



XIWANG SPECIAL STEEL COMPANY LIMITED 西王特鋼有限公司

(incorporated in Hong Kong with limited liability)

Stock Code : 1266

2017 ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT



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ABOUT THE COMPANY

Xiwang Special Steel Company Limited (the “**Company**”) was founded in December 2003, as a controlled subsidiary of Xiwang Group Company Limited (the “**Xiwang Group**”). The Company was listed in the main board of the Stock Exchange of Hong Kong Limited (the “**Stock Exchange**”) in February 2012. It was accredited by the Ministry of Industry and Information Technology as a corporate that meets the industry standards in January 2014. The Company’s designed annual steel smelting and rolling capacity are respectively 3,300,000 tons and 3,000,000 tons, major products include high-quality carbon steel, structural alloy steel, pinion steel, spring steel and ball bearing steel and various high-quality steel rods and wires, high-strength building materials, special steel ingots and forged bars and etc, for high-end uses.

The Company maintains the transformation strategy to develop from general steel to special steel, then to steel products and to public use. It has cooperated with the Institute of Metal Research of Chinese Academy of Sciences to establish a clean and intelligent high-end model production line. The production facilities and processes are becoming more and more stable and mature, and the steel production capacity is improving steadily. More than 80 types of high-end special steel products are placed on the market now and are highly recognized by high-end customers in the PRC and markets across Asia.

PROMOTION OF SOCIAL RESPONSIBILITY

The Company implements effective management of social responsibility. During its work, the Company has established a system for promoting social responsibility in which management is involved and various departments coordinate in order to guarantee the implementation and advance of social responsibility tasks. This report contains information and data on the Company’s environmental, social and governance performance during the period from 1 January 2017 to 31 December 2017 (the “**Report**”). This Report has been prepared in accordance with the “Environmental, Social and Governance Reporting Guide” in Appendix 27 to the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited. This Report sets out the approach, strategy, priorities and objectives of the Company’s management on Environmental, Social and Governance (the “**ESG**”) relating to its business, and measures and systems adopted by the Company to implement and monitor the ESG strategy. As the board of the Company (the “**Board**”) is responsible for assessing and determining the Company’s risk related to ESG, and ensuring that proper ESG risk management and internal control systems are in place, the Board, with confirmation from the management, considers that the ESG risk management and internal control systems are effective.

We value your feedback on our sustainable development. If you have any comments and suggestions for this Report and our economic, environmental and social performance, please feel free to send us your feedback to wangchao@xiwang.com.cn.

ENGAGEMENT OF STAKEHOLDERS

The Company considers that stakeholders of the Company include government, shareholders and investors, employees, customers, suppliers, peer and industry associations. Expectations and opinions from our stakeholders are important and valuable. The Company engages its stakeholders through utilizing different channels, such as, publication of annual reports, official website, general meetings, training and seminars, feedback forms and industry conference. Through stakeholders engagement, the Company understands the expectations and concerns from stakeholders so as to facilitate the formulation of strategies for sustainable development.

HUMAN RESOURCES

I. Employment and Labor Standards

A. Employees

Xiwang Steel upholds the business philosophy of “Health, Integrity, Fortune and Happiness”, as well as people-oriented, harmonious development, attaching importance to maintaining and safeguarding employees’ rights and interests. We adhere to staff standards, providing them with pleasant work environment, competitive salary and benefits and advancement path, nurturing healthy, pragmatic, innovative, hardworking and enterprising staff members.

The Company fully recognizes the importance of talents. In order to facilitate the transformation and upgrading of our products, we specially hire senior metallurgical technicians from enterprises such as Dongbei Special Steel (東北特鋼) and Xining Special Steel (西寧特鋼) to set up product research and development teams and enhance our technological R&D capabilities. At the same time, the Company visits major colleges and universities to recruit talents in science and engineering disciplines such as metallurgical materials and metal machinery, sets up college-enterprise cooperation model, strengthens its foundation and broaden its market, upgrades the overall education levels of staff members, and provides quality human resources for further transformation and upgrading of the Company.

An effective salary incentive mechanism has been established to attract and retain the talents needed by the Company, allowing employees to share the profit from the development of the Company. In accordance with relevant national and regional laws and regulations and relevant management systems of the Company, a salary management mechanism based on job performance and various allocations was established to guarantee the realization of employees’ value.

The Company takes “efficiency first” as the principle, and conducts assessments based on the completion rate of profits percentage etc., and implements total participation of employees in profit performance. Main performance assessment indicators of performance salary of production staff are output, quality and safety of products while that of other functional management departments are personal key performance indicators, capabilities, behavior and attitudes. At the same time, salaries of all staff are linked to the operating profits of the Company so as to promote employees’ awareness of increasing efficiency and creating income, sharing corporate profits and benefits.

