4.2 INFLUENCE MATRIX OF PROPOSED DEVELOPMENT

SECTION	ACTIVITY	DEVELOPMENT PHASE PRE-CONSTRUCTION	CONSTRUCTION	OPERATION	POST ACCIDENT
2.2.1.3	Topography	None	None	None	None
2.2.1.4	Morphology: Inland coastal	None	Destabilization of stable dunes. Distruption to dune dynamics.	None	None
	Morphology: Shoreline	None	Beach erosion	None	None
2.2.2	Soils	Damage during reconnaissance activities	Erosion	None	Soil wetamorphosis as as a result of radiation pollution.
2.2.3	Climate	None	None	None	Slight change in temperature and radiation.
2.2.4.3	Surface Hydrology: Catchment areas	None	None	None	Risk of radiation pollution of water sources.

SECTION	ACTIVITY	PRE-CONSTRUCTION	CONSTRUCTION	OPERATION	POST ACCIDENT
	Surface Hydrology: Rivers, estuaries and dams.	Possible pollution of streams during reconnaissance activities.	Pollution of streams and rivers	None	Risk of radiation pollution of streams, rivers and dams.
	Surface Hydrology: Water quality	Lowering of water quality during reconnaissance activities.	Lowering of water quality	None	Radiation pollution.
2.2.5	Geology	None	None	Limiting of economic exploitable materials.	None
	Geohydrology	None	Pollution of ground-water disruption of groundwater pattern.	None	Radiation pollution
2.2.6	Sea currents	None	Disruption to currents close to shoreline, if breakwaters are constructed	Disruption to surrents close to shoreline if breakwaters are constructed.	None

SECTION	ACTIVITY	PRE-CONSTRUCTION	CONSTRUCTION	OPERATION	POST ACCIDENT
2.3.1	Terrestrial fauna	Damage during reconnaissance activities	Disruption or destruction to habitats in an area of high conservation status.	Disruption or destruction to habitats in an area of high conservation status.	Risk of loss of species.
2.3.2.3	Terrestrial Flora.	Damage during reconnaissance activities.	Disruption or destruction of habitats	Disruption or destruction of habitats	Risk of contamination of radiation pollution
2.3.3.3	Intertidal Fauna	Damage during reconnaissance activities.	Disturbance to habitats	Displacement of communities due temperature.	Risk of loss of species.
2.3.3.4	Subtidal Fauna	Disruption during reconnaissance activities.	Disturbance to habitats	Displacement of communities due temperature.	Risk of loss of species.
2.3.3.5	Fish Fauna	Disruption during reconnaissance activities.	Disturbance to habitats	Displacement of communities due temperature.	Risk of loss of species.
2.3.3.6	Marine mammal Fauna	Disruption during reconnaissance activities.	Disturbance to habitats	Displacement of communities due temperature.	Risk of loss of species.

SECTION	ACTIVITY	PRE-CONSTRUCTION	CONSTRUCTION	OPERATION	POST ACCIDENT
2.3.4.3	Marine Flora	Disturbance during reconnaissance activities.	Disturbance to habitats	Displacement to communities deu to increased sea temperature.	Risk of contimination and loss of species.
2.4.3	Fisheries	None	None	None (See also Marine biotic environment).	None (See also Marine biotic environment).
2.4.4	Oil and gas exploration	None	None	None	None
2.4.5	Shipping Lanes Other	None	None	None	None
2.4.7	Recreation	None	Limit access to section of coast.	Limit access to section of coast.	Limit access to region around station.
2.4.8	Designated	None	Limit access to section of coast.	Limit access to section of coast (See also Marine biotic environment). Positive for conservation	Limit access to region around station.

SECTION	ACTIVITY	PRE-CONSTRUCTION	CONSTRUCTION	OPERATION	POST ACCIDENT
2.4.9	Military	None	None	None	None
2.5.3	Fisheries	Limit access to particular stretch	Limit access to particular stretch	Limit access to particular stretch	Limit access particular stretch
2.5.4	Harbours	None	None	None	None
2.5.5	Mining and Salt works	Limit access to particular stretch of coast.	Limit access to particular stretch of coast.	Limit access to particular stretch of coast.	Limit access to particular stretch of coast.
2.5.6	Recreation areas	Limit access to particular stretch of coast.	Limit access to particular stretch of coast.	Limit access to particular stretch of coast.	Restricted access to vacation areas in vicinity.
2.5.7	Conservation areas	Limit access to particular stretch of coast.	Limit access to particular stretch of coast.	Limit access to particular stretch of coast.	Restricted access to vacation areas in vicinity.

