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Non-ferrous Industries Process, Engineering
and Construction Company
NIPEC

Grade and Certificate of Contracting Qualification



* Grade 5, Facilities and Equipment Field
* Grade 5, Oil and Gas Field

* Grade 3, Primary Metals Industry Field
* Grade 3, Primary Metals Industry Field

Published Books



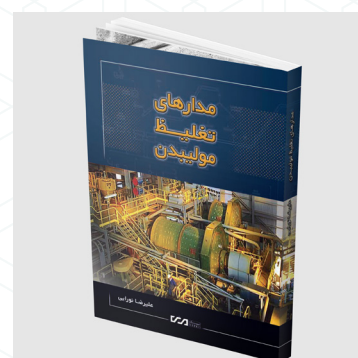
Sulphuric Acid Plants, Plant Design and Unit Operation



Mineral processing circuits are designed with a specific approach to the copper flotation plant



Design of Copper Leaching plants



Molybdenum Concentration Circuits

Certificates



Foreign partners





Non-ferrous Industries Process, Engineering and Construction Company in short (NIPEC) is a knowledge-based group aiming to localize the processes and technical knowledge of minerals. which was started in November 1994 under the auspices of National Iranian Copper Industries Company.

Initially, NIPEC's key activities centered around engineering and consultation services of copper industries. But throughout the years and backed by the invaluable experience gained and together with assistance of its qualified personnel, NIPEC successfully entered other fields of industry. Almost three decades of concerted effort on offering design, engineering, consultation, supervision and contracting management services resulted in brilliant credibility in procurement and implementation of EPC projects. NIPEC is now a distinguished brand active in numerous fields of mine industries. NIPEC's profile marks several outstanding projects among them are the successful implementation of two key and complicated projects. One is the transfer of outgoing gas from the convertors at Sarcheshmeh Copper Complex and the other is the construction, installation and utilization of the copper ore concentration plant at Zahedan province's Chelkueh. The second one was recognized as one of the most significant national projects in Sistan and Baluchestan province just to name a few. Undoubtedly, NIPEC's main competitive advantage is the employment of expert personnel, utilization of modern technology and systematic management structure. We are therefore proud to announce that these advantages together with the investment in processing projects has enabled our company to Iranize the science of processing the copper ore deposits and we are fully capable of offering engineering service packages in this field.

Our first priority at NIPEC is working on the protection of the environment. Therefore, we pride ourselves in direction and implement of (environmentally-friendly) projects such as; the construction of sulfuric acid manufacturing plants at Sarcheshmeh and Khatun Abad. It was a step, although a small one, towards further protection of the natural environment of our beloved country, Iran.

Our ultimate goal at NIPEC is to implement our knowledge and the experience of our personnel to elevate the company to new heights and to Iranize international achievements in the field of processing of minerals and to be a key player in the production of technical knowledge at the industrial projects' scene.



Goals

NIPEC relies on its qualified personnel, management of knowledge and establishment of the structure of value engineering. The infrastructure developed at our company is the fruit of our years of activity and expertise and implementation of EPC industrial and mining services.

We conduct financial evaluation of existing potentials in the copper industry and provide various services to new industries and identify new roadmap for new services. In this manner, we intend to reduce the dependence on Foreign countries and prevent the isolation of science inside the country. With dependence on Allah, our outlook for 2025 is to be ranked highest among the companies providing services in the field of ferrous and non-ferrous minerals.

The CEO

Khatoon Abad Lime Plant Construction Project

NIPEC's activities in the project



- Receive part three and part of part four
- External equipment in the workshop
- Construction of silos in the 600 area
- Installation of the furnace structure and the 500 area structure
- Design, supply and construction of equipment in the CRUSHER area
- and implementation of the relevant foundations
- Construction and supply of silos, structures and electrical equipment
- Continue installation of furnace equipment
- Production capacity: 500 T/d, hydrated lime: 10 T/h