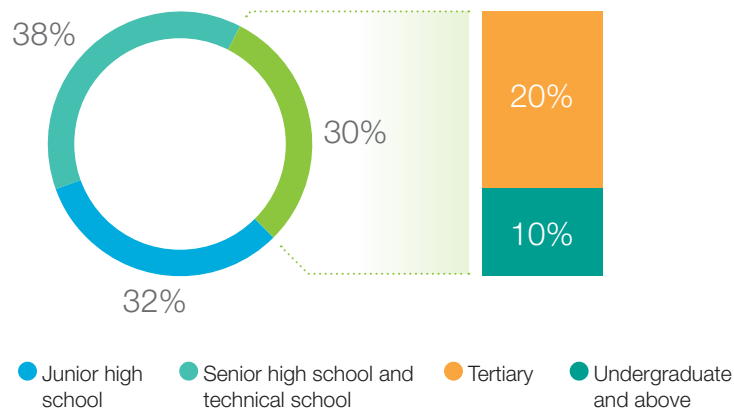
In accordance with the principle of “openness, fairness, and impartiality,” the Company has formulated “Requirements for promotion of junior management personnel”. In the selection of junior management personnel, comprehensive evaluation is conducted in various ways such as open competition, equal competition, recommendation by seniors, and personal application. A clear and smooth promotion path is in place, which is subject to the supervision of all staff members and is incentives-oriented, encouraging career advancement.

The Company strictly implements the relevant management systems specified by national laws and regulations, such as “Employees Recruitment Management System”, “Remuneration Management System”, “Employees Leave Management Measures”, “Social Security Management System” and “Employment Contract Management Measures”. The Company standardizes the process of recruitment, appointment, selection, assessment and leave-taking of employees through various management requirements.

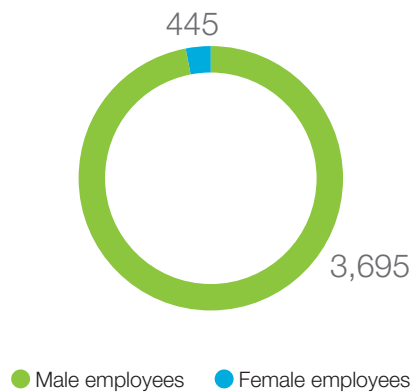
The Company strictly follows the requirements of relevant laws and regulations and policies of national and local social security by paying the social security contributions for all staff in full and on time in protecting the rights and interests of staff.

As of 31 December 2017, the Company has a headcount of 4,140, including 163 management personnel and 517 technicians. In terms of education level, 1,234 employees are tertiary educated or above.

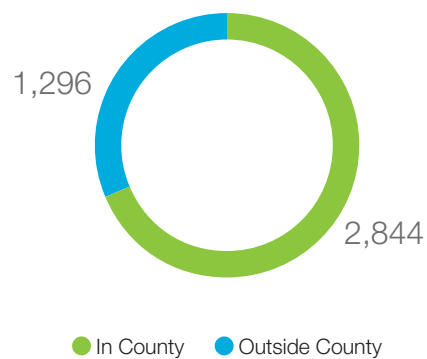
Education level



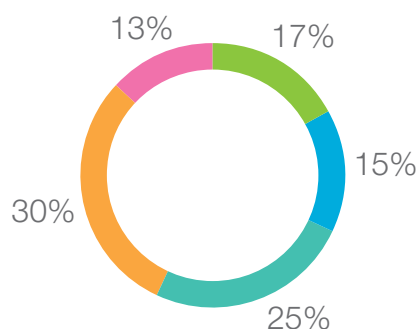
Gender ratio of employees



Birth place ratio of employees

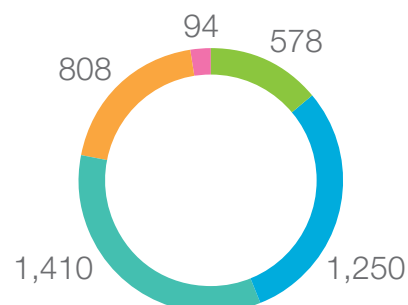


Length of service



● Less than 1 year ● 1-3 years ● 3-5 years
● 5-10 years ● More than 10 years

Age profile



● Below 25 ● 26-30 ● 31-40
● 41-50 ● Above 50

As shown from the staff composition, our staff tend to be younger, with higher education level, have length of service of 3 years or above, have certain work experience, and with strong creativity and productivity.

Turnover rate

The average turnover rate and percentage in 2017: The Company has not terminated nor dismissed any employees in this year.

| | Number of employees | Percentage |
|--------------------------------|---------------------|-------------|
| Gender profile | | |
| Male | 28 | 93.3% |
| Female | 2 | 6.7% |
| Age profile | | |
| Below 35 | 20 | 66.7% |
| 36-50 | 10 | 33.3% |
| Education level | | |
| Below technical school | 25 | 83.3% |
| Tertiary or above | 5 | 16.7% |
| Length of service | | |
| Less than 3 years | 27 | 90.0% |
| 3-5 years | 2 | 6.7% |
| More than 5 years | 1 | 3.3% |
| By district of domicile | | |
| In Zouping County | 28 | 93.3% |
| Outside Zouping County | 2 | 6.7% |
| Total | 30 | 100% |

B. Health & Safety

In 2017, there are no incidents of large scale in safety production and there are no new cases of occupational illness which have 100% reporting rate. On-site detection and evaluation rate of occupational hazard factors and employees' occupational health checkup rate are 100%. A series of activities including risks rating control, examination and management of hidden hazards, safety emergency exercise, safety education for all staff, monitoring and management of key hazards, contest on safety knowledge, "Learning about the procedures and avoiding three violations" were continuously held to control and eliminate hidden hazards of production safety. The work on safety has achieved good results and provided strong guarantee for the realization of business objectives.



