

**COMPLIANCE STATUS OF CONDITIONS IMPOSED IN ENVIRONMENTAL CLEARANCE FOR 8.5 MTPA BAUXITE MINING
VIDE LETTER NO J-11015/650/2007-IA.II(M),DTD.19.02.09**

**PROJECT NAME: UTKAL ALUMINA INTERNATIONAL LIMITED.
PERIOD OF COMPLIANCE: OCT.2011 TO MARCH,2012.**

Sl.No	Conditions	Compliance Status
	SPECIFIC CONDITION	
1	All the conditions stipulated by the State Pollution Control Board, Orissa in their consent to establish shall be effectively implemented.	All the conditions stipulated by the State Pollution Control Board, Orissa are being effectively implemented.
2	The project proponent shall effectively address the concerns raised by the locals in the public hearing as well as during consideration of the project while implementing the project.	All the concerns raised in the public hearing are being implemented such as health care by appointing doctors, paramedical staff with ambulance, repairing and constructing tube wells, repairing and constructing village roads, construction of new school building and renovation of old school building, water harvesting projects, employment to local people, plantation activities etc. The details of the same have already been submitted vide our letter no.UAIL/ENV/29 dated 01.12.2012 under heading CSR activities.
3	The project proponent shall develop fodder plots in the non-mineralized area in lieu of use of grazing land.	Mining and reclamation & rehabilitation of mined out area by plantation will be concurrently carried out from 4 th year onwards. Further, approximately 5 to 10% of the total mining area will be operational at a time as phase wise mining method will be followed up. Further simultaneous reclamation of the mined out pit will be carried out. These methods will provide enough land for grazing of cattle.
4	The mining operations shall be restricted to above ground water table and it should not intersect groundwater table. In case of working below ground water table, prior approval of the Ministry	No scope to intersect ground water as the ML area is located above 990-1094m AMSL and the ultimate depth of the proposed mine will be within 960-1054m i.e. 30-40m below

	of Environment and Forests and the Central Ground Water Authority shall be obtained, for which a detailed hydro-geological study shall be carried out.	surface level and ground water table exists below 100-150m surface level. However, in case of working below ground water table, prior approval of the MOEF & CGWA will be obtained,
5	The project proponent shall ensure that no natural watercourse and/or water resources are obstructed due to any mining operations. Adequate measures shall be taken while diverting seasonal channels emanating from the mine lease, during the course of mining operation.	Adequate measures are being taken to ensure the protection of natural water course/water resources from any obstruct due to mining operation such as drainage system to catch precipitated water, garland drain with retaining wall and check dams to check silts and sediments.
6	The project proponent shall take adequate environmental safeguard measures for control of rolling down of silt and sediments and protection of the catchment area of upper Indravati Reservoir during the course of mining operation.	In addition to as stated in sl. No. 5, further check dams/siltation ponds will be constructed during the course of running of the mines.
7	A 3km stretch on the upstream and 3 Km in the down stream of the river passing through the project area should be taken up by the project authorities for plantation to arrest river bank erosion and sediment flow into the river.	No river or nallah passes through the proposed mining area. However, plantation is being carried out since 2005 over the hill slopes to check erosion/sediment flow and this activity will be continued in future years also. The details of afforestation have already been submitted vide our letter no. UAIL/ENV/29 dated 01.12.2012.
8	The top soil shall temporarily be stored at earmarked site(s) only and it should not be kept unutilized for long. The topsoil shall be used for land reclamation and plantation.	Top soil layer over the laterite mantle is very thin. Provision is there to store top soil at ear marked site for utilization in afforestation.

