



**RFI51/11/19**

**REQUEST FOR INFORMATION FOR THE  
TECHNO-ECONOMIC COMPARISON OF  
RARE EARTH SEPARATION  
TECHNOLOGY FOR THE IDC**

**RFI CLOSING DATE: FRIDAY,  
27 NOVEMBER 2019 AT 12:00 NOON**

**SECTION: 1**

**CONDITIONS AND UNDERTAKINGS BY RESPONDENT IN RESPECT  
OF THIS RFI**

## CONDITIONS AND UNDERTAKINGS BY RESPONDET IN RESPECT OF THIS RFI

### 1. **Proprietary Information:**

Industrial Development Corporation of SA Ltd (IDC) considers this Request for Information and all related information, either written or verbal, which is provided to the respondent, to be proprietary to IDC. It shall be kept confidential by the respondent and its officers, employees, agents and representatives. The respondent shall not disclose, publish, or advertise this specification or related information to any third party without the prior written consent of IDC.

### 2. **Enquiries**

All communication and attempts to solicit information of any kind relative to this request should be channeled to:

#### 2.1 Contact person (all technical questions should be in writing)

Name: Mr Brian Dlamini  
Telephone Number: Office: +27 11 269 3181  
Email address: [briandl@idc.co.za](mailto:briandl@idc.co.za)

### 3. Enquiries in relation to this RFI will not be entertained after **16h00 on 22 November 2019.**

### 4. All the documentation submitted in response to this Request for Information must be in English.

### 5. Respondents should check the numbers of the pages to satisfy themselves that none are missing or duplicated. No liability will be accepted by IDC in regard to anything arising from the fact that pages are missing or duplicated.

### 5. **Submission of Information**

#### 5.1 Information should be submitted in duplicate all bound in a sealed envelope endorsed, **RFI51/11/19: REQUEST FOR INFORMATION FOR THE TECHNO-ECONOMIC COMPARISON OF RARE EARTH SEPARATION TECHNOLOGY FOR THE IDC.** The sealed envelope must be placed in the tender box at the Main Reception area of the IDC Building, 19 Fredman Drive Sandton by no later than 12:00 noon on **Wednesday 27 November 2019.**

#### 5.2 The closing date, company / respondent name and the return address must also be endorsed on the envelope.

#### 5.3 If a courier service company is being used for delivery of the information, the RFI description must be endorsed on the delivery note/courier packaging to ensure that documents are delivered into the tender box.

### 6. **RESPONSE FORMAT**

Respondents shall submit their responses in accordance with the response format specified below (each schedule must be clearly marked):

#### 6.1 **Cover Page:** (the cover page must clearly indicate the RFI reference number, RFI description and the company's name)

#### 6.2 **Schedule 1:** Competency Overview

#### 6.3 **Schedule 2:** Response to Section 2 of this document.

**7. IDC's RIGHTS**

- 7.1 **The IDC reserves the right, at its sole discretion, to restrict any subsequent Request for Proposal (RFP) or Request for Bid (RFB) to respondents of this RFI only.** Any subsequent RFP or RFB process will be conducted on IDC's standard terms and conditions and may include the acceptance and signing of a Non-Disclosure Agreement (NDA) by all invited respondents to protect sensitive and confidential information which the IDC may share with such respondents.
- 7.2 The IDC reserves the right to clarify any aspect of information provided / submitted with respondents to this RFI.

**SECTION: 2**

**REQUEST FOR INFORMATION FUNCTIONAL DETAILS**

## SECTION 2: RFI FUNCTIONAL DETAILS

### 1. Background Information

Electric vehicles (EVs) use permanent magnets made from neodymium (Nd), praseodymium (Pr) and dysprosium (Dy) which are three of the 17 rare earth elements (REE). South Africa has several unexploited resources that contain REEs. The IDC is currently investigating the opportunities in this value chain from raw material to permanent magnet manufacture. IDC has identified a novel technology that could provide a competitive advantage to a South African value chain, namely the Norwegian “Reetec” separation technology (high pressure liquid chromatography/HPLC). This technology needs to be assessed against the current commercial state of the art/status quo in mixed rare earths separation technology.

Thus the IDC requests information regarding your company and your services that could potentially address this need. This information will form the basis for a Request for Proposal (RFP) or Request for Bid (RFB) which may be published at a later stage.

### 2. Scope of Work

The required scope of work to be included in the possible RFP/RFB includes:

A techno economic comparison that will confirm the rare earth separation technology that will:

- Generate the highest potential returns including infrastructure/front-end requirements;
- Maintain the strongest competitive advantage;
- Flexibility in processing variable feedstock while meeting international product quality specifications;
- Assess the Technology Readiness Level (TRL) of Reetec’s HPLC including witnessing and validation of production parameters of a trial production run at the demonstration plant; and
- Has the lowest negative environmental impact

The appointed service provider’s scope of work will include, but not be limited to, the following services:

- Provide the landscape of rare earth separation processes and emerging technologies/ processes;
- Identification and contact with rare earth separation technology providers/operators;
- Technology comparison of various options; including but not limited to:
  - Process description;
  - High level block flow diagrams;
  - Operating costs (including consumption figures) and order of magnitude capital cost estimates from technology providers for the end to end process of raw material to on specification separated rare earth oxides / carbonates / oxalate / other;
  - Identify potential listed activities, specific to each process, that would trigger a Basic Assessment or full Environmental Impact Assessment respectively (generic triggers such as land use change, etc should not be assessed in this study); and
  - Contact details
- High level economic merit comparisons including basic financial models with projected IRR between the various technology processing options;
- List any/all potential competitive advantages/ disadvantages;
- Discuss and highlight technical risks, including but not limited to scale-up risk.

**3. Required Information**

In view of the above requirements the IDC hereby requests information from reputable consultants who must demonstrate relevant experience in compiling techno economic evaluations with specific experience in the rare earth value chain.

The bidder must provide three (3) relevant contactable references of similar work done in the past ten (ten) years.