- Project timeframe
- 2021



- Employer
- NICICO



EPC

Order Warehouse and office Building Construction Project

EPC



NIPEC's Activities in the project



- Completion of Sheds 1 to 6
- Installation and commissioning of the warehouse shed overhead crane
- Completion of the installation of the metal structure of the 8-story office building
- Implementation of the fireproof coating of the 8-story structure
- Ordering and construction progress of 90% in equipment
- Elevator and HVAC of the three-story building
- Completion of the structure and wall cladding of the 3-story office building
- Construction of the MCC building
- Usage sheds 1, 2, 3, 4, 5, and 6 total area 2880m2
- 3-story office building and 7-story office building total



- Project timeframe
- Launch: 2022



- Employer
- NICICO

Main Consultant Project (Master Plan)

The development of the National Iranian Copper Industries Company has always been one of the main priorities of the managers and officials of this complex. However, despite the efforts and efforts of managers and experts in recent years and Iran being ranked fifth in the world in terms of copper reserves, the country's position in copper content production shows 17th place. Achieving higher ranks in copper production requires careful planning and all-round efforts of all the company's components. In this regard, NIPAC Company, as the parent consultant of the National Iranian Copper Industries Company, has been implementing technical and economic studies of development plans at the conceptual and basic levels since 1401. These studies are carried out with the aim of creating sustainability and increasing the annual production capacity of copper cathode.

The most important goals of mother counseling



- ◀ A comprehensive and all-round approach to implementing projects and creating sustainability
- ◀ Feasibility study of projects based on international standards and guidelines
- ◀ Improving predictability, increasing measurement and risk analysis capabilities
- ◀ Increasing stability in decision-making and improving managers' ability and accurate decisions
- ◀ Optimization of resource utilization and cost reduction
- ◀ Coordination between project stakeholders and creating effective interaction between all
- ◀ Commitment to sustainable development and alignment of project goals with sustainability
- ◀ Coherence in the management of mining and industrial development projects

By conducting feasibility studies, as a comprehensive process for assessing the feasibility and implementation of development projects by analyzing strengths and weaknesses, advantages and problems, Madar Consultant facilitates informed decision-making by the managers of the National Iranian Copper Industries Company. These studies are a common point between the technical aspects of the project and their investment.

Feasibility studies with a comprehensive and integrated approach at the international level address all technical, economic and environmental-social aspects of mining and industrial activities, which reduces risk and increases success. By considering the aforementioned aspects, the feasibility of a project can be determined.

Often, this comprehensive view does not exist in Iran, and this increases operational risks and the likelihood of failure of mining projects. Insufficient attention to all aspects of projects can lead to serious problems in the later stages. In fact, the key to the success of mining projects is a comprehensive and integrated view of mining and industrial projects, and Madar Consultant is trying to implement this approach as a leading model in Iran.

Specialized groups of the Mother's Counselor (under each group, the most important activities of that group are listed)

Engineering Studies

Electricity and instrumentation – mechanics – civil engineering

Water and waste management

Water supply uses and sources – Waste management

Sustainable development

Social sustainability – Economic sustainability – Environmental sustainability

Environment

Environmental impact assessment – Impact mitigation and management plans – Review of legal and regulatory requirements – Environmental permits

Economy

Operating and investment costs, financial analysis – risk assessment and management – market studies and price forecasting – scenario analysis and strategic planning

Project management

Leadership and strategic creation between all departments coordination – Decision-making based on data and analytical reports – Monitoring compliance of studies with international standards and local laws – Adopting an integrated approach with a comprehensive view of the project

Mine

Exploration, drilling, mineral resource and reserve estimation – production and extraction design and planning – geotechnics and hydrogeology – transportation fleet and machinery – IPCC – mine tailings management – surveying

Infrastructure provision

Water supply – Electricity supply – Road supply – Buildings and communications

GIS location

Locating mine components, factories, and material transfer and flow routes

Processing plant

Processing studies and laboratory tests – Determining capacity and designing factories, selecting and designing mechanical equipment – Preparing technical documents and tender documents – Designing the layout and overall arrangement of factory equipment

Smelting, refining and acid plants

Technical and engineering studies of smelting, refining and acid plants for feasibility studies and selection of appropriate processes and technologies, engineering design of process equipment, auditing and inspection of production lines with the aim of increasing productivity and developing industrial units, including preparation of process documents including Conceptual Design, Basic Design, General Plot Plan, etc.

