

Guangshen Railway Company Limited

Social Responsibility Report 2022



March 29, 2023

Contents

I. Chairman's Speech.....	1
II. Statement of the Board of Directors.....	2
III. Corporate Social Responsibility (CSR) Outlook.....	2
IV. Standardized Operation and Integrity Management.....	3
V. Safety Guarantee and Passenger and Freight Transport.....	7
VI. Environmental Protection & Energy Conservation and Emission Reduction.....	12
VII. Social Welfare and Employee Rights & Benefits.....	14
VIII. Report Specification.....	22

I. Chairman's Speech

Dear friends,

The year 2022 was an extraordinary year. Guided by Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, and taking "welcoming the 20th CPC National Congress and studying, publicizing, and implementing the spirit of the 20th CPC National Congress" as the main line of work, Guangshen Railway Company Limited ("GSRC") closely relied on the strong support and guidance of China Railway and China Railway Guangzhou Group, resolutely implemented the decisions and arrangements of GSRC's General Meeting of Shareholders and Board of Directors, served economic and social development, ensured safe and smooth railway transportation, standardized and strengthened the operation and management, cared for the interests of employees, promoted the implementation of energy conservation and emission reduction, and earnestly fulfilled the corporate social responsibility (CSR).

The year 2023 is the first year to fully implement the spirit of the 20th CPC National Congress, as well as a key year for the railway industry to promote high-quality development and build a modern system. Travel in the Guangdong-Hong Kong-Macao Greater Bay Area has become more convenient, and the economic and trade traffic has accelerated the recovery, bringing a positive impact on GSRC's transportation operation. GSRC will take the initiative to seize opportunities, cope with challenges, adhere to the general tone of seeking progress while maintaining stability, implement the new development concept fully, accurately, and comprehensively, better coordinate development and safety, and strive to open a new chapter of GSRC's operation and development.

Chairman: Wu Yong
March 29, 2023

II. Statement of the Board of Directors

GSRC highly acknowledges the importance of benign corporate governance, internal control, and risk management to business development, and immensely focuses on environmental, social, and governance (ESG) that is essential to its sustainable development.

GSRC has already established a management structure for ESG matters centered on the Board of Directors. As the highest responsible and decision-making body for ESG matters, the Board of Directors (Board for short) takes full responsibility for the strategies and reporting of GSRC's ESG matters and regularly reviews major ESG matters to ensure that appropriate risk control measures have been implemented.

The Board of Directors of GSRC and all its directors pledge that there are no false records, misleading statements, or material omissions in this report, and bear individual and joint and several liabilities for the authenticity, accuracy, and completeness of the report.

III. Corporate Social Responsibility (CSR) Outlook

(I) Company profile

GSRC was established in Shenzhen on March 6, 1996, in accordance with the *Company Law of the People's Republic of China*. In May 1996, GSRC got listed on the Hong Kong Stock Exchange (HKSE) and the New York Stock Exchange (NYSE) by issuing H shares (stock code: 00525) and American Depositary Shares (ADS) respectively. In December 2006, GSRC got listed on the Shanghai Stock Exchange (SSE) by issuing A shares (stock code: 601333). In January 2007, GSRC purchased the Guangzhou-Pingshi section (southern section of Beijing-Guangzhou Railway) with the funds raised from the issuance of A-shares, helping it upgrade from a regional railway operator to a national backbone railway service provider and significantly improve its passenger and freight transport capability.

GSRC mainly provides transport services along the Shenzhen-Guangzhou-Pingshi section and cooperates with MTR Corporation Limited in offering passenger services by trains stopping over by Hong Kong. Meanwhile, GSRC is entrusted to provide railway operation services for the railways, such as Wuhan-Guangzhou Railway, Guangzhou-Zhuhai Intercity High Speed Railway, Guangzhou-Shenzhen-Hong Kong Express Rail Link, Guangzhou-Zhuhai Railway, Xiamen-Shenzhen Railway, Guangdong Railway, Nanning-Guangzhou Railway, Guiyang-Guangzhou High-speed Railway, the Pearl River Delta Metropolitan Region Intercity Railway System, Maoming-Zhanjiang Railway, Shenzhen-Maoming Railway, Meizhou-Shantou Railway, and Ganzhou-Shenzhen High-speed Railway.

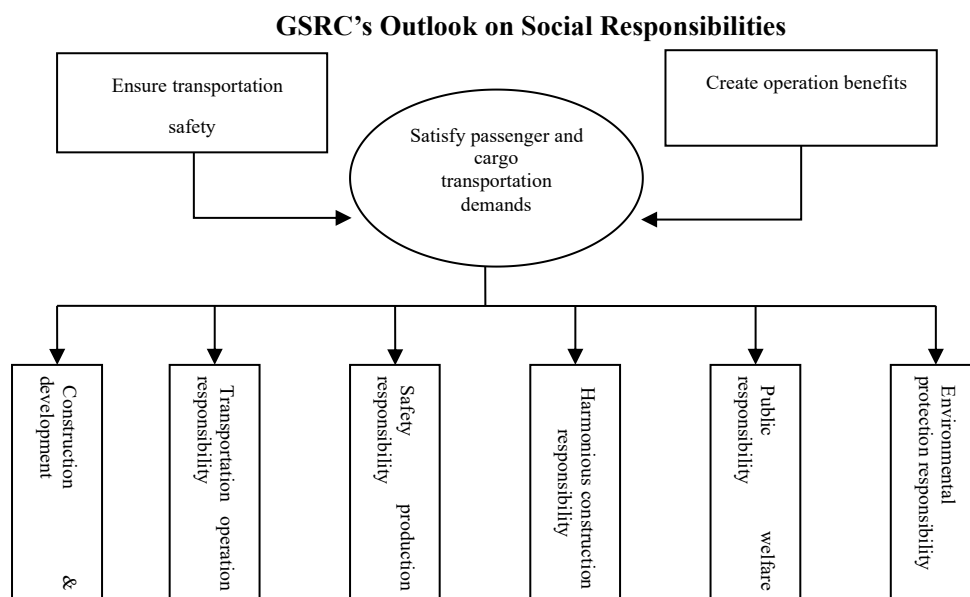
The Shenzhen-Guangzhou-Pingshi Railway solely operated by GSRC passes through Guangdong Province from north to south, with a service mileage of 481.2 kilometers. The Guangzhou-Pingshi section is the southern section of the Beijing-Guangzhou Railway — the north-south trunk railway in China; as an important part of China's railway network, the Guangzhou-Shenzhen section is an important railway connecting the mainland and Hong Kong.

