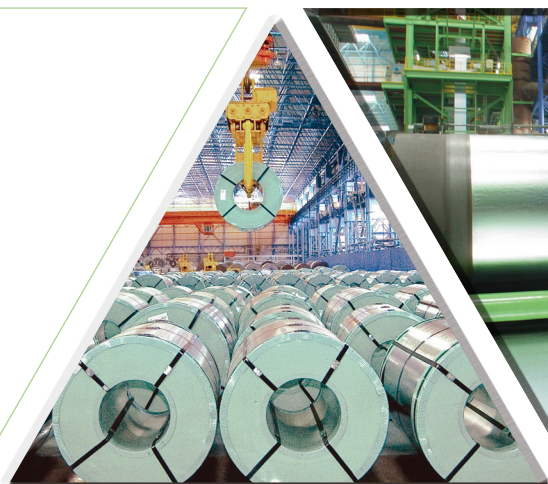
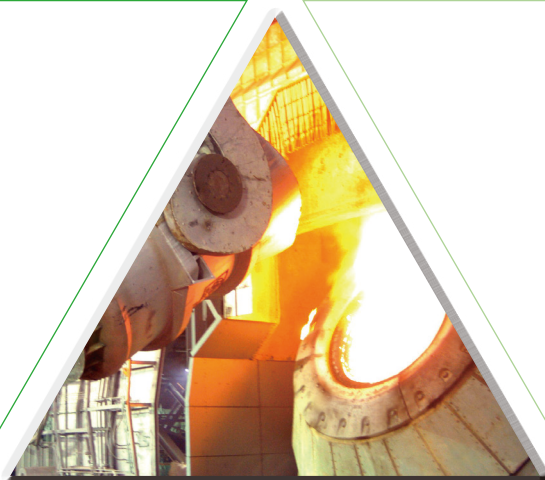




鞍 鋼 股 份 有 限 公 司
ANGANG STEEL COMPANY LIMITED*

Stock Code: 0347



2016
Environmental, Social and
Governance Report

* For identification purposes only

SCOPE OF THE REPORT

Angang Steel Company Limited* (鞍鋼股份有限公司) (the “Company” or “Angang Steel”) is the reporting entity for the preparation of the 2016 Corporate Social Responsibility Report of Angang Steel Company Limited* (鞍鋼股份有限公司) (this “Report”), which discloses the performance of the Company in respect of social responsibilities in 2016 in an objective, true and systematic manner and acts as a platform for communication with all stakeholders, and under the supervision and inspection of the government departments and regulatory authorities while paying attention to the comments on the Company from the public and the media. This report is a yearly report.

MAJOR REFERENCE STANDARDS FOR THE REPORT

Guidance on Social Responsibility (GB/T36000-2015),

Guidelines of the Shenzhen Stock Exchange for Standardized Operation of Companies Listed on the Main Board (revised in 2015), and

Environmental, Social and Governance Reporting Guide (Appendix 27 to the Listing Rules of Hong Kong Stock Exchange).

ASSURANCE OF THE REPORT

Unless otherwise specified, this Report describes the business performance of Angang Steel (including the headquarters located at Anshan City, the Bayuquan branch located at Yingkou City and all subsidiaries). The amounts are denominated in Renminbi (RMB) in this Report.

PUBLICATION OF THE REPORT

This Report is released to the public in an online version which is available at the Company’s website and the websites of CNINFO and Hong Kong Stock Exchange.

In 2016, adhering to the “Five Concepts for Development” and seizing the opportunity of market rebound, Angang Steel adjusted its strategic deployment and optimised its management and control on production process to stabilise the economies of scale. The Company implemented an innovation-driven policy when making adjustment to the product structure for the purpose of better market connection to expand sales channels. It facilitated lean management to prevent various types of operation risks. It strengthened fundamental works on safety and performed its legal obligations in environmental protection while adhering to green development. At the same time, the Company proactively protected the rights of its shareholders, employees, suppliers and customers and engaged in public welfare affairs such as community building in order to facilitate the coherent and harmonious development of the Company and the whole society while faithfully fulfilled its corporate social responsibilities with positive social returns.

In 2017, it is expected that various operation risks and uncertainties will subsist in economic development. Upon the structural adjustments in the steel industry and relief from production overcapacity, the market environment will be more fair and disciplined. As a state-owned listed company, the Company will continue to fulfil its social responsibilities and comply with the guidelines on social responsibilities to enhance internal strength and consolidate competitiveness by deepening reform. The Company will push forward marketing on its brand, features and services to enhance its brand influence, pricing power and market share. New techniques, technologies and mechanisms will be adopted to further reduce production cost and improve competitiveness. The Company will optimise its management and control models to improve management and prevent operation risks. The Company will emphasise development with the help from its employees to converge positive energy for reform development. The Company will always remember its mission and have faith in capturing opportunities while strengthening its awareness of crisis, responsibility and competition to achieve innovative development.

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Chapter I Company Overview

Angang Steel Company Limited* (鞍鋼股份有限公司), established on 8 May 1997 by Anshan Iron & Steel Group Co. Ltd (“Angang Holding”) as its sole promoter, is listed on Hong Kong Stock Exchange and the Shenzhen Stock Exchange respectively. The registered capital of the Company amounts to RMB7,235 million. The Company possesses the whole production process for modernised steel and iron production, including coking, sintering, iron manufacture, steel manufacture and rolling operations, as well as the necessary ancillary facilities. The Company has advanced production technology and technical equipment in terms of international standards while its comprehensive competitiveness also took lead in the world.

The Company mainly produces 17 major types of steel, including steel for railway, heavy section steel, steel bar, rebar, wire rods, extra thick plates, thick plates, medium plates, hot-rolled sheets, cold-rolled sheets, medium-thick and wide steel band, hot-rolled thin and wide steel band, cold-rolled thin and wide steel band, galvanised steel sheets (band), coating plates (band), electrical steel plate (band) and seamless pipes with steel products divided into over 700 product categories, more than 2,000 steel grade numbers and over 60,000 specifications. These products are widely used in industries such as machinery, metallurgy, petroleum, chemical, coal, electricity, rail, ship, automobile, construction, home appliances, aviation and defence. In addition, the Company has been enhancing its sales-driven technical marketing model which focuses on the planning and coordination of the marketing technical director on the basis on EVI activities to provide “point-to-point and door-to-door” technical support and services for customers and follow up the users’ evaluation. It also improves its technical solutions to keep on expanding its market.

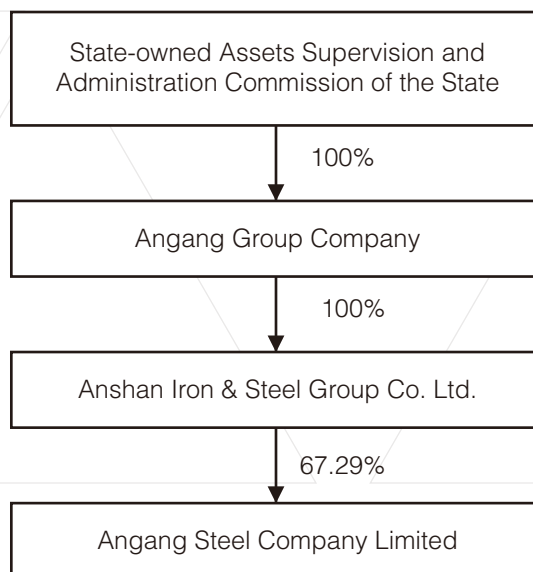
The Company has obtained certifications for the GB/T19001 Quality Management System, GB/T24001 Environmental Management System, GB/T28001 Occupational Health and Safety Management System and GB/T23331 Energy Management System. Its steel for shipbuilding was certified by the classification societies in 9 countries, namely China, the United States, Germany, the United Kingdom, Italy, France, Norway, Korea and Japan. Its steel for automobile was certified for ISO/TS16949. Its construction products exported to Europe have obtained CE certification. Its products exported to Japan have obtained JIS certification.

As at 31 December 2016, there were 36,364 employees in the Company. In 2016, the Company produced 21.83 million tons, 21.82 million tons and 19.86 million tons of iron, steel and steel products respectively.

The controlling shareholder of the Company is Anshan Iron & Steel Group Co. Ltd. Angang Holding is an enterprise solely funded by the state. Its legal representative is Yao Lin.

Chapter I Company Overview (*Continued*)

The following chart sets out the relationship between the Company and its de facto controller.



Chapter II Protection of Shareholders' Rights

I. CORPORATE GOVERNANCE

In strict compliance with the Company Law, the Securities Law, the Code of Corporate Governance for Listed Companies and the relevant requirements of the China Securities Regulatory Commission (the "CSRC") as well as the Rules Governing the Listing of Securities on Hong Kong Stock Exchange, the Rules Governing the Listing of Shares on the Shenzhen Stock Exchange and the relevant laws and regulations, the Company has formulated the Articles of Association, the Rules of Procedure for General Meetings, the Rules of Procedure for the Board of Directors, the Rules of Procedure for the Supervisory Committee, the Working System for Independent Directors and other rules and regulations, which have specified the duties and authorities, procedures and obligations of general meetings, the Board of Directors, the Supervisory Committee and the management in respect of decision-making, execution, supervision and other aspects, thereby forming a governance mechanism of reasonable division of labour, clear authorities and responsibilities and mutual balance among the authority body, the decision-making body, the supervisory body and the operation.

The Board comprises seven members including one chairman, three executive directors and three independent directors. The Board has established four special committees, namely the strategic committee, the remuneration and appraisal committee, the nomination committee and the audit committee, which are all comprised of directors. In particular, all of the members of the audit committee are independent directors while the majority of the members of the nomination committee and the remuneration and appraisal committee are independent directors who are also the conveners. There is at least one independent director who possesses professional qualifications in accounting in the audit committee. Each of the special committees is accountable to the Board and submits proposals to the Board for consideration and approval. The institutional arrangement of the Company provides full protection for the performance of duties of the independent directors and each of the special committees.

The Supervisory Committee comprises three members including one employee representative supervisor. The members of Supervisory Committee perform their duties and responsibilities in supervision under the Company Law, the Articles of Association and the authorization from the general meetings.

The management is responsible for the arrangement and implementation of resolutions approved at the general meetings and Board meetings, the production, operation and management of the Company and the daily operations of the internal control of the Company.

Chapter II Protection of Shareholders' Rights (*Continued*)

II. GENERAL MEETINGS

In order to protect the rights of its shareholders, the Company convenes general meetings at appropriate time and venue according to the relevant requirements and notifies its shareholders in a timely manner. The general meetings are convened by adopting way of poll combining on-site voting and online voting to ensure that the shareholders can exercise their rights.

On 8 June 2016, twelve proposals including the Report of the Board for the Year of 2015, the Proposal in Relation to the Election of Executive Directors of the Seventh Session of the Board, the Proposal in Relation to the Election of Independent Directors of the Seventh Session of the Board, the Proposal in Relation to the Election of Shareholders' Representative Supervisor of the Seventh Session of the Supervisory Committee, the Proposal in Relation to the Issuance of Short-Term Financing Bills in the Inter-Bank Bonds Market and the Proposal in Relation to the Amendments to the Articles of Association were considered and approved at the 2015 annual general meeting.

III. INFORMATION DISCLOSURE

The Company performs the obligations in information disclosure in strict compliance with the relevant laws and regulations as well as the relevant requirements of the Shenzhen Stock Exchange and Hong Kong Stock Exchange. The Company has formulated a standardised internal review process for information disclosure to further improve the efficiency and quality of information disclosure and ensure the trueness, accuracy, completeness, timeliness and fairness of the information disclosed. The Company makes true and detailed disclosure of its business performance and various important matters to the investors via China Securities Journal, the CNINFO website and the website of Hong Kong Stock Exchange. In 2016, the Company published four regular reports and 37 extraordinary announcements to the public.

