

Before the Hon'ble Principal Bench

National Green Tribunal

New Delhi

Original Application No.245 of 2022

Reply / Opinion of Uranium Corporation of India Ltd.,

(Respondent No.9)

Introduction:

1. Uranium Corporation of India Limited (UCIL) is a Public Sector Enterprise under the administrative control of the Department of Atomic Energy Government of India and is the only agency engaged in the mining and processing of uranium minerals to produce uranium concentrate and a prescribed substance as defined under Section-2(1) (g) of the Atomic Energy Act, 1962.



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2. The uranium concentrate produced by the UCIL is compulsorily acquired by the Department of Atomic Energy, Government of India in accordance with the provisions of Section 11 of the Atomic Energy Act, 1962. Uranium concentrate is required for the purpose of fabrication of fuel for Nuclear Power Plants in the country for national interest and also for strategic contribution to national security.
3. As Uranium is the basic material for production of the nuclear power. There are over 50 Countries all over the world, engaged in Uranium Mining and processing to produce nearly 50,000 tonnes of uranium per year. These ore grade vary from <0.1% to a high of about 21% of U3O8.
4. UCIL ensures strict compliance with the safety norms and basic objectives of waste management for protection of human health, protection of environment etc. In order to have a systematic and effective monitoring system for the protection of personnel employed the general public and the environment, so far as existing mines and processing plants of the UCIL, there exists a full-fledged and well-



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equipped Health Physics unit-cum-Environment Survey Laboratories, which are independent of its management and report directly to the Environmental Assessment Division of the Bhabha Atomic Research Centre (BARC).

5. The laboratories are in active operation and surveillance at the existing Mines and Processing Plants of the UCIL and are manned by extremely qualified and trained scientists in the field of radiological protection who regularly monitor and measure the levels of radioactivity in the area and maintain constant surveillance on environmental release and undertake measurement of pollutants in atmosphere and aquatic system of the environment in and around the sites and adjacent places. The activities of the UCIL are entirely eco-friendly and free from pollution.
6. UCIL is having around 5000 employees working in different capacities in various mines and mills and they had been staying in the residential colony along with their families in the vicinity of the UCIL facility.



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7. And the technology adopted by UCIL is highly mechanized, using the state of art technology with build-in-safety measures which are at par with international level. Standards/guideline/ codes as per National Regulatory Agencies such as Atomic Energy Regulatory Board(AERB)/Director General of Mines Safety(DGMS)/Central Pollution Control Board(CPCB)/State Pollution Control Board(SPCB) etc. are strictly followed. These guidelines/ codes are adopted to ensure the protection of all categories of employees, environment and the public.
8. UCIL produces uranium concentrate by scientifically processing uranium ore at its existing Processing Plant by "leaching". The waste generated in this process is known as 'tailings'. The 'tailings' contain traces of uranium and its decay chain products, which are hydraulically pumped into tailings pond, an artificial well engineered and specially designed containment, which is of international practice and standard.



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9. The radiological safety experts in the lab follow ALARA (As low as reasonably achievable) principally in all operations to constantly enhance the radiological safety status of the workers, public & the environment. Monitoring of radon and external gamma level is also carried out in the vicinity of tailings pond up to a distance of about 10 Km.
10. Thus, an adequate care is taken under effective regulatory mechanism to adhere to the standards in larger public interest for societal cause along with meeting the predetermined goal of UCIL.