(II) Corporate social responsibility (CSR) outlook management

1. Corporate social responsibility (CSR) outlook

GSRC is a listed company specialized in comprehensive transport services for both travelers and goods. It closely combines operation management with the fulfillment of social responsibilities to create value for shareholders and strive to realize the overall social responsibility target of sustainable economic, social and environmental development.

When it comes to fulfilling social responsibilities, GSRC focuses on satisfying passenger and freight transport demands and takes action on the premise of guaranteeing transport safety and creating operation management benefits. To be specific, GSRC assumes six major social responsibilities, including construction and development, transport operation, safety production, harmonious construction, public welfare, and environmental protection. These responsibilities are correlated and interlinked to jointly serve the core target of satisfying passenger and freight transport demands.



2. Management structure

The Board of Directors of GSRC is the top regulator of ESG matters. GSRC's management is responsible for leading functional departments of human resources, operation, finance, audit, and general affairs to carry out work related to social responsibility, while the Secretariat of the Board of Directors is responsible for the collection and disclosure of CSR information. All stations and depots subordinate to GSRC set up full-time departments and posts of labor safety, technical management, salary and benefits, staff training, health, environmental protection, and energy saving to fulfill CSR.

IV. Standardized Operation and Integrity Management

(I) Corporate governance

GSRC followed securities laws and regulations, exchange listing rules, etc., continuously improved the corporate governance structure of GSRC, and promoted the standardized operation of the General Meeting of Shareholders, the Board of Directors, the Board of Supervisors, and the management. During this year, GSRC convened two shareholders' meetings, five meetings of the Board of Directors, four meetings of the Board of Supervisors, seven meetings of the Audit Committee, and 16 general manager office meetings. During the reporting period, GSRC established the Nomination Committee of the Board of Directors, and formulated the *Work Regulations of the Nomination Committee of the Board of Directors*, further improving the corporate governance mechanism.

Following the delisting of American Depositary Shares from the New York Stock Exchange (NYSE)

in November 2020 and the termination of the depository agreement in October 2021, GSRC submitted an application to the United States Securities and Exchange Commission on October 25, 2022 to deregister the American Depositary Shares and terminate the reporting obligations. The deregistration of the American Depositary Shares and the termination of the reporting obligations came into effect 90 days after the submission of the application.

(II) Internal control

The Audit Committee was responsible for supervising the internal control construction. The Audit Department, the Internal Control Office, and external accountants formed the Internal Control and Evaluation Work Group. The Board of Directors evaluated GSRC's internal control annually.

GSRC has basically established an internal control system throughout the whole process of decision-making, implementation, and supervision, a restriction mechanism for the separation of incompatible positions, and the management norms and processes in line with GSRC's business characteristics, and established a relatively complete set of internal control evaluation systems. Every year, GSRC will, according to the actual situation of the year, revise and improve the management system when necessary, track and inspect the actual implementation of various systems through the audit projects of the Audit Department and the internal control self-evaluation, and evaluate whether the management systems are effectively implemented. During the reporting period, the Audit Department of GSRC completed 18 audit projects and issued 10 relevant audit reports and audit decisions.

(III) Party building work

GSRC's Party committees and grass-roots Party organizations at all levels took "welcoming the 20th CPC National Congress and studying, publicizing, and implementing the spirit of the 20th CPC National Congress" as the main line of work, conscientiously promoted the implementation of the spirit of General Secretary Xi Jinping's important instructions on railway work and the decisions and arrangements of the CPC Central Committee, strengthened team building, laid a solid foundation for Party building, adhered to the principle of "Party building leading high-quality development", and strove to improve GSRC's governance ability. GSRC regularly held Party building meetings and special analysis meetings on the construction of the Party conduct and a clean Party branch, carried out activities such as comprehensive and strict Party self-examination and self-correction, standardization and normalization construction of Party branches, education and training of Party members, centralized discipline education of employees, etc., and coordinated confidentiality, network security, petition, stability maintenance, etc.

In 2022, GSRC strictly implemented the "First Topic" system and the requirements of "incorporating Party building into the Articles of Association", revised and improved the working rules of GSRC's Party Committee, and implemented the pre-research procedures of the Party Committee on major matters of operation and management. In the same year, GSRC held 21 Party Committee meetings, made 72 democratic decisions on "Three-major and One-large" issues, and handled 61 important matters of pre-research.

By the end of the reporting period, GSRC and its stations and depots established 17 Party committees, 94 general Party branches, and 746 Party branches, with 9,991 Party members.

(IV) Integrity operation

1. Operation management

GSRC strengthened operation management, improved system construction, paid close attention

to reducing costs and increasing efficiency, standardized the establishment of systems for examination and approval of major issues, analysis of economic activities, creditor's rights, debt management, etc., formulated and implemented detailed measures to increase income and reduce expenditure, revised management measures for procurement, wages, legal affairs, education, training funds, etc., and further improved management ability and management efficiency. In this year, GSRC finished 296 major repair projects, 419 fixed-asset investment projects, and signed 2,223 economic contracts.

GSRC's Anti-corruption and Anti-fraud Measures and Reporting Procedure

Regulations and requirements	Preventive measures, execution and supervision procedures	Reporting procedure
<i>Employee Manual, Code of Professional Ethics for Senior Managers, and Anti-fraud Regulations (Trial)</i>	GSRC's executives and employees in key positions fill in an annual statement	
<i>Rules for the Implementation of the Accountability for the Construction of the Party Conduct and a Clean Party Branch and Reporting System for Major Matters of the Construction of the Party Conduct and a Clean Party Branch</i>	GSRC establishes the accountability system, forms the leading group for the construction of the Party conduct and a clean Party branch, organizes self-inspection, and reports relevant matters every year.	GSRC establishes the reporting system for major matters of the construction of the Party conduct and a clean Party branch; the Discipline Inspection Commission reports major matters of the construction of the Party conduct and a clean Party branch
<i>Rules for the Implementation of the Three-major and One-large" Decision-making System</i>	The Party Committee, Board of Directors, and General Manager's Office make the "Three-major and One-large" decisions and inspect the supervision and accountability system	One can report to the superior in any of the following cases: individuals involved in decision-making hold different opinions; decision-making misplays or major losses cannot be corrected; major problems occur in the use of large funds.
<i>Administrative Measures for Legal Affairs and model contract</i>	Anti-commercial bribe clauses in the model contract; GSRC establishes legal affairs supervision and inspection system and a lifetime accountability system for the management of legal affairs.	
<i>Implementing Rules for Fund Management, Administrative Measures for Fund Allocation, and Administrative Measures for Comprehensive Budget</i>	GSRC establishes the inspection and supervision system for fund and budget management and the accountability system and strengthens internal audit and supervision.	Report the clues about the private coffer

2. Dividends

GSRC attaches great importance to creating returns for shareholders. Since its listing in 1996, it has distributed cash dividends for 24 consecutive years, with cumulative distributed cash dividends of RMB 12.31 billion (tax-inclusive) and a dividend distribution rate of 58.8%. After comprehensively

considering the loss situation, dividend distribution regulations, and GSRC's working capital requirements, the Board of Directors recommended not to distribute the final dividends in 2022.