Chapter II Protection of Shareholders' Rights *(Continued)*

IV. PROFIT DISTRIBUTION

The Company attaches great importance to the investment returns to the investors and has formulated a long-term profit distribution policy in view of stability. In 2012, pursuant to the Notice regarding Further Implementation of Cash Dividends Distribution of Listed Companies (《關於進一步落實上市公司現金分紅有關事項的通知》) issued by the CSRC, the Company made amendments to the Articles of Association, which defined the basic principle of the profit distribution, the specific details of the profit distribution policy and the consideration and approval procedures for the profit distribution plan, and specified in the Articles of Association that “the profit distribution by way of cash shall be no less than 10% of the distributable profit recorded by the patent company for the year”.

As the Company recorded a loss in 2015, the Company did not make any profit distribution to its shareholders in 2016.

V. COMMUNICATION WITH INVESTORS

The Company has formulated the Management Measures for Investor Relations to regulate the communication between the Company and the investors. In 2016, the Company organised 25 activities on investor relations, where the Company communicated with the investors in respect of industry prospects, production and operation and other issues to deliver the valuable information on the Company. In addition, the Company also communicated with the investors by way of including answering enquires from the investors on the interactive platform and telephone enquiries from the investors through a hotline to answer questions for the investors and ensure an unimpeded communication channel between the Company and the investors. In strict compliance with the Guidelines for Fair Information Disclosure of Listed Companies, the issues communicated were based on the announced information of the Company.

Chapter III Protection of Employees' Rights

I. OVERVIEW ON EMPLOYEES

As at 31 December 2016, the Company had 36,364 employees with 30,530 on-the-job employees, among whom 29,775 were from production, 4,262 were from technical support, 496 were from services and 1,831 were from management. The Company had 3,626 female employees, accounting for 9.97% of the total number of employees, and 16,890 employees under the age of 45, accounting for 46.45% of the total number of employees.

As at 31 December 2016, the Company had 22,101 employees with an education level higher than technical secondary school, accounting for 60.78% of the total number of employees, among whom 59 employees had a doctoral degree, accounting for 0.16% of the total number of employees; 531 employees had a master's degree, accounting for 1.46% of the total number of employees; 8,316 employees had a bachelor's degree, accounting for 22.87% of the total number of employees; 9,486 employees were college graduates, accounting for 26.09% of the total number of employees; and 3,709 employees graduated from technical secondary schools, accounting for 10.2% of the total number of employees.

The Company had 4,839 employees with middle or senior technical titles, accounting for 13.31% of the total number of employees, and 14,108 employees with high technical ability (senior personnel and above), accounting for 38.8% of the total number of employees.

In 2016, the Company recruited 18 fresh graduates from colleges or above, accounting for 0.05% of the on-the-job employees as at the beginning of 2016, and terminated employment contracts for 125 employees, accounting 0.3% of the on-the-job employees as at the beginning of 2016.

II. PROTECTION OF EMPLOYEES' RIGHTS

Pursuant to the Labour Law, the Labour Contract Law, the Implementation Regulations of Labour Contract Law and other laws and regulations, the Company has formulated the Management Measures on Labour Contracts, which specify the rights and obligations of both the Company and the employees, and has strictly enforced such rules. The Company has entered into labour contracts with all the employees with labour relations. In compliance with the relevant national laws and regulations, the Company protects the legitimate rights of its employees and prohibits the use of child labour and forced labour. The Company always adheres to the principle of making distribution according to work and implements an equal pay for equal work policy with equal employment opportunities. There is no discrimination policy towards gender, age, illness, race and religion. Based on the "Three-Dimensional ABC Human Resources Optimal Allocation Model", the Company has achieved a reasonable balance of units and positions and provided effective incentives to key and efficient positions.

Chapter III Protection of Employees' Rights (*Continued*)

II. PROTECTION OF EMPLOYEES' RIGHTS (*Continued*)

Pursuant to the requirements on insurance policies at the national, provincial and city level, the Company has established a comprehensive and sound insurance system for its employees and maintained basic pension insurance, basic medical insurance, unemployment insurance, work injury insurance and housing fund for all employees. In order to enhance the ability of its employees against illness and disease, the Company has established a supplementary medical insurance system, thereby forming a four-in-one medical protection system comprising the basic medical insurance, the over-limit medical insurance, the supplementary corporate medical insurance and the medical relief fund. The Company has actively participated in the corporate annuity scheme of Angang Group Company. The Company has made timely contributions to various insurance policies in a full amount and provided welfare expenses as stipulated to improve employee benefits. According to the law, the employees are entitled to paid annual leave, family leave, leave for marriage or funeral, maternity leave and other holidays. The pay for overtime and holiday work of employees is in compliance with the relevant policies of the government and the Company.

The Company always regards the Collective Contract and the Specialized Collective Contract for Protecting Rights and Benefits of Female Employees as the specific measures for maintaining a harmonious labour relationship as well as protecting legitimate rights of employees and special interests of female employees. In strict compliance with the Collective Contract and the Specialized Collective Contract for Protecting Rights and Benefits of Female Employees, the coverage of collective contracts has reached 100%. The Company has strengthened the inspection and supervision of the performance of collective contracts to ensure the performance of the legitimate rights of employees. In August, the special committee under the employee representative meeting and the employee representatives conducted special inspection of the performance of the Collective Contract and the Specialized Collective Contract for Protecting Rights and Benefits of Female Employees by basic units in terms of labour deployment, remuneration, working hours and rest and leave, staff education and training, insurance and welfare benefits, protection of female employees' rights, occupational safety and health and other aspects. In strict compliance with the Special Rules on the Labour Protection of Female Employees, Rules on the Prohibited Scope of Labour of Female Employees and other requirements as well as the terms of the Company in respect of the management measures on the labour protection of female employees, the Company achieved equality between male and female in terms of equal pay for equal work, vocational education, technical training, promotion, participation in corporate democratic management and other aspects. The legitimate rights of female employees are entitled to proper protection. The Company insists to arrange its female employees in attending gynaecological special physical examinations and "two diseases" general examinations for female employees every year. The Company has also purchased "Ankang Insurance (安康保險)" for female employees. Five female employees made claims and received RMB240,000 in total.

Chapter III Protection of Employees' Rights (*Continued*)

III. EMPLOYEE RELATIONSHIP WITH THE COMPANY

1. Unimpeded Channels for Employees' Participation in Corporate Management

The Company has implemented the Opinion on Establishing Harmonious Labour Relations issued by the central government and the State Council in a conscientious and consistent manner and strengthened the establishment of corporate democratic management system in a basic form of employee representative meetings. In particular, the Company focuses on the democratic management while deepening reform to ensure that the works are carried out according to the laws and regulations under standardised procedures without any flaws and mistakes. The Company convened the 11th meeting of the first session of employee representative meeting to consider and approve 12 items including the executive work report of the Company and the employee training scheme for the year 2016 with a rate of 100% for consideration and approval, among which polls were conducted in respect of the items related to the vital interests of employees, including the Collective Contract (Draft), the Specialized Collective Contract for Protecting Rights and Benefits of Female Employees (Draft) and the Use of Welfare Expenses for the Year 2016 (Draft). The Company convened review meetings for the proposals from the employee representatives to review the proposals received and file such proposals for further handling and then give feedback to the basic units and the relevant employees in a timely manner, while reporting the results at the annual employee representative meeting. The Company has handled all the proposals from the employee representatives as well as the opinions and suggestions. The Company fully implemented an open system for factory affairs to broaden the channel for disclosure of factory affairs. The Company also facilitated the disclosure of affairs of the basic working zones and teams. Upon the consideration and evaluation of the employee representatives, the satisfaction rate reached 100% in respect of the implementation of the open system of factory affairs. The Company conducted democratic consideration and evaluation on the performance of the leaders and cadres and the rate for democratic consideration and evaluation on the leaders at various levels reached 100%.

Chapter III Protection of Employees' Rights (*Continued*)

III. EMPLOYEE RELATIONSHIP WITH THE COMPANY (*Continued*)

2. Establishment of a Company with Harmonious Labour Relations

The Company always focuses on the comprehensive development of corporate activities for labour relations to establish new-type labour relations which are standardised and orderly, fair and reasonable, mutually beneficial and harmonious and stable so as to protect the legitimate rights of the Company and its employees to pursue healthy growth of the Company. The Company has pushed forward the implementation of various works for establishing harmonious labour relations, including furthering disclosure of factory affairs, implementing collective negotiation and collective contract systems and strengthening the mediation mechanism for labour conflicts. The Company has conducted a special activity called "Online Questions for Company (網絡問企)" to open a channel for employees to give opinions, suggestions and appeals and motivate them to participate in democratic management. 28,739 opinions and suggestions were given by the employees via the "Online Questions for Company (網絡問企)" platform throughout the year, in which 23,643 were being implemented by the respective units while 5,096 completed filing. The Company has made use of the labour dispute mediation committee to keep in touch of the development of labour disputes and strengthen the efforts in handling letters and visits of employees as well as labour disputes in order to maintain an unimpeded channel for the employees to express their opinions, mediate labour conflicts in a timely and effective manner, nip the conflicts in the bud and solve the issues at the basic level, thereby establishing harmonious labour relations. The Company has further strengthened its effort into the democratic management reception day, regular communication between the cadres and employees, inspection of employee representatives and other matters to have better knowledge of employees' needs, listen to employees' opinions and respect employees' aspiration. The opinions and suggestions proposed by the employees are studied and the existing problems are rectified and solved.

3. Efforts in Enhancement of Working Environment for Employees

The Company has placed great emphasis on the labour protection for employees and organised the "Ankang Cup (安康杯)" competition. All of the units and teams participated in the "Ankang Cup (安康杯)" competition. The Company entered into the Labour Union Responsibility Certificate on Labour Protection for 2016 with the basic units. The Company has paid attention to the enhancement of production safety and self-protection awareness of employees and organised quizzes on team safety and occupational health knowledge as well as training courses for inspectors on labour protection of labour union, further enhancing the safety of employees. The Company also carried out an activity with a slogan of "bringing coolness and safety while doing practical work and promoting development (送清涼，保安全，辦實事，促發展)" in high temperature season. Freezers, electric fans and heatstroke prevention drugs of RMB319,400 were bought for the frontline workers.

Chapter III Protection of Employees' Rights *(Continued)*

III. EMPLOYEE RELATIONSHIP WITH THE COMPANY *(Continued)*

3. Efforts in Enhancement of Working Environment for Employees *(Continued)*

Making full use of the role of collective supervision on production safety, the Company has established a comprehensive inspection and review system for employee representatives and arranged the employee representatives to conduct special inspections on the labour protection for employees and special protection for female employees. The Company organises activities for the dynamic identification of hazard sources and safety evaluation for all employees to strengthen the supervision of products safety in a comprehensive manner. The Company conducted 1,718 inspections throughout the year, and investigated 23,186 potential safety issues and rectified 22,881 issues. The Company commenced the "Ankang Cup (安康杯)" outstanding essays and labour protection work experience activities as well as the exhibition and evaluation activities on newspaper bulletin board and picture albums regarding safety, thereby creating a culture that everyone values and concerns safety with full compliance. The Company also conducted a "Star of Qun'an (群安之星)" voting activity to select and commend 25 "Stars of Qun'an (群安之星)".

