# Expression of Interest
# (EOI)

## Title of Consulting Services: *PREPARATION OF DETAILED PROJECT REPORT (DPR) FOR GREENFIELD PROJECT OF DHAUBADI IRON COMPANY LIMITED, NEPAL (DICL)*

## Method of Consulting Service: *International*

**Project Name:** *Preparation of Detailed Project Report (DPR) for Greenfield Project Of Dhaubadi Iron Company Limited, Nepal (DICL)*

**EOI:** *DICL/ICB/EOI/03-2025/26*

**Office Name:** *Dhaubadi Iron Company Limited*

**Office Address:** *Lainchaur Kathmandu*

**Issued on:** *November 19, 2026*

Financing Agency: Government Budget

# Abbreviations

| | | |
|---|---|---|
| CV | - | Curriculum Vitae |
| DICL | - | Dhaubadi Iron Company Limited |
| DO | - | Development Partner |
| EA | - | Executive Agency |
| EOI | - | Expression of Interest |
| GON | - | Government of Nepal |
| PAN | - | Permanent Account Number |
| PPA | - | Public Procurement Act |
| PPR | - | Public Procurement Regulation |
| TOR | - | Terms of Reference |
| VAT | - | Value Added Tax |

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# A. Request for Expression of Interest

Government of Nepal

## *Dhaubadi Iron Company Limited*

*(an undertaking of Government of Nepal)*

Date: *November 19, 2026*

Name of Project: PREPARATION OF DETAILED PROJECT REPORT (DPR) FOR GREENFIELD PROJECT OF DHAUBADI IRON COMPANY LIMITED, NEPAL (DICL)

1. Dhaubadi Iron Company Limited (DICL) has allocated fund towards the cost of PREPARATION OF DETAILED PROJECT REPORT (DPR) FOR GREENFIELD PROJECT OF DHAUBADI IRON COMPANY LIMITED, NEPAL (DICL) and intend to apply the portion of this fund to eligible payments under the contract for which this Expression of Interest is invited for international consulting service.
2. Dhaubadi Iron Company Limited Now Invites Expression of Interest (EOI) from eligible consulting firms ("consultant") to provide the following consulting services: The DPR aims to develop a comprehensive plan for DICL's iron ore mining and integrated steel production by assessing and validating geological resources, estimating reserves and ore value, conducting metallurgical tests, and designing optimal mining, processing, and steel manufacturing facilities. It will cover site selection, waste management, technology choice, process flows, infrastructure, transportation, and raw material sourcing, while defining organizational and manpower requirements. The study will include market analysis, machinery and equipment recommendations, and detailed financial and economic evaluations with realistic pricing and investment models. It will also address by-product utilization, knowledge exchange, and project phasing with clear implementation and procurement strategies to ensure technical, economic, and environmental viability.
3. Interested eligible consultants may obtain further information and EOI document free of cost at the address Dhaubadi Iron Company Limited, Lainchaur, Kathmandu, Bagmati Province, Nepal during office hours or **visit the client's website www.dicl.org.np.**
4. Consultants may associate with other consultants to enhance their qualifications but should indicate clearly whether the association is in the form of a joint venture and/or a sub-consultancy. In the case of a joint venture, all the partners in the joint venture shall be jointly and severally liable for the entire contract, if selected. A consultant will be selected in accordance with the Quality, and Cost Based Selection (QCBS) method as set out in the public procurement act 2063.
5. Expressions of interest must be delivered in a written form (hard copy) to the address below (in person or by mail or electronically by e-mail by 20th December, 2026, 14.00 Hrs.
6. In case the last date of obtaining and submission of the EOI documents happens to be a holiday, the next working day will be deemed as the due date but the time will be the same as stipulated.
7. EOI will be assessed based on ***Qualification 40%, Experience 50%, and Capacity 10%*** of consulting firm and key personnel. Based on evaluation of EOI, only shortlisted firms will be invited to submit technical and financial proposal through a request for proposal.
8. Minimum score to pass the EOI is **60 (sixty).**

***Note:*** *complete Expression of Interest (EOI) documents electronically in a single email, with all documents combined into one compressed (ZIP) file, before the specified submission deadline. In case of multiple emails, only the first email shall be considered for evaluation.*

**Dhaubadi Iron Company Limited**
Address: Kathmandu Metropolitan City-26, Kapurdhara Marg, Lainchaur, Kathmandu, Nepal.
E-mail: dhaubadi@gmail.com
Phone No. +977 01-4518853, Website: https://dicl.org.np/en/

## B. Instructions for submission of Expression of Interest

1. Expression of Interest may be submitted by a sole firm or a joint venture of consulting firms and the maximum number of partners in JV shall be limited to three.
2. Interested consultants must provide information indicating that they are qualified to perform the services *(descriptions, organization and employee and of the firm or company, description of assignments of similar nature completed in the last 7 years and their location, experience in similar conditions, general qualifications and the key personnel to be involved in the proposed assignment).*
3. This expression of interest is open to all eligible ***consulting firm/company/ organization]***. [1]
4. In case, the applicant is individual consultant, details of similar assignment experience, their location in the previous 4 years and audited balance sheet and bio data shall be considered for evaluation.[2]
5. The assignment has been scheduled for a period of. ***12 months.*** Expected date of commencement of the assignment is March 15, 2027.
6. A Consultant will be selected in accordance with the ***QCBS*** method.
7. Expression of Interest should contain following information:
   (i) A covering letter addressed to the representative of the client on the official letter head of company duly signed by authorized signatory.
   (ii) Applicants shall provide the following information in the respective formats given in the EOI document:
      - *EOI Form: Letter of Application (Form 1)*
      - *EOI Form: Applicant's Information (Form 2)*
      - *EOI Form: Work Experience Details (Form 3(A), 3(B) & 3(C))*
      - *EOI Form: Capacity Details (Form 4)*
      - *EOI Form: Key Experts List (form 5).*
8. Applicants may submit additional information with their application but shortlisting will be based on the evaluation of information requested and included in the formats provided in the EOI document.
9. The Expression of Interest (EOI) document must be duly completed and submitted ***by mail / by E-mail / by hand / by courier in sealed envelope[3].***
10. The sealed envelope shall be clearly marked as "EOI Application for Short-listing for the ***Preparation of Detailed Project Report (DPR) for Greenfield Project of Dhaubadi Iron Company Limited, Nepal (DICL).*** The Envelope shall also clearly indicate the ***name and address of the Applicant***.[4]
11. The completed EOI document must be submitted on or before the date and address mentioned in the ***"Request for Expression of Interest."*** In case the submission falls on public holiday the submission can be made on the next working day. Any EOI Document received after the closing time for submission of proposals shall not be considered for evaluation.

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[1] Client should delete as appropriate.

[2] Delete if EOI is not called for person.

[3] Unless otherwise justified, choose option "electronically only"

[4] In case of option "electronically only" delete this paragraph

**C. Objective of Consultancy Services or Brief TOR**

# Terms of Reference (ToR)

# For

# PREPARATION OF DETAILED PROJECT REPORT (DPR) FOR GREENFIELD PROJECT OF DHAUBDI IRON COMPANY LIMITED, NEPAL (DICL)

## Dhaubadi Iron Company Limited

(An undertaking of Government of Nepal)

**Lainchaur, Kathmandu**

**Email:** dhaubadi@gmail.com, info@dicl.org.np

**Website:** https://www.dicl.org.np/en

**Phone No.: 01-4518853**

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# 1. Introduction:

## 1.1 Background

Dhaubadi Iron Company Limited (DICL) is a Government of Nepal undertaking established in 2019, to explore, develop, and utilize the iron ore resources of the Dhaubadi-Pokhari area and to set up an integrated iron and steel industry in the country. Nepal's demand for iron and steel is growing steadily, driven by hydropower, transport, urban development, housing, and other infrastructure works. This demand is met almost entirely through imports of iron and steel products, which places a continuing burden on the country's foreign exchange reserves and exposes domestic construction and industry to external price and supply fluctuations.

The hematite deposits of the Dhaubadi-Pokhari and Durlunga area in East Nawalparasi offer a rare opportunity to build a domestic value chain that links mining and beneficiation of iron ore with sponge iron and steel production. Developing this resource in a technically sound, economically viable, and environmentally responsible manner is therefore of strategic importance for industrial development and self-reliance in the country.

## 1.2 Project Description

The Dhaubadi Iron and Steel Project, located within the Hupsekot Rural Municipality of East Nawalparasi district in Gandaki Province, Nepal, aims to establish a greenfield integrated iron and steel production facility with a production capacity of about 1500 tons per day (TPD) or 0.5 million tons per annum (MTPA), on crude steel (billet) basis from the hematite deposit in the Dhaubadi-Pokhari and Durlunga area. The project encompasses prospecting, ore processing, sponge iron and billet production, and steel manufacturing on the basis of detailed feasibility study report. This ToR outlines the scope and requirements for conducting a comprehensive Detailed Project Report (DPR).

The DPR aims to develop a comprehensive plan for DICL's iron ore mining and integrated steel production by assessing and validating geological resources, estimating reserves and ore value, conducting metallurgical tests, and designing optimal mining, processing, and steel manufacturing facilities. It will cover site selection, waste management, technology choice, process flows, infrastructure, transportation, and raw material sourcing, while defining organizational and manpower requirements. The study will include market analysis, machinery and equipment recommendations, and detailed financial and economic evaluations with realistic pricing and investment models. It will also address by-product utilization, knowledge exchange, and project phasing with clear implementation and procurement strategies to ensure technical, economic, and environmental viability.

## 1.3 Study Area

### 1.3.1 Study Area Description

The study area lies within **Hupsekot Rural Municipality**, located in **East Nawalparasi District, Gandaki Province, Nepal**. The area under investigation encompasses the following key components:

a) **Iron Ore Prospecting Lease Areas**: The iron ore lease blocks held by DICL, where hematite mineralization has been identified and exploratory drilling conducted.

**b) Potential Iron Ore Processing Plant Sites:** Two preliminary sites have been identified for the establishment of the iron ore processing plant:

- **Pangre-ghat**, within Hupsekot Rural Municipality, East Nawalparasi.
- **East of Hattikhor**, within Kawaswoti Municipality, East Nawalparasi.

The consultant is encouraged to evaluate these sites and may propose other feasible alternatives based on technical, environmental, and economic considerations.

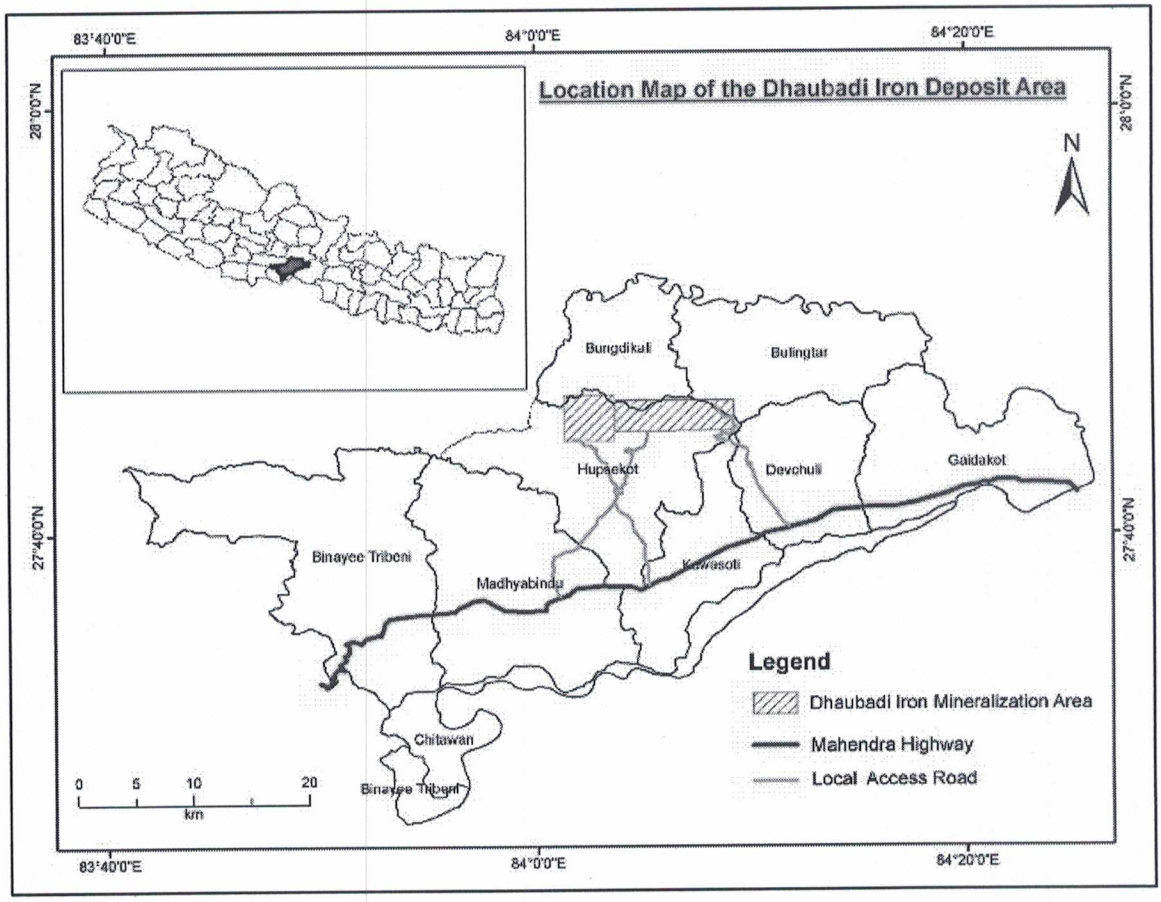



Figure 1: Political map of the project area

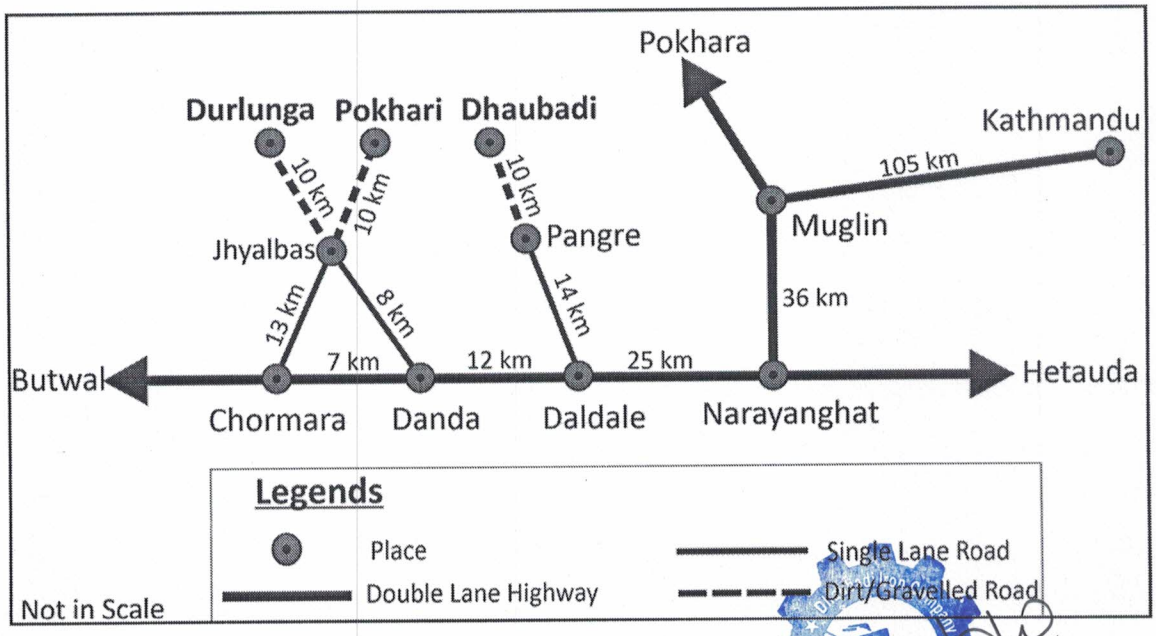



Figure 2: Approach Road towards Dhaubadi Iron ore deposit area from Kathmandu

c) **Transportation Corridor**: The corridor includes the **Pokhari–Dhaubadi area road**, which is envisaged to serve as the primary access route for transporting iron ore from the mining area to the processing plant.

d) **Steel Manufacturing Plant Site**: The steel manufacturing facility is proposed to be located **around the Kawasoti area** in East Nawalparasi, Gandaki Province. The consultant shall evaluate the suitability of the proposed location and may recommend alternative nearby sites if warranted.