3. Information disclosure

In 2022, GSRC issued 5 regular reports and 135 temporary announcements in domestic and overseas markets. GSRC conveyed information to the market in a timely and accurate manner, responded to market concerns, issued temporary announcements of forecasted annual performance losses, related-party transactions, etc., strictly fulfilled its information disclosure obligations, and protected investors' right to know, further improving the quality and transparency of GSRC's information disclosure. For details, please refer to the websites of SSE (www.sse.com.cn), the disclosure and trading platform of HKEX (www.hkexnews.hk), and the website of GSRC (www.gsrc.com).

4. Investor relations

In 2022, GSRC actively established and improved investor relations service channels, changed the email address for investor relations work, maintained the information disclosure column of GSRC's Internet website, answered more than 260 calls from investors, answered 18 questions from investors in the SSE e-Interaction, and maintained communication with GSRC's investors, especially medium and small investors.

In the year, GSRC held two shareholders' meetings in the form of "offline and online voting", and opened the SSE online voting channel. A total of 75 shareholders and shareholder agents attended the meeting. On April 7, 2022, GSRC held an online results presentation of 2021 through the SSE "e-Interview", during which five directors and senior executives of GSRC introduced GSRC's 2021 annual business performance through the online platform and actively interacted with investors.

5. Legal affairs

GSRC formulated and implemented new legal affairs management measures, further improved various legal affairs management mechanisms such as contract management, legal dispute case management, legal argumentation for major decisions, and law popularization, and strengthened the management guidance for legal affairs of subordinate stations and depots.

GSRC carried out secondary development of the enterprise management and legal affairs information system, further improved the availability, usability, and efficiency of the system, updated the standard contract text in time, and basically realized the informatization and paperless office of contract management work. In 2022, a total of about 2,800 contracts, including 2,223 signed and filed contracts, were circulated through the enterprise management and legal affairs information system.

GSRC revised the *Implementation Rules for Procurement of External Legal Services* to further standardize the procurement of legal services of GSRC and improve the procurement efficiency and quality of legal services. GSRC actively prevented legal risks and safeguarded the rights and interests of both GSRC and its employees. This year, it concluded 39 cases, avoiding/retrieving economic loss of RMB 25.071 million. In addition, it dealt with 17 cases for actively safeguarding the rights and interests, retrieving economic losses of about RMB 1.414 million.

GSRC generated 63 legal demonstration opinions on major issues, carried out contract management and legal affairs inspections in 22 organizations, promoted law popularization education, and further promoted the legalization and standardization of production, operation, and management behaviors.

6. Cooperation and development

(1) GSRC and government departments: GSRC cooperated with government departments at all levels to ensure the safe and smooth transportation of passengers and important materials, and actively studied and strove for various relief policies and subsidies to help enterprises.

(2) GSRC and shareholders: GSRC cumulatively paid shareholders RMB 12.31 billion of cash dividends (including taxes). GSRC strictly fulfilled its obligation of information disclosure, carried out investor relations management, regulated the operation of the General Meeting of Shareholders and the Board of Directors of GSRC, gave full play to the supervision functions of GSRC's Board of Supervisors, Audit Committee, and independent directors, and effectively safeguarded the rights and interests of shareholders.

(3) GSRC and creditors: As at the end of the reporting period, GSRC had long-term bank loans of RMB 775 million and maintained a good partnership with the bank in other corporate businesses.

(4) GSRC and suppliers: GSRC strictly implemented the relevant provisions of procurement management, standardized supply chain management, established and improved the supplier alternative database, prevented potential risks of suppliers in the environment, emissions, health and safety, labor rights and interests, supply chain anti-corruption, and other aspects, and jointly created a win-win, open and fair business environment.

In 2022, GSRC organized 8 tendering and negotiation projects and 83 non-bidding procurement projects. In 2022, there were 25 suppliers who won the bid for GSRC's businesses, including 10 suppliers in Guangdong Province and 15 suppliers outside Guangdong Province.

(5) GSRC and communities: GSRC and its subordinate units actively carried out community co-construction, cooperated with the socialized management of railway retirees, and supported the communities of railway employees to improve the property management level. GSRC strengthened the joint defense mechanism for road protection of communities along the railway, carried out safety publicity and inspection, and maintained the environmental landscape along the railway.

V. Safety Guarantee and Passenger and Freight Transport

(I) Safety guarantee

GSRC coordinated development and safety, continuously deepened safety infrastructure construction, further improved the basic level of safety management, safe transportation support ability, and work safety command efficiency, and achieved the annual transport safety goals.

1. Line safety

GSRC arranged specially-assigned persons to perform walkdown and protection of lines and equipment in specified areas, strengthened the repair maintenance of lines, bridges, tunnels, culverts, and subgrade, dredged and renovated drainage facilities, strengthened the modification of OCS, signals, turnouts, and other equipment, cleared dangerous rocks, dangerous trees, weeds, and shrubs along the line, and carried out the investigation and sorting of foreign matters such as light floating objects and tree intrusion along high-speed railway lines, thus ensuring line safety.

GSRC Line Operations (Including Entrusted Lines)

Item	Workload 2022	Workload 2021
Replacement of rails (km)	41.55	71.17
Replacement of tangential ground rails (km)	21.00	35.50
Tamping with large track maintenance machinery (km)	864.83	821.95
Installation and replacement of turnouts (set)	237	330
Maintenance of public works section (km)	600	1664
Repair of flood damage to railroads (times)	59	25
New and heightened fences (m)	17250	23026
New and heightened walls (m)	—	533
Newly-installed razor barbed wire (m)	22805	36497

2. Personal safety

Strictly observing provisions of the *Law of the People's Republic of China on Work Safety* and the *Regulation on Railway Safety Management*, GSRC established a well-grounded concept of safe development and built a safe work environment to ensure employees' safety in production. Each station or depot of GSRC revised and improved the work safety responsibility system and the assessment system for all employees, deepened the major inspection of work safety, and relied on the work safety command center to carry out emergency disposal guidance, comprehensive information management, and remote on-site operation supervision, thus promoting the realization of safety responsibility objectives. From 2020 to 2022, GSRC achieved the "zero death" goal for employee liability accidents for three consecutive years.

