



**MOE&F clearance for 1 MMT Strategic Crude Storage at Visakhapatnam  
(Ref: F.No. J-11011/3/2006-IA II(i) dt.22/09/06)**

<b>S.No.</b>	<b>Conditions</b>	<b>Status / Remarks</b>
<b>A.</b>	<b>SPECIFIC CONDITIONS</b>	
	<b>1) CONSTRUCTION PHASE</b>	
i.	All the precautions shall be taken for proper rock blasting during construction of shafts and cavern galleries to reduce vibrations. It is recommended that Mining Engineer with experience in underground mine may be employed for construction of the cavern and the shaft.	a) Excavation work of Cavern & Shaft <b>100% completed.</b> b) The entire excavation was completed using Controlled blasting with all the precautions and the Vibration levels are monitored and found to be satisfactory. c) Mining Engineer with experience of underground mine was employed for construction of the cavern and the shaft.
ii.	All the project facilities shall be designed with proper structural stabilities to withstand the cyclonic winds (~250 kmph) and seismic MSK VII / VIII to avoid potential operation hampers during natural disasters.	a) All the permanent facilities are being designed for cyclonic wind speed of 250 kmph by the EPC contract for Above Ground Facilities
iii.	All the proper safely measures shall be taken for the construction workers to avoid accidents during underground construction activities. Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act. Insurance shall be taken for all the employees working during construction of underground cavern and a copy of the policy shall be submitted to the Ministry.	<b>Complied.</b>
iv.	All the rock debris generated shall be used at a pre-identified site within the project premises. Effort shall also be made to use the debris for other useful purposes such as extension or strengthening of break waters or construction work etc. Accordingly, approach roads shall be stringthread / indented / coal tar (Bitumen) lined to facilitate heavy vehicular traffic for transportation of excavated rock material.	Rock debris dumping sites was identified near to the project site and all the muck excavated was dumped at this site only.  The entire quantity was handed over to VPT who will utilize the same for strengthening the break waters and other internal construction activities.



v.	Suitable arrangements shall be made for the treatment and proper disposal of domestic waste water generated by labour during the construction. The construction workers shall be provided with adequate basic facilities including shelter, water supply and sanitation facilities.	During Construction all the basic facilities have been provided to the construction labour by the contractor.
vi.	Suitable dust suppression methods shall be provided to control the dust generated during the excavation, leveling and transportation activities.	<b>Complied.</b>
vii.	The rocks have crevices through which groundwater will seep and provide a water curtain around the stored crude. The project proponent shall observe the ground water table conditions and monitor the quality of ground water regularly due to uncertainties associated with the water balance and water crude oil interface. Adequate remedial measures shall be adopted to prevent ground water contamination.	<b>Complied.</b> Regular monitoring of level and quality of ground water table is being done and records maintained.
viii.	The ground and seepage water pumped out from the cavern shall be suitably stored and treated to ensure compliance with prescribed standards.	<b>Complied.</b>
ix.	The storage and handling of hazardous materials such as explosives / chemicals, detonators, petroleum lubricants etc. at the site during construction phase shall be as per the prescribed regulatory norms.	<b>Complied.</b>
x.	All the necessary precautions for laying proposed 3 km pipeline mentioned in the ANSI code shall be strictly followed. Continuous sensors / digital control system or SCADA system shall be installed for monitoring the pipeline. Regular monitoring of corrosion and fatigue of pipelines, valves, heat exchangers, cables etc. shall be carried out at scheduled intervals.	The 48" pipeline from SPM to Tap off point is executed by HPCL addressing the requirements.  The EPC contract for Above Ground Facilities is awarded to M/s.Indian Oil Tanking and for only the balance 42" pipeline of approx 400 mtrs will be a non pig gable line. Regular monitoring of corrosion and fatigue of pipelines, valves, heat exchangers, cables etc. are being carried out at scheduled intervals.
xi.	Efforts shall be made to mitigate any adverse impact on marine fish production as fishing activity in the project area constitutes major economy in the region and livelihood to fishermen.	Ensured, no adverse impact on the fishing activities in the region.