Emergency Exercise of Safety Production



Occupational health examination

To avoid the incidence of occupational illness, in terms of system, a sound occupational health and safety management system is in place and occupational health safety management system certification have been awarded. In terms of process, each staff member is regularly provided with a series of protective supplies including uniform, shoes, helmet, mask and gloves. At the same time, workshops are furnished with necessary emergency medicine. In terms of prevention, the Company held an annual occupational health body check and regular training on occupational health to continuously enhance self-protecting capability of staff members against occupational hazards.

The Safety Division of the Company has entered into the "Commitment to Safe Production Objectives Management" which covers every aspect of operations and every staff members of the Company, in order to optimize the safe production accountability system and enhance the strength of implementation of responsibility, which is the key to safety management. The subject responsibility of safe production of various levels is further defined and the principle of "the head of a production unit is the first responsible person of safe production" is strictly complied with for enhancing the implementation of safety responsibility. The Company has guided and supervised various departments to continuously carry out safety production and occupational health examination according to the respective actual safety production, with a total of 600 examinations conducted and 8,000 hidden safety hazards addressed in 2017.

| Employees Health and Safety Data Indicators | | 2017 | 2016 |
|---|-----------------------|-------------|------|
| Number of trainees | Training of all staff | 4140 | 3600 |
| in safety production | Special training | 2600 | 2400 |
| Number of job-related deaths | | 0 | 0 |
| Proportion of job-related deaths to total workforce (%) | | 0 | 0 |
| Lost work days as a result of job-related injuries | | 0 | 0 |

C. Development & Training

Development and training are one of the key factors for the success of the Company. Therefore, we spare no efforts and no costs to create training opportunities for employees, to broaden the channel for promotion, and facilitate the common growth of employees and the Company.

The Company established a sound training mechanism for new employees, and various systems and departments act in concert with the Company to strengthen implementation of training management of new employees. Taking a humanistic care approach, the Human Resources Department comprehensively presents the corporate culture as well as rules and regulations of the Company to assist new employees to quickly familiarize with the work environment. The integration of the production systems and the systematic and specific training on the production process further helps in their understanding of the main business of the Company. New recruits will be mentored by senior staff members for learning the operating procedures on a hands-on and one-to-one basis. The safety system runs through the whole training to enhance the safety awareness of new employees for strict implementation of the three-level safety education management.

In terms of internal training, the Company has established a team of in-house trainers, which are made up of outstanding technical and managerial personnel selected and trained to become in-house lecturers of the Company for conducting training for all staff. The scope of training covers systems such as production, functional services, finance, safety, and quality and property management. It organizes courses totaling 224 sessions and three training courses on junior-level team leader management involving 30 sessions and 500 junior-level team leaders.



Team building exercise



Training of technical skills

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In terms of external training, the Company cooperated with Jucheng Corporation (聚成培訓) in introducing its “All Staff Learning System” and establishing “All Staff Online Learning System” for all management staff of the Company. Each of which is assigned with an online learning account number to meet their needs for capability development. In June, the Company sent senior management staff by batches to visit Badische Stahl-Engineering GmbH (BSE) (巴登鋼鐵公司) in Germany for learning from the management model and development experience of foreign advanced steel enterprise. Exchange and sharing of the learning is conducted upon returning from the trip for integrating the learning results with the actual situation of the Company to improve the operation management of the Company.

The Company has trained more than 3,000 employees with a total training hours of more than 55,000, in which the average training time for management staff is 54 hours/person; that of technicians is 33 hours/person; that of normal staff is 12 hours/person; that of male staff is 18 hours/person; and that of female staff is 12 hours/person.



Jucheng learning system for online learning of all staff



Management visit to BSE in Germany

D. Labor Standards

All employees of the Company are located in China and there is no breach of the Labor Law or any other applicable standards and regulations during their employment. Salary, overtime pay and benefits are based on local minimum (and maximum) standards. Employees are generally aged between 18 and 45, with special employees aged between 45 and 60. Any forms of child labor or forced labor is forbidden in the Company. The recruitment process complies strictly to national laws and regulations and the recruitment procedure under the human resources management policies. The Human Resources Department scrutinizes the job seekers' identification cards, academic certificates and recruitment registration forms to ensure that the information provided are true and accurate. The staff's union and the Company's labor mediation committee also participate in the prevention of forced labor. We adhere to open, fair and impartial recruitment according to the principle of equal competition, selection of the best and internal candidates first before external ones, with the employment mechanism becoming more scientific and wise.

The Company implements the 8-hour work system and its production frontline staffs are on 3 shifts. The Company strictly executes the national statutory holidays and the day-offs system stipulated by itself, in order to safeguard the employees' proper working hours and rest days.

The Company adheres to equal employment policy and treats each staff member equally. Their nationality, race, gender, religion, age, sexual orientation, political affiliation and marital status will not affect their employment, compensation and promotion. An inclusive win-win work environment is created.