Death Toll of Negligence in GSRC in the Past Three Years

Year	2020	2021	2022
Death toll of negligence (persons)	0	0	0
Death ratio due to negligence/mortality	—	—	—

In 2022, the number of employees of GSRC suffering from an injury on duty was 32, with a year-on-year increase of 52.4%. The accumulative loss in working days due to work-related injuries was 2,214 days, with a year-on-year increase of 53.0%.

For the personal safety of passengers, GSRC carried out security inspections of passengers' luggage at passenger stations under its administration, prevented inflammable, explosive, and dangerous goods and controlled knives from entering the stations and trains, strengthened fire-fighting and food safety inspections for passengers, cooperated with the public security departments to crack down on railway-related illegal and criminal activities, and created a safe travel environment for passengers. Throughout the year, GSRC completed the modification of five level crossings into interchange crossings, the modification and construction of five railway culverts, thus guaranteeing the safety of

residents along the line.

2022 Security Screening Equipment and Forbidden Objects Confiscated in

Major Passenger Stations of GSRC

Station	Security scanner (sets)	Detector (pieces)	Forbidden objects confiscated (pieces)
Guangzhou Railway Station	27	356	199517
Guangzhou East Railway Station	28	420	150432
Shenzhen Railway Station	15	18	51588
Subtotal	70	794	401537

3. Technology security

In 2022, GSRC invested RMB 217.62 million in 93 fixed assets related to train operation safety and focused on the promotion and implementation of projects such as the video monitoring system of Guangzhou-Shenzhen Railway, the container security inspection station of Dalang Freight Yard, and the adaptive transformation of the traction power supply system of the Pingshi-Guangzhou Section of Beijing-Guangzhou Railway.

GSRC accelerated the transformation of transport to intelligence, automation, and digitalization, realized the full-cycle information management through QR codes of some production equipment, built centralized warehouses with constant temperature and humidity for communication & signaling equipment with robots to automatically store and pick up the high-precision boards and cards, provide the front-line production personnel with hand-held terminals, electric wrenches, electric cleaning brushes, and other tools to improve production efficiency and reduce labor intensity, and further improved their safety ability with science and technology.

4. Other responsibilities

GSRC's policies regarding privacy, complaints, and intellectual property rights related to its services:

(1) Protection of passengers' private information: GSRC complied with relevant laws and regulations to protect passengers' privacy. In accordance with relevant provisions of the real-name train ticket system, GSRC strictly took some measures in information security, protecting passenger personal data, carefully managing the credit records of travelers, and recording and reporting passengers who had dishonest conduct.

(2) Complaint channels: GSRC published contact numbers in the passenger and freight stations and on the trains, and accepted complaints about passenger and freight transport through 12306 and 95306 (both websites and telephone numbers). In major passenger stations, there were service rooms to answer passengers' questions, provide service and accept complaints. GSRC also handled investor-related inquiries through channels such as SSE e-interaction, hotline, fax, and email. Complaint channels had respective internal handling procedures and records, and there were no comprehensive statistics on the number of complaints and their handling results.

(3) Intellectual property rights: GSRC implemented a cultural assets management system to better

deal with the registration, management, and protection of the cultural assets in GSRC. GSRC attached great importance to the protection of intellectual property rights, the purchase of computers, and the installation of official software for IT security. GSRC established a science and technology project management system, which regulated the establishment, implementation, evaluation, and application of science and technology. In 2022, GSRC completed the final acceptance of three science and technology management projects.

(II) Passenger and freight services

1. Passenger transport services

In 2022, GSRC transported 26.52 million passengers, with a revenue of RMB 6.683 billion. GSRC improved the passenger service quality, optimized the train operation plans, and provided passengers with a fast and convenient travel experience.

(1) Improving the ticketing service function: Based on the opening of the new line and the change in transport capacity, GSRC optimized the ticketing strategy and the pre-assignment scheme of tickets by region, time period, line, and train number, launched a barrier-free and elderly-oriented function interface on the website 12306.cn and the 12306 APP, provided 20-hour ticket change services and 24-hour ticket refund services every day, added new functions such as ticket refunding in case of train accidents and handling of electronic temporary riding identity certificates, promoted "paperless" e-tickets, and increased intercity lines and high-speed rail lines selling the trip-based tickets (20 fixed inter-station round trips in 90 days) and regular tickets (up to 60 fixed inter-station round trips in 30 days).

(2) Optimizing the train operation plans: According to changes in passenger flow, GSRC implemented the train operation plans of "one diagram per day", increased the point-to-point direct train operation between Guangzhou and Shenzhen, and shortened the time of the whole journey.

(3) Optimizing the waiting and riding environment for passengers: GSRC coordinated with the local governments to build a temporary waiting shed of 2,000 square meters at Guangzhou Railway Station to shield passengers from wind and rain, comprehensively renovated the facilities in the passenger station yard, equipped toilets in the passenger stations with large rolls of paper, foam hand sanitizer, automatic sensor hand dryers, and other equipment, and improved and optimized the information content of broadcasting, display screens, and signs in the passenger stations to facilitate passengers to understand passenger transport information.

(4) Ensuring smooth passenger access channels: GSRC dynamically adjusted the number of ticket-checking channels and security check channels in and out of passenger stations according to passenger flow changes, arranged urgent passenger channels to facilitate passengers approaching the ticket-checking time to enter the station quickly, and arranged convenient transfer channels and subway connection security check-free channels to meet the traffic transfer needs of passengers.

(5) Serving the key passengers: GSRC established customer service centers and information desks at passenger stations to provide services and assistance for key passengers such as the elderly, the weak, the sick, the disabled, and the pregnant, and arranged "caring channels" to provide manual services, cash ticketing, and commodity purchase services for elderly passengers.

By December 31, 2022, GSRC had got 2,185 passenger vehicles and 32 sets of EMUs. Altogether 277 ticket vending machines, 534 automatic ticket gates, 99 reimbursement voucher printing machines, and 108 identification information verification devices had been set up at the stations under the control

of GSRC. Passengers completed more than 518,000 transactions through WeChat, Alipay, and UnionPay and purchased a total of 1,391 trip-based tickets and regular tickets of the Guangzhou-Shenzhen Intercity Railway.