Converters Off Gas Handeling Project Sarcheshmeh – Kerman Province



- NIPEC's activities in the project
- Undertaking of the entire design process
- Purchase and procurement
- Manufacturing and installation of –material handling system
- Cleaning of outgoing gases from the convertor capacity : 300.000 nm3/h
- Dismantling of the old EPS system of Sarcheshmeh Copper Complex
- Installation of water purification package with the capacity of Two units each 50m3/ hr.
- Ion–exchange process
- Oxygen enrichment of the air blown through conver–



Project timeframe

- Launch: 2011
- Completion: 2021



Size of Investment

- €20 m foreign investment
- 2,048 B (IR Rial) national investment



Employer

- National Iran Copper Industries Co. (NICICO)



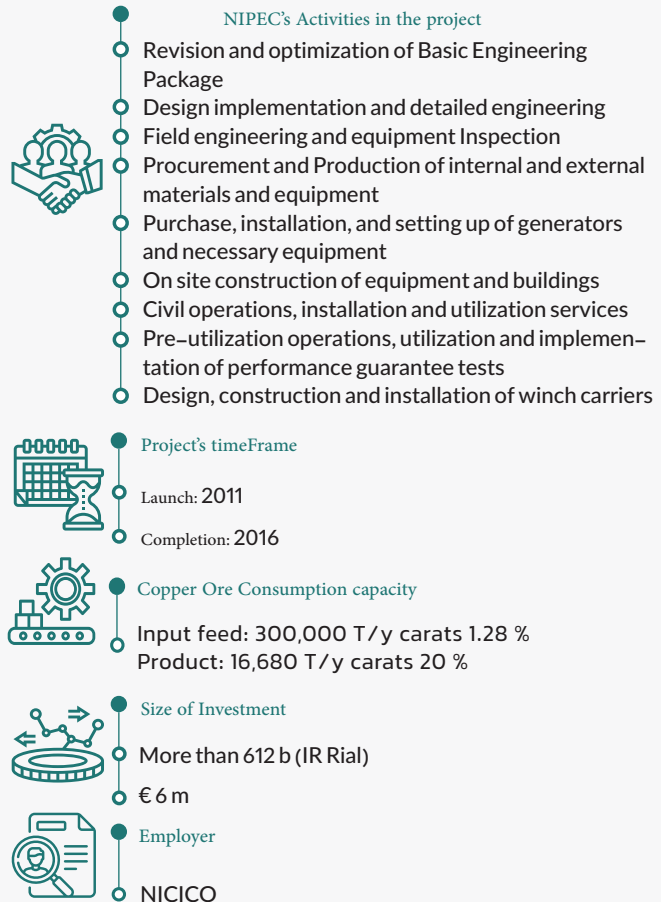
Pyrometallurgy processes for the extraction of copper include the melting of copper concentrate at furnaces (reverberatory or flash converters) and electrorefining. The gas released from these furnaces contain dust, which upon settling will be reprocessed or stored to be used for precious metals recovery. (For compliance with environmental considerations), the poisonous materials are also processed.

Dust is an inevitable byproduct of the processing of copper concentrate through pyrometallurgy. The dust can take up to 10% of the concentrate's mass fed to the furnace. The heat recycling boilers and electrostatic precipitators collect the produced dust. Typically, the collected dust will be reprocessed through Smelter to recycle the copper from it. This stage will increase the impurities in the feed material and ultimately increase its density in the blister. In addition, reprocessing the dust will reduce the capacity of the furnace which lessens the overall general output. As impurities pile on in the concentrate, the need is felt for the development of a method for the melting of copper impurities. The project of the transferring of outgoing gases from the converter is one of the most significant projects in the development plan of melting in Sarcheshmeh Copper Complex. It is also recognized as the most prominent environmental project in Copper industries in Iran. Through this project the harmful gases released through the refining process of copper melting such as sulfur dioxide and arsenic are collected. During this process, two suction pipes, the primary and the secondary, are installed to collect the outgoing gases. After passing through the dust container and the cooling tower, the temperature reduces and the dust settles and the harmful gases enter the electro-filters.