“The Law on Employment Contracts” is strictly complied with and employment contract is entered into with each staff member on the day they join the Company. Contribution to basic pension insurance, basic medical insurance, unemployment insurance, injury insurance and maternity insurance is paid according to the laws. Financial gains of the Company are shared by the staff, contributing to harmonious labor relations.

For timely identification of problems in the Company, staff satisfaction survey or solicitation for advice is conducted on quarterly basis to provide staff with a platform to participate in the management of the Company, better identification of problems and make suggestions. A record of staff suggestions or advice will be kept in the departments concerned on a quarterly basis and corrective measures will be formulated by the departments within a week and the progress of the correction published.

II. Business Management

A. Supply chain management

The Company has developed “Procurement Management Procedure or Manual” which specifies criteria of selecting suppliers: (1) Good financial performance in the industry, with financial statements available. Priority of consideration will be given to suppliers with continuous results with large steel factories; (2) Suppliers with solid financial strength and registered capital ranking in the top 10 in the industry as one of the priority of consideration; (3) Suppliers recommended by other steel factories, with credit standing, service quality, delivery term being consideration factors by consulting with familiar steel factories. Before making the final selection, the prospective supplier is asked to provide a sample for examination or trial to ensure the quality of the parts supplied; Field survey of the supplier to confirm its delivery capability, the soundness of quality assurance system and financial strength etc.

Suppliers meeting our conditions will be managed in a centralized manner by setting up procurement and trading platform where price inquiry, tender invitation and signing of procurement contract are conducted. Suppliers’ services are tracked throughout the procurement process for monitoring and evaluation of the supplier based on suppliers’ financial strength, delivery capability, advance payment capability, quantity and quality of delivery, contract compliance, after-sales service and business integrity. Prospective suppliers will be determined whether they meet the entry requirements according to the results of evaluation and “contract supplier register” will be established. Suppliers not meeting requirements will be disqualified. As at November 2017, there are a total of 12,128 suppliers, 30% of which are located in the same province as the Company and 70% in other provinces.

B. Product Responsibility

1. *Maintenance and Protection of Intellectual Property*

The Company strictly complies with laws and regulations such as the “Trademark Law”, the “Patent Law”, the “Copyright Law”, the “Law against Unfair Competition”, the “Foreign Trade Law” and the “Intellectual Property Law”. Continuous innovation and excellence is pursued and of development, use and protection of intellectual properties is continuously enhanced. The effects of proprietary intellectual properties is fully leveraged in expanding markets home and abroad as well as adjusting industry structure, effectively enhancing our core competitiveness.

2. *Quality Testing and Products Recall*

As the Company attaches high importance to product quality, systems and relevant procedures for quality testing of products are formulated and implemented, with certifications awarded in the following: Quality Management System, GJB Quality Management System, Armament Quality Management System as well as general hot rolled steel bar products of MCC (Beijing) Metallurgical Product Certification Centre Co., Ltd (中國中冶(北京)冶金產品認證中心有限公司) and steel bar for reinforced concrete of KS in Korea and JIS in Japan, LZ50 axle products, Supplier Qualifications of CRRC Changchun Railway Vehicles Co., Ltd. (中車長春機車有限公司). The Quality Test Center of the Company is certified by CNAS national laboratory with accurate and reliable test data. Information management system of the Company was built by Baosight Software of Baosteel Group and was launched on May 1, 2017. A dedicated quality management and testing system is in place for the business management and control system, fulfilling the functions of metallurgical specification and quality design process as well as automatic collection, transmission, determination, analysis of data and its warranty and reports. Products are manufactured in the production process according to the metallurgical and product specifications in the information system and the standards established for each process. Those passing the appearance and performance indicators test will be automatically determined to be stored while unqualified products will be subject to material blockade in the information system and handled according to “Unqualified Product Management System”. There has been no single incidence of recall of any products sold or delivered due to safety and health concerns thus far.

3. *Products and Customer Complaints*

The Company attaches high importance to customer complaints and strictly implements “Rules of Customer Service Management”. The sales department truefully completes the “Corporate Customer Directory” and timely updates the directory and customer profiles to fully standardize customer information. The Directory is completed and managed by a designated staff member and is confidential information of the Company. Access to the directory is allowed with the consent of sales manager. In case of any violation, loss or divulgence, the persons concerned will be dealt with seriously by their immediate superiors. The Company focuses on after-sales service and feedback from customers on their use of products and provides customers with professional technical support. There are no significant litigations or complaints arising from product quality or service since 2017.

C. Anti-corruption

There are no cases of corruption, bribery, fraud, illegal fundraising, and money laundering in the Company this year. In order to strengthen supervision of staff and combat financial crimes, the Company has established the Inspection Office under the administration of immediate general managers. Staff members may report by mail, telephone or face-to-face any breach and dereliction of duty, abuse of power, fraud, money laundering and offering and acceptance of bribe as committed by various staff members of the Company. "Xiwang Forum" has also been established online for supervision of the Company by staff members. To eradicate corruption of the management, the Company has introduced "Code of Ethics of the Management" and implemented five "Anti-corruption Declaration of the Management".

III. Society

A. Social Responsibility

As part of our commitment to social responsibility, the Company has assumed more social responsibilities and made further contributions to the society while growing its business.

