and (b) “small dams” that (i) could cause safety risks, such as an unusually large flood-handling requirement, location in a zone of high seismicity, foundations that are complex and difficult to prepare, retention of toxic materials, or potential for significant downstream impacts, or (ii) are expected to become large dams during their operating life.

GL64. Dam failure (including the potential failure of coffer dams during construction) can lead not only to impacts on the operability of the project and loss of revenue, but also to extensive downstream flooding with potentially catastrophic consequences, including loss of life and destruction of property depending on the characteristics of land use downstream of the dam. Many factors can cause partial or total dam failure, including but not limited to: aging dam infrastructure, overtopping during normal or peak flow events because of inadequate spillway design; debris blockage of spillways; settlement of the dam crest; foundation settlement and slope instability; seepage around hydraulic structures such as pipes and spillways; corrosion of reinforcing steel; erosion of embankments; structural failure of the materials used in dam construction; inadequate management or maintenance; and seismic events or sudden upstream releases of water.

GL65. The following principles will always apply to the safety of dams:

1. Life safety is paramount. The Borrower shall identify and reduce the risk to life and property as low as reasonably practicable.
2. The basis for risk analysis should always be a thorough examination and description of potential failure scenarios. Specific technical guidance and examples of risk assessments for dams can be found in the IDB’s Disaster and Climate Change Risk Assessment Methodology.
3. The basis for design, operations and maintenance must consider the potential impact of a changing climate.
4. Each dam is unique in terms of purpose, geologic and demographic setting, design, structure, operations, and consequences.
5. Cumulative and synergic impacts and appropriate operational procedures should be considered when multiple impoundments occur within the same watershed.
6. The objective of the Borrower is to reduce dam safety risk as effectively and as efficiently as possible.

7. The Borrower will have a transparent process for establishing priorities and the urgency of completing dam safety actions. This process should be disclosed in the Dam Safety Report (see GL70 below).
8. The Borrower will use competent specialists to review and prioritize proposed dam safety actions when establishing urgency for action at a dam. Independent review is critical to the credibility of this process.
9. The resources committed to dam safety and the urgency of completing dam safety actions should be commensurate with risk.

New dams

GL66. The Borrower will engage experienced and competent professionals, acceptable to the Bank, for the design and supervision of the construction of new dams and require the owner of the dam to develop and implement a Dam Safety Report covering the design, bid tendering, construction, operation, maintenance, and decommissioning of the dam and associated works.

GL67. In developing the design criteria for new dams, the Borrower shall consider the climate that the dam is likely to experience over its operational life. The Borrower will conduct a climate change risk assessment in a manner described in paragraphs GL44 – 48 to establish the range of climate projections for the area of the project associated with the dam. For water retention structures, changing hydrology and changing probable maximum flows under climate change scenarios should be evaluated in order to inform the Dam Safety Report. The management of the maximum and minimum operating levels of the storage basin or reservoir can be used to prevent dam failure events. Also, sediment projections and sediment management practices should be taken into account, as sedimentation can also impact the Dam Safety Risk. In addition to potential impact on the structural safety of the dam as a result of a changing climate, the climate change risk assessment should also consider the potential impacts on the operability of the dam and overall performance of the project (for example, for a hydroelectric project the impact of changing climate on energy generation potential; for reference, see the IDB publication “Vulnerabilidad al Cambio Climático de los Sistemas de Producción Hidroeléctrica en Centroamérica y sus Opciones de Adaptación.” The projections, along with an assessment of uncertainty, must be documented in a design basis report.

GL68. The identification of appropriate new dam safety risk management options are essential elements to ensure community health, safety and security. They represent the understanding of existing conditions and predicted future behavior stated as objectively as possible. The risks associated with a dam are design and situation specific, and will vary depending on structural components, socioeconomic factors, and the environment within which the dam is being constructed and will operate. Risk assessment (for example, Failure Mode Effects and Criticality Analysis) should be completed to identify conceivable failures, as well as their probabilities and consequences (quantitative risk assessment), in accordance with internationally accepted practices. The U.S. Federal Emergency Management Association (FEMA), the U.S. Army Corps of Engineers (USACE), the U.S. Bureau of Reclamation (USBR), the Australian National Committee on Large Dams (ANCOLD), the Spanish national Committee on Large Dams (SPANCOLD), the