EPC



Chehel Kureh Copper Concentration Plant Zahedan Province



The Chehel Kureh project in the city of Zahedan, is among the 35 major national plans and is one of the most prominent plans among the Iranian Mines & Mining Industries Development & Renovation Organization (IMIDRO)'s development plan for the south east of the country. The copper Mine in Chehel Kureh contains 8.3 tons of reserves. It is located in the Sistan and Baluchestan province. The digging history in this area dates back to 660 to 830 AD. The ancient remain of the excavation activities are still visible in the area.

Chehel kureh copper concentration plant has the nominal capacity of 16,880 tons of copper concentrate (20% purity). The plant was designed and constructed within the EPC framework pioneered by NICICO and NIPEC and is operative now.

Among the main measures as part of this national project is the implementation of the winch transfer system. This system is capable of transferring 1000 tons of ore from the depths of the mine to the concentration plant daily, boasting as a creative and note-worthy project of its kind.

In addition to the construction of the copper concentration plant, the locals now are employed at the plant.

Sarcheshmeh Sulfuric Acid Plant Consulting Project



- NIPEC's activities in the project
 - Technical-financial services
 - Design and Engineering of civil and structural activities
 - Process, electricity, instrumentation and mechanical
 - Engineering purchasing services
 - Internal Inspection and Internal and external supply inspection
 - Field Monitoring
 - Higher supervision
 - Pre-commissioning, startup and PGT of units
 - Project delivery to the employer



- Project timeframe
 - Launch: 2005



- Production capacity
 - 610,000 tons of acid (93% and 98.5 purity)



- Employer
 - NICICO



MC

Khatun Abad Sulfuric Acid Plant Consulting Project

MC



- NIPEC's activities in the project
 - Technical-financial briefing services
 - Design and engineering civil structural activities and process services
 - Electricity, control, instrumentation and mechanical
 - Procurement engineering services
 - Internal construction inspection, internal and external supply inspection
 - Field monitoring
 - Higher supervision
 - Pre-commissioning, startup and preparation of unit for PGT



- Project timeframe
 - Launch: 2016



- Production Capacity
 - 600,000 tons of Sulfuric Acid (93% and 98.5%) purity annually



- Employer
 - NICICO

EPC



Rafsanjan Sulfuric Acid Storage Tanks Construction and One Year Operation Project



NIPEC's activities in the project

- Design of engineering maps for tankers and technical documents
- Construction of tankers, accessibility structures and workshop
- Secondary buildings (administrative, site, Mcc, etc.)
- Preparation and supply of equipment and related machinery Two machines, 14,000 tons each



Project timeframe

- Launch: 2018



Size of Investment

- Higher than 24b (IR Rial)
- €2 m (Foreign investment)



Employer

- NICICO



Following the utilization of this environmentally–friendly plan at Sarcheshmeh Sulfuric Acid production plant, the end product is used for a variety of purposes including in the production chemical fertilizers.

One the most important agricultural hubs of Iran is located in Rafsanjan plains. The productive lands of this area are in close proximity to Sarcheshmeh Copper Company. In a long–term view of the future production of chemical fertilizers, the NICICO has constructed two sulfuric acid storage tanks in Rafsanjan Free Zone.

NIPEC Projects in Sarcheshmeh Copper Complex



Implementation of
concrete foundation and
metallic structure for the
conveyor belt number 2



Consulting for the
construction of a
sulfuric acid plant (old)



Consulting for
the construction of a
sulfuric acid plant



Establishment of
Oxygen plant at
Sarcheshmeh Copper
Complex



Non-ferrous Industries Process,
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The Enhancement
and Expansion of the
Limestone Plant in
Sarcheshmeh Copper
Complex, Kerman



Construction
of concentrate
storage



Construction of
Anode Furnace




Supervision for the
Implementation of
Flotation Plant and
Crushing Circuit




Transferring
outgoing gas from
the converters

concentration plant at Sarcheshmeh copper complex – Kerman

- 
- NIPEC's activities in the project
 - Design
 - Material supply
 - Construction, renewal of worn out equipment for the purity enhancement department at Sarcheshmeh copper complex
 - Utilization with the load and delivery to the operator