1. Environmental Protection

In the daily environmental protection management, the Company strictly enforces the new "Environmental Protection Law of the People's Republic of China", the "Law of the People's Republic of China on Prevention and Control of Air Pollution", and the "Discharge Standard of Pollutants for the Iron and Steel Industry of Shandong Province" (DB 37/990-2013), the "Integrated Emission Standard for Regional Air Pollutants in Shandong Province" (DB 37/2376-2013) and other laws and regulations, standards and local regulations for environmental protection. The emission volumes of major pollutants of the Company are lower than the current standards of the State and Shandong Province.

The Company takes the advanced steel enterprises at home and abroad as benchmarks, with the goal of reducing energy consumption and pollutant emissions, and accelerating the application of proven and reliable technologies in environmental protection, clean production and energy-saving emission reduction. Environmental conservation and consumption reduction is taken as the two most important means of promoting clean production and treatment at the end is changed to control of the whole production process. Active research and development of high-tech and high value-added products is pursued with the pace of establishing the Company as the national environmentally-friendly special steel enterprise accelerated, achieving a win-win situation for the economic development and environmental protection of the Company, which are demonstrated in 1. Strengthen the treatment of discharge pollutants such as dust, sewage, and solid waste; 2. Promote the comprehensive utilization of resources and develop circular economy by establishing energy management system, using energy-efficient and environmentally-friendly equipment in the project construction process, optimizing the structure of raw fuel and implementing gas recycling.

2. *Social Charity*

With respect to charity work, the Company combines charity work with its business development strategy and spiritual development, and continuously enriches its development. “Donations and Poverty Relief Activities” are held annually, supporting communities with difficulties including the disaster-stricken, children deprived of education and employees with financial difficulties. Staff members donate more than their daily average salary in the donation activity.



Planting trees on March 12 Arbor Day



Financial support to employees' weddings

The atmosphere of charity is strong in the Company, with solidarity, harmony and mutual support between staff members. Open, equal, impartial and effective support is given to those with difficulties. Values of giving back to the society, caring about charity, sharing of social responsibility have internalized in the “Code of Conduct” of the Company and become “Spontaneous Action” of our staff members.

3. *Community Investment*

The Company's community investment focuses on building green factories in the community and protecting the environment. The Company strives to build green factories' gardens. In this year, the Company planted a total of more than 9,760 trees inside and in the vicinity of the factory region, laid more than 63,000m² of greening turf, planted more than 58,100m² of flowery shrubs and more than 5,000 decorative trees.

B. Caring for Employees

In order to enrich the lives of the management and staff members and motivate them to advance their careers and enhance cohesiveness of the Company, we care about staff members in terms of hard and soft environment.

In terms of hard environment, the Company provides a comfortable, bright, safe and healthy work environment, with amenities including dormitory, canteen, bathrooms, library, toilets, badminton and table tennis courts for the employees to create a safe, carefree and comfortable Xiwang Special Steel community. Staff committee was established to organize meetings regularly for listening to employees' opinions. In terms of "soft environment", staff activities are regularly organized to promote exchanges, learning and growth of staff members as well as their physical and mental health, enriching their lives and inspiring their creativity.



Celebration gala of the 30th Anniversary of Xiwang Group



Choir competition of the Company



Cooking competition in staff canteen



Tug-of-war competition of the Company

ECOLOGICAL COMMUNITY

The Company adheres to the environmental protection philosophy of “saving energy and reducing consumption, developing circular economy, creating environmental-friendly Xiwang” in protecting the environment and giving back to the society.

The Company strictly fulfills the requirements of the “Environmental Protection Law of the People’s Republic of China”, “Law of the People’s Republic of China on Prevention and Control of Air Pollution”, “Discharge Standard of Pollutants for Iron and Steel Industry of Shandong Province” (DB 37/990-2013) and “Comprehensive Emission Standards for Regional Air Pollutants in Shandong Province” (DB 37/2376-2013) and implements the “Jingjinji Air Pollution Prevention and Control Enhancement Measures (2016-2017)” and the “Phase II Action Plan (2016-2017) of 2013-2020 Air Pollution Prevention and Control Plan of Shandong Province” and the “Implementation Plan of Environmental Intensive Treatment of Steel and Iron Industry of Shandong Province” (Letter of Lu Environmental Office [2016] No. 159) and other laws and regulations, standards and local regulations for environmental protection. The discharge volume of major pollutants is lower than the current standards of the State and Shandong Province.

1. Environmental protection performance

In 2017, there are no cases of major environmental and public pollution incidents in the Company. Safe use of radioactive sources and disposal of hazardous wastes in compliance with regulations has eliminated environmental risks. The implementation of environmental management has significantly increased, with significant improvement in the appearance of factory; total emission of pollutants has continuously decreased and air quality has continuously improved, with the emission of dust at 0.577 kg/ton steel, sulfur dioxide at 0.179 kg and nitrogen oxide at 0.689 kg, far below the emission levels of dust at 0.6 kg, of sulfur dioxide at 0.8 kg and of nitrogen oxide at 1.2 kg as required by the “Implementation Plan of Environmental Intensive Treatment of Steel and Iron Industry of Shandong Province” (Letter of Lu Environmental Office [2016] No. 159), as shown in Table 1:

Table 1: Emission of pollutants per ton steel

| Type of pollutants | National emission standards (kg/ton steel) | Emission of the Company (kg/ton steel) | Reduction in emission (kg/ton steel) |
|--------------------|--|--|--------------------------------------|
| Smoke dust | 0.6 | 0.577 | 0.023 |
| Sulfur dioxide | 0.8 | 0.179 | 0.621 |
| Nitrogen oxide | 1.2 | 0.689 | 0.511 |

In November 2017, the Company has successfully applied for the new sewage permit of the steel industry.

