

This Chapter presents a summary of the administrative framework governing the development of the proposed acetylene gas production facility, which is subject to legislative and policy requirements at national, provincial and local level. It focuses on legal requirements related to environmental licensing of activities, as well as legal requirements for environmental protection such as: standards for environmental quality control and pollution, biodiversity protection, and cultural and historic heritage sites. The legal requirements pertaining to social aspects, public participation and socio-economic aspects are also adhered to through this EIA process.

A list of the relevant national, provincial and local legislation and policies that are relevant to the proposed development of the Project has been provided in *Table 2.1* below with a description of each in the sections that follow.

**Table 2.1** *Applicable Legislation and Policy*

<b>Title</b>	<b>Date</b>
<b>Legislation</b>	
National Environmental Management Act (as amended)	1998
Environmental Impact Assessment Regulations (GN R.543, 544, 545)	2010
National Heritage Resources Act	1999
National Environmental Management: Air Quality Act	2008
National Water Act	1996
National Environmental Management: Biodiversity Act	2004
National Environmental Management: Waste Management Act	2008
Midvaal Local Municipality Waste Management By Law	2009
Midvaal Local Municipality Water Services By Law	
<b>Policy/ Plans/Strategy</b>	
Gauteng Growth and Development Strategy	2005
Sedibeng District Municipality Integrated Development Plan (IDP)	2013/2014
Sedibeng District Municipality Spatial Development Framework (SDF)	2013
Midvaal Local Municipality Spatial Development Framework	2011

## 2.1 NATIONAL LEGISLATION

### 2.1.1 National Environmental Management Act (Act No. 107 of 1998), as amended

The National Environmental Management Act (Act No. 107 of 1998), as amended (NEMA) requires that the potential impact on the environment, socio-economic conditions, and cultural heritage of activities that require authorisation or permission by law must be considered, investigated and assessed prior to implementation, and reported to the relevant authority.

The EIA Regulations (Government Notice R. 543) promulgated in terms of the NEMA, identifies a suite of activities, which “*could have a substantial detrimental effect on the environment*”. The listed activities identified require an environmental authorisation from the competent authority, ie GDARD, prior

to commencement of the activity. The proposed acetylene gas manufacturing facility and associated infrastructure triggers a list of activities, tabulated in *Table 2.2* below.

**Table 2.2** *Listed Activities*

	<b>Government Notice R. 545 of 2010 (Full Scoping and EIA)</b>	<b>Applicability to Project</b>
Activity 3	The construction of facilities or infrastructure for the storage, or storage and handling of a dangerous good, where such storage occurs in containers with a combined capacity of more than 500 cubic metres.	Calcium carbide, acetone and acetylene gas will be stored on site, with combined storage capacities greater than 500m <sup>3</sup> .
Activity 4	The construction of facilities or infrastructure for the refining, extraction or processing of gas, oil or petroleum products with an installed capacity of 50 cubic metres or more per day.	The production capacity of the Project is 14 400 m <sup>3</sup> /day.
Activity 5	The construction of facilities or infrastructure for any process or activity which requires a permit or license in terms of national or provincial legislation governing the generation or release of emissions, pollution or effluent and which is not identified in Notice No. 544 of 2010 or included in the list of waste management activities published in terms of section 19 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) in which case that Act will apply.	The Project requires an Air Emissions Licence (AEL).

As the Project triggers activities listed in GN R. 545, a Scoping and EIA process has thus been undertaken to meet the requirements in terms of NEMA. The EIA methodology and approach undertaken has been described in *Section 3*.

### **2.1.2** *National Heritage Resources Act (Act No. 25 of 1999)*

The protection and management of South Africa's heritage resources is controlled by the National Heritage Resources Act (NHRA), 1999 (Act No. 25 of 1999). The objective of the NHRA is to introduce an integrated system for the management of national heritage resources. The South African Heritage Resources Agency (SAHRA) is the responsible authority for heritage resources in South Africa, with the Gauteng Provincial Heritage Resources Agency (PHRA) being the relevant heritage resource administrator within the Gauteng region.

