

**APPLICATION FORM FOR LICENSE/ RENEWAL OF LICENSE  
FOR BEACH SAND MINERALS FACILITIES (Under the Atomic Energy  
(Radiation Protection) Rules, 2004)**

**1.0 NAME AND ADDRESS OF THE UNIT: (including Telephone No., Fax No., email etc)**

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**2.0 NAME AND DESIGNATION OF THE EMPLOYER: ( including Telephone No., Fax No., email etc)**

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**3.0 APPLICATION FOR :**

	<b>Put a X which is applicable</b>	<b>Ref. No</b>	<b>Date</b>	<b>Validity</b>
<b>First License</b>				
<b>Modification</b>				
<b>Renewal</b>				

**4.0 PROCESS DETAILS:**

**4.1 Description of the Plant where the operations are to be carried out:**

- (i) The Plant is yet is to be built ( )
- (ii) The Plant is already built and equipped ( )
- (iii) Existing Plant is to be modified as per details enclosed ( )

**4.2 Description of the process: (enclose material balance & process flow sheets)**

- 4.2.1 Mining [Type of mining ( dredge mining or beach washing collection)**
- 4.2.2 Mineral separation (wet and dry section)**
- 4.2.3 Mineral Processing ( if any)**

**4.2.4 Effluent Treatment (if any)**

**4.2.5 Disposal of tailings etc**

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**4.3 Specification of Raw material:**

Process		Type of raw material and its physical form	Source of Raw material and estimated reserves	Quantity to be handled per year	Chemical Composition (%)	Radiation Level ( $\mu\text{Gy/h}$ )
Mining	Inland placers					
	Beach sands					
Mineral Separation						
Mineral Processing						

**4.4 Specification of Final Product:**

Name of the product/s and its physical form	Quantity produced per year	Chemical Composition (%)	Radiation Level ( $\mu\text{Gy/h}$ )

**5.0 WORK PLACE DETAILS:**

**5.1 Information on instruments/ equipments ( Enclose the equipment specifications and design details)-**

**5.1.1 Process Equipments: (attach supplementary page if necessary)**

Name of the equipment	Working Principle	Operating parameters	Design features and specifications	Safety Features

**5.1.2 Radiation monitoring & counting instruments: (attach supplementary page if necessary)**

Name of the instrument	Detector type	Quantity	Purpose/Use	Range	Accuracy	Make

**5.1.3 Personal Protective Equipment:**

Name of the PPE	Purpose	Type	Quantity

**5.1.4 Laboratory accessories: ( Fume hood, XRD machine, etc)**

Name of the instrument	Purpose	Type	Quantity

**5.2 RSO details:**

Name	Educational Qualifications	Type of Training & Experience	Place and Duration of Training	Reference No. of AERB approval (in case of renewal)	Date

**5.3 Details of persons in-charge of the operations of mineral separation/mineral processing**

Name of the person in-charge	Type of operation	Educational Qualifications	Type of Training & Experience	Where and When was & experience gained	Duration of Training & Experience

**5.4 Radiation worker details:**

Permanent employee	Male	
	Female	
Contractors	Male	
	Female	

**5.4.1 Are they trained and instructed in radiation safety: \_\_\_\_\_**

**5.4.2 Frequency of Training in radiation safety: \_\_\_\_\_**

**5.5 Work place monitoring: (attach supplementary page if necessary)**

Location	Area/equipment	Average Radiation level	Average Air Activity level		Average Surface contamination ( for processing plants)
			Rn <sup>220</sup>	Long Lived $\alpha$	
<b>Mining area</b>  <b>Concentration Upgradation area ( if any)</b>  <b>Mineral Separation area</b>  <b>Mineral Processing area ( if any)</b>  <b>Products Storage area</b>  <b>Effluent Treatment area (if any)</b>  <b>Tailings Disposal area</b> ♦ <b>Monazite enriched tailings</b> ♦ <b>Other tailings</b>					

**5.6 Are the workers provided with facilities of:**

- (i) External Monitoring \_\_\_\_\_
- (ii) Internal Dosimetry \_\_\_\_\_
- (iii) Medical Surveillance \_\_\_\_\_