- 
- Project timeframe
 - Launch: 2018
 - Completion: 2019

- 
- Location
 - Sarcheshmeh – Kerman

- 
- Employer
 - NICICO




Sarcheshmeh Conveyor No.2: Concrete Foundation and New Steel Structure Instalation Project



- 
- Project timeframe
 - 2018

- 
- Production capacity
 - 4736 T/y

- 
- Location
 - Sarcheshmeh Copper Complex

- 
- Employer
 - NICICO

Sarcheshmeh Copper Complex Anode Furnace Construction Project

EPC



- NIPEC's activities in the project
 - Basic engineering and detailed planning
 - Civil activities
 - Supply of entire equipment and materials
 - Installation and utilization



Production Capacity

○ 185000 T/Y



Location

○ Sarcheshmeh – Kerman province



Employer

○ NICICO

Design, Consultation, planning management for the construction of sport complexes in Kerman

- NIPEC's activities in the project
 - Initial studies
 - Design
 - Preparation of executive plan and tender documents for contractors' selection process
 - Higher supervision and field monitoring
 - Other consultation services
 - Design, consultation for the secondary halls and landscaping



Project timeframe

○ Launch: 2012
○ Completion: 2018



Location

○ Kerman Gymnasium (seating capacity 30,000 people)
○ Rafsanjan Gymnasium (seating capacity 10,000 people)
○ Shahr-e Babak Gymnasium (seating capacity 10,000 people)



Employer

○ NICICO

MC



Construction of concentrate storage Sarcheshmeh development plan – Kerman



EPC

NIPEC's activities in the project



- Design implementation, detailed planning
- Field engineering
- Procurement, materials supply and internal and external equipment
- Equipment inspection
- Civil operations and installation
- Utilization services



Project timeframe

- Launch: 2008
- Completion: 2012



Employer

- NICICO

Modification and development plan for Lime stone plant Sarcheshmeh – Kerman



- NIPEC's activities in the project
- Revision and optimization of basic engineering design packages
- Design implementation and detailed planning
- Field engineering
- Procurement and material supply and internal and external equipment
- Equipment inspection
- Civil operations and installation
- Pre-utilization operations, utilization and functional tests
- Utilization services



Project timeframe

- 2008




Employer

- NICICO




EPC

Consultancy and Supervision Services for the construction plan for molybdenum Sungun plant – Eastern Azerbaijan

- 
- NIPEC's activities in the project
 - Consultation, planning management, planning and project control
 - Engineering control and higher supervision
 - Field supervision (supervision on the implementation of the design, installation, set up and utilization)
 - Field engineering services
 - Extra services necessary for the design in the field of geotechnology, geology, soil mechanics, mapping and meteorology

- 
- Project timeframe
 - Launch: 2008
 - Completion: 2014

- 
- Production capacity
 - 3000 tons of Molybdenum with the purity of 54%

- 
- Employer
 - NICICO




Design, equipment supply and modification on Tailing thickeners in Sarcheshmeh



Sarcheshmeh thilings Thickener modification project includes the increase in the capacity of Thickeners 1 and 2 by upgrading their mechanism to High Rate and the modification of Thickener 4. This Project has successfully doubled the capacity of tailing thickeners 1 and 2.

- 
- Project timeframe
 - 2016

- 
- Location
 - Sarcheshmeh Copper Complex

- 
- Employer
 - NICICO

Construction of the Mes Shahr Babak Complex Hotel



● Project timeframe
○ Launch: 2023



● Location
○ 21,000 Square Meters



● Employer
○ NICICO



Sarcheshmeh Concontration Consultancy Revamp And Expension Project

EPC



- NIPEC's Activities
- Providing technical and engineering services to the employer in the product production line and their reconstruction;
 - Conducting studies, surveys and preliminary estimates of plans and projects;
 - Carrying out the stages of identifying and evaluating contractors and holding tenders for selecting the contractor;
 - Carrying out project planning, controlling and creating the required infrastructure;
 - Reviewing and validating basic engineering documents and detailed design;
 - Providing engineering services for purchasing equipment and parts;
 - Inspection of the supply of domestic and foreign manufactured supplies, parts and equipment;
 - High and workshop supervision of reconstruction and development projects;