Section 38 of the NHRA requires that Heritage Impact Assessments (HIA's) are required for certain kinds of development such as altering the character of a site greater than 5000 m<sup>2</sup>.

A Notice of Intent to Develop (NID) and a Brief Heritage Survey Report has been submitted to the SAHRA informing them of the Project. In a Final Decision made on 19 February 2014, SAHRA had no objection to the proposed development and granted exemption from further heritage assessments; on condition that, if bedrock is to be affected by the proposed development, a paleontological field assessment and protocol for finds must be conducted and submitted to SAHRA for comments prior to any development. Please refer to *Annex D6* for SAHRAs Decision Letter.

### **2.1.3 National Environmental Management: Air Quality Act (Act No. 39 of 2008)**

The aim of the National Environment Management: Air Quality Act (Act No. 39 of 2008) (NEM:AQA) is to govern the release of pollutants in order to manage air quality parameters, norms and standards within South Africa. GN R. 248 (2010) was promulgated in terms of NEM: AQA and lists activities resulting in atmospheric emissions which have or may have a significant detrimental effect on the environment. *Subcategory 6.1 (Organic Chemical Manufacturing)* is the activity triggered in terms of NEM: AQA, and therefore requires the submission of an Atmospheric Emissions License (AEL) Application to the Sedibeng District Municipality.

An AEL application and associated Air Quality Impact Assessment Report has been submitted to the Sedibeng District Municipality on 24 April 2014. An acknowledgment letter was received on 19 May 2014 and the application provided with reference 0002/2014 (*Annex B*).

The site is also located within the Vaal Triangle Air-Shed Priority Area, which is regulated by the Vaal Triangle Air-Shed Priority Area Air Quality Management Plan and associated implementation regulations. The Air Quality Impact Assessment was compiled taking these regulations into consideration.

### **2.1.4 National Water Act (Act No. 36 of 1998)**

The National Water Act (Act No. 36 of 1998) (NWA) provides for the sustainable and equitable use and protection of water resources. It is founded on the principle that the National Government has overall responsibility for and authority over water resource management, including the equitable allocation and beneficial use of water in the public interest, and that a person can only be entitled to use water if the use is permissible under the NWA. The Department of Water Affairs (DWA) is the delegated custodian of water resources in South Africa. Part of the DWA mandate is to enact and enforce the legal requirements outlined in the NWA.

In terms of Section 21 (ie Chapter 4), the NWA identifies a suite of water uses that either require *Registration or Licensing* before proceeding. Water uses include the abstraction or storage of water, as well as impeding or diverting the flow of a watercourse or discharging of waste into a watercourse.

Based on potential *water uses*, the NWA requires that a water user must undertake a full licensing process. There are two existing boreholes on the site, however, Air Products do not intend on abstracting water to supplement the Project's water requirements. A Water Use Licence Application (WULA) is therefore not required at this stage.

#### **2.1.5 National Environmental Management: Biodiversity Act (Act No. 10 of 2004)**

The National Environmental Management: Biodiversity Act (Act No. 10 of 2004) (NEM: BA) serves to provide a framework for the management and conservation of South African biodiversity under the auspices of the NEMA. In terms of Section 56(1) of NEM: BA a person may not carry out a restricted activity involving a specimen of a listed threatened or protected species without a permit. These threatened and protected species have been listed in terms of GNR.151 of 2007: Publication of lists of critically endangered, endangered, vulnerable and protected species. A restricted activity in relation to a specimen of a listed threatened or protected species means hunting, catching, capturing, killing, having in possession or growing any living specimen of a listed threatened or protected species by any means, method or device whatsoever. A permit in respect of these activities is not required by the Project.

A specialist ecological impact assessment has been undertaken as part of the EIA phase of the Project. During the assessment, a plant species, *Boophane disticha*, considered to have a Conservation Importance (CI) status was detected and scattered on the project site. This species is Declining according to the SANBI Threatened Species Programme (TSP). Furthermore there is also potential for the species *Cussonia paniculata* to occur on the project site. This species is protected under the Gauteng Nature Conservation Ordinance (1993) and requires a permit for its removal or translocation. Air Products would therefore need to apply for a permit for the translocation of these CI species to an area on the site that would not be impacted by the proposed development.