The selected sites will be evaluated based on criteria such as geological suitability, accessibility, environmental sustainability, infrastructure availability, and socio-economic impact.

The primary objective of the consulting services is to carry out a comprehensive prepare a **Detailed Project Report (DPR)** for the establishment of an integrated **iron ore mining, processing, and steel manufacturing and Iron based ready product plant** based on **hematite ore** in **East Nawalparasi, Gandaki Province, Nepal.**

## 1.4 Rationale for the Study

A Detailed Project Report (DPR) is required to convert the project concept into a bankable, implementable proposal. The investment is large, technically complex, and long-term; it therefore needs reliable validation of the resource base, process and technology selection, cost estimates, market prospects, and environmental and social viability before any investment decision is taken. The DPR will serve as the basis for decisions by DICL and the Government of Nepal, for financing and approvals, and for subsequent procurement and implementation of the project.

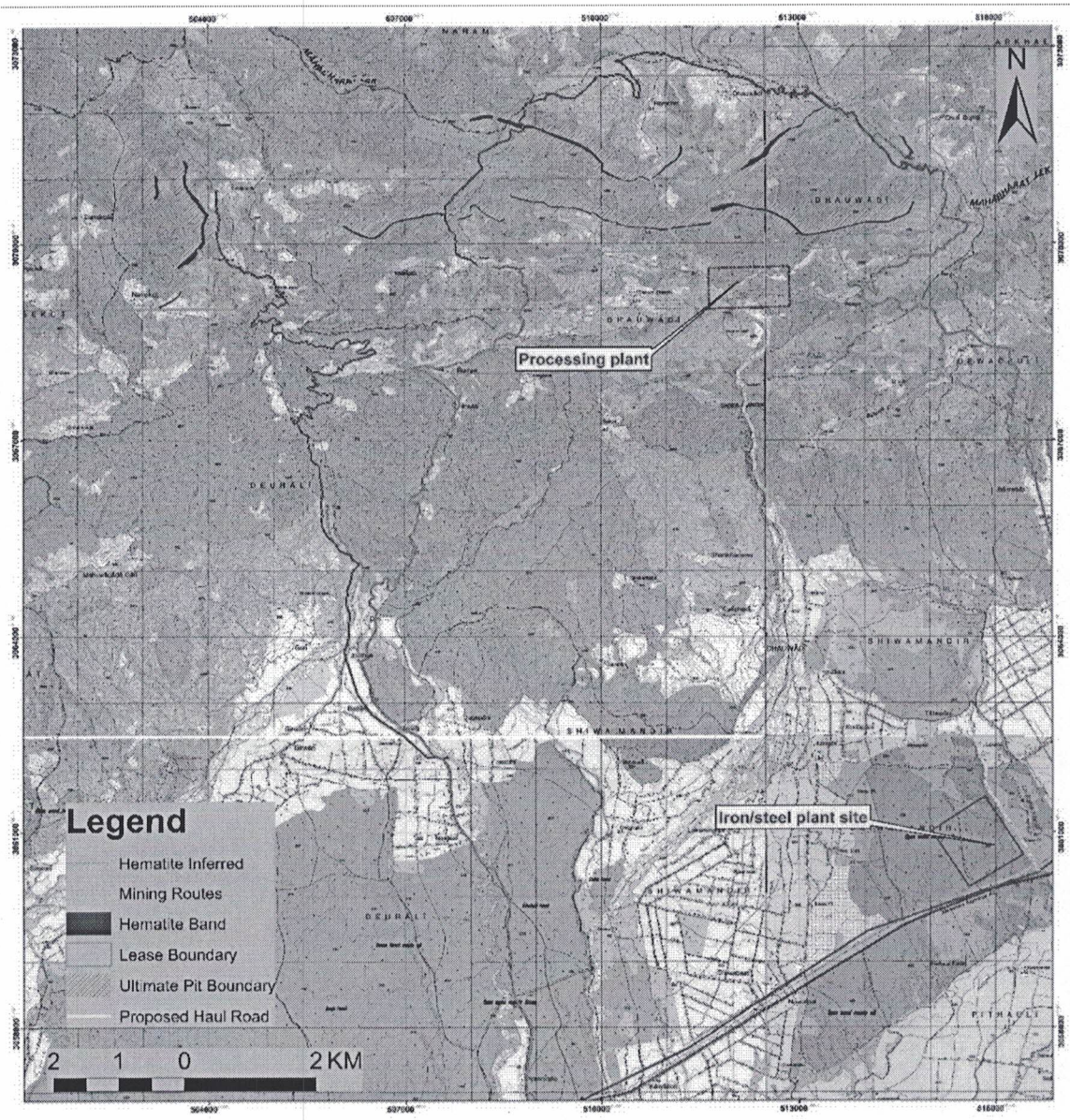



Figure 3: Overall location map of DICL's prospect area, including the beneficiation plant, iron and steel plant, and the approach road, presented on a topographical map.

## 2. General Objectives

The general objectives of the DPR preparation are as follows:

**a) Geological Resource Assessment and Mining**

- Review and re-establish existing geological and structural maps along with exploration and drilling data.
- Estimate the geological modelling, resources, determine mineable grade, and prove reserve as per international standard.
- Design a mine plan, layout, scheduling, excavation methodology and grade control-planning strategy.
- Validation of the deposit characteristics as geological model.

- Mine design, benches, haul roads, various pit shells generation, utilizing pit optimization technique and selection and design waste dump.
- Water catchment analysis to mitigate monsoon risk.

**b) Economical ore Value**

The CONSULTANT shall be responsible for providing the following:

I. **Ore Quantity Estimation:** Determine the total mineable quantity of iron ore available at the project site, based on: Geological reports and exploration data, Feasibility studies and resource classification, Categorization by ore type (lump/fines) and Fe content (grade).

II. **Market Value Assessment:** The consultant shall estimate the current and projected market value of the identified ore quantity. The estimate shall be based on prevailing domestic and international grade-wise iron ore prices and shall account for transportation, logistics, and, where applicable, beneficiation costs. Value estimates shall be presented under different price scenarios, supported by recent market trends and historical pricing data.

**c) Pilot Scale Metallurgical Test Work on Representative Samples**

Consultant must undertake fresh, comprehensive metallurgical test work using representative bulk samples, which should:

- Be extracted from across the entire hematite section (required quantity of hematite ore) of the deposit;
- Sample selection, collection and handling shall be as per the international standard, under the supervision of client;
- Include composite samples from freshly drilled drill cores;
- Be used to generate laboratory reports containing the proposed process flow sheet and material balances.
- Project implementation plan
- Mineralogical characterization and test results including Rare Earth Element (REE).
- Consultant shall verify 55% Nepalese ore pellets +45% imported pellets, as per DFS report or other appropriate blending proportion.
- Also, consultant shall perform DRI test from the 100% indigenous ore.
- The test should be conducted by the consultant with witness of two representatives from the client (DICL).

**d) Mineral Processing**

- Assess metallurgical test data and provide ore processing methodology and flow-sheet
- Design of Mineral processing plant and equipment sizing
- Design of the infrastructure (roads, power, water balance)
- Tailing handling system, storage facilities and provide suitable uses of tailings.
- Determine the quality and quantity of the concentrate.

**e) Site Selection**

**Identify the optimum sites for:**

- Iron ore mining operations and processing plant
- Steel manufacturing and steel based ready products (like rebar's, coils, structural steel etc.) here's list of globally recognized manufacture sand international

Dhaubadi Iron Company Limited DICL 2076

standard companies benchmark in terms of technical quality and production standards.

**f) Waste Management Planning**

Propose and design appropriate waste management techniques for the iron ore mining, processing and steel manufacturing operations.

**g) Plant Design and Technology Selection**

- Design the processing plant for sponge iron, as well as the steel manufacturing facility, using the best available technologies and local raw materials where possible.
- Process route selection, capacity planning and design.
- Plant configurations, raw materials balance, power plant, waste heat recovery and slag management.

**h) Process Flow and Scheduling:** Develop detailed process flow diagrams and implementation schedules for the entire value chain from mining to steel production.

**i) Transportation Planning**

- Analyze and design the most efficient and cost-effective mode(s) of transporting
- Design the transport system for conveying run-of-mine (ROM) ore from the mining blocks to the beneficiation/processing plant.
- Processed material to the steel manufacturing plant as well as to the ready product plant similarly.

**j) Infrastructure Layout**

- Provide layout and design plans for access roads, internal transport networks, utilities, and electrical power distribution.
- Power and water requirement, Access Road, township planning (if need).

**k) Raw Materials and Additives Assessment**

- Identify essential raw materials and additives required at each processing stage.
- Assess the availability of such materials within Nepal and, if unavailable, identify potential international sources.

**l) Process Technology Evaluation**

Assess different process technologies for iron and steel production and recommend the most suitable option compatible with the local resource base.

**m) Human Resource Planning**

Develop a complete organizational structure with required manpower levels, qualifications, and responsibilities as per Nepalese standard.

**n) Market Analysis**

- Conduct national and international market analysis for sponge, billet iron, steel, and by-products from DICL (e.g., slag, quartzite, tailings, etc.).
- Market and logistic study
- Demand-supply analysis of iron and steel in Nepal and neighboring countries, pricing assumption of iron ore and steel products, logistic planning of iron ore, concentrate and final products.

**o) Machinery and Equipment Recommendation**

- Specify appropriate mining, ore processing, and steel manufacturing machinery and equipment, including their technical specifications.
- Recommended international standard manufactures.

**p) Financial and Economic Analysis**

I. Prepare a comprehensive financial model including:
   - Profit and Loss Projections

- Revenue projection and Break-even Analysis
- Payback Period
- Internal Rate of Return (IRR), Cost Benefit Ratio (CBR)
- Net present value (NPV)
- Cash Flow Statements projection
- Sensitivity Analysis

II. Calculate about the valuation of total iron ore reserve in DICL prospects area. All amount shall be specified in NPR as well.

**q) Pricing and Financial Parameter Recommendations**

Suggest realistic product pricing, costing per unit of product, interest rate assumptions, and key financial parameters.

- Technical and Scientific Knowledge Exchange
- Promote collaboration through the exchange of technical and scientific information related to iron and steel production technologies.
- Exposer visit to the running Iron ore mines, processing plant and Iron/Steel plant during the development and designs of plant.
- By-product Utilization Assessment
- Evaluate the potential for commercialization or reuse of by-products (e.g., tailings, slag, etc.) and overburden materials (Quartzite, slate/shale, etc.) from mining, processing and plant operations, including market analysis.
- Possible commercialization of mining overburden (Quartzite) including market analysis.

**r) Project phasing and scheduling (Gantt chart)**

- Procurement strategy, project management and execution model (EPC/turn-Key, PPP, EPCM)
- Share modeling for investment analysis

## 3. Scope of the Works

The specific objective of the **DPR** is to conduct a comprehensive technical, financial, environmental, and socio-economic evaluation of the proposed integrated iron ore mining, processing, and iron/steel manufacturing project. The report shall include:

a) Compilation and analysis of all relevant **baseline data** (geological, hydrological, mining, environmental, social, etc.) necessary for project assessment;
b) Evaluation of **project alternatives** including plant site layout optimization, technology for iron/steel manufacturing options, site selection, and resource utilization;
c) Identification and analysis of **technical and engineering solutions**, supported by conceptual design, drawings, and process flow diagrams;
d) Preparation of **cost estimates** for all components of the project;
e) Comprehensive **economic and financial analysis** including capital and operating costs, financial viability, risk assessment, and sensitivity analysis;
f) Presentation of findings with **maps, drawings, schedules**, and documented justification for recommendations to serve as the basis for project investment and subsequent DPR preparation.
g) Undertake necessary **detailed field surveys**, geotechnical investigations, and site-specific assessments;
h) Prepare **detailed engineering designs and construction drawings** for:

- Landscaping and mine layout,
- Mine site office and related infrastructure,
- Crushing and pulverizing plant,
- Haulage roads and transportation modes from the mine to the crushing/screening plant to processing plant;
- Transportation system (e.g., conveyor, pipeline, or trucking or Rope way) from:
  - Crushing plant to iron ore processing plant, and
  - Iron ore processing plant to steel manufacturing plant;
- Drainage system, sewerage network, and internal road network,
- River training works, solid waste disposal system, tailing ponds, and wastewater treatment plant;

i) Perform **structural analysis and detailed engineering** for the iron ore processing and iron/steel manufacturing plants.

j) Consultant must carry out a detailed geological structural mapping to Identify mineralization zones and define their hanging wall–footwall contacts, collect structural data from mineralized and associated lithological zones and develop a robust litho-structural model to interpret mineral band geometry.

k) Prepare a **comprehensive cost estimate** for establishing and operating:
   - Iron ore mine,
   - Iron ore processing plant,
   - Direct ore reduction/sponge Iron production
   - Steel manufacturing plant and Steel based ready products

l) Ensure the DPR addresses all **project appraisal concerns**, including technical, financial, economic, environmental, and social aspects;

m) Review relevant **international standards, codes, and best practices** to ensure compliance and competitiveness;

n) Conduct a **gap analysis** of the existing facilities (if any) and recommend upgrades or new solutions;

o) Deliver an **engineering and process design package** ready for project implementation or financing.

p) If required any **additional works** consultant shall be conducting own self.