● Project timeframe
○ Launch: 2022



● Employer
○ NICICO

Consultancy and supervision Services for the construction of oxygen Production plant at Sarcheshmeh – Kerman

MC



- NIPEC's activities in the project
 - Supervision and revision on engineering design
 - Equipment inspection
 - Field supervision and other supervision services
 - Consultation services including: preparation of the documents for national and international tenders, engineering services including technical reports, Technical and financial feasibility studies

- Production Capacity
 - 550 T/d

- Location
 - Sarcheshmeh – Kerman

- Employer
 - NICICO

Project Management for the construction of concentration plant at Darehzar

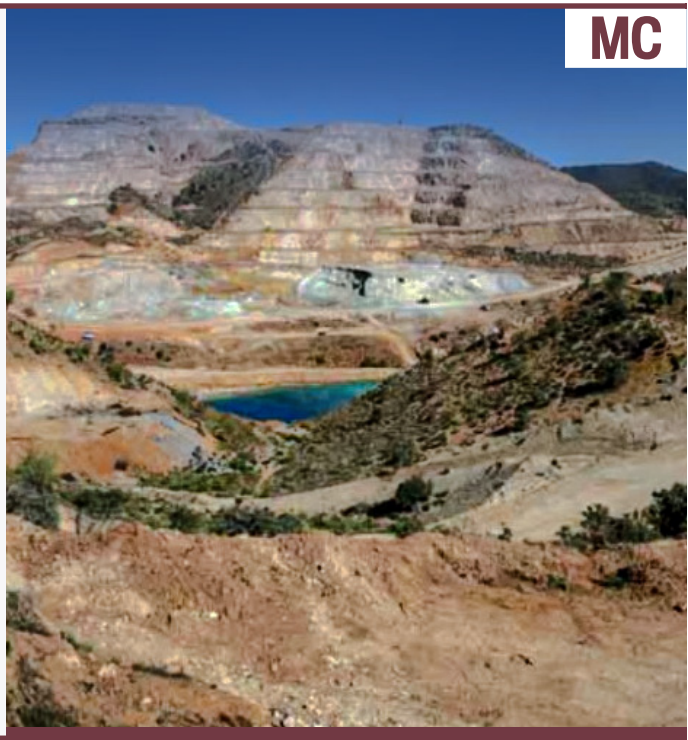
- Project timeframe
 - Launch: 2011

- Production capacity
 - 150,000 tons of concentrate (26% purity) produced from 11m tons of sulfuric soil (0.38% purity)

- Location
 - Darehzar – Kerman

- Employer
 - NICICO

MC



Project management services for the construction of Daralou Concentration Plant



- NIPEC's activities in the project
- Quality control of contractors and consultants
- Contract services and follow ups
- Employer higher supervision
- Planning and project control
- Classification and documentation
- Technical back up services
- Other services



- Project timeframe
- Launch: 2018



- Construction capacity
- 100,000 tons of copper concentrate (25% of purity) produced from 7 m tons of sulfuric soil (0.39% purity)



- Employer
- NICICO



MC

Project Management and consultancy for the construction of concentration plants in Midook, and Shahr-e Babak Copper Complex

MC



- NIPEC's activities in the project
- Document preparation for International tender, holding the tender, evaluation
- Proposals, technical/ contractual negotiations and the selection process of international contractors
- Feasibility study report compilation
- Completion of phase 1,2,3 including the construction of buildings and structures and detail engineering
- Electrification, instrumentation, piping, infrastructural utilities
- Revision of international contractors' proposals
- Technical inspection, monitoring of the installation and implementation
- Designing the main production building, foundation and equipment
- Executive management design, field engineering services
- Design of transfer line to the plant including the pump house and the related utilities (20 km)
- Water transfer pipes (90 bar)



- Production capacity
- Approx. 10,000 tons of copper concentrate (30% purity)



- Employer
- NICICO



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