In January 2018, the environmental management system of the Company has successfully passed the review of ISO14001 environmental management system.

2. Sewage permit

In November 2017, the Company passed the review of Binzhou Environmental Protection Bureau (濱州市環保局) and was granted with sewage permit (certificate no.:913716006705049378001P), with total air emission limits set at 1552.875 tons/year for particulates, 1517.5 tons/year for sulfur dioxide, 4313.18 tons/year for nitrogen oxide and specifically for sintering machine heads, 195.836 tons/year for particulates, 979.18 tons/year for sulfur dioxide and 2937.54 tons/year for nitrogen oxide.

3. Intensive environmental treatment projects

A. Environmental protection investment

Since 2013, total investment of the Company amounts to approximately RMB0.85 billion, with a number of intensive environmental treatment projects implemented, resulting in the actual emissions of pollutants in various processes being far below the national special emission limits. Current operation cost of environmental protection is RMB130 per ton steel.

B. Sintering process

Through the transformation in power supply of intelligent frequency pulse conversion for electrostatic dust removal system of sintering machine heads, dust removal effect of the dust removal system has improved while the use of wet electrostatic dust removal has achieved reduction in particulates at the head of sintering machines; the use of lime-gypsum wet desulfurization method with three layers of absorption by spraying of lime slurry has improved efficiency of desulfurization and steady decrease of sulfur dioxide emissions; the use of low-temperature oxidation absorption method prior to smoke desulfurization, and the smoke denitrification treatment has reduced the emissions of nitrogen oxide and ensured the emission concentration of particulates, sulfur dioxide and nitrogen oxide from sintering machine heads being much lower than DB 37 2376-2013 Regional Integrated Emission Standard for Air Pollutants in Shandong Province. From on-line monitoring, the average concentration of particulates, sulfur dioxide and nitrogen oxide in smoke pollutants emitted from the heads of sintering machines in 2017 were 8.7 mg/m³, 55.3 mg/m³ and 200 mg/m³ respectively, with all emissions in the sintering process lower than the national limits.

Closed conveyors such as closed belts and corridors are used in the transportation of raw materials and fuel used in the sintering process and transportation of ingredients, blends and finished products. Closed cover and dust removal facilities are equipped at the unloading and receiving points of conveyors while the existing dust removal facilities are upgraded and US Gore dust bags, which are of international advanced standard, are used for effective collection of smoke dust. The concentration of particulates is lower than 10mg/m³, ensuring the concentration of particulates emission is lower than the national limit for that of air pollutant emission, as shown in Table 2.

Table 2 :

| Production facilities | Type of pollutants | GB28662-2012 | DB37/990-2013 | Emission after intensive treatment (mg/m ³) |
|-------------------------|--------------------|--|---|---|
| | | Special emission limits for air pollutants from steel sintering and pellet industries (mg/m ³) | Special emission limits for pollutants of iron and steel industry in Shandong Province (mg/m ³) | |
| Sintering machine heads | Particulates | 40 | 20 | 8.7 |
| | Sulfur dioxide | 180 | 100 | 55.3 |
| | Nitrogen oxide | 300 | 300 | 200 |
| Sinter machine tails | Particulates | 20 | 20 | 6.7 |

C. Ironmaking process

Closed design is used for storage tanks, coke troughs, trough transport equipment of blast furnace ironmaking raw material system, shakers under ore and coke trough, belt conveyors for returning ore and coke and discharge ports, weighing equipment for furnace ore and coke. Top suction hoods are equipped for outlets of cast iron, tanks and nozzles. Covered or closed design is used for iron and slag trenches while cast iron field of blast furnace is completely closed and configured with particulates collection and treatment measures and existing dust removal facilities is upgraded and transformed, and US Gore dust bags, which are currently of advanced international standard, are used for effective collection of smoke dust. Particulates concentration is lower than 10mg/m³, ensuring the concentration of particulates emission is lower than the national limit for that of air pollutant emission. All emission values of the ironmaking process are lower than the national special emission limits, as shown in Table 3.

