

Environmental and Social Management System



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Adani Green Energy Limited



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Date	Rev	Key changes
28-May-2019	1.0	Issued for implementation
10-May-2020	1.1	Land selection checklist added – Annexure- 1- for solar site
		Land selection checklist added – annexure -2 – For wind site
		Land policy framed and published ; linked with checklist
		Scope of work of ESIA has been revised for solar and wind projects
		Scope of water feasibility, cumulative assessment has been added
		Grievance readdressal mechanism flow chart has been revised

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Glossary of terms

AOP	Annual Operation Plan
BMP	Best Management Practice
CEO	Chief Executive Officer
COO	Chief Operating Officer
CPAR	Corrective/Preventive Action Request
CSR	Corporate Social Responsibility
DPR	Detailed Project Report
EHS	Environmental, Health and Safety
EPC	Engineering, Procurement, and Construction
E & S	Environmental and Social
ESDD	Environmental and Social Due Diligence
ESIA	Environmental and Social Impact Assessment
ESHS	Environmental, Social, Health, and Safety
ESMS	Environmental and Social Management System
GIIP	Good International Industry Practice
HSE	Health, Safety, and Environment
IFC	International Finance Corporation
AGEL	Adani Green Energy Limited
OHS	Occupational Health and Safety
PS	Performance Standards
PPE	Personal Protective Equipment
SOP	Standard Operating Procedure

1. Environmental and Social Management System Description

1.1. General Requirements

In keeping with the requirements of International Finance Corporate (IFC) Performance Standard 1, "Assessment and Management of Environmental and Social Risks and Impacts" (PS 1), Adani Green Energy Limited (AGEL) has established an Environmental and Social Management System (ESMS) for its business activities. The ESMS is embodied in this ESMS Plan and a series of supporting Management Plans and Standard Operating Procedure (SOPs). These documents will be activated and periodically updated at appropriate points to ensure that the ESMS remains responsive to changing environmental, human health and safety, and other social management needs, as well as provide a level of detail that is commensurate with available resources and the nature of the activities being conducted. Collectively, the ESMS Plan and its supporting documents constitute a flexible management approach that is based directly on PS 1 and can readily accommodate the changing needs of the Project. This ESMS Plan and its supporting documents consort existing Health, Safety, & Environmental Management System of AGEL.

The ESMS Plan will apply over the entire project life cycle and associated activities, which is generally defined as three sequential phases:

- A. Construction and development of renewable energy project and electric power transmission infrastructure
- B. Renewable energy project operations
- C. Renewable energy project decommissioning, site restoration and closure

As noted in Table 1, in addition to the requirements of PS 1, ESMS Plan contents also consider applicable elements of:

- the IFC Performance Standards (PSs)¹;
- the ISO 14001 Environmental Management System² Standard; and
- the ISO 45001 Occupational Health and Safety (OHS) Management System³ Standard.

¹See

https://www.ifc.org/wps/wcm/connect/c8f524004a73daeca09afdf998895a12/IFC_Performance_Standards.pdf?MOD=AJPERES

²ISO 14001:2015, Environmental Management Systems – Requirements with Guidance for Use; International Organization for Standardization, Geneva, Switzerland, 2015. ISO 14001 is considered as a GIIP only. References to this standard should not be construed as a commitment to undertake third-party certification.

³ISO 45001:2018, Occupational Health and Safety Management Systems – Requirements with Guidance for Use; International Organization for Standardization, Geneva, Switzerland, 2018. ISO 45001 is considered as a BMP for OHS program management, as well as for its structural and contextual compatibility with PS-1 and ISO 14001. References to this standard should not be construed as a commitment to undertake third-party certification.

Table 1: ESMS Plan-References for Structure and Content

ESMS Plan Sections/Subsections	Applicable IFC Performance Standard 1 requirements	Corresponding ISO 14001:2015 requirements	Corresponding ISO 45001:2018 requirements
1.0 Introduction			
1.1. ESMS Description	Requirements, item 5, Page. 7	4.3, 4.4	4.3, 4.4

ESMS Plan Sections/Subsections	Applicable IFC Performance Standard 1 requirements	Corresponding ISO 14001:2015 requirements	Corresponding ISO 45001:2018 requirements
1.2. ESMS Documentation	Requirements, item 5, Page. 7	4.4	4.4
1.3. Change Management	Requirements, item 5, Page. 7	4.4	4.4
2.0. Policy	Requirements, item 6, Page. 7	5.2	5.2, 10.3
3.0. Identification of Risk and Impacts			
3.1. Legal & Other Requirements	Requirements, item 7, Page. 7-8	6.1.3	6.1.3
3.2. Social and Environmental Aspects, Risk Assessment, and Risk Management Planning	Requirements, items 7-12, Page. 7-9	6.1.2	6.1.2
3.3. Occupational Health and Safety Hazard Identification, Risk Assessment, and Risk Management Planning	Requirements, items 7-12, Page. 7-9	N/A	6.1.2, 6.1.4
4.0. Management Programs			
4.1. Environmental, Social, and Health & Safety (ESHS) Objectives and Targets	Requirements, items 13-16, Page. 9-10	6.2, 6.2.1, 6.2.2	6.2, 6.2.1, 6.2.2
4.2. ESHS Performance Improvement Management Program/Management Plans	Requirements, items 13-16, Page. 9-10	10.3	10.3
4.3. Operational Controls			
4.3.1. Operational Planning Process	Requirements, items 13-16, Page. 9-10	8.1	8.1
4.3.2. Management of Social and Environmental Impacts	Requirements, items 13-16, Page. 9-10	8.1	N/A
4.3.3. Control of Contractor Operations	Social and Environmental Management System, Element (14), "Management Program", Page. 9-10	8.1	8.1.4
5.0. Organizational Capacity and Competency			
5.1. Structure and Responsibility	Requirements, items 17-19, Page. 10-11	5.3	5.3, 7.1
5.2. Training, Awareness and Competence	Requirements, items 17-19, Page. 10-11	7.2, 7.3	7.2, 7.3

