

**POINT-WISE STATUS OF CONDITIONS STIPULATED IN THE
ENVIRONMENTAL CLEARANCE, DATED MAY 31st '1991
OF MOEF, GOVT. OF INDIA**

1. The layout of the refinery should be so planned within the proposed site so as to ensure that it is situated as far to the eastern side of the site as possible, to ensure that there is the maximum possible distance from the eastern boundary of the Kaziranga National Park. The layout of the site of refinery may be finalised in consultation with this Ministry.

- The layout of the refinery was finalised in consultation with MoE&F.

2. The residential site as proposed should not be to the west of the refinery as it is only 19.5 kms from the boundary of Kaziranga National Park. It should be shifted further away, but keeping in view the distance from the Garampani Sanctuary, which is only 24 kms south of the proposed refinery site. The newly proposed site of the residential colony should be settled to the satisfaction of this Ministry.

-The NOC for the residential site has been issued by MoE&F vide No.J-11014/2/91 IA.II dated 18th January 1994 with six conditions. Details on the present status of compliance on these conditions are enclosed as annexure A.

3. The National Highway-37 should be diverted away from the Kaziranga National Park and that portion of this road through and along the National Park (From Jakhlabandha to Bokakhat) to be denotified from all highway records and handed over to the National Park Authorities for regulating traffic. No movement of personnel, material or equipment for the project shall take place on the existing National Highway-37. The realignment of the National Highway-37 would be finalised in consultation with the Ministry of Environment and Forests, so that the wildlife habitat in the nearby Mikir Hills and areas rich in biological diversity therein are protected. Work on the diversion of NH-37 will start before construction of the refinery begins and the Ministry of Petroleum should ensure that the road is completed before the commissioning of the project.

- Matter has been taken up with NHAI New Delhi & Guwahati Office. The same has also been intimated to MoEF, requesting for waiver of the clause, as these conditions do not fall under the purview of NRL. (letter to MoEPF , 01.01.1994 and 02.12.2013)

4. A No Development Zone must be notified before the project construction starts within a radius of 15 kms all around the refinery site, except towards the northwest where the no development zone would extend into the Eastern boundary of the Kaziranga National Park.

- The Govt. of Assam has already notified the "No Development Zone" on 19.01.95.

5. No pipeline will be laid through the Kaziranga National Park and adjacent wildlife habitats in the Mikir Hills. Pipeline alignment shall be finalized in consultation with the Ministry of Environment and Forests to minimize impact on environment and forests.
 - *NRL has not laid any pipeline through KNP*
6. The project authority must strictly adhere to the stipulations made by the SPCB and the State Government.
 - *The stipulations laid down by SPCB, Assam and the State Govt. are adhered to. The status on the compliance report has been regularly sent to PCBA, Regional Office, Golaghat. A copy is enclosed as Annexure B.*
7. Any expansion of the plant either with the existing product mix or new products can be taken up only with the prior approval of this Ministry.
 - *This is complied with as and when a change or expansion is contemplated. Any expansion of the plant either with the existing product mix or new products will be taken up with prior approval of the Ministry.*
8. The gaseous emissions from various process units should conform to the standard prescribed by the concerned authorities, from time to time. At no time, the level should go beyond the stipulated standards. In the event of failure of any pollution control system adopted by the unit, the respective unit should be put out of operation immediately and should not be restarted until the control measures are rectified to achieve the desired efficiency.
 - *Automatic online stack analysers have been provided in all the major stacks for continuous monitoring of SO₂ and NO_x. Further manual stack monitoring is being carried out bi-monthly as per latest MOEF notification. Monitoring reports of stack emissions are regularly submitted to the PCBA Regional Office, Golaghat and CPCB Regional Office, Shillong in every month. Real-time emission data has been transmitted to CPCB server on continuous basis.*
9. A minimum of five air quality monitoring stations should be set up in the downwind direction as well as where maximum ground level conc. is anticipated. Furthermore, stack emission should be monitored by setting up of automatic stack monitoring units. The data on stack emission should be submitted to the SPCB once in three months and to this Ministry once in six months, along with the statistical analysis. The air quality monitoring stations should be selected on the basis of modeling exercise to represent the short-term ground level conc.
 - *As an action of compliance, five (5) nos. of ambient air quality monitoring stations have been set up at the following locations:*

SS 1 : Inside the refinery (Near WT No.5).

- SS 2 : *At the Eco-Park in NRL Township.*
- SS 3 : *At the Raw Water Intake.*
- SS 4 : *Near the NH-39 bypass.*
- SS 5 : *Near the Kaziranga Wildlife Sanctuary at Agartoli.*

Ambient Air Quality monitoring at the above locations is being carried out *in line with NAAQS-2009 in totality*. The Ambient Air Quality Monitoring reports are regularly submitted to the PCBA HQ Guwahati, PCBA Regional Office, Golaghat and CPCB Regional Office, Shillong in every month.