During the Spring Festival travel rush in 2022 (January 7 - February 25, 2022), based on the goal of Spring Festival travel rush task, GSRC made preparations in advance, organized and coordinated various work in an orderly manner, and successfully completed the Spring Festival travel rush task.

Departing Passenger Volume in Major Stations of GSRC in 2022

Station	Departing passengers (10,000 persons) in 2022	Departing passengers during the spring festival holiday (10,000 persons) in 2022
Guangzhou Railway Station	863.5	157.3
Guangzhou East Railway Station	814.7	129.5
Shenzhen Railway Station	273.0	42.9
Total (10,000 persons)	1951.2	329.7

2. Freight transport services

In 2022, GSRC strengthened freight organization and train operation to ensure the transportation of key materials and improve freight capacity and efficiency. During the year, the transported goods were 16.57 million tons, and the freight traffic revenue was RMB 1.617 billion.

GSRC gave full play to the advantages of safe, punctual railway and all-weather freight transport with a large traffic volume, implemented the principle of "five priorities" (i.e. priority in acceptance, transport, loading, pick-up and delivery, and unloading) for materials related to people's lives such as thermal coal, grain, and petroleum, smoothed the transportation chain, and ensured the normal life of the people and the normal production of relevant enterprises. In 2022, Guangdong put into operation a total of 965 international freight trains bound for Central Europe, Central Asia, Southeast Asia, etc., with a year-on-year growth of 123.9%. On the basis of the original stations, three new departure stations were established, i.e. Jiangmen North Railway Station, Guangzhou Nansha Port South Railway Station, and Guangzhou International Port Railway Station, so the number of departure stations in Guangdong was increased to 9. At present, Guangzhou International Port Railway Station, Guangzhou Zengcheng West Railway Station, Shenzhen Pinghu South Railway Station, and other stations can realize the normal operation of nearly 30 trains per month.

3. Railway network liquidation and other transport services

GSRC provided road network liquidation and other transport services including passenger and freight transport network liquidation, railway operation, locomotive and bus leasing, crew service, and package transport. GSRC was entrusted to provide railway operation services for some railways, such as Wuhan-Guangzhou Railway, Guangzhou-Zhuhai Intercity High Speed Railway, Guangzhou-Shenzhen-Hong Kong Express Rail Link, Guangzhou-Zhuhai Railway, Xiamen-Shenzhen Railway, Guangdong Railway, Nanning-Guangzhou Railway, Guiyang-Guangzhou High-speed Railway, the Pearl River Delta Metropolitan Region Intercity Railway System, Maoming-Zhanjiang Railway, Shenzhen-Maoming Railway, Meizhou-Shantou Railway, and Ganzhou-Shenzhen High-speed Railway.

In 2022, GSRC's revenue from railway network liquidation and other transport services reached RMB 10.423 billion.

4. Other services

In 2022, other services provided by GSRC mainly included train maintenance, catering, leasing, inventory management and sales, commodity sales, and other railway transport-related businesses, with annual revenue of up to RMB 1.221 billion.

VI. Environmental Protection & Energy Conservation and Emission Reduction

In 2022, GSRC thoroughly implemented the new development concept, promoted environmental protection, and implemented energy conservation and emission reduction measures. Therefore, a number of emission indicators had a year-on-year decrease. GSRC acted rigidly complying with laws, regulations, and relevant standards such as the *Environmental Protection Law of the People's Republic of China* and the *Law of the People's Republic of China on Environmental Impact Assessment*, to develop an all-around environmental protection system throughout the working process.

(I) Specific measures

(1) Energy conservation and emission reduction — GSRC strengthened the operation and maintenance of environmental protection facilities to ensure the safe discharge of sewage and waste gas after treatment, used low-sulfur coal, strengthened the energy consumption management of gasoline and diesel, realized the year-on-year decrease of annual sulfur dioxide emissions of 11.58%, strengthened the management of production water and electricity, eliminated the "long-term running of water" and "constant lighting", optimized the use of illumination lamps in passenger stations, and used energy-saving lamps.

(2) Environmental protection — GSRC cleared 96 culverts and 26,844 meters of drainage facilities for the lines under its administration, cleared the sludge of 694 cubic meters, and cleared the white trash along the lines of 136 tons. GSRC promoted the "paperless" office, ticket, and equipment management by using online office system, enterprise legal information system, e-ticket system, and QR code information technology for communication & signaling equipment. GSRC implemented the relevant measures for the management of train whistling in the railway industry and installed and used locomotive whistling restriction devices to reduce noise pollution along the line. GSRC constructed environmental protection renovation projects such as rainwater and sewage diversion and painting treatment.

(3) Waste treatment — GSRC obtained the benefits of RMB 54.77 million by repairing old equipment and recycling wastes (repairing and recycling waste parts and equipment) and RMB 69.41 million by disposing of the scrapped materials (including the auction of waste rails and sleepers). GSRC transferred and treated 1,197 tons of hazardous waste through professional third-party organizations.

(II) Resource usage and discharge

GSRC determined the consumption of relevant resources and emission targets according to the annual operating budget and passenger and freight transport targets, and strictly implemented emission monitoring and data collection during operation and production to ensure the achievement of emission standards.

Statistical Table of Resource Consumption in GSRC

Item	Consumption			Resource density (consumption/converted turnover)		
	2022	2021	2022 compared with 2021	Unit	2022	2021
Comprehensive energy consumption (Ton of standard coal)	126709.62	147155.25	-13.89%	t/million t-km	5.72	6.19
Power consumption (10,000 kWh)	44204.27	52097.51	-15.15%	10,000 kWh/million t-km	1.99	2.19
Fuel consumption (t)	48697.55	56016.98	-13.07%	t/million t-km	2.20	2.36
Gas consumption (10,000 m ³)	72.70	74.62	-2.57%	m ³ /million t-km	32.80	31.39
Industrial water consumption (1,000 t)	1150.82	1234.69	-6.79%	t/million t-km	51.93	47.99

Emissions in GSRC

Item	Emission			Emission density (emission/converted turnover)		
	2022	2021	2022 compared with 2021	Unit	2022	2021
Industrial wastewater (1,000 t)	975.01	1048.22	-6.98%	t/million t-km	43.99	40.75
SO ₂ (t)	0.229	0.259	-11.58%	g/million t-km	10.33	10.07
Chemical oxygen demand (COD) (t)	29.751	45.958	-35.26%	kg/million t-km	1.34	1.79
Smoke (t)	0.178	0.176	1.14%	g/million t-km	8.03	6.84
Oil-related emission (t)	1.213	1.793	-32.35%	g/million t-km	54.73	69.70

To increase resource use efficiency, GSRC planned to implement budget management on materials and energy so as to provide the necessary resources and energy for transport and to reduce the non-productive consumption of resources. GSRC implemented laws, regulations, and standards such as the *Law of the People's Republic of China on Prevention and Control of Water Pollution* and the *Reuse*

of Urban Recycling Water— *Water Quality Standard for Urban Miscellaneous Use* to protect and save water resources through improving water reuse rate. GSRC did not encounter any problems in finding suitable water sources. As GSRC provided passenger and freight transport services, there were no statistics about the use of packaging materials for end-products, except for the protective and reinforcement materials necessary for the transport.