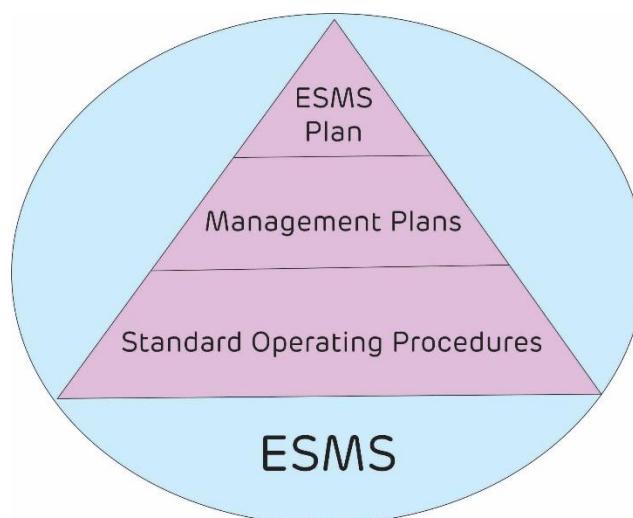
ESMS Plan Sections/Subsections	Applicable IFC Performance Standard 1 requirements	Corresponding ISO 14001:2015 requirements	Corresponding ISO 45001:2018 requirements
6.0. Emergency Preparedness and Response	Requirements, items 20-21, Page. 11	8.2	8.2
7.0. Monitoring and Review			
7.1. ESMS Records	Requirements, items 14, 24, Page. 9, 12	7.5.3	7.5.3
7.2. Monitoring and Measurement			
7.2.1. ESMS Monitoring	Requirements, items 22-24, Page. 11-12	9.1, 9.1.1	9.1.1
7.2.2. Regulatory Compliance Verification Audits	Requirements, items 22-24, Page. 11-12	9.1.2	9.1.1
7.2.3. ESHS Performance Measurement	Requirements, items 22-24, Page. 11-12	9.1.1	9.1.1
7.3. Non-conformance Reporting, Corrective and Preventive Action	Requirements, items 22-24, Page. 11-12	10.2	10.2
7.4. Internal ESMS Audits	Requirements, items 22-24, Page. 11-12	9.2.1, 9.2.2	9.2.1, 9.2.2
7.5. Management Review	Requirements, items 22-24, Page. 11-12	9.3	9.3, 10.1, 10.3
8.0. Stakeholder Engagement			
8.1. Stakeholder Analysis and Engagement Planning	Requirements, items 26-28, Page. 13	7.4.1, 7.4.2, 7.4.3	7.4.1, 7.4.2, 7.4.3
8.2. Disclosure of Information	Requirements, items 29, Page. 13	7.4.1, 7.4.2, 7.4.3	7.4.1, 7.4.2, 7.4.3
8.3. Informed Consultation and Participation	Requirements, items 30, Page. 13	7.4	7.4
8.4. Indigenous Peoples	Requirements, items 32, Page. 14	7.4.3	7.4.3
8.5. Private Sector Responsibilities under Government-Led Stakeholder Engagement	Requirements, items 33, Page. 14	6.2.1, 6.2.2, 7.4.3	6.2.2, 7.4.3
9.0. External Communications and Grievance Mechanisms			
9.1. External Communications	Requirements, items 34, Page. 15	7.4.3	7.4.3
9.2. Grievance Mechanisms to Affected Communities	Requirements, items 35, Page. 15	6.2, 6.2.1, 6.2.2	6.2, 6.2.1, 6.2.2

ESMS Plan Sections/Subsections	Applicable IFC Performance Standard 1 requirements	Corresponding ISO 14001:2015 requirements	Corresponding ISO 45001:2018 requirements
10.0. Ongoing Reporting to Affected Communities	Requirements, items 36, Page. 15	7.4.3	7.4.3

1.2. ESMS Documentation

The overall hierarchy of documents that comprise the ESMS is depicted in Figure 1.

Figure 1: ESMS Document Hierarchy



The functions fulfilled by each level of documentation are summarized as follows:

- The highest-tier document in the ESMS is represented by this ESMS Plan, which describes the overall structure, requirements, and content of the management system, as well as the organizational structure, key management responsibilities, and the specific functions fulfilled by other categories of system documents. Unless noted otherwise, the ESMS Plan and its supporting documents are intended to apply only to the areas, facilities, and activities that constitute the AGEL Project. These are expected to include:
 - Construction and development of renewable energy project and electric power transmission infrastructure
 - Renewable energy project operations
 - Renewable energy project decommissioning, site restoration and closure

The ESMS Plan will be periodically reviewed and updated in response to the changes that will occur in various phases of the Projects life cycle. It is the primary reference for the overall design and contents of the ESMS and is meant to serve as a key communication tool in the presentation of the ESMS to lenders, regulatory authorities, and other external parties.

The ESMS Plan will be supported by a suite of Management Plans, which are focused on the management or mitigation of the specific environmental and social issues or impacts generally associated with one or more phases of the Project. Management Plan content will depend in significant part on the design assumptions and details contained in and the results of the Updated Environmental and Social Impact Assessment Report and/or other modes of project information.

A general list of the Management Plans likely to be required over all phases of the Projects and their general applicability over the life of the projects is presented in Table 2. The general scope and purpose of each Management Plan are briefly summarized as follows:

I. Management Plan 1: Occupational Health & Safety Plan

This plan addresses all aspects of occupational health and safety on the Project, with emphasis on the identifying required safety behaviors, preventive/protective measures, and the routine implementation of SOPs to minimize the potential for accidents, injuries, and illness to the AGEL and contractor workforce. The Occupational Health and Safety/Accident Prevention Plan will be updated to specifically address the OHS aspects of a specific renewable energy project and electric power transmission infrastructure development, operations in advance to permit ample time for workforce training.

II. Management Plan 2: Emergency Preparedness and Response Plan

This plan will be designed to minimize the potential for accidents and emergency situations involving the construction operations, and/or the renewable energy project's physical structures or operational practices. The Emergency Preparedness and Response Plan will address the minimum safety requirements, as well as appropriate GIIPs drawn from the international organizations, and other sources.

III. Management Plan 3: Construction Management Plan

This plan will be developed by AGEL's Engineering, Procurement, and Construction (EPC) contractor, and will describe the overall organization and management of the major construction phase of the Project, from initial earthworks through the construction and commissioning of the renewable energy project's, fuel storage areas, workshops, man-camp, waste management facilities, roadways, and other infrastructure.

IV. Management Plan 4: Waste Management Plan

The Waste Management Plan will contain requirements for periodic inspections of respective materials, collection, segregation of incompatible and materials, the condition of warning or access control signage, and the functionality or readiness of personal protective equipment (PPE), fire suppression and other emergency systems.