#### **2.1.6 National Environmental Management: Waste Act (Act No. 59 of 2008)**

The National Environmental Management: Waste Act (Act No. 59 of 2008) (NEM:WA) came into operation on 1 July 2009. This Act repealed Section 20 of the Environment Conservation Act, 1989 (Act No. 73 of 1989) (ECA) and introduced new provisions regarding the licensing of waste management activities. A list of waste management activities was published in GN R. 718 (2009) outlining activities that no person may commence with, undertake or conduct without a Waste Management Licence (WML).

The acetylene gas manufacturing process will not result in significant waste volumes and would therefore not trigger the requirement for a WML. Calcium hydroxide (lime) is produced as a by-product and will be sold for other uses.

## 2.2 LOCAL LEGISLATION

### 2.2.1 *Midvaal Local Municipality Water Services By Law (2006)*

The Water Services By-Law (2006) regulates water supply services in the Midvaal Local Municipality. *Part 9* of the By-law refers to the Municipality being notified of boreholes by the owner of any premises upon which a borehole exists and provide it with such information in respect thereof as it may require. Further the municipality may request that Air Products obtain approval from the Municipality for the use of the two boreholes on site or impose conditions in respect of their use. Air Products do not intend using the boreholes on site at this stage.

### 2.2.2 *Midvaal Local Municipality Waste Management By Law (2009)*

The main objective of the Waste Management By-Law (2009) is to regulate the collection, disposal, treatment and recycling of waste within the Midvaal Local Municipality. *Section 9* of the Waste Management By-Law provides for the obligations of waste generators. These obligations include the establishment of appropriate waste management facilities on site as well as proper storage of waste. Furthermore, waste generators are required to inform the Midvaal Local Municipality that the site is occupied and waste will be generated, prior to commencing with any activities on that site.

## 2.3 POLICY AND FRAMEWORK

### 2.3.1 *Gauteng Growth and Development Strategy (2005)*

The Gauteng Growth and Development Strategy (2005) seeks to achieve a shared vision, amongst all sectors of society, to improve the quality of life for citizens. The strategy focuses on integrated, holistic, sustainable and participatory development as being critical in addressing poverty and unemployment within the region. In particular, the two primary actions underlying the strategy include:

- identify roles of each sector of society in achieving socio-economic transformation; and
- implement principles of participatory democracy and good governance including accountability and transparency.

The strategy identifies the role that the private sector should play in achieving the vision. This is as follows:

- establish appropriate economic sector specific and multi-business consultation and coordination structures;
- actively participate in multi-stakeholder structures;

- invest in infrastructure and human resource development;
- develop meaningful partnerships with civil society organizations; and
- implement and maintain social responsibility programmes.

Through this Project, Air Products is encouraged to apply the above-mentioned philosophy by joining and participating in business forums such as the Daleside Business Forum as well as establishing corporate social responsibility programmes within the local area.

### **2.3.2 *Sedibeng District Municipality Integrated Development Plan (2013-2014)***

The Integrated Development Plan (IDP) is a strategic planning tool for the municipality. One of the key IDP performance areas of the Sedibeng District Municipality is reinventing the economy by consolidating existing sectors and exploring new sectors of growth.

It is estimated that industrial and commercial land has increased from 3920 hectares in 2004 to 4014 hectares in 2010 (0.8% to 0.9%), which is a small increase over six years (Sedibeng District IDP 2010/11). The new IDP strategy therefore focuses on promoting a diverse economy by reducing the cost of doing business and holding businesses responsible for social and environmental programmes within the region.

Should the Project proceed, an Air Products corporate fund will be set up to aid social and environmental programmes within the region.