4. Enthusiasm for Helping Employees Encountered with Difficulties

The Company has further enhanced the long-term mechanism for helping the poor to ensure precise and proper help can be provided. The Company organised an extensive visit event which was called "Warmth for Thousands of Homes (温暖送万家)". The cadres and party members paid 6,481 visits to model workers, employees encountered with difficulties and retired personnel in plight throughout the year and gave out relief funds of RMB3,241,000. Medical relief for critical illness was also provided to 669 individuals and medical relief funds of RMB3,065,000 were given out. The Company cares about the living of its employees and organised pragmatic activities including celebrating birthdays for employees, match-making parties, health lectures for female employees, legal counselling and giving of coolness to build a brand image for labour union services.

5. Helping Disabled Employees with Care

The Company has 461 disabled employees. In order to enhance the management of and services to the disabled employees, the Company has established a federation for disabled persons and commenced activities to care for the disabled employees. The Company paid over 100 visits to employees with difficulties or disabilities and gave out relief funds of RMB114,000 and comfort gifts amounting to RMB61,000 to those employees. In order to enrich the cultural and sports life for the disabled employees, the Company organised mountaineering, park tours, arts, photography, reading and other activities for them, and encouraging them to participate in table tennis and badminton competitions of above municipal level.

Chapter III Protection of Employees' Rights (*Continued*)

III. EMPLOYEE RELATIONSHIP WITH THE COMPANY (*Continued*)

6. Enrichment in Cultural Life of Employees

The Company arranged its employees to learn and promote the spirit in the Fifth and Sixth Plenary of the 18th Central Committee of the Party and the ideas in President Xi Jinping's multiple speeches. Taking account of the actual conditions of employees, the Company organised activities such as "Becoming a Good Employee Just Like Li Chao (做李超式好員工)", "Learning Lei Feng's Spirit from Guo Mingyi (跟著郭明義學雷鋒)" and "Walking With Reform (我與改革同行)" speech contest, so as to integrate the education of socialist core values into the education of situation and task as well as reform and development.

The Company organised a variety of cultural and sports activities suitable for employees. Placing great emphasis on the cultivation of cultural qualities of employees, the Company encouraged literary and artistic creation to explore and develop interests and hobbies for employees. The Company also organised activities including lantern riddle event, fun fitness classes, delivering culture to factories as well as badminton competition and mountaineering team competition, which were all welcomed by employees, to enrich the cultural life of employees and provide a platform for them to showcase their talents and improve quality. The Technology Centre and Large Section Plant were awarded the title of "Staff Book Shelter of Anshan City", where the book shelter in Large Section Plant was recommended as an exemplar for staff book shelter for the country.

The men's team of tug-of-war of Angang Steel won two champions in men's 560kg and 600kg events in the National (Indoor) Tug-of-War Championship (全國(室內)拔河錦標賽) held in Ma'an Shan and also won two champions in 600kg and 640kg events in the International Tug of War Tournament (國際拔河邀請賽) held in Ordos.

7. Caring for Physical and Mental Health of Employees

The Company arranges its employees to attend physical examinations every year with coverage of physical examination and health filing for employees reaching 100%. The Company also organised vacation for employees by batches and 33,850 individuals participated in the vacation throughout the year.

Chapter III Protection of Employees' Rights (*Continued*)

IV. TRAINING AND IMPROVEMENT OF EMPLOYEES

In 2016, the training of the Company was closely connected with the actual conditions of production and operation and focused on deepening human resource reform and corporate transformation and upgrading in response to the needs for reform innovation and transformation upgrading in order to strengthen the competitiveness of steel production as a principal business under the “new normal”. Training changed towards the direction of being practical and effective. Guided by innovative driver, quality efficiency, structure optimization, informatisation and industrialization integration and green development, training focused on reform, subsistence, transformation and development to motivate employees for innovation, strengthen the application of training results, accelerating the establishment of key personnel teams, increase the efforts in employees' self-learning and enhance the conversion of training results, thereby facilitating the improvement in the overall quality of employees.

In 2016, upon complete research and study, the Company formulated scientific training plans for employees and conducted a forecast on training needs from top to bottom and from bottom to top. The Company formulated training plans and commenced training under the principle of “Four Promotions and Four Constructions (四個推進 · 四個建設)”, which meant: promoting strategic capability enhancement training for personnel in leadership positions so as to construct a leading team which is able to win in a tough battle; promoting innovation capability enhancement training for professional technical personnel so as to construct a research and development team which is highly intelligent with exquisite manufacturing skills; promoting service capability enhancement training for marketing personnel so as to construct an operation team which is also customer-oriented and provides excellent services; and promoting capability enhancement training for production and operation personnel so as to construct a technical team which is efficient with excellent operation skills. In particular, there were 1,385 participants in the core leadership forums; there were 561 participants in the seminars for intelligent manufacturing and high-end technology; there were 850 participants in the training sessions for marketing team; there were 932 participants in the training sessions for tackling brainstorm projects for highly skilled personnel above technicians and technician exchange forums; there were 1,905 participants in the training sessions for cadres organised by the education and training centre; there were 4,789 participants in the training sessions for middle management personnel; there were 370 participants in the training sessions for party construction; there were a total of 8,071 participants in the other ten professional skills projects. Besides, based on the organisation principle of mastering many skills while specialising in one, the Company implemented execution training integrating operation and inspection of positions to strengthen the effective output in a point-to-point manner so as to train for what the position needed and replenish for what the position was lack of. The Company designated the basic units to organise training sessions for professional capability enhancement in new technology and new techniques with 6,779 participants, thereby improving the training results for employees' performance in an effective manner.

Chapter III Protection of Employees' Rights (*Continued*)

IV. TRAINING AND IMPROVEMENT OF EMPLOYEES (*Continued*)

In 2016, the training hours of employees were 1,010,660 hours in aggregate. The average training hours per employee were 39.6 hours. Training expenses amounted to RMB10.0844 million. Training expenses per employee amounted to RMB268.9.

V. PROTECTION OF OCCUPATIONAL HEALTH AND SAFETY RIGHTS OF EMPLOYEES

In 2016, the Company adhered to the production safety policy of "Safety First, Prevention as the Core, Comprehensive Management (安全第一、預防為主、綜合治理)" and pushed forward production safety according to the law. The safety concept of "human lives and safety responsibility are the most important (人的生命大於天、安全責任重於山)" was entrenched. Aiming at protecting human lives and focusing on the implementation of production safety standardisation, the Company adhered to the concept of "Party and government share the same responsibility (黨政同責)" and "one position with dual responsibilities (一崗雙責)" and improved the overall safety management of the Company by virtue of strengthening safety risk prevention and control management and improving the effectiveness of education and training as well as consolidating basic team management.

In 2016, there were a total of five personal injuries (one death, one serious injury and three minor injuries) in the Company, causing one person died, one person was seriously injured and two persons slightly injured. The injury rate per 1,000 employees was 0.082%.

1. Specifying Responsibility of Production Safety to Consolidate Basic Work Safety

The leaders of the Company at all levels attached great importance to safety and fully implemented production safety duties and responsibilities. The Company performed the duties and responsibilities in safety management in relation to "Party and government share the same responsibility (黨政同責)" and "one position with dual responsibilities (一崗雙責)" and entered into Production Safety Responsibility Certificate at every level. All members entered into the Safety Commitment to assign and delegate the safety and occupational health objectives and indicators for the year 2016 down to every unit to implement safety duties and responsibilities. The Company introduced the spot check on safety management and the safety management regional responsibility system by dividing and assigning regions to be responsible for at different levels in terms of production lines, regions and professions to quantify the safety check indicators for management at all levels, achieving full coverage of production safety responsibility system which was broadened and deepened.

Chapter III Protection of Employees' Rights (*Continued*)

V. PROTECTION OF OCCUPATIONAL HEALTH AND SAFETY RIGHTS OF EMPLOYEES (*Continued*)

1. Specifying Responsibility of Production Safety to Consolidate Basic Work Safety (*Continued*)

In order to enhance the establishment of the safety management system, the Company has formulated and amended the Production Safety Responsibility System, Safety Management Measures on Major Hazard Sources, Management Measures on Safety Management Information Platform, Management Measures on Safety Education and Training and other systems pursuant to the national laws and regulations as well as the relevant systems of Angang Group Company in order to improve the establishment and effectiveness of systems.

2. Strengthening Cultural Development to Further Enhance Safety Awareness and Abilities at All Levels

Firstly, the Company has issued the notice in relation to the full implementation of "0123" safety management model and arranged the management personnel for relevant units to participate in propagation and training. Meanwhile, the Company has also issued the Advanced Implementation Plan to ensure the proper implementation of "0123" safety management model to construct the overall framework for corporate safety culture.

Secondly, the Company has consistently carried out safety management activities which have one class per month with one theme for each month. During the year, the Company organised twelve safety-themed monthly activities such as "implementing safety responsibility according to law to eliminate safety hazards with non-compliance (依法落實安全責任、消除違章安全隱患)", where units at different levels organised activities such as safety theme week, safety theme day and five minutes before shift (班前五分鐘). The number of times for the management personnel at different levels to participate in activities such as safety theme day and five minutes before shift (班前五分鐘) was quantified in terms of different levels to refine the activities and ensure the activities are practical and effective.

Thirdly, the Company values the importance of real scenarios to enhance the safety awareness and ability of employees. The Company has set up emergency response plans and emergency response cards for key positions. The Company has also further required all of its employees to work with certifications and enhanced the results for actual evaluation to improve the hazard identification and standardised operation of employees. Comprehensive practical exercises on dangerous chemical poisoning and fire accidents are organised to improve respond ability to emergencies.

Chapter III Protection of Employees' Rights (*Continued*)

V. PROTECTION OF OCCUPATIONAL HEALTH AND SAFETY RIGHTS OF EMPLOYEES (*Continued*)

3. Constructing Safety Alert Information Platform to Prevent and Control Safety Risk in an Effective Manner

The Company has developed and established a safety management information platform to achieve informatisation on safety management and enhance the hidden risk investigation process while monitoring the process of dangerous operation. The Company has also achieved filing management and real time update on various safety education and training, emergency management and special operation management.

4. Adhering to Regular Extensive Checks on Production Safety to Achieve Safe Production

In 2016, the Company adhered to the combination of comprehensive checks, special checks and regular check as always to achieve full coverage of the scope of examination in terms of broadness and deepness. Led by the leaders of the Company with participation of various departments, the Company carried out two extensive checks on production safety. Learning from the precedent accidents and corresponding to the seasonal features, the Company carried out 56 special checks on major hazard sources, toxic and harmful gases and construction maintenance and checked 260 issues in total.

5. Strengthening Occupational Health Management to Prevent Occupational Hazards

The Company further increases its expenditure in safety to provide a safe working environment. The Company spent over RMB35 million to rectify the on-site safety hazards and equip with emergency devices to further improve the intrinsic quality of safety.

The Company issued the 2016 Occupational Health Inspection and Workplace Occupational Hazards Examination Plan and engaged Angang Labour and Health Institute to conduct an occupational health inspection and a workplace occupational hazards examination with completion rate of 100%.

Chapter III Protection of Employees' Rights (*Continued*)

V. PROTECTION OF OCCUPATIONAL HEALTH AND SAFETY RIGHTS OF EMPLOYEES (*Continued*)

6. Facilitating the Establishment of Production Safety Standardization to Further Improve Safety Management

Firstly, the Company completed the promotion plan for production safety standardisation. As evaluated and approved by the Administration of Work Safety at provincial level, the Cold Roll Plant was successfully promoted to a Level 2 enterprise for production safety standardisation (安全生產標準化二級企業). Six units including Metallurgical Transportation Plant have passed the re-evaluation of Level 2 enterprise for production safety standardisation.