V. Management Plan 5: Transportation Management Plan

This plan addresses the management of truck/ freight wagons on the AGEL Project site road, as well as staff travel to Project sites via crew bus or light vehicles. The plan will address rules of the road, travel security, illegal or undesirable human influx into the Project concessions, sharing of maintenance responsibilities with other road users, and other requirements.

VI. Management Plan 6: Stakeholder and Community Relation Management Plan

This plan describes the methods AGEL will use to engage the workforce, affected communities, and other potential stakeholders directly affected by the specific project

activity, and to ensure that relevant environmental and social information is disclosed and disseminated through appropriate outreach and communications procedures.

VII. Management Plan 7: Visitor Management Plan

This plan addresses specific concerns on minimizing and ensuring the health and safety potential for uncontrolled/controlled entry of the peoples to the project area, especially during renewable energy project and electric power transmission infrastructure construction and operations, and provides specific strategies and procedures to minimize the risk.

VIII. Management Plan 8: Environmental and Social Monitoring Plan

This plan will be designed to capture all of the specific monitoring needs identified in individual Management Plans and supporting SOPs; it will provide for the development and maintenance of a spreadsheet documenting the planning, execution, and reporting actions associated with the environmental and social monitoring requirements that will apply over the construction, operation, decommissioning/closure phases of the Project.

IX. Management Plan 9: Biodiversity Management Plan

This plan will require need-based surveys of flora and fauna to monitor potential changes to the biodiversity profile of the Project in the construction, operational phase. It may also require ongoing monitoring for the presence of key indicator/potentially endangered species which may require adjustments in operating practices or other measures to protect affected habitat or otherwise minimize potential impacts.

Table 2: Management Plans - General Applicability Over Project Life Cycle

MP	Plan Title	Construction	Operation	Decommissioning
I	Occupational Health & Safety Plan			
II	Emergency Preparedness and Response Plan			
III	Construction Management Plan			
IV	Waste Management Plan			
V	Transportation Management Plan			
VI	Stakeholder and Community Relation Management Plan			
VII	Visitor Management Plan			
VIII	E & S Monitoring Plan			
IX	Biodiversity Management Plan			

All Management Plans will be organized for effectiveness in implementation, and, as appropriate for the subject matter, will include:

- a clear statement of objectives or purpose;
- a brief discussion of the relationship to the overall structure and purpose of the Project ESMS;
- regulatory or GIIP references, as applicable;
- roles and responsibilities of key personnel;

- specific measures, procedures, or practices (with detail either included or invoked by references to SOPs, other Management Plans, or other documents) to prevent or mitigate the environmental or social issues or impacts that are the primary focus of a given Management Plan;
- training requirements (see Section 5.2);
- inspection and/or monitoring requirements associated with Plan implementation, including cross-references to non-conformance resolution processes (see Section 7); and
- any external or internal reporting requirements.

Modifications may also be required to incorporate the results of regular environmental, social, and health and safety (ESHS) risk reviews as discussed in Sections 3.2 and 3.3. All of these changes and modifications will be controlled within the context of this ESMS Plan as described in Section 1.3.

It should be noted that development and finalization of all Management Plan substantially depend on details that will be finalized in project DPR/ESIA Reports/business terms with regulatory authorities/ financial institutions as well as the availability of staffing, appropriate resources. Advance implementation of preliminary versions of selected Management Plans and/or SOPs may be authorized in response to specific project needs directed by the Head - EHS, Manager - EHS and/or Corporate Social Expert, as noted in Section 5.1.

The ESMS Plan and the various Management Plans will be supported by a suite of Standard Operating Procedures (SOPs). SOPs are written specifically to guide AGEL workers and (when invoked by contract, all or in part) contractor personnel in the day-to-day performance of specific field or office activities required by the upper-tier plans. SOPs will be developed with a level of detail commensurate with the phase of the project, the complexity of the task, current staffing levels, and the capabilities and experience of the workforce. SOPs may support one or several Management Plans and one or several Project phases.

A list of the SOPs to support this ESMS Plan is presented in Table 3.

Table 3: Renewable Energy Project SOP's

SOP Designator	SOP Title
AGEL.PROCEDURE.01	Document and Record Control
AGEL.PROCEDURE.02	Field Inspections
AGEL.PROCEDURE.03	Identification of Non-conformances and Respective Action
AGEL.PROCEDURE.04	Training and Development
AGEL.PROCEDURE.05	Grievance Management
AGEL.PROCEDURE.06	Use of Personal Protective Equipment
AGEL.PROCEDURE.07	Emergency Preparedness Plan
AGEL.PROCEDURE.08	Transportation Safety
AGEL.PROCEDURE.09	Handling of Hazardous Materials
AGEL.PROCEDURE.10	Recognition and Reporting of Incidents, Illness and Safety Hazards
AGEL.PROCEDURE.11	Identification of Legal and Other Requirements

AGEL.PROCEDURE.12	Determination of Environmental and Social Aspects and Significant Impacts
AGEL.PROCEDURE.13	Management Reviews
AGEL.PROCEDURE.14	Water and Waste Water Management
AGEL.PROCEDURE.15	Site Security
AGEL.PROCEDURE.16	Hazard Identification and Risk Assessment
AGEL.PROCEDURE.17	Archaeological Chance Find
AGEL.PROCEDURE.18	Waste Management

Additional SOPs required for the long-term implementation of the ESMS Plan and Management Plans may also be developed and issued at any time in accordance with AGEL.PROCEDURE.01, "Document and Record Control."

1.3. Change Management

It must be emphasized that in order for the ESMS to be effective in actual practice, the overall complexity and level of detail provided in the Management Plans and their supporting SOPs must be commensurate with AGEL's level of employment, the availability of qualified personnel resources, the overall complexity and significance of the environmental and social risks associated with the activities being conducted, and the financial and other business management resources that are available during the associated Project activity, and phase. SOP preparation, review, approval, controlled distribution, and update requirements are defined by AGEL.PROCEDURE.01, "Document and Record Control." Latest approved versions of all levels of ESMS documents will be subject to controlled distribution in accordance with AGEL.PROCEDURE.01, "Document and Record Control." All Management Plans and SOPs will be subject to review and approval by the Head - EHS, Manager – EHS and/or Corporate Social Expert prior to issuance.

