

Reference No. Nayara CPP/ENV/32631/Env statement/2022/1117

September 06, 2022

To,  
The Member Secretary,  
Gujarat Pollution Control Board,  
Paryavaran Bhawan,  
Sector – 10 A,  
Gandhinagar – 382010

**Subject:** Submission of Environment Statement (FORM – V) for financial year 2021-22

Dear Sir,

As per the Environment (Protection) Amendment Rules 1986, please find enclosed herewith Environmental Statement in Form – V for the financial year 2021-22.

This is for information and record please.

Thanking you,

Yours faithfully,

For, Nayara Energy Ltd. (CPP),



**Authorized Signatory**

**Enclosure:** Form V: Environment Statement FY 2021-22

**Copy to:** Regional Officer, Gujarat Pollution Control Board, Sardar Patel Comm. Center,  
Rameshwar Nagar, Jamnagar – 381 008.



FORM – V

(See Rule 14)\*

Date: 6<sup>th</sup> September 2022

From:

**M/s Nayara Energy Ltd. (Captive Power Plant),**  
(Refinery Division)  
Refinery Site, 39 KM,  
Jamnagar-Okha Highway,  
Vadinar 361305,  
Gujarat, India

To,

**The Member Secretary**  
Gujarat Pollution Control Board,  
Paryavaran Bhavan,  
Sector-10 A,  
GANDHINAGAR - 382 010.

Environmental Statement for the financial year ending 31<sup>st</sup> March – 2022

**PART – A**

- |  |   |   |
|--|---|---|
| (i) Name and address of the owner/<br>Occupier of the industry operation | : | Prasad K Panicker<br>Director & Head of Refinery<br>M/s Nayara Energy Ltd. (Captive Power Plant)<br>Post Box No: 24, Post Khambhaliya<br>Devbhumi Dwarka – 361 305. |
| (ii) Industry<br>Primary – (STC Code) Secondary – (SIC Code) :           | : | ---   |
| (iii) Production Capacity Units  | : | 600 MW (Total)  |
| (iv) Year of Establishment   | : | 2006  |
| (v) Date of the last Environmental<br>Statement submitted                | : | 2 <sup>nd</sup> September 2021  |

\*Submission of Environmental Statement is in accordance with the provisions of Rule-14 of the Environment (Protection) Amendment Rules, 1993 of the Environment (Protection) Act, 1986 (29 of 1986) published vide Notification dated 22/04/1993 G.S.R. 386 (E) in the Gazette of India-Extraordinary- Part – II Section 3 Subsection (i), No.155 dated 28-04-1993 by the Ministry of Environment and Forests, Government of India; read with the Notification dated 13-3-1993 G. S. R. 329 (E), of the Gazette of India – Extraordinary Part – II Section – 3 subsection (i) No.120 dated 13-3-1993

“Every person carrying on an industry, operation or process requiring consent under Section-25 of the Water (Prevention & Control of Pollution) Act, 1974 (6 of 1974) or under Section-21 of the Air (Prevention & Control of Pollution) Act, 1981 (14 of 1981) or both or authorization under the Hazardous Wastes (Management and Handling) Rules, 1989 published under the Environment (Protection) Act, 1986 (29 of 1986) shall submit an Environmental Statement for the financial year ending the 31<sup>st</sup> March in Form V to the concerned State Pollution Control Board on or before the Thirtieth day of September every year, beginning 1993.”

## PART – B

### Water and Raw Material Consumption:

(1) Water Consumption (M<sup>3</sup>/day) : (Period: Apr'21 to Mar'22)

Process: 30921 M<sup>3</sup>/day - Source: The water is supplied by the DM plant being operated and owned by M/s Nayara Energy Ltd.

Cooling: 27,449 M<sup>3</sup>/day – Source: Sea water

Domestic: This water comes from desalination plant run by M/s Nayara Energy Ltd., the quantity of this water is considered in Environment Statement of M/s Nayara Energy Ltd.

Name of Products	Process water consumption per unit of product output (Process Water (m <sup>3</sup> ) / Power Generation MWh)	
	During the previous Financial year (2020 - 21)	During the current financial year (2021 – 22)
	(1)	(2)
Power	7.25 m <sup>3</sup> /MWh	7.81 m <sup>3</sup> /MWh

2. Raw material consumption:

Name of raw Material	Name of Product	Consumption of raw material per unit of output (Kcal/KWH)	
		During the previous Financial year (2020 - 21)	During the current financial year (2021 - 22)
Fuel	Power	1360	1377

## PART – C

Pollution discharged to environment/unit of output  
(Parameters as specified in the consent issued)

- The Boiler blow down is recycled into the cooling tower.
- Cooling Tower blow down is discharged through the existing return sea water pipeline of M/s Nayara Energy Ltd. at the location recommended by NIO with diffuser system.
- Sewage Water is being treated in Sewage Treatment Plant and after treatment utilized for green belt.