Canadian Dam Association (CDA), the Argentinian Dam Committee (CAP) and the Brazilian Dam Committee (CBDB) provide relevant risk assessment methodologies and dam safety guidelines for dams. The term risk, when used in the context of disaster and climate change risk and dam safety, is comprised of three parts: (1) the likelihood of occurrence of a load (e.g., flood, earthquake, etc.), (2) the likelihood of an adverse structural response (e.g., dam failure, damaging spillway discharge, etc.), and (3) the magnitude of the consequences resulting from that adverse event (e.g., life loss, economic damages, environmental damages, etc.). Where structures are located in areas that are at risk of high seismic loadings, the independent review should include a check on the maximum design earthquake assumptions and the stability of the structure. The number, professional breadth, technical expertise, and experience of the dam safety expert(s) engaged by the Borrower for the review of dam safety will be appropriate to the size, complexity, and hazard potential of the dam under consideration. For high-hazard dams, in particular, the dam safety expert(s) will possess recognized international expertise in their technical fields. Relevant expertise for a dam includes geology, hydrology, hydraulics, civil engineering, hydromechanical expertise, hydroelectrical expertise, and materials expertise. It may also include public health expertise, depending on the potential impacts on affected communities. Application of the requirements set out in this section will reflect these considerations and be proportionate to the size, complexity, and potential risk of the dam.

GL69. New dams, whether large or small, shall be subject to dam safety risk management review by an independent engineer(s) or dam specialists competent in the investigation, design, and construction of the dam and the start of operations. Where a dam does not fall under the definition of a large or small dam (for example, farm ponds, local silt retention dams, and low embankment tanks), safety measures designed by qualified engineers in accordance with GIIP will be adopted and implemented. The Borrower will confirm, through the environmental and social assessment conducted in accordance with ESPS1, that there will be no or negligible risk of significant adverse impacts due to potential failure of the dam structure to local communities and assets, including assets to be financed as part of the proposed project. The dam safety guidelines included above, in GL68, have become important references for dam safety internationally. The Guidelines consist of principles that are applicable to all dams, and an outline of processes and criteria for management of dam safety in accordance with the principles.

GL70. Recognizing that there will always be a certain level of residual risk with regards to the construction and operation of a dam, decisions made by the Borrower with respect to the project should be risk-informed, on the advice of competent professionals. Residual risk related to a specific dam safety issue that is identified over the life of the project is always to be disclosed in a timely manner. Residual risk is the risk that remains after reasonable and practicable actions to address the risk have been taken.

Existing dams and dams under construction

GL71. Where a project relies or may rely on the performance of an existing dam or a dam under construction (DUC) in the Borrower's territory, the Borrower will arrange for one or more independent dam specialists to: (a) inspect and evaluate the safety status of the existing dam or dam under construction, its appurtenances, and its performance history; (b) review and evaluate the owner's instrumentation, operation, and maintenance procedures; (c) commission a written report of findings and recommendations for any remedial work or safety related measures necessary to upgrade the existing dam or DUC to an acceptable standard of safety; and (d) ensure the implementation of those recommendations. When the owner of the existing dam or dam under construction is an entity other than the Borrower, the Borrower will enter into agreements or arrangements providing for the measures set out in this section to be undertaken by the owner. Such projects include, for example, power stations or water supply systems that draw directly from a reservoir controlled by an existing dam or a DUC; diversion dams or hydraulic structures downstream from an existing dam or a DUC, where failure of the upstream dam could cause extensive damage to or failure of the project facilities; and irrigation or water supply projects that will depend on the storage and operation of an existing dam or a DUC for their supply of water and could not function if the dam failed. They also include projects that require increases in the capacity of an existing dam, or changes in the characteristics of the impounded materials, where failure of the existing dam could cause extensive damage to or failure of project facilities.

GL72. The Borrower may use a previously prepared dam safety assessment or recommendations for improvements needed in an existing dam or DUC, if: (a) an effective dam safety program is already in operation; and (b) full-level inspections and dam safety assessments of the existing dam or DUC have already been conducted and documented and are satisfactory to the Bank. For projects that include additional dam safety measures or require remedial work, the Borrower will require that: (a) the dam is designed and its construction is supervised by competent professionals; and (b) the reports and plans required for a new dam (specified in GL66 and GL73 - Dam Safety Report) are prepared and implemented. For high-hazard cases involving significant and complex remedial work, the Borrower will also employ a panel of independent experts on the same basis as for a new dam.

Dam Safety Report

GL73. For new (and existing dams as appropriate), as part of a comprehensive Dam Safety Report, the Borrower shall prepare and implement detailed plans for each of the following: i) Construction Supervision and Quality Assurance; ii) Instrumentation; iii) Operations & Maintenance; iv) and Emergency Preparedness and Response.