2. Policy

The AGEL policies are defined consecutively as Appendix A, Appendix B, Appendix C, Appendix D, Appendix E, Appendix F, Appendix G and consist of:

- Integrated Management System Policy
- Vigil Mechanism / Whistle Blower policy
- Human Resources Framework Policy;
- Stakeholder and Community Engagement Strategy; and
- Human Rights and Community Relations Policy
- Corporate Social Responsibility (CSR) Policy
- Land Procurement Policy

The Head – EHS, Manager – EHS and Corporate Social Expert have key roles in ensuring proper policy implementation at all levels of the organization, through the administration of this ESMS Plan and the various monitoring measures described herein. Taken in combination, these policies emphasize open communication and consideration of the social and environmental interests of affected communities and residents, regulatory authorities, the AGEL workforce, and other stakeholders. The suitability and effectiveness of these policy statements will be evaluated at least annually as part of the management review process described in Section 7.5. Policy contents will also be communicated to the Project workforce through periodic human resources, social, environmental, and OHS awareness training (see Section 5.2), and by

distribution and posting of the policy documents in key locations at AGEL’s headquarter locations in Ahmedabad, the project sites, and other facility locations.

Project contractors will also be advised on applicable policy requirements (including but not limited up to offering accidental insurance, medical fitness test at the time of employee joining, providing applicable PPE’s, etc.) through their individual procurement documents, as noted in Section 4.3.3. Copies of these policies will also be distributed in response to specific requests for information, or as may otherwise be directed by Project management.

3. Identification of Risk and Impacts

3.1. Legal and Other Requirements

The AGEL will maintain the understanding of the full scope of legal and regulatory requirements that apply to all phases of the project life cycle, as well as any associated planning, operating, monitoring, or reporting requirements. Prior to the initiation of the construction phase of the project, however, procedure AGEL.PROCEDURE.11, “Identification of Legal and Other Requirements” will be implemented in order to provide guidance for routinely integrating required permitting actions into the advance planning and scheduling of construction, and operations activities, as well as new (if any) activities that may be initiated in those phases. This understanding will be considered in the risk and impact evaluation process described in Section 3.2. AGEL.PROCEDURE.11 will also provide for the development and regular update of a Project-specific register of regulatory requirements that is based on the regulatory setting defined in the project planning document, as well as other voluntary lender and industry-specific standards that AGEL may choose to adopt for the Projects (e.g., applicable IFC performance standards and industry-specific guidelines). AGEL.PROCEDURE.11 will also require that the Project establish and maintain access to appropriate information sources as the means to identify new or modified regulatory requirements or changes that may affect any phase of Project operations.

As noted in Section 7.2.2, after the initiation of the construction phase, the Project’s regulatory compliance status will be subject to an internal verification audit on at least on a half-yearly basis. Any compliance issues that may be detected in the verification audit process will be formally resolved in accordance with AGEL.PROCEDURE.03, “Identification of Non-conformances and Respective Action”

3.2. Social and Environmental Aspects and Impacts, Risk Assessment, and Risk Management Planning

Initial identification of the social and environmental aspects and potential impacts associated with renewable energy facility development, operations, decommissioning and closure operations will be documented separately for each project activity. The potential environmental and social impacts that will be identified through the ESIA’s or any other source of records will be reflected in the Management Plans, listed in Table 2 and described in greater detail in Section 4.3.2. The Scope of Work for ESIA of Solar and Wind project is given in ANNEXURE 1 and Scope of Work for ESDD/Screening of Solar and Wind Project is given in ANNEXURE 2.

The social and environmental impacts so identified will be summarized and documented in a project-specific list or register, which will be evaluated on at least on a half-yearly basis. The input provided by local/external stakeholders will also be identified and specifically considered in the evaluation of social and environmental aspects and impacts. Any necessary changes in the aspects/impacts register will be reflected in appropriate modification or additions to the

Project's Management Plans or other performance improvement measures, as discussed in Section 4.3.

3.3. Occupational Health and Safety Hazard Identification, Risk Assessment, and Risk Management Planning

As noted in Table 3, AGEL having a group of OHS-related SOPs to address predicted hazards and OHS risks. Work area-specific risks that will need to be addressed as the Project progresses will be evaluated and documented in a periodically updated register of risks and mitigation measures, in accordance with AGEL.PROCEDURE.10, "Recognition and Reporting of Incidents, Illness and Safety Hazards." The results of this periodic evaluation will form the basis of the OHS component of an ongoing performance improvement program, which will be implemented at the start of major construction and is further described in Section 4. In the meantime, hazards or unsafe conditions that may be observed will be documented and reported as noted in AGEL.PROCEDURE.10, "Recognition and Reporting of Incidents, Illness and Safety Hazards" and will be investigated and considered, as appropriate, in updates or additions to affected Management Plans. Should additional SOPs be required to address newly observed conditions or other Management Plan needs, they will be developed in accordance with AGEL.PROCEDURE.01, "Document and Record Control."

4. Management Programs

4.1. Environmental, Social, and Health & Safety (ESHS) Objectives and Targets

At the start of the construction phase of the Projects and on at least an annual basis thereafter, performance objectives and targets will be set in an effort to further minimize or mitigate the environmental and social impacts described in Section 3.2, as well as any identified OHS hazards and risks as discussed in Section 3.3, over and above the measures that may already be in effect in existing Management Plans or SOPs.

4.2. ESHS Performance Improvement Management Program/Management Plans

At the start of the construction phase of the Projects, AGEL will also begin to implement an annual social, environmental, and OHS performance review and improvement process that updates (or generates new) Management Plans to mitigate specific impacts or undertake specific performance improvements, based on the performance objectives and targets discussed in Section 4.1.

AGEL.PROCEDURE.01 requires that technical guidance and appropriate scheduling information be provided for each performance improvement activities. Current regulatory requirements (see Section 3.1) and communications from external stakeholders (see Section 8.1) will also be considered in the process of preparing and updating individual Management Plans. Progress toward the completion of the improvement actions so defined will be monitored as described in Section 7.2.1 of this ESMS Plan. Final review and approval of specific performance improvement actions will be conducted as part of the annual management review process described in Section 7.5.

ANNEXURE 1 and 2 gives the detailed Scope of Work of ESIA and ESDD/Screening of Solar and Wind projects respectively.