Secondly, the Company continued to carry out performance evaluation on safety management. The Company conducted performance evaluation on safety management for 15 units of the Company every quarter. A total of 445 issues were evaluated throughout the year. Evaluation reports were prepared to supervise, urge, check and accept the rectification on such issues to further improve the overall safety management of the Company.

Chapter IV Integrity Management and Protection of Suppliers and Customers' Rights

I. LEGAL AND HONEST OPERATION

1. Perfecting the system to punish and prevent corruption together with combating commercial bribery

The Company has established and perfected the control system of commercial bribery in breach of laws and regulations. It has also provided support for advancing discipline review through setting up assessment and evaluation systems in respect of special supervision and disciplinary review in coordination regions and the performance of the secretaries of the Discipline Committee, as well as activating normative systems and procedures of petition, reporting, disciplinary review and case trial as to commercial bribery. The mechanism of treatment, decision-making and coordination of major cases assisting in decoding important clues of issues is developed and perfected for in-depth promotion of disciplinary review for commercial bribery.

The Company has thoroughly implemented the Constitution of the Communist Party of China (《中國共產黨章程》) and played a leading role in complying with all regulations including the Code of Political Integrity of the Chinese Communist Party (《中國共產黨廉政準則》), the Code of Conduct for Intraparty Political Life under New Circumstances (《關於新形勢下黨內政治生活的若干準則》) and the Regulation of the Communist Party of China on Disciplinary Actions (《中國共產黨紀律處分條例》). It also ensures effective facilitation and strengthening of disciplinary review for commercial bribery in terms of key areas and crucial processes by virtue of mechanism innovation.

The Company ensures effective operation of the punishment and prevention system. It further strengthened the Supervision Committee's functions of coordination, supervision and management and organised the members of the Supervision Committee to revise 28 systems in order to ensure effective operation of the macro-supervision system. It also enforced the leadership to comply with the laws and regulations to prevent abuse of duty under the increasing oversight of the leadership through 29 secretaries of the Discipline Committee conducting "drawing portraits (畫像)" of 102 leaders. Secretaries of the Discipline Committee of all levels participated in the selection, appointment and change of 244 leaders to avoid promotion of incompetent and underperformed leaders.

Chapter IV Integrity Management and Protection of Suppliers and Customers' Rights *(Continued)*

I. LEGAL AND HONEST OPERATION *(Continued)*

2. Strictly performing disciplinary review in “Four Ways (四種形態)” of enforcing the Party’s discipline

The Company has strictly carried out disciplinary review and severely imposed punishment for misconduct with prejudice to the Company’s corporate interest. It has formulated and issued its guidance on correct understanding of the “Four Way” practices of supervision in disciplines execution so as to make sure party committees and discipline commissions of all levels duly follow the “Four Ways”. Certain major cases including the case of sales of false spare parts by Songyan Electromechanical (Shanghai) Co., Ltd., the case of fraud of construction fees by Shanghai Road and Bridge Company (上海路橋公司) and the case of sales of false cleansing products by Anshan Kaida Labour Protection Utensils Co., Ltd. were investigated and closed by 30 peoples punished, 4 people liable to criminal prosecution and 46 people being criticised, educated, alerted, admonished and punished accordingly, which achieved the good disciplinary and political effect of punishing the extremely small minority and educating the large majority.

3. Selecting weak areas for supervision of efficiency

The Company highlighted key areas and procedures of production and operation management to begin specific supervision. In 2016, the Company’s supervision organisations of all levels activated 67 efficiency supervision projects, which discovered management loopholes, 7 groups of management issues and 177 issues, proposed 55 management recommendations and improved 39 rules and systems. Such projects effectively enhanced the corporate management level.

Chapter IV Integrity Management and Protection of Suppliers and Customers' Rights *(Continued)*

I. LEGAL AND HONEST OPERATION *(Continued)*

4. Cultivating anti-corruption culture by taking advantage of themed education

The Company systematically carried out spiritual, disciplinary and case education of the Party integrated with the model of "Two Studies, One Action (兩學一做)" and educational activities with the themes of spiritual, disciplinary and case education of the Party. It organised approximately 2,700 people to visit an educational fair themed with the improvement of the Party's conduct and government integrity, provided education of government integrity for approximately 150 leaders and key personnel and convened an education meeting for 350 members and cadres of the Party; a meeting themed with anti-corruption, integrity and cooperation was jointly held with suppliers together with 1,900 suppliers and contractors entering into agreements of "anti-corruption, integrity and cooperation (廉潔誠信、合作共建)" with the Company. Various channels were promoted to foster the culture of anti-corruption with the aid of the Wechat public platform of the Company publishing feature columns of disciplinary inspection and supervision together with pushing 54 various Wechat feeds. The Anti-corruption Bulletin (《倡廉內刊》) was founded and it published 13 articles on the Anshan Daily.

II. RESPONSIBILITY FOR PRODUCT QUALITY

In 2016, the Company steadfastly followed the path of pursuing high quality with differentiation, specialty and professionalism, established the portfolio of "steel type + market connection + user service + innovative R&D", and continued to meet the demands for customised production. The Company promoted new product development towards steel type with high efficiency and high technology, optimised project approval channels, and facilitated implementation of research results. It also implemented upgrading of quality management to produce fine products meeting customers' needs through constructing the quality responsibility system consisting of 28 production lines and parameters of approximately 2,000 control nodes.

Chapter IV Integrity Management and Protection of Suppliers and Customers' Rights *(Continued)*

II. RESPONSIBILITY FOR PRODUCT QUALITY *(Continued)*

1. Establishing a highly efficient system of R&D management

The Company actively took advantage of its technology as the core and primary engineering and technical personnel as the foundation for operation with the support of technological and R&D systems by professors and experts from top universities and research institutions in China. It established Angang Technology Development Co., Ltd. which aimed at exploring the formulation of innovative mechanism of technological operation under the contractual system with effective yield. It also improved the protection for technological research systems by organising and amending 22 technological management systems with the addition of three new management systems including the Guidance on Management and Operation of Technological Research Design and Technological Innovation (Tentative) (《科研設計機構科技創新管理運行指導意見(試行)》). Reforms of technological research and design institutions were carried out in terms of standardisation of independent auditing of technological centres, management of technology projects, technology research fees, evaluation of project efficiency, construction of national key laboratories, evaluation of innovative capability, transfers of research outcomes and allocation of revenue, so as to more scientifically, systematically, normatively and effectively manage technological missions. In view of better facilitation and construction of “state key laboratories of metal materials for marine equipment”, the Company convened a meeting of the Management Committee of the State Key Laboratory and the first meeting of the first Academic Committee of the State Key Laboratory, which effectively promoted the construction of the “State Key laboratories of metal materials for marine equipment”.

Chapter IV Integrity Management and Protection of Suppliers and Customers' Rights *(Continued)*

II. RESPONSIBILITY FOR PRODUCT QUALITY *(Continued)*

2. Management of standards

The Company conducted the research on the standards of adjacent countries along the One belt, One road (一帶一路) and completed five programmes including the Standard of Certified Steel Products Exported to India (《出口印度認證鋼鐵產品標準》). It also started reporting of national key research plans and programmes, and participated in two programmes of the Research on Key Technological Standards of Advanced Structural Materials (《先進結構材料領域關鍵技術標準研究》) and the Research on International Steel Standards on Internationalization of Chinese Standards (《中國標準國際化鋼鐵領域國際標準研究》). In addition, the Company also promulgated and implemented 34 guidelines on overseas standards and completed a technical document on comparison of 118 overseas standards and 36 standards. It also completed the draft of the International Organisation for Standardization of ISO4978 Flat Rolled Steel Products for Welded Gas Cylinders (《焊接氣瓶鋼用扁平鋼材》) International Standard Working Draft. Moreover, it completed the formulation and revision of 13 national standards including Wire Rod for Steel Cord (《鋼索線用盤條》), the formulation and revision of 8 national industry standards including Alloy Steel for Nuclear Power Plants (《核電站用合金鋼》), the declaration of 26 national industry standard formulation and revision projects including Structural Steel for Hull and Marine Engineering (《船體及海洋工程結構用鋼》), the identification and recognition of 111 national standards and 65 metallurgical industry standards together with promulgation and implementation of 104 related standards. The Company simultaneously completed the review, amendment, revision and abolition of 256 corporate standards, and the formulation and revision of 165 corporate standards. It comprehensively amended the technological procedures by issuing and implementing 137 technological procedures.

3. Management of patents and proprietary technologies

For patent and proprietary technology, the Company's amount of patent acceptance was 626 for the year, of which 331 were invention patents, representing 52.9% of the patents. It was also granted 386 patents, of which 133 were invention patents, and completed recognition of 542 proprietary technologies. Two invention patents including "a type of steel sheet with low content of alloy with resistance of dew point corrosion of sulfuric acid and its manufacturing method (一種低合金耐硫酸露點腐蝕鋼板及其製造方法)" were recognised by the 18th China Excellent Patent Awards. 5 patents obtained the 1st Patent Awards of Anshan. 37 proprietary technologies were granted the Award of Proprietary Technology by Angang Group Company. 14 patents were accredited as the Excellent Patents by Angang Steel. The Company also organised 12 trainings of intellectual property and trained 480 staff members. It also entered into 16 technology export contracts with external parties with the contract amount of RMB4.65 million.

Chapter IV Integrity Management and Protection of Suppliers and Customers' Rights (*Continued*)

II. RESPONSIBILITY FOR PRODUCT QUALITY (*Continued*)

3. Management of patents and proprietary technologies (*Continued*)

For technology cooperation and exchange, the Company respectively invited two academicians, namely Mr. Weng Yuqing and Mr. Zeng Hengyi, to give academic reports of the Demand and Trend of Metal Materials of Marine Equipment (《海洋裝備金屬材料的需求與趨勢》) and The Trend of Energy and Exploitation of Offshore oil into Deep Sea (《能源形勢與海洋石油走向深水》), and invited professionals from Russia and Ukraine to exchange for topics related to corrosion resistant materials and their manufacturing technology. The Company also designated professionals to attend large academic conferences including the China International Steel Congress, the 3rd Marine Material and Corrosion Protection Conference and the 2016 National Electromagnetic Metallurgy Conference. It also successively had technical exchange with top universities and research institutions including Tsinghua University, University of Science & Technology Beijing, No.725 Research Institute of China Shipbuilding and Harbin Institute of Technology.

4. Maintenance and protection of intellectual property

The Company seriously followed the principle of “encouraging creation, effective usage, legal protection and scientific management” in order to foster the strategic layout of intellectual property and improve the capability of maintaining and protecting intellectual property. 9 patent analysis reports including A Summary of Public Invention Patents for International Steel of Ship and Marine Engineering in 2015 (《2015年全世界公開的船及海工用鋼領域發明專利概況》) were prepared based on the analysis of the core competitiveness of the Company's key technologies. The Company also actively improved the layout of core patents and identify key areas of its core patents in order to form clusters of patents in major technological fields for laying solid foundations of its reasonable planning of patented technologies through declaration of 19 patents in respect of “improving ultra-thick sintering process of pre-sintering process (改善預燒結工藝的超厚料層燒結工藝)”, 12 patents in respect of the “longitudinal variable-thickness construction steel (縱向變厚度建築用鋼)” technology, 10 patents in respect of “new energy-saving and environmentally-friendly techniques” and 9 patents in respect of “automotive steel with high strength and high toughness (高強高韌汽車用鋼)”.