9	<p>The over burden (OB) generated during the initial years of the mining operation shall be temporarily stacked at the earmarked dump site(s) only for backfilling. Backfilling shall start from the 4th year onwards of the mining operation and the entire quantity of the waste to be generated shall be backfilled. There shall be no external over burden dumps after the 8th year of the mining operation. The entire backfilled area shall be afforested. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment & Forests and its Regional Office located at Bhubaneswar on six monthly basis.</p>	<p>As mining is yet to start, provision is there to stack the OB waste at ear marked site, to be generated in the initial three years and utilization in 4th year onwards as back filling material in the voids of mined out area followed by plantation. Monitoring and management of rehabilitated areas will be continued until the vegetation become self-sustaining. Compliance status will be submitted to the Ministry of Environment & Forests and its Regional Office located at Bhubaneswar on six monthly basis.</p>
10	<p>Catch drains and siltation ponds of appropriate size shall be constructed around the mine working, mineral and temporary OB dumps to prevent run off of water and flow of sediments directly into the Kandabindha Nallah, the San River, the Indravati River and other water bodies. The water so collected shall be utilized for watering the mine area, roads, green belt development etc. The drains shall be regularly desilted, particularly after the monsoon, and maintained properly.</p> <p>Garland drains, settling tanks and check dams of appropriate size, gradient and length shall be constructed around the mine pit, topsoil dump, temporary over burden dumps and mineral dumps to prevent run off of water and flow of sediments directly into the Kandabindha Nallah, the San River, the Indravati River and other water bodies and sump capacity shall be designed keeping 50% safety margin over and above peak sudden rainfall (based on 50 years data) and maximum discharge in the area adjoining the mine site. Sump capacity shall also provide adequate retention period to allow proper settling of silt material. Sedimentation pits shall be constructed at the corners of the</p>	<p>In addition to as stated in sl. No. 5 & 6, catch drains and garland drains of adequate length, width & depth with proper gradient will be constructed around the quarry, ore handling area during initial operational period of the mines. However, about 40 numbers of check dams were already constructed on the plateau top to check any sediment flow.</p>

	garland drains and desilted at regular intervals.	
11	Dimension of the retaining wall at the toe of temporary OB dump(s) and the over burden benches within the mine to check run-off and siltation shall be based on the rain fall data	Retaining wall of adequate height will be provided around the toe of temporary OB dump and the over burden benches within the mine to check run-off and siltation Noted for compliance during course of mining operation.
12	Plantation shall be raised in an area of 680ha including a 7.5m wide green belt in the safety zone around the mining lease, backfilled and reclaimed area, around void, roads etc. by planting the native species in consultation with the local DFO/Agriculture Department. The density of the trees should be around 2500 plants per ha.	Plantation is being carried since 2005-06 and as on date an area of 164.0 ha. (Inside ML area- 49.05 ha. & outside ML area- 114.95 ha) has been afforested by planting around 4, 17,000 saplings with survival rate 80%. Plantation activities will be continued in coming years also. Year wise plantation details have already been submitted vide our letter no. UAIL/ENV/29 dated 01.12.2012.
13	The void left unfilled in an area of 250ha shall be converted into the water body. The higher benches of the excavated void/mine pit shall be terraced and plantation done to stabilize the slopes. The slopes of higher benches shall be made gentler for easy accessibility by the local people to use the water body. Peripheral fencing shall be carried out all along the excavated area.	The void to be left unfilled after exhaust of ore in an area of 250ha will be converted into water body. The higher benches of the excavated void pit will be terraced/planted to stabilize the slopes. The higher bench slopes will be made gentler for easy accessibility by the local people to use the water body. Peripheral fencing will be carried out all along the excavated area of mining operations.
14	Regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of SPM and RSPM such as around crushing and screening plant, loading and unloading point and all transfer points. Extensive water sprinkling shall be carried out on haul roads. It shall be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.	Provision is made to deploy 4 nos. of 16 KL capacity tankers to spray water at dust generating points such as haul roads, loading & unloading, material transfer points and commissioning of dry fog system at crushing unit. Presently regular water sprinkling is being carried out by deploying one dedicated water tanker. Ambient Air Quality monitoring in core & buffer zone of mines is being carried out and the results of AAQ is below the prescribed norms. The same will be maintained in operational periods also by improving effective control measures. Data on Ambient Air Quality is