4.3. Operational Controls

4.3.1. Operational Planning Process

Prior to the operational phase of the Project, AGEL will establish and begin to implement an Annual Operation Plan (AOP) under the direction of the Head - Projects. The AOP will address the general scope of the anticipated renewable energy project's operations over the next planning year. AOP preparers will specifically consider the impacts and management and mitigation measures noted in the project ESIA/ESDD/Any document containing relevant information and the performance improvement plans discussed in Section 4.2. The draft document will be submitted for evaluation by the Project Manager to the Head – Projects, Head - EHS and other management staff in order to ensure that regulatory and stakeholder issues and general feedback on environmental, social, and OHS performance are properly considered in the long-range planning of renewable energy project operations, as well as any extension (if any) operations. When approved, the AOP will form the general framework within which monthly and weekly operational planning meetings will be conducted. Operational instructions will typically be generated as the output of such meetings and distributed to supervisory and other personnel as necessary to guide ongoing renewable energy project's operations.

4.3.2. Management of Social and Environmental Impacts

As noted in Section 4.2 and Table 2, a series of detailed Management Plans will be developed to address those areas of project operations for which the ESIA/ESDD will indicate potentially significant environmental and social impacts, or could potentially occur in one or more phases of the renewable energy project life cycle. Where necessary, these Management Plans will be supported by SOPs. All such documents are subject to periodic evaluation, refinement, and update in response to changing regulations, process changes or improvements, or other change requirements, in accordance with the processes described in Section 1.3.

The specific environmental impacts associated with any field investigation or construction activity that involves a surface disturbance will be identified, documented, and appropriately mitigated. Field activities near any significant find shall be set back at least 10 meters unless other setback considerations are directed by regulatory authorities. Also, as discussed in Section 3.2, at the start of the construction phase, the Project will also commence an annual evaluation of the OHS hazards and risks associated with its operations, in accordance with procedure AGEL.PROCEDURE.16, "Hazard Identification and Risk Assessment." The results of this evaluation may prompt OHS performance improvements as described in Section 4.2, or updates or additions to the SOPs or Management Plans listed previously. Hazardous or unsafe conditions that may be observed in the course of the Project are to be documented in accordance with AGEL.PROCEDURE.10, "Recognition and Reporting of Incidents, Illness and Safety Hazards" investigated, and, if appropriate, also considered in updates or additions to the Management Plans and/or SOPs. Additional procedural controls may be established for newly observed conditions, as appropriate, in accordance with AGEL.PROCEDURE.01, "Document and Record Control."

4.3.3. Control of Contractor Operations

AGEL techno-commercial staff will coordinate with the Manager-EHS and Corporate Social Expert as necessary to ensure that appropriate environmental, social, OHS, and safety behavioral controls are included in the service/purchase orders or contracts issued to suppliers and contractors, in accordance with AGEL's standard procurement processes. AGEL policy, Management Plan, or SOP requirements may be invoked directly without modification, or

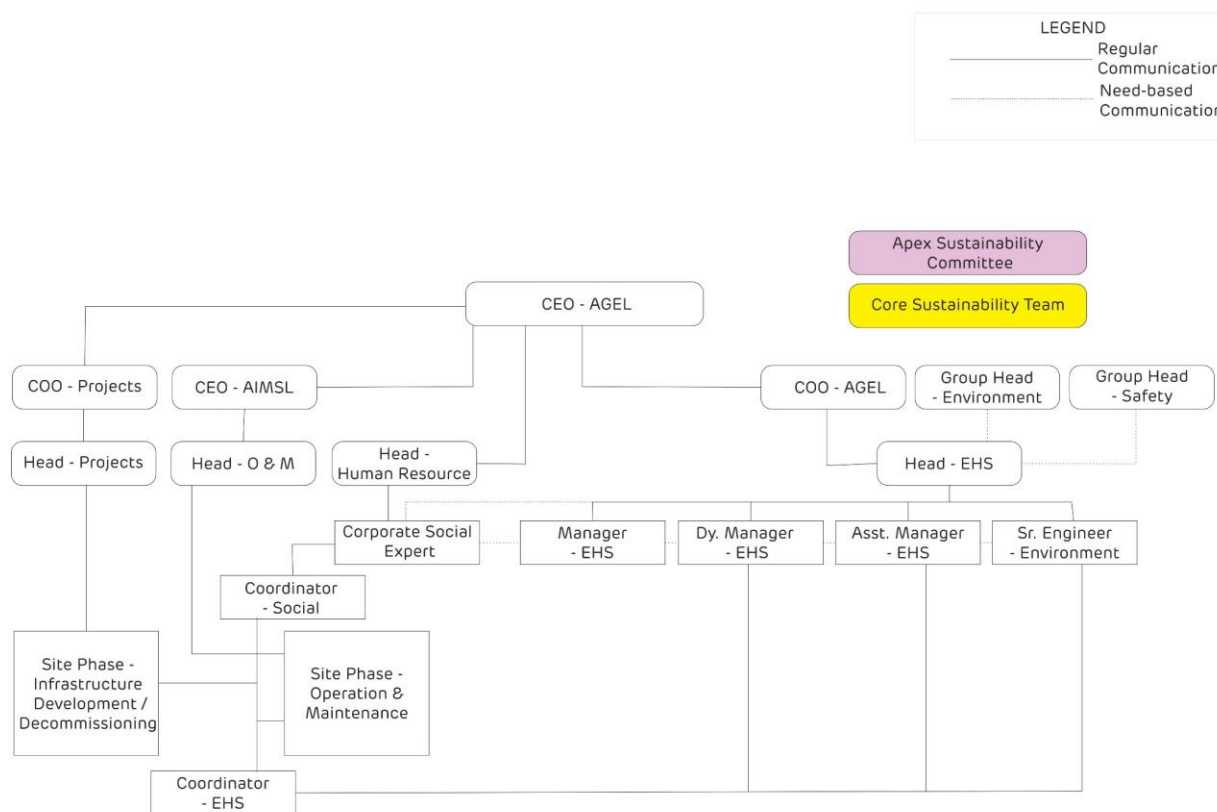
selected requirements may be invoked as appropriate for the nature of the procurement and the capabilities of the contractor; contractor training needs will be defined as appropriate. In the construction and operations phases, special contractual controls applicable to suppliers will be described in the Emergency Preparedness and Response Plan, and other Management Plans as required. Other appropriate contractual requirements will be invoked to ensure that the delivery of materials and equipment or other contractor operations at the project sites do not negatively impact the regulatory compliance status of the Project or compromise the effectiveness of the ESMS. Contractor staff may be requested to participate in emergency response drills or other training exercises, at the discretion of the EHS Coordinators; any such participation requirements will be incorporated in the governing procurement document.