Chapter IV Integrity Management and Protection of Suppliers and Customers' Rights *(Continued)*

II. RESPONSIBILITY FOR PRODUCT QUALITY *(Continued)*

5. Increase in the efforts of technology upgrades

The Company focused on key, material, core and leading technologies of energy-saving, emission control and green production and led their development at the forefront of the industry in order to promote the implementation of the “Public Entrepreneurship and All Innovation (大眾創業·萬眾創新)” Campaign and increase the efforts of basic and public innovative projects such as innovation studios, “Two Reforms and One Change (兩革一化)”, QC activities, supporting research and plant innovation. It completed 147 reviews of research efficiency and achieved RMB420 million of appreciation of technological research. It also completed 31 reviews of non-contractual trial products, quick initiation of 30 projects and entered into 28 contracts of technological research and development (services), which were exempt from tax of RMB62.15 million under the policy of three new economies. For the purpose of enhancing efficiency of cost reduction on technology and following the principle of target decomposition, performance of responsibility and encouraging creation, the Company formulated the Notice of Enhancement of Cost Reduction on Technology in 2016 (《關於開展2016年度科技降本增效工作的通知》) and launched 60 projects of cost reduction on technology and projects of efficiency improvement of products of 15 main types. Meanwhile, it delivered 2 tranches of research projects of cost reduction and efficiency improvement of technology, with a total of 511 research projects being implemented.

6. Abundant research and development results

13 research and development results including the “development and industrial application of core technology of edge-thinning control of cold-rolled silicon steel (冷軋硅鋼邊部減薄控制核心技術開發與工業應用)” won prizes in the Metallurgy Science and Technology Award and the Liaoning Science and Technology Award. In particular, the project of the “development and industrial application of core technology of edge-thinning control of cold-rolled silicon steel” won the First Prize of Metallurgy Science and Technology Award; the projects of the “development and application of new and efficient recycling technology of iron dust (含鐵塵泥高效再資源化新工藝開發與應用)” and the “application of construction technology of high performance bridge steel and its domestic and overseas application in major bridge projects (高性能橋梁鋼製造技術及其在國內外重大橋梁工程上的應用)” won the First Prize of Liaoning Science and Technology Progress Award; and the project of “corrosion-resistant steel for railway trucks of Angang Steel (鞍鋼鐵路貨車用耐蝕鋼)” won the China Iron and Steel Industry Association Market Development Award. In respect of the “research on key technology of high-strength thick pipelines for undersea high pressure oil and gas pipeline delivery (深海高壓油氣輸送用高強厚壁管材關鍵技術研究)” under the National 863 Program, the Company completed the trial production of thick steel pipelines with

Chapter IV Integrity Management and Protection of Suppliers and Customers' Rights *(Continued)*

II. RESPONSIBILITY FOR PRODUCT QUALITY *(Continued)*

6. Abundant research and development results *(Continued)*

maximum diameter of $\phi 1,016\text{mm}$. Such technology results had been certified through inspection and evaluation of ring welding by authoritative institutions as third parties. In respect of the “research on application of vessel-use corrosion-resistant steel technology based on IMO standards (基於IMO標準的船用耐蝕鋼應用技術研究)” under the National Program, the Company completed the 2.5-year evaluation on the first domestic demonstrative oil tanker. The corrosion resistance rate for corrosion-resistant steel was 3 folds higher than that of ordinary steel. In respect of the “research and production technology development for high-manganese high-toughness moderate thickness plates for marine platform and titanium/steel composite plates (海洋平台用高錳高強韌中厚板及「鈦／鋼」複合板研究與生產技術開發)” under the National Program, the first round of industrial trial production had completed and all indices met the requirements of technological standards, achieving a breakthrough in key production technology in whole-procedure smelting, continuous rolling and heat treatment of high-manganese high-toughness moderate thickness plates for marine platform. For titanium and steel composite plates, 2 rounds of trial production for composite steel plates had completed, and produced rolling titanium and steel composite plates. In respect of the “third-generation steel for nuclear power reactor containment (三代核電反應堆安全殼用鋼)” under the National Program, the Company completed the production and delivery of 130mm SA-738Gr.B standardised steel plates, showing a milestone of extending the thickness of the product to 6–130mm. It also completed the 1,600 ton supply of SA-738Gr.B steel plates used for the containment of phase II nuclear project in Haiyang. In respect of the key research theme of “production of steel composite plates and development of application technology (複合鋼板生產及應用技術開發)”, the Company completed various types of industrial testing, achieving a breakthrough in key production technology of heterogeneous composite plates and initially serving as a bridge between the Company and production procedures of stainless steel composite plates which helped the Company be able to receive contracts. In respect of the key research theme of “abrasion-resistant series and its application (系列耐磨鋼板及其應用技術)”, the Company adopted special heat treatment and control technology in the trial production of 5–9 mm NM400-NM600 steel plate module, which was close to the imported HARDOX steel plate standard. The market of abrasion-resistant steel was gradually opened up through promotion of approximately 2,000 ton NM360-NM500. In respect of the key research theme of “research on production technology for high quality industrial-use pure iron (高品質工業純鐵生產技術研究)”, the Company developed industrial-use pure iron with purity of over 99.90% under various brand including ZDCT, FJACT-ZJ and ACT-1, meeting the industry leading standard with annual production capacity of over 60,000 tons.

Chapter IV Integrity Management and Protection of Suppliers and Customers' Rights *(Continued)*

II. RESPONSIBILITY FOR PRODUCT QUALITY *(Continued)*

7. Fully implementing management of production quality and raising awareness of all staff on quality

In 2016, the Company convened the “3.15” quality meeting. Through promotion and implementation of “Quality Leadership Project (質量一把手工程)”, accurate assessment of quality responsibility, management of on-site visual signage and zero defect strategy, the Company effectively raised awareness of all staff on “quality as the core value of the Company”, promoted transformation and innovation of products and increased profitability and market competitiveness. Such initiative in turn met the demands for customised production and developed new products in a high-end and differentiated manner, which was evidenced by satisfactory performance of the Company's new representative products.

The Company established the target management system consisting of 28 production lines and 26 varieties from smelting to rolling and constituted the evaluation system containing parameters of approximately 2,000 control nodes, which effectively enhanced the Company's capability of quality control on production procedures.

The Company promoted inspection of process and listing management of equipment, established 3-level inspection and listing systems of equipment, and completed inspection of process, listing and delisting approximately 400 times; it also aimed at key quality issues and systemically grouped 143 requirements on improving process equipment together with follow-up measures.

The Company completed specific trainings of TS16949 standards and its five core tools, qualifications of responsible personnel for JIS quality management and Six Sigma knowledge, which increased the Company's technical quality, and the quality and capability of key responsible personnel.

In order to supervise on-site processes for effective implementation and ensure zero defect turn-around of each process and strict quality control on products from plants, the Company stipulated more rigorous articles of management and increased the efforts in inspection and appraisal. The Company organised annual specific inspection on product quality approximately 60 times, where 160 substandard items were identified and announced during a review meeting of the Company for rectification and closure under supervision. The Company also assumed the responsibility of major quality incidents and disputes for concise review in accordance with the principle of “Four Kinds of Insistence (四不放過)”.

Chapter IV Integrity Management and Protection of Suppliers and Customers' Rights *(Continued)*

II. RESPONSIBILITY FOR PRODUCT QUALITY *(Continued)*

7. Fully implementing management of production quality and raising awareness of all staff on quality *(Continued)*

The Company focused on customer experience, learned from advanced model and issued 72 quality research projects twice highlighting key issues of rusting of shipboards and inclusions of car plates in response to more client complaints, which gradually relieved the Company's ongoing concern over such quality issues; it also launched the "One Theme in Two Months" campaign of quality research and gained satisfactory results. For instance, 10 projects were completed and outperformed the expected targets for improving quality issues during the "Month of Quality", which represented a stable increase in the index for consecutive four months and resolved various difficulties in thickening of edges of galvanised coils. The Company also finished 21 Six Sigma Quality Management Projects of the seventh phase, and the pass rate of wire-cold heading steel with upset forging increased significantly.

8. Enhancing product certification, creating excellent management and increasing presence of products

In 2016, the Company completed a total of approximately 40 certifications of domestic and overseas products including automotive steel, hot rolled steel, civilian ball flat steel, ultra-high strong marine steel and exported India BIS, which effectively expanded more sales channels of products and further developed the market of high-end products; 3 products won the Golden Prize of China Iron and Steel Association. The Company formally joined Liaoning Association for Brand Construction and Advancement and became the vice chairman.

The Company passed accreditation of automotive and household electrical appliance enterprises including BAIC Motor, SAIC General Motors, Great Wall Galvanized Steel Sheet (長城鍍鋅板), Shenzhen BYD, Honda and Mitsubishi in Dongbi, Fujian. It completed first accreditation of wire car steel by GAC Group, additional accreditation of production licence for hot rolled steel for reinforced concrete, accreditation of production licence of all types of hot rolled steel by State Administration of Quality Supervision and accreditation of pipeline steel plates and coils by new single furnace X80 certification in Guangdong and Zhejiang. It also completed accreditation of crack-proof steel for containers as the only steel enterprise passing the certification of 90mm crack-proof steel in China, of which products were domestically produced. In addition, it passed accreditation of eight classification societies in respect of ultra-high-quality marine steel with maximum thickness of 100mm; it received orders of polar ships after accreditation of shipboards by a Russian classification society; it passed the CRCC certification and approval of supervision of steel rails; it additionally passed the CRCC certification of full-length rails under heat treatment; it passed the certification of civilian ball flat steel by nine classification societies; hot rolled, medium plates and wire products were certified by BIS in India; galvanised sheets certified by Malaysia SIRIM certification and wire and colour coated products certified by Japan JIS certification.

Chapter IV Integrity Management and Protection of Suppliers and Customers' Rights *(Continued)*

II. RESPONSIBILITY FOR PRODUCT QUALITY *(Continued)*

9. Improving quality of product packaging and further enhancing presence of Angang products

The Company prepared and issued the Map of Quality Defects of Product Packaging (《產品包裝質量缺陷圖譜》) through organisation and analysis of products and services in all production units, logistics parks, loading docks, destinations, and of all transportation, storage, loading and unloading procedures. It also organised trainings for staff based on the Map of Quality Defects of Product Packaging and effectively provided guidance on on-site production practices. Specific review on standardisation and quality improvement of packaging in a monthly basis was conducted for mutual reference and rectification after review notification. Less than 4 client complaints of packaging of wire products were recorded, which represented a sharp decrease in dissatisfaction of clients. Approximately 70 times of inspection on quality of product packaging were conducted annually with approximately 40 issues of packaging being rectified, hence there was 20% reduction of discontent over packaging of the Company. In 2016, total amount of packaging materials used by the Company was 56,783.6 tons.

Recyclable materials were significantly used for product packaging materials. Packaging materials of cold rolled products were generated from secondary waste materials in cold rolled plants and cold-rolled silicon steel plants. There were currently various types of packaging materials of cold rolled products being used the most. Over-packaging was avoided as operating standards and methods of packaging were optimised through designing for transport characteristics and catering for customised needs. Leading enterprises served as a model for the Company to continuously improve operating standards and methods and advocate energy-saving, emission reduction and green development.

III. FORGING A RESPONSIBLE SUPPLY CHAIN

1. Facilitating the purchase management system of raw materials and fuels

The Company facilitated the procedures to mainly standardise the purchase business. It also continuously optimised the regulatory system of procurement for clear framework, standardised structure and practical content. Important purchase systems including the Purchase Management Procedures (《採購管理程序》) and the Articles of Purchase Management of Raw Materials and Fuels (《原燃料採購管理實施細則》) were amended. The ERP commenced operation on 1 January 2016, which was responsible for ongoing supervision and inspection of key procedures including entering into contracts and bidding to ensure efficient and standardised operation of the purchase business.

