12. CUMULATIVE ENVIRONMENTAL IMPACT ASSESSMENT

12.1 Introduction

This section outlines the cumulative environmental impacts of the Project in addition to any existing facilities around the project site.

12.2 Cumulative Impact Analysis

There are currently no major plants or industrial facilities within at least a 30KM radius of the plant site. There are 2 flow-stations within 10KM of the Project site. These flow stations are currently flaring approximately 45 MMSCF/D and 90 MMSCF/D of natural gas. The Sponsors expect that start-up of the ammonia-urea plant will provide the scope for these operators to utilize the natural gas currently being flared thus minimizing the current severe environmental impacts of gas flaring from these facilities. In essence the cumulative impact of the Project on the immediate environment is positive.

12.2 Infrastructure Impacts

The project's projected impact on infrastructure in the local area is detailed in section 3.10.

Current estimates indicate that the Project will result in an increase of about 10% vehicular traffic on average during the construction period and 15% during the operation period.

The Project will result in about 15% incremental marine traffic during the construction and operation phase mainly for the transport of the urea product into the domestic market.

The additional traffic induced by the Project during the operations phase will be minimal.

The Project has been designed to minimize the impact of the ingress of personnel into the area to execute the construction and operation of the Plant.

Any new gas pipeline will use an existing Right-of-Way so any incremental impacts from gas pipeline.

Table 12.1 Summary Cumulative Environmental Impacts

Environmental Factor	Current Impact Levels	Cumulative Project Impact Levels (medium term)	Cumulative Impact Levels (long term)
Air Emissions	Relatively low – site area is not currently industrialized	Medium – Project will meet all appropriate IFC Guidelines and emission levels will be consistent with international operating standards	Medium – Project will meet all appropriate IFC Guidelines and emission levels will be consistent with international operating standards
Greenhouse Gas Emissions	Very high – significant gas flaring from local E&P operators circa 135 MMSCF/D (circa 19MT CO_2eq) from 2 operators within 10KM radius of the site.	The Project will significantly reduce gas flaring – 9.5MT CO_2eq GHG reduction estimated in Phase 1.	Subsequent Phases of the Project on the Ossiomo industrial park should completely eliminate gas flaring in the site area within 7 years.
Solid Waste Disposal	Relatively low – site area is not currently industrialized	Medium – Project will meet all appropriate IFC Guidelines and solid waste disposal will be consistent with international operating standards	Medium – Project will meet all appropriate IFC Guidelines and solid waste will be consistent with international operating standards

Table 12.1 Summary Cumulative Environmental Impacts (cont'd)

Environmental Factor	Current Impact Levels	Cumulative Project Impact Levels (medium term)	Cumulative Impact Levels (long term)
Water Use	Relatively low – site area is not currently industrialized	Low – water intake from the Ossiomo river will be 0.25 – 0.35% of the river run-off.	Low – water intake from the Ossiomo river will not exceed 1% of the river run-off with the planned subsequent expansion phases and site development in the medium term.
Local Infrastructure	Local infrastructure (road, marine, aviation and housing) is relatively well developed and capacity under-utilized.	Medium – impact as Project will significantly enhance infrastructure capacity utilization and contrinute to socio-economic activity.	Medium – there will be significant investment to expand infrastructure in the site area contemporaneous with planned expansion phases and site development in the medium term.