		enclosed in ANNEXURE - I.
15	Regular monitoring of the flow rate of the springs and perennial nallahs flowing in and around the mine lease shall be carried out and records maintained.	No water body flows inside the ML area. The flow rate of the perennial nallah namely Kandabindha will be monitored and recorded regularly.
16	Regular monitoring of water quality upstream and downstream of the Kandabindha Nallah shall be carried out and record of monitored data should be maintained and submitted to the Ministry of Environment and Forests, its Regional Office, Bhubneswar, the Central Groundwater Authority, the Regional Director, Central Ground Water Board, the State Pollution Control Board and the Central Pollution Control Board.	The same is being carried out and recorded. The results of surface water quality are enclosed in ANNEXURE – II. The same also is being submitted to the Central Groundwater Authority, the Regional Director, Central Ground Water Board, the State Pollution Control Board and the Central Pollution Control Board.
17	The project authority shall implement suitable conservation measures to augment ground water resources in the area in consultation with the Regional Director, Central Ground Water Board.	A proposal has been submitted to Member Secretary, Central Ground Water authority New Delhi through Regional Director Central Ground Water, Bhubaneswar vide their letter no. 5-22/SER/CGWA/2011 – 1150, dated. 19.08.2011. The same will be implemented after approval from the concerned.
18	Regular monitoring of ground water level and quality shall be carried out in and around the mine lease by establishing a network of existing wells and constructing new piezometers during the mining operation. The monitoring shall be carried out four times in a year, pre- monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January) and the data thus collected may be sent regularly to the Ministry of Environment and Forests and its Regional Office, Bhubaneswar, the Central Ground Water Authority and the Regional Director, Central Ground Water Board. If at any stage, it is observed that the ground water is depleted due to mining activity, necessary corrective measures shall be carried out.	Ground water level is below 100 to 150 meter from the surface of plateau (ML area) top and mining activity will be confined up to 30-40 meter below plateau surface level. However, monitoring of ground water table & its quality in existing wells of buffer zone of mine lease area is being carried out. The monitored data of post-monsoon and winter season is enclosed in ANNEXURE-. Copies of the same are submitted to Central Ground Water authority & regional Director Central Ground Water Board, State Pollution Control Board Orissa & Regional Officer SPCB, Rayagada.
19	Appropriate mitigative measures shall be taken to prevent	Work orders have been awarded to expertise party to

	pollution of the San River and the Indravati River in consultation with the State Pollution Control Board.	prepare the plan for catchment area treatment of upper Indravati Reservoir which will be submitted for approval to the concerned authority and will be implemented.
20	The project proponent shall obtain necessary prior permission of the competent authorities for drawl of requisite quantity of water (surface water and ground water, if any) required for the project.	Recommendation made by the DOWR to the Chief Engineer, WRD. Formal approval is awaited from the Secretary WRD, Orissa.
21	Suitable rainwater harvesting measures on long term basis shall be planned and implemented in consultation with the Regional Director, Central Ground Water Board.	A proposal has been submitted to Member Secretary, Central Ground Water authority New Delhi through Regional Director Central Ground Water, Bhubaneswar vide their letter no. 5-22/SER/CGWA/2011 – 1150, dated. 19.08.2011. The same will be implemented after approval from the concerned
22	Vehicular emissions shall be kept under control and regularly monitored. Measures shall be taken for maintenance of vehicles used in mining operations and in transportation of mineral within the mine lease. The mineral transportation within the mine lease shall be carried out through the covered trucks only and the vehicles carrying the mineral shall not be overloaded.	Vehicular emissions will be kept under control by regular maintenance of vehicles and emission will be monitored. The mineral transportation within the mine lease will be carried out through the covered trucks without overload only.
23	No blasting shall be carried out after the sunset. Blasting operation shall be carried out only during the daytime. Controlled blasting shall be practiced. The mitigative measures for control of ground vibrations and to arrest fly rocks and boulders should be implemented.	Blasting operation will be carried out only during the daytime following controlled blasting practices to check ground vibration and fly rocks.
24	Drills shall either be operated with dust extractors or equipped with water injection system.	Drilling machine with in-built vacuum cyclone dust collector & equipped with water spraying system will be used in drilling operation.
25	Mineral handling area shall be provided with adequate number of high efficiency dust extraction system. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.	Installation of highly efficient dry fog dust suppression system is under commissioning at mineral handling area and water spraying arrangements at loading, unloading and transfer points.
26	Consent to operate shall be obtained from the State Pollution Control Board, Orissa prior to start of production from the mine.	Production will not be started before obtaining Consent to Operate from the State Pollution Control Board, Orissa.

