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J-11015/394/ 2006- IA. II(M)
Government of India
Ministry of Environment & Forests

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Paryavaran Bhavan, C.G.O. Complex,
Lodi Road, New Delhi-110003.

Dated the February 21, 2007

To

The Director
M/s Uranium Corporation of India
Warwopahar Mines,
Singhbhum(East).

Sub: Tummalapalli underground Uranium mining project of M/s Uranium Corporation of India Limited, a Central Public Undertaking under the Department of Atomic Energy at villoges Tummalapalle, Mobbuchintapalle, Bumayigaripalle, Rachakuntapalle and Kottalu in District Cuddapah, Andhra Pradesh - reg environmental clearance.

Sir,

This has reference to Department of Atomic Energy letter no.10/7 (2) /2006 PSU/4737 dated 16th June, 2006 and subsequent communications no. UCIL/D4/89/07 dated 4th January, 2007, 3rd & 6th February, 2007 and 29th January, 2007 on the above mentioned subject. It is noted that the project was accorded site clearance by the Ministry on 4.9.2006. The Ministry of Environment & Forests has considered the environmental clearance application. It is noted that the proposal is for opening a new mine - Tummalapalli Underground Uranium mining project of total lease area of 813.61 ha. The uranium processing plant will be located within the mine lease area adjacent to the mine. Area required for mine, processing plant and tailing pond will be 813.61 ha, 60 ha and 100 ha respectively. In addition, 100 ha is required for residential colony. Thus, total area to be acquired for the project will be 973.61 ha. No forest land is involved. In the ore processing plant, the ore will be transported by closed conveyor.

2. The annual production capacity of the mine will be 9 lakh TPA. No ecologically sensitive areas such as national park/sanctuary/biosphere reserve are located within core and buffer zone. No displacement of people is involved. However, there will be 489 land oustees who will be compensated in accordance with the guidelines/policies of Govt. of Andhra Pradesh and Govt. of India. Total water requirement of 5640 m³/day (1560 for mine operations including 100 m³/d for fire service which is a need based demand, 3080m³/d for mill and 1000m³/d for township) will be met from the Chitravathi reservoir. Irrigation and C.A.D. (PW) Department, Govt. of Andhra Pradesh vide letter no. CE (P)/irrig/KPD/TSI/2006 dated 23rd March, 2006 has given permission to draw 6000m³/d of water. Further, Ground Water Department, Government of Andhra Pradesh vide letter dated 4096/HG.III (2)/2005 dated

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20.8.2005 has given permission to draw 1500 m³/d of ground water for using water during construction period only. **No ground water will be utilized for industrial purpose.** About 25,000 tonne of waste rock shall be generated during the development period, which will be dumped in a small external dump within the mine lease. The dump will be biologically reclaimed. About 9,20,650 TPA of solid waste will be produced from the project which will be dumped externally in tailings pond. The tailings pond shall have an impervious lining. The overflow water from the tailings pond shall be collected and treated for reuse in the process.

3. Public hearing of the project was held on 10.9.2006. Atomic Mineral Directorate for Exploration and Research has approved the mining plan on 10.1.2007. Irrigation and CAD(PW) Department, Govt of Andhra Pradesh has granted permission to draw 6000m³/d of water on 23rd March, 2006. Ground water Department, Govt. of Andhra Pradesh has given permission to draw 1500m³/d of water during the construction period. Total cost of the project is Rs. 1029.57 crore of which Rs. 645.50 crore for plant and Rs.384.07 crore for the mine.

4. The project was considered as per the old EIA Notification, 1994 as per Sub-para 2.2 of the Interim Operational Guidelines dated 13th October, 2006 issued by the Ministry of Environment and Forests under Para 12 of the EIA Notification, 2006.

5. Based on the information submitted by you, the Ministry of Environment and hereby accords environmental clearance for the above project under the provisions of the EIA Notification dated 14th September, 2006 subject to implementation of the following conditions/safeguards.

A. Specific Conditions

- (i) Regular monitoring of subsidence movement on the surface over working area and impact on water bodies/vegetation/structures/surrounding shall be continued till movement ceases completely. In case of observation of any high rate of subsidence movement, appropriate measures shall be taken to avoid loss of life and material. Cracks shall be effectively plugged with ballast and clayey soil/suitable material.
- (ii) The project authorities should check the possibility of existence of fault(s) before deciding about the thickness of safe barrier required to be maintained between the working face and the river in consultation with the Director General Mines & Safety (DGMS). De-pillaring should also be carried out after taking prior approval of the DGMS.
- (iii) Garland drains shall be constructed around the mine to prevent ingress of surface run-off.

- (iv) The crushing and grinding of ore shall be in a closed system. The uranium processing plant shall be provided with adequate number of high efficiency dust extraction and filtration systems. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated. Fog type dust suppression system shall be provided in ore stack yard in ore processing plant.
- (v) Emissions from the boiler shall be scrubbed before discharging through the stack.
- (vi) Vehicular emissions shall be kept under control and regularly monitored. Overloading of trucks be avoided to stop spillage. Trucks carrying the mineral shall be covered with tarpaulin sheets to prevent spillage of ore.
- (vii) The project authority should implement suitable water conservation measures including rainwater harvesting to augment ground water resources in the area in consultation with the Regional Director, Central Ground Water Board.
- (viii) Regular monitoring of ground water level and quality should be carried out by establishing a network of existing wells and constructing new piezometers during the mining operation.
- (ix) The monitoring should 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 MOEF, Central Ground Water Authority and CGWB.
- (x) The proponent shall carry out groundwater modeling studies in the area simulating transient conditions to predict the impact of mining on groundwater regime in and around the area on a long-term basis.
- (xi) The mine discharge and effluent discharge shall be recycled in the mine. Discharges from the treatment plant and disposal of sludge shall be undertaken in a safe manner and constantly monitored for maintaining the levels of radionuclides in the ambient environment within permissible levels.
- (xii) 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 data so collected shall be made available to the general public, if required.
- (xiii) Monitoring of background radiation levels within 10km radius and even beyond in water, soil and ambient air should be carried out periodically in the study area (core and buffer zone) of the project and proper records maintained thereof. The data so collected shall be made available to the general public, if required.