### (1) STACK EMISSIONS:

Pollutants		Unit	Results	GPCB standards	Percentage of variation from prescribed standards
Boiler 4	PM	mg/Nm <sup>3</sup>	17.33	50	All Parameters are well within prescribed GPCB limit
	SO <sub>2</sub>	mg/Nm <sup>3</sup>	304.92	600	
	NO <sub>x</sub>	mg/Nm <sup>3</sup>	126.92	300	
Boiler 5	PM	mg/Nm <sup>3</sup>	16.75	50	
	SO <sub>2</sub>	mg/Nm <sup>3</sup>	373.92	600	
	NO <sub>x</sub>	mg/Nm <sup>3</sup>	109.33	300	

### (2) EFFLUENT QUALITY:

Pollutants		Results	GPCB standards	Percentage of variation from prescribed standards
Cooling Tower Blowdown (mg/l)	Free available chlorine	0.372	0.5	All Parameters are well within prescribed GPCB limit
	Zinc	<1	1	
	Chromium	<0.1	0.2	
	Phosphate	<1	5	
Boiler Blowdown (mg/l)	TSS	6.1	100	
	Oil & Grease	<4	10	
	Copper	<0.1	1	
	Iron	<0.1	1	

**PART – D**

**HAZARDOUS WASTES**

As specified under Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016

**Total Quantity Generation**

Hazardous Waste	During the previous Financial year (2020 - 21)	During the current financial year (2021 - 22)
(a) Used Oil	2.38 MT	10.51 MT
(b) Discarded Containers / Barrels / used Liners used for Hazardous Wastes /Chemicals.	20 Kg	4172.5 kg

**Total Quantity Disposal**

Hazardous Waste	During the previous Financial year (2020-21)	During the current financial year (2021-22)
(a) Used Oil	16.11 MT	9.15 MT
(b) Discarded Containers / Barrels / used Liners used for Hazardous Wastes /Chemicals.	110 Kg	4556.25 kg

**PART – E**  
**SOLID WASTE**

	Total Quantity Generation & Disposed	
	During the previous Financial year (2020-21)	During the current Financial year (2021-22)
a. From Process:	0	0
b. From Pollution control Facilities: Fly Ash	85565 MT	106410 MT
c. 1) Quantity recycled or reutilized	0	0
2) Sold to authorized recycler/ user	0	0
3) Disposed to TSDF	0	0
4) Sent to Cement/Brick Manufacturer	85565 MT	106410 MT

**PART – F**

Please specify the characteristics (in terms of composition and quantity) of hazardous as well as solid and indicate disposal practice adopted for both these categories of wastes.

- Storage & Disposal Practices: Hazardous wastes are collected and temporarily stored in Hazardous Waste Sheds located in premises of Nayara Energy Ltd.

Sr. No.	Description of Hazardous waste	Category	Method of Storage	Disposal
1.	Used Oil	5.1	The waste is packed in closed MS drums of 200 Kgs and placed in storage facility having HDPE liner, Reinforced Cement Concrete (RCC) floor, covered at the top & having Leachate collection and treatment facility.	Sold to authorized actual users
2.	Discarded containers / Barrels / Liners used for Hazardous waste / chemicals	33.3	Stored in the storage facility having Reinforced Cement Concrete (RCC) floor and covered at the top.	Sold to authorized actual users

#### PART – G

Impact of the pollution abatement measures taken on conservation of natural resources and on the cost of production

- Pollution control measures adopted to control the pollution are as given below:
  - ❖ Highly efficient Electro-Static Precipitator (ESP) installed as Air Pollution control Measures
  - ❖ Use of Low sulfur fuel and efficient flue gas dispersion through 220 m stack height
  - ❖ Provided Low NO<sub>x</sub> burners in boilers to minimize NO<sub>x</sub> formation
  - ❖ Regular monitoring of stack emissions & ambient air quality are carried out by third party.
  - ❖ As per CEMS guidelines, online analyzers have been installed & connected with CPCB server & real time monitoring data are transmitted to CPCB server.
  - ❖ Boiler blow down is being utilized for cooling tower make up.
  - ❖ Domestic sewage water treated in STP & treated water utilized for green belt.
  - ❖ Coal dust collection & suppression systems are installed for coal conveyor belt.
  - ❖ Pressure type Pneumatic System is adopted for transfer of fly ash from ESP hoppers to Fly ash silos.
- The impact of these measures on conservation of natural resources:
  - ❖ Water conservation due to recycling of boiler blow down for cooling tower make up & recycling of treated water for green belt.
  - ❖ Sea water based cooling system is in place, which helps to conserve the fresh water.
  - ❖ Raw material consumption reduced at Cement Industries due to fly ash utilization.

#### PART – H

Additional measure / investment proposal for environmental protection including abatement of pollution prevention

- Continuous Emission Monitoring System has been hooked up with CPCB server.
- Low ash & low sulphur Indonesian coal is utilized in the coal fired Boilers.
- 100% fly ash disposal achieved.

#### PART – I

Any other particulars for improving the quality of the environment:

- Installed water-less urinals to conserve domestic water utilization.
- Rain water harvesting has been carried out at strategic locations.



**Authorized Signatory**

**Date:** 06.09.2022

**Address:** Nayara Energy Ltd., Post Box No: 24, Khambhaliya Post, Devbhumi Dwarka 361 305.