### **2.3.3 *Sedibeng District Municipality Spatial Development Framework (2013)***

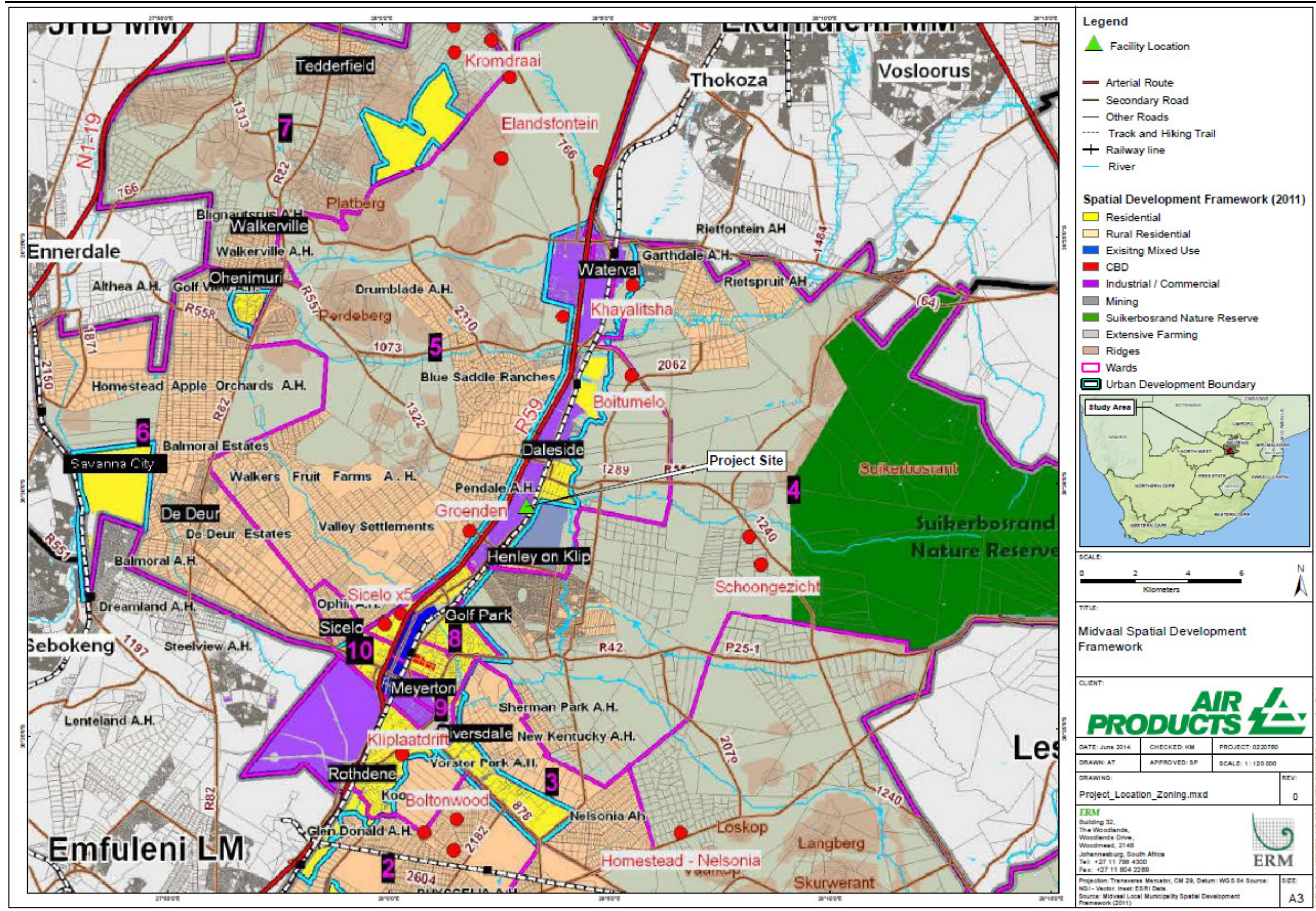
According to the Sedibeng District Municipality Spatial Development Framework (2013) (SDF), the R59 has been identified as an economic development and provincial corridor. The land-uses which are supported along and around this corridor include industrial, manufacturing, warehousing, packaging, distribution centres, commercial, petrochemical, steel, agricultural processing and medium to higher density residential in areas defined by the Sedibeng District Municipality. The proposed site is located within the food processing, industrial and distribution node. The Project and proposed land-use thus complies with the planned use for this area. The land-use zoning certificates have been appended in *Annex C*.