- i. Construction Supervision and Quality Assurance—This plan covers the supervision and construction quality assurance requirements as the dam grows in height with any accompanying changes in construction materials or the characteristics of the impounded material over the period of construction.
- ii. Instrumentation—This is a detailed plan for the installation of instruments to monitor and record dam behavior and the related hydrometeorological, structural, and seismic factors. This plan will set out details on how observed meteorological conditions and updates to climate change projections correspond to the design criteria specified for the original construction of the dam or the operating conditions experienced in the past for existing dams or DUC.
- iii. Operations & Maintenance—This plan will set out details of the organizational structure, staffing, technical expertise, and training required; equipment and facilities needed to operate and maintain the dam; O&M procedures; and arrangements for funding O&M, including long-term maintenance and safety inspections. The O&M plan will reflect changes in the dam's structure or in the nature of the impounded material that may be expected over the operating life of the dam. The plan will be subject to regular (at least annual) review and revision by appropriate subject matter experts. It is expected that this plan will be finalized prior to commissioning of the dam and the start of operations. As part of the Operations & Maintenance Plan, the Borrower shall also conduct periodic safety inspections of the dam prior to commissioning and throughout its operational life, and implement measures required to address safety deficiencies identified during those safety inspections. This plan may be incorporated, in part or whole, in the Disaster and Climate Change Risk Management Plan (DRMP) described in GL49.
- iv. Emergency Preparedness and Response—Emergency preparedness and response planning should be conducted in accordance with GL35 – GL43. With regards to dams, the plan will specify the roles of responsible parties when dam failure is considered imminent, or when expected operational flow release threatens downstream life, property, or economic operations that depend on river flow levels. It will include the following: clear statements on the responsibility for decision making relating to dam operations and for the related emergency communications; maps outlining inundation levels for various emergency conditions; flood warning system characteristics; and procedures for evacuating threatened areas and mobilizing emergency forces and equipment. The plan

for emergency communication will include the mechanism through which potentially affected downstream communities will be informed. Consistent with established dam safety practice, Emergency Preparedness and Response Planning is often incorporated directly into the Dam Operations and Maintenance Plan.

GL74. With respect to certification and approval of structural elements of the project, where governmental approving authority capacity is limited or inadequate, the roles and responsibilities of alternative approving authorities, such as third-party professionals, should be agreed to and formulated before project implementation.

GL75. Where the dam is readily accessible by the public, the Borrower shall also implement controls to address the risks of accidents or incidents in which a member of the public encounters a hazard created by the presence or operation of the dam. Such controls are often documented and communicated by way of a Reservoir Safety Plan. The Canadian Dam Association has also published Guidelines for Public Safety Around Dams (2011) to address the risks of accidents or incidents in which a member of the public encounters a hazard created by the presence or operation of a dam. Safety measures may include but are not limited to; identification of high watermarks to indicate past or probable reservoir levels and streamflows, posting of safety instructions at highly visible and key locations, posting of restricted access signs and providing audible safety warnings upstream of below outlets as appropriate (see Association of State Dam Safety Officials, *Public Safety At Dams* (2021)).

GL76. Local emergency management and public safety authorities are key stakeholders in dam safety risk management. Effective communication of dam risks with emergency management and public safety authorities responsible for responses and evacuation actions is essential.

GL77. Effective risk communication should provide timely and best available information to facilitate the development of response plans and risk mitigation strategies. Local emergency management authorities shall be notified whenever a potential indicator of a dam failure listed in GL64 is identified to permit joint planning efforts to manage any potential dam failure. Useful reference is provided in National Fire Protection Association (NFPA) 1600 Standard, 2019 Edition, “Standard on Disaster/Emergency Management and Business Continuity Programs” Annex K “Emergency Communications: Public Alerts and Warnings in Disaster Response.”

GL78. As part of its Emergency Preparedness and Response Plan, or Disaster and Climate Change Risk Management Plan, as the case may be, the Borrower shall prepare a communications protocol that identifies the what, who, how and when notifications are provided to local emergency management and public safety authorities, and the public in the area of influence, in the event of a potential emergency. Consistent with GL35 – GL43, and in a manner prescribed by ESPS 10, the plan should be provided proactively for organizations and the public that will be, could be, or consider themselves impacted by a dam failure or by dam safety actions that will restrict or modify the operations at the dam.

