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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

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**Standard for design of general layout and transportation for
non-ferrous metallurgical industry**

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1 General

1.0.1 This standard is formulated in order to meet the needs of non-ferrous metal industry master plan planning and transportation design, and to unify the principles and technical requirements of non-ferrous metal industry master plan planning and transportation design.

1.0.2 This standard is applicable to the general plan planning and transportation design of newly built, expanded and reconstructed nonferrous metal industrial engineering projects.

1.0.3 The planning and transportation design of the non-ferrous metal industry general plan shall meet the requirements of scientific site selection, advanced technology, land saving, safe and applicable, energy saving and environmental protection, water and soil conservation, economical rationality and convenient management.

1.0.4 The general plan planning and transportation design of expansion and reconstruction non-ferrous metal industrial engineering projects should utilize existing facilities and reduce the impact of construction on production.

1.0.5 The planning and transportation design of the non-ferrous metal industry general plan should carry out technical and economic comparisons of multiple schemes, and then select the best planning and design scheme.

1.0.6 The planning and transportation design of the non-ferrous metal industry general plan shall not only comply with this standard, but also comply with the current relevant national standards.

2.0.1 Selection of plant location

According to the necessary conditions for the proposed project in the non-ferrous metal industry, combined with the characteristics of the production process, comprehensively analyze and compare the technical and economic conditions of multiple plans, and choose the best one to determine the work of the factory site.

2.0.2 general planning

According to the short-term and long-term construction goals and scale of the non-ferrous metal industry proposed project, on the selected plant site, in accordance with the current national standards, industrial policies and other requirements, make overall plans and comprehensive layout of the enterprise's functional divisions and the mutual positions of each functional area. interconnected work.

2.0.3 general layout

On the basis of the overall plan and the established site, according to the current national standards, production technology and transportation requirements, comprehensively utilize the natural environment conditions, determine the proposed buildings (structures), production equipment, transportation lines, outdoor pipelines and greening facilities Flat position work.

2.0.4 functional zoning

In order to reduce the mutual influence and interference in the production process, the buildings (structures) and facilities in the enterprise site are arranged according to their different use functions and system partitions to form a relatively independent and interrelated organic whole.

2.0.5 Industrial site industrial site

It is a site for arranging buildings (structures), transportation facilities, outdoor pipelines, etc. related to the production of non-ferrous metals.

2.0.6 vertical design vertical design

On the basis of the general layout, in order to meet the requirements of production technology, transportation, pipe network layout, site drainage and construction methods, etc., combined with topography, landform, geology and meteorological conditions, the natural elevation of the site is utilized and the vertical direction is transformed. Work to determine site slope and design elevation.

2.0.7 Integrated arrangement of engineering pipeline

According to the types and technical requirements of the pipelines, combined with the general layout, determine the design work of the directions and spatial positions of various pipelines.

2.0.8 Transport in the factory

Railways, roads, waterways and other transportation within the scope of factory and mine construction.

2.0.9 Transport out of the factory

Railways, roads, waterways and other transportation outside the scope of factory and mine construction.

2.0.10 waste dump

The place where the waste generated in the production process is stored.

2.0.11 channel passageway

The factory area is used to centrally set up roads, railways and various pipelines and green areas.

2.0.12 pipeline pipeline

The pipelines involved in production, life and material transportation inside and outside the factory.

3 site selection

3.0.1 The site selection should meet the requirements of natural environment conditions, resource conditions, industrial layout, material transportation methods, safe production, etc., and should meet the requirements of land space planning and industrial park planning.

3.0.2 Site selection should avoid soil and water conservation monitoring sites in the national soil and water conservation monitoring network, key test areas, and long-term fixed observation stations for soil and water conservation determined by the state, and should avoid areas that are prone to soil erosion and ecological deterioration, and ecologically fragile areas, Fixed and semi-fixed sand dune areas, and should comply with the relevant provisions of the current national standard "Technical Standards for Soil and Water Conservation of Production and Construction Projects" GB 50433.

3.0.3 The site selection should utilize barren hills and poor land and tidal flats, and should not cause damage to the water and soil conservation functions of the existing land and

vegetation.

3.0.4 The following areas and regions are strictly prohibited from being selected as the factory site.

- 1 drinking water source protection area;
- 2 Within the boundary of mining surface subsidence area and dislocation area;

4.3 Transportation

4.3.1 The transportation planning of the enterprise should meet the requirements of planning, production, employee commuting, and local passenger and cargo transportation in the area where the enterprise is located, and should carry out transportation cooperation with adjacent enterprises.

4.3.2 The mode of transportation outside the factory shall be determined after multi-plan technical and economic comparison in accordance with the requirements of national technical and economic policies, external transportation conditions, material properties, transportation volume, material transportation direction, transportation distance, etc., combined with the needs of in-factory transportation.

4.3.3 The standard-gauge railway planning of the enterprise shall comply with the relevant provisions of the current national standard "Code for Design of Class III and IV Railways" GB 50012.

4.3.4 The planning of factory and mine roads shall comply with the relevant provisions of the current national standard "Code for Design of Factory and Mine Roads" GB J22.

4.3.5 For enterprises adjacent to rivers, rivers, lakes, and seas, when waterway transportation is their main business, the impact of natural conditions such as wind, waves, freezing, and dry seasons on transportation should be demonstrated.

4.3.6 When using belt conveyors, pipelines, overhead cableways, etc., the natural terrain layout should be used, and it should be easy to connect with other transportation methods.

4.4.1 The planning and layout of the mining industry site shall meet the following requirements.

1 The main mining industrial site should be arranged adjacent to the main trench opening of the open pit and the underground mining well (cave) opening for personnel and materials to enter and exit;

2 Mining industrial sites with multiple mining areas should be combined and constructed, and should be close to the main mining areas; when they need to be separated, the construction of various facilities should not be repeated;