## 3.1 Desk Study, Literature Review of Previous Studies, and Review of Exploration Work

The Consultant shall undertake a comprehensive review and assessment of existing data and studies to establish a foundation for the feasibility analysis. This shall include, but not be limited to, the following activities:

### 3.1.1 Collection and Review of Existing Documentation:

- Gather and analyze all relevant existing documentation, including previous study reports, geological and topographical maps, engineering drawings, technical manuals, standards, guidelines, applicable legislation, policies, and strategic plans.
- DICL shall provide the Consultant with all available in-house materials and records for reference.

### 3.1.2 Desk Study and Reconnaissance Survey:

- Conduct a desk-based study and an initial field reconnaissance to assess the current status of exploration activities.

- Review existing exploration data, particularly drilling logs, sampling records, and related geological information.
- Identify data gaps and provide technically justified recommendations for any additional exploration or investigation required.

### 3.1.3 Review of Testing and Analytical Results:

- Examine detail feasibility study report, metallurgical test results, pilot plant data, chemical analyses, and core drilling outcomes supplied by DICL.
- Evaluate the characteristics of the ore body, including mineralogy, grade, tonnage, and impurities, to assess its suitability for processing and steel production.

### 3.1.4 Market and Demand Analysis:

- Conduct a literature-based market study and secondary data analysis to estimate the national and regional demand for iron and steel products.
- Assess the potential commercial value and utilization of by-products such as quartzite (for construction aggregates) and slag (for cement or other industrial uses).
- Evaluate the long-term market sustainability and supply-demand dynamics relevant to the project's scale.

## 3.2 Field Study

- Engage with local stakeholders, including communities and local authorities, to gather site-specific knowledge related to the mining and plant locations.
- Undertake site visits to the proposed mine sites, iron ore processing plant, and steel manufacturing plant identified by DICL. Additionally, assess and suggest alternative locations, if deemed technically or economically more viable.
- Provide DICL with advance notice (minimum of two weeks) of intended field visits, including tentative dates for the commencement and completion of fieldwork.
- Ensure that fieldwork is conducted by designated, qualified personnel.
- Conduct a market study to evaluate demand and pricing for iron and steel products within Nepal.
- Assess existing infrastructure (e.g., roads, utilities and logistics) and determine requirements for additional infrastructure necessary for mining and plant operations.
- Collect baseline data to identify potential environmental issues, socio-economic issue, waste generation, and waste management strategies.
- Review the estimated geological reserves within the prospective mining area.
- Estimate the mineable reserves and determine the anticipated mine life for each deposit.
- Develop a preliminary mine plan and recommend an appropriate mining method based on technical and economic feasibility.
- Collect required quantity of ore sample for the metallurgical test.
- Based on the findings of the FSR, identify areas requiring further detail and precision during the DPR stage.
- Consultant responsible for additional surveys, investigations, or studies to be carried out during DPR, if required.

## 3.3 Techno-Economic Bankable Study of the integrated plant (project)

The Consultant shall carry out a comprehensive techno-economic study for the proposed integrated mining, ore processing, and steel manufacturing and iron based ready products project. This shall be based on data collected during site visits, client-provided reports, and any additional necessary assessments. The study shall be structured under the following broad components:

### 3.3.1 Raw Material Assessment

a) Review and analyze available data on hematite ore, including laboratory test results and surface sample analyses (collected during field visits if required), to perform qualitative and quantitative evaluations of reserves sufficient to sustain the proposed project.
b) Assess the availability, quality, and suitability of required correctives/additives (e.g., limestone, dolomite, etc.) and fuels/power (e.g., coal, electricity, alternative sources).
c) Recommend optimal raw mix design, considering the quality of iron ore and the required proportion of correctives/additives to ensure efficient and cost-effective production.
d) Identify potential mining sites and develop broad concepts regarding the mine ability of the iron ore to estimate the associated capital expenditures and operating costs for mining operations.
e) Analyze by-products generated from the mining operations, ore processing, and steel manufacturing (e.g., quartzite, slag), assessing their market potential and safe disposal or utilization.
f) Conduct additional laboratory tests of surface samples collected during site visits (if required) to supplement reserve estimation and support sustainable project development.

### 3.3.2 Infrastructure, Location and Logistic Assessment

**a) Evaluate the availability and proposed of land for establishing and operating:**
- Iron ore mining facilities
- Ore beneficiation/processing plant
- Steel manufacturing plant and Steel based ready products

**b) Assess the adequacy of essential infrastructure required for the project, including:**
- Utilities (power, water supply, fuel sources, etc.)
- Transport networks (roads, railways, internal haul roads etc.)
- Hydrological and hydrogeological conditions
- Availability of social amenities and support services for the workforce

**c) Logistics and Material Transport System Design Including Bridge Design**

- Design the pit-to-plant haul roads from the six blocks (Dhaubadi, Rathe Khola, Ramche North, Ramche South, Durlunga, Pokhari) to the beneficiation plant, and the roads linking the beneficiation plant, steel plant, tailings facility, waste dumps, township and the public road.
- Design length: the unique haul network of required length from separate mines to processing plant and to the iron/steel plant. The Consultant shall verify this length by field survey.

- Road works include widening and strengthening of the existing road, and new alignments where the existing road cannot be improved.
- Classify each road section as haul road (heavy dump trucks), service/access road (light and general vehicles) or plant internal road, with a separate design standard for each.
- Side drains, catch drains, culverts, causeways and Irish bridges, designed for stated return periods, with outlets protected against erosion
- Detailed design of the required number of bridges in stream/river crossings, comparing at least two structural options for each, with foundations below maximum scour depth, bearings, joints, approaches and crash barriers. Live load shall be the governing case of standard highway loading and the actual mine haul truck, and seismic design shall follow NBC 105:2020.
- Field verification and verification of number of crossings, site survey, at least two alternative sites per crossing, borehole investigation at abutments and piers, and high flood level survey. Hydraulic design shall cover design flood, waterway adequacy, afflux, scour, freeboard and river training works.
- Safety berms, crash barriers, signage and delineation, separation of haul trucks from light vehicles and pedestrians, a road safety audit at design stage, and a traffic management plan for construction.

**d) Study the physical and environmental characteristics of the mine and plant sites, including:**

- Climate and weather patterns
- Terrain and topography
- Seismicity
- Geotechnical conditions

**e) Identify and evaluate optimal transport and logistics options for raw materials and finished goods between the mine site and plant locations, including:**

- Road, railway connectivity and other effective mode of transportations
- Loading/unloading and storage facilities
- Cost and time efficiency of alternatives

## 3.4 Industry Scenario and Market Strategies

The Consultant shall analyze the national and regional iron and steel industry landscape to identify viable market opportunities and develop a practical and sustainable marketing strategy. This task shall include, but not be limited to, the following:

### 3.4.1 Industry Overview and Market Assessment:

- Conduct a comprehensive study of the current status of the iron and steel industry in Nepal, with specific reference to the proposed plant site location.
- Analyze national and provincial-level industrial development plans, trends in steel consumption, production capacity, and infrastructure development relevant to the sector.

### 3.4.2 Product Demand Forecast:

- Estimate the projected demand for the plant's products over a 10-year horizon, considering historical trends in capacity utilization, ongoing and planned infrastructure projects, and economic growth trajectories.

- Forecast demand both at the national level and within targeted provinces or states of strategic interest.

### 3.4.3 Supply-Demand Gap Analysis:

- Evaluate the anticipated supply-demand balance for iron and steel in Nepal over the next decade.
- Identify potential surpluses or shortfalls in production, both nationally and regionally, to determine market entry points and competitive positioning.

### 3.4.4 Market Segmentation and Targeting:

- Identify key domestic market regions with high growth potential and industrial demand for iron and steel products.
- Provide recommendations for optimal market segmentation and penetration based on factors such as logistics cost, market attractiveness, and regional consumption trends.

### 3.4.5 Pricing and Consumption Trends:

- Analyze historical and current pricing trends of iron and steel in domestic and nearby regional markets.
- Assess consumption behavior and purchasing preferences in different market segments.

### 3.4.6 Marketing Strategy Development:

- Formulate a market entry and product distribution strategy tailored to DICL's value proposition and production scale.
- Recommend approaches for retailing DICL products, including branding, pricing models, distribution channels, and promotional tactics that leverage DICL's competitive advantages.

## 3.5 Project Technical Concept

The Consultant shall develop and define a comprehensive technical concept for the integrated mining and steel manufacturing project. This includes determining the optimal configuration of equipment, processes, plant layout, infrastructure, and environmental considerations, taking into account the characteristics and availability of raw materials. The scope of work shall include, but not be limited to, the following tasks:

### 3.5.1 Project Sizing and Configuration:

- Recommend the overall project size and optimal unit/plant size based on the quantity and quality of raw materials, proposed product mix, and marketing considerations.
- Conduct techno-economic evaluation of project scales and suggest the most feasible option.

### 3.5.2 Mining Methodology and Mine Design:

- Propose the most suitable and adaptive mining methodology for the identified deposits, including necessary alternations for site-specific conditions.
- Prepare a conceptual mine plan and design for each selected mining site, covering bench height, pit slope, mine access, drainage, and equipment deployment.

### 3.5.3 Major Equipment and Storage Requirements:

- Recommend key process and auxiliary equipment required for mining, ore processing, and steelmaking.
- Propose layout and specifications of storage facilities for raw materials, intermediates, and finished products.

### 3.5.4 Energy Efficiency and Environmental Compliance:

- Identify energy conservation opportunities across the plant and mining operations.
- Recommend suitable pollution control and environmental protection measure to meet statutory requirements and sustainability goals.

### 3.5.5 Process Flow Sheet and Plant Detail Design Layout:

- Develop a detail design
- layout of the integrated complex, including mine, processing plant, steel plant, internal roads, utility buildings, and ancillary facilities.
- Prepare a preliminary process flow sheet reflecting the complete value chain from mining to steel production.

### 3.5.6 Iron-Making Technology Alternatives:

- Evaluate and recommend the most suitable iron-making route (e.g., Submerged Arc Furnace, Sponge Iron–Electric Arc Furnace [EAF], or Mini Blast Furnace), based on raw material characteristics, energy requirements, and environmental factors.

### 3.5.7 Electrical and Instrumentation (E&I) Systems:

- Recommend electrical and instrumentation engineering concepts suitable for the plant's operational needs, safety, automation, and reliability.
- Outline the broad specifications of major E&I components such as transformers, switchgear, motor control centers, and instrumentation systems.

### 3.5.8 Power Supply and Distribution:

- Review the existing power distribution system, if any, and propose a broad power distribution scheme for the entire integrated project, including captive power options where relevant.

### 3.5.9 Civil and Structural Engineering Concepts:

- Suggest appropriate civil engineering design approaches considering local topography, climatic conditions, soil characteristics, and seismic zone classification.
- Provide general recommendations on foundation design, structural configuration, and site development.

### 3.5.10 Raw Mix Optimization:

- Study and recommend suitable additives and fluxes to optimize the raw mix for iron-making processes, ensuring efficient furnace operation and product quality.

### 3.5.11 Environmental Assessment and Mitigation:

- Review and suggestion for the environmental concerns associated with the project.
- Propose effective mitigation measures and environmental management strategies.

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### 3.5.12 Integrated Layout Design:

- Provide a coordinated and optimized layout of the mine, plant facilities, internal roads, and associated infrastructure, ensuring operational efficiency and minimal environmental disruption.

## 3.6 Additional Scope of Work

The Consultant shall also address the following critical areas as part of the Study to ensure holistic project planning and readiness for DPR development:

### 3.6.1 Human Resources Planning

- Assess the human resource requirements for construction, commissioning, and operational phases of the integrated project.
- Identify skill profiles and workforce segmentation (management, skilled, semi-skilled, unskilled).
- Provide suitable position and their qualifications of the man-power with organization chart.
- Recommend strategies for recruitment, training, and capacity building.
- Consider local employment opportunities and community development in alignment with CSR and ESG goals.

### 3.6.2 Project Implementation Plan

- Prepare a broad implementation roadmap for the entire project from pre-construction to commercial operation.
- Develop a preliminary timeline identifying key milestones, phasing, and critical path activities.
- Suggest project packaging, sequencing of contracts, and procurement strategy.
- Provide best share model in iron ore mines to integrated iron and steel plant.
- Highlight statutory approvals, land acquisition, and environmental clearances needed prior to execution.
- Institutional and risk management frameworks
- Construction drawings and detailed estimates
- Project execution plan with Engineering Procurement Construction / Engineering Procurement Construction management (EPC/EPCM) strategy

### 3.6.3 Financial Appraisal and Economic Viability

- Prepare capital cost estimates for mining, beneficiation, steelmaking, utilities, and infrastructure based on the selected technical concept.
- Estimate operating costs, working capital, and lifecycle costs.
- Develop financial models including:
    a. Projected income statements, balance sheets, and cash flows
    b. Key performance indicators **(NPV, IRR, Payback Period, DSCR)**
- Conduct sensitivity analysis based on variations in key assumptions (e.g., raw material prices, power tariffs, product prices).
- Assess the project's bankability and propose a broad financing strategy.

### 3.6.4 Business Model

- Prepare and recommend the most **suitable business model** (i.e. **Public Private Partnership (PPP), Government Owned, Private Sector** etc.) for the effective

operation, management, and execution of the activities of Dhaubadi Iron Company Limited (DICL).

- The proposed model should ensure efficiency, financial sustainability, risk mitigation, and alignment with the company's long-term strategic objectives and sustainability.

## 3.7 Detailed Engineering Design

The Consultant shall prepare comprehensive, site-specific engineering designs for all major components of the project, including the mine site, iron ore processing plant, and steel manufacturing plant. The design must comply with relevant national and international standards, be economically viable, and include automation provisions and integration with digital infrastructure, where applicable.

