

This document should be read in conjunction with the proposed World Bank Policy to understand the proposed responsibilities of the World Bank (in the Policy) and the Borrowing Country (in the Standards).

## ***SECOND DRAFT FOR CONSULTATION JULY 1 2015***

# **Environmental and Social Standard 4. Community Health and Safety**

## **Introduction**

1. ESS4 recognizes that project activities, equipment, and infrastructure can increase community exposure to risks and impacts. In addition, communities that are already subjected to impacts from climate change may also experience an acceleration or intensification of impacts due to project activities.
2. ESS4 addresses the health, safety, and security risks and impacts on project-affected communities and the corresponding responsibility of Borrowers to avoid or minimize such risks and impacts, with particular attention to people who, because of their particular circumstances, may be vulnerable.

## **Objectives**

- To anticipate and avoid adverse impacts on the health and safety of project-affected communities during the project life-cycle from both routine and non-routine circumstances.
- To have in place effective measures to address emergency event.
- To ensure that the safeguarding of personnel and property is carried out in a manner that avoids or minimizes risks to the project-affected communities.

## **Scope of Application**

3. The applicability of this ESS is established during the environmental and social assessment described in ESS1.
4. This ESS addresses potential risks and impacts on communities that may be affected by project activities. Occupational health and safety (OHS) requirements for project workers are set out in ESS2, and environmental standards to avoid or minimize impacts on human health and the environment due to ongoing or pre-existing pollution are set out in ESS3.

## **Requirements**

### **A. Community Health and Safety**

5. The Borrower will evaluate the risks and impacts of the project on the health and safety of the affected communities during the project life-cycle. The Borrower will identify risks and impacts and propose mitigation measures in accordance with the mitigation hierarchy.

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### ***Infrastructure and Equipment Design and Safety***

6. The Borrower will design, construct, operate, and decommission the structural elements of the project in accordance with national legal requirements, the EHSs and GIIP, taking into consideration safety risks to third parties and affected communities. Structural elements of a project will be designed and constructed by competent professionals, and certified or approved by competent authorities or professionals<sup>1</sup>. Structural design will take into account climate change considerations, as technically and financially feasible.

7. Where the project includes new buildings and structures that will be accessed by members of the public, the Borrower will consider the incremental risks of the public's potential exposure to operational accidents or natural hazards, including extreme weather events. Where technically and financially feasible, the Borrower will also apply the principles of universal access<sup>2</sup> to the design and construction of such new buildings and structures.

8. When structural elements or components of a project<sup>3</sup> are situated in high-risk locations, including those with risk of extreme weather or slow onset events, 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. Further requirements on safety of dams are set out in Annex 1.

### ***Safety of Services***

9. Where the project involves provision of services to communities, the Borrower will establish and implement appropriate quality management systems to ensure that such services do not pose risks or have impacts on community health and safety.

### ***Traffic and Road Safety***

10. The Borrower will identify, evaluate and monitor the potential traffic<sup>4</sup> and road safety risks to workers and potentially affected communities throughout the project life-cycle and, where appropriate, will develop measures and plans to address them.

11. The Borrower will identify road safety measures and incorporate technically and financially feasible road safety components into the project design to prevent and mitigate potential road safety impacts on the local affected communities.

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<sup>1</sup> This may include, where appropriate, third-party life and fire safety audits for existing buildings that are used for communal purposes and for new buildings prior to their commissioning or use.

<sup>2</sup> Universal access means unimpeded access for people of all ages and abilities in different situations and under various circumstances.

<sup>3</sup> Such as dams, tailing dams or ash ponds.

<sup>4</sup> May include all motorized transportation relevant to the project.

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12. Where appropriate, the Borrower will undertake a road safety audit for each phase of the project, and will monitor incidents and accidents, and prepare regular reports of such monitoring. The Borrower will use the reports to identify negative safety trends, and establish and implement measures to resolve them. For Borrowers with vehicles or fleets of vehicles (owned or leased), the Borrower will provide appropriate training to workers on driver and vehicle safety. The Borrower will ensure regular maintenance of all project vehicles.

13. For projects that operate construction and other moving equipment on public roads or where the use of project equipment could have an impact on public roads or other public 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.

### **Impacts on Ecosystem Services**

14. The project's direct impacts on ecosystem services may result in adverse health and safety risks to and impacts on affected communities<sup>5</sup>. With respect to this ESS, ecosystem services are limited to provisioning and regulating services as defined in paragraph 5 of ESS6. Where appropriate and feasible, the Borrower will identify the project's risks and potential impacts on ecosystem services that may be exacerbated by climate change. Adverse impacts will be avoided, and if they are unavoidable, the Borrower will implement appropriate mitigation measures.

