

COMPLIANCE STATUS ON THE CONDITIONS OF ENVIRONMENTAL CLEARANCE FOR NAPHTHA SPLITTER PROJECT OBTAINED VIDE LETTER NO. J-11011/534/2009 –IA II (I) DATED SEPTEMBER 12, 2012 FROM

MOEF, NEW DELHI

SPECIFIC CONDITIONS:

- i. Compliance to all the environmental conditions stipulated in the environmental clearance letter nos J011011/16/90-IA.II dated 31st May, 1991, J011011/92/2003-IA.II dated 13th February, 2004, J011011/203/2003-IA.II (I) dated 10th November, 2008 shall be satisfactorily implemented and monitoring reports submitted to the Ministry's Regional Office at Shillong.

- Half yearly compliance report of all Ecs regularly being sent to RO Shillong.

- ii. Environmental clearance is subject to their obtaining prior clearance from Wildlife angle due to location of Kaziranga National Park (KNP) nearby including clearance from the Standing Committee of the National Board for Wildlife as applicable.

-The same has been noted. The matter has been discussed with Chief Wildlife Warden of Assam and Director, Kaziranga National Park. However, the proposed project will be constructed within the existing refinery premises, hence it does not require any additional land. As such, the requirement of approval from wild life is not envisaged.

- iii. No heavy equipments shall be routed through Kaziranga National Park, for which only the route identified earlier shall be used.

- *Being complied.*

- iv. M/s Numaligarh Refinery Limited shall comply with new standards/norms for oil Refinery Industry notified under the Environment (Protection) Rules, 1986 vide GSR 186 (E) dated 18th March, 2008.

-Being complied as per the requirement.

- v. Continuous online stack monitoring for SO₂ and SPM of all the stacks shall be carried out. SO₂ on-line analysers shall be installed in all the furnace stacks. Low NO_x burners shall be installed with online analysers to monitor NO_x emissions shall be provided.

-Online stack analysers have been provided in all the major stacks for continuous monitoring of SO₂ and NO_x. Action initiated for installation of PM analysers also. 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.

- vi. The process emissions [SO₂, NO_x, HC (Methane & Non-methane)], VOCs and Benzene from various units shall conform to the standards prescribed under the Environment (Protection) Act, 2008. At no time, the emission levels shall go beyond the stipulated standards. In the event of failure of pollution control systems(s) adopted by the unit, the unit shall be immediately put out of operation and shall not be restarted until the desired efficiency has been achieved.

- Noted. Presently being practiced and complied.

- vii. Ambient air quality monitoring stations [SPM, SO₂, NO_x, H₂S, Mercaptan, non-methane-HC, and benzene] shall be set up in the complex in consultation with Assam State Pollution Control Board, based on occurrence of maximum ground level concentration and down-wind direction of wind. The monitoring network must be decided based on modeling exercise to represent short term GLCs. Ambient air quality shall also be carried out in one location at Kaziranga National Park for SO_x, NO_x, SPM, CO & HC.

-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. Further, continuous ambient air quality data and online stack analyser data have been made accessible to CPCB from NRL's company's website since Sept'11. Presently realtime emission data is transmitted to CPCB server on continuous basis.

- 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 MoE&F Regional Office, Shillong in every six month.*

NRL has installed one Continuous Ambient Air Monitoring System inside the refinery premises. Also, action initiated for phasewise installation of few additional analysers and one new CAAQMS.

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

viii. Ambient air quality data shall be collected as per NAAQMS notified by the Ministry on 16th September, 2009 and trend analysis wrt. past monitoring results shall also be carried out. Adequate measures based on the trend analysis shall be taken to improve the ambient air quality in the project area.

- *Ambient air quality data is monitored in line with NAAQMS, 2009 in totality and trend analysis is carried out.*

ix. Monitoring of fugitive emissions shall be carried out as per the guidelines of CPCB by fugitive emission detectors and reports shall be submitted to the Ministry's Regional Office at Shillong. For control of fugitive emissions, all unsaturated hydrocarbon will be routed to the flare system and the flare system shall be designed for smoke less burning.