### 3.7.1 Mine Site

a) Prepare a detailed mining methodology covering all key operational aspects (e.g., drilling, blasting, hauling, and loading).
b) Develop a complete mine layout plan, including sponge boundaries, haul roads, stockpile areas, and buffer zones.
c) Design the **primary and secondary crushing units** within the mine area, specifying plant capacities, equipment sizing, and layout.
d) Include architectural and structural designs for necessary buildings and facilities such as:
   - Mine offices
   - Maintenance workshops
   - Storage sheds
   - Rest and shelter areas
   - Worker houses
   - Staff quarters

### 3.7.2 Iron Ore Processing Site

Depending upon information gained by metallurgical test results and previous metallurgical test result will be provided by DICL to be adopted for product realization. Consultant shall recommend best alternative routes and flow-sheet.

a) Design a detailed process flow for the iron ore beneficiation/processing plant, identifying all processing stages (e.g., grinding, separation, and filtration).
b) Provide complete **material flow sheets** indicating equipment type, capacity, and sequence of operations.
c) Develop structural and layout designs for:
   - Processing plant buildings
   - Material handling systems (conveyors, silos, chutes)
   - Support buildings such as administrative offices, control rooms, laboratories, and residential quarters for workers and key officials

### 3.7.3 Steel Manufacturing Plant Site

a) Design a complete **steel manufacturing line**, covering transformation from crude iron to finished steel products (e.g., billets, rods, sheets).
b) Prepare a detailed **equipment list** and **material flow chart** for the plant's operational processes (e.g., melting, refining, and casting, rolling).

c) Provide structural designs and layout drawings for:
- Main production units
- Auxiliary facilities
- Site office, labs, maintenance and utility buildings
- Officer and staff residential quarters,
- Labor quarters
- Landscaping and greenery developing

### 3.7.4 Transportation

The Consultant shall be responsible for designing an **optimized haulage system** that connects:

The haulage system should be designed in a manner that **minimizes or avoids the use of public roads**, ensuring safety, efficiency, and minimal disruption to public infrastructure. The consultant shall propose an **internal logistics corridor** wherever feasible, and include necessary **design drawings**, **capacity estimates**, **equipment requirements**, and **traffic flow simulations**.

**a) Aerial Cableway (Ropeway)**

The Consultant shall also be responsible for evaluating and recommending and design of suitable alternative **modes of transportation** for iron ore and/or processed material, based on technical, economic, environmental, and topographic considerations. This shall include but not be limited to:

- **Ropeway Conveyor Systems**:
  Evaluation of aerial ropeway systems for the efficient, low-emission transport of iron ore or concentrate from the mine site to the processing or steel plant. The assessment shall include:
- **Slurry/Hauling Pipeline for Fluid Iron Ore**:
  Assessment of pipeline transport (e.g., iron ore slurry pipeline) as a potential mode for conveying beneficiated or fluidized ore. The Consultant shall evaluate and propose design and its cost effectiveness for such types of plant like Dhaubadi Iron company.
- **Comparison with Conventional Modes**:
  The Consultant shall compare the above alternatives with conventional **road** and **rail transport**, considering:
  - Capital and operating costs
  - Land acquisition and RoW issues
  - Emissions and dust control
  - Long-term scalability and integration with downstream facilities
- **Recommendation**:
  The Consultant shall provide clear **technical justification and cost-benefit analysis** for the most suitable transportation mode(s), and recommend the **preferred alternative** or combination thereof.

### 3.7.5 Transmission Line

The Consultant shall formulate a comprehensive design for the **electrical power transmission system** from the nearest **electrical grid or substation** to the following sites:

- Mine site

- Iron ore processing plant
- Steel manufacturing plant
- Any additional auxiliary structures requiring electric power

The design shall include:

- Route alignment and technical specifications
- Power requirement calculations
- Substations, transformers, and switchgear Design.
- Safety measures and power redundancy plans
- Integration with national grid standards and regulations

### 3.7.6 Tailing Ponds and Drainage

The Consultant shall propose an environmentally responsible **waste management system** and associated **drainage systems**, including:

- Site selection and design of **tailing ponds**
- Engineering of **thickening, dewatering, and stabilization** facilities
- Environmental mitigation features to minimize leachate, seepage, and groundwater contamination
- Drainage layouts for the **mine site**, **processing plant**, and **steel plant** to ensure safe storm water runoff and spill control

All waste management infrastructure should adhere to national and international environmental safety standards.

### 3.7.7 Water Supply and Utilities

The Consultant shall design an integrated **water supply system** from the nearest feasible water source to:

- The mine site
- The iron ore processing site
- The steel manufacturing plant

This shall include:

- Water intake, treatment, storage, and distribution system layouts
- Estimation of water demand by activity type (processing, domestic use, cooling, etc.)
- Integration of water recycling systems wherever feasible
- Design of auxiliary utilities (compressed air, steam, etc.) and infrastructure (firefighting systems, lighting, etc.)

## 3.8 Design Deliverables (Civil, Mechanical, Electrical)

The Consultant shall submit a complete package of designs that meet national and international codes and standards, including:

- Civil (Roads, Buildings, Bridges etc.), mechanical, and electrical system designs
- General arrangement (GA) drawings for all key infrastructure
- Layouts for internal roads, access control, and transport corridors
- Specifications for mine equipment, plant machinery, and auxiliary systems
- Power requirement calculations and distribution schematics
- Construction phasing and implementation schedule

- Plant automation integration, smart monitoring systems, and data transmission to STP (Sewage Treatment Plant)

### 3.9 Environmental and Social Considerations

The Consultant shall ensure that all project designs and operations are compliant with the following:

- Environmental Protection Act, 2076 (2019)
- Environmental Protection Regulations, 2077 (2020)
- Mine and Minerals Act, 2042 (1985)
- Mines and Minerals Rules, 2056 (1996)
- Relevant international environmental standards and guidelines

**Designs must actively incorporate:**

- Avoidance and minimization of environmental impacts
- Resource efficiency (solar energy, natural lighting, water reuse)
- Safe handling and disposal of hazardous and non-hazardous wastes
- Groundwater recharge measures and noise/dust suppression strategies
- Health, safety, accident, and emergency response planning

All project designs and activities shall be undertaken in an **environmentally responsible manner**. The Consultant must integrate the following environmental considerations into the project planning, design, and execution:

- **Avoidance or minimization of adverse environmental impacts** through proper layout, design, and operational planning.
- **Recycling, reuse, and safe handling of industrial waste and effluents** during both construction and operation phases.
- **Optimal use of renewable and natural systems**, such as solar energy, natural lighting, and rainwater harvesting.
- **Health and safety management**, including accident prevention and emergency preparedness measures.
- **Environmental enhancement**, including groundwater recharge, afforestation, and biodiversity conservation where applicable.

Develop **site-specific mitigation measures** (technological, structural, operational, or managerial) for residual environmental impacts.

Furthermore, the assignment shall encompass a socio-economic baseline survey, land-use and resettlement screening, and stakeholder consultation, each documented to a standard adequate to underpin any subsequent involuntary-resettlement or livelihood-restoration requirements. This shall be accompanied by a comprehensive waste and tailings management plan, along with a gap analysis of existing facilities and associated upgrade recommendations.

## 4. Methodology

The Consultant shall adopt a comprehensive, structured, and results-driven methodology for conducting the Detailed Project Report (DPR). The methodology shall ensure the following key principles and practices:

a) Accuracy and Validity: Utilize authenticated and credible sources of both primary and secondary data. All data must be collected and verified through recognized procedures to ensure reliability.
b) Data Analysis and Interpretation: Apply appropriate analytical tools, ensuring clear, evidence-based conclusions.
c) Standards Compliance: Adhere to relevant national and international standards for data collection, testing, and reporting.
d) Clear Presentation of Information: Ensure that findings and data are communicated through in user-friendly formats, clear, including tables, charts, GIS-based maps, CAD drawings, and other visual tools as appropriate.
e) Decision-Oriented Reporting: Provide actionable insights and recommendations based on analyzed data.
f) Planning and Control: Integrate planning tools with performance control mechanisms for project execution.
g) Monitoring System: Propose a robust monitoring and evaluation (M&E) framework to track activity progress, quality control, and compliance with milestones and deliverables.
h) Corrective Action Mechanisms: Include provisions for resolving field-level issues promptly, including protocols for on-site technical adjustments and coordination with client representatives
i) Traceability: Ensure the traceability of equipment, machinery, materials, and construction components throughout the value chain, following applicable regulatory and industry standards.
j) Reporting Quality: Ensure that all reports and documentation are technically accurate, clearly structured, professionally formatted, and suitable for presentation to stakeholders and regulatory authorities.

## 4.1 Common Requirements

- Each **unit operation** right from ore mining to steel billet casting to be supported by incoming quality plan, in-process quality plan and output quality plan mentioning input quality parameters, acceptable limits, measurement frequency and measurement standard.
- For each unit operation human resources estimation to be done in numbers and competency.
- Each unit operation to be supported by standard operating procedures (SOP) mentioning significant control parameters
- Each unit operation to be supported by occupational health and safety protocol.
- By products of each unit operation to be estimated and management plan (sales, alternative use / dumping) to be prepared.
- Each Engineering drawing to be supported by bill of quantities **(BOQ).**

## 4.2 Critical Focus Area

### 4.2.1 Product Related

a) Confirmation of Fe content in Hematite ore by generating **additional primary data**.
b) Accurate estimation **extractable deposit** by further investigation.
c) DICL'S end product to be ascertained for economic profitability

d) DRI (sponge iron) quality improvement possibility to be find out.

### 4.2.2 Economic Related

a) So far DICL's focus is on billet production through EAF Route and selling to the Nepalese Rolling mills. In this context already there are so many billet producers in Nepalese market. In such a situation DICL will be one of the competitors in Nepalese market. Absorption its huge volume billet in Nepalese market will find difficulties.
b) Extensive market survey to be conducted to sustain in Nepalese market.
c) "Can Nepalese melters, who mostly use small induction furnaces, use DICL's sponge iron despite its high silica content that produces a large amount of silica-bearing slag?"
d) Extensive Survey to be conducted among Nepalese melters to access suitability to those melters.
e) Supply of Spong Iron (DRI) to local melters may be best options for DICL rather than supplying billets detail survey and primary data generation to be done.
f) Possibility of Spong Iron (DRI), steel billets export potentiality to be explored.
g) Possibility of various by product sales and revenue generation to be worked out.
h) IRR, payback period, NPV to be worked out after gathering relevant information

### 4.2.3 Legal Related

a) In Nepal many projects are delayed leading to project cost escalation and investors interest disappointment due to various legal hurdles.
b) Detailed Legal Register to be prepared incorporating applicable Acts, Rules, and Directives.
c) Legal risk to be identified for each applicable acts, rules directives and the mitigation plan to be prepared.

### 4.2.4 Finance Related

a) Possibility of Govt. Finance, Public Finance, Public Private partnership (PPP), seems to be bit difficult for Project Financing.
b) Best option can be FDI.
c) Regarding FDI in minerals sectors it is highly disappointing.
d) Hence, detail root cause analysis to be done for FDI bottlenecks, focusing on "one-door service" policy, FDI and technology transfer Act, Nepal's Grey Listing by FATF etc.

### 4.2.5 Energy Related

a) **DICL** is a highly energy consuming project.
b) In this context power generation, consumption, projects in pipeline, export to be extensively investigated and availability to be ensured
c) Estimation of in-house power generation and detail design of distribution and utilization i.e.; Off gases from the DR plant will generate about 50 MW power through WHRB and the char of DR kilns together with purchased coal will be generated about 20 MW of power through AFBC boiler.

## 4.3 Risk Assessment and Mitigation Plan – Dhaubadi Iron Industry

The Consultant shall be responsible for conducting a comprehensive **risk assessment** related to all components of the integrated mining and steel manufacturing project. This shall include the identification, analysis, and evaluation of potential **technical, financial,**

**environmental, operational, legal, social risks** and Operational and Supply Chain Risks that may impact the feasibility, implementation sustainability of the project.

### 4.3.1 Scope of Risk Assessment

The Consultant shall identify and assess, but not be limited to, the following types of risks

- **Technical Risks**:
  Geological uncertainty, ore quality variability, equipment reliability, metallurgical processing challenges.
- **Operational Risks**:
  Disruptions in mining, transport, processing, or utility supply; workforce-related issues.
- **Financial and Economic Risks**:
  Project cost escalation, fluctuations in commodity prices, exchange rate volatility, return on investment.
- **Environmental and Climate Risks**:
  Compliance failures, pollution incidents, water scarcity, extreme weather events, biodiversity impact.
- **Legal and Regulatory Risks**:
  Delays or changes in licensing, land acquisition issues, evolving environmental regulations.
- **Social and Community Risks**:
  Land use conflict, resettlement challenges, stakeholder opposition, reputational risks.
- **Supply Chain and Infrastructure Risks**:
  Material/logistics delays, transport route disruptions, power supply reliability.

### 4.3.2 Mitigation Planning

The Consultant shall propose practical, cost-effective **risk mitigation and management strategies**, which may include:

- Technical design alternatives
- Financial hedging or insurance mechanisms
- Legal and institutional safeguards
- Stakeholder engagement plans
- Emergency response and contingency planning
- Adoption of best environmental and operational practices
- Redundancy and flexibility in infrastructure planning (e.g., dual transport modes)
- **Risk Matrix** outlining likelihood, impact, and mitigation for each risk
- **Mitigation Action Plan** with timelines and responsible parties
- Integration of risk considerations in all relevant DPR sections (e.g., mine plan, transport, processing, power, etc.)

## 4.4 Contract Administration

The Consultant shall be responsible for:

- Ensuring that all DPR-related work is conducted in **strict accordance with the Contract Agreement** and the approved **Terms of Reference (ToR)**.

- Maintaining a **high standard of process control** throughout all stages of the assignment.
- Ensuring that **all technical standards, engineering codes, design parameters, and procedural protocols** are followed in full.
- Responding to instructions, queries, or comments issued by DICL in a **timely and professional manner**.

### 4.5 Review of Consultant's Work Implementation Schedule

- The Consultant shall prepare and submit a **comprehensive implementation schedule**, in close consultation with DICL officials.
- The Consultant shall **review and update the implementation schedule periodically**, based on field realities and evolving requirements.
- All interdependencies among the project components (e.g., mining, processing, infrastructure, utilities) must be critically analyzed and reflected in the schedule.
- Each activity should clearly specify its **start and completion date**, as well as **milestones** for progress tracking and review.

### 4.6 Facilitation by DICL

DICL shall facilitate the Consultant's work through the following support mechanisms:

- Providing all **available first-hand technical, legal, and policy-related information** necessary for the preparation of the Inception Report and subsequent stages.
- Providing access to e**xisting reports, maps, geological and exploration data, drill core and samples, and other relevant project records** available with DICL, for use solely for the purpose of this assignment.
- Designating a **focal person/coordinator** to serve as the main point of **contact between DICL** and the **Consultant** throughout the assignment.
- Ensuring **active participation of DICL representatives** during field visits and stakeholder consultations to help resolve ambiguities and ensure contextual accuracy.
- **Monitoring and coordination of field activities**, providing necessary administrative and local support where required.
- Offering **constructive comments and suggestions** on draft reports, methodologies, and designs submitted by the Consultant.
- Issuing letters of introduction and, where required, facilitating coordination with **government agencies, local authorities, and other concerned stakeholders** to enable site access and data collection.
- Participating in **review meetings, presentations, and workshops**, and developing a consolidated **protocol of comments** to be addressed in the final submission.
- Providing coordination for **any other logistical or institutional support**, if deemed necessary, to ensure timely and effective delivery of the consulting services.