### **Community Exposure to Health Issues**

15. The Borrower will avoid or minimize the potential for community exposure to water-borne, water-based, water-related, and vector-borne diseases, and communicable and non-communicable diseases that could result from project activities, taking into consideration differentiated exposure to and higher sensitivity of vulnerable groups. Where specific diseases<sup>6</sup> are endemic in communities in the project area, the Borrower is encouraged to explore opportunities during the project life-cycle to improve environmental conditions that could help minimize their incidence.

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

### **Management and Safety of Hazardous Materials**

17. 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 a 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

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<sup>5</sup> For example, land use changes or the loss of natural buffer areas, such as wetlands, mangroves and upland forests, which 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 freshwater, may result in health-related risks and impacts.

<sup>6</sup> Such as malaria.

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of existing project infrastructure or components, the Borrower will exercise due care during construction and implementation of the project, including decommissioning, to avoid exposure to the community.

18. The Borrower will implement measures and actions to control the safety of deliveries of hazardous materials, and of storage, transportation and disposal of hazardous materials and wastes, and will implement measures to avoid or control community exposure to such hazardous material.

### ***Emergency Preparedness and Response***

19. The Borrower will identify and implement measures to address emergency events. An emergency event is an unanticipated incident, arising from both natural and man-made hazards, typically in the form of fire, explosions, leaks or spills, which may occur for a variety of different reasons, including failure to implement operating procedures that are designed to prevent their occurrence, extreme weather or lack of early warning. The measures will be designed to address the emergency event in a coordinated and expeditious manner, to prevent it from injuring the health and safety of the community, and to minimize, mitigate and compensate for any impacts that may occur.

20. Borrowers engaged in projects having the potential to generate emergency events will conduct a Risk Hazard Assessment (RHA), as part of the environmental and social assessment undertaken pursuant to ESS1. Based on the results of the RHA, the Borrower will prepare an Emergency Response Plan (ERP) in coordination with the relevant local authorities and the affected community, and will take into account the emergency prevention, preparedness and response arrangements put into place with project workers under ESS2.<sup>7</sup>

21. An ERP will include, as appropriate: (a) engineering controls (such as containment, automatic alarms, and shut-off systems) proportionate to the nature and scale of the hazard; (b) identification of and secure access to emergency equipment available on-site and nearby; (c) notification procedures for designated emergency responders; (d) diverse media channels for notification of the affected community and other stakeholders; (e) a training program for emergency responders including drills at regular intervals; (f) public evacuation procedures; (g) designated coordinator for ERP implementation; and (h) measures for restoration and clean-up of the environment following any major accident.

22. The Borrower will document its emergency preparedness and response activities, resources, and responsibilities, and will disclose appropriate information, as well as any subsequent material changes thereto, to affected communities, relevant government agencies, or other relevant parties. The Borrower will assist and collaborate with affected communities, relevant government agencies and other relevant parties in their preparations to respond effectively to emergency event, especially where their participation and collaboration will be an important part of an effective response.

23. The Borrower will review the ERP on a regular basis, and ensure that it is still capable of addressing the potential range of emergency events that might arise in connection with the project. The Borrower will support affected communities, relevant government agencies and other relevant parties through

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<sup>7</sup> ESS2, paragraph 25.

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training and collaboration, and will ensure that such training is conducted in conjunction with the training provided to project workers as part of the OHS requirements under ESS2.

### **B. Security Personnel**

24. When the Borrower retains direct or contracted workers to provide security to safeguard its personnel and property, it will assess risks posed by these 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 GIIP, and by applicable law, in relation to hiring, rules of conduct, training, equipping, and monitoring of such security workers. The Borrower will not sanction any use of force by direct or contracted workers in providing security except when used for preventive and defensive purposes in proportion to the nature and extent of the threat.

25. The Borrower will seek to ensure that government security personnel deployed to provide security services act in a manner consistent with paragraph 24 above, and encourage the relevant authorities to disclose the security arrangements for the Borrower's facilities to the public, subject to overriding security concerns.

26. The Borrower will (i) make reasonable inquiries to ensure that the direct or contracted workers retain by the Borrower to provide security are not implicated in past abuses; (ii) train them adequately (or determine that they are properly trained) in the use of force (and where applicable, firearms), and appropriate conduct toward workers and affected communities; and (iii) require them to act within the applicable law.

27. The Borrower will review all allegations of unlawful or abusive acts of security personnel, take action (or urge appropriate parties to take action) to prevent recurrence and, where necessary, report unlawful and abusive acts to the relevant authorities.