Chapter IV Integrity Management and Protection of Suppliers and Customers' Rights *(Continued)*

III. FORGING A RESPONSIBLE SUPPLY CHAIN *(Continued)*

2. Increasing entry barriers and diversifying evaluation methods of suppliers

The Company continuously increased entry barriers and detailed evaluation standards of suppliers. In 2016, purchase channels of key varieties, such as coal and scrap steel, were expanded and active control on all suppliers was conducted to replenish and enrich the existing team of qualified suppliers. Meanwhile, the Company took advantage of the ERP to achieve electronisation of qualified materials from suppliers, information sharing and real-time identification of outdated suppliers so as to enhance management standard of suppliers. 80 suppliers were added and 52 were phased out on a selective basis in 2016. At the end of 2016, the number of qualified supplies amounted to 209.

3. Management of bidding of raw materials and fuels

The Company regulated bidding of purchase and promoted green and open procurement. It ensured open, fair and transparent purchase procedures by insisting on giving priority to open bidding for purchase. Based on such principle, the Company vigorously promoted the bidding for purchase of all raw materials and fuels. It also formulated a uniform standard for bidding of purchase and regulations of premium and discount of related qualities in order to form an applicable method of purchase bidding to all qualified varieties of raw materials and fuels. In 2016, open bidding rate of all varieties of raw materials and fuels bid amounted to 63.50% with open purchase rate of 80%, which represented a relative increase in performance and efficiency of purchase bidding as compared to last year.

4. Management of quality acceptance of raw materials and fuels

The Company gave priority to quality control and increased efforts in supervision of quality acceptance, and thus, all materials were strictly tested for acceptance in accordance with relevant national standards and the Company's corporate standards. Related personnel monitored the quality of shipment in upstream plants and mines, monitored and tested the quality of goods, loading and unloading in ports, and dealt with all port materials to prevent dust pollution and loss of materials. Meanwhile, they analysed the overall quality condition monthly, identified issues and developed measures for improvement to ensure the quality of raw materials and fuels fully satisfies the Company's production needs. The Company enhanced interaction with suppliers in quality management and feedback, therefore continuously increasing levels of quality management of both supply and demand sides. In 2016, all qualities of raw materials and fuels outperformed the appraisal indices and no incidents of quality issues occurred.

Chapter IV Integrity Management and Protection of Suppliers and Customers' Rights *(Continued)*

III. FORGING A RESPONSIBLE SUPPLY CHAIN *(Continued)*

5. Managing social risks of procurement

The Company strived for purchase management with clear division of labour, promoted informatisation and fully utilised the platform of ERP to achieve open and standardised procurement in terms of procedures. Based on the principle of "Person in charge responsible for risks (業務誰主管・風險誰負責)", the Company calibrated, managed, prevented and controlled significant and material sources of risks during procurement of risk materials and fuels in further detail. A sound risk control and alert mechanism was established adhering to the core of management of significant and material risks. The Company also conducted real-time and active identification and management of risks, and provided early warning of risks and timely delivery of risk-related information. Risk control measures effectively and maximally prevented significant impacts on the Company's production and operation from significant risks of procurement, which continuously enhanced the Company's anti-risk capability.

IV. MANAGEMENT OF PRODUCT SALES SERVICE

1. Facilitating the system of sales management

- (1) Undergoing restructuring and planning of management, achieving synergies of production and marketing and enhancing selling prices

The Company exerted increased efforts for product restructuring to decrease the sales of hot rolled products and increase the sales of cold rolled and galvanised products. It also performed product restructuring of minor varieties in production lines to increase the sales of branded steel. It undertook planning for uniform management of pricing to create vertical synergy effects. It facilitated sales of all varieties in regional companies and expanded sales channels, resulting in a surge of price differences among industry varieties. It fostered the linkage between sales and production and adjusted contracts in accordance with the Company's actual production capacity and market changes.

Chapter IV Integrity Management and Protection of Suppliers and Customers' Rights *(Continued)*

IV. MANAGEMENT OF PRODUCT SALES SERVICE *(Continued)*

1. Facilitating the system of sales management *(Continued)*

- (2) Optimising the layout and deeply rooted in Northeastern China to maximise the market share

With the thorough implementation of strategies in core sales area in Northeastern China, the Company facilitated the promotion of such strategies and optimised its regional marketing layout. It surveyed the total amount of capacity and demand of steel in the region, and registered all addresses and classified files of steel consuming enterprises visited one by one. According to the Company's deployment with the coverage from the Hada Railway to the whole Northeastern China region, it established various direct stores and sale outlets in all main cities and steel distribution centres in Northeastern China. It endeavoured to expand the market and increased inputs of available goods in order to capture more market share in Northeastern China.

- (3) Maintaining strategic clients, exploring end clients and stably increasing proportion of direct supply

Fully and actively leveraging edges of 3-in-1 promotion models of "senior management + technical personnel + sales personnel", the Company carefully reached cooperation agreement of user visitation among the management of two levels, exploited the actual and potential demands of its clients, closely monitored demand and supply relationship, and enhanced its marketing services. On the basis of maintaining stable strategic direct sale channels, the Company fully strived, in the furtherance of business representatives' and client managers' functions, to select responsible officers for direct-supply clients by business segment and region, explore potential customers, promptly responded to clients' demand through the Company's technical and production departments, and continuously take follow-up actions to provide solutions.

Chapter IV Integrity Management and Protection of Suppliers and Customers' Rights *(Continued)*

IV. MANAGEMENT OF PRODUCT SALES SERVICE *(Continued)*

1. Facilitating the system of sales management *(Continued)*

- (4) Stimulating the Company's energy of regional sales and highlighting its function as the bridgehead

In respect of marketing system of regional sale companies, according to the requirements on corporatisation and specialisation of operating entity, the Company implemented innovative reform to return to a legal operating entity as a pioneer and maintainer of client channels and an executor of client services. The Company horizontally integrated regional sales companies and processing lines so as to create better synergy effects. It also vertically established professional sales departments in all regional sales companies for better connection with sales headquarters and development of professional sales as well as new varieties. The Company maintained close connection and communication with its customers, expanded scope of services, as well as enhanced tailor-made services by fully leveraging edges of front-line services from regional sale network, processing, delivery and spot sale, and thus, influence of regional sale companies as the bridgehead was increasing gradually.

- (5) Taking into account factors of efficiency and risk, and planning for domestic and overseas markets

The Company actively implemented its international marketing strategies and focused on overseas and domestic markets in order to ensure the maintenance of foreign direct-supply clients and export channels, adjust allocation of resources in both markets and hedge market risks.

2. Facilitating the after-sale service system

The Company continuously facilitated and fostered the management system of client complaint and improved the quality and efficiency of complaint management. The Company endeavoured to achieve greater client satisfaction, highlighted the importance of improving the quality and efficiency of addressing complaints, and integrated all kinds of management tools. As a result, it reacted more responsively to address client complaints and improve quality of services.

Through optimising related systems and measures, the Company was committed to increase the efficiency of services. It also strived to adapt to the competitive market condition and amended the Procedures of Client Complaint Management (《顧客投訴管理程序》) in 2016. To establish the assurance system for efficiency of services, the Company increased the quota and scale of business authorization. It established a call centre of marketing services at the same time.

Chapter IV Integrity Management and Protection of Suppliers and Customers' Rights *(Continued)*

IV. MANAGEMENT OF PRODUCT SALES SERVICE *(Continued)*

2. Facilitating the after-sale service system *(Continued)*

The Company focused on clients' needs in respect of marketing of automotive steel, which strived to achieve the transformation from product marketing to marketing of technical services. The Company increased efforts in EVI management and promoted the 3-in-1 system of production, marketing and R&D of automotive steel products. Its marketing services relied on steel processing centres as the frontline of sales services of automotive steel. The Company also provided "zero kilometer" services of processing, distribution, warehousing, logistics and technology to clients in adjacent services regions.

The Company's sales of medium plates changed its philosophy of client services to solution marketing. The Company performed client segmentation to provide more targeted and professional services. It ensured the implementation of both regular and irregular visitation systems, thus gaining timely understanding of users' needs, raising marketing awareness and playing the role of EVI teams. The Company enabled its technical services to stay closer to the market and channelled clients' needs, which formed the concepts of pre-sale services; sales of single products was shifted to the practice of "product + technology + services"; tracking and guiding clients' application of products were required to provide tailor-made solutions of products with clients; client satisfaction was the Company's target so as to increase the quality of after-sales services. The Company adhered to giving response to complaints related to the quality of medium plates in 48 hours and responsively addressing each client complaint, therefore gaining acclamation from all clients.

3. Perfecting the protection system of client information and related measures

Establishing the protection system of client information, the Company strictly observed the confidentiality system in accordance with the principle of "Person in charge responsible for confidentiality (業務誰主管・保密誰負責)". To effectively protect client information, the Company adopted certain measures including limiting permission of client management and disallowing the connection between the sales management system and the Internet. In 2016, no incidents in respect of leakage of client information occurred.

Chapter IV Integrity Management and Protection of Suppliers and Customers' Rights *(Continued)*

IV. MANAGEMENT OF PRODUCT SALES SERVICE *(Continued)*

4. Management of client satisfaction, addressing complaints and visiting of clients

The Company regularly conducted research and performed evaluation of client satisfaction by business and customer category, which were twice a year with a coverage of 14 key sectors, including petrochemistry, automobile manufacturing, household appliance industry, military and shipping, and 10 key elements, such as product quality, marketing policy and services. Such findings demonstrated that the level of client satisfaction had been high with a score of more than 90 marks for many consecutive years. The level of client satisfaction with a score of 92.43 marks was recorded throughout 2016. The number of client complaints accepted amounted to 1,548 with 1,468 complaints being solved, accounting for 98.52% of the total number of accepted client complaints.

The Company integrated elements of work plans and comprehensively catered for clients' requests at various levels. Establishing and implementing the mechanism for mutual cooperation and interaction among sales departments (including regional sales branches and processing lines), after-sales services, plants, technical departments and logistics departments, the Company vigorously promoted the development of refined services. The Company insisted on the tradition of designating professionals to provide on-site services for clients from key regions and sectors in order to gain timely understanding of product quality, promptly respond to clients' requirements and facilitate communication with clients. The management of the Company regularly visited certain strategic cooperative enterprises including GAC Group, CNPC, FAW Group, Midea Group and CIMC, and listened to clients' opinion.

The Company adopted a question-oriented approach to implement closed-loop management. It regularly summarised and concluded client complaints to reflect representative issues and their orientation. It also collected company-wide feedback messages of product quality. Production and technology departments actively responded to all queries and requirements from clients, and examined, formulated and implemented corresponding corrective and preventive measures.

Chapter V Environmental Protection and Green Development

I. ENVIRONMENTAL PROTECTION MANAGEMENT SYSTEM AND MECHANISM

1. Environmental Protection Management Direction

Our works on environmental protection always strive to scientific development, duly implement the requirements under PRC laws and regulations, and facilitate a circular economy and clean production. In order to control pollution through governance and management at source, the Company adopts new work process and new technology which will have no pollution or less pollution. With the establishment of environmental protection management system and comprehensive environmental management platform, our works on environmental protection have achieved good result.

2. Establishment of Environmental Protection Management System

Operating under strict adherence to the PRC laws and regulations, including the Environmental Protection Law of the People's Republic of China, and other requirements, the Company continues to optimise the systems in relation to environmental protection, amend procedural documents such as Management Procedures for Environment Factor Identification and Evaluation, organise significant environment factor identification and evaluation, conduct laws and regulations identification and compliance evaluation, and continuously improve the environmental management system as to ensure effective operation. In addition, the Company establishes the overall framework for environmental management, and optimises the three major systems (namely the environmental protection indicator system, the environmental protection supervisory system and the environmental protection accountability system) and the six major factors (namely comprehensive indicator, management and control indicator, supervisory indicator, environmental protection supervision, accountability mechanism and appraisal mechanism). It also formulates the pollutant emission indicator and gradually implements the general pollutant emission indicator into the work flows of different units, thus achieving double control over total emission and emission concentration, which secures the overall emission control of the Company.