**Facilities not provided by DICL**

DICL **will not provide** offices, office space, furniture, equipment, computers, software, vehicles, accommodation, or any other facilities to the Consultant. The Consultant shall arrange, at its own cost, all personnel, offices, equipment, transportation, accommodation, survey and laboratory facilities, and other resources required to carry out the assignment.

The support mentioned above is limited to facilitation and does not relieve the Consultant of its responsibilities under the Contract.

## 4.7 Training and Site Visit

### 4.7.1 Training

The Consultant shall provide structured capacity-building for DICL, comprising training programs, workshops, and technical exposure visits, covering (but not be limited to) the following areas:

- Mining Scheme for Metallic Minerals
- Application and Use of Mineral Exploration and Mining Software
- Iron Ore Processing and Steel Plant Design
- Mining Methodology and Mine Planning
- Economic and Financial Analysis Techniques
- Environmental Management in Mining and Mineral Industries

These shall be considered a mandatory component of the assignment. The training sessions shall be conducted at mutually agreed locations (either at DICL's office or on-site) and shall include a mix of presentations, demonstrations, and hands-on training. Training material, manuals, and documentation shall be submitted in both **hard and digital formats** to DICL.

### 4.7.2 Site Visit

The Consultant shall arrange international-level workshops, and technical site visits for at least (not least than) **six (6)** technical representatives of **Dhaubadi Iron Company Limited (DICL)** to a minimum of two (2) operational iron ore mines and two (2) iron ore processing and two (2) iron and steel DRI-EAF plants. The Consultant shall bear all costs associated with the training and visits, including travel, accommodation, local transportation, and other related expenses.

The specific mines and plants to be visited shall be proposed by the Consultant and confirmed with DICL in advance, so that the itinerary is relevant to the process routes and scale adopted in the DPR. Training sessions shall be conducted at mutually agreed locations (DICL's office, the project site, or the visited facilities) and shall include a mix of presentations, demonstrations, and hands-on training.

## 4.8 Knowledge Transfer

In addition to the training and site visits under Section 12, the Consultant shall ensure structured transfer of technical knowledge and project-specific know-how to DICL, comprising:

- Promotion of collaboration through the exchange of technical and scientific information relevant to iron-ore mining, processing, and steel-production technologies, drawing on the international visits under Section 12.
- On-the-job mentoring of designated DICL counterpart staff by the Consultant's Key Experts throughout the assignment, particularly during field investigations, process design, and cost-estimation activities.

- Handover of all working files underlying the DPR (geological and mine-planning models, process-simulation and financial models, CAD drawings, and GIS datasets) in editable, DICL-usable formats, with accompanying user notes.
- Training manuals, workshop materials, and site-visit documentation submitted in both hard and digital format.
- A knowledge-transfer completion notes, co-signed by the Team Leader and DICL's Project Coordinator, confirming the training, site visits, and file handover have been delivered as required under Sections 12 and 13.

## 5. Deliverables

The Consultant shall work out and propose a total comprehensive budget for the development of the Dhaubadi Iron Industry, covering all phases and components of the project, including mining operations, beneficiation, steel production facilities, infrastructure, utilities, environmental management, and socio-economic development. The budget shall include both Capital Expenditure (CAPEX) and Operating Expenditure (OPEX), supported by detailed cost assumptions, preliminary engineering designs, and implementation phasing."

The Consultant shall be responsible for submitting the following deliverables in both **hard copy (minimum 2 sets)** and **digital format (1 set, editable and printable)** within the specified timelines.

### 5.1 Inception Report

To be submitted within **2 weeks** of the commencement of services. It shall include:

- Review of all available reports, maps, and data provided by DICL.
- Detailed work plan and methodology for DPR preparation.
- Table of Contents for both Detailed Project Report.
- Identified team members, schedule, and responsibilities.
- PowerPoint presentation of the inception findings to be presented to DICL.

### 5.2 Monthly Progress Reports

To be submitted **at the end of each calendar month**, beginning from the start of the assignment. Each report shall include:

- Summary of key achievements, milestones reached, and any deviations.
- Major technical, logistical, or administrative issues encountered and mitigation steps.
- Updated work plan and Gantt chart for the following month(s).
- Field photos, logs, and documented data as appropriate.

Format: **1 hard copy + 1 digital copy**

### 5.3 Draft Report of Detailed Project Report (DPR)

The DPR shall include comprehensive details, analysis, and final designs for the project. It shall cover:

- Detailed **topographical and UAV surveys**, structural and slope stability analysis, hydrological and geological data, and physical testing results.

- Tender-level **engineering designs and drawings**, complying with international standards and ISO codes.
- **Resource estimation and mobilization plan** for mining and processing plant operations.
- **Quantity estimation, cost breakdown, and BOQs** for each physical and operational component.
- Design and detailing of **fabricated components** of plant structures.
- Recommendation of machinery and tools with specifications and performance benchmarks.
- **Human resource planning**, forecasting, and long-term staffing recommendations.
- Detailed **Environmental Management Plan (EMP)** and **Environmental Monitoring Plan**.
- Presentation of **Draft DPR** by the team leader at DICL premises.

### 5.4 Submission Timeline

**Draft Report of Detail Project Report (DPR)**: By the end of 42$^{th}$ week from the date of commencement

**Deliverables:** *(2 Hard Copies + 1 Digital Copy in pdf. and dox. format)*

### 5.5 Final Draft Report of DPR

To be submitted within 30 days, after the comments in the Draft Report from DICL and supervision consultant.

**Deliverables:** *Three (3) hard copies + One (1) digital copy (.pdf and .dox format)*

### 5.6 Final Reports

The Consultant shall incorporate all comments and feedback provided by the Client and review consultant submit final reports. Final Report to be submitted within 40 days after the comment of Final Draft Report from DICL and supervision consultant.

**Deliverables:** *Three (3) hard copies + One (1) digital copy (.pdf and .dox format) + original file generated from the software and calculation sheets (e.g. Excel calculation files with live and unlocked formulas etc.)*

*Note: The time in between the comment and review shall not be count in the main time line.*

## 6. Time Duration

The CONSULTANT shall provide the services within 12 months (one year) to complete the DPR.

## 7. Defect Liability

The Consultant shall be fully responsible for the **accuracy and authenticity** of all data, analysis, designs, and deliverables submitted during the project. If any discrepancies, errors, or deficiencies are identified in the field data, calculations, or analyses, the Consultant shall:

- Revisit the site, re-conduct the required investigations, and
- Revise and re-submit the affected sections **at no additional cost** to the Client.

The Consultant shall ensure full **technical correctness** and **completeness** of all information presented.

## 8. Copyright and Confidentiality

- All **data, reports, designs, drawings, maps**, and other outputs produced under this assignment shall become the **exclusive property of DICL** upon submission.
- Any **data or information** provided by DICL to the Consultant shall be treated as **confidential** and shall not be disclosed or reproduced in any form without **prior written consent** from DICL.
- The Consultant shall not publish, present, or use any part of the reports or outputs from this assignment for academic, commercial, or any other purposes without explicit permission from the Client.

## 9. Progress and payment's

"The Consultant shall work out, propose, and design a comprehensive budgetary proposal for the entire project, covering all required infrastructure, facilities, equipment, and services as per the technical and operational requirements."

### 9.1 Monitoring and Payment Schedule

The assignment will be closely monitored through regular progress reviews, milestone-based reporting, and validation of deliverables. The Consultant shall coordinate with the Client at predefined intervals and submit progress reports, draft outputs, and final documentation for review and approval.

Payment to the Consultant shall be made in **four (4) installments**, tied to the successful completion and acceptance of key deliverables, as outlined below:

Table 1: Payment Schedule as per the tasks performed with respect to time schedule:

| S.N. | Task Name | | Payment to be made (%) |
|---|---|---|---|
| A. | **Inception Report** | 1) Assessment of Available Data, Work Schedule for DPR, Presentation & Acceptance. | 25% |
| B. | **Draft Report** | 1) Field Data Collection | 30% |
| | | 2) Draft Report Preparation | |
| | | 3) Draft Report Submission, Presentation. | |
| | | 4) Visit to the Iron ore mines, beneficiation plant and Iron/Steel DRI-EAF Plant (industries) (at least 2/2 sites) in the international level. | |
| C. | **Final Draft Report (after** | 1) Incorporation of Comments & Suggestion on Draft Report. | 25% |

| | | | |
|---|---|---|---|
| | **comment Incorporation)** | 2) Presentation and Project Review meeting. | |
| | | 3) Training programs and workshops. | |
| **D.** | **Final DPR Report (After comment incorporation of Final Draft Report)** | 1) Final comment incorporation of Final Draft Report | 20% |
| | | 2) Final report Presentation and Project Review meeting. | |
| | | 3) Final Report of Study of DPR and Approval. | |

### 9.2 Counterpart Support from Client

To facilitate the smooth and timely execution of the assignment, **DICL** shall provide the following existing documentation and information, in their current available form, to the selected Consulting firm for this assignment.

- Exploration report(s) of the iron ore deposit, including geological maps, sections, and resource estimation;
- Drilling report(s) of the deposit, including boreholes logs, and survey data, and core recovery records;
- Chemical analysis reports of iron ore samples;
- Reports of metallurgical testing, mineral processing studies, sponge iron testing (DRI), petrological and mineralogical analyses;
- Geotechnical information related to the proposed plant sites;
- Available information on environmental conditions and identified environmental issues related to the project area;
- Land, legal, and licensing information, including mining lease/license status, land ownership and acquisition status, and applicable approvals, together with relevant government policies, laws, and regulations;
- Previous feasibility, pre-feasibility, or other study reports related to the project, if any;
- Access to stored drill cores, rock and ore samples, and other physical materials of the project, for inspection and further testing, as may be required.

These materials will serve as foundational inputs for the Consultant's desk study, analysis, and planning.

## 10. Team Composition of Consultant, Task and Responsibility, and Qualification

### 10.1 Requirements

The Consultant shall establish a multi-disciplinary team of qualified professionals for the successful execution of the assignment. The team must include an adequate number of **national and/or international experts** with relevant technical and managerial experience in projects of similar nature and complexity.

**List of Key Experts**

The Consultant shall propose the following categories of key experts, at a minimum, with clearly defined responsibilities and qualifications:

Recommended International and National Technical Staff for DPR Preparation (12-Month Timeline)

Table 2: Key and Non-Key Experts.

| S. N. | Position /Title | Number | Man Month |
|---|---|---|---|
| A. | **Professional Staff International** | | |
| | **Key Personal Expert** | | |
| 1. | Team Leader | 1 | 6.00 |
| 2. | Senior Iron Making Expert | 1 | 5.60 |
| 3. | Senior Steel Making Expert | 1 | 5.60 |
| 4. | Senior Structural Engineer (Industrial) | 1 | 3.80 |
| 5. | Senior Cost Analyst/Economist | 1 | 2.30 |
| 6. | Senior Geologist | 1 | 5.40 |
| 7. | Senior Ore Dressing/ Mineral Beneficiation Expert | 1 | 4.60 |
| 8. | Senior Mining Engineer | 1 | 4.90 |
| 9. | Senior Electro-mechanical Engineer | 1 | 3.00 |
| 10. | Senior Mechanical Engineer | 1 | 3.00 |
| 11. | Tailings Dam Engineer | 1 | 3.00 |
| 12. | Captive Power Plant Engineer | 1 | 2.50 |
| | **Non-Key Expert** | | |
| 1. | Mechanical Engineer-Pyro-processing/SMS and Casting | 1 | 2.70 |
| 2. | Industrial Engineer | 1 | 2.00 |
| 3. | Monitoring Expert | 1 | 2.00 |
| 4. | Instrumentation and Communication Expert | 1 | 2.00 |
| 5. | Waste Management Expert | 1 | 2.60 |
| 6. | Materials Handling/Conveyor-Ropeway Specialist | 1 | 2.00 |
| B. | **Professional Staff National** | | |
| | **Key Personal Expert** | | |

| | | | |
|---|---|---|---|
| **1.** | Deputy Team Leader | 1 | **10.00** |
| **2.** | Senior Geotechnical Engineer | 1 | **8.60** |
| **3.** | Bridge Engineer | 1 | **6.20** |
| **4.** | Environmental Expert | 1 | **4.80** |
| **5.** | Senior Civil Engineer | 1 | **4.70** |
| **6.** | Highway / Transportation Engineer | 1 | **4.70** |
| **7.** | Senior Electrical Engineer | 1 | **3.20** |
| | **Non-Key Expert** | | |
| **1.** | Quantity Surveyor | 2 | **6.80** |
| **2.** | Geologist | 2 | **2.30** |
| **3.** | Hydrologist | 1 | **4.40** |
| **4.** | Architect | 1 | **3.80** |
| **5.** | Sociologist | 1 | **2.80** |
| **6.** | Mine surveyor | 1 | **2.70** |
| **7.** | GIS / Remote Sensing Specialist | 1 | **2.20** |
| **8.** | Mechanical Engineer - Comminution and Beneficiation | 1 | **2.50** |
| **9.** | Structural Engineer - Buildings | 1 | **2.20** |
| **10.** | Piping and Utilities Engineer | 1 | **2.20** |
| **11.** | Water Supply and Sanitation Service Expert | 1 | **2.00** |
| **12.** | Material Manager | 1 | **2.00** |
| **13.** | Bio-engineering / Slope Protection Specialist | 1 | **2.00** |
| **14.** | Power System / Transmission Engineer | 1 | **2.00** |
| **15.** | Effluent and Water Treatment Engineer | 1 | **2.00** |
| **16.** | Occupational Health and Safety Specialist | 1 | **1.80** |
| **17.** | Pavement / Materials Engineer | 1 | **1.60** |
| **18.** | HVAC Engineer | 1 | **1.00** |
| **19.** | Field Helper / Chainman / Camp Worker | 4 | **4.40** |
| **20.** | Draftsman / CAD Operator | 2 | **5.00** |
| **21.** | Surveyor | 2 | **3.10** |
| **22.** | Amin / Land Surveyor | 2 | **2.50** |

***Note:*** *The substitution of Key Experts and non-key experts during Contract execution may be considered only based on the Consultant's written request and due to circumstances outside the reasonable control of the Consultant, including but not limited to death or medical incapacity. In such case, the Consultant shall forthwith provide as a replacement, a person of equivalent or better qualifications and experience, and at the same rate of remuneration.*

## B. Human Resource and their Requirements:

Consultants are advised to make their team composition of required personnel for the DPR work of the Dhaubadi Area, Hupsekot RM, East Nawalparasi, Gandaki Province, Nepal. CV of following staffs must be submitted in EOI document.