Historical Background (Similar case laws – Reg)

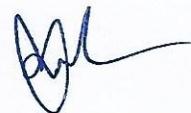
1. **AW.P (Civil) No. 188 of 1999** filed by Shri B.L. Wadehra before the APEX Court alleging adverse effect of radiation on the local population and environmental impact on the area on account of uranium activities at Jaduguda in the district of East Singhbhum, Jharkhand. The Hon'ble Supreme Court of India dismissed the suit after examining the material facts through order dated 15.04.2004



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2. A **W.P No.5742 of 2006** filed by Capt. J. Rama Rao, a retired Naval officer before Hon'ble High Court of Andhra Pradesh alleging that Uranium Mining at Lambapur-Peddagattu Project in Nalgonda District as unconstitutional and to set aside the permission of mining of Uranium as it is contaminating the nearby water sources, with long term adverse impacts on human life and environment. After hearing the submission of the both side, the Hon'ble Division bench of Andhra Pradesh High court had dismissed the said writ petition vide order dated 27.12.2006.

3. The Hon'ble High Court of Jharkhand at Ranchi took Suo moto cognizance responding to the news published in "The Hindustan Times" News Paper dt. 23.04.2014 regard to devastating effect of Radiation emanating from the mining of uranium on environment in village Jaduguda, District East Singhbhum in state of Jharkhand and it was projected as "nuclear grave yard" affecting right to life and personal liberty converted into a **W.P.(PIL) No. 1188 of 2014** before the Hon'ble High Court.



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The Hon'ble Court after gone through the content of factual matrix of the current status of the Jaduguda Unit, directed the Department of Atomic Energy, Government of India, New Delhi to constitute an Expert Committee in the field for carrying out the fresh survey.

The Expert Committee had submitted detail report before the Hon'ble Court. After perusing the report finds that situation by and large is satisfactory. That the fact of large number of population living in the High Background Radiation Area (HBRA) in India coming without any adverse effect and as a testimony that there is no health problem due to radiation level which has been observed by the expert committee in accordance with the report.

However, the Hon'ble Court accepted the recommendations suggested by the expert committee which is mentioned below for safeguards the interest of the common people vide it order dated 10/13th July, 2016.



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- i. The fencings, gates and security arrangements for tailing pond needs to be strengthened, maintained and regularly inspected to prevent inadvertent entry of public.
- ii. The pipelines carrying tailing from the mill to tailings pond should be effectively maintained and inspected to minimize any possibility of leakage. Preventive measures should be strengthened to restrict public from coming too close to these pipelines.
- iii. The transport mechanism of ore and mill tailings needs to be further strengthened including effective covering of the trucks to eliminate spillages.
- iv. UCIL is collecting considerable amount of observational data on radiation parameters in operational areas and environment matrices. These data should be put in public domain.
- v. In the ongoing health camps and community development activities, awareness about radiation and healthy habits should be imparted to the public.



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- vi. Regular interaction should be undertaken in the form of workshops, seminars, lectures etc. involving villagers, students and teaching community, responsible citizens, medical practitioners, legal professionals, policy makers, media personnel, bureaucrats etc. regarding radiation and its health effect to give a proper perspective on radiation risk.
- vii. Some spokespersons from the community should be identified who can speak with knowledge and authority on health effects of radiation whenever such issues arise.
- viii. Implementation of the recommendations of the Committee needs to be monitored periodically."

Present Situation:

- A. In 2019 a **W.P. (PIL) No. 137 of 2019** has been filed before the Hon'ble High Court of Andhra Pradesh stating, the UCIL has dumping 51,46,500 tonnes of radioactive waste into the tailing pond since April 2012 as most hazardous of the environmental pollution, ground pollution not surviving the agriculture and the people in the locality and nowhere useful to the general public in

and around the area of Tummalapalle Village YSR Kadapa District and to rehabilitate the entire village affected in and around Tummalapalle Village with suitable houses to be constructed in the area with compensation and livelihood by way of providing the suitable employment at their convenient places or exgratia on every month for the loss of the citizen in the area.

Issues raised:

1. Whether the tailing pond maintained by the UCIL IS most hazardous to the environmental pollution?
2. Whether the Thorium and radium present in mine tailing contaminates the water sources. And whether it led to higher risk of cancer?
3. Whether the Groundwater in surrounding villages has become contaminated by Uranium and other heavy metal?
4. Whether the UCIL has made any attempt to increase the green cover around the tailing pond to curb the spread of dry radioactive particles through air, if any?



