Date: 3/19/2021

The Director-General,
Department of Environment
Ministry of Environment and Water
Level 1-4, Podium 2&3, Wisma Sumber Asli,
No. 25, Persiaran Perdana, Presint 4,
62574 Putrajaya.

Re: Feedback on the EIA for the 'Proposed Development of A Dedicated Permanent Disposal Facility (PDF) for The Water Leach Purification Residue (WLP) at Bukit Ketam In Mukim Kuala Kuantan, Daerah Kuantan, Pahang Darul Makmur by Lynas Malaysia.

I refer to the above. As a concerned citizen, I wish to object to the siting of the proposed Lynas WLP PDF in Bukit Ketam and raise the following concerns as regards the EIA for the project:

1. First, water is life and there is no reason for the Kuantan residents or anyone to accept the location of such a PDF in a water catchment area. There are two water treatment plants (WTPs) located downstream of the project site, namely, Bukit Ubi WTP and Semambu WTP. These two WTPs are responsible for **supplying water to 90% of Kuantan's population**.

   There can be **no trade-off or compromise in protecting our water source.**
   Siting a PDF containing radioactive wastes which will remain in the environment for thousands of years in a water catchment area is simply not justifiable and is being totally reckless from a public safety point of view.

2. The EIA cannot be approved by the Director-General on the basis that the proposed siting of the PDF **contradicts the current Kuantan Local Plan 2035.**

   The project site is located in the Bukit Kuantan Forest Reserve, which is considered as a **Rank 1 Environmentally Sensitive Area (ESA)**. Therefore, no form of development or activities other than low-impact recreational, research or educational activities are allowed in the area.

   In addition, any proposal to amend the Kuantan Local Plan to accommodate the change of land-use for the WLP PDF cannot be done, without prior public participation and consultation.

3. The **Leachate Treatment Plant (LTP) discharge is a major source of concern.**
The EIA on Page 5-40 states that the LTP removal efficiency for the radionuclides' parameters is 50%. That means, the final effluent discharge will still contain Uranium-238 (radioactive level - 2.5 Bq/L) and Thorium-232 (radioactive level - 1.0 Bq/L) based on Table 5.5.7 and Table 5.5.9.

Firstly, this is a concern because there are no specific standards for the special effluent discharge from radioactive substances such as the WLP in Malaysia. T**he proposed standard limits in the EIA that claims to be better than the following standard is baseless** viz. the

- Environmental Quality (Control of Pollution from Solid Waste Transfer Station and Landfill) Regulations 2009;
- Standard A of the Environmental Quality (Industrial Effluent) Regulations 2009.

Secondly, the EIA on Page 7-155 states that *"In addition to the typical parameters of water quality, the presence of the radionuclides ^{232}Th [Thorium] and ^{228}Ra [Radium] in the LTP discharge may also potentially affect the livelihood of the aquatic organisms.*
Radionuclides may be in either soluble or insoluble forms may accumulate in aquatic organisms and cause harmful effect at elevated concentrations."

Anything insoluble might end up settling on the bottom of the river water and affect the benthic zone. There are real concerns about how the radionuclides might accumulate and undergo changes in the decay series, which release other radionuclides and potentially contaminate our food chain. Thorium has a half-life of 14 billion years before becoming stable lead.

In any case, we should not be allowing any level of radioactive substances in the effluent discharge, as **we do not accept that there is a safe level or threshold level for radiation from a public health standpoint.**

Every dose of radiation has an effect, especially at the cellular level. We do not see any justification for the public to be put to such risks.

4. The very fundamental weakness of the EIA is the **missing information about the environmental impacts of the larger Multi-category industrial scheduled wastes disposal site (MCISWDS)**.

Firstly, it is clear that the MCISWDS will be dealing with hazardous and toxic industrial wastes. While there may be some buffer provided between the PDF and the future adjacent MCISWDC components, the groundwater and river water flows are all interconnected and they share a common environment.
This is why we should not be approving an EIA that fails to give the full picture of the overall environmental impacts of the MCISWDS and the PDF.

Secondly, **the PDF EIA only considers the existing environment concerning the PDF site and does not take into account the changes to the existing environment that will take place due to the construction of the MCISWDS facility**.

For example, the EIA on page 10-13 claims that, *"The thorium and radium compounds in the WLP residue is very insoluble unless at pH <2, [of which] not found in natural environment."*
We do not know how the natural environment might change when the MCISWDS is constructed and established. As the EIA on page 7-156 states that, *"In general, the accumulation of radionuclides from the water into the tissue of organisms **would depend** on the environmental conditions and concentration (i.e., pH, hardness and water temperature), feeding habits and exposure time."*
With such uncertainties, there is no guarantee that the thorium will be insoluble and not migrate into the environment.

In view of the above, we strongly urge the DOE to adopt the **precautionary principle** in reviewing this EIA and not approve it in the interest of the public.

Thank you.

Yours faithfully,

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