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- (xiv) The company shall establish full-fledged health physics unit/ Environmental surveillance laboratory at the project site and undertake comprehensive environmental surveillance for radiological parameters in and around the projects upto 10km and beyond.
- (xv) The tailings pond shall be lined to prevent ground water contamination and overflow shall be collected, treated and recycled in the ore processing plant and mine for industrial use. The ETP sludge shall be pumped back to the tailings pond. Effluent shall be treated in the sewage treatment plant and after conforming to the prescribed standards shall be used for irrigation.
- (xvi) The plants growing in the area, soil invertebrates and local agricultural produce shall be analyzed to check the build up of radioactivity levels, if any. The data so collected shall be made, available to the general public, if required.
- (xvii) Plantation shall be developed in an area of 360 ha by planting the native species around the ML area, roads etc. in consultation with the local DFO Agriculture Department. The density of the tree shall be around 2500 plants per ha.
- (xviii) Digital processing of the entire lease area using remote sensing technique should be done regularly once in three years for monitoring land use pattern and report submitted to MOEF and its regional office.
- (xix) A Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment & Forests 5 years in advance of final mine closure for approval.
- (xx) Land oustees should be compensated as per the State Government norms/Govt. of India Policy.

B. General conditions:

- (i) No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment and Forests.
- (ii) No change in the calendar plan including excavation, quantum of mineral uranium and waste should be made.

- (iii) At least four ambient air quality monitoring stations should be established in the core zone as well as the buffer zone for RPM, SPM, SO₂, NO_x and CO monitoring. Location of the stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. Data on ambient air quality (RPM, SPM, SO₂, NO_x and CO) should be regularly submitted to the Ministry including its Regional Office at Bangalore and to the State Pollution Control Board Central Pollution Control Board once in six months.
- (iv) Fugitive dust emissions from all the sources should be controlled regularly monitored and data recorded properly. Water spraying arrangements on haul roads, wagon loading, dumps, loading & unloading points should be provided and properly maintained.
- (v) Adequate measures should be taken for control of noise levels within prescribed standards. Workers engaged in blasting and drilling operations, operations of HEMM etc., should be provided with ear plus/muffs.
- (vi) Industrial wastewater (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 19th May 1993 and 31st December 1993 or as amended from time to time. Oil and grease trap should be installed before discharge of effluents from workshop.
- (vii) 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.
- (viii) Occupational health surveillance programme of the workers should be undertaken periodically to observe any contractions due to exposure to radioactive mineral dust and take corrective measures, if needed. The same programme may be extended to adjoining villages also.
- (ix) Environmental laboratory should be established with adequate number and type of pollution monitoring and analysis equipment in consultation with the State Pollution Control Board.
- (x) 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.

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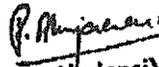
(xi) The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purposes. Year-wise expenditure should be reported to the Regional Office, Bangalore of the MOEF and to the Ministry.

(xii) The Regional Office of this Ministry located at Bangalore shall monitor compliance of the stipulated conditions. The Project authorities should extend full cooperation to the officer(s) of the Regional Office by furnishing requisite data/information monitoring reports.

6. The Ministry or any other competent authority may stipulate any further condition for environmental protection.

7. Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance.

8. The above conditions will be enforced *inter-alia*, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and rules.


(Dr. P.L. Ahujara)
Director

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Copy to:

1. Secretary, Ministry of Mines, Government of India Shastri Bhawan, New Delhi.
2. Secretary, Department of Environment, Government of Andhra Pradesh, Bangalore.
3. Secretary, Department of Mines and Geology, Government of Andhra Pradesh, Bangalore.
4. Secretary, Department of Forests, Government of Andhra Pradesh, Bangalore.
5. Chief Wildlife Warden, Government of Andhra Pradesh, Bangalore
6. Chief Conservator of Forests, Regional Office (SZ), Kendriya Sadan, 4th Floor E&F, Wings 17th Main Road, 1 Block, Koranmangala, Bangalore-560 034.
7. Chairman, Central Pollution Control Board, CBD-Cum-Office Complex, East Arjun Nagar, New Delhi-110 032.
8. The Chairman, Andhra Pradesh State Pollution Control Board, 2nd Floor, HUDA Complex, Maitrivaram, S.R.Nagar, Hyderabad- 500 038.
9. Member Secretary, Central Ground Water Authority, A2, W3 Curzon Road Barracks, K.G. Marg, New Delhi-110001.
10. Controller General, Indian Bureau of Mines, Indira Bhavan, Civil Lines, Nagpur-440 001.
11. District Collector, district Cuddapah, Andhra Pradesh.
12. EI Division, Ministry of Environment & Forests, EI Division, New Delhi.
13. Monitoring File.
14. Guard File.
15. Record File.

(Dr. P.L. Ahujaral)
Director

To, Director (Tech)

To, cdMD
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