

POLICY, LEGISLATION AND REGULATIONS

2 POLICY, LEGISLATION AND REGULATIONS

2.1 POLICY, LEGAL & ADMINISTRATIVE FRAMEWORK

This section provides a background on Alcoa's (Jamalco) Environmental Policy and International & National Policies, Legislation and Regulations applicable to the proposed upgrade and expansion of the Jamalco facility (Plant, Port and Mines).

2.1.1 ALCOA'S POLICIES, PRINCIPLES AND GUIDELINES

2.1.1.1 ALCOA'S ENVIRONMENTAL POLICY

The Jamalco facility, under the management of Alcoa, strives to meet or exceed all environmental policies and regulations locally and within its corporate structure. As such, the facility is operated under strict guidance and guidelines to insure compliance at all levels of operation. The following information is derived from the existing Jamalco Environmental Policy Document.

It is Alcoa's policy to operate world-wide in a manner which protects the environment and the health of our employees and of the citizens of the communities where we have an impact.

- ✓ We will comply with all applicable environmental laws, regulations and permits, and will employ more restrictive internal standards where necessary to conform with the above policy.
- ✓ We will anticipate environmental issues and take appropriate actions which may precede laws or regulations.
- ✓ We will work with government and others at all levels to develop responsible and effective environmental laws, regulations and standards.
- ✓ All Alcoans are expected to understand, promote and assist in the implementation of this policy.

2.1.1.2 ALCOA'S ENVIRONMENTAL PRINCIPLES

In support of Alcoa's Environmental Policy, the following principles have been developed to provide additional direction on specific issues. The implementation plan, which follows, provides details on how the Policy and Principles will be carried out.

- ✓ *We will support Sustainable Development*
- ✓ Alcoa will incorporate sustainable development into our operations by integrating environmental considerations into all relevant business decisions. We will achieve cleaner production through programs of waste minimization and pollution prevention with specific and measurable reduction targets.
- ✓ *We will practice responsible use of natural resources*
- ✓ Alcoa will utilize the best available information to plan and execute all projects that involve extraction of raw materials, or which may restrict the use of natural resources or impact ecosystems.
- ✓ *We will utilize techniques accepted as best practices on a worldwide basis for resource extraction, resource use, waste management, and rehabilitation of ecosystems disturbed by our activities.*
- ✓ *We will use energy wisely*
- ✓ Alcoa will strive to maximize efficient energy use, conserving non-renewable resources.
- ✓ *We will practice sound environmental management*
- ✓ Alcoa will integrate environmental management fully with business and operating management to ensure that long-term and short-term environmental issues are considered together with market and economic aspects when decisions are made about new and existing facilities, processes, products, services, acquisitions and divestitures.
- ✓ *We will provide training and information*

- ✓ Alcoa will sponsor training in the environmental area. We will also provide employees, suppliers, customers and neighbors with information needed to understand and help us achieve the goals of our environmental policy.
- ✓ *We will audit our operations and report findings*
- ✓ Alcoa will audit each of its operations on a regular basis to identify strengths and weaknesses of the location's environmental management process and to identify actions that need to be taken to prevent environmental problems or correct environmental deficiencies. Appropriate management, including the Alcoa Board of Directors, will be informed of the audit findings.
- ✓ *We will sponsor activities to improve the science of environmental protection.*
- ✓ Alcoa will sponsor and conduct research and development (including application of emerging technologies) to improve our ability to predict, assess, measure, reduce, and manage environmental impacts of our operations. We are committed to continuous improvement in all aspects of our environmental performance.
- ✓ *We will develop and adhere to high standards.*
- ✓ Alcoa will develop and implement worldwide environmental standards and best practices with emphasis on areas that are unique to our business.
- ✓ *We will report on our activities*
- ✓ Alcoa will communicate promptly and openly with individuals and communities regarding the environmental aspects and impacts of our operations, as well as with concerned parties who request such information. Alcoa will also provide an annual Environmental Health and Safety report that describes our programs, plans and performance. The report will be made available to shareholders and the public.

2.1.1.3 ALCOA'S BAUXITE MINE REHABILITATION STANDARDS & GUIDELINES

The following guidelines are adapted from Bauxite Mine Rehabilitation Standards & Guidelines (1994). These are standard practices to which the client is committed to maintaining at the proposed bauxite railhead, storage areas, mining sites and transportation corridors in southern Manchester and Clarendon.