<b>2) OPERATION PHASE</b>		
i.	Ambient air quality for SO <sub>2</sub> , NO <sub>x</sub> , HC <sub>s</sub> , CO and secondary air pollutants (Aldehydes, Oxidants) shall be regularly monitored at requisite numbers of ambient air quality monitoring stations in consultation with APPCB at and around the proposed project site based on occurrence of maximum ground level concentration and down wind direction of wind i.e. maximum impact zone.	<p>Two numbers stationary Air Quality Monitoring systems provided and One Mobile Air Quality Monitoring system provided for monitoring SO<sub>2</sub>, NO<sub>x</sub>, HC<sub>s</sub>, CO, Wind Speed, Wind Direction etc.</p> <p>As the facilities are only for crude storage and no other process involved, it is observed during detailed engineering stage that there will not be any secondary air pollutants form the facilities.</p> <p>We have applied for the exemption for monitoring secondary air pollutants with MOEF, New Delhi office.</p>
ii.	The possibility of hydrocarbon vapour recovery and re-injection back into the cavern system during crude oil filling, discharge and excess pressure / safety vent operation periods shall be explored and implemented in view of large volume of caverns to prevent significant loss of HCs as well as mitigate air pollution impacts. Suitable HCs/ VOCs monitors shall be installed at critical locations (Pumps, Valves, Flanges, Joints, Bends in pipeline etc.) with compatible on-line data recording and alarm system at the control room. Low Sulphur fuels like LSHS, HSD, and Naphtha etc. shall be used.	<p>To avoid loss of HCs as well as mitigate air pollution impacts Nitrogen Blanketing is provided in the cavern.</p> <p>Suitable HCs/ VOCs monitors are also ing installed at critical locations.</p> <p>Low Sulphur fuels like LPG / HSD is used for Flare Pilot, Boiler fuel.</p>
iii.	Measures shall be taken for provision of double mechanical seals in pumps / compressors operated at surface facilities and maintenance of valves and other equipments.	Double mechanical seals are provided as per the Design requirements.
iv.	<p>The water requirement from Visakhapatnam Municipal Corporation shall not exceed 352 KLD.</p> <p>The proposed physical treatment of seepage water contaminated with oil &amp; grease (through API /TPI / CPI) shall be supplemented with biological treatment dual media filters for proposed reuse of all the treated effluent. The treated effluent after treatment shall comply with the standards stipulated by APCB/CPCB.</p> <p>A treated effluent pond (open) with minimum five days retention capacity shall be constructed for conducting bio-assay test prior to reuse of treated effluent.</p>	<p>The Present water requirement is not exceeding 200 KL /Day.</p> <p>The treated effluent after treatment will comply with the standards stipulated by APCB.CPCB.</p> <p>The treated seepage water holding pond was designed to have Detention Time of 5 days.Ref. <b>Annexure - A.</b></p>



iv	<p>All the units of the ETP shall be impervious to prevent ground water leakage.</p> <p>No waste water will be discharged outside the project premises. The domestic waste water at storage location will be treated in septic tank and discharged to soak pits to be reused for the green belt development within the plant premises.</p>	<p>All the units of the ETP are made impervious to prevent ground water leakage.</p> <p>The domestic waste water at storage location will be treated in septic tank and discharged to soak pits.</p> <p>The treated water will be used for the green belt development within the plant premises.</p>
v.	<p>The ground water quality as well as coastal marine water quality monitoring with special reference to oil &amp; grease as well as hydrocarbons shall be done at different locations around the project in consultation with APPCB as per the general discharge standards applicable to coastal marine discharges and specific discharge standards stipulated by the APPCB. Ground water monitoring with respect to quality (oil &amp; grease; Sulfides / Sulfates) as well as water table variations at different locations shall be carried out in consultation with APPCB/ SGWB / CGWA.</p>	<p>Ground water monitoring with respect to quality (oil &amp; grease; Sulfides / Sulfates) is carried out.</p> <p>Water table variations at different locations are being monitored</p> <p>No coastal marine discharges is envisaged</p>
vi.	<p>The ETP sludge shall be disposed off in the TSDF, Visakhapatnam, and A.P. The de-waxing sludge generated shall be either properly disposed off or supplied to M/s HPCL for further treatment and disposal as proposed.</p>	<p>The de-waxing sludge generated shall be either properly disposed of through APPCB approved agencies or supplied to M/s HPCL for further treatment and disposal.</p>
vii)	<p>The oily sludge collection, transportation, storage and disposal shall be strictly as per prevailing Hazardous Waste (Management and Handling) Rules, 1989 and its amendments.</p>	<p>Shall be complied.</p>
viii.	<p>As mentioned in the REIA/EMP, 50 m green belt shall be developed along the boundary of the industry to mitigate the effects of fugitive emissions all around the plant in consultation with DFO as per CPCB guidelines.</p>	<p>Condition has been modified vide APPCB order No 140/ PCB/VSP/ VSP/ CFE/ HO- 2007-1314 dated 13.09.07. Green belt to be developed during operation phase.</p>
ix.	<p>Rainwater harvesting (RWH) shall be carried out at project site keeping in view the run off from adjacent hill slopes towards proposed surface facilities to conserve and reduced the water consumption. The proponent shall ensure that effluent shall not enter the Rainwater harvesting structure.</p>	<p>RWH pit designed and implemented. There is no possibility of any effluent entering the RWH.</p>