5. Organizational Capacity and Competency

5.1. Structure and Responsibility

Figure 2 depicts AGEL's organizational structure;

Figure 2: ESMS Management Organizational Chart – AGEL



All AGEL employees, contractors, subcontractor are individually and collectively responsible for:

- Working safely, within the guidelines and requirements established by this ESMS Plan, its supporting Management Plans and SOPs;
- supporting the environmental, social, and OHS policies established for the AGEL Project (see Appendix A, Appendix B, and Appendix E) in the day to day performance of their work;

- Notify their supervisors, the Engineers, or the Environmental, Health, and Safety Officers (EHS Coordinator) of any observed spills, equipment malfunctions, unsafe or unhealthy situations, improper environmental practices, worsening trends, or other issues that could represent nonconformance with the requirements this ESMS Plan or its supporting Management Plans or SOPs.

Other specific responsibilities associated with the key positions noted in Figure 2 are summarized as follows:

- **Head - EHS:** The AGEL's EHS head, has overall responsibility for successful completion of Project activities, operations in the manner described in this ESMS Plan and the supporting Management Plans and SOPs described herein. The Head - EHS also assumes a lead role in the investigation and resolution of any community relations issues that may occur in the course of the Project.
- **Project Manager:** The Project Manager is responsible for overseeing day-to-day clearance and/or construction/operation activities. These duties include the review of construction reports to monitor progress and issues encountered, and in assisting the Environmental and Health and Safety Coordinators in the timely resolution of any observed health, safety, and environmental (HSE) issues.
- **Manager - EHS:** The Manager - EHS is responsible for the administration of AGEL's ESMS management system and will participate in the review, approval, and as necessary, update or modification of this ESMS Plan and supporting Management Plans and SOPs in response to changing project conditions. The Manager - EHS will also provide management support to the Engineers and the EHS Coordinator as necessary to ensure proper implementation of ESMS planning requirements.
- **Corporate Social Expert:** The Corporate Social Expert in coordination with Head – EHS, Manager – EHS, will be responsible to develop/revise and to avail the Stakeholder and Community Relation Management Plan to the site management. He/she will be responsible for working with the project development and land procurement teams to act as an interface between the project and affected communities. He/she will Work in coordination with the Head – EHS, Manager – EHS, Site EHS Coordinator/s to ensure effective engagement and consultation with people living/working close to or within the project area and wider affected communities. He/she will be working with the project management to maintain good community relations and address community concerns as they arise and agree with measures to respond to grievances in liaison with the wider project team and grievance committee.
- **EHS Coordinator:** The EHS Coordinator will be responsible for the regular monitoring of project activities to ensure continuing compliance with this ESMS Plan; see Section 7.0. The EHS Coordinator will provide input to periodic EHS monitoring reports, and may also conduct focused inspections of specific environmental or social/community relations issues at the request of the Project Manager and/ or Stakeholder Relationship Officer.
- **Engineer:** The Engineers will be responsible for their reporting authorities for assisting in special environmental tasks, as well as the regular monitoring of project activities to ensure continuing compliance with this ESMS Plan. Special assignments may include advising the construction team on applicable World Bank/ IFC requirements, best management practices for stockpiling of topsoil and erosion control, reviewing engineering designs for environmental compliance, and monitoring resolution of

corrective actions from ESHS audits. The Engineer may provide input to periodic EHS monitoring reports.

5.2. Training, Awareness, and Competence

The AGEL's workforce will be provided with appropriate types and levels of training in accordance with AGEL.PROCEDURE.04, "Training and Development." Training subjects and methods will be selected that are commensurate with the characteristics of routine and emergency work assignments, as well as any OHS hazards or environmental and social impacts that may be associated with such assignments. Training methods will be selected based on job descriptions and the experience and qualifications of the employee. At a minimum, all employees and new hires will receive awareness training that (as appropriate for the phase of the Project and relevant to their role and responsibilities) addresses:

- AGEL's community relations and IMS policies and commitments (see Section 2.0);
- AGEL's human resources framework policy and associated disciplinary procedures (see Appendices B, C);
- the primary social and environmental aspects of the project activity, their significant impacts, and the measures that must be employed to manage or mitigate such impacts;
- the primary workplace OHS hazards likely to be encountered, and how to avoid such hazards or mitigate their risks or effects (the risk register developed under AGEL.PROCEDURE.16, "Hazard Identification and Risk Assessment" will help in this regard); and
- any significant regulatory or community stakeholder concerns that must be considered in day-to-day operations (see the complaint records required by AGEL.PROCEDURE.05).

Refresher training will be provided to all staff on at least an annual basis. Additional training in the specific requirements of the plans and procedures that support the ESMS will be provided, as appropriate for individual work assignments. Specific training requirements applicable to suppliers or contractors will be defined within the context of their individual contracts or purchase orders as discussed in Section 4.3.3. All site visitors will be escorted and required to complete an ESMS briefing on arrival at any project site.

6. Emergency Preparedness and Response

The Emergency Preparedness and Response Plan will apply to all phases of the Projects and is designed to minimize the potential for accidents and emergency situations involving the construction activities, and renewable energy project's physical structures or operational practices.

The Emergency Preparedness and Response Plan will be developed in conjunction with the other Management Plans developed for specific construction, operation and decommissioning/closure phase activities (see Section 4.2), and will be reviewed and updated, as appropriate, on at least an annual basis. The Emergency Preparedness and Response Plan will identify key emergency-related roles and responsibilities and will provide direction on required responses to operational or environmental emergencies. The Emergency Preparedness and Response Plan will also be supported by several key SOPs, including:

- AGEL.PROCEDURE.04, "Training and Development";
- AGEL.PROCEDURE.06, "Use of Personal Protective Equipment"

- AGEL.PROCEDURE.10, "Recognition and Reporting of Incidents, Illness and Safety Hazards"
- AGEL.PROCEDURE.15, "Site Security."
- AGEL.PROCEDURE.16, "Hazard Identification and Risk Assessment"

The Emergency Preparedness and Response Plan will also contain requirements for periodic tests and drills to ensure that necessary response actions are understood by AGEL's designated site rescue team, other project staff, contractors, and, as appropriate for the given location, community emergency response personnel. In addition to the emergency notification requirements addressed in the Emergency Preparedness and Response Plan, the circumstances and response actions associated with any significant spills, releases, accidents, near-misses, or other emergency situations for which the AGEL's Project Activity has direct responsibility will be documented and investigated, and appropriate corrective and preventive actions will be taken in conformance with Section 7.3 and AGEL.PROCEDURE.03, "Identification of Nonconformances and Respective Action." Preventive actions in such cases will require a mandatory review of the adequacy and effectiveness of the Emergency Preparedness and Response Plan and its supporting procedures, and subsequent updates as warranted by the results of the review.