- During land clearing, utilization of existing resources on the site must be maximized. These may include timber, buildings and produce.
- If the existing vegetation can assist in the rehabilitation process it should be harvested and redistributed in a timely manner on the areas being rehabilitated.
- Burning as a means to remove vegetation should be used as a last resort and should be considered only after harvesting, habitat and burying options have been considered.
- Land area cleared should be the minimum for efficient mining (pits and infrastructure) and rehabilitation.
- Topsoil and remaining vegetation debris must be harvested from the entire area to be mined and either stored where it can be recovered or utilized immediately on other areas being rehabilitated.
- Whenever topsoil is stored it should be done so for the least possible time to minimize the loss of biological activity and nutrients.
- If there are potentially toxic substances in the overburden and mine waste, they should be handled in such a way as to minimize the impact on the rehabilitation and the surrounding areas.
- In some circumstances, in addition to topsoil, subsoil horizons and/or a portion of the overburden may need to be harvested and re-spread on the rehabilitated areas in order to successfully establish the desired vegetation. Topsoil and subsoil/overburden should be re-spread as separate strata and not mixed together.

- Clearing of additional vegetation for storage of topsoil and/or overburden should be minimized.
- Finished slope angles in reshaping will depend on aesthetics, final land use, soil characteristics and safety. Reshaped terrain should conform to the natural landscape.
- All slopes must be stable. If erosion is likely to occur then erosion control works should be put in place
- Compression resulting from the mining, reshaping and soil placement process must be relieved (e.g. by ripping, plowing and sub-soiling etc.) where rehabilitation plans require water infiltration and plant root penetration. During this operation care must be taken to ensure that unfavorable sub-soil materials are not brought to the surface and excessive topsoil burial does not occur.
- soil nutrient and pH levels must be adjusted where this is necessary to achieve rehabilitation objectives
- Where regeneration of native vegetation is the objective, nutrient and pH levels should closely match pre-existing conditions. Soil conditioners should be considered to ameliorate adverse conditions.
- Topsoil must be replaced as the final soil profile. The thickness and area to which the topsoil is returned must provide the maximum value to the end use of the rehabilitated area.
- The topsoil should be evenly spread over the area.
- Where native vegetation is to be re-established, only propagules of the indigenous plant species should be used. Preferably, these should be collected from the areas being cleared or other local provenances.
- Revegetation strategies should be based on a high level of understanding of local climatic conditions and ecological processes. Re-established plant communities should eventually duplicate the natural ecological processes and functions of the original vegetation.

- Fauna return should be encouraged by natural means through the creation of suitable habitat rather than by physical re-introduction. Keystone species may need to be transferred where they are absent or inadequately represented in surrounding areas.
- Artificial barriers such as perimeter roads and fences, which inhibit flora or fauna recolonization, should be removed as soon as practical.

Implementation of these policies, principles and guidelines within Alcoa, begins with the CEO who is ultimately responsible for assuring conformance with Alcoa's Environmental Policy Worldwide. The technical guidance and support will be provided by the environmental staff and other support groups.

At Jamalco, local implementation of these policies, principles and guidelines is the responsibility of the location manager, business unit managers, staff support groups, operating managers, sponsoring managers, environmental affairs staff, government affairs staff, Alcoa personnel and other staff groups.

2.2 LOCAL POLICIES, LEGISLATION AND REGULATIONS

2.2.1 POLICY, LEGISLATION, REGULATIONS & STANDARDS

The following represents descriptions of applicable legislative requirements with which activities of this proposed upgrade must comply:

- Agenda 21
- Natural Resources Conservation Authority (NRCA) Act, 1991
- Wildlife Protection Act, 1945
- Watershed Protection Act, 1963
- Mining Act, 1975
- Minerals (Vesting) Act, 1947
- Bauxite and Alumina (Special Provisions) Act, 1978
- Bauxite and Alumina Encouragement Act, 1950
- Town & Country Planning Act, 1987
- Forestry Act, 1937
- Water Resources Act/Underground Water Control Act, 1959
- Jamaica National Heritage Trust Act, 1985
- Jamaica Railway Corporation Act
- Beach Control Act, 1956
- Public Health Act, 1985
- Disaster Preparedness & Emergency Management Act, 1993
- National Solid Waste Management Authority Act, 2001
- Occupational Safety & Health Act, 2003 (DRAFT)
- Manchester Parish Provisional Development Order, 1974

2.2.1.1 AGENDA 21

In June 1992, Jamaica participated in the United Nations Conference for Environment and Development (UNCED) in Rio de Janeiro, Brazil. One of the main outputs of the conference was a plan of global action, titled Agenda 21, which is a “comprehensive blueprint for the global actions to affect the transition to sustainable development” (Maurice Strong). Jamaica is a signatory to this convention. Twenty seven (27)

environmental principles were outlined in the Agenda 21 document. Those relevant to this project, which Jamaica is obligated to follow are outlined below:

The United Nations hosted the EARTH SUMMIT '92 and from this conference twenty - seven (27) environmental principles were outlined. Not all of these principles are applicable to the project but those deemed relevant and appropriate are outlined below.