Table 3: Minimum of International Key experts for completion of the assignment

| S. N. | Designation | Number | Minimum Requirements |
|---|---|---|---|
| **A. Professional Staff International** | | | |
| | **1. International Key Expert** | | |
| 1. | Team Leader | 1.00 | M.E/M. Tech/M.Sc. or equivalent in Mining Engineering, Geology, Metallurgical, Mineral Processing, Mechanical or Structural Engineering with minimum of 12 years of experience in Mining, mineral and metallurgical projects or relevant field and worked as a Team Leader in similar Field |
| 2. | Senior Iron Making Expert | 1.00 | M.E./M. Tech in Metallurgy or equivalent with minimum of 12 years of experience or B. E/B. Tech in Metallurgy or equivalent with minimum of 15 years of experience in Steel Making. (Preferably from lean iron ore) |
| 3. | Senior Steel Making Expert | 1.00 | M.E./M. Tech in Metallurgy or equivalent with minimum 12 years of experience or B.E/B. Tech in Metallurgy or equivalent with minimum of 15 years of experience in iron making from iron ore. |
| 4. | Senior Structural Engineer (Industrial) | 1.00 | M.E/M. Tech in Structural Engineering with minimum 12 years of experience, including structural design of heavy industrial buildings for steel, metallurgical or cement plants: crane-supporting structures, dynamic and high temperature structures, and seismic design to NBC 105/IS 1893 or equivalent. |

| | | | |
|---|---|---|---|
| 5. | Senior Cost Analyst/Economist | 1.00 | MBA (Finance) or Masters in Economics or CA or equivalent with minimum 12 years of experience of project/plant cost analysis and Cost analysis of mineral processing and plant operation. |
| 6. | Senior Geologist | 1.00 | Master's Degree in Geology/Engineering Geology with minimum 12 years of experience in Geological survey, exploration of economic minerals deposit, and project establishment and execution including reserve estimation for metallic deposit. |
| 7. | Senior Ore Dressing/Mineral Beneficiation Expert | 1.00 | B.E./B. Tech in Ore Dressing/Mineral Beneficiation/Mineral Processing/Metallurgical Engineering or equivalent with minimum 15 years of experience in relevant field including ore dressing/ beneficiation from low grade iron ore |
| 8. | Senior Mining Engineer | 1.00 | B.E./B.Tech. in Mining Engineering or equivalent with minimum 15 years of experience in related field including in Iron ore mining. |
| 9. | Senior Electro-Mechanical Engineer | 1.00 | ME or M. Tech in Electrical Engineering or Electro-mechanical Engineering or equivalent with minimum 12 years of experience or B.E./B. Tech in Electrical Engineering or Electro-mechanical Engineering or equivalent with minimum of 15 years' experience in establishment and operation of mine site and plant operations and Conversant with electro mechanical features of mining and plant operation equipment. |
| 10. | Senior Mechanical Engineer | 1.00 | M.E./M. Tech in Mechanical Engineering with 12 years of experience or BE/B. Tech in Mechanical Engineering with 15 years of experience mechanical design of metallurgical or mineral-processing plants, including equipment specification, layout and interface management across multiple packages (crushing, grinding, kilns, EAF, casting, material handling). |

| | | | |
|---|---|---|---|
| 11. | Tailings Dam Engineer | 1.00 | M.E./M. Tech in Geotechnical or Dam Engineering with Minimum 12 years, including design of at least two tailings storage facilities (valley-fill or upstream/downstream raise), seepage and stability analysis under seismic loading, and dam-break assessment; familiarity with the Global Industry Standard on Tailings Management. |
| 12. | Captive Power Plant Engineer | 1.00 | M.E./M Tech in Electrical or Mechanical Engineering with minimum 12 years in captive or industrial power generation, including waste-heat-recovery boilers and fluidized-bed (AFBC/CFBC) power plants of 10 MW or larger, and integration with plant load and grid. |
| | **2. International Non-Key Expert** | | |
| 1. | Mechanical Engineer-Pyro-processing/SMS and Casting | 1.00 | M.E./MTech in Mechanical or Metallurgical Engineering with minimum 7 years (ToR minimum for non-key experts), including mechanical design of rotary kilns, grate-kilns, coolers, EAF/ladle-furnace mechanicals or continuous casting machines. |
| 2. | Industrial Engineer | 1.00 | BE/ BTech in Industrial Engineering or Chemical Engineering or Mechanical or Electrical engineering with minimum 7 years' experience in any engineering consulting organization |
| 3. | Monitoring Expert | 1.00 | BE/ BTech in any discipline engineering with minimum 7 years' experience in handling schedule in Primavera or MS Project or other relevant software. |
| 4. | Instrumentation and Communication Expert | 1.00 | BE/ BTech in Instrumentation or Electronics or Electrical or engineering Electronics & Communication engineering with minimum 7 years' experience in any engineering consulting organization |
| 5. | Waste Management Expert | 1.00 | BE/ BTech in Industrial Engineering or Chemical Engineering with minimum 7 years' experience. |

| | | | |
|---|---|---|---|
| 6. | Material Handling/Conveyor-Ropeway Specialist | 1.00 | M.E./MTech in Mechanical Engineering with minimum 7 years, including design of bulk material handling systems, belt or pipe conveyors, stacker-reclaimers and aerial ropeways, for mines or process plants, preferably in mountainous terrain. |
| **B. Professional Staff National** | | | |
| | **1. National Key Expert** | | |
| 1. | Deputy Team Leader | 1.00 | Master Degree in Geology/Engineering Geology/Geotechnical Engineering /Mining Engineering/Metallurgical Engineering with minimum 12 years of experience in professional infrastructure development work, including coordination of multi-disciplinary studies and liaison with Government of Nepal agencies; experience on mining or industrial projects in Nepal preferred. |
| 2. | Senior Geotechnical Engineer | 1.00 | M.E./M.Sc. in Geotechnical Engineering with minimum 10 years, including site investigation, slope stability and foundation design in the Himalayan or similar type of region, pit-slope or embankment design and interpretation of borehole and laboratory data. |
| 3. | Bridge Engineer | 1.00 | M.E./M.Sc. in Structural or Bridge Engineering with minimum 10 years of experience, including detailed design of at least three major bridges (span above 25 m, Nepal Bridge Standards 2067) to IRC/AASHTO loading, with hydraulic and scour assessment. |
| 4. | Environmental Expert | 1.00 | Master's Degree in Environmental Science or Environmental Engineering with minimum 10 years of experience including preparation of EIA/IEE reports under the Environment Protection Act 2076 and Rules 2077, environmental risk and impact assessment, and knowledge of conservation rules and socio-economic conditions. |
| 5. | Senior Civil Engineer | 1.00 | M.E./ M.Sc. in Civil Engineering with minimum 10 years in design, and design and construction supervision, including site development, grading, drainage and |

| | | | |
|---|---|---|---|
| | | | civil works for industrial or infrastructure projects. |
| 6. | Highway/Transportation Engineer | 1.00 | M.E./M.Sc. in Highway or Transportation Engineering with minimum 10 years, including detailed survey and design of hill roads in Nepal to Nepal Road Standard 2070, geometric and pavement design, and preparation of DPRs for the Department of Roads or equivalent. |
| 7. | Senior Electrical Engineer | 1.00 | M.E./M.Sc. in Electrical Engineering with minimum 10 years of experience including design of HV/MV/LV electrical supply and distribution for industrial plants, buildings and external/street lighting, and substation and switchgear specification. |

***Note:*** *The substitution of Key Experts and non-key experts during Contract execution may be considered only based on the Consultant's written request and due to circumstances outside the reasonable control of the Consultant, including but not limited to death or medical incapacity. In such case, the Consultant shall forthwith provide as a replacement, a person of equivalent or better qualifications and experience, and at the same rate of remuneration.*

## 11. Content of Detail Project Report (DPR)

The Consultant shall be responsible for the preparation and submission of the Final Draft Detail Project Report (DPR) based on all investigations, analysis, and designs conducted during the courses of the assignment. The Draft DPR shall be reviewed jointly with the client and a final DPR shall be submitted incorporating Client's feedback.

The DPR shall be structured in the form of volumes and chapters as described below:

| S. N. | Volume | Chapter | |
|---|---|---|---|
| 1. | Volume I – Executive Summary | Executive Summary of the entire project | |
| 2. | Volume II – Market Study | Detailed analysis of domestic and international steel market dynamics. | |
| 3. | Volume III – Mining and Geology | To be elaborated | |
| 4. | Volume IV - Beneficiation | To be elaborated | |
| 5. | Volume V – Plant Concept and Production Facilities | 5.1 | Introduction |
| | | 5.2 | Process Route and Plant Configuration |
| | | 5.3 | Plant Capacity and Product-Mix |

| S. N. | Volume | Chapter | |
|---|---|---|---|
| | | 5.4 | Raw Materials |
| | | 5.5 | Plant Site and Detail Layout |
| | | 5.6 | Material Handling with various options |
| | | 5.7 | Iron Making (DRI route) |
| | | 5.8 | Agglomeration Strategy – Pellet Plant |
| | | 5.9 | Electric Arc Furnace |
| | | 5.10 | Steel melt Shop |
| 6. | Volume VI – Utilities and Other Facilities | 6.1 | Power Distribution System |
| | | 6.2 | Plant Communication System |
| | | 6.3 | Plant Automation System |
| | | 6.4 | Water System |
| | | 6.5 | Fuel System |
| | | 6.6 | WHRB based Captive power plant utilizing waste gas from DR plant |
| | | 6.7 | Environmental Pollution Control Measures |
| | | 6.8 | Other Facilities |
| 7. | Volume VII – Plant Construction and Project Schedule | 7.1 | Construction Infrastructure |
| | | 7.2 | Project Schedule |
| 8. | Volume VIII – Cost Estimates | Estimate of Capital Costs and Operating Costs | |
| 9. | Volume IX - Environmental and Social Management Plan | | |
| 10. | Volume X – Financial and Economic Analysis | | |
| 11. | Volume XI – Drawings | Drawings, maps, design layouts, process flow diagrams, utility schematics, test reports etc. referenced throughout the volume II to volume VII | |

- Additional Notes
  - All volumes shall be submitted in both digital and hard copy formats, with editable source files provided to the Client.
  - The final DPR shall be suitable for submission to bank, government agencies, and environmental authorities for investment, permitting, and project implementation purposes.

## 11.1 Technical Specification Development

### 11.1.1 Preparation of Technical Specifications

Following the finalization of the DPR in consultation with the CLIENT, CONSULTANT shall prepare the technical specifications for the following main production units and major auxiliary units, viz.

- Electric Arc Furnace, including auxiliaries
- Direct Reduction Iron (DRI) Plant
- Pellet plant with accessories viz. grinding & crushing unit
- SMS, including secondary metallurgy units
- WHRB based Captive power plant utilizing waste gas from DR plant

### 11.1.2 Scope of Technical Specifications

The technical specifications prepared for the above units shall include:

a) Scope of work, technical specifications with BOQ and drawings (wherever required)
b) Scope matrix, battery limits & take over points
c) Technical specifications for bought-out items and make list (in consultation with the CLIENT)
d) L1 schedule and drawings & documents to be submitted by vendor with tender and during engineering

### 11.1.3 Finalization of Specifications

a) CONSULTANT shall submit the draft technical specifications for Client's review
b) Upon receiving a single round consolidated comment, Consultant shall finalize and submit the technical specifications.
c) The activity is to treated as one-time task and does not include
    - Furthers update
    - Procurement support
    - Vendor evaluation
    - Construction or commissioning support
    - Project Management
    - Review of Vendor drawings

# 12. Review CONSULTANT for this DPR.

The Consultant shall propose at least three review consulting companies/organizations/firms to the Client (DICL). The list of experts is given below in Table 2, in which first six experts must be International and the seventh expert can be national. The Client will select and approve one of the proposed review consultants, who must have prior experience in similar projects.

Table 4: List of Key Expert of Review Consultant

| S. N. | Position/Title | No. of Person | Total Man month requirement |
|---|---|---|---|
| 1. | Senior Iron Making Expert/Senior Ore Dressing (International) | 1 | 1.5 |
| 2. | Senior Cost Analyst (International) | 1 | 1.5 |
| 3. | Senior Geologist (International) | 1 | 1.5 |
| 4. | Senior Structural Engineer Industrial (International) | 1 | 1.5 |
| 5. | Senior Mining Engineer (International) | 1 | 1.5 |
| 6. | Senior Mechanical Engineer (International) | 1 | 1.5 |
| 7. | Senior Civil Engineer (National Expert) | 1 | 1.5 |

The proposal and selection of review consulting companies/organizations/firms shall be done prior to one month of submission of draft report.

# ANNEX-1 Consultant shall be consider following but not limited

## I. Open Pit Mining of Hematite Ore

- Mine planning based on various findings (including additional data generated by the DPR consultant and estimation.
- Mine plant layout with each process operation detail
- Detail of plant and machineries requirements for expected output
- Layout should show size and type of support service unites like Administration, store, workshop, ore yard, ore, overburden, tailings storage yards.
- Each plant, immovable machinery installation and support service erection to be supported by elaborative civil drawings.
- Estimation of stripping ratio (i.e. overburden/ore)
- Activity wise resource planning with respect to capital items, auxiliary item, consumables.
- Human resource planning for each activity required at mining plant (numbers and competency)
- Total cost estimation for mine plant installation and operation with break-down unit cost.
- Electricity and water estimation and supply options
- Quantity estimation and management plan for mine by products (waste rocks; tailings and mine water) with various resources requirements
- Equipment's requirements with respect to depth, diameter for drilling holes for the purpose of blasting
- Quantity, type and quality of explosive for blasting
- Supply chain of explosives, associated consent, procurement, safe storage and management with material accounting.
- Vertical or inclined blast holes.
- Electric or non-electrical detonator
- Blasting Protocol for pre blasting, post blasting precautions.
- Indicators of blasting completion
- Estimation of Geotechnical hazards associated with unplanned rock slope movement and rock falls to avoid various accident and facilities
- Active protection methods for above mentioned **"unplanned rock slope movement"** and **"rock fall"**
- Preparation of "mine safety Protocol" taking into ILO requirements (No 176 and No 183) and National occupational Health and safety requirement.
- Detail training module for mine safety

## II. Mine to crusher site ore transportation

- Numbers of transport vehicles (dumpers) movement per unit time.
- Type and capacity of transport vehicles for ore haulage
- Type and size requirement of roads for ore haulage
- Run of mine (ROM) ore loading method (electrical shovels, hydraulic excavator or front-end loader) at mine site.
- Alternatively, feasibility of conveyor belt from mine site to crusher site taking into account of cost factor
- Cost of road construction/ Upgradation for ore haulage from mine site to crusher site

## III. Feeder to Crusher Hopper

- Type (Vibratory); size, double screen or single screen feeder.
- Equipment detail with motor type and capacity
- Feeder layout supported by civil design for foundation and housing
- Process and control parameters
- Cost estimation of feeder and its installation

## IV. Hematite ore crushing

- Numbers of crushers (one stage, two stage or three stages)
- Type of crushers (Jaw crusher, cone crusher)
- Reduction ration (output) of each stage
- Crusher plant layout with process flow chart
- Engineering design/civil design for crusher installation and housing
- Operation parameters and control mechanism
- Risks identification associated with crusher operation
- Pollution burden and its quantification and mitigation measures.
- Risks associated with "start ups" and "shut down" (planed and unplanned)
- Safety Protocol for crusher plant operation
- Cost estimation of crusher plant with break down unit cost.