7. Monitoring and Review

7.1. ESMS Records

Records generated as output from the implementation of the ESMS Plan and its supporting plans and procedures will be filed and maintained by administrative staff under the direction of the Manager - EHS, in accordance with procedure AGEL.PROCEDURE.01, "Document and Record Control." AGEL.PROCEDURE.01 defines records organization, retention, and storage and retrieval requirements, as well as access control and other requirements designed to preserve the accessibility and integrity of records.

7.2. Monitoring and Measurement

7.2.1. ESMS Monitoring

Specific ESMS monitoring considerations may be addressed in individual Management Plans and supporting SOPs. However, a comprehensive Project Environmental and Social Monitoring Plan will also be developed to capture all of the specific monitoring needs identified in these documents and the final project ESIA/DPR. The Environmental and Social Monitoring Plan will provide for the development and maintenance of a spreadsheet documenting the planning, execution, and reporting actions associated with the environmental and social monitoring requirements that will apply in the construction, operation, decommissioning/closure, and post-closure phases of the project. The sources of these requirements may include:

- Environmental and social monitoring protocols established by the Project as a result of ESIA or any other relevant activities;
- additional environmental, social, and OHS monitoring parameters that may be identified by the other Indian regulations;
- progress monitoring requirements associated with the performance improvement process described in Section 3.2; and
- other specific environmental or social monitoring requirements established by individual Management Plans.

With respect to environmental monitoring, maps depicting monitoring locations, as appropriate for the construction phase of the Project will be included in the early iterations of the Environmental and Social Monitoring Plan. Appropriate updates shall be made as to the Project proceeds from construction to operation, and decommissioning/closure. Specific sampling and monitoring SOPs and required laboratory analytical procedure requirements will be invoked by reference.

Non-conformances noted in monitoring activities will be resolved through the corrective and preventive action process discussed in Section 7.3. The Environmental and Social Monitoring Plan will also describe the preparation and independent review, approval, and issue of an annual performance monitoring report. Consideration of the annual performance monitoring report results will represent a major component of the management review process described in Section 7.5.

7.2.2. Regulatory Compliance Verification Audits

No later than one year after the commencement of the construction phase (and annually thereafter), the Manager – EHS will request a detailed verification of Project compliance with applicable regulations. Audits may be conducted by AGEL personnel or qualified contractors, subject to functional independence, training, and qualification requirements. The current versions of the regulatory requirements list developed in accordance with Section 3.1 will be used as a primary reference for the audit, and audit results will be considered in any subsequent updates. Any non-conformances will be promptly documented and resolved as required by Section 7.3 and AGEL.PROCEDURE.03, "Identification of Non- conformances and Respective Action."

7.2.3. ESHS Performance Measurements

After the initiation of the construction phase, the Project will conduct an annual evaluation of OHS hazards and risks, in accordance with AGEL.PROCEDURE.16, "Hazard Identification and Risk Assessment" Per AGEL.PROCEDURE.03, evaluated documents will include corrective and preventive action records generated for significant near-misses and/or accidents that occurred in the previous year, as well as the number of OHS training sessions conducted, the number of staff trained in comparison to the average annual employment level, and records of specific physical improvements to infrastructure made to correct OHS deficiencies or other OHS-related purposes. The results of this evaluation will form the basis of the OHS component of the performance improvement program described in Section 4.2, and will also be reported to management as part of the performance data required by the management review process discussed in Section 7.5.

7.3. Non-conformance Reporting, Corrective and Preventive Action

All AGEL's staff are responsible for bringing suspected non-conformances, or releases of potentially hazardous wastes or materials, or other existing or potential emergency situations to the immediate attention of their supervisor or the Engineer or the EHS Coordinator, who will forward such information to the Manager - EHS for evaluation. In addition to the specific response actions that may be required by individual Management Plans or the current Emergency Preparedness and Response Plan (see Section 6.0), such situations will be promptly evaluated, documented, and thoroughly investigated, and appropriate management actions will be taken in accordance with the corrective and

preventive action processes described in AGEL.PROCEDURE.03, "Identification of Non-conformances and Respective Action."

In addition to direct observation, the requirements of AGEL.PROCEDURE.03 will also be invoked for the resolution of non-conformances identified through external stakeholder communications (see Sections 8.1 and 9.1); periodic regulatory compliance verifications (see Section 7.2.2); annual internal ESMS audits (see Section 7.4); or external inspections or audits conducted by or at the request of regulatory agencies or other external stakeholders.

Non-conformances are defined as conditions that AGEL can control or substantially influence that:

- are contrary to AGEL's IMS and Community Relations Policy commitments (see Section 2.0 and Appendix E);
- can be classified as accidents or significant near-misses;
- violate a legal or regulatory requirement, or represent a worsening condition that could result in a violation if not corrected;
- could potentially result in negative environmental or social impacts; or
- represent a lack of conformance with this ESMS Plan or its supporting Management Plans and procedures.

If a non-conformance is judged to exist, Corrective/Preventive Action Requests (CPARs) will be initiated and tracked until closure in accordance with AGEL.PROCEDURE.03. CPAR documents and tracking logs are considered to be key ESMS performance records and will be maintained as described in Section 7.1 and AGEL.PROCEDURE.01, "Document and Record Control." CPAR information will be routinely evaluated, as appropriate, in the planning of regulatory compliance verification audits, internal ESMS audits (see Section 7.4), and management reviews (Section 7.5).

7.4. Internal ESMS Audits

After the start of the construction phase, a comprehensive internal audit of the functionality and effectiveness of the ESMS will be performed at least half-yearly. Audit procedure will be based on a combined environmental/quality, social management system auditing standard that is cited by both ISO 14001, ISO 45001 and IFC PSs. Audit responsibilities will be assigned to properly qualified personnel and/or independent contractors or consultants who are functionally independent of the operational areas being audited. Additional audits may be performed at the discretion of AGEL's senior management. Any non-conformances detected in the audit process will be resolved in accordance with AGEL.PROCEDURE.03, "Identification of Non-conformances and Respective Action."