2.2.1.2 NATURAL RESOURCES CONSERVATION AUTHORITY ACT, 1991

The Act is the overriding legislation governing environmental management in the country. It also designates National Parks, Marine Parks, Protected Areas and regulates the control of pollution as well as the way land is used in protected areas.

This Act requires among other things, that all new projects or expansion of existing projects which fall within a prescribed description or category must be subjected to an Environmental Impact Assessment (EIA).

The regulations require that eight (8) copies of the EIA Study Report must be submitted to the Authority for review. There is a preliminary review period of ten days to determine whether additional information is needed. After the initial review the process can take up to ninety days for approval. If on review and evaluation of the EIA the required criteria are met, a permit is granted.

Specifically, the relevant section(s) under the Act which addresses the proposed mining activities are:

- s.10: (1) Subject to the provisions of this section, the Authority may by notice in writing require an applicant for a permit of the person responsible for undertaking in a prescribed area, any enterprise, construction or development of a prescribed description or category-
- (a) to furnish the Authority such documents or information as the Authority thinks fit; or
 - (b) where it is of the opinion that activities of such enterprise, construction or development are having or are likely to have an adverse effect on the environment, to submit to

the Authority in respect of the enterprise, construction or development, an EIA containing such information as may be prescribed, and the applicant or, as the case may be, the person responsible shall comply with the requirement.

- s.12: Licenses for the discharge of effluents etc.
- s.17: Information on pollution control facility
- s.18: Enforcement of Controls – threat to public health or natural resources
- s.32-33: Ministerial Orders to protect the environment
- s.38: Regulations

2.2.1.3 WILDLIFE PROTECTION ACT, 1945

This act involves the declaration of game sanctuaries and reserves, game wardens, control of fishing in rivers, protection of specified rare or endemic species. The Act also provides for the protection of animals and makes it an offence to harm or kill a species which is protected. It stipulates that, having in one's possession "whole or any part of a protected animal living or dead is illegal.

This Act has to be considered for the proposed project, ecological assessments will determine if rare or endangered species will be impacted.

2.2.1.4 WATERSHED PROTECTION ACT, 1963

This Act governs the activities operating within the island's watersheds, as well as, protects these areas. The watersheds which are designated under this Act include Rio Minho, Cane River and Rio Nuevo watersheds areas.

Determinations will be made to identify any potential impacts that this project may have on the various watershed areas and will propose mitigative actions where impacts are identified.

2.2.1.5 MINING ACT, 1975

The Mining Act regulates the activities of the mining sector including the various intricacies involved in the granting of licenses, prospecting rights and regulations, compensation payments and the utilization of special lands under a mining lease.

This Act is of special importance to the proposed mining activities and would be administered by the Jamaica Bauxite Institute (JBI).

2.2.1.6 MINERALS (VESTING) ACT, 1947

The Minerals (Vesting) Act, through the Minister, has the power to declare that all minerals being in, on or under any land or water, whether territorial waters, rivers, or inland sea, are vested in and are subject to the control of the Crown. As such this Act governs the extent to which royalties are payable to landowners.

2.2.1.7 BAUXITE AND ALUMINA (SPECIAL PROVISIONS) ACT, 1978

This Act makes provision for the power of the Minister (s) to declare on behalf of the Government to confirm agreements and arrangements between Government and Bauxite Producers, the power to declare persons “Bauxite Producers” and the power to transfer or vest lands of Bauxite Producers. The Act identifies exemptions from approval consents, Transfer Tax, Stamp Duty and Fees of land being owned by a Bauxite Producer for the production of bauxite.

It also gives the Minister power to ensure that orders or regulations are consistent with agreements made and finally it enforces that Income Tax shall be payable against production levees and to be paid in United States currency.