x.	All the recommendations / precautions mentioned in the Risk Assessment and Disaster Management Plan shall be strictly followed.	<b>Complied.</b>
<b>B.</b>	<b>GENERAL CONDITIONS</b>	
i)	The project authorities must strictly adhere to the stipulations made by the A.P.State Pollution Control Board and the State Government. All the statutory approvals for the construction of underground cavern and tunnels etc. shall be obtained from the concerned Statutory Authorities and a copy submitted to the Ministry. Standards issued by the Oil industries Safety Directorate (OISD) and other national and international bodies and guidelines shall be followed.	<b>Complied.</b>
ii)	No expansion or. Modernization in the system shall be carried out without priqr approval of the Ministry of Environment and Forests.	There will be no expansion or. Modernization in the system out without prior approval of the Ministry of Environment and Forests.
iii.	At no time, the emission shall go beyond the prescribed standards. In the event of failure of any pollution control system adopted by the unit the respective unit shall be immediately put out of operation and shall not be restarted until the desired efficiency has been achieved.	Noted for strict compliance.
iv.	All the recommendations made in the EIA/EMP report and risk assessment report shall be implemented.	<b>Complied.</b>
v.	The overall noise levels in and around the installation shall be kept well within the standards (85 dBA) by providing noise control measures including acoustic 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 (night time).	<b>Complied.</b> The overall noise levels in and around the project site is monitored on regular basis and found to be within prescribed limits.
vi.	The project authorities must strictly comply with the provisions made in Manufacture, Storage and Import of Hazardous Chemicals Rules 1989 as amended in 2000 for handling of hazardous chemicals etc. Necessary approvals from Chief Controller of Explosives must be obtained before commissioning of the project.	Necessary statutory approvals are obtained before commissioning of the project.
Vii	The project authorities must strictly comply with the rules and regulations with regard to handling and disposal of hazardous wastes in accordance 'with the Hazardous Wastes) Rules, 2003. Authorization from the A.P. Pollution Control Board must be obtained for collections / treatment/ storage / disposal of hazardous wastes.	Noted for strict compliance.



viii.	As mentioned in the REIA/EMP, project authorities shall provide Rs. 2.00 – 4.00 Crores and Rs. 20.00 Lakhs/annum towards capital cost and recurring expenditure for environmental pollution control measures 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 should not be diverted for any other purposes.	Being complied.
ix.	The stipulated conditions will be monitored by the Regional of this Ministry at Bhubaneswar / CPCB / APPCB. A six monthly compliance report and the monitored data shall be submitted to them regularly.	Six monthly compliance reports are submitted.
x.	'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 A.P. Pollution Control Board / Committee and may also be seen at Website of the Ministry of Environment and Forests at <a href="http://www.envfor.nic.in">http://www.envfor.nic.in</a> . 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 locality concerned and a copy of the same shall be forwarded to the Regional office.	Already complied on 28 <sup>th</sup> September 2006.
xi.	The 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.	Date of Commencement of Land development informed to all concerned as required. Date of Financial closure will be informed to Regional Office as well as the Ministry.  Final approval by CCOE was obtained in March, 2015.



## MOEF clearance for expansion of strategic storage to 1.33 MMT

Ref No. J-11011/3/2006-IA II (I) dated 20<sup>th</sup> August 2007)

i.	The company shall comply with all the conditions stipulated by the Ministry vide its letter no. J-11011/3/2006-IA-II (I) dated 22 <sup>nd</sup> September 2006 while according environmental clearance for construction of 1 MMT strategic crude oil storage in underground rock caverns at Vishakhapatnam in Andhra Pradesh.	Being complied.
ii.	The water requirement shall not increase 351.2m <sup>3</sup> /d and shall be met from the Vishakhapatnam Municipal Corporation Water Supply and not from the ground water source.	The Present water requirement is not exceeding 200 KL /Day and water requirement is being met from Visakhapatnam Municipal Corporation.
iii.	Expansion of the proposed project shall be carried within the existing land area of 27 ha.	No additional land is required for the project.
iv	The rock debris generated shall be stacked at the earmarked site and shall be used for strengthening of break water and construction work.	Refer A 1 (iv) above.
v.	The recommendations made in the EIA/EMP/Risk Assessment Report and Disaster Management Plan prepared for the existing project shall be strictly followed.	Complied.
vi.	No further modernization / expansion of the project shall be carried without the prior environmental clearance.	Noted for compliance.
vii.	Implementation of the project viz-a-vis environmental management/ Risk mitigation measures shall be reported to the Ministry / Regional Office/SPCB regularly on six monthly basis.	Shall be complied.