3. Maintaining the Registered Qualification for Environment System Certification

In 2016, the environmental management system of the Company successfully passed the audit conducted by Beijing Grand Honor Certification Co., Ltd. and obtained the qualification for ISO14001 environmental management system certification.

II. PERFORMANCE OF ENVIRONMENTAL PROTECTION WORK

In 2016, there was no significant pollution accident and public-related environment incident. Radioactive sources were safely used and hazardous wastes were treated in compliance with regulation, thus eliminating environmental risks. The execution of environmental management improved significantly. The outlook of our plants improved greatly, and the preliminary construction of ecological garden in plant area was completed. Air quality continued to improve, and the air index for SO₂, NO_x and PM₁₀ was in compliance with the PRC standard. Overall pollutant emission continued to reduce, with total emission for sulfur dioxide, nitrogen oxide, particles and COD of 11,586.5 tons, 23,106.9 tons, 11,744.7 tons and 281.2 tons, respectively. Emission of carbon dioxide was arranged by Liaoning Provincial Development and Reform Commission. It is expected that verification will be conducted by third party inspection authority during the first half of 2017.

1. Enhancing Comprehensive Environmental Management Standard

The Company continues to enrich the contents of Environment Monthly Report (《環境質量月報》), aiming to reflect the condition in environmental supervision, pollutant emission and management, environmental management etc., which will provide a basis for decisions of the Company in relation to environmental protection. With the establishment of comprehensive environmental management and information platform, the Company further improves different functions of the “information platform”. Through 24-hour video surveillance, excess pollutant emission alert and management, online report of basic environmental information and other functions, the condition in environmental supervision, pollutant emission and management, environmental management and other matters is fully reflected, thus greatly improving the standards of environmental protection informatisation management. As requested by governmental environmental protection authorities, the Company has engaged Beijing Jingcheng Huayu Corporation (北京京誠華宇公司) to prepare the Emergency Plan for Environmental Contingency, which will be submitted to Anshan Environmental Protection Bureau for filing and registration.

II. PERFORMANCE OF ENVIRONMENTAL PROTECTION WORK (Continued)

2. Strengthening Environmental Supervision on Construction Projects and Preventing New Pollution

The Company conducts environmentally friendly design review and proposal selection for different new construction, reconstruction and expansion projects. It strictly conducts environmental protection inspection, and implements pre-construction management and prevention measures, aiming to prevent the occurrence of new pollution. The Company conducts comprehensive management and rectification for environmental issues of new construction, reconstruction and expansions projects in prior years. As requested by governmental environmental protection authorities at different levels, the Company completed the environmental filing for seven key projects. It has obtained the environmental approvals for projects, including the constructions for heat treatment line of medium steel plate with high-strength, Xidagou advanced wastewater treatment and replacement of electrostatic precipitator with cloth precipitator for sintering machine, thereby ensure smooth production.

3. Conducting Reconstruction of Environmentally Friendly Facilities so as to Improve Efficiency and Meet the Standards

In 2016, the advanced wastewater treatment facilities of the newly constructed Xidagou Wastewater Treatment Plant commenced operation upon completion of its construction works, which ensures that the treated wastewater discharged through the Company's main drain will meet the overall emission standards of Angang Steel. In order to ensure the emission of sulfur dioxide, nitrogen oxide and particles meets with the new pollutant emission standards in China, online automated supervision is installed in 11 key stacks, including chimney at the front-end of sintering machine for iron melting, pellet chimney and boiler chimney in energy control centre. The Company has also enhanced the management and maintenance of environmentally friendly facilities for other production procedures, so as to ensure environmentally friendly facilities are used in perfect condition. The Company has invested RMB713,000 for handling the noise pollution arising from two sintering flue gas desulfurisation system and iron and coal smelting procedures. In order to avoid direct discharge of high-concentration wastewater into drainage system and lower the risk of over-discharge of pollutants at Xidagou main drain, the Company has invested RMB1.50 million for the reconstruction of coal gas water seal and water discharge system at energy control centre. As required under the Environmental Protection Liability Letter issued by governmental authority, the Company implemented and completed several environmental projects, including sintering machine electrostatic precipitator transformation project, coke oven gas desulphurisation and decyanation facilities and closure of eight sub-stock grounds, thus contributing to the improvement of air quality in urban area.

II. PERFORMANCE OF ENVIRONMENTAL PROTECTION WORK *(Continued)*

4. **Actively Launching Clean Production Review**

In 2016, as requested by Liaoning Provincial Environmental Protection Bureau, the Company commenced clean production review on key production procedures in six operating units, including the Main Steel Making Plant, the Cold Roll Plant, the Medium and Thick Plate Plant, the Wire Rod Plant, the Heavy Section Plant and the Seamless Steel Pipe Plant. The preliminary preparation of clean production review report has completed.

5. **Compliance Disposal of Wastes**

In 2016, the Company disposed of solid wastes in accordance with laws and regulations. Water slag of 4.98 million tons produced by blast furnaces was fully sold to external parties. Fly ash of 200,000 tons and slag of 39,000 tons produced in power generation area were fully delivered to third parties for comprehensive utilisation. The Company duly conducted inspection and verification of hazardous waste. It has investigated the base of production volume, inventory, utilisation and disposal of hazardous waste, and improved the standards of hazardous waste supervision, thereby securing compliance hazardous waste disposal. In 2016, the Company engaged qualified entity to conduct compliance hazardous waste disposal in accordance with relevant regulation. It formulated administrative procedures for hazardous waste transfer and strictly implemented the Administrative Measures for Hazardous Waste Transfer Manifests. During the year, used mineral oil of 260 tons, oil sludge of 1,727 tons, approximately 30,000 used oil drums, approximately 14,000 used paint drums, oily waste of 120 tons, waste lead-acid batteries of 80 tons, waste resin of 56 tons and wastes containing chromium of 63 tons were transferred and disposed.

6. **Enhancing Radiation Management and Eliminating Environmental Risks**

The Company continues to enhance its radiation management so as to ensure compliance use of radioactive sources and radiation devices. Currently, all radioactive sources and radiation devices are used in compliance with laws and regulations. There is no incident in relation to radioactive source loss or leakage. In order to enhance the safety awareness of staff responsible for radiation works, the Company organised radiation safety trainings for 106 newly-employed staff responsible for radiation works, thereby eliminating radiation environmental risks. The Company strictly implements supervisory system on waste steel radiation, and strengthens the management of supervisory system on waste steel radiation. The Company conducts comprehensive radiation inspection on waste steel prior to the commencement of production, thus ensure raw materials for steel melting to be used meet the radiation standard, and the steel products are safe to use.

III. ACHIEVING BREAKTHROUGH IN ENERGY SAVING, EMISSION REDUCTION AND RESEARCH AND APPLICATION OF GREEN MANUFACTURING TECHNOLOGY

The Company always puts energy saving, emission reduction and green manufacturing as one of the research and development strategies. In 2016, the Company conducted research and development on 45 energy saving, emission reduction and green manufacturing projects, of which 17 projects had completed examination. It had completed the application for 21 invention patents, authorised the use of 12 patents, developed 11 proprietary technologies and published 9 related essays. The “development and utilisation of iron dustwallow efficient recycling new technologies (含鐵塵泥高效再資源化新工藝開發與應用)” won the First Prize for Technology Advancement in Liaoning Province for 2016 (2016年度遼寧省科技進步一等獎). The “research and application of integrative technologies for reducing loss rate of gas igniting system (降低煤氣放散系統放損率集成技術研究與應用)” and the “development and application of environmentally friendly technologies for treatment of toxic gas of colour coating lines (彩塗線有毒廢氣環保處理技術的開發與應用)” won the First Prize and Third Prize for Technology Advancement in Anshan City for 2015 (2015年度鞍山市科技進步一等獎及三等獎), respectively. All of the aforesaid had contributed to the realisation of energy saving, emission reduction and green manufacturing and the performance of corporate social responsibility.

1. Breakthrough Result Achieved in Green Manufacturing Technology

The work theme of Technology of Injecting Coke Oven Gas with Enriched Oxygen into Blast Furnace (《高爐富氧噴吹焦爐煤氣技術》) under the national technology support project of the “12th Five-Year Plan”, which was undertaken by the Company, had passed the respective work theme and project examination conducted by Ministry of Industry and Information Technology and Ministry of Science and Technology. Apart from improving the energy utilisation rate of coke oven gas, the injection of coke oven gas into blast furnace can reduce the consumption of carbon fuel and CO₂ emission in blast furnace, thus leading the development of green and environmentally friendly steel industry. The undertaken units had completed the basic theoretical analysis of injecting coke oven gas with enriched oxygen into blast furnace as scheduled. Relevant simulated computation and laboratory experiments were conducted. Several surveillance devices and facilities of technology for injection of coke oven gas into blast furnace were invented, and respective industrial tests on 450m³ blast furnace and 4,038m³ blast furnace were completed, with satisfactory results achieved. Hence, the objectives of such work theme were achieved. Especially, the demonstrative project of injection of coke oven gas into 4,038m³ blast furnace, which was solely developed, designed and constructed by Angang Steel, adopted the technology of mix injection of coal powder and coke oven gas through single pipe. This technology is a brand new technology in China and global market, and it is the first time for applying the technology of injecting coke oven gas into ultra-large blast furnace in the world.

III. ACHIEVING BREAKTHROUGH IN ENERGY SAVING, EMISSION REDUCTION AND RESEARCH AND APPLICATION OF GREEN MANUFACTURING TECHNOLOGY *(Continued)*

2. Breakthrough Achieved in Energy Saving Research

In respect of the work theme of “research on efficient and low-cost heat exchanger technology for rolling furnace (軋鋼加熱爐高效—低成本換熱器技術研究)” conducted by the Company, the energy efficiency rate of the new type heat exchanger increased by 9% as compared with that of regular heat exchanger. In respect of the work theme of “research on power grid structure optimization and external tariff reduction (優化電網結構、減少外購電費技術研究)” conducted by the Company, the power grid structure of Angang Headquarter has been optimised through implementation of various measures at production sites, including lowering of basic electricity tariff, reduction of on-grid of self-generated power, reduction of loss rate of electricity supply and optimization of reactive power compensation. Throughout the year, the Company has reduced cost of RMB32.09 million in aggregate. In respect of the “promotion and research on zero-leakage and energy saving technology of coal gas under non-dispersive status (非放散狀態下煤氣零泄漏節能技術推廣研究)” conducted by the Company, by altering the operating mode of blast furnace gas diffusion tower and coke oven gas diffusion tower, the Company achieved zero-leakage of coal gas for the new No. 2, new No. 4 and three new blast furnace gas diffusion tower and coke oven gas diffusion tower under non-dispersive status. The Company has reduced its annual cost by RMB23 million for the reduction in diffusion loss. In respect of the work theme of “research on lowering of gas consumption for Line 1,580 (降低1,580線煤氣單耗的研究)”, through optimising production organisation and implementing the “integration of information flow, capital flow, commodity flow and logistics (四流合一)”, the direct heat delivery rate of heater plate has improved. The annual heat delivery rate was 71.2%, making the energy consumption in Line 1,580 reduced by 5% with annual cost reduction of RMB8.20 million.