- *Automatic online stack analysers have been provided in all the major Stacks for continuous monitoring of SO₂ and NO_x. The monitoring reports of stacks emissions are regularly submitted to the PCBA Regional Office, Golaghat and CPCB Regional Office, Shillong in every month and to the MoEFCC Regional Office, Shillong in every six month.*

NRL has installed one continuous Ambient Air Monitoring System inside the refinery premises. Real-time emission data is transmitted to CPCB server on continuous basis.

Action initiated for installation of another CAAQMS as per MoEFCC's recommendation in the refinery premises.

 Ambient air quality for the period April'17 to Sept'17 is enclosed as annexure-IV.

10. There should be no change in the stack design without the approval of SPCB. Alternate Pollution control system and proper design (Steam Injection System) in the stack should be provided to take care of excess emissions due to failure in any system of the plant.
 - *Prior approval of SPCB will be taken for any change in the stacks design. Pollution control measures like – Low NO_x burners, Steam Injection System, Low excess air firing, ID and FD fan, Stack dampers have been provided.*
11. Only natural gas after de-sulphurization has to be used as fuel with low NO_x burners.
 - *Permission has been obtained from MoE&F, New Delhi vide No. J-11011/16/90-IA.II(I) dated 22 May,1996 to use Naphtha, which is produced in the refinery itself. Low NO_x burners have been installed in all the refinery furnaces.*
12. Fugitive emissions should be monitored continuously.
 - *Regular monitoring of fugitive emission has been carried out using GMI since May, 2005 onwards.*

The GMI survey has been carried on all gas/vapour valves, light liquid valves, hydrogen valves, light liquid pump seals, hydrocarbon compressor seals, hydrogen compressor seals, safety relief valves, flanges, connections, open-ended lines, drains, tankages, furnaces etc in line with the MoEF notification 2008.

13. All gaseous emissions in the system shall be taken to the flare system and the flare should be smoke-less and non-luminous.

- All gaseous emissions have been taken to the flare system. A non-luminous elevated flare has been installed as regular flare. However, additionally, a ground flare has been also installed for using during emergencies.

14. A sulphur recovery plant should be commissioned along with the refinery.

- The Sulphur Recovery Block (SRB) has been commissioned alongwith the refinery and has been under continuous operation since September'2000.

15. Zero discharge of effluents should be ensured and built into the system. In case the effluent has to be discharged due to process disturbances etc. the contributing unit shall be immediately stopped from operation and will not be re-started without bringing the system to normalcy. To meet the emergency needs adequate number of effluent quality monitoring stations must be set up in consultation with the SPCB.

- Zero discharge of effluent has been ensured. Since October, 2006 no effluent from refinery has been discharged into the River Dhansiri and since April, 2007 township effluent also routed to the refinery, so no effluent from refinery & township is discharged outside and the total effluent is recycled and reused within the Refinery as Fire water makeup, watering Green Belt and filter back washing in Cooling Tower. Treated effluent quality for the period April'17 to September'17 is enclosed as annexure-V. Action initiated to use some of the treated effluent in the cooling water network as make up by implementing some suitable modifications.

16. Guard ponds of sufficient holding capacity to take care of monsoon rains should be provided.

- Guard ponds (of capacity: 5329 m³) for oily water sewer (OWS) and Surge tank (of capacity: 5760 m³) for contaminated rain water system (CRWS) have been provided in the Effluent Treatment Plant. Further, as a step towards conservation of water, implementation of storm water recycle scheme as cooling water make up is implemented.

17. The solid waste from the ETP and waxy sludge should be incinerated.

- NRL has installed an Incinerator for disposal of incinerable paper wastes in February, 2008 and the same is being operated on a continuous basis for which NRL has received the consent to operate from SPCB.

18. The solid waste (other than waxy sludge) dumping area should be made impervious so that the ground water, is not affected due to leaching and seepage of associated water containing pollutants. The solid waste disposal plan should be submitted to the Ministry once the process design and technological package is finalized.

-As per the recommendation of NEERI's report on Solid Waste Management, scheme for disposal of solid waste through Secured Landfill had been prepared. As compliance of the same a Secured Landfill facility was constructed within the Refinery premises and commissioned on 4th March, 2004.

The proposal of solid waste disposal by Secured Land Fill was submitted to MoE&F and PCB, Assam.

NRL has installed another Secured Land Fill facility of capacity around 6000 m³ as per the latest CPCB guidelines. Also, NRL has construed a new bio-remediation facility in line with the requirement by applying "Oilzapper" for disposal of oily sludge generated during cleaning of tanks.

Alternately, some quantity of oily sludge disposal by selling to authorized recyclers is in progress.

19. The project authorities should recycle the waste to the maximum extent and the recycling plan should be submitted along with a comprehensive EIA.

- All types of wastes generated from the refinery are recycled to the maximum extent possible. -The recycling plan for all types of wastes have been submitted to the MoE&F, Shillong vide letter no. NRL/NG/ENV/2.1/2 dated May'23, 2002.

20. A detailed risk-analysis based on Maximum Credible Accident analysis should be submitted once the process design and the layout are frozen. Based on this a disaster management plan has to be prepared and after approval by the concerned nodal agency, should be submitted to this Ministry.