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5. Whether the Land owners were properly compensated while acquiring the land?
6. Whether the ground water contamination is due to the UCIL mining activity? (CMET Water Samples Results)
7. Whether the animals death in large number is due to the UCIL mining activity?
8. Whether the land in the village turned into white due to the UCIL mining activity?

Arguments advanced by UCIL

1. The Tailings Pond has been designed in line with the guidelines laid by International Atomic Energy Agency (IAEA) and adhering to the stipulations laid by Atomic Energy Regulatory Board (AERB) and State Pollution Control Board. In this regard the UCIL had obtained various approvals at the time of construction and operations from all regulatory bodies. The details of the statutory clearance for Tummalapalle Uranium Process Plant are mentioned below:


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- Environment Clearance for Tummalapalle Mine and Mill has been obtained from the Ministry of Environment and Forest (MoEF) vide reference no. J-11015/394/2006-IA/II (M); dated 21.02.2007.
- Consent for operation (CFO) of the plant for the Existing discharge of sewage and/or trade effluents under Section 25/26 of the Water(Prevention and Control of Pollution) Act, 1974 and amendments there for for discharge of air emissions under section 21/22 of the Air(Prevention and Control of Pollution) Act, 1981 and amendments thereof and Renewal of Authorisation under Rule 5(4) of the Hazardous Wastes(Management, Handling and Transboundary movement) Rules, 2008 and Amendment Rules, 2009 has been obtained by UCIL vide reference no. APPCB/KNL/TPT/103/HO/CFO/2014/942; dated 01.01.2015 and the same was renewed for a period of



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five years i.e., up to 30.06.2021 vide renewal order dated 02/07/16.

- Authorisation consent for construction of Tummalapalle Mill other than tailing pond has obtained vide ref. no. AERB/IPSD/VVP/PG/15/ACPSR-FCF/2010/2119 dt.14.05.2010. Consent for construction of Tummalapalle tailing pond and tailing dam including check dam of UCIL has obtained vide ref.no AERB/IPSD/VVP/PG/15/ACPSR-FCF/2011/1167dt.31.03.2011. extension of consent for construction of Tummalapalle tailing pond and tailing dam of UCIL has obtained vide ref.no. AERB/CN/IPSD/DD/75A (5)/2016/1011 Dt. 28.03.2016.

2. Regarding issue no. 2, the petitioner mentioned that Uranium has a half-life of 2, 40,000 years and emits radiation for thousands of years and also the radiation levels are high at different places in around the Tailing Pond, which is far from the truth.



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UCIL has stated that, half-life period of Uranium is 4.5 billion years. That, Health Physics Unit (HPU) an independent unit of Bhabha Atomic Research Centre(BARC), monitors the radiation levels regularly in the surrounding environment includes Air, Water, Soil & Saplings etc around the UCIL installations in the country.

UCIL has also stated that there is no limit of back ground radiation levels as mentioned by the petitioner. The background radiation levels depend upon the geological environment which may vary from region to region. The background radiation level in Kerala is much higher compared to Tummalapalle Unit. That, the radiation levels are in the tailing pond as mentioned by the petitioner as 0.80-0.90 μ Sv/hour is not found anywhere in the Tailing Pond.

UCIL has also stated that radiation exposure of miner/employees on an average is in the range of 2-6 msv which are far below the prescribed limit of 20 msv of AERB. The international accredited studies confirm that no effect is anticipated at this radiation exposure level.



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3. UCIL stated that Atomic Minerals Directorate for Exploration & Research (AMD) has established country's largest Uranium deposit from Tummalapalle region which occupies 50% share in the Uranium reserves found in the country. The Uranium ore body starts from surface and extends up to 1000mtr at Tummalapalle and out crops of Uranium ore body also found at many places.