27	Sewage treatment plant shall be installed for the colony. ETP shall also be provided for the workshop and wastewater generated during the mining operation.	No residential colony is proposed within ML area and it is proposed at a distance of 25 KM from mines, where the sewage treatment plant will be installed. Provision of ETP is not envisaged as no scope of generation of mine drainage water and deployment of mine machinery on contract basis.
28	The project authorities shall undertake sample survey to generate data on pre-project community health status within a radius of 1 km from proposed mine.	The details of the same have already been submitted vide our letter no. UAIL/ENV/29 dated 01.12.2012.
29	Pre-placement medical examination and periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be drawn and followed accordingly.	Pre-placement medical examination and periodical medical examination of the workers to be engaged in the project will be carried out adopting schedule for the same and records maintained.
30	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 structures to be removed after the completion of the project.	All necessary infrastructure and facilities such as temporary rest shed, gas fuel for cooking, temporary toilets, safe drinking water, medical facility, etc. have been provided.
31	The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered fauna namely; python, panther, sloth bear, wild dog etc. spotted in the study area. Action plan for conservation of flora and fauna shall be prepared and implemented in consultation with the State Forest and Wildlife Department. Necessary allocation of funds for implementation of the conservation plan shall be made and the funds so allocated shall be included in the project cost. All the safeguard measures brought out in the Wildlife Conservation Plan so prepared specific to the project site shall be effectively implemented. A copy of action plan shall be submitted to the Ministry of Environment and Forests and its Regional Office, Bhubaneswar.	<p>The revised wildlife management plan for Rayagada & Kalahandi (South division) has been prepared by the DFO Rayagada and has been submitted to PCCF (WL)& CWLW vide their letter no 7723.dtd 02.11.11, for further processing . Its approval is awaited and it will be submitted to Ministry of Environment and Forests and its Regional Office, Bhubaneswar, once it gets approved from the concerned authority.</p> <p>Approved Wild Life Management Plan will be implemented as per the guidelines/direction of the concerned authority. Necessary fund will be allocated for the implementation of the WMP in consultation with State Forest dept.</p>

32	Digital processing of the entire lease area using remote sensing technique shall be carried out regularly once in three years for monitoring land use pattern and report submitted to Ministry of Environment and Forests and its Regional Office, Bhubaneswar.	Digital processing of the Baphlimali mining lease area using remote sensing technique for monitoring of land use pattern has been carried out by Orissa space application center Bhubenshwer and report has been submitted to Ministry with a copy to its regional office at Bhubenshwer vide our letter no UAIL – Mines /MOEF/008/2010.
	B. General conditions	
1	No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment & Forests.	No change in mining technology and scope of working will be made without prior approval of the Ministry of Environment & Forests.
2	No change in the calendar plan including excavation, quantum of mineral bauxite and waste should be made.	No change in the calendar plan including excavation, quantum of mineral bauxite and waste will be made.
3	At least four ambient air quality-monitoring stations should be established in the core zone as well as in the buffer zone for RSPM, SPM, SO ₂ & NO _x monitoring. Location of the stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets and frequency of monitoring should be undertaken in consultation with the State Pollution Control Board.	Four ambient monitoring stations have been established in consultation with the State Pollution Control Board, Odisha. Monitoring reports are attached in ANNEXURE – I .
4	Data on ambient air quality (RSPM, SPM, SO ₂ & NO _x) should be regularly submitted to the Ministry of Environment and Forests including its Regional office located at Bhubaneswar and the State Pollution Control Board / Central Pollution Control Board once in six months.	The monitored AAQ data is being submitted to the concerned authorities along with the half yearly compliance report once in six month.
5	Fugitive dust emissions from all the sources should be controlled	Provision is made to deploy 4 nos. of 16 KL capacity tankers