**5.7 Radiation Safety measures, which will be taken up at the time of termination of work:**

- (i) Proposed date of completion of work \_\_\_\_\_
- (ii) Steps that will be taken to restore normal conditions at site, on termination of operations ( attach additional pages if necessary)

**6.0 RADIOACTIVE WASTE DETAILS:**

**6.1 Information on authorisation (if any) under GSR 125 has been given by AERB:**

Reference No	Date	Validity	Authorised limits

**6.2 Particulars of tailings and effluents generated: (enclose a material balance sheet for quantity of tailings generated from each step of mineral separation/mineral processing and tailings disposed)**

	Estimate of quantity produced annually (tons)	Method of treatment	Expected Radionuclides	Method final disposal	Location of disposal site	Average Activity conc. prior to disposal	Total Activity disposed in a year
<b>Tailings</b>							
1) monazite enriched							
2) others							
<b>effluents</b>							

**7.0 ENVIRONMENTAL DETAILS:**

**7.1. Background radiation level at mining site:** \_\_\_\_\_

**7.2 Background radiation level at tailings disposal site:** \_\_\_\_\_

**7.3 Is the area prone to Natural Hazards (earthquake, cyclone, tsunami etc) -if yes, specifically mention the type of hazard and its consequences:**

**7.4 Is the area prone to wind or water erosion:** \_\_\_\_\_

**7.5 Gross alpha and beta activity in ground water near the Tailings Disposal area:**

Location of Bore well	Gross alpha ( Bq/ml)	Gross beta (Bq/ml)

**7.6 Distance of the nearest residential establishment from the mining /processing /tailings disposal site\_\_\_\_\_**

**7.7 Population of the area nearest to tailings disposal site\_\_\_\_\_**

**7.8 Possible Radiation and Health hazard to local population during –**

**(i) normal operation\_\_\_\_\_**

**(ii) accidental scenario\_\_\_\_\_**

**8.0 INFORMATION ON TRANSPORT OF RADIOACTIVE SUBSTANCE:**

Type and nature of radioactive material	Type of packaging/container	Mode of transport	Destination

**9.0 AVAILABILITY OF SAFETY DOCUMENTS:**

	Availability Y/N	Date of last review
Unit's Radiation Protection Procedures		
Emergency Preparedness Plan for the site		

**10.0 ENCLOSURES:**

- 1) Topographical map of the area extending to a radius of 30 km all around the site, showing the natural features, natural habitation and land utilisation in the area.
- 2) Process flow sheets of all the process operations.
- 3) Material balance sheets for quantity of raw materials mined and products produced.
- 4) Material balance sheet for quantity of tailings generated at each step and tailings disposed.
- 5) Lay out map of tailings disposal site.
- 6) Site Plan of the installation showing tailings disposal site and indicating monitoring bore wells.
- 7) Architectural Blue Prints showing lay out of the equipment in the individual buildings.
- 8) Equipment specifications and design details.

## **11.0 DECLARATION:**

**I hereby certify that:**

- (a) All the information furnished above is true to the best of my knowledge.**
- (b) No operations will be carried out for the purpose other than those specified in this application**
- (c) I have gone through and understood the provisions laid down in the Atomic Energy (Radiation Protection) Rules, 2004.**
- (d) Full facilities will be accorded to any authorised representative(s) of AERB to inspect the installation at any time.**
- (e) Duly qualified radiological safety officer will be appointed before the commencement of the operations.**
- (f) Radiation and health surveillance of all persons engaged in radiation work will be carried out.**
- (g) Radioactive tailings will be disposed off in a safe manner as per the regulations and the radioactive tailings shall not be used for surfacing operations or any other purposes.**
- (h) Transport of radioactive materials shall be in accordance with relevant safety regulations.**
- (i) All recommendations that may be made from time to time by AERB in respect to matters related to radiological safety will be duly implemented.**
- (j) Any change in the information listed in the application will be intimated forthwith to AERB.**

**Place:**

**Signature with official seal**

**Date:**