



Greenbelt Development Plan for Onshore Terminal at Suvali Village, Surat District of Gujarat State

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Cairn Energy India Pty. Ltd. (CEIL) planned to develop green belt for the proposed onshore terminal area. CEIL intended to submit green belt development plan to integrate with the Environmental Management plan while seeking environmental clearance from Ministry of Environment and Forest (MoEF). The work was undertaken by Kadam Environmental Consultants (KEC).

The onshore terminal is located at village Suvali, approximately 25 km away from Surat, near Hazira in Surat District of Gujarat State. The project involves the handling of natural gas produced from offshore field in Gulf of Khambhat to various offtake buyers. Onshore operations will be carried out in accordance with Industrial acts, viz. Environmental act, Factory act, Mines act and other legislation and standards.

In designing the onshore terminal, due consideration has been taken to minimize the impact of the installation of onshore terminal on the adjacent communities. It is expected that the proposed greenbelt will add to the aesthetic and environmental quality of the onshore terminal area in particular and the study area in general.

The scope of the study has been defined as follows:

- Study the soil characteristics of the terminal and approach road area to assess its suitability for greenbelt development.
- Design greenbelt proposal aiming at the mitigation of possible air pollutants based on the following criteria:
 - Guidelines in the EIA report
 - Guidelines of the CPCB (March 2000)
 - Plants selected on the boundary and along the roads will be based on pollution absorption characteristics of the plants and must also give adequate vegetative cover in the installation.

METHODOLOGY ADOPTED:

- Reconnaissance survey was carried out to understand the nature of terrain, water availability, local plant species and availability of soil from nearby areas.
- Soil samples of the site were collected and analyzed. Water sample analysis results were taken from the available Environment Impact Assessment (EIA) report to select the suitable green belt.
- The recommendations of the EIA report and the guidelines of the CPCB (March 2000) on greenbelt development were reviewed.
- Drawings and report were then made.



Plantation along North-West Side of Terminal

- Green belt proposed shall fit the climate, soil. Green belt will be compatible to water resources to be used.
- Harvesting of the greenbelt in the most economic manner.



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Greenbelt is designed to minimize the predicted levels of the possible air and noise pollutants. While designing the scheme the following facilities are considered:

- Plant perimeter and Plant approach road
- Along the plant internal roads
- Plantation in and around Office and accommodation area
- Around Flare
- Around Helicopter runway.
- Process facilities.



Plantation along South-East Side of Terminal

GREENBELT MANAGEMENT:

This covers the following:

- Source of Plant Species
- Green Cover Calculations
- Quantity of Plantation: Based on type of species selected for trees, and the standard norms thereof, phase wise calculations for total number of trees in specific categories and total area of shrubs / ground covers are done.
- Water Requirement: Based on field experience, phase wise water quantity required for irrigation purpose is projected.
- Water Source: Comparative statement showing pros and cons of each source is presented.
- Irrigation Method
- Soil Requirement: Soil required for the phase wise development of green cover is estimated.
- Source of Soil
- Budgetary Expenditure: Total expenditure for development of green cover in different phases is given along with cost of maintenance. The expenditure includes the cost of plant saplings, labour, pesticides, fungicides, farm manure required in the process of development and includes one year maintenance of greenbelt.



Plantation along Periphery of Terminal



Plantation along South-West Side of Terminal