	regularly. Water spraying arrangement on haul roads, loading and unloading and at transfer points should be provided and properly maintained.	to spray water at dust generating points such as haul roads, loading & unloading, material transfer points and commissioning of dry fog system at crushing unit. Presently regular water sprinkling is being carried out by deploying one dedicated water tanker.
6	Measures should be taken for control of noise levels below 85 dB (A) in the work environment. Workers engaged in operations of HEMM, etc. should be provided with ear plugs / muffs.	The following measures have been proposed to control of noise levels below 85 dB (A) in the work environment. Maintenance of all machines including checking of silencers regularly, controlled blasting using delay detonators, installing immovable machinery on foundations and in closed rooms, provision of ear plugs/muffs to workers engaged in noise prone areas.
7	Industrial waste water (workshop and waste water from the mine) should be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19 th May, 1993 and 31 st December, 1993 or as amended from time to time. Oil and grease trap should be installed before discharge of workshop effluents.	No work shop is proposed as the machinery to be deployed for mining will be on contract basis. Whatever repair of machinery will be done outside the mine lease area. No scope of mine drainage as ground water table is below 100-150 meter from surface and mining operation will be carried out up to 30-40 meter from surface.
8	Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.	In addition to water spraying to suppress dust generation, workers engaged in dusty will be provided with nose masks as a precautionary measure. Training & information on safety, health hazards will be given to all categories of deserved workers. Occupational health surveillance program of all categories of workers and employees will be conducted periodically and corrective measure will be taken, if any contraction observed.
9	A separate environmental management cell with suitable qualified personnel should be set-up under the control of a Senior Executive, who will report directly to the Head of the Organization.	Environmental management cell has been established with qualified personnel under the control of a senior executive.

10	The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry of Environment and Forests and its Regional Office located at Bhubaneswar.	The funds earmarked for environmental protection measures are kept in separate account and is being used for environmental protection measures only. It will not be diverted for other purpose. The year wise expenditure details will be submitted after running of the project.
11	The project authorities should inform to the Regional Office located at Bhubaneswar regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.	The date of financial closure is 28 th July, 2010. The final approval of the project by Secretariat of Industrial Assistance is in process. The date of land development work is August, 2000.
12	The Regional Office of this Ministry located at Bhubaneswar shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information / monitoring reports.	Full cooperation to the officer (s) of the Regional Office will be extended by furnishing the requisite data / information / monitoring reports.
13	The project proponent shall submit six monthly report on the status of the implementation of the stipulated environmental safeguards to the Ministry of Environment and Forests, its Regional Office, Bhubaneswar, Central Pollution Control Board and State Pollution Control Board. The proponent shall upload the status of compliance on their website and shall update the same periodically.	Six monthly compliance status of stipulated conditions is being submitted to the concerned authorities and the same will be displayed on the company's Web-Site after operation of the project.
14	A copy of clearance letter shall be marked to concerned Panchayat / local NGO, if any, from whom suggestion / representation has been received while processing the proposal	Already complied
15	The State Pollution Control Board should display a copy of the clearance letter at the Regional office, District Industry Centre and the Collector`s office/ Tehsildar`s Office for 30 days.	Complied with
16	The project authorities should advertise at least in two local	The same has already been advertised in daily newspapers

<p>newspapers widely circulated, one of which shall be in the vernacular language of the locality concerned, within 7days of the issue of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution Control Board and also at web site of the Ministry of Environment and Forests at http://envfor.nic.in and a copy of the same should be forwarded to the Regional Office of this Ministry located at Bhubaneswar.</p>	<p>“SAMBAD” and “ANUPAM BHARAT”and has already submitted to the Chairman SPCB, Bhubaneswar dated.28.02.09.</p>
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Annexure-VII

COST OF ENVIRONMENTAL PROTECTION MEASURES

(Rs. in Lakhs)

Sr. No.	Particulars	Proposed Cost	
		Capital	Recurring
1	Dust suppression	35.0	7.5
2	Air quality management	5.0	
3	Water quality management	5.5	
4	Noise and ground vibration monitoring	15.0	
5	Environmental monitoring equipment	15.0	
6	Greenbelt / Plantation	50.0	30.0
7	Rural development	20.0	15.0
	Total	145.5	52.5