## V. Grinding of Crushed Hematite Ore

- Necessity of grinding
- Input and output of grinding (size requirements)
- Type of grinding – Dry or wet
- If wet grinding, type of demoisturization
- Ball Mill type and capacity
- Grinding media type and capacity
- Grinding media type, size and composition
- Ball mill plant layout with accessary description
- Operational parameters and control mechanism
- Engineering/ Civil drawings for installation and housing
- Quantification of pollution burden and management options
- Cost estimation of Ball mill plant with break- down unit cost
- Provision of reduction roasting., if any

## VI. Magnetic Separation of Hematite Ore

- Justification of (Magnetic Separation + Flotation) route over Gravity Separation.
- Types of Magnetic Separators (Wet drum/ Three disc/ High intensity/Plate type/ High Gradient) with justification.
- Input, Output quality requirements.
- Plants layout with equipment requirements.
- Engineering drawing/Civil drawing for plants installation and housing.
- Separate list of accessories with specification.
- Operational parameters and control mechanisms.
- Process byproducts and managements options.
- Pollution Burdens (to air, to land and to water) estimation and mitigations measures.
- Cost estimation of magnetic separators plants with breakdown units cost including byproducts management and pollution mitigation.

## VII. Dewatering of Magnetically Separated Ore

- Dewatering facilities with plant layout.
- Civil drawing for Dewatering unit installation and housing.
- Operation parameters and control mechanism.
- Byproduct and management options
- Pollutions burden and mitigations measures.
- Cost estimation with break-down unit cost.
- Need identification for reduction roasting.

## VIII. Froth Flotation

- Justifications of Forth Flotation Process.
- Type of Flotation Process (Direct or Reverse).
- Layout of Flotation plants with Tank design supported by various equipment with specification.
- Civil drawing for flotation plants and associated facilities.
- Quantifications of various inputs (water, collectors, frothers, depressants, modifiers, and air)
- Quantity/Specifications of various input.
- Quantity/Specifications of expected output.
- Process parameters and control mechanism.
- Quantification of byproduct and managements options.
- Quantifications of pollution burden with mitigation measures.
- Cost estimation of Forth Flotation plants with breakdown unit cost including byproduct managements and pollution mitigation.

## IX. Pelletization/ Granulation of concentrated ore.

- Plants/equipment for spherical pellets preparation from concentrated Hematite ore.
- Underlaying principle pelletization process operation.
- Type of pellerizer-Disc pelletizer, Double Roller Granulators, Balling Drum.
- Plants layout with accessories.
- Civil drawing for installation.
- Feed calculations for Green Pellets productions.
- Operational parameters and control mechanism.
- Heat hardening of green pellets (induration) by high temperature firing followed by cooling.
- Possibility of cold- bonding techniques utilizing iron ore
- Cost estimation of Pelletization and high temperature firing plant with break-down unit cost.
- Estimation of byproducts and pollution burden and management option.

## X. Direct Reduction of Hematite Ore Pellets (Spong Iron Production)

- Nos. of DR units in plant.
- Identification of direct reduction process-tunnel furnace process; SL/RN process; MIDREX process; rotary kiln depending upon ore composition, production volume depending upon solid or gaseous reductant.
- Layout of direct reduction plant with accessories.
- Needed support services at DRI plant site.

- Calculation of raw mix (iron ore, limestone /dolomite; coal).
- It is a calcination process which produces a large quantity of carbon dioxide.
- Quantification of emitted carbon dioxide for which mitigation measures to be addressed.
- Civil drawings for plant installation and other support services.
- Cost estimation of direct reduction plant (capital cost + operational cost) with break down unit cost.
- Estimation of by products and pollution burden and management option.

**XI. Steel Making in Electric Arc Furnace**

- Identification of appropriate type of **Electric Arc Furnace** for defined feed and expected output.
- Plant layout with necessary machinery, accessories and support services.
- Engineering design /civil drawing for plat installation and construction.
- Feed batching (DICL pellets + imported pellets + scraps + others).
- Operational parameters and control mechanism.
- Quantification of slag and management options storage sales/disposal.
- Pollution burden and mitigation measures.
- Cost estimation (capital + operational) with break down unit cost.

**XII. Ladle Furnace (LF)**

- Numbers of Ladle Furnaces and Slag Pot/ Slag Pit.
- Layout for Ladle Furnaces (LF) and Slag pots.
- Ladle Furnace operational parameters and control mechanism.
- Type and number of cranes required for ladle and Slag pot transfer.
- Flow Chart of Ladle process for molten metal transfer.
- Design of Ladle with provision for molten steel receipt, stirring, ingredients addition, transfer to continuous casting, slag tapping and treatment.
- Engineering drawing / Civil drawing for Ladle Furnace housing of Ladle, slag pot, transportation Crane.
- Resources estimation for installation and operation.
- Human Resources estimation for Ladle Furnace operation including Crane operation.
- It is a very important stage of billet Quality control and hence, operation parameters and control mechanisms to be defined.
- Process by-products and management options.
- Pollution burden and management options.
- Cost estimation of Ladle Furnace including transport cranes and craneways.

**XIII. Continuous Billet casting in Continuous Casting Machine (CCM)**

- Anticipated billets are 130 mm and 150 mm, square billet size, length extending up to 12 meters.
- Alternate shape and size to be worked out subject to economic justification, technological factors, financial viability/feasibility.
- **End product to be ascertained based on ore's quality and quantity, National and international legislations, available market (national and also international).**

- **End products to be ascertained by generating primary data necessary for decision.**
- Other factors for end products ascertainments are risk associated with environmental pollution and mitigation. by-products management.
- Continuous Casting Machine (CCM) to be designed taking into consideration various activities including molten steel feeding, stirring, billet discharge, crystallization, stretching, and cooling.
- CCM plant layout with necessary support services.
- Various resources estimation including human resources (number of competence).
- Listing of related equipment with specifications.
- Civil drawings/Engineering drawings plant installation and housing and support service structures supported by BOQ.
- Operational parameters and control mechanisms.
- Process by-products and management options.
- Pollution burden and management options.
- Cost estimation of Continuous Casting Machine (CCM) with a breakdown of unit cost.

**XIV. Quality Control and Laboratory**

- Identification of number and type of Quality Control Laboratory **based on each unit operation's quality plan.**
- Two types of laboratories can be emphasized, i.e., **Chemical Laboratory and Metallurgical Laboratory.**
- Needs of additional laboratories to be identified.
- For each laboratory test equipment list to be prepared along with the list of accessories.
- For each laboratory consumables to be identified, quantified, and listed.
- Estimation of pollution burden and management options.
- For each laboratory listing of RM/CRM (if needed) equipment wise.
- Location each type of laboratory to be identified.
- Resource estimation (human resources) numbers and competency.
- Layout for each laboratory with necessary support services and amenities.
- Engineering design / Civil drawing for laboratories, support services with BOQ.
- Cost estimation of laboratories with breakdown unit cost.

## D. Evaluation of Consultant's EOI Application

Consultant's EOI application which meets the eligibility criteria will be ranked on the basis of the Ranking Criteria.

| **Dhaubadi Iron Company Limited**<br>**Lainchaur Kathmandu**<br>**F.Y.:2083/084** | | | |
|---|---|---|---|
| **PREPARATION OF DETAILED PROJECT REPORT (DPR) FOR GREENFIELD PROJECT OF DHAUBADI IRON COMPANY LIMITED, NEPAL (DICL)** | | | |
| **Evaluation sheets** | | | |
| **EOI: DICL/ICB/EOI/03-2026/27** | | | |
| **Firm Name:** | | | |
| **Eligibility Criteria** | | | |
| **i) Eligibility & Completeness Test** | **Compliance** | | |
| | **Lead** | **JV1** | **JV2** |
| Copy of Registration of the company/firm | | | |
| VAT/PAN Registration ***(for National consulting firm only)*** | | | |
| Tax Clearance Certificate 2081***/82 (for National consulting firm only)***<br>In case of a natural person or firm/institution/company which is already declared blacklisted and ineligible by the GoN, any other new or existing firm/institution/company owned partially or fully by such Natural person or Owner or Board of director of blacklisted firm/institution/company; shall not be eligible consultant. | | | |
| EOI Form 1: Letter of Application | | | |
| EOI Form 2: Applicant's Information Form | | | |
| EOI Form 3: Experience (3(A) and 3(B)) | | | |
| EOI Form 4: Capacity | | | |
| EOI Form 5: Qualification of Key Experts | | | |
| **Summary of Evaluation Criteria** | | | |
| **EOI Evaluation Criteria** | **Marking in %** | **Score** | **Score Obtained** |
| **A. Qualification** | 40% | | |
| *Qualification of Key Experts* | | | |
| *Experience of Key Experts* | | | |
| **B. Experience** | 50% | | |
| *General of consulting firm* | | | |
| *Specific experience of consulting firm within last 7 years.* | | | |
| *Similar Geographical experience of consulting firm* | | | |
| **C. Capacity** | 10% | | |
| *Financial Capacity* | | | |
| *Infrastructure/equipment/ Software related to the proposed assignment* | | | |
| **Total** | | | |

| A. Qualifications and Experience of the key Personal for the Assignment | | |
|---|---|---|
| **S.N.** | **Professional Staff International** | **Marks** |
| **Key Experts:** | | **40 Marks** |
| | Professional Staff International | |
| 1 | **Team Leader** | 4 |
| | **Qualification:** M.E./M. Tech/MSc. or equivalent in Mining Engineering, Geology, Metallurgical, Mineral Processing, Mechanical or Structural Engineering (greater than or equal to 12 years) | |
| | **Experience** | |
| | Mining metallic minerals ore mines, metallurgical projects and Iron /Steel plant or relevant field. | |
| | Worked as Team Leader in similar field | |
| 2 | **Senior Iron Making Expert** | 3 |
| | **Qualification:** M.E./M. Tech in Metallurgy or equivalent field (greater than or equal to 12 years) or B.E/B. Tech in Metallurgy or equivalent field (greater than or equal to 15 years) | |
| | **Experience** | |
| | Experience in iron making from iron ore. (Preferably from lean iron ore) | |
| | Preparation of feasibility report/DPRs for metallic mineral Projects. | |
| 3 | **Senior Steel Making Expert** | 3 |
| | **Qualification:** M.E./M. Tech in Metallurgy or equivalent field (greater than or equal to 12 years) or B.E/B. Tech in Metallurgy or equivalent field (greater than or equal to 15 years) | |
| | **Experience** | |
| | Experience in Steel Making (Preferably from lean iron ore) | |
| | Preparation of feasibility report/DPRs for metallic mineral Projects. | |
| 4 | **Senior Structural Engineer (Industrial)** | 3 |
| | Qualification: ME or M. Tech in Structural Engineering or equivalent field (greater than or equal to 12 years) | |
| | **Experiences** | |
| | Experience in the industrial planning and design of heavy industrial buildings | |
| | Preparation of feasibility report/DPRs for mineral Projects. | |
| 5 | **Senior Cost Analyst** | 2 |
| | **Qualification:** MBA (Finance) or CA or Master's in Economics or equivalent field (greater than or equal to 12 years) | |
| | **Experience** | |
| | Experience in the project and plant cost analysis, including capital and operating cost estimation, financial modelling (IRR, NPV, DSCR, sensitivity) and cost analysis of mineral-processing and plant operations for a bankable report. | |
| | Preparation of feasibility report/DPRs for metallic mineral Projects. | |
| 6 | **Senior Geologist** | 3 |
| | **Qualification:** Master Degree in Master's Degree in Geology or Engineering Geology (greater than or equal to 12 years) | |