Further UCIL stated that several times the allegations of contamination of groundwater and soil in the area because of UCIL activities have been refuted with scientific studies. A committee of experts (which includes a professor of IIT Kharagpur) constituted by Department of Atomic Energy in May 2018 had looked into the above allegations and has explained that deep water bore wells (up to 700 ft) have been drilled by locals in the region which have intercepted uranium bearing dolomitic rock in most of the cases. This water with higher uranium values and other associated salts are being used for agricultural purposes, thus contributing to elevated level of salt concentration in the soil. Moreover, the Tummalapalle area is



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categorized under over exploited zone of ground water by Andhra Pradesh State Groundwater Dept.

It is pertinent to mention that ground water in many parts of Andhra Pradesh and Telangana States have been contaminated due to presence of Uranium ore body though there are no mining activities of UCIL

As per the directives of APPCB in its CFE & CFO, polythene and bentonite clay lining is to be laid for 'thickened tailing disposal area'. At present, the answering respondent has not yet commenced production of thickened tailings which contains 70% solids and the construction of thickened tailings disposal area with HDPE and Geotextile lining has been approved in-principal by AERB, which is presently being designed by a Consultant. This Tailing Pond has been designed in line with guidelines laid by International Atomic Energy Agency (IAEA) and adhering to the stipulations laid by Atomic Energy Regulatory Board (AERB) and State Pollution Control Board.



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4. UCIL to increase the green field area for the protection of human health and environment etc. UCIL has been doing green belt development as per the Environmental Clearance issued by Ministry of Environment, Forest and Climate Change (MoEFCC) with the help of State Government. So, far green belt has been developed in 80 Ha at Tummalapalle for implementation the above directions. The tailings in the pond are in the form of semi-solid condition and there is no chance of spread dry radioactive particles through air.
5. The land is transferred to UCIL by the State Government upon completion of the Land Acquisition procedure. UCIL does not have any role in payment of compensation to the land owner's directly. The genuine land owners will get all the benefits like employment etc. as per the Rehabilitation & Resettlement Policy, 2006 of UCIL. So far the employment provided to 268 nos. of land outstees against of their acquired land at Tummalapalle Project.



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- Some misleading facts has been spread throughout India that a common disease was found in this area. And some studies, reports were conducted, but none of them have found any disease attributable to radiation exposure.
6. The high concentration of the Uranium is observed in a few water samples collected in the villages of MC Palle, Kottala and Kanampalle which are found in scattered pattern. Further to that MECON Ltd., (A Govt. Of India Enterprise) has conducted hydrogeological investigations around tailing pond to examine the ground water contamination. MECON has concluded that the ground water contamination is not attributable to UCIL activities.
7. UCIL stated that the dying of animals and diseases mentioned are not attributable to answering respondent company.
8. UCIL stated that due to the deepening of water bore wells and also continuous exploitation of ground water resulted higher concentration of the salts on the soil from the Dolomitic rock.


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UCIL, Jaduguda

Shri Raghavendra Reddy, Sarpanch of Bhumaiahgaripalle had earlier also complained the depletion of ground water level before the District Collector. The District Collector had directed the official concerned of the Ground Water department for study and submit the detailed report in this regard. As such, the official of Groundwater Department had confirmed in his report that, above issues had been arisen due to less recharge and also over exploitation of the ground water in this region.

While the writ petition is pending...

B. In 2020 Smt. JayasreeKakumani W/o. Sheikh AkhtabBashafiled **W.P.(PIL) No. 323 of 2020**stating, entertaining the application for expansion of Uranium mining activities at Dr. YSR Kadapa district by UOI is illegal and it cannot be entertaineduntil the affected people are paid compensation.