- *Presently being practiced as per the requirement. Regular monitoring of fugitive emission has been carried out using GMI. 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, and furnaces etc. as per the guidelines. In case of any leak observed, the same is attended immediately in line with the requirement*

x. fugitive emissions of HC from product storage tank yards etc. must be regularly monitored. Sensors for detecting HC leakage shall also be provided at strategic locations. The company shall use low Sulphur fuel to minimize SO₂ emissions. Sulphur recovery units shall be installed for control of H₂S emissions. Leak detection and Repair programme shall be implemented to control HC/VOC emissions. Work zone monitoring shall be carried out near the storage tanks besides monitoring of HCs/VOCs in the work zone.

-*Regular fugitive emission survey is being carried out with the help of GMI Gaskoseeker as a part of monitoring and control of fugitive emission. The GMI survey has been carried in 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. It is being practiced in all the Process Units, Tankage areas, Marketing Terminal, ETP and other important locations. Low sulphur fuels is being used in all the furnaces to minimize SO₂ emissions and will be implemented in future projects if required, a SRU is already installed during the commissioning of the refinery. Monitoring of fugitive emissions is carried out near the storage tanks.*

xi. As proposed, record of sulphur balance shall be maintained at the Refinery as a part of the environmental data on regular basis. The basis component of sulphur balance includes sulphur input through feed (sulphur content in crude oil), sulphur output from Refinery through products, byproduct (elemental sulphur), and atmospheric emissions.etc.

-The total sulphur emission from the refinery including NSU Spirit Project shall be maintained below 128 kg/hr as Sulphur (256 kg/hr as SO₂).

-Regular sulphur balance of the refinery is maintained and the average SO₂ emission from the refinery during current year from April'17 to Sept'17 is 66.9 kg/hr only.

- xii. The total water requirement shall not exceed 11907 m³/day and prior permission shall be obtained from the competent authority. The wastewater shall be treated in the waste water treatment plant and the treated effluent shall meet the prescribed standards. Treated effluent shall be recycled/reused within the factory premises. Domestic sewage shall be treated in sewage treatment plant (STP).

- The same has been noted. However, NRL has already obtained consent from State Government for drawl of max. 1200 m³/hr of water. Additional water requirement and treated effluent discharged is maintained within the limits. The treated effluent quality is maintained within the prescribed standards and no treated effluent is discharged from the refinery into River Dhansiri since October,2006. Further no treated effluent from township is discharged since April, 2007 which means the effluent is totally recycled.

- xiii. No effluent shall be discharged outside the factory premises and “zero water concept” shall be adopted.

Zero discharge of treated waste water has already been achieved since 2006 and Ministry's Regional Office at Shillong is kept informed.

- xiv. Oil catchers/oil traps shall be provided at all possible locations in rain/storm water drainage system inside the factory premises.

Oil catchers/oil traps are installed in various locations in the storm water channel to avoid any oil carry over to the open channel. Construction of one new oil catcher is completed and now in line. For another 5 nos oil catcher construction, action has already been initiated. Additional NRL has installed a series of hay fliters in the storm water channel and used oil adsorbent booms as precautionary measures. As a step towards conservation of water, construction of a holding pond near the storm water channel is completed.

- xv. Oily sludge shall be disposed off into Coker. Annual Oily Sludge generation and disposal data shall be submitted to the Ministry's Regional Office and CPCB.

- At present oily sludge is being disposed off by Bioremediation. Oily sludge disposing to Coker not feasible. As advised by CPCB, another alternate option is being explored for disposal of oily sludge accumulated inside the refinery by selling to some CPCB/SPCB authorized recycles. Annual oily sludge generation report is being sent to Ministry's Regional Office and CPCB as per the requirement.