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| | | |
|---|---|---|
| | **Experiences** | |
| | Geological survey, metallic minerals exploration, and project establishment and execution, including resource and reserve estimation for iron ore or other metallic deposits. | |
| | Preparation of feasibility report/DPRs for metallic mineral Projects. | |
| 7 | **Sr. Ore Dressing/ Mineral Beneficiation Expert** | 2 |
| | **Qualification:** M.E./M. Tech in Ore Dressing/Mineral Beneficiation/Mineral Processing/Metallurgical Engineering or equivalent field (greater than or equal to 12 years) or B.E./B. Tech in Ore Dressing/Mineral Beneficiation/Mineral Processing/Metallurgical Engineering or equivalent field (greater than or equal to 15 years) | |
| | **Experience** | |
| | Experience of ore dressing/ beneficiation from iron ore including magnetic separation and forth floatation etc. | |
| | Preparation of feasibility report/DPRs for metallic mineral Projects. | |
| 8 | **Senior Mining Engineer** | 2 |
| | **Qualification:** M.E/M. Tech. in Mining Engineering or equivalent field (greater than or equal to 12 years) or B.E/B Tech. in Mining Engineering or equivalent field (greater than or equal to 15 years) | |
| | **Experience** | |
| | Experience in iron ore mining or other metallic minerals, including open-pit mine planning, pit optimization, preparation of mining scheme, mine scheduling and waste-dump design in hilly terrain, using recognized mine-planning software. | |
| | Preparation of feasibility report/DPRs for metallic mineral Projects. | |
| 9 | **Sr. Electro-Mechanical Engineer** | 2 |
| | **Qualification:** M.E. or M. Tech in Electro-Mechanical Engineering or equivalent field (greater than or equal to 12 years) or B.E./B. Tech in Electro-mechanical Engineering or equivalent field (greater than or equal to 15 years) | |
| | **Experience** | |
| | Experience in establishment and operation of mine-site and plant electro-mechanical systems; conversant with electrical and mechanical features of mining and process equipment. | |
| | Preparation of feasibility report/DPRs for metallic mineral Projects. | |
| 10 | **Sr. Mechanical Engineer** | 2 |
| | **Qualification:** ME or M. Tech in Mechanical Engineering or equivalent field (greater than or equal to 12 years) or B.E./B. Tech in Mechanical Engineering or equivalent field (greater than or equal to 15 years) | |
| | **Experience** | |
| | Experience in mechanical design of metallurgical or mineral-processing plants, iron/ steel plant including equipment specification, layout and interface management across multiple packages. | |
| | Preparation of feasibility report/DPRs for metallic mineral Projects. | |
| 11 | **Tailings Dam Engineer** | 2 |
| | Qualification: M.E./M. Tech in Geotechnical or Dam Engineering (greater than or equal to 12 years) | |
| | **Experience** | |

| | | |
|---|---|---|
| | Experience in design of at least two tailings storage facilities (valley-fill or upstream/downstream raise), seepage and stability analysis under seismic loading, and dam-break assessment; familiarity with the Global Industry Standard on Tailings Management. | |
| | Preparation of feasibility report/DPRs for metallic mineral Projects. | |
| 12 | **Captive Power Plant Engineer** | 2 |
| | Qualification: M.E./M. Tech in Electrical or Mechanical Engineering (greater than or equal to 12 years) or B.E./B. Tech in Electrical or Mechanical Engineering (greater than or equal to 15 years) | |
| | **Experience** | |
| | Experience in captive or industrial power generation, including waste-heat-recovery boilers and fluidized-bed (AFBC/CFBC) power plants of 10 MW or larger, and integration with plant load and grid. | |
| | Preparation of feasibility report/DPRs for metallic mineral Projects. | |
| **Professional Staff National** | | |
| 13 | **Deputy Team Leader** | 4 |
| | Qualification: Master Degree in Geology/Mining Engineering/Metallurgical Engineering field (greater than or equal to 12 years) | |
| | **Experience** | |
| | Experienced in the metal mining related sector, knowledge of Iron ore, iron and steel making, with strong leadership and management abilities, excellent top-down and bottom-up communication skills, proven experience in working with local communities and local governments, effective stakeholder coordination among DICL, federal, provincial, and local governments, and proficiency in both Nepali and English languages. | |
| | Preparation of feasibility report/DPRs for any mines and industry Projects. | |
| 14 | **Senior Geotechnical Engineer** | 1 |
| | Qualification: ME or M. Tech. in Geotechnical Engineering or equivalent field (greater than or equal to 12 years) | |
| | **Experience** | |
| | Experience in site investigation, slope stability and foundation design in the Himalayan region, pit-slope or embankment design, and interpretation of borehole and laboratory data. | |
| | Preparation of feasibility report/DPRs for any mines and industry Projects. | |
| 15 | **Bridge Engineer** | 1 |
| | Qualification: ME or M. Tech. in Structural or Bridge Engineering or equivalent field (greater than or equal to 12 years) | |
| | **Experience** | |
| | Experience in detailed design of at least three major bridges (span above 25 m, Nepal Bridge Standards 2067) to IRC/AASHTO loading, with hydraulic and scour assessment. | |
| | Preparation of feasibility report/DPRs for any mines and industry Projects. | |
| 16 | **Environmental Expert** | 1 |
| | Qualification: ME or M.Sc. in Environmental Science or Environmental Engineering (greater than or equal to 12 years) | |
| | **Experience** | |



| | | |
|---|---|---|
| | Experience in preparation of EIA/IEE reports under the Environment Protection Act 2076 and Rules 2077, environmental risk and impact assessment, and knowledge of conservation rules and socio-economic conditions. | |
| | Preparation of feasibility report/DPRs for any mines and industry Projects. | |
| 17 | **Senior Civil Engineer** | 1 |
| | Qualification: M.E. in Civil Engineering or equivalent field (Greater than or equal to 12 years) or B.E. in Civil Engineering or equivalent field (Greater than or equal to 15 years) | |
| | **Experience** | |
| | Experience in design, and construction supervision, including site development, grading, drainage and civil works for industrial or infrastructure projects. | |
| | Preparation of feasibility report/DPRs for any mines and industry Projects. | |
| 18 | **Highway / Transportation Engineer** | 1 |
| | Qualification: M.E./MSc. in Highway or Transportation Engineering or equivalent field (Greater than or equal to 12 years) | |
| | Experience in detailed survey and design of hill roads in Nepal to Nepal Road Standard 2070, geometric and pavement design, and preparation of DPRs for the Department of Roads or equivalent. | |
| | Preparation of feasibility report/DPRs for any mines and industry Projects. | |
| 19 | **Senior Electrical Engineer** | 1 |
| | Qualification: M.E./M.Sc. in Electrical Engineering or equivalent field (Greater than or equal to 12 years) or B.E./B.Sc. in Electrical Engineering or equivalent field (Greater than or equal to 15 years) | |
| | **Experience** | |
| | Experience in design of HV/MV/LV electrical supply and distribution for industrial plants, buildings and external/street lighting, and substation and switchgear specification. | |
| | Preparation of feasibility report/DPRs for any mines and industry Projects. | |
| | **Total** | **40** |



| B. Experience of the Firm | | |
|---|---|---|
| **S.N.** | **Firm Experience** | **50 Marks** |
| 1 | General experience of Consulting firm minimum 7 years in the Consulting Business. Either on their own or as a member of any Joint Venture or Consortium | 10 Marks |
| | 10 marks for field greater than or equal to 17 years of experience | |
| | Less than 7 years marks will not be allotted | |
| 2 | **Specific experience of the Consulting firm** | |
| 2.1 | Work Experience of the firm in Detailed project report or an equivalent level of detailing for integrated iron/steel plant from iron ore in the last 7 years. | 10 Marks |
| | 10 marks for ≥ 5 project completed<br>< 2 projects marks will not be allotted | |
| 2.2 | Work Experience of the firm in Techno-Economic Feasibility Study or equivalent level of detailing for integrated metallic ore to plant in the last 7 years. | 10 Marks |
| | 10 marks for ≥ 5 project completed<br>< 2 projects marks will not be allotted | |
| 2.3 | Work Experience of the firm in DPR or TEFS or equivalent level of iron ore processing or beneficiation plant last 7 Years. | 5 Marks |
| | 5 marks for ≥ 5 project completed | |
| 2.4 | Work Experience of the firm in DPR or TEFS or equivalent level of open-pit mining along with drilling and blasting in any metallic project in last 7 Years. | 5 Marks |
| | 5 marks for ≥ 5 project completed | |
| 2.5 | Work Experience of the firm in DPR or TFES in Iron-Steel-Billet making through DRI Plant in last 7 Years. | 5 Marks |
| | 5 marks for ≥ 5 project completed | |
| 2.6 | Work Experience of the firm in Mines development and ore handling or equivalent level any metallic or non-metallic projects in last 7 Years. | 2.5 Marks |
| | 2.5 marks for ≥ 2 project completed | |
| 3 | **Work Experience in Feasibility Study or DPR in Metallic/Non-metallic integrated mines and plant project in Himalayan region in last 7 Years:** | 2.5 Marks |
| | 2.5 marks for ≥ 2 project completed | |

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| C. Capacity of the Firm | | | |
|---|---|---|---|
| **S.N.** | **Capacity** | | **10 Marks** |
| I | The average annual turnover of the international firm from Consulting Business for the last three financial years immediately preceding the financial year on which the tender is issued, shall not be less than US Dollar 3.5 million USD (In case of JV, the cumulative of average annual turnover of JV will be considered) | | 6 Marks |
| | **Single Firm** | **JV Firm** | |
| | Range | Range | |
| | 8 marks greater than or equal US Dollar 3.00 million | 8 marks US Dollar 3.5 million | |
| II | Infrastructure, equipment, and software related to the proposed assignment. | | 4 Marks |

Note: In case a corruption case is being filed to court against the Natural Person or Board of Directors of the firm/institution/company or any partner of the JV, such Natural Person or Board of Directors of the firm/institution/company or any partner of JV such firm's or JV EoI shall be excluded from the evaluation if the public entity receives instructions from the Government of Nepal.

**Note:**

a. In Case, a corruption case is being filed to Court against the Natural Person or Board of Director of the firm/institution /company or any partner of JV, such Natural Person or Board of Director of the firm/institution /company or any partner of JV such firm's or JV EoI shall be excluded from the evaluation, if public entity receives instruction from Government of Nepal.

b. In case any of the document submitted as part of the bid for the purpose of qualification is in any language other than English, the same need to be translated by a registered translator and notarized by the notary public of bidder's country or apostilled by the embassy or consular general of Nepal in bidder's country.



## E. EOI Forms & Formats

Form 1. Letter of Application

Form 2. Applicant's information

Form 3. Experience *(General, Specific and Geographical)*

Form 4. Capacity

Form 5. Qualification of Key Experts



# 1. Letter of Application

*(Letterhead paper of the Applicant or partner responsible for a joint venture, including full postal address, telephone no., fax and email address)*

Date: .....

To,

Full Name of Client: _____

Full Address of Client: _____

Telephone No.: _____

Fax No.: _____

Email Address: _____

Sir/Madam,

1. Being duly authorized to represent and act on behalf of (hereinafter "the Applicant"), and having reviewed and fully understood all the short-listing information provided, the undersigned hereby apply to be short-listed by ***[Insert name** of Client)* as Consultant for ***{Insert brief description** of Work/Services}*.

2. Attached to this letter are photocopies of original documents defining:

    a) the Applicant's legal status;

    b) the principal place of business;

3. ***[Insert name of Client]*** and its authorized representatives are hereby authorized to verify the statements, documents, and information submitted in connection with this application. This Letter of Application will also serve as authorization to any individual or authorized representative of any institution referred to in the supporting information, to provide such information deemed necessary and requested by yourselves to verify statements and information provided in this application, or with regard to the resources, experience, and competence of the Applicant.

4. ***[Insert name** of Client)* and its authorized representatives are authorized to contact any of the signatories to this letter for any further information.[5]

5. All further communication concerning this Application should be addressed to the following person,

    *[Person]*

    *[Company]*

    *[Address]*

    *[Phone, Fax, Email]*

6. We declare that, we have no conflict of interest in the proposed procurement proceedings and we have not been punished for an offense relating to the concerned profession or business and

[5] Applications by joint ventures should provide on a separate sheet, relevant information for each party to the Application.

our Company/firm has not been declared ineligible.

7. We further confirm that, if any of our experts is engaged to prepare the TOR for any ensuing assignment resulting from our work product under this assignment, our firm, JV member or sub-consultant, and the expert(s) will be disqualified from short-listing and participation in the assignment.

8. The undersigned declares that the statements made and the information provided in the duly completed application are complete, true and correct in every detail.

**Signed** :

**Name** :

**For and on behalf of (name of Applicant or partner of a joint venture):**



## 2. Applicant's Information Form

*(In case of joint venture of two or more firms to be filled separately for each constituent member)*

1. Name of Firm/Company:
2. Type of Constitution (*Partnership/ Pvt. Ltd/Public Ltd/ Public Sector/ NGO)*
3. Date of Registration / Commencement of Business *(Please specify):*
4. Country of Registration:
5. Registered Office/Place of Business:
6. Telephone No; Fax No; E-Mail Address
7. Name of Authorized Contact Person / Designation/ Address/Telephone:
8. Name of Authorized Local Agent /Address/Telephone:
9. Consultant's Organization:
10. Total number of staff:
11. Number of regular professional staff:

*(Provide Company Profile with description of the background and organization of the Consultant and, if applicable, for each joint venture partner for this assignment.)*

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# 3. Experience

## 3(A). General Work Experience

*(Details of assignments undertaken. Each consultant or member of a JV must fill in this form.)*

| S. N. | Name of assignment | Location | Value of Contract | Year Completed | Client | Description of work carried *out* |
|---|---|---|---|---|---|---|
| *1.* | | | | | | |
| *2.* | | | | | | |
| *3.* | | | | | | |
| *4.* | | | | | | |
| *5.* | | | | | | |
| *6.* | | | | | | |
| *7.* | | | | | | |



### 3(B). Specific Experience

**Details of similar assignments undertaken in the previous seven years**
*(In case of joint venture of two or more firms to be filled separately for each constituent member)*

| | |
|---|---|
| Assignment name: | Approx. value of the contract (in current NRs; US$ or Euro)[6]: |
| Country:<br><br>Location within country: | Duration of assignment (months): |
| Name of Client: | Total No. of person-months of the assignment: |
| Address: | Approx. value of the services provided by your firm under the contract (in current NRs; US$ or Euro): |
| Start date (month/year):<br><br>Completion date (month/year): | No. of professional person-months provided by the joint venture partners or the Sub-Consultants: |
| Name of joint venture partner or sub-Consultants, if any: | Narrative description of Project: |
| Description of actual services provided in the assignment:<br><br>**Note: Provide highlight on similar services provided by the consultant as required by the EOI assignment.** | |

Firm's Name: _____

[6] Consultant should state value in the currency as mentioned in the contract

## 3(C). Geographic Experience

**Experience of working in similar geographic region or country**

*(In case of joint venture of two or more firms to be filled separately for each constituent member)*

| No | Name of the Project | Location (Country/ Region) | Execution Year and Duration |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |



# 4. Capacity

## 4(A). Financial Capacity

*(In case of joint venture of two or more firms to be filled separately for each constituent member)*

| Annual Turnover | |
|---|---|
| **Year** | **Amount Currency** |
| | |
| | |
| | |
| | |
| | |
| | |
| | |

- **Average Annual Turnover of Best of 3 Fiscal Year Of Last 7 Fiscal Years**

*(Note: Supporting documents for Average Turnover should be submitted for the above.)*

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**4(B). Infrastructure/equipment related to the proposed assignment[7]**

| No | Infrastructure/equipment Required | Requirements Description |
|---|---|---|
| *1.* | | |
| *2.* | | |
| *3.* | | |
| *4.* | | |
| *5.* | | |

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[7] *Delete this table if infrastructure/equipment for the proposed assignment is not required.*

## 5. Key Experts *(Include details of Key Experts only)*

*(In case of joint venture of two or more firms to be filled separately for each constituent member)*

| SN | Name | Position | Highest Qualification | Work Experience (in year) | Specific Work Experience (in year) | Nationality |
|---|---|---|---|---|---|---|
| 1 | | | | | | |
| 2 | | | | | | |
| 3 | | | | | | |
| 4 | | | | | | |
| 5 | | | | | | |

(Please insert more rows as necessary)