One subsidiary of GSRC — Guangzhou Train Driving and Maintenance Division was listed in the list of key targets under emission supervision 2022. Please refer to the "Environmental Information" section of GSRC's annual report 2022 for more information.

By December 31, 2022, GSRC was equipped with 155 diesel locomotives and 60 electric locomotives. The energy consumption of the locomotives is shown below:

Energy Consumption of Locomotives in GSRC

Indicator	Diesel locomotive		Electric locomotive	
	2022	2021	2022	2021
Diesel fuel (t)	44260.09	49506.45	—	—
Diesel fuel consumption intensity (kg/10,000 t-km)	32.77	34.47	—	—
Electricity (10,000 kWh)	—	—	30222.70	34559.85
Electricity consumption intensity (kWh/10,000 t-km)	—	—	138.34	141.15
Oil and grease consumption (t)	339.94	477.53	24.47	28.25

VII. Social Welfare and Employee Rights & Benefits

(I) Social welfare

In 2022, GSRC actively participated in social activities for public good, popularized railway traffic safety knowledge in communities, schools, and enterprises along the line, carried out public welfare publicity in passenger stations, trains, and production and living areas of staff, and organized a total of 7,823 person-times of volunteer activities such as passenger services and environmental cleaning. Two station/depot youth volunteers associations of GSRC were rated as National Outstanding Volunteer Organizations of Railway Industry, and one individual was rated as National Outstanding Volunteer of Railway Industry.

GSRC actively contacted the local governments to establish the new-form family of workers of Changping Town, Dongguan City in Changsheng Yard, provided providing medical first-aid kits, water dispensers, shelter from the rain, rest area, books and newspapers, microwave ovens, mobile phone charging devices, and other facilities, and created a good employment and working environment.

In 2022, GSRC visited needy employees for 5,406 person-times, used the railway industry assistance fund to aid and assist employees for 3,921 person-times, and donated RMB 567,000 to the railway industry assistance fund.

(II) Employee rights & benefits

GSRC protected the rights and interests of employees as always and standardized labor and employment in accordance with the laws and regulations, such as the *Labor Law of the People's Republic of China*, the *Labor Contract Law of the People's Republic of China*, the *Trade Union Law of the People's Republic of China*, and the *Regulation of Guangdong Province on the Payment of Wages*.

1. Employees

By December 31, 2022, GSRC had altogether 39,396 employees. Details are shown in the following table.

Information Table of GSRC Employees

Item	2022	2021	Employee turnover rate (-) and increase rate (+) in 2022 compared with 2021 (Note)
Total number of employees	39396	40616	-3.00%
By gender			
— Male	30187	30797	-1.98%
— Female	9209	9819	-6.21%
By age			
— Below 30	9874	11146	-11.41%
— 31-40	10626	9737	9.13%
— 41-50	9047	9722	-6.94%
— Above 51	9849	10011	-1.62%
By education degree			
— Master's degree and above	162	161	0.62%
— Bachelor's degree	5285	5192	1.79%
— Junior college degree	16865	16556	1.87%
— Others (secondary technical school, senior high school, vocational-technical school, etc.)	17084	18707	-8.68%
By region			
— Shenzhen (location of employer)	3475	3152	10.25%
— Other regions (location of employer)	35921	37464	-4.12%
By specialty			
— Passenger and freight transport personnel	18019	18283	-1.44%
— Maintenance personnel	5270	5547	-4.99%
— Vehicle personnel	3283	3496	-6.09%
— Labor personnel	3417	3431	-0.41%
— Electric service personnel	1796	2009	-10.60%
— Power and water supply personnel	2225	2319	-4.05%

Item	2022	2021	Employee turnover rate (-) and increase rate (+) in 2022 compared with 2021 (Note)
— Building construction personnel	1200	1226	-2.12%
— Staff of diversified operations and other subsidiaries	96	107	-10.28%
— Technical and administrative staff	4090	4198	-2.57%

Note: The turnover rate or increase rate was calculated according to the number of employees at the end of the two years. The data might be affected by factors such as the growth of employees' age, natural death, legal retirement, and the need for adjustment of production and operation.

In 2022, GSRC terminated and canceled the labor contracts of 181 employees, accounting for 0.45% of the total number of employees of GSRC. GSRC has never employed child labor and forced labor.

2. Compensation package

GSRC adhered to the concept that development should rely on employees and be for employees, shared development achievements with employees, effectively safeguarded employees' rights and interests, signed collective and individual labor contracts, handled social insurance and housing provident fund for employees according to law, established enterprise annuities, supplementary medical care, and other mechanisms, and ensured employees' job promotion, working hours, equal opportunities, diversification, anti-discrimination, holidays, and other treatment and benefits.

GSRC adopted a salary distribution policy that closely related labor remuneration to economic benefits, labor efficiency, and personal performance, and closely related the total remuneration of the staff to GSRC's operating benefits. In 2022, GSRC's wage and welfare expenses amounted to RMB 8,885.02 million.

3. Team building

GSRC attached great importance to the construction of the talent team and optimized the team structure and improved the quality of employees through measures such as recruiting graduates, providing vocational training, conducting professional title evaluation, and performing talent selection.

GSRC recruited 982 new graduates in 2022, including 18 students who have master's degrees or above, 137 undergraduates, and 827 junior college graduates.

During the reporting period, GSRC had a total of 107 full-time vocational education management personnel, provided various types of vocational training for 879,062 person-times, position standardization training, adaptability training, qualification training, and continuing education, and completed the annual training plan by 100%. The training expenditure was about RMB 39,448,400. The relevant training was carried out in accordance with production safety, vocational skills qualifications, job needs, and career development plans, without statistics on the number of people and class hours by gender.