- NEERI was engaged for Quantitative Risk Assessment including Maximum Credible Accident (MCA)analysis, Hazard Assessment and Evaluation, Disaster Management Plan (DMP) and Emergency Preparedness Plan(EPP).The report was submitted to the MoE&F on 03.02.97.

21. A comprehensive EIA report covering one year (4 seasons) data should be submitted once the process design and technology package and layout are frozen. The Ministry or any other competent authority may stipulate any further conditions after reviewing the comprehensive impact assessment report.

- CEIA report prepared by NEERI has been submitted to MoE&F on 22.04.96.

22. A comprehensive study of the ecological status and likely impact of development should be initiated in consultation with the Ministry of Environment and Forests. The proposal should be submitted to this Ministry within three months.

- This is included in the CEIA report and submitted.

23. A green belt with a minimum width of 500 mtrs should be provided and the green belt development plan taking into account various aspects including attenuation of noise and air pollution should be submitted to this Ministry within six months.

- Initially, as per Environmental Clearance granted for the Numaligarh Refinery Project, Ministry of Environment & Forest had stipulated a 500 mtrs wide green belt all around the refinery based on the EIA of Numaligarh Refinery carried out by NEERI.*

On request from Numaligarh Refinery, the width of the Green Belt was later reduced from the suggested width of 500 mtrs to 100 mtrs because of the reason that almost all the surrounding areas are having tea garden with shade trees. A wide natural green belt already existed all around the refinery.

Accordingly, a Green Belt covering a total area of around 60 hectares of land and around 100 mtrs width around the refinery and around 25 mtrs width around the NRMT has been developed as per the Green Belt Development Plan. (The Green Belt Development Plan has been submitted to MoEF along with the Half Yearly Report to MOEF on the 15th October, 2001).

Periodically, massive plantation is carried out in the Green Belt so as to it can provide a natural barrier for attenuation of noise and air pollution. Nos of local variety have been planted including some fruit bearing samplings in & all around Green Belt.

Phase wise replantation is in progress in various locations in Green Belt, inside the refinery and in and around the township to increase the density.

24. The rehabilitation plan for the persons to be displaced from the project site including township should be prepared and submitted to the Ministry for approval within 3 months. Plan should inter-alia contain rehabilitation site details, the facilities and compensation package to be provided.

- Rehabilitation of the displaced persons from the refinery site has been done by the State Govt. NRL has paid the compensation as fixed by Collector. Similar action has also been taken in case of those displaced from the Township site for which land acquired. Amenities like drinking water facility, building primary school, constructing roads in the villages etc. have been contributed by NRL.*

25. The project authority must set up a laboratory facility for collection and analysis of

samples under the supervision of competent technical person, who will directly report to the Chief Executive.

-The laboratory facility had been set up for collection and analysis of samples under the supervision of competent personnel, reporting to the Chief Manager (QC) and who reports to the General Manager (Technical). The QC lab is a NABL accredited Laboratory and it has been proposed to apply as Environmental Approved Laboratory under EPA act.

26.A separate environment management cell with suitably qualified people to carry out various functions should be set up under the control of senior executive who will report directly to the head of the organization.

- A fully functional, dedicated environment management cell manned by qualified engineers/officers and headed by Deputy General Manager (Technical) has been continuously working for constant improvement, monitoring, safe guarding and reporting of environmental activities of the refinery. Also, a multidisciplinary Apex-level Committee on Environment which includes senior level officers from various departments as members under the chairmanship of Director (Technical) constantly guides the Environment Cell regarding all the environmental issues in the refinery. The Apex Committee that convenes quarterly discusses the unresolved issues if any, regarding the environment and monitors the regular environmental activities.

27.The funds ear-marked for the environmental protection measures should not be diverted for other purposes and year-wise expenditure should be reported to this Ministry.

- The same has been complied with.

a). The Ministry may revoke clearance if implementation of the conditions is not satisfactory.

- Noted

b). The above conditions will be enforced inter-alia under the provisions of the Water (Prevention & Pollution) Act, 1981, and Environment (Protection) Act, 1985 along with their amendments.

- Noted

COMPLIANCE STATUS OF THE SIX CONDITIONS GIVEN WITH THE DEVELOPMENT OF TOWNSHIP OBTAINED VIDE LETTER NO. J-11014/2/91-IA.II DATED 18TH JANUARY, 1994 FROM MOEF NEW DELHI.

CONDITIONS:

i) The hill slopes should not be used for civil construction purposes

- Noted.

ii) Land use planning of the colony and the land around it should be finalized in construction with the State Town Planning Department.

- Consultation was done, but minutes of the same are not available at present.

iii) More open space should be left and the building construction may be done by acquiring minimum land and the houses should be constructed on ground plus two floors basis.

- Noted.

Open space left within the township is around 82% of the total area.

iv) Township site should not involve any forest area.

- Township is constructed only in the permitted area.

v) The existing forest cover towards the west and north of the proposed colony site should not be disturbed.

- It is not disturbed.

vi) No organized human settlement or private colonies should be allowed in the hill or the areas adjoining the hill. (Atleast in a radius of 10 kms).

- The Govt. of Assam has already notified the "No Development Zone" on 19.01.95.