Table 3 :

| Production facilities | Type of pollutants | GB28663-2012 Special emission limits of air pollutants for ironmaking industry (mg/m ³) | DB37/990-2013 Special emission limits for pollutants of iron and steel industry in Shandong Province (mg/m ³) | Emission after intensive treatment (mg/m ³) |
|---|--------------------|---|---|--|
| Feed Launder Dust Removal in Blast Furnace | Particulates | 10 | 10 | 2.9 |
| Cast Iron Dust Removal in Blast Furnace | Particulates | 15 | 15 | 3.4 |

D. Steelmaking process

Dry-type electrostatic dust removal technology is used for primary smoke of converters, and after upgraded, the concentration of particulates is kept steadily below 50mg/m³. Secondary dust removal of converters, dust removal of refining furnace and dust removal facilities of electric furnace are upgraded and reconstructed, and US Gore dust bags, which are currently of advanced international standard, are used for effective collection of smoke dust. Particulates concentration is lower than 10mg/m³. Tertiary dust removal system of converter is constructed for elimination of unorganized emission of smoke dust, ensuring no escape of factory smoke dust. The reconstruction of feeding system for steel-making lime and light-burning dolomite effectively collect smoke dust, leading to all emissions of the steel-making process being lower than the national special emission limits, ensuring the concentration of particulates emission lower than the limit for that of air pollutant emission for the steel industry of Shandong Province (15mg/m³) as shown in Table 4.

Table 4 :

| Production facilities | Type of pollutants | GB28664-2012 Special emission limits of air pollutants for steelmaking industry (mg/m ³) | DB37/990-2013 Special emission limits for pollutants of iron and steel industry in Shandong Province (mg/m ³) | Emission after intensive treatment (mg/m ³) |
|-------------------------------------|--------------------|--|---|--|
| Primary dust removal of converter | Particulates | 50 | 50 | 10-30 |
| Secondary dust removal of converter | Particulates | 15 | 15 | 4.7 |
| Tertiary dust removal of converter | Particulates | 15 | 15 | 1.3 |
| Dust removal of electric furnace | Particulates | 15 | 15 | 1.5 |
| Dust removal of refining furnace | Particulates | 15 | 15 | 2.8 |

E. Unorganized emission treatment

Closed treatment of raw materials. Various kinds of raw materials such as iron ore concentrate, coal and coke powder are all fully enclosed in the site, and the exit of the site is equipped with cleaning devices for wheels and body of vehicles. Waste water from cleaning will be recycled after sedimentation. Ground and roads are hardened and fixed sprinklers are increased, and wind and dust-proof nets are constructed.

Treatment of coke. Strategic partnership of coke supply is established and logistics management is strengthened, achieving direct feeding of coke from coking factory to the blast furnace feeding system.

Treatment of iron ore. Production units are optimized, direct proportioning ratio of iron ores with sintering ingredients increased, the amount of sintering ore on the ground and secondary dust is reduced.

Cleaning of road surface. Five road sweepers, three water-spraying vehicles and one fog cannon dust-suppression vehicle is purchased for continuous cleaning, water spraying and dust suppressing on the road surface of factories and effective control of road dust.

Road vehicles management. Most of the internal vehicles and forklifts of the Company use LNG new energy, and strictly implement stagger shift of transport plan during the heating season. The exit of the site of raw materials is equipped with vehicle cleaning devices.

F. Online monitoring

According to the "Implementation Plan of Intensive Environmental Treatment for the Iron and Steel Industry of Shandong Province" (Lu Environmental Office Letter [2016] No. 159), online monitoring equipment of advanced domestic standards have been installed in the 10 monitoring outlets for flue gas at the heads of sintering machines and dust removal at the tail of the machines, dust removal from ore tank and iron site of blast furnace, secondary dust removal of converters and dust removal of electric furnace. Online networking with provincial, municipal, and county environmental protection departments is implemented as required for 24/7 online monitoring of pollutants discharge.

G. Greening of factory area

To create a green landscape, the Company invested more than RMB1.4 million in 2017, with more than 6,000 new trees planted, adding more than 4,000 square meters of green area. We are now working with the Architectural Design Institute of Zouping County to conduct comprehensive planning, implement green project and build a green barrier in the factory area.

4. Comprehensive utilization of resources

A. Solid waste treatment

In 2017, the Company produced a total of 1,631,180 tons non-hazardous waste, each ton of steel give rise to 0.531 tons of non-hazardous waste. The non-hazardous waste are slag of blast furnace, steel slag and dust. Their respective total production are 1,129,888 tons, 303,552 tons and 197,740 tons. Their respective production per 1 ton of steel are 0.368 ton, 0.099 ton and 0.064 ton. In 2017, a total of 86.08 ton waste oil, a harmful waste, in average of 0.0000279 ton per each ton of steel were produced.

Treatment of slag of blast furnace: Slag produced during the ironmaking process of blast furnace is all grounded to produce slag powder and used for industries such as construction. In 2017, the production of slag was 1,129,888 tons.

Treatment of Steel Slag: Steel slag produced in steel smelting goes through a hot stew device. Magnetic filtered steel slag and steel granules are directly returned for smelting use and steel slag powder are used as raw materials for sintering. In 2017, the production of steel slag was 303,552 tons.

Recycling of Dust: Dust containing iron will be returned for sintering as raw materials. Pneumatic conveying and suction trucks are used in unloading and transport of dust to eliminate secondary dust pollution. In 2017, 197,740 tons of dust was recycled.

Disposal of Hazardous Wastes: The Company attaches high importance to the generation and disposal of hazardous wastes. All wastes produced in 2017 were disposed of properly. For example, only companies with qualifications in handling hazardous wastes will be engaged to handle those wastes such as waste oil and oil drums generated in the production process of the Company. In 2017, 86.08 tons of hazardous wastes was disposed.