- xvi. The project authorities must strictly comply with the rules and regulation with regard to handling and disposal of Hazardous Waste (Management, Handling and Trans boundary Movement) Rules, 2008 wherever applicable. Authorization from the State Pollution Control Board must be obtained for collection/treatment/storage/disposal of hazardous wastes.

- The rules and regulations under the Hazardous Waste (Management, handling and Trans-boundary Movement) Rules, 2008 as amended in 2009 are adhered to.

Approvals from State Pollution Control Board for authorization (management, handling & disposal) of hazardous waste as per the requirement) has been obtained.

- xvii. Proper oil spillage prevention management plan shall be prepared to avoid spillage/leakage of oil/petroleum products and ensure regular monitoring.

- The same is complied.

- Oil from various units is routed through OWS (Oily Water Sewer) & CRWS (Contaminated rain Water Sewer) to ETP. The oily water from various units, OM&S and NRMT go through the CRWS and OWS systems to ETP for necessary oil removal and treatment in various sections. The slop oil is recovered in ETP and sent to OM&S for needful reprocessing in various units.

-The Storm Water Channel from various plans are connected and channel through Oil Catchers .There are several oil catchers in the final outlet of Storm Water channel. The final outlet of storm water channel is made closed immediately in case of any accidental oil carryover and is trapped in the oil catcher for necessary removal. The accumulated oil from the oil catchers is lifted with the help of MOSRU (Mobile Oil Spill Recovery Unit).

- xviii. The company shall strictly follow all the recommendation mentioned on the Charter on corporate Responsibility for Environmental protection (CREP).

- The same is complied.

- xix. The Company shall take necessary measures to prevent fire hazards, containing oil spill and soil remediation as needed. At place of ground flaring, the overhead flaring stack with knockout drums shall be installed to minimize gaseous emissions during flaring.

- Knockout drums are installed in the flare systems.

- xx. To prevent fire and explosion at oil and gas facility, potential ignition sources shall be kept to a minimum and adequate separation distance between potential ignition sources and flammable material shall be in place.

- The same is complied.

- xxi. Green belt shall be developed at least in 33% of the plant area in and around plant premises to mitigate the effects of fugitive emissions all around the plant as per the CPCB guidelines in consultation with DFO. Thick greenbelt with suitable plant species shall be developed around unit. Selection of plant species shall be as per the CPCB guidelines.

- 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 (Sirish 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).

Massive Plantation have been carried out in the Green Belt so that it can provide a natural barrier for attenuation of noise and air pollution. No. of local variety have been planted including some fruit bearing samplings in & all around Green Belt. Again it has been planned to increase the density by planting more saplings in the Green Belt in the days ahead.

- xxii. Company shall prepare project specific environmental manual and a copy shall be made available at the project site for the compliance.

- The same is complied.

- xxiii. All the recommendations mentioned in the rapid risk assessment report, disaster management plan and safety guidelines shall be implemented.

- The same is being implemented.

- xxiv. All the issue raised in the public hearing/consultation meeting held on 14th July, 2011 shall be satisfactorily implemented.

- The same is complied.

- xxv. Company shall adopt Corporate Environment Policy as per the Ministry's O.M No. J-11013/41/2006-IA.II (I) dated 26th April, 2011 and implemented.

- NRL has already adopted a Env. policy as per the requirement of Environment Management ISO 14001.

- xxvi. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, Safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structure to be removed after completion of the project.

- Complied.

B. GENERAL CONDITIONS:

- i. The project authorities must strictly adhere to the stipulations by the State Pollution Control Board (SPCB), State Government and any other statutory authority.

- The stipulations made by the Pollution Control Board of Assam and the State Government are strictly adhered to.

- ii. No further expansion or modification in the project shall be carried out without prior approval of the Ministry of Environment & Forests. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.

- Any expansion or modernization in the plant will be taken up only with prior approval of the Ministry of Environment & Forests.