### **2.3.4 *Midvaal Local Municipality Spatial Development Framework (2011)***

The Midvaal Local Municipality SDF in line with the Sedibeng District Municipality SDF identifies the R59 as an important corridor for industrial and commercial development (*Figure 2.1*). The proposed site is also located within the urban development boundary.

Just across the railway line, to the north-east of the study area, there is a residential town (Witkop). This town is approximately 1km from the proposed site. However, there are pockets of residences located within the zone (purple) identified for industrial and commercial use.

Figure 2.1 Location of Project Site and Development Node





The Air Products Environment, Health and Safety Policy sets out the following basic principles, to which all projects shall adhere to:

- compliance with all applicable environmental, health, and safety laws and regulations;
- continual improvement in environmental, health and safety performance with the ultimate goal of zero injuries and zero emissions of toxic and hazardous materials;
- design and operation of plants and facilities in a manner that protects the environment and the health and safety of employees and the public;
- development and production of products that can be manufactured, distributed, used, and recycled or disposed of in a safe and environmentally sound manner;
- open discussion of our environmental, health, and safety practices and performance; and
- active participation in Responsible Care and similar initiatives in Southern Africa.

In addition, Air Products has in place a suite of environmental and health and safety procedures to guide the company's activities with respect to the construction and operation of an acetylene gas production facility. The list below provides a few key environmental and health and safety procedures developed and implemented at existing facilities operated by Air Products and would also be applicable to the Project.

**Table 2.3**      *Key Air Products Standards*

<b>Document Title</b>	<b>Date</b>	<b>Description</b>
Environmental Management System	October 2008	An Environmental Management System (EMS) enables an organization to systematically plan, control, measure and continually improve its environmental performance. Imbedded in the Air Products EH&S Management System are elements of an EMS consistent with the ISO 14001 specification for EMS's. This procedure provides an overview of the ISO 14001 standard and provides elements of the ISO 14001 standards which are relevant to Air Products operations.

Document Title	Date	Description
Environmental Best Management Practices (BMP)	October 2008	Site Managers are required to identify and implement environmental BMPs applicable to their facility, processes, and operations. BMPs for minimizing wastes, discharges and releases from many typical Air Products facilities, processes, and operations is provided in this procedure and has been incorporated into the Environmental Management Plan (EMP) for this Project.  Where laws and regulations have requirements more stringent than those found in this procedure, they shall be followed.
Storage and Containment of Environmentally Hazardous Substances	October 2008	This procedure applies to Air Products-owned facilities that store environmentally hazardous substances in aboveground tanks, underground tanks, storage vessels or containers. It stipulates the requirement for appropriate labelling, installation of barriers, leak detection monitoring systems and training of staff.
Design Standard for Acetylene Plants	April 2008	The design of acetylene plants is critical to ensure that the plants are both safe to operate and work efficiently. For this reason it is vital that both accepted industry standards, such as the IGC Code of Practice for acetylene and applicable Air Products standards are followed.
Acetylene Plant Emergency Systems	April 2008	All Air Products facilities should have suitable and sufficient systems to protect a plant in case of emergency during a major incident. All emergency systems should be maintained so that they are available on demand during an emergency and designed such that they do not endanger the personnel on site.  An Emergency Response Plan (ERP) will be compiled for the Project during the construction phase.

In addition to the procedures described above, Air Products also has in place a procedure for every aspect of its activities associated with the construction and operation of an acetylene gas production facility; these include but are not limited to the following:

- Acetylene Plant Start Up and Shutdown;
- Acetylene Plant Requirements for Fire Protection;
- Acetylene Plant Ventilation and Gas Detection;
- Generator Cleaning and Inspection;
- Management of Waste Acetylene Cylinders;
- Acetylene Plant Acetone Systems;
- Acetylene Compressors;
- Acetylene Cylinder Pre-Fill Inspection
- Acetylene Cylinder Filling;
- Calcium Carbide Transfer and Handling;
- Design and Operation of Acetylene Driers;
- Use, Storage and Disposal of Calcium Carbide Containers; and
- Emptying and Cleaning the Lime Pits.