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**Implementation guidance for energy management system in
logistics industry**

物流行业能源管理体系实施指南

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3 Terms and definitions

3.1 organization: a person or group of people that has its own functions with responsibilities, authorities and relationships to achieve its objectives; a note lists sole traders, companies, corporations, firms, enterprises and public institutions, government bodies, partnerships, charities, associations and parts or combinations of them, whether incorporated or not, public or private. The source is given as GB/T 23331-2020, 3.1.1.

3.2 The Chinese heading for a logistics enterprise is glossed with the English term logistics service provider and defined as an economic organization that designs and operates logistics business within the basic logistics functions, has an information management system matched to that business, keeps independent accounts and bears civil liability independently. The source is given as GB/T 18354-2021, 3.18.

3.3 interested party, also called stakeholder: a person or organization that can affect, be affected by, or perceive itself to be affected by a decision or activity; an example lists customers, communities, suppliers, regulators, non-governmental organizations, investors and employees. The source is GB/T 23331-2020, 3.1.5.

3.4 to 3.5 energy performance: measurable results related to energy efficiency, energy use and energy consumption, which can be measured against the objectives, energy targets and other energy performance requirements of the organization and which form part of the performance of the energy management system. Energy performance indicator (EnPI): a measure or unit of energy performance determined by the organization, which may be expressed as a simple metric, a ratio or a model according to the nature of the activity measured; both cite GB/T 23331-2020, and the second refers to GB/T 36713 for further information.

3.6 to 3.7 relevant variable: a quantifiable factor that has a significant effect on energy performance and changes routinely, the criterion for significance being determined by the organization; the examples given are weather conditions, operating conditions such as indoor temperature and lighting level, working hours and production volume. Normalization: modifying data to account for changes so that energy performance can be compared under equivalent conditions. Both cite GB/T 23331-2020.

5 Context of the organization

5.1 The logistics enterprise should determine the external and internal issues that are relevant to its purpose and that affect its ability to achieve the intended outcomes of the energy management system and to improve energy performance, the determination being used to link the system to the strategic direction and objectives of the organization; the enterprise may identify and evaluate these issues with tools such as the political, economic, social, technological, environmental and legal analysis or the strengths, weaknesses, opportunities and threats analysis. The external issues listed include politics and economics, society and technology, the environment and legal and other requirements, factors relating to external interested parties, the cost or availability of energy types, the effects of weather and climate change, limits on the supply, security and reliability of energy, geographical location, competition, the effect on greenhouse gas emissions and limits on energy consumption. The internal issues listed include the strategic direction and management of the organization, its mission, vision and core business objectives, its performance indicators and financial position, the knowledge of its staff and its culture, its asset management plan, its human and financial resources, the maturity and culture of its energy management, for which GB/T 39775 may be consulted, the maturity of its current technology, sustainability considerations, contingency plans for interruptions of energy supply, process, system and operational factors, the age and condition of equipment and systems, and operational risk and liability considerations. Internal and external issues change over time, so the enterprise may review its context through activities such as the management review at planned intervals; the process of evaluating the context and its output are necessary to the effectiveness of the system and may be kept as documented information, in which the timing and frequency of the review should also be laid down.

5.2 To understand the needs and expectations of interested parties the enterprise should determine the parties relevant to energy performance and to the system, which may be internal departments and employees or external customers, suppliers, investors, partners, regulators, non-governmental organizations and communities; should determine the requirements those parties express; and should determine which of their needs and expectations it has to address through the system. It should obtain and take account of the applicable legal and other requirements relating to its energy efficiency, energy use and energy consumption in accordance with GB/T 29456 and determine how to apply them. Since those needs and expectations may change over time, the enterprise should draw up a review plan, review the related content and the legal and other requirements at set intervals, record the review and update it on a fixed cycle. The needs and expectations fall into two kinds: information stemming from legal and other requirements, which may be obtained from sources such as the internal legal department, government or other official bodies and consultancies and professional bodies; and requirements the enterprise adopts of its own accord from interested parties, for instance where an external party asks for

improved energy performance and the enterprise adopts the suggestion because the improvement brings a competitive advantage. A note refers to GB/T 35770 for compliance management.

5.3 In determining the scope of the system the enterprise first determines its boundaries, which are physical or organizational limits and should be a complete organization such as an enterprise, a business unit or a subsidiary, one or more sites under its control such as a warehouse, a wharf, a goods yard, a distribution processing centre, a data processing centre or an office, or one or more processes such as the fulfilment of a transport order or a packaging process. The scope is the set of activities managed through the system, such as the energy review, energy procurement, resource support, performance evaluation and improvement, and may include several boundaries; it includes all the energy types within those boundaries and excludes none. The energy types used by a logistics enterprise include primary energy taken from nature without processing, conversion or transformation, such as raw coal, natural gas, solar energy and wind energy, and secondary energy obtained from primary energy by processing or conversion, such as petrol, diesel, electricity, kerosene, coal gas, fuel oil, liquefied petroleum gas, heat, hydrogen and methanol, lubricating oil excepted. Table 1 gives examples of the energy consuming systems, facilities and equipment and energy types of a logistics enterprise: for the main logistics activities, transport with cars, trains, aircraft and ships using electricity, petrol, diesel, kerosene, liquefied natural gas, hydrogen and methanol; storage with automated racking, lighting, refrigeration, ventilation, constant temperature and humidity equipment, sorting equipment, monitoring equipment, palletisers and warehouses using petrol, diesel, electricity and solar energy; loading and unloading with forklifts, cranes, hoists and conveyors; handling with handling vehicles, conveyors, shuttles, automated guided vehicles, lifts and tractors; packaging with filling, canning, sealing, wrapping, labelling and strapping equipment; distribution processing with mixing, crushing, grinding, cleaning, drying and sterilising equipment; distribution with delivery vehicles, handheld terminals, temperature control devices and navigation equipment, adding compressed natural gas and hydrogen to the energy types; and information handling with wired and wireless communication equipment, barcode readers and communication installations using electricity and solar energy. The auxiliary logistics system covers transmission and distribution equipment, lighting, the maintenance shop and the instrument room, and the ancillary logistics system covers offices, boilers, canteens and dormitories, adding raw coal, natural gas, coal gas, fuel oil and heat to the energy types. Table 2 lists points to consider for the scope and for the boundaries, among them which logistics activities are included, whether the energy used by the main, auxiliary and ancillary systems is included, whether all energy procurement activities are considered, how outsourced processes are treated, whether all the energy types purchased are included and whether the enterprise has control over the scope chosen, and, on the boundary side, which parts of a site, which logistics facilities, which buildings, systems and processes and which other sites are included, which parts