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### **ESS4 – ANNEX 1. SAFETY OF DAMS**

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#### **A. New Dams**

1. The Borrower will ensure that the design and construction of new dams are supervised by experienced and competent professionals, and that the owner of the dam adopts and implements dam safety measures during the design, bid tendering, construction, operation, and maintenance of the dam and associated works.
2. The dam safety requirements set out in this Annex<sup>1</sup> apply to:
  - (a) “Large dams” which are defined as 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;
  - (b) All other dams (referred to as “small dams”) that could cause security 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. Such dams can include farm ponds, local silt retention dams, and low embankment tanks; and
  - (c) Small dams that are expected to become large dams during their operating life.
3. Large dams require:
  - (a) Reviews by an independent panel of experts (the Panel) of the investigation, design, and construction of the dam and the start of operations;
  - (b) Preparation and implementation of detailed plans: a plan for construction supervision and quality assurance, an instrumentation plan, an operation and maintenance plan, and an emergency preparedness plan. Details of the plans are described below (“Dam Safety Reports: Content and Timing”);
  - (c) Prequalification of bidders during procurement and bid tendering, and
  - (d) Periodic safety inspections of the dam after completion.
4. The Panel consists of three or more experts, appointed by the Borrower and acceptable to the Bank, with expertise in the various technical fields relevant to the safety aspects of the particular dam.<sup>2</sup> The

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<sup>1</sup> Any dam not referred to in paragraph 2 (a) to (c), requires generic dam safety measures designed by qualified engineers.

<sup>2</sup> The number, professional breadth, technical expertise, and experience of Panel members are appropriate to the size, complexity, and hazard potential of the dam under consideration. For high-hazard dams, in particular, the Panel members should be internationally known experts in their field.

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Panel will review and advise the Borrower on matters relative to dam safety and other critical aspects of the dam, its appurtenant structures, the catchment area, the area surrounding the reservoir, and downstream areas. The Borrower will normally extend the Panel's composition and terms of reference beyond dam safety, to cover such areas as project formulation; technical design; construction procedures; and, for water storage dams, associated works such as power facilities, river diversion during construction, ship lifts, and fish ladders.

5. The Borrower contracts the services of the Panel and provides administrative support for its activities. Beginning as early in project preparation as possible, the Borrower arranges for periodic Panel meetings and reviews, which continue through the investigation, design, construction, and initial filling and start-up phases of the dam.<sup>3</sup> The Borrower informs the Bank in advance of the Panel meetings, and the Bank normally sends an observer to these meetings. After each meeting, the Panel provides the Borrower a written report of its conclusions and recommendations, signed by each participating member; the Borrower provides a copy of that report to the Bank. Following the filling of the reservoir and start-up of the dam, the Bank reviews the Panel's findings and recommendations. If no significant difficulties are encountered in the filling and start-up of the dam, the Borrower may disband the Panel.

### **B. Existing Dams and Dams under Construction**

6. 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 DUC, its appurtenances, and its performance history; (b) review and evaluate the owner's operation and maintenance procedures; and (c) provide 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.
7. 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.
8. 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.

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<sup>3</sup> If the Bank's involvement begins at a later stage than project preparation, the Panel is constituted as soon as possible and reviews any aspects of the project that have already been carried out.

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9. For projects that include additional dam safety measures or require remedial work, the Borrower will ensure 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 (see paragraph 3 (b) of this Annex) 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 (see paragraphs 3 (a) and 4 of this Annex).
10. When the owner of the existing dam or DUC is an entity other than the Borrower, the Borrower enters into agreements or arrangements providing for the measures set out in paragraphs 6 to 9 of this Annex to be undertaken by the owner.
11. Where appropriate, the Borrower may discuss with the Bank any measures necessary to strengthen the institutional, legislative and regulatory frameworks for dam safety programs in the country.

### **C. Dam Safety Reports: Content and Timing**

12. Dam safety reports should contain the following:
  - (a) Plan for construction supervision and quality assurance. This plan covers the organization, staffing levels, procedures, equipment and qualifications for supervision of the construction of a new dam or of remedial work on an existing dam. For a dam other than a water storage dam, this plan takes into account the usual long construction period, covering the supervision requirements as the dam grows in height—with any accompanying changes in construction materials or the characteristics of the impounded material—over a period of years.
  - (b) Instrumentation plan. This is a detailed plan for the installation of instruments to monitor and record dam behavior and the related hydrometeorological, structural and seismic factors. It is prepared during the design stage, before bid tendering, and provided to the independent Panel.
  - (c) Operation and maintenance (O&M) plan. This detailed plan covers 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 for a dam other than a water storage dam, in particular, reflects changes in the dam's structure or in the nature of the impounded material that may be expected over a period of years. Elements required to finalize the plan and initiate operations are normally financed under the project.
  - (d) Emergency preparedness plan. This plan specifies 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 includes the following items: clear statements on



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the responsibility for dam operations decision making 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 can be prepared during implementation, not later than one year before the projected date of initial filling of the reservoir.