- As previously stated in the 2019 writ petition there is no adverse effect of UCIL mining activity.
- More over the petitioner has no legitimate grievance to espouse a public cause in the matter of expansion of the



mining activity by UCIL as regards exploitation of the mineral (uranium). UCIL is presently holding a mining lease for exploitation of the mineral/metal (uranium) at Tummalapally village, VemulaMandal, YSR Kadapa District for the last 14 years and has applied to MoEFCC for expansion of Tummallapalle uranium project under provisions of the Environment Protection Act, 1986 and the notification dated 14th September, 2006 issued under Rule 5 of the Environment (Protection) Rules, 1986. Ministry of Environmental, Forest and Climate Change (MoEFCC) has granted Terms of Reference (ToR) on 19.01.2017 which was valid till 18.01.2020 which requires a public hearing for the environment clearance.

- ToR was further extended by MoEFCC upto 18.01.2021. UCIL state that the MoEFCC to grant of environmental clearance for expansion project thereof Union of India since uranium is a major mineral. UOI has issued a notice of public hearing on 06.12.2020 fixing/scheduling the public hearing to take



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place on 06.01.2021. As against the said notice of public hearing, the present PIL case is filed on 29.12.2020 and this Honourable Court has passed an interim order restraining the conduct of public hearing for environment clearance (EC), by order dated 31.12.2020.

- Further on 3rd December, 2020, MoEFCC has made the rule further to amend the Environmental Protection Rule, 1986 that validity of notification or rule or order expiring in financial year 2020-21 shall stand extended upto 30th June, 2021 on account of COVID-19 pandemic.
- To vacate the exparte ad interim order by this Honourable Court dated 31.12.2020 passed in I.A.No.1 of 2020 enabling UCIL to proceed with the public hearing for consideration of the request of UCIL for expansion of uranium project, in the interest of justice and national interest, failing which UCIL will suffer serious loss and damage. UCIL has been facing such issues / hurdles since past several years.



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- UCIL has conducted several scientific studies including the hydrological investigations done by M/s. MECON, a Govt. Of India Enterprise (NABET accredited consultant), which have clearly concluded that the spikes in uranium concentration in water when borewells intersect the orebody and there is no migration of tailing pond water into the ground as pH of ground water is remains unaltered.

While this writ petition is pending ...

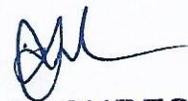
C. While both the writ petitions are pending before the Hon'ble High court of Andhra Pradesh. An application has been filed before the National Green Tribunal i.e., **Original Application No. 245 of 2022.**

The matter was brought in light of media report in Eenadu Telugu News Paper through the caption of "*Do pollution leaks apply to uranium? In Kadappa District, Andhra Pradesh*" dt. 07.08.2021



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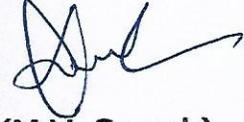
The report in the News paper says that Uranium Company has set up a uranium refinery at M. Tuinmalapalle, Wemula Zone under Pulivendula Constituency, Kadapa District. The company is negligent in the management of waste from the mineral refinery. The State PCB's notice to install a 250-micron thick polyethylene layer on the bottom of a tail pond to store uranium waste was ignored. As a result, all the waste has been sinking underground for some years, polluting the water and soil. Crop yields declined in those areas, Crop products remain inedible. People are suffering from skin diseases. Problems such as arthritis and miscarriage are on the rise. Impact of uranium pollution could last for hundreds of years Drinking water can contain up to 60ppm (parts per billion) of uranium. Tests conducted by the State PCB revealed that a concentration of 4000 ppb was recorded in the water of the villages surrounding Tummalapalle. The factory did not enforce any of the regulations specified in the environmental permits. It has poisoned groundwater as result hundreds of acres of farmland becomes barren.



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Keeping in view of the above facts and the judgements pronounced by the various High Courts and APEX Court on the said matter, the Hon'ble Tribunal may kindly be consider the news item published in Eenadu Telugu News Paper through the caption of "*Do pollution leaks apply to uranium? In Kadappa District, Andhra Pradesh*" dt.07.08.2021.

For and on behalf of the Uranium Corporation of India Ltd.



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