SECTION	ACTIVITY	PRE-CONSTRUCTION	CONSTRUCTION	OPERATION	POST ACCIDENT
2.6.3	Agriculture	Affect land prices.	Access routes require land.	Small increase in radio-activity (negligible).	Pollution of crops, food chain, milk etc.
2.6.4	Forestry	None	None	None	None
2.6.5	Residential	Affect land prices.	Large number of people in concentrated area - expand towns.	Slightly less than during construction. Permanent houses ect.	Evacuate nearby settlements. (See population)
2.6.6	Conservation areas	Limit access to particular section of land.	Limit access to particular section of land.	Limit access to particular section of land.	(See section on Fauna and Flora)>
2.6.7	Recreation	None	None	None	None
2.6.8	Mining	None	None	None	None
2.6.9	Military use	None	None	None	None
2.6.10	Navigational aids	None	None	None	None

SECTION	ACTIVITY	PRE-CONSTRUCTION	CONSTRUCTION	OPERATION	POST ACCIDENT
2.6.11	Institutional	None	Expand Fasilities	Expand Facilities	None
2.6.12	Fresh water sources.	None	Require construction of pump house, withdrawal from dam.	Withdrawal of water for dam.	Possible contamination of water.
2.6.13	Sewerage and solid waste.	None	Construct sewage disposal works at site, upgrade present works in Humansdorp if needed. Disposal of sewage at sea.	Disposal of sewage at sea	Disposal of sewage at sea.
2.6.14	Telecommunication	None	Expand current exchanges.	None	None
2.6.15	Electricity	None	Construct 2 or 3 main lines to site.	None	None
2.6.16	Roads	None	Upgrade/Construct access route to site. Increase level of traffic.	Increased level of traffic.	None

SECTION	ACTIVITY	PRE-CONSTRUCTION	CONSTRUCTION	OPERATION	POST ACCIDENT
2.6.17	Railways	None	Upgrade off-loading facility at Humansdorp.	None	None
2.6.18	Airports and flight routes	None	Define an exclusionary zone around site: impact on current flight path.	Difine an axclusionary zone around site: impact on current flight path.	Define an exclusionary zone around site: impact on current flight path.
2.7.3	Archaeology	Distubance of sites during reconnais-sance activities.	Disturbance to site. More people near to sites.	Easiex access to sites, and greater possibility of disturbance.	None
2.7.4	History	Distubance of sites during reconnais-sance activities.	Disturbance to site. More people near to sites.	Easiex access to sites, and greater possibility of disturbance.	None
2.7.5	Population	None	Increased population	Limit future develop-ments in immediate vicinity current densities far from limits.	Evacuate public in immediate vicinity.

SECTION	ACTIVITY	PRE-CONSTRUCTION	CONSTRUCTION	OPERATION	POST ACCIDENT
2.7.9	Property values	Slight impact on prices in immediate vicinity. Some increase due to speculation.	Slight impact on prices in immediate vicinity. Some increase due to speculation.	None	Possible impact on prices in immediate vicinity.

4.3 PERTINENT ISSUES

From the above table, the following issues can now be easily identified. These are also the issues that weed more attention during the site specific studies.

4.3.1 PHYSICAL ENVIRONMENT

The main issues appear to be soils and surface hydrology and more specifically the erosion potential of the soils. Under serface hydrology the main sub-issues can be described as the rivers, estuaries, dams and the water quality. The issue of groundwater hydrology also needs attention.

4.3.2 BIOTIC ENVIRONMENT

The study area is not unique from either a faunal of floral point of view.

However as area, it has high conservation value and could be declared a nature area in the future.

Of importance during the site specific study, is the identification of the various veld types for each site.

4.4 IMPACT ON THE MARINE SOCIO-ECONOMIC ENVIRONMENT

The social and economic levels of the marine environment of the study area are not highly developed, and it is therefore anticipated that the proposed development will not have any substantial impact on these activities. A brief summary of the impacts are listed in Table 4.4. The major impact will be that access to the coastal waters immediately off-shore of the development will be restricted.

4.5 IMPACT ON THE INTER-TIDAL SOCIO-ECONOMIC ENVIRONMENT

The predominant impacts on the inter-tidal socio-economic environment are listed in Table 4.5. From this table it is clear that the only significant impact will be the restriction of access to the coast line in the immediate vicinity of the station during operation. The coastal sections at the proposed sites are currently not used extensively by tourists or fishermen, except for the site close to Cape St. Francis, where only limited access is allowed at the present stage. After an accident, some of the vacation areas in the vicinity of the site may be affected, but the extent of this will largy depend upon the nature of the accident, the prevailing weather conditions, and the time of year when the accident occurs. These effects will be studied in greater detail in the site specific investigation.

4.6 IMPACT ON THE ON-SHORE SOCIO-ECONOMIC ENVIRONMENT

The principal impacts on the on-shore socio-economic environment are listed in Table 4.6. It is again clear that the effect on the environment during the normal life of the plant (from construction to normal operation) will not be significant, except for the construction of access roads to the site, and current flight paths used by aircraft. These impacts, however, will depend greatly on the particular site to be selected. The only possible significant impacts may occur after an accident, in which case the agricultural activities may be affected adversely, some settlements may have to be evacuated, and the Elandsjagt and Churchill Dams may be polluted. These impacts are again site dependent, and will be addressed as such in the second phase of this study.

4.7 IMPACT ON SOCIO-ECONOMIC FACTORS

The predominant impacts of the proposed plant on socio-economic factors are listed in Table 4.7. The impact of the plant on the inhabitants of the area are being investigated by another group, and these results will be incorporated in this study as soon as those results become available.