2.2.1.8 BAUXITE AND ALUMINA ENCOURAGEMENT ACT, 1950

This Act authorizes a company to produce bauxite and alumina. It also identifies the power of the Minister on behalf of the Government, to approve the expansion of the alumina industry in Jamaica. In addition, the Act identifies exemption of customs duty for articles/materials used in the production of bauxite, as well as, specific circumstances for payments of General Consumption Tax and conditions for exemption from excise and customs duty. Special provisions are also made for exemptions from Income Tax.

2.2.1.9 TOWN & COUNTRY PLANNING ACT, 1987

This Act governs the development and use of land. Under this law the Town Planning Department is the agency responsible for the review of any plans involving industrial development. The law allows for specific conditions to be stipulated and imposed on any approved plans. This planning decision is based upon several factors, these include;

- the location of the development
- the nature of the industrial process to be carried out
- the land use and zoning
- the effect of the proposal on amenities, traffic, etc.

This Act is applicable to the proposed plant and port upgrades and mining activities.

2.2.1.10 FORESTRY ACT, 1937

This Act provides for the management and the declaration of Forest Reserves on Crown Lands and regulates activities in Forest Reserves. This Act will be reviewed to determine if the upgrade activities (particularly mining) will impact on Forest Reserves and to what extent.

2.2.1.11 WATER RESOURCES ACT; THE UNDERGROUND WATER CONTROL ACT, 1959

The Underground Water Control Act of 1959 is the legal instrument and is enforced by the Water Resources Authority (WRA). The Water Resources Act is expected to provide for the management, protection, controlled allocation and use of water resources of Jamaica. Thus the water quality control for both surface and ground water are regulated by this Act.

If the proposed facility intends to utilize any existing ground water, permission would be needed, in the form of an issued license for this activity. Under this Act exploratory activities such as the boring/drilling of wells for the purpose of searching for underground water without the written consent would be a violation.

In addition, any activity which negatively influences the quality of existing water, whether ground or surface, would be relevant to this Act.

The proposed project will impact on:

- Ground water resources as it proposes, to increase ground water extraction rates.

2.2.1.12 JAMAICA NATIONAL HERITAGE TRUST ACT, 1985

The Act is administered by the Jamaica National Heritage Trust, formerly the Jamaica National Trust. This Act provides for the protection of important areas, including the numerous monuments, forts, statues, buildings of historic and architectural importance in Jamaica.

In the approved mining area (SEPL 530), several historic sites and buildings have been identified within the general area of this project, these include several churches, schools, Great Houses and natural features of significant importance to our heritage.

During this project, an Archaeological and Heritage Retrieval Plan will be implemented to protect any historical or archaeologically significant item encountered.

2.2.1.13 JAMAICA RAILWAY CORPORATION ACT

This Act provides for rules and regulations governing the Jamaica Railway Corporation, its operations and infrastructure. The Act speaks to issues related to land acquisition for expansion of the railway (Part III Section 19), dealing with disruptions of service, etc as occasioned by the railway (Part II Section 9, Section 14), Construction of railways by persons other than the Corporation (Part II Section 18)

2.2.1.14 THE PUBLIC HEALTH ACT (1974)

This Act controls and monitors pollution from point sources. Any breaches of this Act would be sent through the Central Health Committee which takes action through the Ministry of Health, Environmental Control Division (E.C.D.). The ECD has no direct legislative jurisdiction, but works through the Public Health Act to monitor and control pollution from point sources. Action against any breaches of this Act would be administered by the Central Health Committee. The functions of the department include:

- The monitoring of waste water quality, including regular water quality analysis, using water standards published by NEPA;
- Monitoring of occupational health as it relates to industrial hygiene of potentially hazardous working environments;
- Monitoring of air pollutants through its laboratory facilities.

In addition, there are various sections of this legislative instrument which governs and protects the health of the public. Relevant sections under the Public Health Act of 1985, are Sections 7.- (1) *A Local Board may from time to time, and shall if directed by the Minister to do so, make regulations relating to (o) nuisances and 14.- (1) The Minister may make regulations generally for carrying out the provisions and purposes of this Act, and in particular, subject to section 7, but without prejudice to the generality of the foregoing, may make regulations in relation to (d) air, soil and water pollution.*

Aspects of the project related to odour have been considered since odour is a part of the Air Emissions regulations to be promulgated in 2004.