GSRC carried out anti-corruption training through law popularization, centralized discipline education, special lectures, etc. The training for directors, supervisors, and senior managers was 10 person-times, and that for employees was 20,000 person-times. In 2022, GSRC reported no filed or

concluded lawsuits against GSRC or any employee for corruption.

Training Table in GSRC

Training category	Number of instances of participation	
	2021	2022
Training on safety regulations	273786	211737
Off-job training for main types of driving work	11598	14197
Qualification training	8752	9740
Factory leader training	1624	1670
Technical competition and post training	451924	301129
Continuing education	18829	13968
Miscellaneous	452905	326621
Total	1219418	879062

Teaching schedule for GSRC Administrator Training in 2022

Category of personnel	Number (persons)	Average number of training hours (h)
Senior managers of GSRC	7	140
Leaders of railway sections	175	176
Other middle-level managers	1620	117

National, Provincial, and Ministerial Level Group Awards GSRC Won in 2022

Group	Unit	Awards
Guangshen Railway Company Limited	Headquarters	Shenzhen's Top 500 Enterprises in 2022
Guangzhou Train Driving and Maintenance Division	Guangzhou Train Driving and Maintenance Division	National Model Institution
Guangzhou-Kowloon Passenger Traffic Section	Guangzhou-Kowloon Passenger Traffic Section	National Railway Civilized Unit
Guangzhou Passenger Traffic Section	Guangzhou Passenger Traffic Section	
Shenzhen Railway Station	Shenzhen Railway Station	National Civilized Railway Station
High-speed Train Team One of First High-speed Train Fleet	Guangzhou-Kowloon Passenger Traffic Section	National One-star Youth Model Unit
Guangzhou-Kowloon Team II of Guangzhou-Kowloon Fleet		
Beijing-Shenzhen Team I of		

Group	Unit	Awards
Beijing-Shenzhen Fleet		
Wheelset Maintenance Team of Wheel and Axle Workshop	Guangzhou North Depot	
Guangzhou Depot	Guangzhou Depot	Excellent Organization in National “Ankang Cup” Competition
CCYL Committee of Guangzhou-Kowloon Passenger Traffic Section	Guangzhou-Kowloon Passenger Traffic Section	National Railway "May 4 th " Red Flag CCYL Committee
CCYL Committee of Guangzhou Depot	Guangzhou Depot	
CCYL Committee of Guangzhou Railway OCS & Power Supply Maintenance Division	Guangzhou Railway OCS & Power Supply Maintenance Division	
CCYL Committee of Guangzhou Railway Building Maintenance Division	Guangzhou Railway Building Maintenance Division	
CCYL Branch of Guangzhou South Operation Workshop	Guangzhou North Depot	National Railway "May 4 th " Red Flag CCYL Branch
CCYL Branch of the Depot Examination Workshop of East Guangzhou	Guangzhou Depot	
CCYL Branch of Guangzhou Servicing Workshop	Guangzhou Train Driving and Maintenance Division	
CCYL Branch of Zhaoqing East Buildings and Structures Workshop	Guangzhou Railway Building Maintenance Division	
CCYL Branch of Guangzhou South High-speed Railway Buildings and Structures Workshop		
CCYL Branch of Power Transformation and Distribution Maintenance Workshop	Guangzhou Railway OCS & Power Supply Maintenance Division	
General CCYL Branch of Shenzhen Passenger Transport Workshop	Shenzhen Railway Station	Advanced CCYL Branch of National Railway Safety Production
CCYL Branch of the Shenzhen Operation Workshop		
High-speed Train Team III of Xiamen-Shenzhen High-speed Train Fleet I	Guangzhou-Kowloon Passenger Traffic Section	National Youth Demonstration Post of Safe Production of the Railway Industry

Group	Unit	Awards
"Yingchunhua" Caring Service Team of Shenzhen North Railway Station	Shenzhen Railway Station	Advanced Collective in the Meritorious Service Competition of National Railway Transport During the Spring Festival Travel Rush
High-speed Train Fleet I of Guangzhou-Kowloon Passenger Traffic Section	Guangzhou-Kowloon Passenger Traffic Section	Demonstration Point of National Railway Service Culture Construction
Guangzhou Track Maintenance Division	Guangzhou Track Maintenance Division	Advanced Collective in National Railway Flood Control and Relief Work
Party Committee of Guangzhou-Kowloon Passenger Traffic Section	Guangzhou-Kowloon Passenger Traffic Section	Demonstration Point of National Railway Grass-roots Ideological and Political Work
Party Committee of Shenzhen Railway Station	Shenzhen Railway Station	
Guangzhou Railway Building Maintenance Division	Guangzhou Railway Building Maintenance Division	Advanced Collective in National Railway Complaint Letters and Visits Work
Guangzhou-Kowloon Passenger Traffic Section Youth Volunteer Association	Guangzhou-Kowloon Passenger Traffic Section	National Outstanding Volunteer Organization of Railway Industry
Youth Volunteers Association of Shenzhen Railway Station	Shenzhen Railway Station	
Guangzhou Train Operation Depot	Guangzhou Train Operation Depot	Benchmark Station/Depot for Assessment and Evaluation of Standardization and Normalization Construction of National Railway Transport Stations/Depots
Changping Railway Station	Guangzhou Train Operation Depot	Customer-Satisfied Unit among National Railway Passenger and Freight Transport Service Windows
QC Team of Equipment Workshop	Guangzhou North Depot	Excellent Quality Management Group in the Railway Industry
Power Supply Workshop of Guangzhou South High-speed Train	Guangzhou Railway OCS & Power Supply Maintenance Division	
Dispatching Duty Room		
Power Transformation and Distribution Maintenance Workshop		

Group	Unit	Awards
South Guangzhou High-Speed Track Maintenance Division	South Guangzhou High-Speed Track Maintenance Division	"May 1 st " Labor Medal of Guangdong Province
Guangzhou Railway Building Maintenance Division	Guangzhou Railway Building Maintenance Division	
Guangzhou Track Maintenance Division	Guangzhou Track Maintenance Division	Guangdong Outstanding Three-Preventions Unit
Dedicated Fleet	Guangzhou-Kowloon Passenger Traffic Section	Advanced Female Worker Collective of Guangdong Province
CCYL Branch of the Guiyang–Guangzhou High-speed Train Fleet	Guangzhou-Kowloon Passenger Traffic Section	Guangdong Railway "May 4 th " Red Flag CCYL Branch