B. Water recycling

Processing, cascade recycling and cycle utilization rate of cooling water of internal process and equipment of the Company are all $\geq 97\%$. Waste water produced in the production process is collected and processed in a centralized manner, and subsequently used for slag flushing in blast furnaces and dust reduction in raw material yards, while waste water generated in daily lives is collected and transported to water treatment plant of the Group. The treated waste water is in compliance with the "Comprehensive Discharge Standards for Water Pollutants in Xiaoqing River Drainage Area of Shandong Province (DB37/656-2006)" and its amendments. Water treated by the water treatment plant will be recycled to the Company for flushing slag in blast furnace and converters. Fresh water consumption is 1.89 tons per ton steel.

C. Gas recycling

Gas from both blast furnace and converter is recycled using dry dust removal technology to improve gas recycling rate. Recycled gas from blast furnace and converter is used internally in baking of hot metal tank, steel ladle and intermediate ladle, heating of billet in heating furnace for steel rolling, hot-blast furnace and fume furnace of the coal injection system, and lime production by calcination in limestone kiln, or externally supplied to power plants for power generation. In 2017, 3,715,300,000m³ of gas from blast furnace and 261,760,000m³ of gas from converter were recycled.

D. Comprehensive utilization of residue heat

The steam generated from residue heat in sintering, electric furnace, converters, furnace for steel rolling will be completely fed into the main steam pipeline of Xiwang Group, for use in corn processing. Low-quality residual heat such as that of flushing slag of blast furnace and low-temperature smoke will pass through cooling and heating cogeneration project of the Company for generation of hot and cold water, which are used for production and heating in office and the communities.

5. Reduce energy consumption and carbon emissions

The Company aims to reduce energy consumption and carbon emission . The Company has also passed the third party carbon emission checks for the years 2013-2015 and 2016-2017 uniformly arranged by the “Development and Reform Committee of Shandong”(山東發改委) . The Company’s major measures include the following:

- A. Energy management system and energy management department have been established, which is responsible for comprehensive energy management. A three-tiered management system, “The Company-Energy Management Department-Production Plant” is being implemented.
- B. High-performance, energy-efficient and environment-friendly technology and equipment is used in project construction. The Company aggressively develops cyclic economy by combining the industrial features of the intensive corn-processing business of Xiwang Group with that of the steel production industry, and achieved comprehensive utilization of resources such as steam, water and gas, forming a unique external and internal recycling system.
- C. In terms of raw materials, only iron ore powder of high grade, low sulfur and low content of hazardous elements imported from Brazil and Australia, and small amount of domestic iron ore powder are used for raising the grade of sinter and blast furnace feed while lowering the water content of coke feeding into blast furnace and energy consumption.
- D. In terms of technologies, thick layers sintering, hot air sintering, mixture pre-heated by high-temperature steam, and steam generated by residue heat of smoke of sintering flue and ring cooler are applied to reduce energy consumption in the sintering process. For blast furnace, high pressure, high temperature of furnace top, high injection of coal and high content in oxygen, use of residual heat from flushing water of blast furnace and BPRT technology improve utilization rate of blast furnace gas and reduce energy consumption in blast furnace process. The use of one tank of molten iron from start to finish in blast furnace increase the physical heat in converters. The system is optimized and smelting technologies with less slag is used for lowering energy consumption in converters. Energy consumption is reduced by the use of technologies such as hot loading and conveyance of continuous casting billet, dual regenerative heating furnaces for steel rolling and recycling of water.
- E. Passing the third party review. In 2017, the total amount of corporate greenhouse gases emission was 5,691,424 tons of carbon dioxide, in which 1.85 tons of carbon dioxide was emitted per each ton of steel.

6. Formulate emergency plans for environmental pollution to ensure environmental safety

The Company attaches great importance to environmental safety. In order to prevent the occurrence of environmental pollution incidents, the factors and production segments which are prone to environmental pollution incidents in various production processes are looked into by relevant technical personnel, and more than 10 emergency rescue plans for environmental pollution were formulated according to factors that are prone to environmental pollution incidents and the features of production processes, such as “Emergency plans for environmental pollution incidents”, “Emergency plans for radioactive sources”, “Emergency plans for coal gas incidents”, and “Emergency plans for special weather for production bodies”, and drills were organized.

ABOUT THE REPORT

2017 Environmental, Social and Governance Report of the Company states the principle adopted by Xiwang Special Steel Company Limited and its subsidiaries in 2017 in fulfilling social responsibility and the performance of the work, including the topics about sustainable development of economy, environment and society that attract attention of important stakeholders.

BASIS OF COMPILATION

The Report is compiled based on “Environmental, Social and Governance Reporting Guide” in Appendix 27 to the Rules Governing the Listing of Securities on the Stock Exchange.

RANGE OF REPORTING

| | |
|--------------------------|---|
| Range of coverage: | The Report is mainly about Xiwang Special Steel Company Limited and its subsidiaries. |
| Range of Data: | All data in the Report shall be collected from the Company, unless with special explanations. |
| Range of Period: | 1 January 2017 to 31 December 2017 |
| Duration of Publication: | The Report is an annual report. |

DESCRIPTION OF DATA

All data and cases are collected based on the original records and financial report about the actual operation of the Company and its subsidiaries.