2.2.1.15 DISASTER PREPAREDNESS AND EMERGENCY MANAGEMENT ACT, 1993

The principal objectives of the Act is to advance disaster preparedness and emergency management measures in Jamaica by facilitating and coordinating the development and implementation of integrated disaster management systems. Jamalco has established procedures and guidance documents in place in terms of disaster preparedness and emergency management.

2.2.1.16 NATIONAL SOLID WASTE MANAGEMENT AUTHORITY ACT, 2001

The National Solid Waste Management Authority (NSWMA) under this Act has the responsibility to manage and regulate the solid waste sector. It includes requirements for licences for operators and owners of solid waste disposal facilities (in addition to permit requirements of NEPA).

2.2.1.17 OCCUPATIONAL SAFETY & HEALTH ACT, 2003 (DRAFT)

This Act oversees the prevention of injury and illness resulting from conditions at the workplace, the protection of the safety and health of workers and the promotion of safe and healthy workplaces.

Sampling of sections from the Draft Act that are relevant to this project, include:

4. (1) This Act applies to all branches of economic activity and to all owners, employers and workers in all such branches.

5. (1) The owner of every industrial establishment or mine which carries on business on or after the appointed day shall, subject to subsection (8), apply to the Director in the prescribed form to be registered under this Act.

18. (1) Provides a description of the duties of employers, outlining the need for quality work areas and work environments, procedures and guidelines that will result in safe and healthy workplaces.

19. (1) discusses the duties of employers at construction sites in terms of employee safety and health during work activities.

25. (1) an employer shall make or cause to be made and shall maintain an inventory of all hazardous chemicals and hazardous physical agents that are present in the workplace.

26. (1) this section provides guidelines and procedures for employers to follow in terms of identification of hazardous chemicals. This includes labeling and identification protocols.

30. (1) Basically, this section of the Act requires an employer to provide training of its employees with a potential for exposure to hazardous chemicals or physical agents.

It is expected that this Draft Act will be Gazetted in the near future. As such, it is important that Jamalco have an understanding and appreciation for its contents.

2.2.1.18 MANCHESTER PARISH PROVISIONAL DEVELOPMENT ORDER, 1974

This document provides the development plan for the Parish of Clarendon. It clarifies the role and responsibility of the local planning authority and provides guidance on how development of the parish should proceed. All activities in this proposed upgrade of the Jamalco operations that requires local planning authority approval will be properly identified and the appropriate permits and licenses will be secured.

In terms of mining, the Order indicates that there are “widespread and substantial deposits of bauxite occur at various places within the Parish and it is intended that these should not in any way be rendered incapable of extraction as a result of urbanization”.

Special note: The Jamaica Bauxite Institute (JBI) is the regulatory agency monitoring the bauxite industry, and as such their policies will extend to any development on bauxite owned lands.

2.2.2 SUMMARY OF THE LEGISLATION AND RESPONSIBLE AGENCIES

TABLE 2-1: NATIONAL LEGISLATION AND RESPONSIBLE AGENCIES

LEGISLATION	INSTITUTION RESPONSIBLE
NRCA Act, 1991	Natural Resources Conservation Authority
Wildlife Protection Act, 1945	Natural Resources Conservation Authority
Watershed Protection Act, 1963	Natural Resources Conservation
Mining Act, 1975	Ministry of Agriculture & Mining Jamaica Bauxite Institute Mines and Geology Division
Minerals (Vesting) Act, 1947	Ministry of Agriculture & Mining Jamaica Bauxite Institute Mines and Geology Division
Bauxite & Alumina (Special Provisions) Act, 1978	Ministry of Agriculture & Mining Jamaica Bauxite Institute Mines and Geology Division
Bauxite & Alumina Encouragement Act, 1950	Ministry of Agriculture & Mining Jamaica Bauxite Institute Mines and Geology Division
Town & Country Planning Act, 1987	Town Planning Department
Forestry Act, 1937	Forestry Department
The Water Resources Act/UWC Act, 1959	Water Resources Authority
Ja. National Heritage Trust Act, 1985	Jamaica National Heritage Trust
Ja. Railway Corporation Act	Jamaica Railway Corporation
Beach Control Act, 1956	Natural Resources Conservation Authority
Public Health Act, 1985	Ministry of Health/Environmental Control Division
Disaster Preparation & Emergency Management Act, 1993	Office of Disaster Preparedness and Emergency Management
National Solid Waste Management Authority Act, 2001	National Solid Waste Management Authority
Manchester Parish Provisional Development Order, 1974	Town Planning Department