- iii. The project authorities must strictly comply with the rules and regulations under Manufacturer, Storage and Import of Hazardous Chemicals Rules, 2000 as amended subsequently. Prior approvals from Chief Inspector of Factories, Chief Controller of Explosives, Fire Safety Inspectors etc. must be obtained, whenever applicable.

- The rules and regulations under the Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 and as amended in 2000 are adhered to.

- Approvals from Chief Inspectorate of Factories, Chief Controller of Explosives etc as applicable for the Numaligarh Refinery have been obtained.

- iv. The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustics hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (daytime) and 70 dBA (nighttime).

- The major sources of noise generation in the proposed project are the pumps and the Air coolers. Strong foundations have been provided to mitigate the noise generation further. The equipment are monitored regularly and the ambient noise levels all around the refinery is being monitored regularly so as to maintain within the standards, prescribed under EPA Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).

- v. A separate Environmental Management Cell equipped with full fledged laboratory facilities must be set up to carry out the environment management and monitoring functions.

- A fully functional, dedicated environment management cell manned by qualified engineers/officers and headed by a 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.

- vi. Adequate funds shall be earmarked towards capital cost and recurring cost/annum for environment protection control measures and shall be used to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so provided shall not be diverted for any other purposes.

- Adequate funds have been provided for implementing the conditions stipulated by MoEF and the State Govt. and shall not be diverted for any other purpose.

- vii. The Regional Office of this Ministry/Central Pollution Control Board/State Pollution Control Board will monitor the stipulated conditions. A six monthly compliance report and the monitored data along with statistical interpretation shall be submitted to them regularly.

- Six monthly compliance report is being sent to the Regional Office of this Ministry/Central Pollution Control Board/State Pollution Control Board as per the requirement.

- viii. A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parishad/Municipal Corporation, Urban Local Body and the local NGO, if any, from whom suggestion/ representation, if any, were received while processing the proposal. The clearance letter shall also be put on the web site of the company by the proponent.

- Copy of the clearance letter sent to concerned Panchayat/ Zila Parishad/ Circle Office.

- ix. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MOEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; SPM, RSPM, SO₂, NO_x, HC (Methane & Non-methane), VOCs (ambient levels as well as stack emission) or critical sectoral parameters, indicated for the projects shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.

- The same is complied.

- x. The project proponent shall also submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored data (both in hard copies as well as by e-mail) to the Regional Office of MOEF, the respective Zonal Office of CPCB and the SPCB. The Regional Office of this Ministry/ CPCB/ SPCB/ shall monitor the stipulated conditions.

- A six monthly compliance report on the Environmental Clearance conditions of the Numaligarh Refinery along with the monitoring data is being submitted regularly to the MoE&F Regional Office, Shillong. Along with six monthly compliance report, the compliance status on the environmental clearance conditions for the CCU and the MS Unit also is being submitted to the MoE&F Regional Office at Shillong, CPCB, Shillong and the SPCB, Assam.

The same is being displayed in the company's website also.

- xi. The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986. As amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental conditions and shall also be sent to the respective Regional Offices of the MOEF by e-mail.

- Environmental Statement for each financial year ending 31st March, in form-V is being sent to SPCB every year as per the requirements.

- The same is being displayed in the company's website also.

- xii. The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB and may also be seen at Website of the Ministry of Environment and Forests at <http://envfor.nic.in>. This shall be advertised within seven days from the

date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locally concerned and a copy of the same shall be forwarded to the Regional Office.

- The same has been complied. Advertisement regarding the environmental clearance for the Naphtha Splitter Unit (NSU) was published in two local newspapers namely, The Assam Tribune (in English) and The Dainik Janambhumi (in Assamese (on the 21st September'12 and copies of both the advertisements were forwarded to the MOEF Regional Office, Shillong.

- xiii. Project authorities shall inform the Regional Office as well as the Ministry , the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.

- The same has been noted.