7.5. Management Review

After the beginning of the construction phase, an SOP will be developed to guide the performance of a comprehensive annual internal management review of the overall suitability and effectiveness of the AGEL's ESMS, in accordance with AGEL.PROCEDURE.13, "Management Reviews." Such reviews will involve the independent examination of several layers of environmental, social, and OHS performance information developed through the routine

implementation of this ESMS Plan and its supporting Management Plans and SOPs. This information will be assembled by or at the direction of the Head - EHS, and will include:

- open and closed CPARs generated from the reporting of environmental, social, or OHS-related non-conformances, periodic regulatory compliance audits, monitoring trends or results, internal ESMS audits, or inspections or evaluations that may have been conducted by regulatory agencies, lending institutions, or other external organizations;
- known or potential environmental and social issues and the concerns of interested parties, as documented in current communication logs and supporting correspondence (see Sections 8 and 9 and Appendix E, "Human Rights and Community Relations Policy");
- the current version of the AOP that addresses the projected scope of the next year's development and/or operations (see Section 4.3.1);
- environmental, social, and OHS performance monitoring results, or other reports or information collected to assess progress towards the completion of specific mitigation measures or performance improvement actions;
- reports from previous management reviews conducted in accordance with this Section; and
- other pertinent information

This information will be evaluated against the requirements of the current versions of AGEL policy documents (see Appendix A, B, C, D, E,F, and G) and the current regulatory requirements register (see Section 3.1). Any anticipated changes in regulatory compliance requirements, facility changes, organizational changes, or new directives that potentially affect the company's environmental, social, and/or OHS management practices will also be considered.

The management review will be documented in report format, and, as appropriate, will include specific recommendations for ESMS improvements, the update of the AOP, external sharing or publication of annual monitoring report results, or other appropriate management actions. It will be presented to AGEL's Chief Executive Officer (CEO) for final review and approval. Recommended performance improvement tasks will be documented that address any required ESMS Plan, Management Plan, or SOP updates; policy modifications; external communications; or other appropriate improvement actions.

If previously undetected non-conformances are observed in the management review process, they shall be documented and resolved as discussed in Section 7.3.

8. Stakeholder Engagement

8.1. Stakeholder Analysis and Engagement Planning

AGEL, wherever do it's business activities, will ensure;

- continuous engagement and consultation with the various stakeholder groups; and
- sponsorship of appropriately beneficial community development projects.

AGEL will carry these themes forward through its "Stakeholder and Community Engagement Strategy", which will be managed within the context of this ESMS.

The strategy will be applicable during all the phases of the project activity. General protocols for documenting and managing complaints from external stakeholders will be managed in accordance with AGEL.PROCEDURE.05, "Grievance Management", in order to ensure that any external stakeholder complaints or inquiries detected are documented and brought to the

attention of management and properly considered as the Stakeholder and Community Engagement Strategy/Management Plan.

Several SOPs will also be used in support of the 'Stakeholder and Community Engagement Strategy/Management Plan' and 'Visitor Management Plan'; these may include:

- AGEL.PROCEDURE.15, "Site Security", which addresses general site security issues, as well as appropriate actions to be taken in direct encounters with individuals or groups engaged in any disturbance or other activities that may occur throughout the project's life cycle;
- AGEL.POLICY.04, "Stakeholder and Community Engagement Strategy", which may be invoked as the means of communicating specific health and safety concerns associated with Project activities;
- AGEL.MSF.16," Solar Land/Site Selection Checklist", to find the most appropriate site with desired conditions.

AGEL.PROCEDURE.10, "Recognition and Reporting of Incidents, Illness and Safety Hazards", which will include guidance on reporting the proximity of planned activities to indigenous groups, or other inhabitants or transients encountered in the Project area.

8.2. Disclosure of Information

As noted in Section 8.1, AGEL having a comprehensive "Stakeholder and Community Engagement Strategy" that contains the social management themes reflected in the January 1, 2012 version of PS 1 (IFC, 2012), including specific requirements for the disclosure of Project information. Should individuals be directly encountered in the field, AGEL.PROCEDURE.15, "Site Security" requires that all such contacts be documented and appropriate hazard avoidance measures are implemented.

8.3. Informed Consultation and Participation

As noted in Section 8.1, AGEL having a comprehensive "Stakeholder and Community Engagement Strategy" that incorporates the social management themes reflected in PS 1 (IFC, 2012), including specific requirements for informed consultation and participation. Pursuant to Stakeholder and Community Engagement Strategy/Management Plan requirements, community information and consultation meetings will be periodically conducted. Should either community information and consultation meeting or any community health and safety awareness meetings result in specific concerns or information requests, they will be documented and referred to management for appropriate follow-up in accordance with Appendix D, "Stakeholder and Community Engagement Strategy."

8.4. Indigenous Peoples

As noted in Section 8.1, a comprehensive Stakeholder and Community Engagement Strategy/Management Plan will be implemented that will incorporate the social management themes reflected in PS 1 (IFC, 2012). Based on the information provided, it is unlikely that the requirements of Section 3.2 of PS 1 (which require obtaining "Free, Prior, and Informed Consent") will apply. However, should field encounters result in specific complaints or information requests, they will be documented and referred to management for appropriate follow-up in accordance with Appendix D, "Stakeholder and Community Engagement Strategy."

8.5. Private Sector Responsibilities under Government-Led Stakeholder engagement

As noted in Section 8.1, if and when found necessary at the end of AGEL, an appropriate Stakeholders engagement will be planned (in conjunction of the host government or independently), implemented that will incorporate the relevant management themes reflected in section 33 of PS 1 (IFC, 2012).

9. External Communications and Grievance Mechanisms

9.1. External Communications

As noted in Section 8.1, a comprehensive Stakeholder and Community Engagement Strategy will be implemented on sites prior to the start of construction activities. The Stakeholder and Community Engagement Strategy will be incorporated as per accordance with Appendix D, "Stakeholder and Community Engagement Strategy."

Grievance Mechanism to Affected Communities

As also noted in Sections 8.1 and 9.1, a comprehensive Stakeholder and Community Engagement Strategy will be implemented on every site prior to the start of major construction activity. The Community Engagement Strategy will incorporate AGEL.PROCEDURE.05, "Grievance Management" for the management of all external communications with affected communities, including those that constitute actual grievances.

10. Ongoing Reporting to Affected Communities

As many of the Management Plans discussed in Section 1.2 will not be fully implemented until AGEL authorizes initiation of construction, renewable energy project's development activities, formal reporting to affected communities on the overall effectiveness of the Management Plans will occur at the end of the first year of construction/development/operational activities. Reporting requirements will be included in the Project Stakeholder and Community Engagement Strategy.