III. ACHIEVING BREAKTHROUGH IN ENERGY SAVING, EMISSION REDUCTION AND RESEARCH AND APPLICATION OF GREEN MANUFACTURING TECHNOLOGY (Continued)

3. Excellent Result Achieved in R&D on Environmental Protection and Emission Reduction

In respect of the “research on reducing the cost of water consumption per ton of steel through reduction of water utilisation and emission (節水減排降低噸鋼水成本技術研究)” conducted by the Company, the Company has prepared the list for emission of waste water and heavy metals produced in various production procedures of Angang Steel and the pollutant feature database, thus forming the equilibrium diagrams for industrial fresh water and clean recycled water utilisation within production plant area of Angang Headquarter. The Company has prepared the detailed water quality information sheet for water utilisation in different working procedures, and established the intelligent water system control platform. In respect of the “research on online degreasing technology for sludge in horizontal tanks of Angang 1,780 Line (鞍鋼1,780線平流池油泥在線除油技術研究)”, the pilot study and site reconstruction were completed. In respect of the research theme of “replacement of nitrogen with exhaust gas from heating furnace for blast furnace and coal gas purification (熱風爐廢氣替代氮氣用於高爐爐頂和煤氣淨化)” conducted by the Company, the Company realised replacement of nitrogen with exhaust gas from heating furnace of 3,000 m³/h, with annual cost reduction of RMB5.27 million. In respect of the “research on industrial trial for injection of coke slot dust into blast furnace (礦焦槽除塵灰高爐噴吹工業試驗研究)” conducted by the Company, dust generated from blast furnace will be directly injected into blast furnace, with annual cost reduction of over RMB15.00 million. In respect of the “research on clean emission of coke oven gas technology (焦爐煙氣清潔排放控制技術研究)” conducted by the Company, by controlling the emission of nitrogen oxide in coke oven gas, the emission of coke oven gas has met the 2015 new national standard with emission volume of not more than 500mg/m³. The Company has also introduced an effective way for reducing sulfur dioxide emission.

IV. STRENGTHENING ENERGY MANAGEMENT

1. Optimising Energy Management System under the Guidance of Energy Operation Concept

The Company strives to the concept of comprehensive energy operation. It continues to strengthen the basic management works on energy conservation, facilitate management and technology innovation, and organise energy benchmarking and exchange programme on energy conservation with enterprises, including China Steel of Taiwan. By enhancing the energy utilisation supervision and evaluation, the Company continues to exploit the potential of energy utilisation in work procedures of different production lines. Through refining energy indicator management and appraisal, the Company implements energy conservation projects, thereby promoting advancement in energy conservation technology and technological facilities with excellent energy conservation results.

2. Policy and Administrative Measures for Effective Resources Utilisation (Including Energy, Water and Other Raw Materials)

Pursuant to the national energy conservation plan under the “13th Five-Year Plan” and relevant policies of the Company, the Company currently adopts differential pricing for energy utilisation, and energy utilisation mechanism such as operation in power valley-value period instead of peak-value period and regular pressurised supply of domestic water. In 2016, the electricity consumption of the Company was 12,513,762.7 MWh, with electricity consumption of 573.54 kWh/t per ton of steel. The consumption of coke oven gas, blast furnace gas and converter gas was 56,866,321GJ, 95,385,020.6GJ and 12,537,368GJ, respectively. Fresh water consumption was 70.3173 million tons with 3.22 t/t per ton of steel. Recycled waste heat and surplus energy was 1.2GJ per ton of steel.

3. Facilitating the Implementation of Energy Projects

In 2016, the Company conducted exchange programme and application of energy conservation technology with domestic and international leading energy conservation companies and technology companies. On the basis of sufficient demonstration, the Company invested 24 energy conservation projects at approved plant level in three phases, with expected investment of RMB29.11 million. It is expected that the cost will be reduced by RMB31.25 million per year. It is currently at implementation phase. There were 11 approved contracts in relation to energy projects, with total investment of RMB213.70 million. It is expected that economic gains of RMB118.80 million per year will be generated. The construction works for such projects have gradually commenced. In 2016, gains generated from contracted energy management projects amounted to RMB212.13 million.

IV. STRENGTHENING ENERGY MANAGEMENT *(Continued)*

4. Energy Utilisation Efficiency Plan and Result

In 2016, centering on achieving its production and operation goals, the Company conducted its energy conservation management works through strengthening basic energy management, refining energy indicator management, enhancing specific energy benchmarking and fully facilitating system cost reduction. Adhering to the operating energy concept, the Company achieved the goal of wise, reduced and effective use of energy. On the basis of realising energy flow construction, the Company conducted comparison analysis, exploited potential for energy saving and consumption reduction, defined system cost reduction projects and goals, and facilitated the energy saving and indicator enhancement of different units. Meanwhile, the Company strengthened its energy saving supervision and management, and encouraged all employees to participate energy saving supervision and management, thereby facilitating rational, effective power consumption and energy conservation. In 2016, energy indicators, such as comprehensive energy consumption per ton of steel, fresh water consumption per ton of steel and recycled waste heat and surplus energy, enhanced and improved significantly, with some indicators reached the best historical levels. The Company conserved energy of 108,200 tons standardised coal. Comprehensive energy consumption was 574kgce/t per ton of steel, which reduced by 1% year on year. Fresh water consumption was 3.22 t/t per ton of steel, which reduced by 10% year on year, meeting with the leading standards of key steel enterprises in China. Self-generated power was 3,779 million kWh, which increased by 240 million kWh as compared with the prior year. Costs for external energy purchase amounted to RMB282/t per ton of steel, which reduced by 4.2% year on year, and costs reduced by RMB204.90 million. The result is satisfactory.

IV. STRENGTHENING ENERGY MANAGEMENT *(Continued)*

5. Water Utilisation and Result of Water Utilisation Efficiency Enhancement

In respect of the variation law on water quality after mixing four types of water, namely underground water, river water, reservoir water and recycled water from advanced treatment, at different proportion, the Company adopts mathematic model to compute the low-cost, high quality combination through simulated computation, thereby achieving minimization of underground water utilisation and maximisation of the utilisation of recycled water from advanced treatment. Meanwhile, the Company compares the water quality of industrial fresh water and clean recycled water. Some of the purified water qualified for work flow usage will replace fresh water, hence reducing fresh water consumption per ton of steel by 10% as compared to the prior year. Striving to reduce industrial fresh water consumption and lower the volume and pressure of the purification cyclical system, the Company fully utilises the capacity of the existing water treatment facilities in Xidagou. Hence, all wastewater from production will be handled at Xidagou wastewater treatment plant. Wastewater discharge will undergo secondary treatment at Nandagou, thus significantly improve the quality of wastewater being discharged. Wastewater discharge has reduced by 50%, which met the wastewater discharge standard. Water supply system continues to improve, and implements peak reduction operation. Throughout the year, electricity tariff reduced by RMB16.17 million.

Chapter VI Public Relations and Charity Activities

Striving to the philosophy of “serving the community in the capacity of enterprise (立足企業、面向社會)”, the Company contributes to the community with its love and care, aiming to create a harmonious community. In operating areas, the Company integrates itself into the local community through various measures. It proactively participates in charity works, and employs staff so as to facilitate the construction of community environment, education and other aspects. The Company also facilitates the harmonious development of local economy and community, aiming to create better social environment.

1. BUILDING A VOLUNTEER TEAM

Leveraging “Gou Mingyi Youth Volunteer Team (郭明義青年敬業奉獻團隊)”, organisations at different levels of the Company proactively conduct activities under the theme of “Learning Lei Feng’s Spirit from Guo Mingyi (跟著郭明義學雷鋒)”. Organisations at different levels organised 774 youth volunteer activities, with 13,238 person-head youth participated. Based on the actual production and operation condition, the youth league committee of the Company organised the 35-day pipeline decoration and renovation campaign. Over 100 youth members from 14 youth league committees participated in the campaign. Total length of pipeline being decorated was approximately 450 metres, with total area of approximately 300 square metres. The campaign led the youth members in promoting the “spirit of artisan”, and further exercised the power of Communist Youth League in organising youth groups and commando units. The Company organised the voluntary campaign for the 8th Occupational Skill Competition of China Steel Industry (第八屆全國鋼鐵行業職業技能競賽) – Angang Cup (鞍鋼盃), with over 80 youth volunteers participated. Moreover, the Company organised the voluntary campaign at Angang Elderly Cadre Service Center (鞍鋼老幹辦迎賓服務中心) and Angang Elderly Cadre University (鞍鋼老幹部大學), with over 110 youth members participated. During the campaign, 13 activity rooms and classrooms and over 320 indoor and outdoor windows were cleaned. The area of cleaned floor and weeded grassland was over 1,400 square metres and over 100 square metres, respectively. The Company also organised the large-scale voluntary hematopoietic stem cell specimen collection under the “Learning Lei Feng’s Spirit from Guo Mingyi” campaign, with over 40 youth volunteers participated. The Company organised the cleaning and maintenance campaign at Zhuo Xiu Garden (擢秀園), a green steel theme park, with approximately 200 youth volunteers participated.

2. BUILDING A BEAUTIFUL COMMUNITY

Bayuquan Branch Company arranged over 100 youth volunteers entering into four communities in Angang Apartment (鞍鋼公寓) to commence the campaign of “entering into the community, making contribution, promoting trend (進社區、做奉獻、揚風尚)”. Area in the community being clean reached over 5,000 square metres. Hence, the civilised philosophy of “creating harmonious neighbourhood (同住社區共建和諧)” was promoted through physical action.

Chapter VI Public Relations and Charity Activities (*Continued*)

3. COMMENCING JINQIU EDUCATION

In 2016, the Company commenced the “Jinqiu Education (金秋助學)” campaign. It provided scholarship for 74 children of our employees who are facing difficulties in the total amount of RMB120,000. The youth league committee of the Company visited Xiuuan Libao Primary School (岫巖李堡小學) and conducted charity education campaign. Computers, learning materials, and various sports goods such as basketball and rope were donated to the school. This campaign has received great response from the community, helping Angang in building a good corporate image.

4. CONDUCTING POVERTY ALLEVIATION WORKS

In July 2016, Jianchang County experienced three consecutive extreme flooding. Infrastructures, such as road, bridge, river course, house and reservoir, were seriously damaged. The Company donated 200 tons deformed bar with value of RMB716,000 to Jianchang County, and assisted in reconstruction of production base in Jianchang.

Conclusion

Since 2008, the Company has been publishing annual social responsibility reports, which truly, objectively disclosed the Company's performance in fulfilling its social responsibilities. While striving to economic benefits and protecting interests of shareholders, the Company actively protects the legal rights of employees, and conducts its dealings with suppliers, customers and consumers in a sincere manner, and actively participates in charity works on environmental protection and community donation, thereby promoting the coordinate, harmonious development of the Company, as well as the whole society. In respect of problems discovered by the Company during the preparation of the report, we will solve those problems in our future works. The Company aims to enrich the contents of the report and make it more systematic by enhancing report preparation standards continuously. In 2017, striving to its usual social responsibility philosophy, the Company will continue to improve its works regarding social responsibility, duly perform corporate social responsibility and optimise corporate governance, thus achieving breakthrough in management and control; optimise business operation, thus achieving breakthrough in market capability; promote internal potential exploitation, thus achieving breakthrough in cost reduction; promote technology innovation, thus achieving breakthrough in core competition; optimise corporate management, thus achieving breakthrough in operating efficiency; deepen mass line, thus achieving breakthrough in building a harmonious enterprise. The Company will operate in faith and expand aggressively. The Company will bear the responsibility of promoting development, perform its obligation of being a corporate citizen, and strive to contribute to the sustainable, healthy development of economy and society.



鞍 鋼 股 份 有 限 公 司
ANGANG STEEL COMPANY LIMITED*