National, Provincial, or Ministerial Level Individual Awards of GSRC in 2022

Individual	Unit	Awards
Liang Guangwei	Guangzhou Depot	"Locomotive Medal" of Federation of Railway Labor Unions
Li Yuan	Shenzhen Railway Station	
Lin Liwen and Zhang Mingxing	Guangzhou Railway Building Maintenance Division	
Wang Keping	Guangzhou Depot	National Railway New Long March Shock Worker
Cai Heng and Zhan Dongao	Guangzhou Railway Building Maintenance Division	National Railway Outstanding CCYL Cadre
Xu Zhidan and Xu Ping	Guangzhou-Kowloon Passenger Traffic Section	National Railway Excellent CCYL Member
Yang Yu and Hao Qiangdong	Guangzhou Depot	
Jiang Yangfeng	South Guangzhou High-Speed Track Maintenance Division	National Outstanding Volunteer of Railway Industry
Zhou Hao	Guangzhou Railway Building Maintenance Division	National Railway Youth Post Expert

Individual	Unit	Awards
Li Huayun	Guangzhou Depot	
Zhu Yi and Meng Fandong	Guangzhou Train Driving and Maintenance Division	
Xia Wenbo and Feng Botao	Guangzhou North Depot	
Jiang Siqi and Fan Hongchao	South Guangzhou High-Speed Track Maintenance Division	
Yang Fuhan, Wang Yong, and Wang Hua	Guangzhou-Kowloon Passenger Traffic Section	
Zhang Can, Li Laisheng, and Li Haibiao	Guangzhou Railway OCS & Power Supply Maintenance Division	
Tang Junsheng	Guangzhou Railway OCS & Power Supply Maintenance Division	Advanced Individual in National Railway Complaint Letters and Visits Work
Guo Jing	Guangzhou-Kowloon Passenger Traffic Section	Outstanding Individual in the Meritorious Service Competition of National Railway Transport During the Spring Festival Travel Rush
Yi Junjie	Guangzhou Train Driving and Maintenance Division	
Wang Jiuhe	South Guangzhou High-Speed Track Maintenance Division	
Ma Wei and Cheng Sijia	Guangzhou-Kowloon Passenger Traffic Section	Outstanding Volunteer in the Meritorious Service Competition of National Railway Transport During the Spring Festival Travel Rush
Li Gang	Guangzhou Track Maintenance Division	Advanced Individual in National Railway Flood Control and Relief Work
Tu Ziqin	Guangzhou Railway Building Maintenance Division	"May 1 st " Labor Medal of Guangdong Province
Tang Jianjun	Guangzhou Freight Center	

4. Employee care

GSRC accelerated the construction of a community of shared future for the enterprise and its employees, improved the production and living conditions of employees through a number of measures, and enriched the spare time life of employees:

(1) GSRC consolidated and optimized the construction achievements of safe and high-quality standard lines and promoted the construction of the home of staff and the smart apartments;

(2) GSRC organized collective birthday parties, youth sodalities, and staff sports meetings, and organized diversified cultural and sports activities such as spring outings, film watching, mountaineering, body-building, calligraphy and photography competitions, etc. for employees;

(3) GSRC realized remote walkdown of some sections through advanced technical equipment, and equipped grass-roots front-line employees with information terminals and electric maintenance equipment, thus reducing the labor intensity and risks of the employees;

(4) GSRC provided employees with labor protection appliances and heatstroke prevention and cooling materials, installed large-displacement fans in the maintenance warehouses, optimized the setting of maintenance stations, and improved production conditions;

(5) GSRC constructed one bachelor dormitory, two train crew dormitories, and two canteens, and reconstructed one bachelor dormitory, thus improving the accommodation and dietary conditions of employees;

(6) During the Spring Festival travel rush in 2022, GSRC opened two winter holiday trusteeship classes for the Guangzhou Railway Station area. These classes looked after the employees' children for 300 person-times, so that station the employees could more securely participate in the work during the Spring Festival travel rush.

In 2022, GSRC arranged the physical examinations for employees of 34,436 person-times, including the occupational physical examinations of 14,429 person-times, the physical examinations of 14,673 person-times, and the gynecological examinations for female workers of 5,334 person-times.

VIII. Report Specification

(I) Report scope

If not otherwise stated, the data and information in this report are obtained from GSRC and its subordinate stations and depots. Unless otherwise specified, this report primarily describes the economic, environmental, and social work of the passenger and freight transport and other operations of GSRC from January 1, 2022 to December 31, 2022, and briefly reviews previous related activities. Unless otherwise stated, the financial data in this report are computed in Renminbi (RMB).

(II) Reporting principles

Reporting principles are the basis for compiling the CSR Report. GSRC has fully followed the principles of importance, quantification, and consistency to determine and introduce the main performance of ESG matters in 2022.

(III) Data collection

In order to collect the data and information on fulfilling CSR, GSRC sent relevant questionnaires to all units (departments). Relevant data and information are collected mainly through GSRC's intranet, realizing the "paperless data collection".

This report tries to provide a comprehensive picture of what GSRC has done to fulfill its social responsibilities. GSRC will continue to refine and improve the disclosure content and format of the CSR

report in the future and update the report annually.

(IV) Basis of preparation

The content of this report is determined on matters of disclosure in accordance with the requirements of the *Guidelines No. 1 of the Shanghai Stock Exchange for the Application of Self-regulatory Rules for Listed Companies* released by the Shanghai Stock Exchange (SSE) and the *Appendix 27 Environmental, Social and Governance Reporting Guide of the Stock Exchange of Hong Kong Limited (SEHK)*.

In case of discrepancies in the two versions, the Chinese version shall prevail.

(V) Social contribution value per share

According to SSE's *Guidelines No. 1 of the Shanghai Stock Exchange for the Application of Self-regulatory Rules for Listed Companies*, GSRC actively continued to disclose its social contribution value and calculation caliber per share in this report. In 2022, GSRC's social contribution value per share was RMB 1.11 (2021: RMB 1.27 per share). Specifically, the basic earnings per share of shareholders were RMB -0.28, and the added value per share created for society reached RMB 1.39 (RMB 86.37 million of tax revenue contributed to the state in the whole year + RMB 13.52 million of interest paid to the banks + RMB 8,885.02 million of wages and welfare + RMB 217.62 million of major train operation safety investment + RMB 634.51 million of passenger service input + RMB 567,000 of charitable donations - RMB 18.53 million of pollution discharge cost as a key pollution supervision entity)/the total number of shares (7,083,537,000 shares).

(VI) Contact information

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